Clusters Configuration Command Reference

This chapter describes the CLI commands that are used to configure a cluster environment and subsequent preferences for corresponding nodes. Use the following commands to also configure software package parameters and for node-specific OS and Kubernetes management.

Some keywords and commands are common across multiple commands and configuration modes respectively. Use the information in the Command Modes section only as a reference to navigate to the command in the applicable configuration modes.

clusters

Configures the cluster environment.

Command Modes

Exec > Global Configuration (config)

Syntax Description

clusters *cluster_name* **environment** *environment_name*

enviroment *environment_name*

Specify the environment used to deploy.

cluster_name

Specify the name used to uniquely identify the cluster.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

Usage Guidelines

Use this command to configure clusters enviroment.

clusters actions k8s cluster-status

Displays the overall status of the cluster.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `actions k8s cluster-status`

Usage Guidelines Use this command to view the overall status of the cluster.

clusters actions show info

Displays the TCP, UDP, NTP, and log-level information for the clusters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `actions show info { log-level log_level | ntp-info { false | true } | tcp-connections { false | true } | udp-connections { false | true } }`

log-level *log_level*

Specify the log level.

Must be one of the following:

- **CRITICAL**
- **DEBUG**
- **ERROR**
- **INFO**
- **WARNING**

Default Value: INFO.

ntp-info { false | true }

Specify whether to display the NTP clock server information.

Must be one of the following:

- **false**
- **true**

Default Value: true.

tcp-connections { false | true }

Specify whether to fetch TCP services and connections.

Must be one of the following:

- **false**
- **true**

Default Value: true.

udp-connections { false | true }

Spewcify whether to fetch UDP services and connections.

Must be one of the following:

- **false**
- **true**

Default Value: true.

Usage Guidelines Use this command to view the TCP, UDP, NTP, and log-level information for the clusters.

clusters actions show logs

Displays the cluster configuration logs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `actions show logs`

Usage Guidelines Use this command to view the cluster configuration logs.

clusters actions sync cancel

Cancels cluster synchronization.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `actions sync cancel`

Usage Guidelines Use this command to cancel cluster synchronization.

clusters actions sync logs

Displays the cluster synchronization logs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `actions sync logs`

Usage Guidelines Use this command to view the cluster synchronization logs.

clusters actions sync run

Runs cluster synchronization.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
run { ansible-strategy ansible_strategy | debug { false | true } |
force-partition-redeploy { false | true } | purge-data-disks { false |
true } | reset-k8s-nodes { false | true } | sync-phase sync_phase |
upgrade-strategy upgrade_strategy | vm-redeploy { false | true } }
```

ansible-strategy *ansible_strategy*

Specify the Ansible strategy for synchronization.

Must be one of the following:

- **free**
- **linear**

Default Value: linear.

debug { false | true }

Specfy whether to debug.

Must be one of the following:

- **false**
- **true**

Default Value: false.

force-partition-redeploy { false | true }

Specify whether to force redeploying the partition.

Must be one of the following:

- **false**
- **true**

Default Value: false.

purge-data-disks { false | true }

Specify whether to purge data disks.

Must be one of the following:

- **false**

- **true**

Default Value: false.

reset-k8s-nodes { false | true }

Specify whether to reset the K8s nodes.

Must be one of the following:

- **false**
- **true**

Default Value: false.

sync-phase *sync_phase*

Specify the synchronization phase.

Must be one of the following:

- **all**
- **distributed-registry**
- **netplan**
- **opscenter**
- **server-check**

Default Value: all.

upgrade-strategy *upgrade_strategy*

Specify the upgrade strategy.

Must be one of the following:

- **auto**
- **concurrent**: Concurrent upgrade
- **rolling**: Rolling upgrade

Default Value: auto.

vm-redeploy { false | true }

Specify whether to redeploy the VM.

Must be one of the following:

- **false**
- **true**

Default Value: **false**

Usage Guidelines Use this command to run cluster synchronization.

clusters actions sync status

Displays the cluster synchronization status.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `status`

Usage Guidelines Use this command to view the cluster synchronization status.

clusters actions validate-cluster logs

Displays the validate cluster logs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `actions validate-cluster logs`

Usage Guidelines Use this command to view the validate cluster logs.

clusters actions validate-cluster run

Runs cluster validation.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `actions validate-cluster run log-level` *`log_level`*

log-level *log_level*

Specify the log level.

Must be one of the following:

- **CRITICAL**: Critical.
- **DEBUG**: Debug.
- **ERROR**: Error.
- **INFO**: Info.
- **WARNING**: Warning.

Default Value: INFO.

Usage Guidelines Use this command to run cluster validation.

clusters actions validate-config logs

Displays the validate cluster logs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `actions validate-config logs`

Usage Guidelines Use this command to view the validate cluster logs.

clusters actions validate-config run

Validates the cluster configuration.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
run { k8s-node-checks { false | true } | log-level log-level log_level |
netplan { false | true } | ntp { false | true } | proxy { false | true }
 | ssh { false | true } | vmware-checks { false | true } | k8s-label-checks
 { false | true } | vip-checks { false | true } }
```

k8s-label-checks { false | true }

Validates that the K8s nodes satisfy OAM label requirements.

Must be one of the following:

- **false**
- **true**

Default Value: true.

k8s-node-checks { false | true }

Validates the K8s nodes configuration size.

Must be one of the following:

- **false**
- **true**

Default Value: true.

log-level *log_level*

Specify the log-level.

Must be one of the following:

- **CRITICAL**

- **DEBUG**
- **ERROR**
- **INFO**
- **WARNING**

Default Value: INFO.

netplan { false | true }

Validates the netplan configuration.

Must be one of the following:

- **false**
- **true**

Default Value: true.

ntp { false | true }

Validates the NTP server configuration.

Must be one of the following:

- **false**
- **true**

Default Value: true.

proxy { false | true }

Validates the proxy server configuration.

Must be one of the following:

- **false**
- **true**

Default Value: true.

ssh { false | true }

Validates the SSH configuration.

Must be one of the following:

- **false**
- **true**

Default Value: true.

vip-checks { false | true }

Validates that no VIP is assigned to more than one virtual-ip groups.

Must be one of the following:

- **false**
- **true**

Default Value: true.

vmware-checks { false | true }

Validates the vcenter, datastore, and host configuration before synchronzing.

Must be one of the following:

- **false**
- **true**

Default Value: true.

Usage Guidelines Use this command to validate the cluster configuration.

clusters addons cilium

Configure the Cilium addon.

Important This command is deprecated in 2024.02.1 and later releases.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `addons cilium { enabled | disabled }`

cilium { enabled | disabled }

Specify to enable or disable the Cilium addon.

Usage Guidelines Use this command to configure the Cilium addon. Cilium must be installed as K8s addon on top of Calico.

clusters addons cpu-partitioner

Configures the CPU Partitioner addon.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `addons cpu-partitioner { disabled | enabled }`

enabled

Specify whether to enable or disable the distributed-registry.

Must be one of the following:

- **false**
- **true**

Default Value: false.

tier *tier*

Specify the tier.

Must be one of the following:

- **large**
- **medium**
- **small**

Default Value: medium.

Usage Guidelines Use this command to configure the CPU Partitioner addon. Addons implement kubernetes basic functionality like Ingress and other functionality expected to be provided by the kubernetes cluster.

clusters addons distributed-registry

Configures the Ingress host name to be set to the registry.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`distributed-registry ingress-hostname`** *`ingress_host_name`*

ingress-hostname *ingress_host_name*

Specify the ingress hostname to be set to the registry, *ip_address*.nip.io or abc.com.

Must be a string.

Usage Guidelines Addons implement kubernetes basic functionality like Ingress and other functionality expected to be provided by the kubernetes cluster. Use this command to configure the ingress host name to be set to the registry.

clusters addons ingress

Configures the Ingress addon.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

ingress service-type { bind-ip-address-internal *ip_address* **| bind-ip-address** *ip_address* **| enabled { false | true } | failure-threshold** *failure_threshold* **| timeout-seconds** *timeout_duration* **}**

bind-ip-address-internal *ip_address*

Specify the internal bind IP address.

bind-ip-address *ip_address*

Specify the IP address for binding.

enabled { false | true }

Specify whether to enable or disable.

Must be one of the following:

- **false**
- **true**

Default Value: true.

failure-threshold *failure_threshold*

Specify the failure threshold.

Must be an integer.

Default Value: 3.

timeout-seconds *timeout_duration*

Specify the timeout in seconds.

Must be an integer.

Default Value: 1.

Usage Guidelines

Use this command to configure the Ingress addon. Addons implement kubernetes basic functionality like Ingress and other functionality expected to be provided by the kubernetes cluster.

clusters addons istio

Configures the Istio addon.

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

addons istio enabled { false | true }

istio enabled { false | true }

Specify whether to enable or disable the Istio addon. To enable, set to true.

Must be one of the following:

- **false**
- **true**

Default Value: false.

Usage Guidelines Use this command to configure the Istio addon. Addons implement kubernetes basic functionality like Ingress and other functionality expected to be provided by the kubernetes cluster.

clusters addons kubernetes-dashboard

Configures the Kubernetes Dashboard addon.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
addons kubernetes-dashboard enabled { false | true }
```

enabled { false | true }

Specify whether to enable or disable the Kubernetes dashboard.

Must be one of the following:

- **false**
- **true**

Default Value: false.

Usage Guidelines Use this command to configure the Kubernetes Dashboard addon. Addons implement kubernetes basic functionality like Ingress and other functionality expected to be provided by the kubernetes cluster.

clusters addons network

Configures the Network addon.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
addons network type network_type
```

type *network_type*

Specify the network type.

Must be one of the following:

- **calico**

Default Value: calico.

Usage Guidelines Use this command to configure the Network addon. Addons implement kubernetes basic functionality like Ingress and other functionality expected to be provided by the kubernetes cluster.

clusters addons secure-access

Configures the access of OS users to the SMI cluster upon login.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`addons secure-access [ enabled | disabled ]`**

secure-access [enabled | disabled]

Specify to enable or disable secure access.

By default, secure access is disabled to reduce resource usage in the K8s cluster.

Usage Guidelines Use this command to manage the access of OS users to the SMI cluster upon login. Only the access controller pod on the active master will run and manage user access.

clusters auto-sync

Configures auto-sync parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **`clusters auto-sync lock-to-version`** *`lock_to_version`*

lock-to-version *lock_to_version*

If the current cluster manager version (show version) matches this version, then the auto-sync applies.

Must be a string.

Usage Guidelines Use this command to configure auto-sync parameters.

clusters auto-sync upgrade-cm-version

Upgrades the cluster to the current Cluster Manager version.

Command Modes Exec > Global Configuration (config)

Syntax Description **`auto-sync upgrade-cm-version`**

Usage Guidelines Use this command to upgrade the cluster to the current Cluster Manager version.

clusters cluster-manager

Allows installation of cluster-manager onto a cluster.

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

cluster-manager { enabled { false | true } | ingress-hostname *ingress_host_name* **| iso-download-ip** *ip_address* **| netconf-ip** *ip_address* **| netconf-port** *port_number* **| password** *repo_password* **| repository-local** *cluster_manager_cnf* **| repository** *product_chart_repo_url* **| ssh-port** *port_number* **| username** *repo_user_name* **}**

enabled { false | true }

Specify whether to enable or disable cluster-manager installation.

Must be one of the following:

- **false**
- **true**

Default Value: false.

ingress-hostname *ingress_host_name*

Specify the ingress host name to be set to the Cluster Manager in the format *ip-address*.nip.io or abc.com.

Must be a string.

iso-download-ip *ip_address*

Specify the existing IP address to be bound for direct ISO download.

netconf-ip *ip_address*

Specify the NETCONF IP address for the Ops Center.

netconf-port *port_number*

Specify the NETCONF port number for the Ops Center.

Must be an integer.

Default Value: 830.

password *repo_password*

Specify the password if any to log into the repository.

repository-local *cluster_manager_cnf*

Specify the Cluster Manager CNF.

repository *product_chart_repo_url*

Specify the product chart repo URL. See conforming rules in RFC 3305, RFC 3986, RFC 3966, RFC 4694, RFC 4759, RFC 4904, and RFC 5017.

ssh-port *port_number*

Specify the SSH port number for Ops Center.

Must be an integer.

Default Value: 2022.

username *repo_user_name*

Specify the user name if any to log into the repository.

Must be a string.

Usage Guidelines Use this command to install cluster-manager onto a cluster.

clusters cluster-manager initial-boot-parameters

Configures the initial boot parameters for helm chart deployment.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`initial-boot-parameters { first-boot-password`** *`password`* **`| kube-control-plane-ip`** *`ssh_ip_address`* **`}`**

first-boot-password *password*

Specify the initial boot password for the Cluster Manager CLI.

kube-control-plane-ip *ssh_ip_address*

Specify the SSH IP address for Cluster Manager Ops Center.

Usage Guidelines Use this command to configure the initial boot parameters for helm chart deployment.

clusters cluster-manager initial-boot-parameters image-pull-secrets

Configures the image pull secret.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`image-pull-secrets`** *`image_pull_secret_name`*

image_pull_secret_name

Specify the name of the image pull secret.

Must be a string.

Usage Guidelines Use this command to configure the image pull secret.

clusters cluster-manager proxy

Enables a proxy for accessing online repositories.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **proxy ip** *ip_address*

ip *ip_address*

Specify the proxy's IP address.

Usage Guidelines Use this command to enable a proxy for accessing online repositories.

clusters configuration

Configures the kubernetes cluster-wide configurations.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **configuration { additional-master-virtual-ip-cidr** *cidr_notation_netmask* **| additional-master-virtual-ip** *ip_address* **| additional-master-virtual-ipv6-cidr** *cidr_notation_netmask* **| additional-master-virtual-ipv6** *ipv6_address* **| addtional-master-virtual-ip-interface** *string* **| allow-insecure-registry { false | true } | customization-image** *docker_image* **| default-not-ready-toleration** *notready_toleration_time* **| default-unreachable-toleration** *unreachable_toleration_time* **| docker-ipv6-cidr** *ipv6_cidr_docker_subnet* **| enable-pod-security-policy { false | true } | enable-wireguard { false | true } | ipv6-mode** *ipv6_mode* **| keepalived-auth** *aes_encrypted_string* **| master-keepalived-multicast { false | true } | master-virtual-ip-cidr** *cidr_notation* **| master-virtual-ip-interface** *ethernet_interface* **| master-virtual-ip** *ip_address* **| master-virtual-ipv6-cidr** *cidr_notation_netmask* **| master-virtual-ipv6** *ipv6_address* **| node-monitor-grace-period** *grace_period* **| node-monitor-period** *monitor_period* **| node-status-update-frequency** *update_frequency* **| pod-subnet-ipv6** *ipv6_pod_subnet* **| pod-subnet** *pod_subnet* **| restrict-logging { false | true } | service-subnet-ipv6** *ipv6_service_subnet* **| service-subnet** *service_subnet* **| size** *cluster_size* **| virtual-ip-vrrp-router-id** *vrrp_router_id* **| calico-ipv6-cidr** *calico_ipv6_cidr* **}**

additional-master-virtual-ip-cidr *cidr_notation_netmask*

Specfies the CIDR notation (netmask) of additional master virtual IP.

Must be an integer in the range of 0-32.

Default Value: 32.

additional-master-virtual-ip *ip_address*

Specfies the virtual IPv4 address used to provide additional access to the HA kubernetes masters. This must be set on initial cluster creation.

additional-master-virtual-ipv6-cidr *cidr_notation_netmask*

Specify the CIDR notation (netmask) of additional-master-virtual-ipv6.

Must be an integer in the range of 0-120.

Default Value: 112.

additional-master-virtual-ipv6 *ipv6_address*

Specify the virtual IPv6 address used to provide additional access to the HA kubernetes masters. This must be set on initial cluster creation.

addtional-master-virtual-ip-interface *string*

Specify the ethernet interface to which the additional master IP will be assigned. This will correspond to netplan network IDs.

Must be a string.

Default Value: ens192.

allow-insecure-registry { false | true }

Specify whether to allow the use of insecure docker and helm registries.

Must be one of the following:

- **false**
- **true**

Default Value: false.

calico-ipv6-cidr *calico_ipv6_cidr*

Specify the Calico IPv6 CIDR.

customization-image *docker_image*

Specify the Docker image to use for customizing the VMs deployed in the cluster.

Must be a string.

default-not-ready-toleration *notready_toleration_time*

Specify the pod eviction toleration time when the node is not ready, in seconds.

Default value: 30 seconds

default-unreachable-toleration *unreachable_toleration_time*

Specify the pod eviction toleration time when the node is unreachable, in seconds.

Default value: 30 seconds

docker-ipv6-cidr *ipv6_cidr_docker_subnet*

Specify the fixed IPv6 CIDR docker subnet.

Default Value: fd00::/80.

enable-pod-security-policy { false | true }

Specify whether to enable or disable pod security policy.

Must be one of the following:

- **false**
- **true**

Default Value: false.

enable-wireguard { false | true }

Specify whether to enable or disable Wireguard.

Must be one of the following:

- **false**
- **true**

Default Value: false.

error-on-automatic-rolling-upgrade { false | true }

Specify whether to allow or block automatic base image or firmware based rolling upgrades.

Must be one of the following:

- **false**
- **true**

Default Value: false.

ipv6-mode *ipv6_mode*

Specify whether to allow dual-stack pod and service subnets.

Must be one of the following:

- **dual-stack**
- **none**

Default Value: none.

keepalived-auth *aes_encrypted_string*

Specify the authentication password for Keepalived.

Default Value: 4be37dc3b4c90194d1600c483e10ad1d.

master-keepalived-multicast { false | true }

Specify whether to enable or disable master keepalived multicast.

Must be one of the following:

- **false**
- **true**

Default Value: false.

master-virtual-ip-cidr *cidr_notation*

Specify the CIDR notation of the additional master virtual IP.

Must be an integer in the range of 0-32.

Default Value: 32.

master-virtual-ip-interface *ethernet_interface*

Specify the ethernet interface to which the master IP will be assigned.

Must be a string.

Default Value: ens192.

master-virtual-ip *ip_address*

Specify the virtual IPv4 address used to make the kubernetes masters Highly Available (HA).

master-virtual-ipv6-cidr *cidr_notation_netmask*

Specify the CIDR notation (netmask) of additional-master-virtual-ipv6.

Must be an integer in the range of 0-112.

Default Value: 112.

master-virtual-ipv6 *ipv6_address*

Specify the virtual IPv6 address used to make the kubernetes masters HA. This must be set on initial cluster creation.

node-monitor-grace-period ***grace_period***

Specify the node to be marked unhealthy after a period that it became unresponsive, in seconds.

Default value: 40 seconds

node-monitor-period ***monitor_period***

Specify the period for syncing NodeStatus in NodeController, in seconds.

Default value: 5 seconds

node-status-update-frequency ***update_frequency***

Specify the node status update interval from kubelet to kube-controller, in seconds.

Default value: 10 seconds

pod-subnet-ipv6 ***ipv6_pod_subnet***

Specify the the IPv6 pod subnet to configure k8s and calico.

Default Value: fd20::0/112.

pod-subnet ***pod_subnet***

Specify the pod subnet to configure k8s and calico.

Default Value: 192.168.0.0/16.

restrict-logging { false | true }

Specify whether to allow logging of critical information on failure for debugging purposes.

Must be one of the following:

- **false**
- **true**

Default Value: true.

Note It's recommended to always set **restrict-logging** to **true**. Setting it to false is not secure and could result in unauthorized access to critical user data.

service-subnet-ipv6 ***ipv6_service_subnet***

Specify the the IPv6 service subnet to configure k8s and calico.

Default Value: fd40::0/112.

service-subnet ***service_subnet***

Specify the service subnet to configure k8s and calico.

Default Value: 10.96.0.0/12.

size *cluster_size*

Specify the cluster size.

Must be one of the following:

- **functional-test-aio**
- **functional-test-ha**
- **production**

Default Value: production.

virtual-ip-vrrp-router-id *vrrp_router_id*

Specify the VRRP router ID. If multiple instances of VRRP are in use on the same subnet, router ID must be unique. This is typically needed if running multiple SMI k8s clusters in the same subnet. Issues will show up with virtual IP not binding properly.

Must be an integer in the range of 1-255.

Usage Guidelines Use this command to configure the kubernetes cluster-wide configurations.

clusters configuration cilium

Configure Cilium on the K8s cluster.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`configuration cilium { enabled | disabled }`**

configuration { enabled | disabled }

Specify to enable or disable Cilium.

Usage Guidelines Use this configuration to enable Cilium in chaining mode with Calico. The command is disabled by default.

clusters configuration docker-address-pools

Configures the default docker bridge network address pools.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`configuration docker-address-pools pool-name`** *`docker_bridge_address_pool_name`* **`[ base`** *`docker_bridge_subnet`* **`| size`** *`size`* **`]`**

base *docker_bridge_subnet*

Specify the docker bridge subnet.

Default Value: 172.17.0.0/16.

pool-name *docker_bridge_address_pool_name*

Specify the pool name of the docker bridge address pool.

Must be a string.

size *size*

Specify the size. For example, 16, 24, etc.

Must be an integer in the range of 8-24.

Default Value: 24.

Usage Guidelines Use this command to configure the default docker bridge network address pools.

clusters node-defaults

Configures the default configuration that applies to all nodes. All options are overridable at the node level.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **clusters node-defaults ssh-username** *user_name* **ssh-connection-private-key** *private_key*

host-profile *host_profile_name*

Specify the customizable tuning details package.

ssh-connection-private-key *private_key*

Specify the SSH private key used for connecting to the node.

ssh-username *user_name*

Specify the SSH user name used for connecting to the node.

Must be a string.

Usage Guidelines Use this command to configure the default configuration that applies to all nodes. All options are overridable at the node level.

clusters node-defaults initial-boot

Configures the initial boot parameters for the node.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults initial-boot { default-user** *default_user_name* **| default-user-password** *default_user_password* **| default-user-ssh-public-key** *default_user_ssh_public_key* **}**

default-user-password ***default_user_password***

Specify the password for the default user.

default-user-ssh-public-key ***default_user_ssh_public_key***

Specify the public keys allowed to connect via SSH for the default user.

Must be a string.

default-user ***default_user_name***

Specify the default user created when this node is deployed.

Must be a string.

default-user-password-expiration-days ***default_user_password_expiration_days***

Specify the password expiration days for the default user.

Must be an integer in the range of 1-9999.

Usage Guidelines Use this command to configure the initial boot parameters for the node. Cloud-init configurations that only take effect on initial boot of OS and will not cause respin without other changes.

clusters node-defaults initial-boot netplan

Configures initial boot netplan parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **`netplan renderer`** *`renderer_type`*

renderer ***renderer_type***

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure initial boot netplan parameters.

Note By default, **netplan** restricts the user to add and apply new IP addresses to the physical interfaces that are already used for bond interfaces.

clusters node-defaults initial-boot netplan bonds

Configures netplan bonds device type.

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

node-defaults os netplan-additions bonds *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description

os netplan-additions bonds *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

interfaces *id_list*

Specify the ID list. All devices matching this ID list will be added to the bond.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

Note It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the clusters bonds.

clusters node-defaults initial-boot netplan bonds dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-defaults initial-boot netplan bonds dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults initial-boot netplan bonds nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults initial-boot netplan bonds optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults initial-boot netplan bonds parameters

Configures customization parameters for special bonding options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Syntax Description **parameters { ad-select** *aggregation_selection_mode* **| all-slaves-active { false | true } | arp-interval** *arp_interval_value* **| arp-ip-targets** *ipv4_address* **| down-delay** *down_delay_interval* **| fail-over-mac-policy** *failover_mac_policy* **| gratuitous-arp** *arp_packets* **| lacp-rate** *lacp_rate* **| learn-packet-interval** *learn_packet_interval* **| mii-monitor-interval** *mii_monitor_interval* **| min-links** *minimum_links* **| mode** *bonding_mode* **| packets-per-slave** *packets_per_slave* **| primary-reselect-policy** *reselection_policy* **| primary** *primary_device* **| resend-igmp** *igmp_reports* **| transmit-hash-policy** *transmit_hash_policy* **| up-delay** *up_delay_interval* **}**

ad-select *aggregation_selection_mode*

Specify the aggregation selection mode.

Must be one of the following:

- **bandwidth**
- **count**
- **stable**

all-slaves-active { false | true }

Specify whether the bond should drop or deliver the duplicate frames received on inactive ports.

Must be one of the following:

- **false**
- **true**

arp-interval *arp_interval_value*

Specify the interval value for how to determine the frequency of ARP link monitoring.

Must be a string.

arp-ip-targets *ipv4_address*

Specify the IPs of other hosts on the link which should be sent ARP requests in order to validate that a slave is up.

down-delay *down_delay_interval*

Specify the delay before disabling a link once the link has been lost.

Must be a string.

fail-over-mac-policy ***failover_mac_policy***

Specify whether to set all slaves to the same MAC address when adding them to the bond, or how else the system should handle MAC addresses.

Must be one of the following:

- **active**
- **follow**
- **none**

gratuitous-arp ***arp_packets***

Specify the number of ARP packets to send after failover.

Must be an integer in the range of 1-255.

lacp-rate ***lacp_rate***

Specify the rate at which Link Aggregation Control Protocol Data Unit (LACPDU) are transmitted.

Must be one of the following:

- **fast**
- **slow**

learn-packet-interval ***learn_packet_interval***

Specify the interval between sending learning packets to each slave.

Must be a string.

mii-monitor-interval ***mii_monitor_interval***

Specify the interval for MII monitoring. That is, verifying if an interface of the bond has carrier.

Must be a string.

min-links ***minimum_links***

Specify the minimum number of link up in a bond to consider the bond interface to be up.

Must be an integer.

mode ***bonding_mode***

Specify the bonding mode used for the interfaces.

Must be one of the following:

- **802.3ad**
- **active-backup**
- **balance-alb**
- **balance-rr**

- **balance-tlb**
- **balance-xor**
- **broadcast**

packets-per-slave ***packets_per_slave***

Specify the number of packets to transmit on a slave before switching to the next.

Must be an integer in the range of 0-65535.

primary-reselect-policy ***reselection_policy***

Specify the reselection policy for the primary slave.

Must be one of the following:

- **always**
- **better**
- **failure**

primary ***primary_device***

Specify the device to be used as a primary slave, or preferred device to use as a slave for the bond, whenever it is available.

Must be a string.

resend-igmp ***igmp_reports***

Specify the number of IGMP membership reports issued on a failover event.

Must be an integer in the range of 0-255.

transmit-hash-policy ***transmit_hash_policy***

Specify the transmit hash policy for the selection of slaves.

Must be one of the following:

- **encap2+3**
- **encap3+4**
- **layer2+3**
- **layer2**
- **layer3+4**

up-delay ***up_delay_interval***

Specify the delay before enabling a link once the link is physically up.

Must be a string.

Usage Guidelines Use this command to configure customization parameters for special bonding options.

clusters node-defaults initial-boot netplan bonds routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines

Use this command to configure static routing for the device.

clusters node-defaults initial-boot netplan bonds routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults initial-boot netplan bridges

Configures netplan bridge type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

interfaces ***interface_id***

Adds all the devices matching this ID to the bridge.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress ***mac_address***

Specify the MAC address.

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

Note It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**

- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the bridge type.

clusters node-defaults initial-boot netplan bridges dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-defaults initial-boot netplan bridges dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults initial-boot netplan bridges nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults initial-boot netplan bridges optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults initial-boot netplan bridges parameters

Configures the customization parameters for special bridging options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Syntax Description **`parameters { ageing-time`** *`ageing_time`* **`| forward-delay`** *`forward_delay_period`* **`| hello-time`** *`hello_time_interval`* **`| max-age`** *`maximum_age`* **`| path-cost`** *`cost_of_path`* **`| post-port-priority`** *`post_port_priority_range`* **`| priority`** *`priority_value`* **`| stp { false | true } }`**

ageing-time *ageing_time*

Specify the period of time to keep a MAC address in the forwarding database after a packet is received.

Must be a string.

forward-delay *forward_delay_period*

Specify the period of time the bridge will remain in Listening and Learning states before getting to the Forwarding state.

Must be a string.

hello-time *hello_time_interval*

Specify the interval between two hello packets being sent out from the root and designated bridges.

Must be a string.

max-age *maximum_age*

Specify the maximum age of a hello packet.

Must be a string.

path-cost *cost_of_path*

Specify the cost of a path on the bridge.

Must be a string.

post-port-priority *post_port_priority_range*

Specify the port priority range.

Must be an integer in the range of 0-63.

priority *priority_value*

Specify the priority value for the bridge.

Must be an integer.

stp { false | true }

Specify whether the bridge should use Spanning Tree protocol.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the customization parameters for special bridging options.

clusters node-defaults initial-boot netplan bridges routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-defaults initial-boot netplan bridges routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults initial-boot netplan ethernets

Configures netplan ethernets device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure netplan ethernet dvice type.

clusters node-defaults initial-boot netplan ethernets auth

Configures the authentication parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Syntax Description **auth key-management** *key_management_mode* **[ca-certificate** *path_to_trusted_ca_cert_file* **| client-certificate** *path_to_client_cert_file* **| client-key-password** *client_key_password* **| client-key** *path_to_client_key_file* **]**

ca-certificate *path_to_trusted_ca_cert_file*

Specify the path to a file with one or more trusted Certificate Authority (CA) certificates.

Must be a string.

client-certificate *path_to_client_cert_file*

Specify the path to a file containing the certificate to be used by the client during authentication.

Must be a string.

client-key-password *client_key_password*

Specify the password to use to decrypt the private key specified in client-key if it is encrypted.

Must be a string.

client-key *path_to_client_key_file*

Specify the path to a file containing the private key corresponding to client-certificate.

Must be a string.

key-management *key_management_mode*

Specify the key management mode.

Must be one of the following:

- **802.1x**
- **none**

Usage Guidelines Use this command to configure the authentication parameters.

clusters node-defaults initial-boot netplan ethernets dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**

- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines

Use this command to override the default DHCP4 behavior.

clusters node-defaults initial-boot netplan ethernets dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults initial-boot netplan ethernets nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults initial-boot netplan ethernets optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description `optional-addresses` *optional_addresses*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults initial-boot netplan ethernets routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**

- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-defaults initial-boot netplan ethernets routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults initial-boot netplan tunnels

Configures the tunnel mode.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

local *ip_address*

Specify the IP address of the local endpoint of the tunnel.

macaddress *mac_address*

Specify the MAC address.

mode *tunnel_mode*

Specify the tunnel mode.

Must be one of the following:

- **gre**
- **gretap**
- **ip6gre**
- **ip6gretap**
- **ip6ip6**
- **ipip6**
- **ipip**
- **isatap**
- **sit**
- **vti6**
- **vti**

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

remote *ip_address*

Specify the IP address of the remote endpoint of the tunnel.

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the tunnel mode.

clusters node-defaults initial-boot netplan tunnels dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`dhcp4-overrides { hostname`** *`host_name`* **`| route-metric`** *`route_metric_value`* **`| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }`**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-defaults initial-boot netplan tunnels dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults initial-boot netplan tunnels key

Configures the keys to use for the tunnel.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Syntax Description **`key { input`** *`input_key`* **`| output`** *`output_key`* **`}`**

input *input_key*

Specify the input key for the tunnel.

Must be a string.

output *output_key*

Specify the output key for the tunnel.

Must be a string.

Usage Guidelines Use this command to configure the keys to use for the tunnel.

clusters node-defaults initial-boot netplan tunnels nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults initial-boot netplan tunnels optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults initial-boot netplan tunnels routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope ***route_scope***

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines

Use this command to configure static routing for the device.

clusters node-defaults initial-boot netplan tunnels routing-policy

Configures policy routing for the device.

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults initial-boot netplan vlans

Configures the Virtual LAN parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

id *vlan_id*

Specify the Virtual LAN ID.

Must be an integer in the range of 0-4094.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

link *interface_name*

Specify the interface name of the underlying device definition on which this VLAN gets created.

Must be a string.

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

Note It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the Virtual LAN parameters.

clusters node-defaults initial-boot netplan vlans dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp4-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-defaults initial-boot netplan vlans dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults initial-boot netplan vlans nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults initial-boot netplan vlans optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults initial-boot netplan vlans routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**

- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-defaults initial-boot netplan vlans routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

routing-policy *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines

Use this command to configure policy routing for the device.

clusters node-defaults k8s

Configures Kubernetes-specific parameters.

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

node-defaults k8s { ssh-connection-password *password* **| ssh-connection-private-key** *private_key* **| ssh-username** *user_name* **}**

host-profile *host_profile_name*

Specify the customizable tuning details package.

max-pods *max_pods*

Specify the maximum number of pods per node. Uses kubernetes default if not set.

Must be an integer in the range of 10-2000.

ssh-connection-private-key *private_key*

Specify the SSH private key used for connecting to the node.

ssh-username *user_name*

Specify the SSH user name used for connecting to the node.

Must be a string.

Usage Guidelines Use this command to configure Kubernetes-specific parameters.

clusters node-defaults k8s cpu-manager

Configures CPU Manager parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
cpu-manager cpu-manager-policy cpu_manager_policy {
cpu-manager-reconcile-period cpu_manager_reconcile_period | system-reserved-cpu
 system_reserved_cpu | system-reserved-memory system_reserved_memory |
system-reserved-ephemeral-storage storage_memory | kube-reserved-cpu
kube_reserved_cpu | kube-reserved-memory kube_reserved_memory |
kube-reserved-ephemeral-storage kube_reserved_ephemeral_storage }
```

cpu-manager-policy *cpu_manager_policy*

Specify the CPU Manager policy.

Must be one of the following:

- **none**
- **static**

Default Value: none.

cpu-manager-reconcile-period *cpu_manager_reconcile_period*

Specify the CPU Manager reconciliation period. If not supplied, defaults to NodeStatusUpdateFrequency (default 10s) when policy is static.

Must be an integer in the range of 10-60.

Default Value: 10.

kube-reserved-cpu *kube_reserved_cpu*

Specify the Kube-reserved CPU.

Must be of type decimal64, with 2 fraction digits in the range of 0-36.

Default Value: 1.

kube-reserved-ephemeral-storage *kube_reserved_ephemeral_storage*

Specify the Kube-reserved ephemeral storage memory in GB.

Must be an integer in the range of 2-512.

Default Value: 2.

kube-reserved-memory *kube_reserved_memory*

Specify the Kube-reserved memory in MB.

Must be an integer in the range of 2000-524288.

Default Value: 2000.

system-reserved-cpu *system_reserved_cpu*

Specify the system-reserved CPU.

Must be of type decimal64, with 2 fraction digits in the range of 0-36.

Default Value: 1.

system-reserved-ephemeral-storage *storage_memory*

Specify the system-reserved ephemeral storage memory in GB.

Must be an integer in the range of 2-512.

Default Value: 2.

system-reserved-memory *system_reserved_memory*

Specify the system-reserved memory in MB.

Must be an integer in the range of 2000-524288.

Default Value: 2000.

Usage Guidelines Use this command to configure CPU Manager parameters.

clusters node-defaults k8s node-labels

Configures k8s node labels.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`node-defaults k8s node-labels`** *`key value`*

key

Specify the prefix for the node label.

Must be a string in the k8s-keytype pattern. For information on the k8s-keytype pattern, see the *Input Pattern Types* chapter.

value

Specify the suffix for the node label.

Must be a string in the k8s-valuetype pattern. For information on the k8s-valuetype pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to configure the k8s node labels.

clusters node-defaults kvm fluent-forwarding

Configures KVM Fluent Forwarding parameters.

Command Modes Exec

Syntax Description **`fluent-forwarding host`** *`host_name`* **`port`** *`port_number`*

disable-tls { false | true }

Specify whether to enable or disable TLS communciation with Splunk endpoint.

Must be one of the following:

- **false**
- **true**

Default Value: false.

disable-tls-verification { false | true }

Specify whether to enable or disable TLS certification verification.

Must be one of the following:

- **false**
- **true**

Default Value: false.

host *host_name*

Specify the host name.

Must be a string.

port *port_number*

Specify the Fluentbit or Fluentd instance port number.

Must be an integer.

Default Value: 2020.

Usage Guidelines Use this command to configure Fluent forwarding parameters.

clusters node-defaults kvm monitoring

Configures monitoring parameters.

Command Modes Exec

Syntax Description **monitoring local-ip-address-range** *local_ip_address_range* **ping-interval** *ping_interval* **failure-occurrence** *failure_occurrence*

failure-occurrence *failure_occurrence*

Specify to override the failure occurrence number of the UPF monitoring service.

Must be an integer in the range of 3-65535.

local-ip-address-range *local_ip_address_range*

Specify the local IP range for monitoring.

ping-interval *ping_interval*

Specify to override the ping interval in UPF monitoring service.

Must be an integer in the range of 3-65535.

Usage Guidelines Use this command to configure monitoring parameters.

clusters node-defaults netplan

Configures netplan template parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults netplan template** *template_name*

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **netplan template** *template_name*

template *template_name*

Specify the netplan YAML template used to define network configurations.

Must be a string.

Usage Guidelines Use this command to configure netplan template parameters.

clusters node-defaults os

Configures OS-specific parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os tac-password`** *`tac_password`*

tac-password *tac_password*

Specify the TAC password to enable Cisco TAC access.

Usage Guidelines Use this command to configure OS-specifc parameters.

clusters node-defaults os disable-log-ratelimit

Enables or disables JournalID rate limiting.

Command Modes Exec > Global Configuration (config)

Syntax Description **`disable-log-ratelimit enabled { false | true }`**

enabled { false | true }

Specify whether to enable or disable JournalID rate limiting.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to enable or disable JournalD rate limiting.

clusters node-defaults os netplan-additions

Allows adding to netplan configuration from initial-boot (cloud-init). NOTE: currently only routes are supported and not all netplan fields are available.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os netplan-additions`**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`os netplan-additions`**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to add netplan configuration from initial-boot. Currently, only routes are supported and not all netplan fields are available.

clusters node-defaults os netplan-additions actions preview-netplan

Displays a preview of netplan YAML and validates with "netplan generate". This command displays only the commited data and is useful for debugging.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions actions preview-netplan**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions actions preview-netplan**

Usage Guidelines Use this command to preview the netplan.

clusters node-defaults os netplan-additions bonds

Configures netplan bonds device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **|**

dhcp-identifier *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

interfaces ***id_list***

Specify the ID list. All devices matching this ID list will be added to the bond.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress ***mac_address***

Specify the MAC address.

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

Note It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the clusters bonds.

clusters node-defaults os netplan-additions bonds dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**

- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines

Use this command to override the default DHCP4 behavior.

clusters node-defaults os netplan-additions bonds dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults os netplan-additions bonds nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults os netplan-additions bonds optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **optional-addresses** *optional_addresses*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults os netplan-additions bonds parameters

Configures customization parameters for special bonding options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Syntax Description **parameters { ad-select** *aggregation_selection_mode* **| all-slaves-active { false | true } | arp-interval** *arp_interval_value* **| arp-ip-targets** *ipv4_address* **| down-delay** *down_delay_interval* **| fail-over-mac-policy** *failover_mac_policy* **| gratuitous-arp** *arp_packets* **| lacp-rate** *lacp_rate* **| learn-packet-interval** *learn_packet_interval* **| mii-monitor-interval** *mii_monitor_interval* **| min-links** *minimum_links* **| mode** *bonding_mode* **| packets-per-slave** *packets_per_slave* **| primary-reselect-policy** *reselection_policy* **| primary** *primary_device* **| resend-igmp**

```
igmp_reports | transmit-hash-policy transmit_hash_policy | up-delay up_delay_interval
}
```

ad-select *aggregation_selection_mode*

Specify the aggregation selection mode.

Must be one of the following:

- **bandwidth**
- **count**
- **stable**

all-slaves-active { false | true }

Specify whether the bond should drop or deliver the duplicate frames received on inactive ports.

Must be one of the following:

- **false**
- **true**

arp-interval *arp_interval_value*

Specify the interval value for how to determine the frequency of ARP link monitoring.

Must be a string.

arp-ip-targets *ipv4_address*

Specify the IPs of other hosts on the link which should be sent ARP requests in order to validate that a slave is up.

down-delay *down_delay_interval*

Specify the delay before disabling a link once the link has been lost.

Must be a string.

fail-over-mac-policy *failover_mac_policy*

Specify whether to set all slaves to the same MAC address when adding them to the bond, or how else the system should handle MAC addresses.

Must be one of the following:

- **active**
- **follow**
- **none**

gratuitous-arp *arp_packets*

Specify the number of ARP packets to send after failover.

Must be an integer in the range of 1-255.

lacp-rate *lacp_rate*

Specify the rate at which Link Aggregation Control Protocol Data Unit (LACPDU) are transmitted.

Must be one of the following:

- **fast**
- **slow**

learn-packet-interval *learn_packet_interval*

Specify the interval between sending learning packets to each slave.

Must be a string.

mii-monitor-interval *mii_monitor_interval*

Specify the interval for MII monitoring. That is, verifying if an interface of the bond has carrier.

Must be a string.

min-links *minimum_links*

Specify the minimum number of link up in a bond to consider the bond interface to be up.

Must be an integer.

mode *bonding_mode*

Specify the bonding mode used for the interfaces.

Must be one of the following:

- **802.3ad**
- **active-backup**
- **balance-alb**
- **balance-rr**
- **balance-tlb**
- **balance-xor**
- **broadcast**

packets-per-slave *packets_per_slave*

Specify the number of packets to transmit on a slave before switching to the next.

Must be an integer in the range of 0-65535.

primary-reselect-policy *reselection_policy*

Specify the reselection policy for the primary slave.

Must be one of the following:

- **always**
- **better**
- **failure**

primary *primary_device*

Specify the device to be used as a primary slave, or preferred device to use as a slave for the bond, whenever it is available.

Must be a string.

resend-igmp *igmp_reports*

Specify the number of IGMP membership reports issued on a failover event.

Must be an integer in the range of 0-255.

transmit-hash-policy *transmit_hash_policy*

Specify the transmit hash policy for the selection of slaves.

Must be one of the following:

- **encap2+3**
- **encap3+4**
- **layer2+3**
- **layer2**
- **layer3+4**

up-delay *up_delay_interval*

Specify the delay before enabling a link once the link is physically up.

Must be a string.

Usage Guidelines Use this command to configure customization parameters for special bonding options.

clusters node-defaults os netplan-additions bonds routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope ***route_scope***

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-defaults os netplan-additions bonds routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults os netplan-additions bridges

Configures netplan bridge type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

interfaces *interface_id*

Adds all the devices matching this ID to the bridge.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

Note It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**

- **networkd**

Usage Guidelines Use this command to configure the bridge type.

clusters node-defaults os netplan-additions bridges dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp4-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-defaults os netplan-additions bridges dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`dhcp6-overrides { hostname`** *`host_name`* **`| route-metric`** *`route_metric_value`* **`| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }`**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults os netplan-additions bridges nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
nameservers { search domain_name | addresses ip_addresses }
```

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults os netplan-additions bridges optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**

- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults os netplan-additions bridges parameters

Configures the customization parameters for special bridging options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Syntax Description

```
parameters { ageing-time ageing_time | forward-delay forward_delay_period |
hello-time hello_time_interval | max-age maximum_age | path-cost cost_of_path |
post-port-priority post_port_priority_range | priority priority_value | stp {
false | true } }
```

ageing-time *ageing_time*

Specify the period of time to keep a MAC address in the forwarding database after a packet is received.

Must be a string.

forward-delay *forward_delay_period*

Specify the period of time the bridge will remain in Listening and Learning states before getting to the Forwarding state.

Must be a string.

hello-time *hello_time_interval*

Specify the interval between two hello packets being sent out from the root and designated bridges.

Must be a string.

max-age *maximum_age*

Specify the maximum age of a hello packet.

Must be a string.

path-cost *cost_of_path*

Specify the cost of a path on the bridge.

Must be a string.

post-port-priority *post_port_priority_range*

Specify the port priority range.

Must be an integer in the range of 0-63.

priority *priority_value*

Specify the priority value for the bridge.

Must be an integer.

stp { false | true }

Specify whether the bridge should use Spanning Tree protocol.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the customization parameters for special bridging options.

clusters node-defaults os netplan-additions bridges routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-defaults os netplan-additions bridges routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults os netplan-additions ethernets

Configures netplan ethernets device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

Note It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure netplan ethernet dvice type.

clusters node-defaults os netplan-additions ethernets auth

Configures the authentication parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Syntax Description **auth key-management** *key_management_mode* **[ca-certificate** *path_to_trusted_ca_cert_file* **| client-certificate** *path_to_client_cert_file* **| client-key-password** *client_key_password* **| client-key** *path_to_client_key_file* **]**

ca-certificate *path_to_trusted_ca_cert_file*

Specify the path to a file with one or more trusted Certificate Authority (CA) certificates.

Must be a string.

client-certificate *path_to_client_cert_file*

Specify the path to a file containing the certificate to be used by the client during authentication.

Must be a string.

client-key-password *client_key_password*

Specify the password to use to decrypt the private key specified in client-key if it is encrypted.

Must be a string.

client-key *path_to_client_key_file*

Specify the path to a file containing the private key corresponding to client-certificate.

Must be a string.

key-management *key_management_mode*

Specify the key management mode.

Must be one of the following:

- **802.1x**
- **none**

Usage Guidelines Use this command to configure the authentication parameters.

clusters node-defaults os netplan-additions ethernets dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-defaults os netplan-additions ethernets dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults os netplan-additions ethernets nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults os netplan-additions ethernets optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults os netplan-additions ethernets routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-defaults os netplan-additions ethernets routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults os netplan-additions tunnels

Configures the tunnel mode.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

local ***ip_address***

Specify the IP address of the local endpoint of the tunnel.

macaddress ***mac_address***

Specify the MAC address.

mode ***tunnel_mode***

Specify the tunnel mode.

Must be one of the following:

- **gre**
- **gretap**
- **ip6gre**
- **ip6gretap**
- **ip6ip6**
- **ipip6**
- **ipip**
- **isatap**
- **sit**
- **vti6**
- **vti**

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

Note It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

remote *ip_address*

Specify the IP address of the remote endpoint of the tunnel.

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the tunnel mode.

clusters node-defaults os netplan-additions tunnels dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-defaults os netplan-additions tunnels dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults os netplan-additions tunnels key

Configures the keys to use for the tunnel.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Syntax Description **`key { input`** *`input_key`* **`| output`** *`output_key`* **`}`**

input *input_key*

Specify the input key for the tunnel.

Must be a string.

output *output_key*

Specify the output key for the tunnel.

Must be a string.

Usage Guidelines Use this command to configure the keys to use for the tunnel.

clusters node-defaults os netplan-additions tunnels nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults os netplan-additions tunnels optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults os netplan-additions tunnels routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**

- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-defaults os netplan-additions tunnels routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults os netplan-additions vlans

Configures the Virtual LAN parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **|**

macaddress *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device’s MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

id ***vlan_id***

Specify the Virtual LAN ID.

Must be an integer in the range of 0-4094.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

link ***interface_name***

Specify the interface name of the underlying device definition on which this VLAN gets created.

Must be a string.

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

Note It is recommended to set MTU to the lowest path MTU.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the Virtual LAN parameters.

clusters node-defaults os netplan-additions vlans dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-defaults os netplan-additions vlans dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-defaults os netplan-additions vlans nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-defaults os netplan-additions vlans optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-defaults os netplan-additions vlans routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-defaults os netplan-additions vlans routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-defaults os ntp

Configures the NTP servers for the nodes.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`ntp enabled { false | true }`**

enabled { false | true }

Specify whether to enable or disable providing the NTP servers for configuration.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the NTP servers for the nodes.

clusters node-defaults os ntp clients-allow

Configures the client subnets allowed to use cluster as relay.

Command Modes Exec > Global Configuration (config)

Syntax Description **`clients-allow subnet`** *`subnet`*

subnet *subnet*

Specify the client subnets that could use current cluster as NTP relay server. For example, 192.168.0.0/16.

Usage Guidelines Use this command to configure the client subnets allowed to use cluster as relay.

clusters node-defaults os ntp servers

Configures the time server parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **`ntp servers`** *`url`* **`{ key-id`** *`key_id`* **`| sha-key`** *`sha_key`* **`| sha-type`** *`sha_type`* **`}`**

key-id *key_id*

Specify the key ID for the chrony server keys.

Must be a string.

sha-key *sha_key*

Specify the SHA authentication key with chrony server.

Must be a string in the hextype pattern. For information on the hextype pattern, see the *Input Pattern Types* chapter.

sha-type *sha_type*

Specify the type of SHA for the chrony server keys. For instance, SHA1, SHA256, SHA512, etc. See: https:

Must be one of the following:

- **RMD128**
- **RMD160**
- **RMD256**
- **RMD320**
- **SHA1**
- **SHA256**
- **SHA384**
- **SHA512**
- **TIGER**
- **WHIRLPOOL**

url

Specify the NTP server URL. For example, clock.cisco.com.

Must be a string.

Usage Guidelines Use this command to configure time server parameters, which need to be input into the NTP conf.

clusters node-defaults os partition

Configure the file system type for */data* partition.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
node-defaults os partition smi-data fs-type { ext4 | xfs }
```

fs-type { ext4 | xfs }

Specify the file system type as ext4 or XFS for data partition.

- **ext4**—Specify the ext4 (fourth extended filesystem) type.

  By default, all partitions are formatted using ext4.

- **xfs**—Specify the XFS type for data partition to install Mongo DB.

Usage Guidelines Use this command to configure the file system type for data partition at the cluster level.

clusters node-defaults os proxy

Configures the proxy servers at the node level.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os proxy { http-proxy** *http_proxy* **| https-proxy** *https_proxy* **| no-proxy** *no_proxy_hosts* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os proxy { http-proxy** *http_proxy* **| https-proxy** *https_proxy* **| no-proxy** *no_proxy_hosts* **}**

http-proxy *http_proxy*

Specify to send HTTP traffic to the specified HTTP proxy.

Must be a string.

https-proxy *https_proxy*

Specify to send HTTPS traffic to the specified HTTP proxy.

Must be a string.

no-proxy *no_proxy_hosts*

Specify the hosts to avoid proxy.

Must be a string.

Usage Guidelines Use this command to configure the proxy servers at the node level.

clusters node-defaults os tuned

Enable or disable installing tuned.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `node-defaults os tuned { disabled | enabled }`

enabled

Specify whether to enable or disable installing tuned.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to enable or disable installing tuned.

clusters node-defaults os users

Configures the list of SMI-managed users managed on this default. Excludes "initial-boot" (cloud-init) provisioned users.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `node-defaults os users` *user_name* `password` *password*

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description `os users` *user_name* `password` *password*

group *access_privilege*

Specify the user's access privilege. The group defines the user's access privilege.

Must be one of the following:

- **smi-cluster-admin**
- **smi-read-only**
- **smi-superuser**

Default Value: smi-read-only.

password *password*

Specify the password for this entry. It can be a already hashed value (/etc/shadow). Unencrypted will be hashed.

user_name

Specify the user name.

Must be a string of 0-32 characters.

Usage Guidelines Use this command to configure the list of SMI-managed users managed on this default. Excludes "initial-boot" (cloud-init) provisioned users.

clusters node-defaults os users authorized-keys

Configures a list of public SSH keys for this user. These keys are allowed for SSH authentication, as described in RFC 4253.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os users** *user_name* **[authorized-keys** *ssh_key_name* **[algorithm** *algorithm_name* **| key-data** *key_data* **]]**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Users Configuration (config-users-*user_name*)

Syntax Description **authorized-keys** *ssh_key_name* **[algorithm** *algorithm_name* **| key-data** *key_data* **]]**

algorithm *algorithm_name*

Specify the public key algorithm name for this SSH key.

Must be one of the following:

- **ssh-ed25519**
- **ssh-rsa**

key-data *key_data*

Specify the binary public key data.

Must be of type binary.

ssh_key_name

Specify a name for the SSH key.

Must be a string.

Usage Guidelines Use this command to configure a list of public SSH keys for this user. These keys are allowed for SSH authentication, as described in RFC 4253. This corresponds to a public key as: <algorithm> <key-data> <name>. For example, ssh-rsa AAAABRUY...bh+3+jA= test-key-laptop.

clusters node-defaults ucs-server

Configures UCS server parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **ucs-server software** *ucs_software_version*

software *ucs_software_version*

Specify the UCS software version.

Usage Guidelines Use this command to configure UCS server parameters.

clusters node-defaults ucs-server cimc

Configures CIMC parameters.

Command Modes Exec

Syntax Description **cimc ip-address** *cimc_ip_address* **user** *cimc_user_name* **password** *cimc_user_password*

password *cimc_user_password*

Specify the CIMC password.

user *cimc_user_name*

Specify the CIMC user name.

Must be a string.

Usage Guidelines Use this command to configure the CIMC user name and password.

clusters node-defaults ucs-server cimc bios

Configures CIMC BIOS boot order parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **bios**

Usage Guidelines Use this command to configure the CIMC BIOS boot order parameters.

clusters node-defaults ucs-server cimc certificate

Renews the CIMC certificate.

The CIMC certificates are valid only for 3 years. If the certificate expires in less than 90 days, it must be renewed.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **cimc certificate rehydrate { true | false}**

rehydrate { true | false}

When set to **true**, it renews the certificate that expires in less than 90 days.

The default setting is **false**.

Usage Guidelines Use this command to renew the CIMC certificate.

clusters node-defaults ucs-server cimc networking ntp

Configures the CIMC network-related parameters.

Command Modes Exec

Syntax Description `networking ntp enabled { false | true }`

enabled { false | true }

Specify whether to provide the NTP servers to configure.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the CIMC network-related parameters.

clusters node-defaults ucs-server cimc networking ntp servers

Configures the time servers for CIMC to connect.

Command Modes Exec

Syntax Description `ntp servers url` *server_url*

url *server_url*

Specify the time server's URL. For example, clock.cisco.com.

Must be a string.

Usage Guidelines Use this command to configure the time servers for CIMC to connect.

clusters node-defaults ucs-server cimc remote-management sol

Configures the provision of SoL baud rate, com port, and SSH port parameters.

Command Modes Exec

Syntax Description **sol compport enabled { false | true } baud-rate** *baud_rate com_port_number* **ssh-port** *ssh_port_number*

baud-rate *baud_rate*

Specify the serial baud rate the system uses for SoL communication.

Must be one of the following:

- **115200**
- **19200**
- **38400**
- **57600**
- **9600**

comport *com_port_number*

Specify the serial port the system uses for SoL communication.

Must be one of the following:

- **com0**
- **com1**

enabled { false | true }

Specify whether to when enabled provide the baud rate, comport, and ssh-port.

Must be one of the following:

- **false**
- **true**

ssh-port *ssh_port_number*

Specify the SSH port of CIMC SoL communication.

Must be an integer.

Usage Guidelines Use this command to configure the provision of SoL baud rate, comport, and ssh-port parameters.

clusters node-defaults ucs-server cimc storage-adaptor

Configures the CIMC storage adaptor management parameters.

Command Modes Exec

Syntax Description

```
storage-adaptor create-virtual-drive { false | true }
```

create-virtual-drive { false | true }

Specify whether to create the virtual drive if it is not already created.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the CIMC storage adaptor management parameters.

clusters node-defaults ucs-server host initial-boot networking

Configures the interface and IP information used to initially bootstrap the node.

Command Modes Exec

Syntax Description

```
host initial-boot networking interface interface_name
```

interface *interface_name*

Specify the interface name.

Must be a string.

Default Value: eno1.

Usage Guidelines Use this command to configure the interface and IP information used to initially bootstrap the node.

clusters node-defaults ucs-server host initial-boot networking static-ip

Configures static IP parameters.

Command Modes Exec

Syntax Description

```
static-ip ipv4-address ipv4_address netmask netmask gateway gateway dns ip_address
```

dns *ip_address*

Specify the IP address.

You can configure a maximum of three elements with this keyword.

gateway *gateway*

Specify the gateway.

Must be a string.

ipv4-address *ipv4_address*

Specify the IPv4 address.

netmask *netmask*

Specify the netmask.

Usage Guidelines Use this command to configure static IP parameters.

clusters node-defaults vmware

Configures VMWare hypervisor (vCenter and ESXi host) sizing parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **vmware { datacenter** *datacenter_name* **| datastore** *datastore_name* **| host** *host_name* **}**

datacenter *datacenter_name*

Specify the datacenter name to override the datacenter from the environment for this node.

Must be a string.

datastore *datastore_name*

Specify the datastore name to override the datastore from the environment for this node.

Must be a string.

host *host_name*

Specify the host name to override the host field from the environment for this node.

Must be a string.

Usage Guidelines Use this command to configure VMWare hypervisor (vCenter and ESXi host) sizing parameters.

clusters node-defaults vmware nics

Configures list of networks assigned to VMs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **vmware nics** *network_name*

Command Modes Exec > Global Configuration (config) > Environment Configuration (config-environments-*datastore_name*)

Syntax Description **vcenter nics** *network_name*

network_name

Specify the VMware network name.

Must be a string.

Usage Guidelines Use this command to configure a list of networks assigned to VMs.

clusters node-defaults vmware numa-node-affinity

Configures the affinity to a processor socket.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **vmware numa-node-affinity** *cpu_socket_number*

cpu_socket_number

Specify the physical CPU socket number.

Must be an integer in the range of 0-15.

Usage Guidelines Use this command to configure affinity to a processor socket.

clusters node-defaults vmware pci-device

Configures the list of PCI devices.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **vmware pci-device** *pci_device_key*

pci_device_key

Specify the PCI device key.

Must be a string in the pci-keytype pattern. For information on the pci-keytype pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to configure the list of PCI devices.

clusters node-defaults vmware performance

Configures VMware performance parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`vmware performance { cpu-reservation { false | true } | latency-sensitivity`** *`latency_sensitivity`* **`| memory-reservation { false | true } }`**

cpu-reservation { false | true }

CPU reservation info.

Must be one of the following:

- **false**
- **true**

latency-sensitivity *latency_sensitivity*

Specify the latency-senstivity.

Must be one of the following:

- **high**: High.
- **low**: Low.
- **medium**: Medium.
- **normal**: Normal.

memory-reservation { false | true }

Memory reservation info.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure VMware performance parameters.

clusters node-defaults vmware sizing

Configures VMWare hypervisor (vCenter and ESXi host) sizing parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`vmware sizing`** *`options`*

cores-equal-cpus { false | true }

Specify whether cores per socket allocated equal to CPUs.

Must be one of the following:

- **false**
- **true**

Default Value: false.

cpus *number_of_cpus*

Specify the number of CPUs allocated.

Must be an integer in the range of 1-256.

ram-mb *ram_mb*

Specify the RAM in MB.

Must be an integer in the range of 4096-524288.

Usage Guidelines Use this command to configure VMWare hypervisor (vCenter and ESXi host) sizing parameters.

clusters node-type-defaults

Configures the default configuration that applies to all nodes of a specific type. Takes precedence over node-defaults. All options are overridable at the node level.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-type-defaults`** *`node_type`*

host-profile *host_profile_name*

Specify the customizable tuning details package.

ssh-connection-private-key *private_key*

Specify the SSH private key used for connecting to the node.

ssh-username *user_name*

Specify the SSH user name used for connecting to the node.

Must be a string.

node_type

Specify the node type.

Must be one of the following:

- **backup**
- **control-plane**
- **etcd**
- **kvm**
- **master**
- **worker**

Important The **master** node type is deprecated. Use the **control-plane** node type instead of **master**.

Usage Guidelines Use this command to configure the default configuration that applies to all nodes of a specific type. Takes precedence over node-defaults. All options are overridable at the node level.

clusters node-type-defaults initial-boot

Configures the cloud-init configurations, which only take effect on initial boot of OS and will not cause respin without other changes.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`initial-boot { default-user`** *`user_name`* **`| default-user-password`** *`password`* **`| default-user-ssh-public-key`** *`ssh_public_key`* **`}`**

default-user-password *default_user_password*

Specify the password for the default user.

default-user-ssh-public-key *default_user_ssh_public_key*

Specify the public keys allowed to connect via SSH for the default user.

Must be a string.

default-user *default_user_name*

Specify the default user created when this node is deployed.

Must be a string.

Usage Guidelines Use this command to configure the cloud-init configurations, which only take effect on initial boot of OS and will not cause respin without other changes.

clusters node-type-defaults initial-boot netplan

Configures initial boot netplan parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **netplan renderer** *renderer_type*

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure initial boot netplan parameters.

clusters node-type-defaults initial-boot netplan bonds

Configures netplan bonds device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **|**

ipv6-privacy { false | true } | link-local *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

interfaces *id_list*

Specify the ID list. All devices matching this ID list will be added to the bond.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the clusters bonds.

clusters node-type-defaults initial-boot netplan bonds dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults initial-boot netplan bonds dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults initial-boot netplan bonds nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults initial-boot netplan bonds optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults initial-boot netplan bonds parameters

Configures customization parameters for special bonding options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Syntax Description **parameters { ad-select** *aggregation_selection_mode* **| all-slaves-active { false | true } | arp-interval** *arp_interval_value* **| arp-ip-targets** *ipv4_address* **| down-delay** *down_delay_interval* **| fail-over-mac-policy** *failover_mac_policy* **| gratuitous-arp** *arp_packets* **| lacp-rate** *lacp_rate* **| learn-packet-interval** *learn_packet_interval* **| mii-monitor-interval** *mii_monitor_interval* **| min-links** *minimum_links* **| mode** *bonding_mode* **| packets-per-slave** *packets_per_slave* **| primary-reselect-policy** *reselection_policy* **| primary** *primary_device* **| resend-igmp** *igmp_reports* **| transmit-hash-policy** *transmit_hash_policy* **| up-delay** *up_delay_interval* **}**

ad-select *aggregation_selection_mode*

Specify the aggregation selection mode.

Must be one of the following:

- **bandwidth**
- **count**
- **stable**

all-slaves-active { false | true }

Specify whether the bond should drop or deliver the duplicate frames received on inactive ports.

Must be one of the following:

- **false**
- **true**

arp-interval *arp_interval_value*

Specify the interval value for how to determine the frequency of ARP link monitoring.

Must be a string.

arp-ip-targets *ipv4_address*

Specify the IPs of other hosts on the link which should be sent ARP requests in order to validate that a slave is up.

down-delay *down_delay_interval*

Specify the delay before disabling a link once the link has been lost.

Must be a string.

fail-over-mac-policy *failover_mac_policy*

Specify whether to set all slaves to the same MAC address when adding them to the bond, or how else the system should handle MAC addresses.

Must be one of the following:

- **active**
- **follow**
- **none**

gratuitous-arp *arp_packets*

Specify the number of ARP packets to send after failover.

Must be an integer in the range of 1-255.

lacp-rate *lacp_rate*

Specify the rate at which Link Aggregation Control Protocol Data Unit (LACPDU) are transmitted.

Must be one of the following:

- **fast**
- **slow**

learn-packet-interval ***learn_packet_interval***

Specify the interval between sending learning packets to each slave.

Must be a string.

mii-monitor-interval ***mii_monitor_interval***

Specify the interval for MII monitoring. That is, verifying if an interface of the bond has carrier.

Must be a string.

min-links ***minimum_links***

Specify the minimum number of link up in a bond to consider the bond interface to be up.

Must be an integer.

mode ***bonding_mode***

Specify the bonding mode used for the interfaces.

Must be one of the following:

- **802.3ad**
- **active-backup**
- **balance-alb**
- **balance-rr**
- **balance-tlb**
- **balance-xor**
- **broadcast**

packets-per-slave ***packets_per_slave***

Specify the number of packets to transmit on a slave before switching to the next.

Must be an integer in the range of 0-65535.

primary-reselect-policy ***reselection_policy***

Specify the reselection policy for the primary slave.

Must be one of the following:

- **always**
- **better**
- **failure**

primary *primary_device*

Specify the device to be used as a primary slave, or preferred device to use as a slave for the bond, whenever it is available.

Must be a string.

resend-igmp *igmp_reports*

Specify the number of IGMP membership reports issued on a failover event.

Must be an integer in the range of 0-255.

transmit-hash-policy *transmit_hash_policy*

Specify the transmit hash policy for the selection of slaves.

Must be one of the following:

- **encap2+3**
- **encap3+4**
- **layer2+3**
- **layer2**
- **layer3+4**

up-delay *up_delay_interval*

Specify the delay before enabling a link once the link is physically up.

Must be a string.

Usage Guidelines Use this command to configure customization parameters for special bonding options.

clusters node-type-defaults initial-boot netplan bonds routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**

- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-type-defaults initial-boot netplan bonds routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults initial-boot netplan bridges

Configures netplan bridge type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

interfaces *interface_id*

Adds all the devices matching this ID to the bridge.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the bridge type.

clusters node-type-defaults initial-boot netplan bridges dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults initial-boot netplan bridges dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp6-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults initial-boot netplan bridges nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults initial-boot netplan bridges optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults initial-boot netplan bridges parameters

Configures the customization parameters for special bridging options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Syntax Description **parameters { ageing-time** *ageing_time* **| forward-delay** *forward_delay_period* **| hello-time** *hello_time_interval* **| max-age** *maximum_age* **| path-cost** *cost_of_path* **| post-port-priority** *post_port_priority_range* **| priority** *priority_value* **| stp { false | true } }**

ageing-time *ageing_time*

Specify the period of time to keep a MAC address in the forwarding database after a packet is received.

Must be a string.

forward-delay *forward_delay_period*

Specify the period of time the bridge will remain in Listening and Learning states before getting to the Forwarding state.

Must be a string.

hello-time *hello_time_interval*

Specify the interval between two hello packets being sent out from the root and designated bridges.

Must be a string.

max-age *maximum_age*

Specify the maximum age of a hello packet.

Must be a string.

path-cost *cost_of_path*

Specify the cost of a path on the bridge.

Must be a string.

post-port-priority *post_port_priority_range*

Specify the port priority range.

Must be an integer in the range of 0-63.

priority *priority_value*

Specify the priority value for the bridge.

Must be an integer.

stp { false | true }

Specify whether the bridge should use Spanning Tree protocol.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the customization parameters for special bridging options.

clusters node-type-defaults initial-boot netplan bridges routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**

- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-type-defaults initial-boot netplan bridges routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults initial-boot netplan ethernets

Configures netplan ethernets device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false |**

true } | gateway4 *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description

os netplan-additions ethernets *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress ***mac_address***

Specify the MAC address.

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure netplan ethernet dvice type.

clusters node-type-defaults initial-boot netplan ethernets auth

Configures the authentication parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Syntax Description **auth key-management** *key_management_mode* **[ca-certificate** *path_to_trusted_ca_cert_file* **| client-certificate** *path_to_client_cert_file* **| client-key-password** *client_key_password* **| client-key** *path_to_client_key_file* **]**

ca-certificate *path_to_trusted_ca_cert_file*

Specify the path to a file with one or more trusted Certificate Authority (CA) certificates.

Must be a string.

client-certificate *path_to_client_cert_file*

Specify the path to a file containing the certificate to be used by the client during authentication.

Must be a string.

client-key-password *client_key_password*

Specify the password to use to decrypt the private key specified in client-key if it is encrypted.

Must be a string.

client-key *path_to_client_key_file*

Specify the path to a file containing the private key corresponding to client-certificate.

Must be a string.

key-management *key_management_mode*

Specify the key management mode.

Must be one of the following:

- **802.1x**
- **none**

Usage Guidelines Use this command to configure the authentication parameters.

clusters node-type-defaults initial-boot netplan ethernets dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults initial-boot netplan ethernets dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults initial-boot netplan ethernets nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults initial-boot netplan ethernets optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults initial-boot netplan ethernets routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**

- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-type-defaults initial-boot netplan ethernets routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults initial-boot netplan tunnels

Configures the tunnel mode.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false |**

true } | gateway4 *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description

os netplan-additions tunnels *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device’s MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

local ***ip_address***

Specify the IP address of the local endpoint of the tunnel.

macaddress ***mac_address***

Specify the MAC address.

mode *tunnel_mode*

Specify the tunnel mode.

Must be one of the following:

- **gre**
- **gretap**
- **ip6gre**
- **ip6gretap**
- **ip6ip6**
- **ipip6**
- **ipip**
- **isatap**
- **sit**
- **vti6**
- **vti**

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

remote *ip_address*

Specify the IP address of the remote endpoint of the tunnel.

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines

Use this command to configure the tunnel mode.

clusters node-type-defaults initial-boot netplan tunnels dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults initial-boot netplan tunnels dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`dhcp6-overrides { hostname`** *`host_name`* **`| route-metric`** *`route_metric_value`* **`| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }`**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults initial-boot netplan tunnels key

Configures the keys to use for the tunnel.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Syntax Description **key { input** *input_key* **| output** *output_key* **}**

input *input_key*

Specify the input key for the tunnel.

Must be a string.

output *output_key*

Specify the output key for the tunnel.

Must be a string.

Usage Guidelines Use this command to configure the keys to use for the tunnel.

clusters node-type-defaults initial-boot netplan tunnels nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults initial-boot netplan tunnels optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults initial-boot netplan tunnels routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-type-defaults initial-boot netplan tunnels routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults initial-boot netplan vlans

Configures the Virtual LAN parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

id *vlan_id*

Specify the Virtual LAN ID.

Must be an integer in the range of 0-4094.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

link *interface_name*

Specify the interface name of the underlying device definition on which this VLAN gets created.

Must be a string.

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the Virtual LAN parameters.

clusters node-type-defaults initial-boot netplan vlans dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults initial-boot netplan vlans dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults initial-boot netplan vlans nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults initial-boot netplan vlans optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults initial-boot netplan vlans routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines

Use this command to configure static routing for the device.

clusters node-type-defaults initial-boot netplan vlans routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults k8s

Configures Kubernetes-specific parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **k8s { ssh-connection-password** *password* **| ssh-connection-private-key** *private_key* **| ssh-username** *user_name* **}**

host-profile *host_profile_name*

Specify the customizable tuning details package.

max-pods *max_pods*

Specify the maximum number of pods per node. Uses kubernetes default if not set.

Must be an integer in the range of 10-2000.

ssh-connection-private-key *private_key*

Specify the SSH private key used for connecting to the node.

ssh-username *user_name*

Specify the SSH user name used for connecting to the node.

Must be a string.

Usage Guidelines Use this command to configure Kubernetes-specific parameters.

clusters node-type-defaults k8s cpu-manager

Configures CPU Manager parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
cpu-manager cpu-manager-policy cpu_manager_policy {
cpu-manager-reconcile-period cpu_manager_reconcile_period | system-reserved-cpu
 system_reserved_cpu | system-reserved-memory system_reserved_memory |
system-reserved-ephemeral-storage storage_memory | kube-reserved-cpu
kube_reserved_cpu | kube-reserved-memory kube_reserved_memory |
kube-reserved-ephemeral-storage kube_reserved_ephemeral_storage }
```

cpu-manager-policy *cpu_manager_policy*

Specify the CPU Manager policy.

Must be one of the following:

- **none**
- **static**

Default Value: none.

cpu-manager-reconcile-period *cpu_manager_reconcile_period*

Specify the CPU Manager reconciliation period. If not supplied, defaults to NodeStatusUpdateFrequency (default 10s) when policy is static.

Must be an integer in the range of 10-60.

Default Value: 10.

kube-reserved-cpu *kube_reserved_cpu*

Specify the Kube-reserved CPU.

Must be of type decimal64, with 2 fraction digits in the range of 0-36.

Default Value: 1.

kube-reserved-ephemeral-storage *kube_reserved_ephemeral_storage*

Specify the Kube-reserved ephemeral storage memory in GB.

Must be an integer in the range of 2-512.

Default Value: 2.

kube-reserved-memory *kube_reserved_memory*

Specify the Kube-reserved memory in MB.

Must be an integer in the range of 2000-524288.

Default Value: 2000.

system-reserved-cpu *system_reserved_cpu*

Specify the system-reserved CPU.

Must be of type decimal64, with 2 fraction digits in the range of 0-36.

Default Value: 1.

system-reserved-ephemeral-storage *storage_memory*

Specify the system-reserved ephemeral storage memory in GB.

Must be an integer in the range of 2-512.

Default Value: 2.

system-reserved-memory *system_reserved_memory*

Specify the system-reserved memory in MB.

Must be an integer in the range of 2000-524288.

Default Value: 2000.

Usage Guidelines Use this command to configure CPU Manager parameters.

clusters node-type-defaults k8s node-labels

Configures k8s node labels.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`node-defaults k8s node-labels`** *`key value`*

key

Specify the prefix for the node label.

Must be a string in the k8s-keytype pattern. For information on the k8s-keytype pattern, see the *Input Pattern Types* chapter.

value

Specify the suffix for the node label.

Must be a string in the k8s-valuetype pattern. For information on the k8s-valuetype pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to configure the k8s node labels.

clusters node-type-defaults kvm

Configures KVM parameters.

Command Modes Exec

Syntax Description **kvm** *options*

Usage Guidelines Use this command to configure KVM parameters.

clusters node-type-defaults kvm fluent-forwarding

Configures KVM Fluent Forwarding parameters.

Command Modes Exec

Syntax Description **fluent-forwarding host** *host_name* **port** *port_number*

disable-tls { false | true }

Specify whether to enable or disable TLS communciation with Splunk endpoint.

Must be one of the following:

- **false**
- **true**

Default Value: false.

disable-tls-verification { false | true }

Specify whether to enable or disable TLS certification verification.

Must be one of the following:

- **false**
- **true**

Default Value: false.

host *host_name*

Specify the host name.

Must be a string.

port *port_number*

Specify the Fluentbit or Fluentd instance port number.

Must be an integer.

Default Value: 2020.

Usage Guidelines Use this command to configure Fluent forwarding parameters.

clusters node-type-defaults kvm monitoring

Configures monitoring parameters.

Command Modes Exec

Syntax Description **monitoring local-ip-address-range** *local_ip_address_range* **ping-interval** *ping_interval* **failure-occurrence** *failure_occurrence*

failure-occurrence *failure_occurrence*

Specify to override the failure occurrence number of the UPF monitoring service.

Must be an integer in the range of 3-65535.

local-ip-address-range *local_ip_address_range*

Specify the local IP range for monitoring.

ping-interval *ping_interval*

Specify to override the ping interval in UPF monitoring service.

Must be an integer in the range of 3-65535.

Usage Guidelines Use this command to configure monitoring parameters.

clusters node-type-defaults netplan

Configures netplan template parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults netplan template** *template_name*

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`netplan template`** *`template_name`*

template *template_name*

Specify the netplan YAML template used to define network configurations.

Must be a string.

Usage Guidelines Use this command to configure netplan template parameters.

clusters node-type-defaults os

Configures OS-specific parameters.

Command Modes Exec > Global Configuration (config) > Clusters Configuration (config-clusters-*cluster_name*)

Syntax Description **`os { ntp | proxy { http-proxy`** *`http_proxy`* **`| https-proxy`** *`https_proxy`* **`| no-proxy`** *`no_proxy`* **`} }`**

tac-password *tac_password*

Specify the TAC password to enable Cisco TAC access.

Usage Guidelines Use this command to configure OS-specific parameters.

clusters node-type-defaults os disable-log-ratelimit

Enables or disables JournalID rate limiting.

Command Modes Exec > Global Configuration (config)

Syntax Description **`disable-log-ratelimit enabled { false | true }`**

enabled { false | true }

Specify whether to enable or disable JournalID rate limiting.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to enable or disable JournalID rate limiting.

clusters node-type-defaults os netplan-additions

Allows adding to netplan configuration from initial-boot (cloud-init). NOTE: currently only routes are supported and not all netplan fields are available.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `node-defaults os netplan-additions`

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description `os netplan-additions`

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to add netplan configuration from initial-boot. Currently, only routes are supported and not all netplan fields are available.

clusters node-type-defaults os netplan-additions actions preview-netplan

Displays a preview of netplan YAML and validates with "netplan generate". This command displays only the commited data and is useful for debugging.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `node-defaults os netplan-additions actions preview-netplan`

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description `os netplan-additions actions preview-netplan`

Usage Guidelines Use this command to preview the netplan.

clusters node-type-defaults os netplan-additions bonds

Configures netplan bonds device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

interfaces *id_list*

Specify the ID list. All devices matching this ID list will be added to the bond.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the clusters bonds.

clusters node-type-defaults os netplan-additions bonds dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults os netplan-additions bonds dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults os netplan-additions bonds nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults os netplan-additions bonds optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults os netplan-additions bonds parameters

Configures customization parameters for special bonding options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Syntax Description

parameters { ad-select *aggregation_selection_mode* **| all-slaves-active { false | true } | arp-interval** *arp_interval_value* **| arp-ip-targets** *ipv4_address* **| down-delay** *down_delay_interval* **| fail-over-mac-policy** *failover_mac_policy* **| gratuitous-arp** *arp_packets* **| lacp-rate** *lacp_rate* **| learn-packet-interval** *learn_packet_interval* **| mii-monitor-interval** *mii_monitor_interval* **| min-links** *minimum_links* **| mode** *bonding_mode* **| packets-per-slave** *packets_per_slave* **| primary-reselect-policy** *reselection_policy* **| primary** *primary_device* **| resend-igmp** *igmp_reports* **| transmit-hash-policy** *transmit_hash_policy* **| up-delay** *up_delay_interval* **}**

ad-select *aggregation_selection_mode*

Specify the aggregation selection mode.

Must be one of the following:

- **bandwidth**
- **count**
- **stable**

all-slaves-active { false | true }

Specify whether the bond should drop or deliver the duplicate frames received on inactive ports.

Must be one of the following:

- **false**
- **true**

arp-interval *arp_interval_value*

Specify the interval value for how to determine the frequency of ARP link monitoring.

Must be a string.

arp-ip-targets *ipv4_address*

Specify the IPs of other hosts on the link which should be sent ARP requests in order to validate that a slave is up.

down-delay *down_delay_interval*

Specify the delay before disabling a link once the link has been lost.

Must be a string.

fail-over-mac-policy *failover_mac_policy*

Specify whether to set all slaves to the same MAC address when adding them to the bond, or how else the system should handle MAC addresses.

Must be one of the following:

- **active**

- **follow**
- **none**

gratuitous-arp ***arp_packets***

Specify the number of ARP packets to send after failover.

Must be an integer in the range of 1-255.

lacp-rate ***lacp_rate***

Specify the rate at which Link Aggregation Control Protocol Data Unit (LACPDU) are transmitted.

Must be one of the following:

- **fast**
- **slow**

learn-packet-interval ***learn_packet_interval***

Specify the interval between sending learning packets to each slave.

Must be a string.

mii-monitor-interval ***mii_monitor_interval***

Specify the interval for MII monitoring. That is, verifying if an interface of the bond has carrier.

Must be a string.

min-links ***minimum_links***

Specify the minimum number of link up in a bond to consider the bond interface to be up.

Must be an integer.

mode ***bonding_mode***

Specify the bonding mode used for the interfaces.

Must be one of the following:

- **802.3ad**
- **active-backup**
- **balance-alb**
- **balance-rr**
- **balance-tlb**
- **balance-xor**
- **broadcast**

packets-per-slave *packets_per_slave*

Specify the number of packets to transmit on a slave before switching to the next.

Must be an integer in the range of 0-65535.

primary-reselect-policy *reselection_policy*

Specify the reselection policy for the primary slave.

Must be one of the following:

- **always**
- **better**
- **failure**

primary *primary_device*

Specify the device to be used as a primary slave, or preferred device to use as a slave for the bond, whenever it is available.

Must be a string.

resend-igmp *igmp_reports*

Specify the number of IGMP membership reports issued on a failover event.

Must be an integer in the range of 0-255.

transmit-hash-policy *transmit_hash_policy*

Specify the transmit hash policy for the selection of slaves.

Must be one of the following:

- **encap2+3**
- **encap3+4**
- **layer2+3**
- **layer2**
- **layer3+4**

up-delay *up_delay_interval*

Specify the delay before enabling a link once the link is physically up.

Must be a string.

Usage Guidelines

Use this command to configure customization parameters for special bonding options.

clusters node-type-defaults os netplan-additions bonds routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines

Use this command to configure static routing for the device.

clusters node-type-defaults os netplan-additions bonds routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults os netplan-additions bridges

Configures netplan bridge type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

interfaces ***interface_id***

Adds all the devices matching this ID to the bridge.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress ***mac_address***

Specify the MAC address.

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the bridge type.

clusters node-type-defaults os netplan-additions bridges dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp4-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults os netplan-additions bridges dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults os netplan-additions bridges nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults os netplan-additions bridges optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults os netplan-additions bridges parameters

Configures the customization parameters for special bridging options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Syntax Description **parameters { ageing-time** *ageing_time* **| forward-delay** *forward_delay_period* **| hello-time** *hello_time_interval* **| max-age** *maximum_age* **| path-cost** *cost_of_path* **| post-port-priority** *post_port_priority_range* **| priority** *priority_value* **| stp { false | true } }**

ageing-time *ageing_time*

Specify the period of time to keep a MAC address in the forwarding database after a packet is received.

Must be a string.

forward-delay *forward_delay_period*

Specify the period of time the bridge will remain in Listening and Learning states before getting to the Forwarding state.

Must be a string.

hello-time *hello_time_interval*

Specify the interval between two hello packets being sent out from the root and designated bridges.

Must be a string.

max-age *maximum_age*

Specify the maximum age of a hello packet.

Must be a string.

path-cost *cost_of_path*

Specify the cost of a path on the bridge.

Must be a string.

post-port-priority *post_port_priority_range*

Specify the port priority range.

Must be an integer in the range of 0-63.

priority *priority_value*

Specify the priority value for the bridge.

Must be an integer.

stp { false | true }

Specify whether the bridge should use Spanning Tree protocol.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the customization parameters for special bridging options.

clusters node-type-defaults os netplan-additions bridges routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**

- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-type-defaults os netplan-additions bridges routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults os netplan-additions ethernets

Configures netplan ethernets device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
node-defaults os netplan-additions ethernets device_id { accept-ra { false | true } | addresses ip_address/prefix_length | critical { false | true } | dhcp-identifier dhcp_identifier | dhcp4 { false | true } | dhcp6 { false | true } | gateway4 ipv4_address | gateway6 ipv6_address | ipv6-privacy { false | true } | link-local link_local_address | macaddress mac_address | mtu number_of_mtu | optional { false | true } | renderer renderer_type }
```

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description

```
os netplan-additions ethernets device_id { accept-ra { false | true } | addresses ip_address/prefix_length | critical { false | true } | dhcp-identifier dhcp_identifier | dhcp4 { false | true } | dhcp6 { false | true } | gateway4 ipv4_address | gateway6 ipv6_address | ipv6-privacy { false | true } | link-local link_local_address | macaddress mac_address | mtu number_of_mtu | optional { false | true } | renderer renderer_type }
```

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure netplan ethernet dvice type.

clusters node-type-defaults os netplan-additions ethernets auth

Configures the authentication parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Syntax Description

auth key-management *key_management_mode* **[ca-certificate** *path_to_trusted_ca_cert_file* **| client-certificate** *path_to_client_cert_file* **| client-key-password** *client_key_password* **| client-key** *path_to_client_key_file* **]**

ca-certificate ***path_to_trusted_ca_cert_file***

Specify the path to a file with one or more trusted Certificate Authority (CA) certificates.

Must be a string.

client-certificate ***path_to_client_cert_file***

Specify the path to a file containing the certificate to be used by the client during authentication.

Must be a string.

client-key-password ***client_key_password***

Specify the password to use to decrypt the private key specified in client-key if it is encrypted.

Must be a string.

client-key ***path_to_client_key_file***

Specify the path to a file containing the private key corresponding to client-certificate.

Must be a string.

key-management ***key_management_mode***

Specify the key management mode.

Must be one of the following:

- **802.1x**
- **none**

Usage Guidelines

Use this command to configure the authentication parameters.

clusters node-type-defaults os netplan-additions ethernets dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults os netplan-additions ethernets dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults os netplan-additions ethernets nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults os netplan-additions ethernets optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults os netplan-additions ethernets routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-type-defaults os netplan-additions ethernets routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults os netplan-additions tunnels

Configures the tunnel mode.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

local ***ip_address***

Specify the IP address of the local endpoint of the tunnel.

macaddress ***mac_address***

Specify the MAC address.

mode ***tunnel_mode***

Specify the tunnel mode.

Must be one of the following:

- **gre**
- **gretap**
- **ip6gre**
- **ip6gretap**
- **ip6ip6**
- **ipip6**
- **ipip**
- **isatap**
- **sit**
- **vti6**
- **vti**

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

remote *ip_address*

Specify the IP address of the remote endpoint of the tunnel.

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the tunnel mode.

clusters node-type-defaults os netplan-additions tunnels dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults os netplan-additions tunnels dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults os netplan-additions tunnels key

Configures the keys to use for the tunnel.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Syntax Description **`key { input`** *`input_key`* **`| output`** *`output_key`* **`}`**

input *input_key*

Specify the input key for the tunnel.

Must be a string.

output *output_key*

Specify the output key for the tunnel.

Must be a string.

Usage Guidelines Use this command to configure the keys to use for the tunnel.

clusters node-type-defaults os netplan-additions tunnels nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults os netplan-additions tunnels optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults os netplan-additions tunnels routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines

Use this command to configure static routing for the device.

clusters node-type-defaults os netplan-additions tunnels routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults os netplan-additions vlans

Configures the Virtual LAN parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

id ***vlan_id***

Specify the Virtual LAN ID.

Must be an integer in the range of 0-4094.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

link ***interface_name***

Specify the interface name of the underlying device definition on which this VLAN gets created.

Must be a string.

macaddress ***mac_address***

Specify the MAC address.

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**

- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the Virtual LAN parameters.

clusters node-type-defaults os netplan-additions vlans dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp4-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters node-type-defaults os netplan-additions vlans dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters node-type-defaults os netplan-additions vlans nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters node-type-defaults os netplan-additions vlans optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses ***optional_addresses***

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters node-type-defaults os netplan-additions vlans routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**

- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters node-type-defaults os netplan-additions vlans routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters node-type-defaults os ntp

Configures the NTP servers for the nodes.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **ntp enabled { false | true }**

enabled { false | true }

Specify whether to enable or disable providing the NTP servers for configuration.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the NTP servers for the nodes.

clusters node-type-defaults os ntp clients-allow

Configures the client subnets allowed to use cluster as relay.

Command Modes Exec > Global Configuration (config)

Syntax Description **clients-allow subnet** *subnet*

subnet *subnet*

Specify the client subnets that could use current cluster as NTP relay server. For example, 192.168.0.0/16.

Usage Guidelines Use this command to configure the client subnets allowed to use cluster as relay.

clusters node-type-defaults os ntp servers

Configures the time server parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **ntp servers** *url* **{ key-id** *key_id* **| sha-key** *sha_key* **| sha-type** *sha_type* **}**

key-id *key_id*

Specify the key ID for the chrony server keys.

Must be a string.

sha-key *sha_key*

Specify the SHA authentication key with chrony server.

Must be a string in the hextype pattern. For information on the hextype pattern, see the *Input Pattern Types* chapter.

sha-type *sha_type*

Specify the type of SHA for the chrony server keys. For instance, SHA1, SHA256, SHA512, etc. See: https:

Must be one of the following:

- **RMD128**
- **RMD160**
- **RMD256**
- **RMD320**
- **SHA1**
- **SHA256**
- **SHA384**
- **SHA512**
- **TIGER**
- **WHIRLPOOL**

url

Specify the NTP server URL. For example, clock.cisco.com.

Must be a string.

Usage Guidelines Use this command to configure time server parameters, which need to be input into the NTP conf.

clusters node-type-defaults os proxy

Configures the proxy servers at the node level.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os proxy { http-proxy`** *`http_proxy`* **`| https-proxy`** *`https_proxy`* **`| no-proxy`** *`no_proxy_hosts`* **`}`**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`os proxy { http-proxy`** *`http_proxy`* **`| https-proxy`** *`https_proxy`* **`| no-proxy`** *`no_proxy_hosts`* **`}`**

http-proxy *http_proxy*

Specify to send HTTP traffic to the specified HTTP proxy.

Must be a string.

https-proxy *https_proxy*

Specify to send HTTPS traffic to the specified HTTP proxy.

Must be a string.

no-proxy *no_proxy_hosts*

Specify the hosts to avoid proxy.

Must be a string.

Usage Guidelines Use this command to configure the proxy servers at the node level.

clusters node-type-defaults os tuned

Enable or disable installing tuned.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os tuned { disabled | enabled }`**

enabled

Specify whether to enable or disable installing tuned.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to enable or disable installing tuned.

clusters node-type-defaults os users

Configures the list of SMI-managed users managed on this default. Excludes "initial-boot" (cloud-init) provisioned users.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os users`** *`user_name`* **`password`** *`password`*

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`os users`** *`user_name`* **`password`** *`password`*

group *access_privilege*

Specify the user's access privilege. The group defines the user's access privilege.

Must be one of the following:

- **smi-cluster-admin**
- **smi-read-only**

- **smi-superuser**

Default Value: smi-read-only.

password *password*

Specify the password for this entry. It can be a already hashed value (/etc/shadow). Unencrypted will be hashed.

user_name

Specify the user name.

Must be a string of 0-32 characters.

Usage Guidelines Use this command to configure the list of SMI-managed users managed on this default. Excludes "initial-boot" (cloud-init) provisioned users.

clusters node-type-defaults os users authorized-keys

Configures a list of public SSH keys for this user. These keys are allowed for SSH authentication, as described in RFC 4253.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os users`** *`user_name`* **`[ authorized-keys`** *`ssh_key_name`* **`[ algorithm`** *`algorithm_name`* **`| key-data`** *`key_data`* **`] ]`**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Users Configuration (config-users-*user_name*)

Syntax Description **`authorized-keys`** *`ssh_key_name`* **`[ algorithm`** *`algorithm_name`* **`| key-data`** *`key_data`* **`] ]`**

algorithm *algorithm_name*

Specify the public key algorithm name for this SSH key.

Must be one of the following:

- **ssh-ed25519**
- **ssh-rsa**

key-data *key_data*

Specify the binary public key data.

Must be of type binary.

ssh_key_name

Specify a name for the SSH key.

Must be a string.

Usage Guidelines Use this command to configure a list of public SSH keys for this user. These keys are allowed for SSH authentication, as described in RFC 4253. This corresponds to a public key as: <algorithm> <key-data> <name>. For example, ssh-rsa AAAABRUY...bh+3+jA= test-key-laptop.

clusters node-type-defaults ucs-server

Configures UCS server parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`ucs-server`** *`options`*

software *ucs_software_version*

Specify the UCS software version.

Usage Guidelines Use this command to configure UCS server parameters.

clusters node-type-defaults ucs-server cimc

Configures CIMC parameters.

Command Modes Exec

Syntax Description **`cimc ip-address`** *`cimc_ip_address`* **`user`** *`cimc_user_name`* **`password`** *`cimc_user_password`*

password *cimc_user_password*

Specify the CIMC password.

user *cimc_user_name*

Specify the CIMC user name.

Must be a string.

Usage Guidelines Use this command to configure the CIMC user name and password.

clusters node-type-defaults ucs-server cimc bios

Configures CIMC BIOS boot order parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **`bios`**

Usage Guidelines Use this command to configure the CIMC BIOS boot order parameters.

clusters node-type-defaults ucs-server cimc networking ntp

Configures the CIMC network-related parameters.

Command Modes Exec

Syntax Description

```
networking ntp enabled { false | true }
```

enabled { false | true }

Specify whether to provide the NTP servers to configure.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the CIMC network-related parameters.

clusters node-type-defaults ucs-server cimc networking ntp servers

Configures the time servers for CIMC to connect.

Command Modes Exec

Syntax Description

```
ntp servers url server_url
```

url *server_url*

Specify the time server's URL. For example, clock.cisco.com.

Must be a string.

Usage Guidelines Use this command to configure the time servers for CIMC to connect.

clusters node-type-defaults ucs-server cimc remote-management sol

Configures the provision of SoL baud rate, com port, and SSH port parameters.

Command Modes Exec

Syntax Description

```
sol comport enabled { false | true } baud-rate baud_rate com_port_number
ssh-port ssh_port_number
```

baud-rate *baud_rate*

Specify the serial baud rate the system uses for SoL communication.

Must be one of the following:

- **115200**
- **19200**
- **38400**
- **57600**
- **9600**

comport *com_port_number*

Specify the serial port the system uses for SoL communication.

Must be one of the following:

- **com0**
- **com1**

enabled { false | true }

Specify whether to when enabled provide the baud rate, comport, and ssh-port.

Must be one of the following:

- **false**
- **true**

ssh-port *ssh_port_number*

Specify the SSH port of CIMC SoL communication.

Must be an integer.

Usage Guidelines

Use this command to configure the provision of SoL baud rate, comport, and ssh-port parameters.

clusters node-type-defaults ucs-server cimc storage-adaptor

Configures the CIMC storage adaptor management parameters.

Command Modes

Exec

Syntax Description

```
storage-adaptor create-virtual-drive { false | true }
```

create-virtual-drive { false | true }

Specify whether to create the virtual drive if it is not already created.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the CIMC storage adaptor management parameters.

clusters node-type-defaults ucs-server host initial-boot networking

Configures the interface and IP information used to initially bootstrap the node.

Command Modes Exec

Syntax Description **host initial-boot networking interface** *interface_name*

interface *interface_name*

Specify the interface name.

Must be a string.

Default Value: eno1.

Usage Guidelines Use this command to configure the interface and IP information used to initially bootstrap the node.

clusters node-type-defaults ucs-server host initial-boot networking static-ip

Configures static IP parameters.

Command Modes Exec

Syntax Description **static-ip ipv4-address** *ipv4_address* **netmask** *netmask* **gateway** *gateway* **dns** *ip_address*

dns *ip_address*

Specify the IP address.

You can configure a maximum of three elements with this keyword.

gateway *gateway*

Specify the gateway.

Must be a string.

ipv4-address *ipv4_address*

Specify the IPv4 address.

netmask *netmask*

Specify the netmask.

Usage Guidelines Use this command to configure static IP parameters.

clusters node-type-defaults vmware

Configures VMWare hypervisor (vCenter and ESXi host) parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **vmware { datacenter** *datacenter_name* **| datastore** *datastore_name* **| host** *host_name* **}**

datacenter *datacenter_name*

Specify the datacenter name to override the datacenter from the environment for this node.

Must be a string.

datastore *datastore_name*

Specify the datastore name to override the datastore from the environment for this node.

Must be a string.

host *host_name*

Specify the host name to override the host field from the environment for this node.

Must be a string.

Usage Guidelines Use this command to configure VMWare hypervisor (vCenter and ESXi host) parameters.

clusters node-type-defaults vmware nics

Configures list of networks assigned to VMs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **vmware nics** *network_name*

Command Modes Exec > Global Configuration (config) > Environment Configuration (config-environments-*datastore_name*)

Syntax Description **vcenter nics** *network_name*

network_name

Specify the VMware network name.

Must be a string.

Usage Guidelines Use this command to configure a list of networks assigned to VMs.

clusters node-type-defaults vmware numa-node-affinity

Configures the affinity to a processor socket.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **vmware numa-node-affinity** *cpu_socket_number*

cpu_socket_number

Specify the physical CPU socket number.

Must be an integer in the range of 0-15.

Usage Guidelines Use this command to configure affinity to a processor socket.

clusters node-type-defaults vmware pci-device

Configures the list of PCI devices.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **vmware pci-device** *pci_device_key*

pci_device_key

Specify the PCI device key.

Must be a string in the pci-keytype pattern. For information on the pci-keytype pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to configure the list of PCI devices.

clusters node-type-defaults vmware performance

Configures VMware performance parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`vmware performance { cpu-reservation { false | true } | latency-sensitivity`** *`latency_sensitivity`* **`| memory-reservation { false | true } }`**

cpu-reservation { false | true }

CPU reservation info.

Must be one of the following:

- **false**
- **true**

latency-sensitivity *latency_sensitivity*

Specify the latency-senstivity.

Must be one of the following:

- **high**: High.
- **low**: Low.
- **medium**: Medium.
- **normal**: Normal.

memory-reservation { false | true }

Memory reservation info.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure VMware performance parameters.

clusters node-type-defaults vmware sizing

Configures VMWare hypervisor (vCenter and ESXi host) sizing parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **vmware sizing** *options*

cores-equal-cpus { false | true }

Specify whether cores per socket allocated equal to CPUs.

Must be one of the following:

- **false**
- **true**

Default Value: false.

cpus *number_of_cpus*

Specify the number of CPUs allocated.

Must be an integer in the range of 1-256.

ram-mb *ram_mb*

Specify the RAM in MB.

Must be an integer in the range of 4096-524288.

Usage Guidelines Use this command to configure VMWare hypervisor (vCenter and ESXi host) sizing parameters.

clusters nodes

Configures the nodes for both OS and Kubernetes management.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **nodes** *node_name* **[maintenance { false | true } ssh-ip {** *host_name* **|** *ip_address* **} type** *node_type* **]**

flavor *hardware_resource*

Specify the flavor.

Must be one of the following:

- **full**
- **half**

- **quarter**

Default Value: half.

host-profile *host_profile_name*

Specify the customizable tuning details package.

maintenance { false | true }

Specify if the node is temporarily from the cluster due to a maintenance activity.

Must be one of the following:

- **false**
- **true**

Default Value: false.

ssh-connection-private-key *private_key*

Specify the SSH private key used for connecting to the node.

ssh-ip { *host_name* | *ip_address* }

Specify the host name or IP address used to connect via SSH for node managment.

Must be a string.

ssh-username *user_name*

Specify the SSH user name used for connecting to the node.

Must be a string.

type *node_type*

Specify the node type.

Must be one of the following:

- **k8s**
- **kvm**

Default Value: k8s.

node_name

Specify the name of the node. *name* can be an alphanumeric string conatining the hyphen (-). A host name cannot start with a hyphen (-). For example, Example: kashaio-123.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

Usage Guidelines

Use this command to configure the nodes for both OS and Kubernetes management.

clusters nodes actions k8s pod-status

Configures displaying the status of the k8s pods on the node.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description `actions k8s pod-status show-pod-details { false | true }`

show-pod-details { false | true }

Specify whether to display the list of pods in addition to the counts.

Must be one of the following:

- **false**
- **true**

Default Value: false.

Usage Guidelines Use this command to configure displaying the status of the k8s pods scheduled on the node.

clusters nodes actions sync cancel

Cancels the sync process.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description `actions sync cancel`

Usage Guidelines Use this command to cancel the sync process.

clusters nodes actions sync drain

Drains the node in preparation for an upgrade.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `drain { remove-node { false | true } | ansible-strategy` *`ansible_strategy`* `}`

ansible-strategy *ansible_strategy*

Specify the Ansible strategy used for synchronization.

Must be one of the following:

- **free**

- **linear**

Default Value: free.

remove-node { false | true }

Specify whether to remove the specified node.

Must be one of the following:

- **false**
- **true**

Default Value: false.

Usage Guidelines Use this command to drain the node in preparation for an upgrade.

clusters nodes actions sync logs

Displays the node configuration logs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`actions sync logs`**

Usage Guidelines Use this command to view the node configuration logs.

clusters nodes actions sync run

Upgrades the node.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`actions sync run { ansible-strategy`** *`ansible_strategy`* **`| debug { false | true } | force-partition-redeploy { false | true } | purge-data-disks { false | true } | reset-k8s-nodes { false | true } | sync-phase`** *`sync_phase`* **`| vm-redeploy { false | true } }`**

ansible-strategy *ansible_strategy*

Specify the Ansible strategy for synchronization.

Must be one of the following:

- **free**
- **linear**

Default Value: linear.

debug { false | true }

Specfy whether to debug.

Must be one of the following:

- **false**
- **true**

Default Value: false.

force-partition-redeploy { false | true }

Specify whether to force redeploying the partition.

Must be one of the following:

- **false**
- **true**

Default Value: false.

purge-data-disks { false | true }

Specify whether to purge data disks.

Must be one of the following:

- **false**
- **true**

Default Value: false.

reset-k8s-nodes { false | true }

Specify whether to reset the K8s nodes.

Must be one of the following:

- **false**
- **true**

Default Value: false.

sync-phase *sync_phase*

Specify the synchronization phase.

Must be one of the following:

- **all**
- **distributed-registry**
- **opscenter**

Default Value: all.

vm-redeploy { false | true }

Specify whether to redeploy the VM.

Must be one of the following:

- **false**
- **true**

Default Value: false.

Usage Guidelines Use this command to run sync on only one node. Typically needed for manual upgrade cases where cluster rolling upgrade is not used. Will disrupt operations on the node.

clusters nodes actions sync serial-logs

Displays the node configuration serial logs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `serial-logs`

Usage Guidelines Use this command to view the node configuration serial logs.

clusters nodes actions sync status

Displays the status of the node.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description `actions sync status`

Usage Guidelines Use this command to view the status of the node.

clusters nodes cm

Configures Cluster Manager HA IP parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`cm ha-ip`** *`ha_ip`*

ha-ip *ha_ip*

Specify Cluster Manager HA IP used by Keepalived and DRBD for internal communication. Defaults to ssh-ip.

Must be a string.

Usage Guidelines Use this command to configure Cluster Manager HA IP parameters.

clusters nodes initial-boot

Configures the cloud-Init parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **initial-boot { [default-user** *default_user* **] [default-user-password** *password* **] [default-user-ssh-public-key** *ssh_public_key* **] }**

default-user-password *default_user_password*

Specify the password for the default user.

default-user-ssh-public-key *default_user_ssh_public_key*

Specify the public keys allowed to connect via SSH for the default user.

Must be a string.

default-user *default_user_name*

Specify the default user created when this node is deployed.

Must be a string.

Usage Guidelines Use this command to configure the cloud-Init parameters (only first boot of VM).

clusters nodes initial-boot netplan

Configures initial boot netplan parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **netplan renderer** *renderer_type*

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**

- **networkd**

Usage Guidelines Use this command to configure initial boot netplan parameters.

clusters nodes initial-boot netplan bonds

Configures netplan bonds device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**

- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

interfaces *id_list*

Specify the ID list. All devices matching this ID list will be added to the bond.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**

- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the clusters bonds.

clusters nodes initial-boot netplan bonds dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`dhcp4-overrides { hostname`** *`host_name`* **`| route-metric`** *`route_metric_value`* **`| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }`**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes initial-boot netplan bonds dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp6-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes initial-boot netplan bonds nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes initial-boot netplan bonds optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes initial-boot netplan bonds parameters

Configures customization parameters for special bonding options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Syntax Description **`parameters { ad-select`** *`aggregation_selection_mode`* **`| all-slaves-active { false | true } | arp-interval`** *`arp_interval_value`* **`| arp-ip-targets`** *`ipv4_address`* **`| down-delay`** *`down_delay_interval`* **`| fail-over-mac-policy`** *`failover_mac_policy`* **`|`**

gratuitous-arp *arp_packets* **| lacp-rate** *lacp_rate* **| learn-packet-interval** *learn_packet_interval* **| mii-monitor-interval** *mii_monitor_interval* **| min-links** *minimum_links* **| mode** *bonding_mode* **| packets-per-slave** *packets_per_slave* **| primary-reselect-policy** *reselection_policy* **| primary** *primary_device* **| resend-igmp** *igmp_reports* **| transmit-hash-policy** *transmit_hash_policy* **| up-delay** *up_delay_interval* **}**

ad-select *aggregation_selection_mode*

Specify the aggregation selection mode.

Must be one of the following:

- **bandwidth**
- **count**
- **stable**

all-slaves-active { false | true }

Specify whether the bond should drop or deliver the duplicate frames received on inactive ports.

Must be one of the following:

- **false**
- **true**

arp-interval *arp_interval_value*

Specify the interval value for how to determine the frequency of ARP link monitoring.

Must be a string.

arp-ip-targets *ipv4_address*

Specify the IPs of other hosts on the link which should be sent ARP requests in order to validate that a slave is up.

down-delay *down_delay_interval*

Specify the delay before disabling a link once the link has been lost.

Must be a string.

fail-over-mac-policy *failover_mac_policy*

Specify whether to set all slaves to the same MAC address when adding them to the bond, or how else the system should handle MAC addresses.

Must be one of the following:

- **active**
- **follow**
- **none**

gratuitous-arp ***arp_packets***

Specify the number of ARP packets to send after failover.

Must be an integer in the range of 1-255.

lacp-rate ***lacp_rate***

Specify the rate at which Link Aggregation Control Protocol Data Unit (LACPDU) are transmitted.

Must be one of the following:

- **fast**
- **slow**

learn-packet-interval ***learn_packet_interval***

Specify the interval between sending learning packets to each slave.

Must be a string.

mii-monitor-interval ***mii_monitor_interval***

Specify the interval for MII monitoring. That is, verifying if an interface of the bond has carrier.

Must be a string.

min-links ***minimum_links***

Specify the minimum number of link up in a bond to consider the bond interface to be up.

Must be an integer.

mode ***bonding_mode***

Specify the bonding mode used for the interfaces.

Must be one of the following:

- **802.3ad**
- **active-backup**
- **balance-alb**
- **balance-rr**
- **balance-tlb**
- **balance-xor**
- **broadcast**

packets-per-slave ***packets_per_slave***

Specify the number of packets to transmit on a slave before switching to the next.

Must be an integer in the range of 0-65535.

primary-reselect-policy *reselection_policy*

Specify the reselection policy for the primary slave.

Must be one of the following:

- **always**
- **better**
- **failure**

primary *primary_device*

Specify the device to be used as a primary slave, or preferred device to use as a slave for the bond, whenever it is available.

Must be a string.

resend-igmp *igmp_reports*

Specify the number of IGMP membership reports issued on a failover event.

Must be an integer in the range of 0-255.

transmit-hash-policy *transmit_hash_policy*

Specify the transmit hash policy for the selection of slaves.

Must be one of the following:

- **encap2+3**
- **encap3+4**
- **layer2+3**
- **layer2**
- **layer3+4**

up-delay *up_delay_interval*

Specify the delay before enabling a link once the link is physically up.

Must be a string.

Usage Guidelines Use this command to configure customization parameters for special bonding options.

clusters nodes initial-boot netplan bonds routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope ***route_scope***

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes initial-boot netplan bonds routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes initial-boot netplan bridges

Configures netplan bridge type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

interfaces *interface_id*

Adds all the devices matching this ID to the bridge.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines

Use this command to configure the bridge type.

clusters nodes initial-boot netplan bridges dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes initial-boot netplan bridges dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp6-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes initial-boot netplan bridges nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes initial-boot netplan bridges optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes initial-boot netplan bridges parameters

Configures the customization parameters for special bridging options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Syntax Description **parameters { ageing-time** *ageing_time* **| forward-delay** *forward_delay_period* **| hello-time** *hello_time_interval* **| max-age** *maximum_age* **| path-cost** *cost_of_path* **| post-port-priority** *post_port_priority_range* **| priority** *priority_value* **| stp { false | true } }**

ageing-time *ageing_time*

Specify the period of time to keep a MAC address in the forwarding database after a packet is received.

Must be a string.

forward-delay *forward_delay_period*

Specify the period of time the bridge will remain in Listening and Learning states before getting to the Forwarding state.

Must be a string.

hello-time *hello_time_interval*

Specify the interval between two hello packets being sent out from the root and designated bridges.

Must be a string.

max-age *maximum_age*

Specify the maximum age of a hello packet.

Must be a string.

path-cost *cost_of_path*

Specify the cost of a path on the bridge.

Must be a string.

post-port-priority *post_port_priority_range*

Specify the port priority range.

Must be an integer in the range of 0-63.

priority *priority_value*

Specify the priority value for the bridge.

Must be an integer.

stp { false | true }

Specify whether the bridge should use Spanning Tree protocol.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the customization parameters for special bridging options.

clusters nodes initial-boot netplan bridges routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes initial-boot netplan bridges routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes initial-boot netplan ethernets

Configures netplan ethernets device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } |**

link-local *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress ***mac_address***

Specify the MAC address.

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer ***renderer_type***

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure netplan ethernet dvice type.

clusters nodes initial-boot netplan ethernets auth

Configures the authentication parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Syntax Description **auth key-management** *key_management_mode* **[ca-certificate** *path_to_trusted_ca_cert_file* **| client-certificate** *path_to_client_cert_file* **| client-key-password** *client_key_password* **| client-key** *path_to_client_key_file* **]**

ca-certificate ***path_to_trusted_ca_cert_file***

Specify the path to a file with one or more trusted Certificate Authority (CA) certificates.

Must be a string.

client-certificate ***path_to_client_cert_file***

Specify the path to a file containing the certificate to be used by the client during authentication.

Must be a string.

client-key-password ***client_key_password***

Specify the password to use to decrypt the private key specified in client-key if it is encrypted.

Must be a string.

client-key ***path_to_client_key_file***

Specify the path to a file containing the private key corresponding to client-certificate.

Must be a string.

key-management ***key_management_mode***

Specify the key management mode.

Must be one of the following:

- **802.1x**

- **none**

Usage Guidelines Use this command to configure the authentication parameters.

clusters nodes initial-boot netplan ethernets dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`dhcp4-overrides { hostname`** *`host_name`* **`| route-metric`** *`route_metric_value`* **`| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }`**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes initial-boot netplan ethernets dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes initial-boot netplan ethernets nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes initial-boot netplan ethernets optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes initial-boot netplan ethernets routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric ***relative_priority_value***

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope ***route_scope***

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines

Use this command to configure static routing for the device.

clusters nodes initial-boot netplan ethernets routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes initial-boot netplan tunnels

Configures the tunnel mode.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

local ***ip_address***

Specify the IP address of the local endpoint of the tunnel.

macaddress ***mac_address***

Specify the MAC address.

mode ***tunnel_mode***

Specify the tunnel mode.

Must be one of the following:

- **gre**
- **gretap**
- **ip6gre**
- **ip6gretap**
- **ip6ip6**
- **ipip6**
- **ipip**
- **isatap**

- **sit**
- **vti6**
- **vti**

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

remote *ip_address*

Specify the IP address of the remote endpoint of the tunnel.

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the tunnel mode.

clusters nodes initial-boot netplan tunnels dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes initial-boot netplan tunnels dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes initial-boot netplan tunnels key

Configures the keys to use for the tunnel.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Syntax Description **key { input** *input_key* **| output** *output_key* **}**

input *input_key*

Specify the input key for the tunnel.

Must be a string.

output *output_key*

Specify the output key for the tunnel.

Must be a string.

Usage Guidelines Use this command to configure the keys to use for the tunnel.

clusters nodes initial-boot netplan tunnels nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes initial-boot netplan tunnels optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**

- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes initial-boot netplan tunnels routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes initial-boot netplan tunnels routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes initial-boot netplan vlans

Configures the Virtual LAN parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4**

ipv4_address **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

id ***vlan_id***

Specify the Virtual LAN ID.

Must be an integer in the range of 0-4094.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

link ***interface_name***

Specify the interface name of the underlying device definition on which this VLAN gets created.

Must be a string.

macaddress ***mac_address***

Specify the MAC address.

mtu ***number_of_mtu***

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the Virtual LAN parameters.

clusters nodes initial-boot netplan vlans dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`dhcp4-overrides { hostname`** *`host_name`* **`| route-metric`** *`route_metric_value`* **`| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }`**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes initial-boot netplan vlans dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes initial-boot netplan vlans nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes initial-boot netplan vlans optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes initial-boot netplan vlans routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

routes *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes initial-boot netplan vlans routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

routing-policy *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines

Use this command to configure policy routing for the device.

clusters nodes k8s

Configures k8s specific configuration.

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description

k8s { node-ip *node_ip* **| node-labels** *key value*| **node-type** *type* **| ssh-connection-private-key** *aes_encrypted_string* **| ssh-ip** *ssh_ip* **| ssh-username** *ssh_username* **| ssh-bind-to-ssh-ip { false | true } }**

host-profile *host_profile_name*

Specify the customizable tuning details package.

hostname-override *host_name_override*

Specify to force the host name in kubeadmin config for k8s.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

max-pods *max_pods*

Specify the maximum number of pods per node. Uses kubernetes default if not set.

Must be an integer in the range of 10-2000.

node-ip *node_ip*

Specify the node IP used by kubernetes for inter-node communication.

Must be a string.

node-type *node_type*

Specify the Kubernetes node type.

Must be one of the following:

- **backup**
- **control-plane**
- **etcd**
- **master**
- **worker**

Important The **master** node type is deprecated. Use the **control-plane** node type instead of **master**.

Default Value: worker.

ssh-connection-private-key *private_key*

Specify the SSH private key used for connecting to the node.

ssh-ip *ssh_ip*

Specfies the host name or IP address used to connect through SSH for node management.

Must be a string.

ssh-username *user_name*

Specify the SSH user name used for connecting to the node.

Must be a string.

sshd-bind-to-ssh-ip { false | true }

Specify if the SSHD should only listen on SSH IP.

Must be one of the following:

- **false**
- **true**

Default Value: false.

worker-type *worker_type*

Specify the worker type.

Usage Guidelines Use this command to configure k8s specific configuration.

clusters nodes k8s cpu-manager

Configures CPU Manager parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
cpu-manager cpu-manager-policy cpu_manager_policy {
cpu-manager-reconcile-period cpu_manager_reconcile_period | system-reserved-cpu
 system_reserved_cpu | system-reserved-memory system_reserved_memory |
system-reserved-ephemeral-storage storage_memory | kube-reserved-cpu
kube_reserved_cpu | kube-reserved-memory kube_reserved_memory |
kube-reserved-ephemeral-storage kube_reserved_ephemeral_storage }
```

cpu-manager-policy *cpu_manager_policy*

Specify the CPU Manager policy.

Must be one of the following:

- **none**
- **static**

Default Value: none.

cpu-manager-reconcile-period *cpu_manager_reconcile_period*

Specify the CPU Manager reconciliation period. If not supplied, defaults to NodeStatusUpdateFrequency (default 10s) when policy is static.

Must be an integer in the range of 10-60.

Default Value: 10.

kube-reserved-cpu *kube_reserved_cpu*

Specify the Kube-reserved CPU.

Must be of type decimal64, with 2 fraction digits in the range of 0-36.

Default Value: 1.

kube-reserved-ephemeral-storage *kube_reserved_ephemeral_storage*

Specify the Kube-reserved ephemeral storage memory in GB.

Must be an integer in the range of 2-512.

Default Value: 2.

kube-reserved-memory *kube_reserved_memory*

Specify the Kube-reserved memory in MB.

Must be an integer in the range of 2000-524288.

Default Value: 2000.

system-reserved-cpu *system_reserved_cpu*

Specify the system-reserved CPU.

Must be of type decimal64, with 2 fraction digits in the range of 0-36.

Default Value: 1.

system-reserved-ephemeral-storage *storage_memory*

Specify the system-reserved ephemeral storage memory in GB.

Must be an integer in the range of 2-512.

Default Value: 2.

system-reserved-memory *system_reserved_memory*

Specify the system-reserved memory in MB.

Must be an integer in the range of 2000-524288.

Default Value: 2000.

Usage Guidelines Use this command to configure CPU Manager parameters.

clusters nodes k8s node-labels

Configures k8s node labels.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`node-defaults k8s node-labels`** *`key value`*

key

Specify the prefix for the node label.

Must be a string in the k8s-keytype pattern. For information on the k8s-keytype pattern, see the *Input Pattern Types* chapter.

value

Specify the suffix for the node label.

Must be a string in the k8s-valuetype pattern. For information on the k8s-valuetype pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to configure the k8s node labels.

clusters nodes netplan variables

Configures the netplan template variables.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`netplan variables`** *`variable_name`* **`value`** *`variable_value`*

value *variable_value*

Specify the variable value.

Must be a string.

variable_name

Specify the variable name from the netplan template.

Usage Guidelines Use this command to configure the netplan template variables.

clusters nodes os

Configures OS-specific parameters.

Command Modes Exec > Global Configuration (config)> Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`os [ additional-ssh-ips`** *`additional_ssh_hostnames_ips`* **`| enable-passthrough { false | true } | num-vfs-per-pf`** *`vf_per_pf`* **`| tac-password`** *`tac_password`* **`]`**

additional-ssh-ips *additional_ssh_hostnames_ips*

Specify additional host name or IP addresses used to connect via SSH for node management.

Must be a string.

enable-passthrough { false | true }

Specify whether to enable or disable PCI passthrough.

Must be one of the following:

- **false**
- **true**

Default Value: false.

num-vfs-per-pf *vf_per_pf*

Specify the VF number per PF.

Must be an integer.

Default Value: 16.

tac-password *tac_password*

Specify the TAC password to enable Cisco TAC access.

Usage Guidelines Use this command to configure OS-specific parameters.

clusters nodes os disable-log-ratelimit

Enables or disables JournalID rate limiting.

Command Modes Exec > Global Configuration (config)

Syntax Description

```
disable-log-ratelimit enabled { false | true }
```

enabled { false | true }

Specify whether to enable or disable JournalID rate limiting.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to enable or disable JournalD rate limiting.

clusters nodes os netplan-additions

Allows adding to netplan configuration from initial-boot (cloud-init). NOTE: currently only routes are supported and not all netplan fields are available.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os netplan-additions`**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`os netplan-additions`**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to add netplan configuration from initial-boot. Currently, only routes are supported and not all netplan fields are available.

clusters nodes os netplan-additions actions preview-netplan

Displays a preview of netplan YAML and validates with "netplan generate". This command displays only the commited data and is useful for debugging.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os netplan-additions actions preview-netplan`**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`os netplan-additions actions preview-netplan`**

Usage Guidelines Use this command to preview the netplan.

clusters nodes os netplan-additions bonds

Configures netplan bonds device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os netplan-additions bonds`** *`bond_name`* **`{ accept-ra { false | true } | addresses`** *`ip_address/prefix_length`* **`| critical { false | true } | device-id`** *`device_id`* **`| dhcp-identifier`** *`dhcp_identifier`* **`| dhcp4 { false | true } | dhcp6 { false | true } | gateway4`** *`ipv4_address`* **`| gateway6`** *`ipv6_address`* **`| interfaces`** *`id_list`* **`| ipv6-privacy { false | true } | link-local`** *`link_local_address`* **`| macaddress`** *`mac_address`* **`| mtu`** *`number_of_mtu`* **`| optional { false | true } | renderer`** *`renderer_type`* **`}`**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bonds** *bond_name* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | device-id** *device_id* **| dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *id_list* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**

- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

interfaces *id_list*

Specify the ID list. All devices matching this ID list will be added to the bond.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the clusters bonds.

clusters nodes os netplan-additions bonds dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`dhcp4-overrides { hostname`** *`host_name`* **`| route-metric`** *`route_metric_value`* **`| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }`**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes os netplan-additions bonds dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes os netplan-additions bonds nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes os netplan-additions bonds optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes os netplan-additions bonds parameters

Configures customization parameters for special bonding options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Syntax Description **parameters { ad-select** *aggregation_selection_mode* **| all-slaves-active { false | true } | arp-interval** *arp_interval_value* **| arp-ip-targets** *ipv4_address* **| down-delay** *down_delay_interval* **| fail-over-mac-policy** *failover_mac_policy* **| gratuitous-arp** *arp_packets* **| lacp-rate** *lacp_rate* **| learn-packet-interval** *learn_packet_interval* **| mii-monitor-interval** *mii_monitor_interval* **| min-links** *minimum_links* **| mode** *bonding_mode* **| packets-per-slave** *packets_per_slave* **| primary-reselect-policy** *reselection_policy* **| primary** *primary_device* **| resend-igmp** *igmp_reports* **| transmit-hash-policy** *transmit_hash_policy* **| up-delay** *up_delay_interval* **}**

ad-select *aggregation_selection_mode*

Specify the aggregation selection mode.

Must be one of the following:

- **bandwidth**
- **count**
- **stable**

all-slaves-active { false | true }

Specify whether the bond should drop or deliver the duplicate frames received on inactive ports.

Must be one of the following:

- **false**
- **true**

arp-interval ***arp_interval_value***

Specify the interval value for how to determine the frequency of ARP link monitoring.

Must be a string.

arp-ip-targets ***ipv4_address***

Specify the IPs of other hosts on the link which should be sent ARP requests in order to validate that a slave is up.

down-delay ***down_delay_interval***

Specify the delay before disabling a link once the link has been lost.

Must be a string.

fail-over-mac-policy ***failover_mac_policy***

Specify whether to set all slaves to the same MAC address when adding them to the bond, or how else the system should handle MAC addresses.

Must be one of the following:

- **active**
- **follow**
- **none**

gratuitous-arp ***arp_packets***

Specify the number of ARP packets to send after failover.

Must be an integer in the range of 1-255.

lacp-rate ***lacp_rate***

Specify the rate at which Link Aggregation Control Protocol Data Unit (LACPDU) are transmitted.

Must be one of the following:

- **fast**
- **slow**

learn-packet-interval ***learn_packet_interval***

Specify the interval between sending learning packets to each slave.

Must be a string.

mii-monitor-interval ***mii_monitor_interval***

Specify the interval for MII monitoring. That is, verifying if an interface of the bond has carrier.

Must be a string.

min-links ***minimum_links***

Specify the minimum number of link up in a bond to consider the bond interface to be up.

Must be an integer.

mode ***bonding_mode***

Specify the bonding mode used for the interfaces.

Must be one of the following:

- **802.3ad**
- **active-backup**
- **balance-alb**
- **balance-rr**
- **balance-tlb**
- **balance-xor**
- **broadcast**

packets-per-slave ***packets_per_slave***

Specify the number of packets to transmit on a slave before switching to the next.

Must be an integer in the range of 0-65535.

primary-reselect-policy ***reselection_policy***

Specify the reselection policy for the primary slave.

Must be one of the following:

- **always**
- **better**
- **failure**

primary ***primary_device***

Specify the device to be used as a primary slave, or preferred device to use as a slave for the bond, whenever it is available.

Must be a string.

resend-igmp ***igmp_reports***

Specify the number of IGMP membership reports issued on a failover event.

Must be an integer in the range of 0-255.

transmit-hash-policy *transmit_hash_policy*

Specify the transmit hash policy for the selection of slaves.

Must be one of the following:

- **encap2+3**
- **encap3+4**
- **layer2+3**
- **layer2**
- **layer3+4**

up-delay *up_delay_interval*

Specify the delay before enabling a link once the link is physically up.

Must be a string.

Usage Guidelines Use this command to configure customization parameters for special bonding options.

clusters nodes os netplan-additions bonds routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type *route_type*

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via *gateway_ip_address*

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes os netplan-additions bonds routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes os netplan-additions bridges

Configures netplan bridge type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions bridges** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| interfaces** *interface_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 ***ipv4_address***

Specify the default gateway for IPv4.

gateway6 ***ipv6_address***

Specify the default gateway for IPv6.

interfaces ***interface_id***

Adds all the devices matching this ID to the bridge.

Must be a string.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local ***link_local_address***

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the bridge type.

clusters nodes os netplan-additions bridges dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**

- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes os netplan-additions bridges dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes os netplan-additions bridges nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes os netplan-additions bridges optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **optional-addresses** *optional_addresses*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes os netplan-additions bridges parameters

Configures the customization parameters for special bridging options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Syntax Description **parameters { ageing-time** *ageing_time* **| forward-delay** *forward_delay_period* **| hello-time** *hello_time_interval* **| max-age** *maximum_age* **| path-cost** *cost_of_path* **| post-port-priority** *post_port_priority_range* **| priority** *priority_value* **| stp { false | true } }**

ageing-time *ageing_time*

Specify the period of time to keep a MAC address in the forwarding database after a packet is received.

Must be a string.

forward-delay *forward_delay_period*

Specify the period of time the bridge will remain in Listening and Learning states before getting to the Forwarding state.

Must be a string.

hello-time *hello_time_interval*

Specify the interval between two hello packets being sent out from the root and designated bridges.

Must be a string.

max-age *maximum_age*

Specify the maximum age of a hello packet.

Must be a string.

path-cost *cost_of_path*

Specify the cost of a path on the bridge.

Must be a string.

post-port-priority *post_port_priority_range*

Specify the port priority range.

Must be an integer in the range of 0-63.

priority *priority_value*

Specify the priority value for the bridge.

Must be an integer.

stp { false | true }

Specify whether the bridge should use Spanning Tree protocol.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the customization parameters for special bridging options.

clusters nodes os netplan-additions bridges routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes os netplan-additions bridges routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes os netplan-additions ethernets

Configures netplan ethernets device type.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions ethernets** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure netplan ethernet dvice type.

clusters nodes os netplan-additions ethernets auth

Configures the authentication parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Syntax Description

auth key-management *key_management_mode* **[ca-certificate** *path_to_trusted_ca_cert_file* **| client-certificate** *path_to_client_cert_file* **| client-key-password** *client_key_password* **| client-key** *path_to_client_key_file* **]**

ca-certificate ***path_to_trusted_ca_cert_file***

Specify the path to a file with one or more trusted Certificate Authority (CA) certificates.

Must be a string.

client-certificate ***path_to_client_cert_file***

Specify the path to a file containing the certificate to be used by the client during authentication.

Must be a string.

client-key-password ***client_key_password***

Specify the password to use to decrypt the private key specified in client-key if it is encrypted.

Must be a string.

client-key ***path_to_client_key_file***

Specify the path to a file containing the private key corresponding to client-certificate.

Must be a string.

key-management ***key_management_mode***

Specify the key management mode.

Must be one of the following:

- **802.1x**
- **none**

Usage Guidelines

Use this command to configure the authentication parameters.

clusters nodes os netplan-additions ethernets dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes

Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes os netplan-additions ethernets dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes os netplan-additions ethernets nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **nameservers { search** *domain_name* **| addresses** *ip_addresses* **}**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes os netplan-additions ethernets optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes os netplan-additions ethernets routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope *route_scope*

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**

- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes os netplan-additions ethernets routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes os netplan-additions tunnels

Configures the tunnel mode.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions tunnels** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **ipv6-privacy { false | true } | link-local** *link_local_address* **| local** *ip_address* **| macaddress** *mac_address* **| mode** *tunnel_mode* **| mtu** *number_of_mtu* **| optional { false | true } | remote** *ip_address* **| renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

local *ip_address*

Specify the IP address of the local endpoint of the tunnel.

macaddress *mac_address*

Specify the MAC address.

mode *tunnel_mode*

Specify the tunnel mode.

Must be one of the following:

- **gre**
- **gretap**
- **ip6gre**
- **ip6gretap**
- **ip6ip6**
- **ipip6**
- **ipip**
- **isatap**
- **sit**
- **vti6**
- **vti**

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**

- **true**

remote ***ip_address***

Specify the IP address of the remote endpoint of the tunnel.

renderer ***renderer_type***

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines Use this command to configure the tunnel mode.

clusters nodes os netplan-additions tunnels dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp4-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes os netplan-additions tunnels dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp6-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes os netplan-additions tunnels key

Configures the keys to use for the tunnel.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Syntax Description **`key { input`** *`input_key`* **`| output`** *`output_key`* **`}`**

input *input_key*

Specify the input key for the tunnel.

Must be a string.

output *output_key*

Specify the output key for the tunnel.

Must be a string.

Usage Guidelines Use this command to configure the keys to use for the tunnel.

clusters nodes os netplan-additions tunnels nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes os netplan-additions tunnels optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes os netplan-additions tunnels routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope ***route_scope***

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes os netplan-additions tunnels routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes os netplan-additions vlans

Configures the Virtual LAN parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **node-defaults os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **os netplan-additions vlans** *device_id* **{ accept-ra { false | true } | addresses** *ip_address/prefix_length* **| critical { false | true } | dhcp-identifier** *dhcp_identifier* **| dhcp4 { false | true } | dhcp6 { false | true } | gateway4** *ipv4_address* **| gateway6** *ipv6_address* **| id** *vlan_id* **| ipv6-privacy { false | true } | link-local** *link_local_address* **| link** *interface_name* **| macaddress** *mac_address* **| mtu** *number_of_mtu* **| optional { false | true } | renderer** *renderer_type* **}**

accept-ra { false | true }

Specify whether to accept or reject the Router Advertisement that would have the kernel configure IPv6 by itself.

Must be one of the following:

- **false**
- **true**

addresses *ip_address/prefix_length*

Specify to add static addresses to the interface in addition to the ones received through DHCP or RA.

critical { false | true }

Designate the connection as "critical to the system", meaning that special care will be taken by systemd-networkd to not release the IP from DHCP when the daemon is restarted.

Must be one of the following:

- **false**
- **true**

device-id *device_id*

Specify the netplan device ID.

Must be a string.

dhcp-identifier *dhcp_identifier*

Assign the setting (when set to mac) over to systemd-networkd to use the device's MAC address as a unique identifier rather than a RFC4361-compliant Client ID.

Must be a string.

dhcp4 { false | true }

Specify whether to enable or disable DHCP for IPv4.

Must be one of the following:

- **false**
- **true**

dhcp6 { false | true }

Specify whether to enable or disable DHCP for IPv6.

Must be one of the following:

- **false**
- **true**

gateway4 *ipv4_address*

Specify the default gateway for IPv4.

gateway6 *ipv6_address*

Specify the default gateway for IPv6.

id *vlan_id*

Specify the Virtual LAN ID.

Must be an integer in the range of 0-4094.

ipv6-privacy { false | true }

Specify whether to enable or disable IPv6 Privacy Extensions (RFC 4941) for the specified interface, and prefer temporary addresses.

Must be one of the following:

- **false**
- **true**

link-local *link_local_address*

Specify the link-local addresses to bring up.

Must be one of the following:

- **ipv4**
- **ipv6**

link *interface_name*

Specify the interface name of the underlying device definition on which this VLAN gets created.

Must be a string.

macaddress *mac_address*

Specify the MAC address.

mtu *number_of_mtu*

Specify the Maximum Transmission Unit (MTU) for the interface.

Must be an integer.

optional { false | true }

Specify whether an optional device is required for booting.

Must be one of the following:

- **false**
- **true**

renderer *renderer_type*

Specify to use the given networking backend for this definition.

Must be one of the following:

- **NetworkManager**
- **networkd**

Usage Guidelines

Use this command to configure the Virtual LAN parameters.

clusters nodes os netplan-additions vlans dhcp4-overrides

Overrides the default DHCP4 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description

```
dhcp4-overrides { hostname host_name | route-metric route_metric_value |
send-hostname { false | true } | use-dns { false | true } | use-hostname
 { false | true } | use-mtu { false | true } | use-ntp { false | true }
| use-routes { false | true } }
```

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP4 behavior.

clusters nodes os netplan-additions vlans dhcp6-overrides

Overrides the default DHCP6 behavior.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **dhcp6-overrides { hostname** *host_name* **| route-metric** *route_metric_value* **| send-hostname { false | true } | use-dns { false | true } | use-hostname { false | true } | use-mtu { false | true } | use-ntp { false | true } | use-routes { false | true } }**

hostname *host_name*

Specify the host name sent to the DHCP server, instead of the machine's host name.

Must be a string.

route-metric *route_metric_value*

Specify the default metric value for automatically-added routes. Use this to prioritize routes for devices by setting a higher metric on a preferred interface.

Must be an integer.

send-hostname { false | true }

Specify whether the machine's host name will be sent to the DHCP server. When set to true, the machine's host name will be sent to the DHCP server.

Must be one of the following:

- **false**
- **true**

use-dns { false | true }

Specify whether the DNS servers received from the DHCP server will be used, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-hostname { false | true }

Specify whether the host name received from the DHCP server will be set as the transient host name of the system.

Must be one of the following:

- **false**
- **true**

use-mtu { false | true }

Specify whether the MTU received from the DHCP server will be set as the MTU of the network interface. When set to false, the MTU advertised by the DHCP server will be ignored.

Must be one of the following:

- **false**
- **true**

use-ntp { false | true }

Specify whether the NTP servers received from the DHCP server will be used by systemd-timesyncd, and will take precedence over any that are statically configured.

Must be one of the following:

- **false**
- **true**

use-routes { false | true }

Specify whether the routes received from the DHCP server will be installed in the routing table normally. When set to false, routes from the DHCP server will be ignored. In such a scenario, the user is responsible for adding static routes (if required) for correct network operation. This allows users to avoid installing a default gateway for interfaces configured through DHCP.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to override the default DHCP6 behavior.

clusters nodes os netplan-additions vlans nameservers

Configures the DNS servers and search domains.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`nameservers { search`** *`domain_name`* **`| addresses`** *`ip_addresses`* **`}`**

addresses *ip_addresses*

Specify the DNS server IP address.

search *domain_name*

Specify the search domain name.

Must be a string.

Usage Guidelines Use this command to configure the DNS servers and search domains.

clusters nodes os netplan-additions vlans optional-addresses

Configures types of addresses that are not required for a device to be considered online.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **`optional-addresses`** *`optional_addresses`*

optional-addresses *optional_addresses*

Specify the address type that is required for a device to be considered online.

Must be one of the following:

- **dhcp4**
- **dhcp6**
- **ipv4-ll**
- **ipv6-ra**
- **static**

Usage Guidelines Use this command to specify types of addresses that are not required for a device to be considered online.

clusters nodes os netplan-additions vlans routes

Configures static routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routes** *destination_ip_address* **{ from** *source_ip_address* **| metric** *relative_priority_value* **| on-link { false | true } | scope** *route_scope* **| table** *table_number* **| type** *route_type* **| via** *gateway_ip_address* **}**

from *source_ip_address*

Specify the source IP address for traffic going through the route.

metric *relative_priority_value*

Specify the relative priority of the route.

Must be an integer.

on-link { false | true }

Specify whether the route is directly connected to the interface. When set to true, specifies that the route is directly connected to the interface.

Must be one of the following:

- **false**
- **true**

scope ***route_scope***

Specify the route scope and how wide-ranging it is to the network.

Must be one of the following:

- **global**
- **host**
- **link**

table ***table_number***

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

type ***route_type***

Specify the route type.

Must be one of the following:

- **blackhole**
- **prohibit**
- **unicast**
- **unreachhable**

via ***gateway_ip_address***

Specify the gateway IP address to use for this route.

destination_ip_address

Specify the destination IP address for the route.

Usage Guidelines Use this command to configure static routing for the device.

clusters nodes os netplan-additions vlans routing-policy

Configures policy routing for the device.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Bridges Configuration (config-bridges-*bridge_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bonds Configuration (config-bonds-*bond_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Bridges Configuration (config-bridges-*bridge_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Ethernets Configuration (config-ethernets-*ethernet_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > VLANS Configuration (config-vlans-*vlans_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Tunnels Configuration (config-tunnels-*tunnels_device_id*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > VLANs Configuration (config-vlans-*vlans_device_id*)

Syntax Description **routing-policy** *source_ip_address* **{ mark** *mark_value* **| priority** *priority_value* **| table** *table_number* **| to** *destination_ip_address* **| type-of-service** *type_of_service_number* **}**

from *source_ip_address*

Specify the source IP address to match traffic for this policy rule.

mark *mark_value*

Specify the routing policy rule match on traffic that has been marked by the IP tables firewall with this value.

Must be an integer in the range of 1-maximum.

priority *priority_value*

Specify the priority for the routing policy rule to influence the order in which routing rules are processed.

Must be an integer.

table *table_number*

Specify the table number to use for the route.

Must be an integer in the range of 1-maximum.

to *destination_ip_address*

Specify to match on traffic going to the specified destination.

type-of-service *type_of_service_number*

Specify to match this policy rule based on the type of service number applied to the traffic.

Must be an integer.

Usage Guidelines Use this command to configure policy routing for the device.

clusters nodes os ntp

Configures the NTP servers for the nodes.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description `ntp enabled { false | true }`

enabled { false | true }

Specify whether to enable or disable providing the NTP servers for configuration.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the NTP servers for the nodes.

clusters nodes os ntp clients-allow

Configures the client subnets allowed to use cluster as relay.

Command Modes Exec > Global Configuration (config)

Syntax Description `clients-allow subnet` *subnet*

subnet *subnet*

Specify the client subnets that could use current cluster as NTP relay server. For example, 192.168.0.0/16.

Usage Guidelines Use this command to configure the client subnets allowed to use cluster as relay.

clusters nodes os ntp servers

Configures the time server parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **ntp servers** *url* **{ key-id** *key_id* **| sha-key** *sha_key* **| sha-type** *sha_type* **}**

key-id *key_id*

Specify the key ID for the chrony server keys.

Must be a string.

sha-key *sha_key*

Specify the SHA authentication key with chrony server.

Must be a string in the hextype pattern. For information on the hextype pattern, see the *Input Pattern Types* chapter.

sha-type *sha_type*

Specify the type of SHA for the chrony server keys. For instance, SHA1, SHA256, SHA512, etc. See: https:

Must be one of the following:

- **RMD128**
- **RMD160**
- **RMD256**
- **RMD320**
- **SHA1**
- **SHA256**
- **SHA384**
- **SHA512**
- **TIGER**
- **WHIRLPOOL**

url

Specify the NTP server URL. For example, clock.cisco.com.

Must be a string.

Usage Guidelines Use this command to configure time server parameters, which need to be input into the NTP conf.

clusters nodes os partition

Configure the file system type for data partition.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`os partition smi-data fs-type { ext4 | xfs }`**

fs-type { ext4 | xfs }

Specify the file system type as ext4 or XFS for data partition.

- **ext4**—Specify the ext4 (fourth extended filesystem) type.

  By default, all partitions are formatted using ext4.

- **xfs**—Specify the XFS type for data partition to install Mongo DB.

Usage Guidelines Use this command to configure the file system type for data partition at the node level.

clusters nodes os proxy

Configures the proxy servers at the node level.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os proxy { http-proxy`** *`http_proxy`* **`| https-proxy`** *`https_proxy`* **`| no-proxy`** *`no_proxy_hosts`* **`}`**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`os proxy { http-proxy`** *`http_proxy`* **`| https-proxy`** *`https_proxy`* **`| no-proxy`** *`no_proxy_hosts`* **`}`**

http-proxy *http_proxy*

Specify to send HTTP traffic to the specified HTTP proxy.

Must be a string.

https-proxy *https_proxy*

Specify to send HTTPS traffic to the specified HTTP proxy.

Must be a string.

no-proxy *no_proxy_hosts*

Specify the hosts to avoid proxy.

Must be a string.

Usage Guidelines Use this command to configure the proxy servers at the node level.

clusters nodes os tuned

Enable or disable installing tuned.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os tuned { disabled | enabled }`**

enabled

Specify whether to enable or disable installing tuned.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to enable or disable installing tuned.

clusters nodes os users

Configures the list of SMI-managed users managed on this default. Excludes "initial-boot" (cloud-init) provisioned users.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os users`** *`user_name`* **`password`** *`password`*

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Syntax Description **`os users`** *`user_name`* **`password`** *`password`*

group *access_privilege*

Specify the user's access privilege. The group defines the user's access privilege.

Must be one of the following:

- **smi-cluster-admin**
- **smi-read-only**
- **smi-superuser**

Default Value: smi-read-only.

password *password*

Specify the password for this entry. It can be a already hashed value (/etc/shadow). Unencrypted will be hashed.

user_name

Specify the user name.

Must be a string of 0-32 characters.

Usage Guidelines Use this command to configure the list of SMI-managed users managed on this default. Excludes "initial-boot" (cloud-init) provisioned users.

clusters nodes os users authorized-keys

Configures a list of public SSH keys for this user. These keys are allowed for SSH authentication, as described in RFC 4253.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`node-defaults os users`** *`user_name`* **`[ authorized-keys`** *`ssh_key_name`* **`[ algorithm`** *`algorithm_name`* **`| key-data`** *`key_data`* **`] ]`**

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*) > Users Configuration (config-users-*user_name*)

Syntax Description **`authorized-keys`** *`ssh_key_name`* **`[ algorithm`** *`algorithm_name`* **`| key-data`** *`key_data`* **`] ]`**

algorithm *algorithm_name*

Specify the public key algorithm name for this SSH key.

Must be one of the following:

- **ssh-ed25519**
- **ssh-rsa**

key-data *key_data*

Specify the binary public key data.

Must be of type binary.

ssh_key_name

Specify a name for the SSH key.

Must be a string.

Usage Guidelines Use this command to configure a list of public SSH keys for this user. These keys are allowed for SSH authentication, as described in RFC 4253. This corresponds to a public key as: <algorithm> <key-data> <name>. For example, ssh-rsa AAAABRUY...bh+3+jA= test-key-laptop.

clusters nodes ucs-server

Configures UCS server parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **ucs-server** *options*

software ***ucs_software_version***

Specify the UCS software version.

Usage Guidelines Use this command to configure UCS server parameters.

clusters nodes ucs-server cimc

Configures CIMC parameters.

Command Modes Exec

Syntax Description **cimc ip-address** *cimc_ip_address* **user** *cimc_user_name* **password** *cimc_user_password*

password ***cimc_user_password***

Specify the CIMC password.

user ***cimc_user_name***

Specify the CIMC user name.

Must be a string.

Usage Guidelines Use this command to configure the CIMC user name and password.

clusters nodes ucs-server cimc bios

Configures CIMC BIOS boot order parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **bios**

Usage Guidelines Use this command to configure the CIMC BIOS boot order parameters.

clusters nodes ucs-server cimc networking ntp

Configures the CIMC network-related parameters.

Command Modes Exec

Syntax Description `networking ntp enabled { false | true }`

enabled { false | true }

Specify whether to provide the NTP servers to configure.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the CIMC network-related parameters.

clusters nodes ucs-server cimc networking ntp servers

Configures the time servers for CIMC to connect.

Command Modes Exec

Syntax Description `ntp servers url server_url`

url *server_url*

Specify the time server's URL. For example, clock.cisco.com.

Must be a string.

Usage Guidelines Use this command to configure the time servers for CIMC to connect.

clusters nodes ucs-server cimc remote-management sol

Configures the provision of SoL baud rate, com port, and SSH port parameters.

Command Modes Exec

Syntax Description `sol comport enabled { false | true } baud-rate baud_rate com_port_number ssh-port ssh_port_number`

baud-rate *baud_rate*

Specify the serial baud rate the system uses for SoL communication.

Must be one of the following:

- **115200**
- **19200**
- **38400**

- **57600**
- **9600**

comport *com_port_number*

Specify the serial port the system uses for SoL communication.

Must be one of the following:

- **com0**
- **com1**

enabled { false | true }

Specify whether to when enabled provide the baud rate, comport, and ssh-port.

Must be one of the following:

- **false**
- **true**

ssh-port *ssh_port_number*

Specify the SSH port of CIMC SoL communication.

Must be an integer.

Usage Guidelines Use this command to configure the provision of SoL baud rate, comport, and ssh-port parameters.

clusters nodes ucs-server cimc storage-adaptor

Configures the CIMC storage adaptor management parameters.

Command Modes Exec

Syntax Description

```
storage-adaptor create-virtual-drive { false | true }
```

create-virtual-drive { false | true }

Specify whether to create the virtual drive if it is not already created.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure the CIMC storage adaptor management parameters.

clusters nodes ucs-server host initial-boot networking

Configures the interface and IP information used to initially bootstrap the node.

Command Modes Exec

Syntax Description **host initial-boot networking interface** *interface_name*

interface *interface_name*

Specify the interface name.

Must be a string.

Default Value: eno1.

Usage Guidelines Use this command to configure the interface and IP information used to initially bootstrap the node.

clusters nodes ucs-server host initial-boot networking static-ip

Configures static IP parameters.

Command Modes Exec

Syntax Description **static-ip ipv4-address** *ipv4_address* **netmask** *netmask* **gateway** *gateway* **dns** *ip_address*

dns *ip_address*

Specify the IP address.

You can configure a maximum of three elements with this keyword.

gateway *gateway*

Specify the gateway.

Must be a string.

ipv4-address *ipv4_address*

Specify the IPv4 address.

netmask *netmask*

Specify the netmask.

Usage Guidelines Use this command to configure static IP parameters.

clusters nodes ucs-server ignore-health

Configure this command to override cluster synchronization failure.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **ucs-server ignore-health { false | true }**

ucs-server ignore-health { false | true }

Specify to override cluster sync failure.

Usage Guidelines Use this command to override cluster synchronization failure. If **ignore-health** is configured, then cluster sync may fail.

clusters nodes vm-defaults upf

Configures UPF-specific configuration.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **vm-defaults upf** *options*

ntp-servers *ntp_server*

Specify the NTP time server.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

software *software_upf*

Specify the UPF hard drive image to use.

Usage Guidelines Use this command to configure UPF-specific configuration.

clusters nodes vm-defaults upf day0

Configures Day0 parameters.

Command Modes Exec

Syntax Description **day0 username** *user_name* **password** *password* **syslog-ip** *ip_address* **vpp-cpu-worker-cnt** *number_of_threads* **forwarder-type** *forwarder_type*

forwarder-type *forwarder_type*

Specify the UPF forwarder type. Default Value: VPP.

Must be one of the following:

- **IFTASK**
- **VPP**

password *password*

Specify the StarOS password to login.

syslog-ip *ip_address*

Specify the IP address for Sys Log.

username *user_name*

Specify the StarOS user name to login.

Must be a string.

vpp-cpu-worker-cnt *number_of_threads*

Specify the number of VPP worker threads.

Must be an integer in the range of 2-320.

Usage Guidelines Use this command to configure Day0 parameters.

clusters nodes vm-defaults upf networking management

Configures the networking management parameters.

Command Modes Exec

Syntax Description **management ip** *ip_address* **netmask** *netmask* **gateway** *gateway_ip_address* **domain-name** *domain_name* **name-servers** *dns_name_server* **ipv6** *ipv6_address* **ipv6-prefix-length** *ipv6_prefix_length* **ipv6-gateway** *ipv6_address* **interface-type** *interface_type*

domain-name *domain_name*

Specify the default search domain.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

gateway *gateway_ip_address*

Specify the gateway to use.

interface-type *interface_type*

Specify the interface to wire into the virtual machine.

Must be one of the following:

- **bridge**

ip *ip_address*

Specify the IP address to assign.

ipv6-gateway *ipv6_address*

Specify the IPv6 gateway address.

ipv6-prefix-length *ipv6_prefix_length*

Specify the length of the subnet prefix.

Must be an integer in the range of 0-128.

ipv6 *ipv6_address*

Specify the IPv6 address to assign.

name-servers *dns_name_server*

Specify the DNS name server.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

netmask *netmask*

Specify the netmask associated with the IP address.

Usage Guidelines Use this command to configure the networking management parameters.

clusters nodes vm-defaults upf networking management bridge

Configures the bridge name.

Command Modes Exec

Syntax Description **bridge** *bridge_name*

bridge_name

Specify the bridge name.

Must be a string.

Usage Guidelines Use this command to configure the bridge name.

clusters nodes vms

Configures the VM name in KVM.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **vms** *vm_name_in_kvm*

type *type*

Specify the type.

Must be one of the following:

- **upf**

Default Value: upf.

vm_name_in_kvm

Specify the name of the VM in KVM.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to configure the VM name in KVM.

You can configure a maximum of four elements with this command.

clusters nodes vms actions delete

Deletes UPF VM and allows upgrade/changes.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **actions delete**

Usage Guidelines Use this command to delete UPF VM and allow upgrade/changes.

clusters nodes vms actions redeploy

Redeploys UPF VM and and allows upgrades/changes. Note that this can be service impacting.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **redeploy**

Usage Guidelines Use this command to redeploy UPF VM and and allow upgrades/changes. Note that this can be service impacting.

clusters nodes vms upf

Configures UPF node parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **upf** *options*

ntp-servers *ntp_server*

Specify the NTP time server.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

software *software_upf*

Specify the UPF hard drive image to use.

Usage Guidelines Use this command to configure UPF node parameters.

clusters nodes vms upf day0

Configures Day0 parameters.

Command Modes Exec

Syntax Description **day0 username** *user_name* **password** *password* **syslog-ip** *ip_address* **vpp-cpu-worker-cnt** *number_of_threads* **forwarder-type** *forwarder_type*

forwarder-type *forwarder_type*

Specify the UPF forwarder type. Default Value: VPP.

Must be one of the following:

- **IFTASK**
- **VPP**

password *password*

Specify the StarOS password to login.

syslog-ip *ip_address*

Specify the IP address for Sys Log.

username *user_name*

Specify the StarOS user name to login.

Must be a string.

vpp-cpu-worker-cnt *number_of_threads*

Specify the number of VPP worker threads.

Must be an integer in the range of 2-320.

Usage Guidelines Use this command to configure Day0 parameters.

clusters nodes vms upf networking management

Configures the networking management parameters.

Command Modes Exec

Syntax Description **management ip** *ip_address* **netmask** *netmask* **gateway** *gateway_ip_address* **domain-name** *domain_name* **name-servers** *dns_name_server* **ipv6** *ipv6_address* **ipv6-prefix-length** *ipv6_prefix_length* **ipv6-gateway** *ipv6_address* **interface-type** *interface_type*

domain-name *domain_name*

Specify the default search domain.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

gateway *gateway_ip_address*

Specify the gateway to use.

interface-type *interface_type*

Specify the interface to wire into the virtual machine.

Must be one of the following:

- **bridge**

ip *ip_address*

Specify the IP address to assign.

ipv6-gateway *ipv6_address*

Specify the IPv6 gateway address.

ipv6-prefix-length *ipv6_prefix_length*

Specify the length of the subnet prefix.

Must be an integer in the range of 0-128.

ipv6 ***ipv6_address***

Specify the IPv6 address to assign.

name-servers ***dns_name_server***

Specify the DNS name server.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

netmask ***netmask***

Specify the netmask associated with the IP address.

Usage Guidelines Use this command to configure the networking management parameters.

clusters nodes vms upf networking management bridge

Configures the bridge name.

Command Modes Exec

Syntax Description **bridge** *bridge_name*

bridge_name

Specify the bridge name.

Must be a string.

Usage Guidelines Use this command to configure the bridge name.

clusters nodes vmware

Configures VMWare hypervisor (vCenter and ESXi host) specific configurations.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **vmware { datacenter** *datacenter_name* **| datastore** *datastore_name* **| host** *host_name* **}**

datacenter ***datacenter_name***

Specify the datacenter name to override the datacenter from the environment for this node.

Must be a string.

datastore ***datastore_name***

Specify the datastore name to override the datastore from the environment for this node.

Must be a string.

host *host_name*

Specify the host name to override the host field from the environment for this node.

Must be a string.

Usage Guidelines Use this command to configure VMWare hypervisor (vCenter and ESXi host) specific configurations.

clusters nodes vmware nics

Configures list of networks assigned to VMs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`vmware nics`** *`network_name`*

Command Modes Exec > Global Configuration (config) > Environment Configuration (config-environments-*datastore_name*)

Syntax Description **`vcenter nics`** *`network_name`*

network_name

Specify the VMware network name.

Must be a string.

Usage Guidelines Use this command to configure a list of networks assigned to VMs.

clusters nodes vmware numa-node-affinity

Configures the affinity to a processor socket.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`vmware numa-node-affinity`** *`cpu_socket_number`*

cpu_socket_number

Specify the physical CPU socket number.

Must be an integer in the range of 0-15.

Usage Guidelines Use this command to configure affinity to a processor socket.

clusters nodes vmware pci-device

Configures the list of PCI devices.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`vmware pci-device`** *`pci_device_key`*

pci_device_key

Specify the PCI device key.

Must be a string in the pci-keytype pattern. For information on the pci-keytype pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to configure the list of PCI devices.

clusters nodes vmware performance

Configures VMware performance parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **`vmware performance { cpu-reservation { false | true } | latency-sensitivity`** *`latency_sensitivity`* **`| memory-reservation { false | true } }`**

cpu-reservation { false | true }

CPU reservation info.

Must be one of the following:

- **false**
- **true**

latency-sensitivity *latency_sensitivity*

Specify the latency-senstivity.

Must be one of the following:

- **high**: High.
- **low**: Low.
- **medium**: Medium.
- **normal**: Normal.

memory-reservation { false | true }

Memory reservation info.

Must be one of the following:

- **false**
- **true**

Usage Guidelines Use this command to configure VMware performance parameters.

clusters nodes vmware sizing

Configures VMWare hypervisor (vCenter and ESXi host) parameters.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **`vmware sizing`** *`options`*

cores-equal-cpus { false | true }

Specify whether cores per socket allocated equal to CPUs.

Must be one of the following:

- **false**
- **true**

Default Value: false.

cpus *number_of_cpus*

Specify the number of CPUs allocated.

Must be an integer in the range of 1-256.

disk-data-gb *disk_data_gb*

Specify the data disk (/data) size in GB.

Must be an integer in the range of 20-2048.

disk-home-gb *disk_home_gb*

Specify the home disk (/home) in GB.

Must be an integer in the range of 5-2048.

disk-root-gb *disk_root_gb*

Specify the root partition size in GB.

Must be an integer in the range of 20-2048.

ram-mb *ram_mb*

Specify the RAM in MB.

Must be an integer in the range of 4096-524288.

Usage Guidelines Use this command to configure VMWare hypervisor (vCenter and ESXi host) sizing parameters.

clusters ops-centers

Allows installation of application Ops Centers used to install and manage applications.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description

```
ops-centers app_name instance { repository url | netconf-ip ip_address |
netconf-port port_number | ssh-ip ip_address | ssh-port port_number |
ingress-hostname ip-address.nip.io | app-name-override app_name_to_override }
```

app-name-override *app_name_to_override*

Specify the app name to be overridden.

Must be a string.

ingress-hostname *ip_address*.nip.io

Specify the ingress host name to be set to the Ops Center. Uses the *ip_address*.nip.io format.

Must be a string.

netconf-ip *ip_address*

Specify the NETCONF IPv4 address for the Ops Center.

netconf-port *port_number*

Specify the NETCONF port number for the Ops Center.

Must be an integer.

Default Value: 830.

password *repo_password*

Specify the password if any to login into the repository.

repository-local *cnf_repository_name*

Specify the name of the Cloud Native Function (CNF) repository to utilize.

repository *url*

Specify the product chart repository URL.

ssh-ip *ip_address*

Specify the SSH IP address for the Ops Center.

ssh-ip *port_number*

Specify the SSH port number for the Ops Center.

Must be an integer.

Default Value: 2022.

sync-default-repository { false | true }

Specify whether to synchronize the default helm repository to Ops Center.

Must be one of the following:

- **false**
- **true**

Default Value: true.

username *repo_user_name*

Specify the user name if any to login into the repository.

Must be a string.

app_name

Specify the app name of the Ops Center. For example, cee, ccmts. Chart name will be app-name-ops-center.

Must be a string.

instance_name

Specify the name of the instance. For example, data, infra, etc.

Must be a string.

Usage Guidelines Use this command to allow installation of application Ops Centers used to install and manage applications.

clusters ops-centers initial-boot-parameters

Configures the initial boot parameters for helm chart deployment.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Ops Centers Configuration (config-ops-centers-*app_name*/*instance*)

Syntax Description

```
initial-boot-parameters { auto-deploy { false | true } |
first-boot-password password | single-node { false | true } |
use-volume-claims { false | true } | path-based-ingress { false | true }
 }
```

auto-deploy { false | true }

Specify whether to auto-deploy all the services of the product. To deploy only the product's Ops Center, set to false.

Must be one of the following:

- **false**
- **true**

Default Value: true.

first-boot-password *password*

Specify the first boot password for the product's Ops Center.

Default Value: p@ssw0rd.

path-based-ingress { false | true }

Specify to enable or disable path-based routing.

Must be one of the following:

- **false**
- **true**

Default Value: false.

single-node { false | true }

Specify whether to deploy the product chart on a single node. For multi-node deployments, set to false.

Must be one of the following:

- **false**
- **true**

Default Value: true.

use-volume-claims { false | true }

Specify the usage of persistent volumes. To use persistent volumes, set to true.

Must be one of the following:

- **false**

- **true**

Default Value: false.

Usage Guidelines Use this command to configure the initial boot parameters for helm chart deployment.

clusters ops-centers initial-boot-parameters image-pull-secrets

Configures the docker registry secret name.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **image-pull-secrets** *secret_name*

secret_name

Specify the docker registry secret name.

Must be a string.

Usage Guidelines Use this command to configure the docker registry secret name.

clusters secrets docker-registry

Configures the registry secret name.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **secrets docker-registry** *secret_name* **{ docker-email** *email_address* **| docker-password** *password* **| docker-server** *server_name* **| docker-username** *user_name* **| namespace** *namespace* **}**

docker-email *email_address*

Specify the docker registry email address.

Must be a string.

docker-password *password*

Specify the docker registry password.

docker-server *server_name*

Specify the name of the docker-server. For example, regcred.

Must be a string.

docker-username *user_name*

Specify the docker registry user name.

Must be a string.

namespace *namespace*

Specify the docker registry namespace.

Must be a string.

secret_name

Specify name of the secret. For example, regcred.

Must be a string.

Usage Guidelines Configures the Kuberentes cluster-wide secrets. Use this command to configure the registy secret name.

clusters secrets tls

Configures the TLS associated secret.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **tls { namespace** *namespace* **secret-name** *name* **{ private-key** *string* **| certificate** *path_to_cert* **} }**

certificate *path_to_cert*

Specify the path to the PEM encoded public key certificate.

Must be a string.

namespace *namespace*

Specify the Kubernetes namespaces to create secret.

Must be a string.

private-key *string*

Specify the private-key associated with the certificate.

secret-name *name*

Specify the name of the secret. For example, cert-grafana-ingress.

Must be a string.

Usage Guidelines Configures the Kuberentes cluster-wide secrets. Use this command to configure the TLS associated secret.

clusters strongswan ca-certs

Configures the list of Certificate Authority(CA) certificates used for verifying the peer certificate.

Command Modes Exec > Global Configuration (config)

Syntax Description `ca-certs`

ca-cert *certificate_content*

Specify the content of the CA certificate in pem format."

Must be a string.

name *certificate_name*

Specify the name of the CA certificate."

Must be a string.

Usage Guidelines Use this command to configure the list of Certificate Authority(CA) certificates used for verifying the peer certificate.

clusters strongswan connections

Configures strongSwan connection parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description `connection`

auto { ignore | add | route | start | passthrough }

Specify the operation, if any, that should be automatically performed at IPsec startup.

Must be one of the following:

- **add**
- **ignore**
- **passthrough**
- **route**
- **start**

Default Value: start.

closeaction { none | clear | hold | restart }

Specify the action to take if the remote peer unexpectedly closes a CHILD_SA. If the peer uses reauthentication or uniqueids checking, closeaction must not be used, these events might trigger the defined action when it's not desired.

Must be one of the following:

- **clear**
- **hold**

- **none**
- **restart**

Default Value: none.

dpdaction { none | clear | hold | restart }

Specify action to be taken when dead peer is detected.

Must be one of the following:

- **clear**
- **hold**
- **none**
- **restart**

Default Value: none.

dpddelay { time *time_duration* | 30s }

Specify the period of time interval with which INFORMATIONAL exchanges are sent to the peer. These are only sent if no other traffic is received.

Must be a string.

Default Value: 30s.

dpdtimeout { time *time_duration* | 150s }

Specify the timeout interval after which, all the connections to a peer are deleted in case of inactivity.

Must be a string.

Default Value: 150s.

esp { cipher suites | aes128-sha256 }

Specify a comma-separated list of ESP encryption or authentication algorithms is used for the connection.

Must be a string.

Default Value: aes128-sha256.

ike { cipher suites | aes128-sha256-modp3072 }

Specify a comma-separated list of IKE/ISAKMP SA encryption or authentication algorithms is used for the connection.

Must be a string.

Default Value: aes128-sha256-modp3072.

ikelifetime { time *time_duration* | 3h }

Specify how long the keying channel of a connection (ISAKMP or IKE SA) must last before being renegotiated.

Must be a string.

Default Value: 3h.

inactivity { time *time_duration* }

Specify the timeout interval after which, a CHILD_SA is closed if it did not send or receive any traffic.

Must be a string.

keyexchange { ikev1 | ikev2 }

Specify the method of key exchange and the protocol to use to initialize the connection.

Must be one of the following:

- **ikev1**
- **ikev2**

Default Value: ikev2.

left { ip address *ip_address* | fqdn *fqdn* | %any | %any4 | %any6 | range | subnet }

Specify the IP address or FQDN of the initiator public-network interface.

Must be a string.

leftauth { pubkey | psk | eap | xauth }

Specify the authentication method to use locally (left) side.

Must be one of the following:

- **eap**
- **psk**
- **pubkey**

Default Value: pubkey.

leftid *id_value*

Specify how the left participant must be identified for authentication.

Must be a string.

leftsendcert { never | no | ifasked | always | yes }

Specify whether a peer must send a certificate request (CR) payload in order to get a certificate in return.

Must be one of the following:

- **always**
- **ifasked**
- **never**

- **no**
- **yes**

Default Value: ifasked.

leftsubnet *ip_subnet*

Specify the private subnet behind the initiator, expressed as either network or netmask.

Must be a string.

lifetime { time *time_duration* | 1h }

Specify how long a particular instance of a connection should last, from successful negotiation to expiry.

Must be a string.

Default Value: 1h.

name *connection_name*

Specify the name of the connection, which can be used for connection specific operations.

Must be a string.

psk *pre-shared_key*

Specify the required setting if leftauth or rightauth is configured as psk.

Must be a string.

right { ip address *ip_address* | fqdn *fqdn* | %any | %any4 | %any6 | range | subnet }

Specify the IP address or FQDN of the responder public-network interface.

Must be a string.

rightauth { pubkey | psk | eap | xauth }

Specify the authentication method to use from the remote (right) side.

Must be one of the following:

- **eap**
- **psk**
- **pubkey**

Default Value: pubkey.

rightid *id_value*

Specify how the right participant must be identified for authentication.

Must be a string.

rightsubnet *ip_subnet*

Specify the private subnet behind the responder, expressed as either network or netmask.

Must be a string.

server-cert *server_certificate*

Specify the content of Server certificate in the pem format to be used for this connection.

Must be a string.

server-priv-key-passphrase *passphrase*

Specify the passphrase used to encrypt the server-priv-key value.

server-priv-key *server_private_key*

Specify the content of server private key in the pem format to be used for this connection.

type { tunnel | transport | transport_proxy | passthrough | drop }

Specify the type of connection.

Must be one of the following:

- **drop**
- **passthrough**
- **transport**
- **transport_proxy**
- **tunnel**

Default Value: tunnel.

Usage Guidelines Use this command to configure the strongSwan connection parameters.

clusters virtual-ips

Configures virtual IPs within the k8s cluster.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **virtual-ips** *vip_group_name* **{ check-port** *port_number* **| vrrp-interface** *interface_name* **| vrrp-router-id** *router_id* **}**

check-port *port_number*

Specify the check-port number. Set it to true to check if a localhost is listening on the expected port. If the port is not listening, the VRRP instance (or synch group) should not be up. This only applies to certain use cases - typically where an application is utilizing host networking and providing a service over this port.

Must be an integer in the range of 1-65535.

vrrp-interface *name*

Specify the host interface name that this VRRP instance is bound to.

Must be a string.

vrrp-router-id *router_id*

Specify the VRRP router ID. 51 is reserved.

Must be an integer from the following: 1-50, 52-255.

vip_group_name

Specify the logical grouping of virtual IPs. This will set the VRRP instance.

Must be a string of 0-8 characters in the pattern [a-z][0-9a-z]*.

Usage Guidelines Use this command to configure virtual IPs within the k8s cluster.

clusters virtual-ips check-interface

Configures host interfaces to track.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Virtual IPs Grouping Configuration (config-virtual-ips-*group_name*)

Syntax Description **`check-interface`** *`interface_name`*

interface_name

Specify the interface name.

Must be a string.

Usage Guidelines Use this command to configure host interfaces to track.

clusters virtual-ips hosts

Configures the host addresses.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Virtual IPs Grouping Configuration (config-virtual-ips-*group_name*)

Syntax Description **`hosts`** *`host_name`* **`priority`** *`priority`*

priority *priority*

Specify the priority of the host.

Must be an integer in the range of 1-100.

Default Value: 50.

host_name

Specify the host name to run the logical VIP group.

Usage Guidelines Use this command to configure the host address.

clusters virtual-ips ipv4-addresses

Configures virtual IPv4 addresses.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Virtual IPs Grouping Configuration (config-virtual-ips-*group_name*)

Syntax Description **ipv4-addresses** *ipv4_address* **{ mask** *netmask* **| broadcast** *ip_address* **| device** *interface_name* **}**

broadcast *ip_address*

Specify the broadcast IPv4 address.

device *interface_name*

Specify the device to attach to the virtual IP.

Must be a string.

mask *mask*

Specify the mask value.

Must be an integer in the range of 1-32.

ip_address

Specify the IPv4 address.

Usage Guidelines Use this command to configure the virtual IPv4 addresses.

clusters virtual-ips ipv6-addresses

Configures the virtual IPv6 addresses.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Virtual IPs Grouping Configuration (config-virtual-ips-*group_name*)

Syntax Description **ipv6-addresses** *ipv6_address* **{ device** *device_name* **| mask** *netmask* **}**

device *device_name*

Specify the device name to attach to the VIP.

Must be a string.

mask *netmask*

Specify the netmask.

Must be an integer in the range of 1-128.

ipv6_address

Specify the IPv6 address.

Usage Guidelines Use this command to configure the virtual IPv6 addresses.

clusters vm-defaults upf

Configures the default configurations that will apply to all VMs. Will be overriden by node or vm level options.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Syntax Description **vm-defaults upf** *options*

ntp-servers *ntp_server*

Specify the NTP time server.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

software *software_upf*

Specify the UPF hard drive image to use.

Usage Guidelines Use this command to configure UPF-specific parameters.

clusters vm-defaults upf day0

Configures Day0 parameters.

Command Modes Exec

Syntax Description **day0 username** *user_name* **password** *password* **syslog-ip** *ip_address* **vpp-cpu-worker-cnt** *number_of_threads* **forwarder-type** *forwarder_type*

forwarder-type *forwarder_type*

Specify the UPF forwarder type. Default Value: VPP.

Must be one of the following:

- **IFTASK**
- **VPP**

password *password*

Specify the StarOS password to login.

syslog-ip *ip_address*

Specify the IP address for Sys Log.

username *user_name*

Specify the StarOS user name to login.

Must be a string.

vpp-cpu-worker-cnt *number_of_threads*

Specify the number of VPP worker threads.

Must be an integer in the range of 2-320.

Usage Guidelines Use this command to configure Day0 parameters.

clusters vm-defaults upf networking management

Configures the networking management parameters.

Command Modes Exec

Syntax Description **management ip** *ip_address* **netmask** *netmask* **gateway** *gateway_ip_address* **domain-name** *domain_name* **name-servers** *dns_name_server* **ipv6** *ipv6_address* **ipv6-prefix-length** *ipv6_prefix_length* **ipv6-gateway** *ipv6_address* **interface-type** *interface_type*

domain-name *domain_name*

Specify the default search domain.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

gateway *gateway_ip_address*

Specify the gateway to use.

interface-type *interface_type*

Specify the interface to wire into the virtual machine.

Must be one of the following:

- **bridge**

ip *ip_address*

Specify the IP address to assign.

ipv6-gateway *ipv6_address*

Specify the IPv6 gateway address.

ipv6-prefix-length *ipv6_prefix_length*

Specify the length of the subnet prefix.

Must be an integer in the range of 0-128.

ipv6 *ipv6_address*

Specify the IPv6 address to assign.

name-servers *dns_name_server*

Specify the DNS name server.

Must be a string of 1-253 characters in the hostname-rule pattern. For information on the hostname-rule pattern, see the *Input Pattern Types* chapter.

netmask *netmask*

Specify the netmask associated with the IP address.

Usage Guidelines Use this command to configure the networking management parameters.

clusters vm-defaults upf networking management bridge

Configures the bridge name.

Command Modes Exec

Syntax Description **bridge** *bridge_name*

bridge_name

Specify the bridge name.

Must be a string.

Usage Guidelines Use this command to configure the bridge name.

environments

Configures environment available for clusters.

Command Modes Exec > Global Configuration (config)

Syntax Description **environments** *datastore_name*

datastore_name

Specify the name of the datastore used for files and VMs.

Must be a string.

Usage Guidelines Use this command to configure the environment available for clusters.

environments manual

Allows generating artifacts to deploy manually.

Command Modes Exec > Global Configuration (config) > Environment Configuration (config-environments-*datastore_name*)

Syntax Description **manual**

Usage Guidelines Use this command to generate artifacts to deploy manually.

environments ucs-server

Allows linking UCS servers to deploy automatically.

Command Modes Exec > Global Configuration (config) > Environment Configuration (config-environments-*datastore_name*)

Syntax Description **ucs-server**

Usage Guidelines Use this command to generate artifacts to be deployed automatically.

environments vcenter

Deploy using the vCenter API.

Command Modes Exec > Global Configuration (config) > Environment Configuration (config-environments-*datastore_name*)

Syntax Description **vcenter { allow-self-signed-cert { false | true } | cluster** *cluster_name* **| datacenter-path** *datacenter_path* **| datacenter** *datacenter_name* **| datastore** *datastore_name* **| host** *host_name* **| nics** *network_name* **| password** *password* **| port** *port_number* **| server** *server_url* **| user** *user_name* **}**

allow-self-signed-cert { false | true }

Specify whether the server allows a self-signed certificate to access or not.

Must be one of the following:

- **false**
- **true**

Default Value: false.

cluster *cluster_name*

Specify the cluster used for the placement of VM template.

Must be a string.

datacenter-path *datacenter_path*

Specify the entire path of the datacenter from the root (to support datacenters located within one or more folders).

datacenter *datacenter_name*

Specify the name of the vCenter datacenter.

Must be a string.

datastore *datastore*

Specify the name of the datastore used for files and VMs.

Must be a string.

host *host_name*

Specify the default host used to deploy the VMs if one is not specified on the node.

Must be a string.

password

Specify the password to login.

port *port_number*

Specify the port number of vCenter or ESXi host.

Must be an integer.

Default Value: 443.

server *ip_address_server_name*

Specify the IP address or domain name of vCenter or ESXi host.

Must be a string.

user *user_name*

Specify the user name to login.

Must be a string.

Usage Guidelines

Use this command to deploy using the vCenter API.

environments vcenter nics

Configures list of networks assigned to VMs.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Node Type Defaults Configuration (config-node-type-defaults-*node_type*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **vmware nics** *network_name*

Command Modes Exec > Global Configuration (config) > Environment Configuration (config-environments-*datastore_name*)

Syntax Description **vcenter nics** *network_name*

network_name

Specify the VMware network name.

Must be a string.

Usage Guidelines Use this command to configure a list of networks assigned to VMs.

show version

Displays version information.

Command Modes Exec > Global Configuration (config)

Syntax Description **show version**

Usage Guidelines Use this command to view the app-version the chart-version information.

software cnf

Configures the Cloud-Native Network Function software package parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **cnf** *software_name* **url** *software_url* **user** *user_name* **password** *password* **accept-self-signed-certificate { false | true } description** *software_download_description*

url *software_url*

Specify the HTTP, HTTPS, or file URL of the software. File format must be "file:

software_name

Specify the name used to identify the software in other places.

Must be a string in the pattern [a-zA-Z0-9\.\-_+]*.

pattern '(http:|https:|file:/)

accept-self-signed-certificate { false | true }

Specify whether to accept self-signed certificate.

Must be one of the following:

- **false**
- **true**

Default Value: false.

description *software_download_description*

Specify the textual description of the software download.

Must be a string.

password *password*

Specify the password for downoading software package.

sha256 *sha256_hash*

Specify the SHA256 hash of the software download.

Must be a string in the pattern '[A-Fa-f0-9]{64}'.

sha512 *sha512_hash*

Specify the SHA512 hash of the software download.

Must be a string in the pattern '[A-Fa-f0-9]{128}'.

url *software_url*

Specify the HTTP, HTTPS, or file URL of the software. File format must be "file:

user *user_name*

Specify the user name for HTTP/HTTPS authentication.

Must be a string.

software_name

Specify the name used to identify the software in other places.

Must be a string in the pattern [a-zA-Z0-9\.\-_+]*.

Usage Guidelines Use this command to configure the Cloud-Native Network Function software package parameters.

software host-profile

Configures server host profile information.

Command Modes Exec > Global Configuration (config)

Syntax Description **host-profile** *software_name* **url** *software_url* **user** *user_name* **password** *password* **accept-self-signed-certificate { false | true } description** *software_download_description*

url *software_url*

Specify the HTTP, HTTPS, or file URL of the software. File format must be "file:

software_name

Specify the name used to identify the software in other places.

Must be a string in the pattern [a-zA-Z0-9\.\-_+]*.

pattern '(http:|https:|file:/)

accept-self-signed-certificate { false | true }

Specify whether to accept self-signed certificate.

Must be one of the following:

- **false**
- **true**

Default Value: false.

description *software_download_description*

Specify the textual description of the software download.

Must be a string.

password *password*

Specify the password for downoading software package.

sha256 *sha256_hash*

Specify the SHA256 hash of the software download.

Must be a string in the pattern '[A-Fa-f0-9]{64}'.

sha512 *sha512_hash*

Specify the SHA512 hash of the software download.

Must be a string in the pattern '[A-Fa-f0-9]{128}'.

url *software_url*

Specify the HTTP, HTTPS, or file URL of the software. File format must be "file:

user *user_name*

Specify the user name for HTTP/HTTPS authentication.

Must be a string.

software_name

Specify the name used to identify the software in other places.

Must be a string in the pattern [a-zA-Z0-9\.\-_+]*.

Usage Guidelines Use this command to configure server host profile information.

software ucs

Configures Unified Computing Systems (UCS) C series software image parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **ucs** *software_name* **url** *software_url* **user** *user_name* **password** *password* **accept-self-signed-certificate { false | true } description** *software_download_description*

url *software_url*

Specify the HTTP, HTTPS, or file URL of the software. File format must be "file:

software_name

Specify the name used to identify the software in other places.

Must be a string in the pattern [a-zA-Z0-9\.\-_+]*.

pattern '(http:|https:|file:/)

accept-self-signed-certificate { false | true }

Specify whether to accept self-signed certificate.

Must be one of the following:

- **false**
- **true**

Default Value: false.

description *software_download_description*

Specify the textual description of the software download.

Must be a string.

password *password*

Specify the password for downoading software package.

sha256 *sha256_hash*

Specify the SHA256 hash of the software download.

Must be a string in the pattern '[A-Fa-f0-9]{64}'.

sha512 *sha512_hash*

Specify the SHA512 hash of the software download.

Must be a string in the pattern '[A-Fa-f0-9]{128}'.

url *software_url*

Specify the HTTP, HTTPS, or file URL of the software. File format must be "file:

user *user_name*

Specify the user name for HTTP/HTTPS authentication.

Must be a string.

software_name

Specify the name used to identify the software in other places.

Must be a string in the pattern [a-zA-Z0-9\.\-_+]*.

Usage Guidelines Use this command to configure Unified Computing Systems (UCS) C series software image parameters.

software upf

Configures parameters for hard drive images used in User Plane Functions (UPF) parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description

```
upf software_name url software_url user user_name password password
accept-self-signed-certificate { false | true } description
software_download_description
```

url *software_url*

Specify the HTTP, HTTPS, or file URL of the software. File format must be "file:

software_name

Specify the name used to identify the software in other places.

Must be a string in the pattern [a-zA-Z0-9\.\-_+]*.

pattern '(http:|https:|file:/)

accept-self-signed-certificate { false | true }

Specify whether to accept self-signed certificate.

Must be one of the following:

- **false**
- **true**

Default Value: false.

description *software_download_description*

Specify the textual description of the software download.

Must be a string.

password *password*

Specify the password for downoading software package.

sha256 *sha256_hash*

Specify the SHA256 hash of the software download.

Must be a string in the pattern '[A-Fa-f0-9]{64}'.

sha512 *sha512_hash*

Specify the SHA512 hash of the software download.

Must be a string in the pattern '[A-Fa-f0-9]{128}'.

url *software_url*

Specify the HTTP, HTTPS, or file URL of the software. File format must be "file:

user *user_name*

Specify the user name for HTTP/HTTPS authentication.

Must be a string.

software_name

Specify the name used to identify the software in other places.

Must be a string in the pattern [a-zA-Z0-9\.\-_+]*.

Usage Guidelines Use this command to configure parameters for hard drive images used in User Plane Functions (UPF).

worker-types

Configures worker types parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **worker-types** *worker_type_name*

generated { false | true }

Specify whether generated.

Must be one of the following:

- **false**
- **true**

Default Value: false.

worker_type_name

Specify the worker type name.

Must be a string.

Usage Guidelines Use this command to configure worker types parameters.

worker-types k8s node-labels

Configures k8s node labels.

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*)

Command Modes Exec > Global Configuration (config) > Cluster Configuration (config-clusters-*cluster_name*) > Nodes Configuration (config-nodes-*node_name*)

Syntax Description **node-defaults k8s node-labels** *key value*

key

Specify the prefix for the node label.

Must be a string in the k8s-keytype pattern. For information on the k8s-keytype pattern, see the *Input Pattern Types* chapter.

value

Specify the suffix for the node label.

Must be a string in the k8s-valuetype pattern. For information on the k8s-valuetype pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to configure the k8s node labels.

worker-types k8s node-taints

Allows tainting nodes.

Command Modes Exec > Global Configuration (config)

Syntax Description **k8s node-taints effect** *effect* **key** *key* **value** *value*

effect *effect*

Specify the effect. It can contain an optional prefix, for example, example.com/.

Must be one of the following:

- **NoExecute**
- **NoSchedule**
- **PreferNoSchedule**

key *key*

Specify the key. It can contain an optional prefix, for example, example.com/.

Must be a string in the k8s-keytype pattern. For information on the k8s-keytype pattern, see the *Input Pattern Types* chapter.

value *value*

Specify the value. *value* Must be an alphanumeric string, it can contain the integer 0 (zero), the underscore (_), hyphen (-), and period (.) characters in between, and blank spaces with the "" characters, but it must start and end with alphanumeric characters. It can contain an optional prefix, for example, an_example-value.works.

Must be a string in the k8s-valuetype pattern. For information on the k8s-valuetype pattern, see the *Input Pattern Types* chapter.

Usage Guidelines Use this command to allow tainting nodes.

worker-types vmware sizing

Configures VMware sizing parameters.

Command Modes Exec > Global Configuration (config)

Syntax Description **vmware sizing** *options*

cores-equal-cpus { false | true }

Specify whether cores per socket allocated equal to CPUs.

Must be one of the following:

- **false**
- **true**

Default Value: false.

cpus *number_of_cpus*

Specify the number of CPUs allocated.

Must be an integer in the range of 1-256.

disk-data-gb *disk_data_gb*

Specify the data disk (/data) size in GB.

Must be an integer in the range of 20-2048.

disk-home-gb *disk_home_gb*

Specify the home disk (/home) in GB.

Must be an integer in the range of 5-2048.

disk-root-gb *disk_root_gb*

Specify the root partition size in GB.

Must be an integer in the range of 20-2048.

ram-mb *ram_mb*

Specify the RAM in MB.

Must be an integer in the range of 4096-524288.

Usage Guidelines

Use this command to configure VMware sizing parameters.