



Interface Templates

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Interface Templates

An interface template provides a mechanism to configure multiple commands at the same time and associate it with a target such as an interface. An interface template is a container of configurations or policies that can be applied to specific ports.

Restrictions for Interface Templates

- Interface templates are not applicable for wireless sessions.
- Remote storing and downloading of templates is not supported.
- The same configuration cannot be used for port and interface template on the switch.

Information About Interface Templates

About Interface Templates

An interface template is a container of configurations or policies that can be applied to specific ports. When an interface template is applied to an access port, it impacts all traffic that is exchanged on the port.

There are two types of interface templates; user and builtin templates. Builtin templates are created by the system.

You can modify builtin templates. If you delete a modified builtin template the system restores the original definition of the template.

The following are the available builtin templates:

- AP_INTERFACE_TEMPLATE (Access Point)
- DMP_INTERFACE_TEMPLATE (Digital Media Player)
- IP_CAMERA_INTERFACE_TEMPLATE
- IP_PHONE_INTERFACE_TEMPLATE

- LAP_INTERFACE_TEMPLATE (Lightweight Access Point)
- MSP_CAMERA_INTERFACE_TEMPLATE
- MSP_VC_INTERFACE_TEMPLATE (Video Conferencing)
- PRINTER_INTERFACE_TEMPLATE
- ROUTER_INTERFACE_TEMPLATE
- SWITCH_INTERFACE_TEMPLATE
- TP_INTERFACE_TEMPLATE (TelePresence)

Following is an example of a builtin interface template:

```

Template Name      : IP_CAMERA_INTERFACE_TEMPLATE
Modified          : No
Template Definition :
  spanning-tree portfast
  spanning-tree bpduguard enable
  switchport mode access
  switchport block unicast
  switchport port-security
  srr-queue bandwidth share 1 30 35 5
  priority-queue out
!
```

You can also create specific user templates with the commands that you want to include.



Note The template name must not contain spaces.

You can create an interface template using the **template** command in global configuration mode. In template configuration mode, enter the required commands. The following commands can be entered in template configuration mode:

Command	Description
access-session	Configures access session specific interface commands.
authentication	Configures authentication manager Interface Configuration commands.
carrier-delay	Configures delay for interface transitions.
dampening	Enables event dampening.
default	Sets a command to its defaults.
description	Configures interface-specific description.
dot1x	Configures interface configuration commands for IEEE 802.1X.
hold-queue	Sets hold queue depth.
ip	Configures IP template.

Command	Description
keepalive	Enables keepalive.
load-interval	Specifies interval for load calculation for an interface.
mab	Configures MAC authentication bypass Interface.
mls	Enables multilayer switching configurations.
peer	Configures peer parameters for point to point interfaces.
priority-queue	To set the priority-queue size for a template.
queue-set	Configures the QoS queue set on a template.
radius-server	Enables RADIUS server configurations.
service-policy	Configures CPL service policy.
source	Gets configurations from another source.
spanning-tree	Configures spanning tree subsystem
storm-control	Configures storm control.
subscriber	Configures subscriber inactivity timeout value.
switchport	Sets switching mode configurations
trust	Sets trust value for the interface.

**Note**

- System builtin templates are not displayed in the running configuration. These templates show up in the running configuration only if you edit them.
- The stateful switchover fails if **access-session** and **switchport mode access** are both configured in an interface template. To avoid the switchover failure, configure the **switchport mode access** command on the interface, instead of in an interface template.
- When you configure an interface template, it is recommended that you enter all the required dependent commands on the same template. It is not recommended to configure the dependent commands on two different templates.

Binding an Interface Template to a Target

Each template can be bound to a target. Template binding or sourcing can be either static or dynamic. Static binding of a template involves binding the template to a target, like an interface. Only one template can be bound at a time using static binding. Static binding of another template to the same target will unbind the previously bound template. To configure static binding, use the **source template** command in interface configuration mode.

Any number of templates can be bound dynamically to a target. To configure dynamic binding using builtin policy maps and parameter maps, enable the autoconf feature using the **autoconf enable** command.



Note You can have statically and dynamically bind templates on the same interface at a time.

Priority for Configurations Using Interface Templates

Configuration applied through dynamically-bound templates has the highest priority, followed by configuration applied directly on the interface, and then configuration applied through statically-bound templates. When similar commands are present at different priority levels, the one at the highest priority is applied. If a configuration at a higher priority level is not applied, then the configuration with the next highest priority is applied to the target.

Multiple templates can be dynamically bound to a target. When multiple templates are dynamically bound, the template that is applied last has the highest priority.

To delete a template, you must remove the binding to all targets. If you bind a template that does not exist, a new template is created with no configurations.

How to Configure Interface Templates

Configuring Interface Templates

Perform the following task to create user interface templates:

Procedure

	Command or Action	Purpose
Step 1	enable Example: <pre>Device> enable</pre>	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: <pre>Device# configure terminal</pre>	Enters global configuration mode.
Step 3	template <i>name</i> Example: <pre>Device(config)# template user-template1</pre>	Creates a user template and enters template configuration mode. Note Builtin template are system-generated.
Step 4	load-interval <i>interval</i> Example:	Configures the sampling interval for statistics collections on the template. Note

	Command or Action	Purpose
	<code>Device(config-template)# load-interval 60</code>	Builtin template are system-generated.
Step 5	description <i>description</i> Example: <code>Device(config-template)# description This is a user template</code>	Configures the description for the template.
Step 6	keepalive <i>number</i> Example: <code>Device(config-template)# Keepalive 60</code>	Configures the keepalive timer.
Step 7	end Example: <code>Device(config)# end</code>	Exits global configuration mode and returns to privileged EXEC mode.

Configuring Static Binding for Interface Templates

Procedure

	Command or Action	Purpose
Step 1	enable Example: <code>Device> enable</code>	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: <code>Device# configure terminal</code>	Enters global configuration mode.
Step 3	interface <i>type number</i> Example: <code>Device(config)# interface GigabitEthernet 1/1</code>	Specifies the interface type and number and enters interface configuration mode.
Step 4	source template <i>name</i> Example: <code>Device(config-if)# source template user-templatel</code>	Statically applies an interface template to a target.

	Command or Action	Purpose
Step 5	end Example: Device(config-if) # end	Exits interface configuration mode and returns to privileged EXEC mode.

Example

To verify static binding use the **show running-config interface** *int-name* and the **show derived-config interface** *int-name* commands.

```
Device# show running-config interface GigabitEthernet 1/1
```

```
Building configuration...
```

```
Current configuration : 71 bytes
```

```
!
```

```
interface GigabitEthernet1/1
source template user-templatel
end
```

```
Device# show derived-config interface GigabitEthernet 1/1
```

```
Building configuration...
```

```
Derived configuration : 108 bytes
```

```
!
```

```
interface GigabitEthernet1/1
description This is a user template
load-interval 60
keepalive 60
end
```

Configuring Dynamic Binding of Interface Templates

Procedure

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	interface type number Example:	Specifies the interface type and number and enters interface configuration mode.

	Command or Action	Purpose
	Device(config)# interface GigabitEthernet 1/1	
Step 4	service-policy type control subscriber <i>polycmap-name</i> Example: Device(config-if)# service-policy type control subscriber POLICY-Gil/1	Dynamically applies an interface template to a target.
Step 5	end Example: Device(config-if)# end	Exits interface configuration mode and returns to privileged EXEC mode.

Verifying an Interface Template

Use one or more of the commands listed below to verify the interface template configuration.

Procedure

-
- Step 1** **enable**
Example:
 Device> enable
 Enables privileged EXEC mode.
- Enter your password if prompted.
- Step 2** **show template interface all {all | binding {temp-name | all | target int-name} | brief}**
 Shows all interface template configurations.
- Step 3** **show template interface source {built-in [original] | user} {temp-name | all}**
 Shows interface template source configurations.
- Step 4** **show template service {all | binding target int-name | brief | source {aaa | built-in | user {temp-name | all}}}**
 Shows all interface template service configurations.
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Configuration Examples for Interface Templates

Example: Configuring User Interface Templates

Example: Configuring User Templates

```
Device# enable
Device (config)# configure terminal
Device(config)# template user-templatel
Device(config-template)# load-interval 60
Device(config-template)# description This is a user template
Device(config-template)# Keepalive 60
Device(config)# end
```

Example: Sourcing Interface Templates

```
Device> enable
Device# configure terminal
Device(config)# interface gigabitethernet 1/1
Device(config-if)# source template user-templatel
Device(config-if)# end
```

Example: Dynamically Binding Interface Templates

```
Device> enable
Device# configure terminal
Device(config)# interface GigabitEthernet 1/1
Device(config-if)# service-policy type control subscriber POLICY_Gi1/1
Device(config-if)# end
```