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.

- Finding Feature Information, page 1
- Restrictions for Interface Templates, page 1
- Information About Interface Templates, page 2
- How to Configure Interface Templates, page 5
- Configuration Examples for Interface Templates, page 15
- Additional References for Interface Templates, page 15
- Feature Information for Interface Templates, page 16

Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Restrictions for Interface Templates

- Interface templates are not applicable for wireless sessions.
- Remote storing and downloading of templates is not supported.
- Port channel configuration through template is not supported on Cisco Catalyst 6500 Series Switches.
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
mls qos trust dscp
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:
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>access-session</td>
<td>Configures access session specific interface commands.</td>
</tr>
<tr>
<td>authentication</td>
<td>Configures authentication manager Interface Configuration commands.</td>
</tr>
<tr>
<td>carrier-delay</td>
<td>Configures delay for interface transitions.</td>
</tr>
<tr>
<td>dampening</td>
<td>Enables event dampening.</td>
</tr>
<tr>
<td>default</td>
<td>Sets a command to its defaults.</td>
</tr>
<tr>
<td>description</td>
<td>Configures interface-specific description.</td>
</tr>
<tr>
<td>dot1x</td>
<td>Configures interface configuration commands for IEEE 802.1X.</td>
</tr>
<tr>
<td>hold-queue</td>
<td>Sets hold queue depth.</td>
</tr>
<tr>
<td>ip</td>
<td>Configures IP template.</td>
</tr>
<tr>
<td>keepalive</td>
<td>Enables keepalive.</td>
</tr>
<tr>
<td>load-interval</td>
<td>Specifies interval for load calculation for an interface.</td>
</tr>
<tr>
<td>mab</td>
<td>Configures MAC authentication bypass Interface.</td>
</tr>
<tr>
<td>mls</td>
<td>Enables multilayer switching configurations. This command is available on</td>
</tr>
<tr>
<td></td>
<td>the following devices in template configuration mode:</td>
</tr>
<tr>
<td></td>
<td>• Cisco Catalyst 2960-S Series Switches</td>
</tr>
<tr>
<td></td>
<td>• Cisco Catalyst 2960-X Series Switches</td>
</tr>
<tr>
<td></td>
<td>• Cisco Industrial Ethernet 3000 Series Switches</td>
</tr>
<tr>
<td>peer</td>
<td>Configures peer parameters for point to point interfaces.</td>
</tr>
<tr>
<td>priority-queue</td>
<td>To set the priority-queue size for a template. This command is available</td>
</tr>
<tr>
<td></td>
<td>on the following devices in template configuration mode:</td>
</tr>
<tr>
<td></td>
<td>• Cisco Catalyst 2960-S Series Switches</td>
</tr>
<tr>
<td></td>
<td>• Cisco Catalyst 2960-X Series Switches</td>
</tr>
<tr>
<td></td>
<td>• Cisco Industrial Ethernet 3000 Series Switches</td>
</tr>
</tbody>
</table>
# Interface Templates

## Command

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>queue-set</td>
<td>Configures the QoS queue set on a template. This command is available on the following devices in template configuration mode:</td>
</tr>
<tr>
<td></td>
<td>• Cisco Catalyst 2960-S Series Switches</td>
</tr>
<tr>
<td></td>
<td>• Cisco Catalyst 2960-X Series Switches</td>
</tr>
<tr>
<td></td>
<td>• Cisco Industrial Ethernet 3000 Series Switches</td>
</tr>
<tr>
<td>radius-server</td>
<td>Enables RADIUS server configurations. This command is available on the following devices in template configuration mode:</td>
</tr>
<tr>
<td></td>
<td>• Catalyst 4500E Supervisor Engine 7-E</td>
</tr>
<tr>
<td></td>
<td>• Catalyst 4500E Supervisor Engine 7L-E</td>
</tr>
<tr>
<td></td>
<td>• Catalyst 4500E Supervisor Engine 8-E</td>
</tr>
<tr>
<td></td>
<td>• Catalyst 4500-X Series Switches</td>
</tr>
<tr>
<td>service-policy</td>
<td>Configures CPL service policy.</td>
</tr>
<tr>
<td>source</td>
<td>Gets configurations from another source.</td>
</tr>
<tr>
<td>spanning-tree</td>
<td>Configures spanning tree subsystem</td>
</tr>
<tr>
<td>storm-control</td>
<td>Configures storm control.</td>
</tr>
<tr>
<td>subscriber</td>
<td>Configures subscriber inactivity timeout value.</td>
</tr>
<tr>
<td>switchport</td>
<td>Sets switching mode configurations</td>
</tr>
<tr>
<td>trust</td>
<td>Sets trust value for the interface.</td>
</tr>
</tbody>
</table>

## Note

System built-in templates are not displayed in the running configuration. These templates show up in the running configuration only if you edit them.

### 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 built-in 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:

**SUMMARY STEPS**

1. `enable`
2. `configure terminal`
3. `template name`
4. `load-interval interval`
5. `description description`
6. `keepalive number`
7. `end`

**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><code>enable</code></td>
<td>Enables privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td><code>Example: Device&gt; enable</code></td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Enter your password if prompted.</td>
<td></td>
</tr>
<tr>
<td>Step</td>
<td>Command or Action</td>
<td>Purpose</td>
</tr>
<tr>
<td>------</td>
<td>------------------</td>
<td>---------</td>
</tr>
<tr>
<td>2</td>
<td>configure terminal</td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device# configure terminal</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>template name</td>
<td>Creates a user template and enters template configuration mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config)# template user-template</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note</td>
<td>Builtin template are system-generated.</td>
</tr>
<tr>
<td>4</td>
<td>load-interval interval</td>
<td>Configures the sampling interval for statistics collections on the template.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config-template)# load-interval 60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note</td>
<td>Builtin template are system-generated.</td>
</tr>
<tr>
<td>5</td>
<td>description description</td>
<td>Configures the description for the template.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config-template)# description This is a user template</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>keepalive number</td>
<td>Configures the keepalive timer.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config-template)# Keepalive 60</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>end</td>
<td>Exits global configuration mode and returns to privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config)# end</td>
<td></td>
</tr>
</tbody>
</table>

### Configuring Static Binding for Interface Templates

**SUMMARY STEPS**

1. enable  
2. configure terminal  
3. interface type number  
4. source template name  
5. end
DETAILED STEPS

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>enable</td>
<td>Enables privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td>• Enter your password if prompted.</td>
</tr>
<tr>
<td></td>
<td>Device&gt; enable</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>configure terminal</td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device# configure terminal</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>interface type number</td>
<td>Specifies the interface type and number and enters interface</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td>configuration mode.</td>
</tr>
<tr>
<td></td>
<td>Device(config)# interface GigabitEthernet 1/0/12</td>
<td></td>
</tr>
<tr>
<td>Step 4</td>
<td>source template name</td>
<td>Statically applies an interface template to a target.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config-if)# source template user-template1</td>
<td></td>
</tr>
<tr>
<td>Step 5</td>
<td>end</td>
<td>Exits interface configuration mode and returns to privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config-if)# end</td>
<td></td>
</tr>
</tbody>
</table>

**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 1/0/12
Building configuration...
Current configuration : 71 bytes
!
interface GigabitEthernet1/0/12
source template user-template1
end
Device# show derived-config interface GigabitEthernet 1/0/12
Building configuration...
Derived configuration : 108 bytes
!
interface GigabitEthernet1/0/12
```
Configuring Dynamic Binding of Interface Templates

SUMMARY STEPS

1. enable
2. configure terminal
3. interface type number
4. service-policy type control subscriber policymap-name
5. end

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>enable</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Device&gt; enable</td>
</tr>
<tr>
<td></td>
<td>Enables privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td>• Enter your password if prompted.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>configure terminal</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Device# configure terminal</td>
</tr>
<tr>
<td></td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>interface type number</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Device(config)# interface GigabitEthernet 4/0/1</td>
</tr>
<tr>
<td></td>
<td>Specifies the interface type and number and enters interface configuration mode.</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>service-policy type control subscriber policymap-name</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Device(config-if)# service-policy type control subscriber POLICY-Gi1/0/12</td>
</tr>
<tr>
<td></td>
<td>Dynamically applies an interface template to a target.</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>end</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Device(config-if)# end</td>
</tr>
<tr>
<td></td>
<td>Exits interface configuration mode and returns to privileged EXEC mode.</td>
</tr>
</tbody>
</table>
Verifying an Interface Template

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

**SUMMARY STEPS**

1. enable
2. show template interface all {all | binding {temp-name | all | target int-name} | brief } 
3. show template interface source {built-in [original] | user} {temp-name | all} 
4. show template service {all | binding target int-name | brief | source {aaa | built-in | user} {temp-name | all}}

**DETAILED STEPS**

---

**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.

---

**Verifying Interface User Templates**

```
Device# show template interface source user all
Template Name : TEST-1
Template Definition:
  load-interval 60
description TEST_1_TEMPLATE
keepalive 200

Template Name : TEST-2
Template Definition:
  load-interval 60
description TEST_1_TEMPLATE
keepalive 200
```

**Verifying all Builtin Templates**

```
Device# show template interface source built-in all
Building configuration...
```
Verifying an Interface Template

Template Name: AP_INTERFACE_TEMPLATE
Modified: No
Template Definition:
switchport mode trunk
switchport nonegotiate
service-policy input AutoConf-4.0-Trust-Cos-Input-Policy
service-policy output AutoConf-4.0-Output-Policy

Template Name: DMP_INTERFACE_TEMPLATE
Modified: No
Template Definition:
switchport mode access
switchport block unicast
switchport port-security
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input AutoConf-4.0-Trust-Dscp-Input-Policy
service-policy output AutoConf-4.0-Output-Policy

Template Name: IP_CAMERA_INTERFACE_TEMPLATE
Modified: No
Template Definition:
switchport mode access
switchport block unicast
switchport port-security
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input AutoConf-4.0-Trust-Dscp-Input-Policy
service-policy output AutoConf-4.0-Output-Policy

Template Name: IP_PHONE_INTERFACE_TEMPLATE
Modified: No
Template Definition:
switchport mode access
switchport block unicast
switchport port-security maximum 3
switchport port-security maximum 2 vlan access
switchport port-security violation restrict
switchport port-security aging time 2
switchport port-security aging type inactivity
switchport port-security
storm-control broadcast level pps 1k
storm-control multicast level pps 2k
storm-control action trap
spanning-tree portfast
spanning-tree bpduguard enable
service-policy input AutoConf-4.0-CiscoPhone-Input-Policy
service-policy output AutoConf-4.0-Output-Policy
ip dhcp snooping limit rate 15
load-interval 30

Template Name: LAP_INTERFACE_TEMPLATE
Modified: No
Template Definition:
switchport mode access
switchport block unicast
switchport port-security violation protect
switchport port-security aging time 2
switchport port-security aging type inactivity
switchport port-security
storm-control broadcast level pps 1k
storm-control multicast level pps 2k
storm-control action trap
spanning-tree portfast
spanning-tree bpduguard enable
ip dhcp snooping limit rate 15
load-interval 30

Template Name: MSP_CAMERA_INTERFACE_TEMPLATE
Modified: No
Template Definition:
switchport mode access
switchport block unicast
Verifying all Builtin Templates on Cisco Catalyst 2960-S Series Switches, Cisco Catalyst 2960-X Series Switches, Cisco Industrial Ethernet 3000 Series Switches

Device# show template interface source built-in all

Building configuration...

Template Name : AP_INTERFACE_TEMPLATE
Modified : No
Template Definition :
switchport mode trunk
switchport port-security maximum 3
switchport port-security maximum 2 vlan access
switchport port-security violation restrict
switchport port-security aging time 2
switchport port-security aging type inactivity
switchport port-security
storm-control broadcast level pps 1k
storm-control multicast level pps 2k
storm-control action trap
switchport port-security
switchport bpduguard enable
service-policy input AutoConf-4.0-Trust-Dscp-Input-Policy
service-policy output AutoConf-4.0-Output-Policy
ip dhcp snooping limit rate 15
load-interval 30
!
end
switchport nonegotiate
mls qos trust cos
srr-queue bandwidth share 1 30 35 5
priority-queue out
!
Template Name : DMP_INTERFACE_TEMPLATE
Modified : No
Template Definition :
spanning-tree portfast
spanning-tree bpduguard enable
switchport mode access
switchport block unicast
switchport port-security
mls qos trust dscp
srr-queue bandwidth share 1 30 35 5
priority-queue out
!
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
mls qos trust dscp
srr-queue bandwidth share 1 30 35 5
priority-queue out
!
Template Name : IP_PHONE_INTERFACE_TEMPLATE
Modified : No
Template Definition :
spanning-tree portfast
spanning-tree bpduguard enable
switchport mode access
switchport block unicast
switchport port-security maximum 3
switchport port-security maximum 2 vlan access
switchport port-security violation restrict
switchport port-security aging time 2
switchport port-security aging type inactivity
switchport port-security
storm-control broadcast level pps 1k
storm-control multicast level pps 2k
storm-control action trap
mls qos trust cos
ip dhcp snooping limit rate 15
load-interval 30
srr-queue bandwidth share 1 30 35 5
priority-queue out
!
Template Name : LAP_INTERFACE_TEMPLATE
Modified : No
Template Definition :
spanning-tree portfast
spanning-tree bpduguard enable
switchport mode access
switchport block unicast
switchport port-security violation protect
switchport port-security aging time 2
switchport port-security aging type inactivity
switchport port-security
storm-control broadcast level pps 1k
storm-control multicast level pps 2k
storm-control action trap
mls qos trust dscp
ip dhcp snooping limit rate 15
load-interval 30
srr-queue bandwidth share 10 10 60 20
priority-queue out
!
Template Name : MSP_CAMERA_INTERFACE_TEMPLATE
Modified : No
Template Definition :
spanning-tree portfast
spanning-tree bpduguard enable
switchport mode access
switchport block unicast
switchport port-security
!
Template Name : MSP_VC_INTERFACE_TEMPLATE
Modified : No
Template Definition :
spanning-tree portfast
spanning-tree bpduguard enable
switchport mode access
switchport block unicast
switchport port-security violation restrict
switchport port-security aging time 2
switchport port-security aging type inactivity
switchport port-security
ip dhcp snooping limit rate 15
load-interval 30
!
Template Name : PRINTER_INTERFACE_TEMPLATE
Modified : No
Template Definition :
spanning-tree portfast
spanning-tree bpduguard enable
switchport mode access
switchport port-security maximum 2
switchport port-security
load-interval 60
!
Template Name : ROUTER_INTERFACE_TEMPLATE
Modified : No
Template Definition :
spanning-tree portfast trunk
spanning-tree bpduguard enable
switchport mode trunk
mls qos trust dscp
srr-queue bandwidth share 1 30 35 5
priority-queue out
!
Template Name : SWITCH_INTERFACE_TEMPLATE
Modified : No
Template Definition :
switchport mode trunk
mls qos trust cos
srr-queue bandwidth share 1 30 35 5
priority-queue out
!
Template Name : TP_INTERFACE_TEMPLATE
Modified : No
Template Definition :
spanning-tree portfast
spanning-tree bpduguard enable
switchport mode access
switchport port-security maximum 3
switchport port-security maximum 2 vlan access
switchport port-security violation restrict
switchport port-security aging time 2
switchport port-security aging type inactivity
switchport port-security
storm-control broadcast level pps 1k
storm-control multicast level pps 2k
storm-control action trap
ip dhcp snooping limit rate 15
load-interval 30
!
End
Verifying all Interface Templates Binding for all templates

Device# `show template interface binding all`

<table>
<thead>
<tr>
<th>Template-name</th>
<th>Source</th>
<th>Method</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP_PHONE_INTERFACE_TEMPLATE</td>
<td>Built-in</td>
<td>Dynamic</td>
<td>Gi1/0/1, Gi1/0/2, Gi1/0/3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gi1/0/4, Gi1/0/5, Gi1/0/6</td>
</tr>
<tr>
<td></td>
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<td>Gi1/0/7, Gi1/0/8, Gi1/0/9</td>
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<td>Gi1/0/22, Gi1/0/23, Gi1/0/24</td>
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<td>Gi1/1/1, Gi1/1/2, Gi1/1/3</td>
</tr>
</tbody>
</table>

IP_PHONE_INTERFACE_TEMPLATE   | Built-in | Static  | Gi4/0/4                          |

Verifying Static Template Binding for a Target Interface

Device# `show template interface binding target GigabitEthernet 1/0/4`

<table>
<thead>
<tr>
<th>Interface</th>
<th>Method</th>
<th>Source</th>
<th>Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gi1/0/4</td>
<td>Dynamic</td>
<td>built-in</td>
<td>IP_PHONE_INTERFACE_TEMPLATE</td>
</tr>
<tr>
<td></td>
<td>Static</td>
<td>user</td>
<td>TEST</td>
</tr>
<tr>
<td></td>
<td>Dynamic</td>
<td>Modified-built-in</td>
<td>TEST</td>
</tr>
</tbody>
</table>

Verifying Dynamic Template Binding for all templates

Device# `show template service all`

User-defined template:

```
Template Name : SVC-1
Template Definition:
vlan 100
access-group acl1
```

built-in template:

```
Template Name : SVC-2
Template Definition:
vlan 100
access-group acl1
```

aaa downloaded template:

```
Template Name : SVC-2
Template Definition:
vlan 100
access-group acl1
```

Verifying Template Binding for a Target Interface

Device# `show template binding target GigabitEthernet 1/0/4`

Interface Templates:

```
Interface     | method  | Source | Template          |
---------------|---------|--------|-------------------|
Gi1/0/4        | Dynamic | built-in | IP_PHONE_INTERFACE_TEMPLATE |
Static user     |         |         | TEST              |
Dynamic         |         | Modified-built-in | TEST       |
```

Service Templates:

```
Template      | Source   | Session-Mac |
--------------|----------|-------------|
SVC1          | user     | aa-bb-cc-dd-ee-ff |
SVC2          | built-in | ab-ab-ab-ab-ab-ab |
SVC3          | aaa      | ac-ac-ac-ac-ac-ac |
```
Configuration Examples for Interface Templates

Example: Configuring User Interface Templates

Example: Configuring User Templates
Device# enable
Device (config)# configure terminal
Device(config)# template user-template1
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 fastethernet 4/0/0
Device(config-if)# source template user-template1
Device(config-if)# end

Example: Dynamically Binding Interface Templates
Device> enable
Device# configure terminal
Device(config)# interface GigabitEthernet 4/0/1
Device(config-if)# service-policy type control subscriber POLICY_Gi1/0/12
Device(config-if)# end

Additional References for Interface Templates

Related Documents

<table>
<thead>
<tr>
<th>Related Topic</th>
<th>Document Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cisco IOS commands</td>
<td>Cisco IOS Master Command List, All Releases</td>
</tr>
<tr>
<td>Identity-Based Networking Services commands</td>
<td>Cisco IOS Identity-Based Networking Services Command Reference</td>
</tr>
<tr>
<td>Autoconf</td>
<td>“Autoconf” module in Identity-Based Networking Services Configuration Guide.</td>
</tr>
</tbody>
</table>
Technical Assistance

<table>
<thead>
<tr>
<th>Description</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Cisco Support and Documentation website provides online resources to</td>
<td><a href="http://www.cisco.com/cisco/web/support/index.html">http://www.cisco.com/cisco/web/support/index.html</a></td>
</tr>
<tr>
<td>download documentation, software, and tools. Use these resources to install</td>
<td></td>
</tr>
<tr>
<td>and configure the software and to troubleshoot and resolve technical issues</td>
<td></td>
</tr>
<tr>
<td>with Cisco products and technologies. Access to most tools on the Cisco</td>
<td></td>
</tr>
<tr>
<td>Support and Documentation website requires a Cisco.com user ID and password.</td>
<td></td>
</tr>
</tbody>
</table>

Feature Information for Interface Templates

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.
### Table 1: Feature Information for Interface Templates

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>Releases</th>
<th>Feature Information</th>
</tr>
</thead>
</table>
| Interface Templates| Cisco IOS 15.2(2)E | An interface template provides a mechanism to configure multiple commands at the same time and associate it with a target such as an interface. In Cisco IOS Release 15.2(2)E, this feature is supported on the following platforms:  
  - Cisco Catalyst 2960-C Series Switches  
  - Cisco Catalyst 2960-S Series Switches  
  - Cisco Catalyst 2960-X Series Switches  
  - Cisco Industrial Ethernet 3000 Series Switches  
  The following commands were introduced or modified: access-session, authentication, carrier-delay, dampening, default, description, dot1x, hold-queue, ip, keepalive, load-interval, mab, mls, peer, priority-queue, queue-set, radius-server, service-policy type control subscriber, source, spanning-free, storm-control, subscriber, switchport, trust. |