Configuring SDM Templates

Information About SDM Templates

You can use SDM templates to configure system resources to optimize support for specific features, depending on how your device is used in the network. You can select a template to provide maximum system usage for some functions.

Cisco Catalyst 9200 Series Switches support the following templates:

- Advanced
- VLAN

It is recommended that you reload the system as soon as you make a change to the SDM template. After you change the template and the system reboots, you can use the **show sdm prefer** privileged EXEC command to verify the new template configuration. If you enter the **show sdm prefer** command before you enter the **reload** privileged EXEC command, the **show sdm prefer** command shows the template currently in use and the template that will become active after a reload.

How to Configure SDM Templates

Setting the SDM Template

Follow these steps to use the SDM template to maximize feature usage:

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	**sdm prefer** {**advanced** | **vlan**} **Example:** `Device(config)#sdm prefer vlan`	Selects an SDM template. • **advanced** —Sets the switch to the advanced template. • **vlan** —Maximizes VLAN configuration on the switch with no routing supported in hardware.
Step 4	**end** **Example:** `Device(config)# end`	Returns to privileged EXEC mode.
Step 5	**reload** **Example:** `Device# reload`	Reloads the operating system. After the system reboots, you can use the **show sdm prefer** privileged EXEC command to verify the new template configuration. If you enter the **show sdm prefer** command before you enter the reload privileged EXEC command, the **show sdm prefer** command shows the template currently in use and the template that will become active after a reload.

Monitoring and Maintaining SDM Templates

Verifying SDM Templates

Use the following commands to monitor and maintain SDM templates.

Command	Purpose
show sdm prefer	Displays the SDM template in use.

Command	Purpose
reload	Reloads the switch to activate the newly configured SDM template.

Note The SDM templates contain only those commands that are defined as part of the templates. If a template enables another related command that is not defined in the template, then this other command will be visible when the **show running config** command is entered. For example, if the SDM template enables the **switchport voice vlan** command, then the **spanning-tree portfast edge** command may also be enabled (although it is not defined on the SDM template).

If the SDM template is removed, then other such related commands are also removed and have to be reconfigured explicitly.

Verifying Customizable SDM Templates

Use the following commands to verify the customizable SDM Template that will be applied.

Table 1: Commands to verify the customizable SDM template

Command	Description
show sdm prefer custom	Displays the custom values that will be applied to the features in the customizable SDM template.
show sdm prefer custom user-input	Displays the values that were entered by the user in the customizable SDM template.
show sdm prefer	Displays the customized SDM template that is currently active.

If any feature in the Customizable SDM template has been assigned a scale value of zero, the feature will not be listed in the output of the **show sdm prefer custom** command after the device is reloaded.

Configuration Examples for SDM Templates

Examples: Displaying SDM Templates

This is an example output showing the advanced template information.

```
Device# show sdm prefer advanced

Showing SDM Template Info

This is the Advanced template.
  Number of VLANs:                                4094
  Unicast MAC addresses:                          16384
  Overflow Unicast MAC addresses:                 256
  L2 Multicast entries:                           1024
  L3 Multicast entries:                           1024
```

```
  Overflow L3 Multicast entries:                    256
  Directly connected routes:                        10240
  Indirect routes:                                  4096
  Security Access Control Entries:                  1664
  QoS Access Control Entries:                       1024
  Policy Based Routing ACEs:                        512
  Netflow Input ACEs:                               128
  Netflow Output ACEs:                              128
  Flow SPAN ACEs:                                   256
  Tunnels:                                          128
  LISP Instance Mapping Entries:                    256
  Control Plane Entries:                            512
  Input Netflow flows:                              8192
  Output Netflow flows:                             8192
  SGT/DGT (or) MPLS VPN entries:                    2048
  SGT/DGT (or) MPLS VPN Overflow entries:           256
  Wired clients:                                    2048
  MACSec SPD Entries:                               128

These numbers are typical for L2 and IPv4 features.
Some features such as IPv6, use up double the entry size;
so only half as many entries can be created.
```

This is an example output showing the VLAN template information.

```
Device# show sdm prefer vlan

Showing SDM Template Info

This is the VLAN template for a typical Layer 2 network.
  Number of VLANs:                                  4094
  Unicast MAC addresses:                            32768
  Overflow Unicast MAC addresses:                   256
  L2 Multicast entries:                             1024
  L3 Multicast entries:                             1024
  Overflow L3 Multicast entries:                    256
  Direct/Indirect shared unicast routes:            6144
  Security Access Control Entries:                  1664
  QoS Access Control Entries:                       1024
  Policy Based Routing ACEs:                        512
  Netflow Input ACEs:                               128
  Netflow Output ACEs:                              128
  Flow SPAN ACEs:                                   256
  Tunnels:                                          128
  LISP Instance Mapping Entries:                    256
  Control Plane Entries:                            512
  Input Netflow flows:                              8192
  Output Netflow flows:                             8192
  SGT/DGT (or) MPLS VPN entries:                    2048
  SGT/DGT (or) MPLS VPN Overflow entries:           256
  Wired clients:                                    2048
  MACSec SPD Entries:                               128

These numbers are typical for L2 and IPv4 features.
Some features such as IPv6, use up double the entry size;
so only half as many entries can be created.
```

Examples: Configuring SDM Templates

```
Device(config)# sdm prefer advanced
Device(config)# exit
```

```
Device# reload
  Proceed with reload? [confirm]
```

Additional References for SDM Templates

Related Documents

Related Topic	Document Title
For complete syntax and usage information for the commands used in this chapter.	*Command Reference (Catalyst 9200 Series Switches)*

Feature History for SDM Templates

This table provides release and related information for features explained in this module.

These features are available on all releases subsequent to the one they were introduced in, unless noted otherwise.

Release	Feature	Feature Information
Cisco IOS XE Fuji 16.9.2	SDM Template	Standard SDM templates can be used to configure system resources to optimize support for specific features.

Use Cisco Feature Navigator to find information about platform and software image support. To access Cisco Feature Navigator, go to http://www.cisco.com/go/cfn.