Configuring Session Manager

This chapter describes how to configure Session Manager on Cisco NX-OS devices.

This chapter contains the following sections:

Finding Feature Information

Your software release might not support all the features documented in this module. For the latest caveats and feature information, see the Bug Search Tool at https://tools.cisco.com/bugsearch/ and the release notes for your 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 "New and Changed Information"chapter or the Feature History table in this chapter.

About Session Manager

Session Manager allows you to implement your configuration changes in batch mode. Session Manager works in the following phases:

- Configuration session—Creates a list of commands that you want to implement in Session Manager mode.

- Validation—Provides a basic semantic check on your configuration. Cisco NX-OS returns an error if the semantic check fails on any part of the configuration.

- Verification—Verifies the configuration as a whole, based on the existing hardware and software configuration and resources. Cisco NX-OS returns an error if the configuration does not pass this verification phase.

- Commit—Cisco NX-OS verifies the complete configuration and applies the changes to the device. If a failure occurs, Cisco NX-OS reverts to the original configuration.

- Abort—Discards the configuration changes before implementation.

You can optionally end a configuration session without committing the changes. You can also save a configuration session.

High Availability

Session Manager sessions remain available after a supervisor switchover. Sessions are not persistent across a software reload.

Virtualization Support

By default, Cisco NX-OS places you in the default VDC. See the *Cisco Nexus 7000 Series NX-OS Virtual Device Context Configuration Guide*.

Prerequisites for Session Manager

Make sure that you have the privilege level required to support the Session Manager commands that you plan to use.

Guidelines and Limitations for Session Manager

Session Manager has the following configuration guidelines and limitations:

- Session Manager supports only access control list (ACL) and quality of service (QoS) features.

- You can create up to 32 configuration sessions.

- You cannot issue an in-service software upgrade (ISSU) if an active session is in progress. You must commit the session, save it, or abort it before issuing an ISSU.

- You can configure a maximum of 20,000 commands across all sessions.

- You cannot simultaneously execute configuration commands in more then one configuration session or configuration terminal mode. Parallel configurations (for example, one configuration session and one configuration terminal) might cause validation or verification failures in the configuration session.

- If an interface reloads while you are configuring that interface in a configuration session, Session Manager may accept the commands even though the interface is not present in the device at that time.

Configuring Session Manager

Note

Be aware that the Cisco NX-OS commands might differ from Cisco IOS commands.

Creating a Session

You can create up to 32 configuration sessions.

Procedure

	Command or Action	Purpose
Step 1	**configure session** *name* **Example:** `switch# configure session myACLs` `switch(config-s)#`	Creates a configuration session and enters session configuration mode. The name can be any alphanumeric string. Displays the contents of the session.
Step 2	(Optional) **show configuration session** [*name*] **Example:** `switch(config-s)# show configuration session myACLs`	Displays the contents of the session.
Step 3	(Optional) **save** *location* **Example:** `switch(config-s)# save bootflash:sessions/myACLs`	Saves the session to a file. The location can be in bootflash:, slot0:, or volatile:.

Configuring ACLs in a Session

You can configure ACLs within a configuration session.

Procedure

	Command or Action	Purpose
Step 1	**configure session** *name* **Example:** `switch# configure session myacls` `switch(config-s)#`	Creates a configuration session and enters session configuration mode. The name can be any alphanumeric string.
Step 2	**ip access-list** *name* **Example:** `switch(config-s)# ip access-list acl1` `switch(config-s-acl)#`	Creates an ACL and enters a configuration mode for that ACL.

	Command or Action	**Purpose**
Step 3	(Optional) **permit** *protocol source destination* **Example:** `switch(config-s-acl)# permit tcp any any`	Adds a permit statement to the ACL.

Step 4	**interface** *interface-type number*
	Example:
	`switch(config-s-acl)# interface e 2/1`
	`switch(config-s-if)#`
		Enters interface configuration mode.

Step 5	**ip access-group** *name* {**in** | **out**}
	Example:
	`switch(config-s-if)# ip access-group acl1`
	` in`
		Specifies the direction of traffic the access group is applied to.

Step 6	(Optional) **show configuration session** [*name*]
	Example:
	`switch(config-s)# show configuration`
	`session myacls`
		Displays the contents of the session.

Verifying a Session

Use the following command in session mode to verify a session:

Command	**Purpose**
verify [**verbose**] **Example:** `switch(config-s)# verify`	Verifies the configuration as a whole, based on the existing hardware and software configuration and resources. Cisco NX-OS returns an error if the configuration does not pass this verification.

Committing a Session

Use the following command in session mode to commit a session:

Command	**Purpose**
commit [**verbose**] **Example:** `switch(config-s)# commit`	Validates the configuration changes made in the current session and applies valid changes to the device. If the validation fails, Cisco NX-OS reverts to the original configuration.

Saving a Session

Use the following command in session mode to save a session:

Command	Purpose

save *location*
 	
Example:
 	
`switch(config-s)# save`
`bootflash:sessions/myACLs`
	(Optional) Saves the session to a file. The location can be in bootflash:, slot0:, or volatile:.

Discarding a Session

Use the following command in session mode to discard a session:

Command	Purpose

abort
 	
Example:
 	
`switch(config-s)# abort`
`switch#`
	Discards the configuration session without applying the changes.

Verifying the Session Manager Configuration

To display the Session Manager configuration information, perform one of the following tasks:

Command	Purpose
show configuration session [*name*]	Displays the contents of the configuration session.
show configuration session status [*name*]	Displays the status of the configuration session.
show configuration session summary	Displays a summary of all the configuration sessions.

Configuration Example for Session Manager

This example shows how to create and commit an ACL configuration using Session Manager:

```
switch# configure session ACL_tcp_in
Config Session started, Session ID is 1
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-s)# ip access-list ACL1
switch(config-s-acl)# permit tcp any any
switch(config)# interface e 7/1
switch(config-if)# ip access-group ACL1 in
switch(config-if)# exit
switch(config)# exit
switch# config session ACL_tcp_in
Config Session started, Session ID is 1
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-s)# verify
Verification Successful
switch(config-s)# commit
Commit Successful
```

```
switch#
```

Additional References

Related Documents

Related Topic	Document Title
Session Manager CLI commands	*Cisco Nexus 7000 Series NX-OS System Management Command Reference*
VDCs	*Cisco Nexus 7000 Series NX-OS Virtual Device Context Configuration Guide*
Configuration files	*Cisco Nexus 7000 Series NX-OS Fundamentals Configuration Guide*

Feature History for Session Manager

Your software release might not support all the features in this document. For the latest caveats and feature information, see the Bug Search Tool at https://tools.cisco.com/bugsearch/ and the release notes for your software release.

Table 1: Feature History for Session Manager

Feature Name	Releases	Feature Information
Session Manager	4.0(1)	This feature was introduced.