



## CHAPTER 4

# On-Demand Port Activation Licensing

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This chapter describes how to use the on-demand port activation licensing feature on the Cisco MDS 9124 Fabric Switch, the Cisco MDS 9134 Fabric Switch, the Cisco Fabric Switch for HP c-Class BladeSystem, and the Cisco Fabric Switch for IBM BladeCenter. This chapter contains the following sections:

- [About On-Demand Port Activation Licensing, page 4-1](#)
- [Configuring Port Activation Licenses, page 4-10](#)
- [On-Demand Port Activation License Example, page 4-13](#)

## About On-Demand Port Activation Licensing

As of Cisco MDS SAN-OS Release 3.1(1), you can expand your SAN connectivity as needed by enabling users to purchase and install additional port licenses. By default, all ports are eligible for license activation. On the Cisco MDS 9124 Fabric Switch, licenses are allocated sequentially. However, you can move or reassign licenses to any eligible port on the switch.

On the Cisco MDS 9134 Fabric Switch, the first 32 ports operate at 1 Gbps, 2 Gbps, or 4 Gbps. The switch has two ports that operate at 10 Gbps. Licenses are allocated sequentially.

On the Cisco Fabric Switch for HP c-Class BladeSystem and the Cisco Fabric Switch for IBM BladeCenter, licenses for internal ports are allocated as the ports come up. Licenses for external ports are allocated sequentially.

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## Port-Naming Conventions

Table 4-1 describes the port-naming conventions for the four Cisco Fabric switches.

**Table 4-1** Port-Naming Conventions for Cisco Fabric Switches

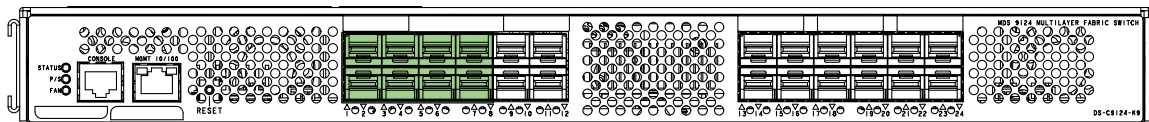
| Cisco MDS 9124 Switch | Cisco MDS 9134 Switch | Cisco Fabric Switch for HP c-Class BladeSystem | Cisco Fabric Switch for IBM BladeCenter      |
|-----------------------|-----------------------|--|--|
| fc1/1 through fc1/24  | fc1/1 through fc1/34  | Internal ports: bay1 through bay16             | Internal ports: bay1 through bay14           |
|                       |                       | External ports: ext1 through ext8              | External ports: ext0 and ext15 through ext19 |

## Port Licensing

On the Cisco MDS 9124 Switch, the first eight ports are licensed by default. You are not required to perform any tasks beyond the default configuration unless you prefer to immediately activate additional ports, make ports ineligible, or move port licenses.

Figure 4-1 shows the ports that are licensed by default for the Cisco MDS 9124 Switch.

**Figure 4-1** Cisco MDS 9124 Switch Default Port Licenses (fc1/1 - fc1/8)



If you need additional connectivity, you can activate additional ports in 8-port increments with each on-demand port activation license, up to a total of 24 ports.

On the Cisco MDS 9134 Switch, the first 24 ports that can operate at 1 Gbps, 2 Gbps, or 4 Gbps are licensed by default. If you need additional connectivity, you can activate the remaining eight ports with one on-demand port activation license. A separate 10G license file is required to activate the remaining two 10-Gbps ports.

Figure 4-2 shows the ports that are licensed by default for the Cisco MDS 9134 Switch.

**Figure 4-2** Cisco MDS 9134 Switch Default Port Licenses (fc1/1 - fc1/24)

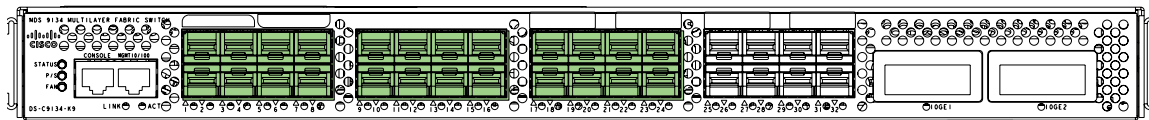
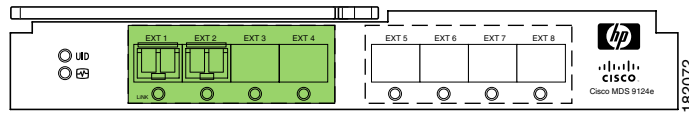


Figure 4-3 shows the external ports that are licensed by default for the Cisco Fabric Switch for HP c-Class BladeSystem.

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**Figure 4-3 Cisco Fabric Switch for HP c-Class BladeSystem Default Port Licenses (ext1 - ext4)**

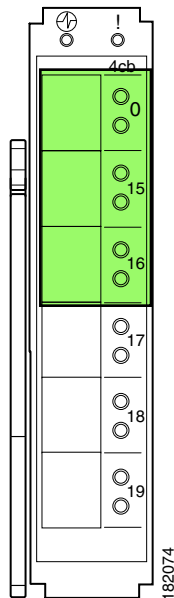


On the Cisco Fabric Switch for HP c-Class BladeSystem, any eight internal ports and the external ports (ext1 through ext4) are licensed by default. A single on-demand port activation license is required to use the remaining eight internal and four external ports.

On the Cisco Fabric Switch for IBM BladeCenter, any seven internal ports and the external ports (ext0, ext15 and ext16) are licensed by default. A single on-demand port activation license is required to use the remaining seven internal and three external ports.

Figure 4-4 shows the external ports that are licensed by default for the Cisco Fabric Switch for IBM BladeCenter.

**Figure 4-4 Cisco Fabric Switch for IBM BladeCenter Default Port Licenses (ext0, ext15 - ext16)**



If you do not prefer to accept the default behavior and would rather assign a license to a specific port, make the port ineligible to receive a license, or move licenses among ports, refer to the [“Configuring Port Activation Licenses”](#) section on page 4-10.

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## Default Configuration

Example 4-1 shows the default port license configuration for the Cisco MDS 9124 Switch.

### Example 4-1 Cisco MDS 9124 Switch Default Port License Configuration

```
switch# show port-license
Available port activation licenses are 0
-----
Interface      Cookie          Port Activation License
-----
fc1/1          16777216        acquired
fc1/2          16781312        acquired
fc1/3          16785408        acquired
fc1/4          16789504        acquired
fc1/5          16793600        acquired
fc1/6          16797696        acquired
fc1/7          16801792        acquired
fc1/8          16805888        acquired
fc1/9          16809984        eligible
fc1/10         16814080        eligible
fc1/11         16818176        eligible
fc1/12         16822272        eligible
fc1/13         16826368        eligible
fc1/14         16830464        eligible
fc1/15         16834560        eligible
fc1/16         16838656        eligible
fc1/17         16842752        eligible
fc1/18         16846848        eligible
fc1/19         16850944        eligible
fc1/20         16855040        eligible
fc1/21         16859136        eligible
fc1/22         16863232        eligible
fc1/23         16867328        eligible
fc1/24         16871424        eligible
```



#### Note

The cookie is used to acquire a license. Use the **show license usage PORT\_ACTIVATION\_PKG** command to show the cookies for acquired licenses.

```
switch# show license usage PORT_ACTIVATION_PKG
Application
-----
16777216
16797696
16781312
16793600
16785408
16805888
16789504
16801792
-----
```

Example 4-2 shows the default port license configuration for the Cisco MDS 9134 Switch.

### Example 4-2 Cisco MDS 9134 Switch Default Port License Configuration

```
switch# show port-license
Available port activation licenses are 0
Available 10G port activation licenses are 0
```

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| Interface | Cookie   | Port Activation License |
|-----------|----------|-------------------------|
| fc1/1     | 16777216 | acquired                |
| fc1/2     | 16781312 | acquired                |
| fc1/3     | 16785408 | acquired                |
| fc1/4     | 16789504 | acquired                |
| fc1/5     | 16793600 | acquired                |
| fc1/6     | 16797696 | acquired                |
| fc1/7     | 16801792 | acquired                |
| fc1/8     | 16805888 | acquired                |
| fc1/9     | 16809984 | acquired                |
| fc1/10    | 16814080 | acquired                |
| fc1/11    | 16818176 | acquired                |
| fc1/12    | 16822272 | acquired                |
| fc1/13    | 16826368 | acquired                |
| fc1/14    | 16830464 | acquired                |
| fc1/15    | 16834560 | acquired                |
| fc1/16    | 16838656 | acquired                |
| fc1/17    | 16842752 | acquired                |
| fc1/18    | 16846848 | acquired                |
| fc1/19    | 16850944 | acquired                |
| fc1/20    | 16855040 | acquired                |
| fc1/21    | 16859136 | acquired                |
| fc1/22    | 16863232 | acquired                |
| fc1/23    | 16867328 | acquired                |
| fc1/24    | 16871424 | acquired                |
| fc1/25    | 16875520 | eligible                |
| fc1/26    | 16879616 | eligible                |
| fc1/27    | 16883712 | eligible                |
| fc1/28    | 16887808 | eligible                |
| fc1/29    | 16891904 | eligible                |
| fc1/30    | 16896000 | eligible                |
| fc1/31    | 16900096 | eligible                |
| fc1/32    | 16904192 | eligible                |
| fc1/33    | 16908288 | eligible                |
| fc1/34    | 16912384 | eligible                |



**Note**

The cookie is used to acquire a license. Use the **show license usage PORT\_ACTIVATION\_PKG** command to show the cookies for acquired licenses.

```
switch# show license usage PORT_ACTIVATION_PKG
Application
-----
16777216
16797696
16781312
16793600
16785408
16805888
16789504
16801792
16809984
16859136
16814080
16826368
16838656
16834560
16842752
16818176
16822272
```

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```
16830464
16855040
16850944
16846848
16867328
16871424
16863232
-----
```

**Example 4-3** shows the default port license configuration for the Cisco Fabric Switch for HP c-Class BladeSystem.



**Note**

The first eight internal ports that come up acquire a license.

**Example 4-3 Cisco Fabric Switch for HP c-Class BladeSystem Default Port License Configuration**

```
switch# show port-license
Available ext port activation licenses are 0
Available bay port activation licenses are 0
-----
```

| Interface | Cookie   | Port Activation License |
|-----------|----------|-------------------------|
| bay1      | 16838656 | acquired                |
| bay2      | 16834560 | eligible                |
| bay3      | 16818176 | acquired                |
| bay4      | 16809984 | eligible                |
| bay5      | 16789504 | acquired                |
| bay6      | 16781312 | eligible                |
| bay7      | 16805888 | eligible                |
| bay8      | 16863232 | acquired                |
| bay9      | 16850944 | acquired                |
| bay10     | 16842752 | acquired                |
| bay11     | 16822272 | acquired                |
| bay12     | 16826368 | eligible                |
| bay13     | 16785408 | acquired                |
| bay14     | 16797696 | eligible                |
| bay15     | 16801792 | eligible                |
| bay16     | 16859136 | eligible                |
| ext1      | 16814080 | acquired                |
| ext2      | 16830464 | acquired                |
| ext3      | 16846848 | acquired                |
| ext4      | 16855040 | acquired                |
| ext5      | 16871424 | eligible                |
| ext6      | 16867328 | eligible                |
| ext7      | 16793600 | eligible                |
| ext8      | 16777216 | eligible                |



**Note**

The cookie is used to acquire a license. Use the `show license usage PORT_ACTIVATION_PKG` command to show the cookies for acquired licenses.

```
switch# show license usage PORT_ACTIVATION_PKG
Application
-----
16785408
16789504
16793600
16814080
16818176
```

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```
16822272
16838656
16842752
16850944
16863232
16867328
16855040
-----
```

**Example 4-4** shows the default port license configuration for the Cisco Fabric Switch for IBM BladeCenter.



**Note**

The first seven internal ports that come up acquire a license.

**Example 4-4 Cisco Fabric Switch for IBM BladeCenter Default Port License Configuration**

```
switch# show port-license
Available ext port activation licenses are 0
Available bay port activation licenses are 0
-----
  Interface      Cookie          Port Activation License
-----
    bay1         16850944        eligible
    bay2         16838656        eligible
    bay3         16842752        acquired
    bay4         16834560        eligible
    bay5         16822272        acquired
    bay6         16818176        eligible
    bay7         16826368        acquired
    bay8         16809984        eligible
    bay9         16797696        acquired
    bay10        16781312        eligible
    bay11        16785408        acquired
    bay12        16789504        eligible
    bay13        16801792        acquired
    bay14        16805888        acquired
    ext0         16846848        acquired
    ext15        16855040        acquired
    ext16        16830464        acquired
    ext17        16814080        eligible
    ext18        16793600        eligible
    ext19        16777216        eligible
```



**Note**

The cookie is used to acquire a license. Use the **show license usage PORT\_ACTIVATION\_PKG** command to show the cookies for acquired licenses.

```
switch# show license usage PORT_ACTIVATION_PKG
Application
-----
16830464
16826368
16818176
16822272
16834560
16838656
16846848
16850944
16855040
```

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16842752  
-----

## License Status Definitions

Table 4-2 defines the port activation license status terms.

**Table 4-2 Port Activation License Status Definitions**

| Port Activation License Status | Definition  |
|--------------------------------|---|
| acquired                       | The port is licensed and active.  |
| eligible                       | The port is eligible to receive a license but does not yet have one.<br><br>See Chapter 3, “Obtaining and Installing Licenses,” for information about how to obtain and install the PORT_ACTIVATION_PKG and license key file. |
| ineligible                     | The port is not allowed to receive a license.   |

By default, when you install additional port license activation packages, the activation status of ports changes from “eligible” to “acquired.” If you prefer to accept the default behavior, no further action is required.



### Note

You can uninstall licenses for ports not in use; however, you cannot uninstall default licenses.

Table 4-3 describes the port license assignments for the Cisco MDS 9124 Switch.

**Table 4-3 Default Port License Assignments for Cisco MDS 9124 Switch**

| License Package (PORT_ACTIVATION_PKG) | Assigned to Ports on the Cisco MDS 9124 Switch |
|---------------------------------------|--|
| Default                               | 1-8  |
| First PORT_ACTIVATION_PKG             | 9-16   |
| Second PORT_ACTIVATION_PKG            | 17-24  |

You can use the **show license usage** command to view any licenses assigned to a switch. If a license is in use, the status displayed is “In use.” If a license is installed but no ports have acquired a license, then the status displayed is “Unused.”

The default license package for the Cisco MDS 9124 Switch is as follows:

```
switch# show license usage
```

```
Feature                Ins    Lic  Status    Expiry Date  Comments
                        Count
-----
FM_SERVER_PKG          Yes    -    Unused    never         -
ENTERPRISE_PKG         Yes    -    In use    never         -
PORT_ACTIVATION_PKG    No     8    In use    never         -
```



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```
10G_PORT_ACTIVATION_PKG      No      0      Unused      -
-----
```

**Note**

The PORT\_ACTIVATION\_PKG does not appear as installed if you have only the default license installed.

Table 4-4 describes the port license assignments for the Cisco MDS 9134 Switch.

**Table 4-4 Default Port License Assignments for Cisco MDS 9134 Switch**

| License Package (PORT_ACTIVATION_PKG) | Assigned to Ports on the Cisco MDS 9134 Switch |
|---------------------------------------|--|
| Default                               | 1-24   |
| PORT_ACTIVATION_PKG                   | 25-32  |
| 10G_PORT_ACTIVATION_PKG               | 33-34  |

You can use the **show license usage** command to view any licenses assigned to a switch. If a license is in use, the status displayed is “In use.” If a license is installed but no ports have acquired a license, then the status displayed is “Unused.”

The default license package for the Cisco MDS 9134 Switch is as follows:

```
switch# show license usage

Feature                               Ins      Lic      Status      Expiry Date      Comments
                                     Count
-----
FM_SERVER_PKG                         Yes      -      Unused      never            -
ENTERPRISE_PKG                        Yes      -      In use      never            -
PORT_ACTIVATION_PKG                   No       24     In use      never            -
10G_PORT_ACTIVATION_PKG                yes      2      Unused      never            -
-----
```

**Note**

The PORT\_ACTIVATION\_PKG does not appear as installed if you have only the default license installed.

Table 4-5 describes the port license assignments for the Cisco Fabric Switch for HP c-Class BladeSystem.

**Table 4-5 Default Port License Assignments for Cisco Fabric Switch for HP c-Class BladeSystem**

| License Package (PORT_ACTIVATION_PKG) | Assigned to Ports on the Cisco Fabric Switch for HP c-Class BladeSystem             |
|---------------------------------------|---|
| Default                               | Any eight internal ports and the four external ports ext1 through ext4.             |
| PORT_ACTIVATION_PKG                   | A single license required for the remaining eight internal and four external ports. |

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You can use the **show license usage** command to view any licenses assigned to a switch. The default license package for the Cisco Fabric Switch for HP c-Class BladeSystem is as follows:

```
switch# show license usage
```

| Feature                 | Ins | Lic<br>Count | Status | Expiry Date | Comments |
|-------------------------|-----|--------------|--------|-------------|----------|
| FM_SERVER_PKG           | No  | -            | Unused |             | -        |
| ENTERPRISE_PKG          | No  | -            | Unused |             | -        |
| PORT_ACTIVATION_PKG     | No  | 12           | In use | never       | -        |
| 10G_PORT_ACTIVATION_PKG | No  | 0            | Unused |             | -        |



### Note

The PORT\_ACTIVATION\_PKG does not appear as installed if you have only the default license installed.

Table 4-6 describes the port license assignments for the Cisco Fabric Switch for IBM BladeCenter.

**Table 4-6** Default Port License Assignments for Cisco Fabric Switch for IBM BladeCenter

| License Package (PORT_ACTIVATION_PKG) | Assigned to Ports on the Cisco Fabric Switch for IBM BladeCenter                     |
|---------------------------------------|--|
| Default                               | Any seven internal ports and the three external ports ext0, ext15 and ext16.         |
| PORT_ACTIVATION_PKG                   | A single license required for the remaining seven internal and three external ports. |

You can use the **show license usage** command to view any licenses assigned to a switch. The default license package for the Cisco Fabric Switch for IBM BladeCenter is as follows:

```
switch# show license usage
```

| Feature                 | Ins | Lic<br>Count | Status | Expiry Date | Comments |
|-------------------------|-----|--------------|--------|-------------|----------|
| FM_SERVER_PKG           | No  | -            | Unused |             | -        |
| ENTERPRISE_PKG          | No  | -            | Unused |             | -        |
| PORT_ACTIVATION_PKG     | No  | 10           | In use | never       | -        |
| 10G_PORT_ACTIVATION_PKG | No  | 0            | Unused |             | -        |



### Note

The PORT\_ACTIVATION\_PKG does not appear as installed if you have only the default license installed.

## Configuring Port Activation Licenses

This section contains the following topics:

- [Making a Port Eligible for a License, page 4-11](#)
- [Acquiring a License for a Port, page 4-11](#)

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- [Moving Licenses Among Ports](#), page 4-12

## Making a Port Eligible for a License

By default, all ports are eligible to receive a license. However, if a port has already been made ineligible and you prefer to activate it, then you must make that port eligible by using the **port-license** command.

To make a port eligible to acquire a license, follow these steps:

|        | Command  | Purpose  |
|--------|--|--|
| Step 1 | switch# <b>config t</b><br>switch(config)#                   | Enters configuration mode.   |
| Step 2 | switch(config)# <b>interface fc1/1</b><br>switch(config-if)# | Specifies the port interface that you want to make eligible for a license.<br><br><b>Note</b> The name of the port depends on the switch you are using. See <a href="#">“Port-Naming Conventions”</a> section on page 4-2 for information on port names. |
| Step 3 | switch(config-if)# <b>port-license</b>                       | Makes the port eligible to acquire a license.  |
|        | switch(config-if)# <b>no port-license</b>                    | Removes a license from a port if it already has been assigned, and also makes the port ineligible to acquire a license.<br><br><b>Note</b> You can remove licenses only from ports that are not in an administrative shutdown state.                     |

## Acquiring a License for a Port

If you do not prefer to accept the default on-demand port license assignments, you will need to first acquire licenses for ports to which you want to move the license.

To acquire a license for a port, follow these steps:

|        | Command  | Purpose   |
|--------|--|---|
| Step 1 | switch# <b>config t</b><br>switch(config)#                   | Enters configuration mode.  |
| Step 2 | switch(config)# <b>interface fc1/1</b><br>switch(config-if)# | Specifies the port interface for which you want to acquire a license.<br><br><b>Note</b> The name of the port depends on the switch you are using. See <a href="#">“Port-Naming Conventions”</a> section on page 4-2 for information on port names. |
| Step 3 | switch(config-if)# <b>port-license acquire</b>               | Grants a license to a port or range of ports.   |
|        | switch(config-if)# <b>no port-license</b>                    | Removes a license from a port or range of ports.  |

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## Moving Licenses Among Ports



### Note

On the Cisco Fabric Switch for HP c-Class BladeSystem and the Cisco Fabric Switch for IBM BladeCenter, you can only move the license for internal ports among internal ports. Licenses from an internal port cannot be moved to an external port and vice versa. Licenses for external ports can only be moved among external ports.

You can move a license from a port (or range of ports) at any time. If you attempt to move a license to a port and no license is available, then the switch returns the message “port activation license not available.”



### Note

Once internal ports are licensed on the Cisco Fabric Switch for HP c-Class BladeSystem or the Cisco Fabric Switch for IBM BladeCenter, if the user enters the **copy running-config startup-config** command, then on the next reload, these ports will retain the licenses.

To move a license from one port to another (in this example, from fc1/1 to fc1/24), follow these steps:

|        | Command   | Purpose   |
|--------|---|---|
| Step 1 | switch# <b>config t</b><br>switch(config)#                    | Enters configuration mode.  |
| Step 2 | switch(config)# <b>interface fc1/1</b><br>switch(config-if)#  | Specifies the port interface from which you want to move a license.<br><br><b>Note</b> The name of the port depends on the switch you are using. See the <a href="#">“Port-Naming Conventions”</a> section on page 4-2 for information on port names. |
| Step 3 | switch(config-if)# <b>no port-license</b>                     | Removes the license from port fc1/1 and makes the port ineligible to acquire a license.<br><br><b>Note</b> The port needs to be shut down for this command to take effect.  |
| Step 4 | switch(config-if)# <b>exit</b><br>switch(config)#             | Exits interface mode for fc1/1.   |
| Step 5 | switch(config)# <b>interface fc1/24</b><br>switch(config-if)# | Specifies the port interface to which you want to move the license.<br><br><b>Note</b> The name of the port depends on the switch you are using. See <a href="#">“Port-Naming Conventions”</a> section on page 4-2 for information on port names.     |
| Step 6 | switch(config-if)# <b>port-license acquire</b>                | Grants a license to port fc1/24.<br><br><b>Note</b> The port needs to be shut down for this command to take effect.   |
| Step 7 | switch(config-if)# <b>end</b>                                 | Returns to EXEC mode.   |

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## On-Demand Port Activation License Example

The following example shows how to do the following tasks:

- Make a port ineligible
- Install port activation licenses
- Move licenses from one port to another

If you do not want to accept the default behavior, or you need flexibility in terms of which ports acquire a license, you may want to make a port ineligible. For example, if the first eight ports have a license, but you want to move a license from port 7 to port 9, then you would need to make a port ineligible. Or, if you have a port that should never acquire a license, you can make it ineligible and it will not be a candidate for a license when additional licenses are installed.

This example is based on the default configuration for the Cisco MDS 9124 Switch.

### Step 1 Display the default port license configuration.

```
switch# show port-license
Available port activation licenses are 0
-----
Interface      Cookie          Port Activation License
-----
fc1/1          16777216        acquired
fc1/2          16781312        acquired
fc1/3          16785408        acquired
fc1/4          16789504        acquired
fc1/5          16793600        acquired
fc1/6          16797696        acquired
fc1/7          16801792        acquired
fc1/8          16805888        acquired
fc1/9          16809984        eligible
fc1/10         16814080        eligible
fc1/11         16818176        eligible
fc1/12         16822272        eligible
fc1/13         16826368        eligible
fc1/14         16830464        eligible
fc1/15         16834560        eligible
fc1/16         16838656        eligible
fc1/17         16842752        eligible
fc1/18         16846848        eligible
fc1/19         16850944        eligible
fc1/20         16855040        eligible
fc1/21         16859136        eligible
fc1/22         16863232        eligible
fc1/23         16867328        eligible
fc1/24         16871424        eligible
```

### Step 2 Install an additional license package. See [Chapter 3, “Obtaining and Installing Licenses,”](#) for information about how to obtain and install the PORT\_ACTIVATION\_PKG and license key file.

```
switch# install license bootflash:license_file.lic
Installing license ..done
```



#### Note

If you provide a target name for the license key file, the file is installed with the specified name. Otherwise, the filename specified in the license key file is used to install the license.

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**Step 3** Make port fc1/8 ineligible to receive a license.



**Note** When you make a port ineligible, the license does not automatically transfer to another port.

```
switch# config t
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# interface fc1/8
switch(config-if)# no port-license
switch(config-if)# end
switch# show port-license
Available port activation licenses are 1
-----
Interface      Cookie          Port Activation License
-----
fc1/1          16777216        acquired
fc1/2          16781312        acquired
fc1/3          16785408        acquired
fc1/4          16789504        acquired
fc1/5          16793600        acquired
fc1/6          16797696        acquired
fc1/7          16801792        acquired
fc1/8          16805888        ineligible
fc1/9          16809984        eligible
fc1/10         16814080        eligible
```

**Step 4** Display the licensed features to confirm that you have successfully installed PORT\_ACTIVATION\_PKG.

```
switch# show license default
Feature                                     Default License Count
-----
FM_SERVER_PKG                               -
ENTERPRISE_PKG                               -
PORT_ACTIVATION_PKG                          8
10G_PORT_ACTIVATION_PKG                      0
switch# -----
```

**Step 5** Display the port license configuration to confirm that additional ports have acquired a license.



**Note** Port fc1/8 remains ineligible and one license remains available. Ports fc1/9 through fc1/16 have acquired an additional license.

```
switch# show port-license
Available port activation licenses are 1
-----
Interface      Cookie          Port Activation License
-----
fc1/1          16777216        acquired
fc1/2          16781312        acquired
fc1/3          16785408        acquired
fc1/4          16789504        acquired
fc1/5          16793600        acquired
fc1/6          16797696        acquired
fc1/7          16801792        acquired
fc1/8          16805888        ineligible
fc1/9          16809984        acquired
fc1/10         16814080        acquired
fc1/11         16818176        acquired
fc1/12         16822272        acquired
```

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```

fc1/13      16826368      acquired
fc1/14      16830464      acquired
fc1/15      16834560      acquired
fc1/16      16838656      acquired
fc1/17      16842752      eligible
fc1/18      16846848      eligible
fc1/19      16850944      eligible
fc1/20      16855040      eligible
fc1/21      16859136      eligible
fc1/22      16863232      eligible
fc1/23      16867328      eligible
fc1/24      16871424      eligible

```

**Step 6** Move the remaining license to port fc1/17.

```

switch# config t
switch(config)# interface fc1/17
switch(config-int)# port-license acquire

```

**Step 7** Display the port license configuration to confirm that port fc1/17 has acquired a license.

```

switch# show port-license
Available port activation licenses are 0
-----
Interface      Cookie          Port Activation License
-----
fc1/1          16777216       acquired
fc1/2          16781312       acquired
fc1/3          16785408       acquired
fc1/4          16789504       acquired
fc1/5          16793600       acquired
fc1/6          16797696       acquired
fc1/7          16801792       acquired
fc1/8          16805888       ineligible
fc1/9          16809984       acquired
fc1/10         16814080       acquired
fc1/11         16818176       acquired
fc1/12         16822272       acquired
fc1/13         16826368       acquired
fc1/14         16830464       acquired
fc1/15         16834560       acquired
fc1/16         16838656       acquired
fc1/17         16842752       acquired
fc1/18         16846848       eligible
fc1/19         16850944       eligible
fc1/20         16855040       eligible
fc1/21         16859136       eligible
fc1/22         16863232       eligible
fc1/23         16867328       eligible
fc1/24         16871424       eligible

```

**Step 8** Make this configuration your startup configuration by saving the new port license configuration into nonvolatile storage. Once you complete this step, the running and the startup copies of the configuration are identical.

```

switch# copy running-config startup-config

```

**Step 9** Display and/or confirm the licenses in the running configuration by entering the **show running config** command.

```

switch# show running config
...
interface fc1/1
  switchport trunk mode auto

```

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```
port-license acquire
channel-group 122 force
no shutdown

interface fc1/2
switchport trunk mode auto
port-license acquire
channel-group 122 force
no shutdown

interface fc1/3
switchport trunk mode auto
port-license acquire
no shutdown

interface fc1/4
port-license acquire
no shutdown

interface fc1/5
switchport trunk mode auto
port-license acquire
port-track interface fc1/13
port-track interface fc1/21
port-track interface fc1/24
port-track interface port-channel 122
no shutdown

interface fc1/6
switchport trunk mode off
port-license acquire
fcsp auto-active
no shutdown
```

---