



# Cisco IOS Software Licensing

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This document describes command-line interface (CLI) commands for managing Cisco IOS software licenses on Cisco Catalyst 3560-E and 3750-E switches.

## **Finding Feature Information in This Module**

Your Cisco IOS software release may not support all of the features documented in this module. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the “[Feature Information for Cisco IOS Software Licensing](#)” section on page 21.

## **Finding Support Information for Platforms and Cisco IOS and Catalyst OS Software Images**

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

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## Additional References

The following sections provide references related to Cisco IOS Software Licensing.

### Related Documents

Related Topic	Document Title
Cisco License Manager application	<ul style="list-style-type: none"> <li><i>Getting Started with Cisco License Manager 1.0 on Windows XP</i></li> <li><i>API Reference Guide for Cisco License Manager</i></li> </ul>
Cisco software activation and compatibility	<a href="#">Cisco Software Activation and Compatibility</a>
Catalyst 3560-E and E3750-E switch configuration	<a href="#">Catalyst 3750-E and 3560-E Switch Software Configuration Guide</a>
Catalyst 3560-E and E3750-E switch commands	<a href="#">Catalyst 3750-E and 3560-E Switch Command Reference</a>
Release notes about Catalyst 3750-E and 3560-E switches	<a href="#">Release Notes for the Catalyst 3750-E and 3560-E Switches</a>

### MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: <a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a>

### Technical Assistance

Description	Link
The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register on Cisco.com.	<a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a>

# Command Reference

This section documents only commands that are new or modified.

- [debug license](#)
- [license clear](#)
- [license comment](#)
- [license install](#)
- [license save](#)
- [license save credential](#)
- [show license](#)
- [show subsys](#)
- [show subsys license](#)

# debug license

To enable controlled Cisco IOS software license debugging activity on a device, use the **debug license** command in privileged EXEC mode.

```
debug license {agent {all | error} | core {all | error | event} | errors | events | ipc}
```

Syntax Description	agent	Debugs license agent information.
	<b>all</b>	Debugs all license core messages when used with the <b>core</b> keyword and all license agent messages when used with the <b>agent</b> keyword.
	<b>error</b>	Debugs only license core error messages when used with the <b>core</b> keyword and only license agent error messages when used with the <b>agent</b> keyword.
	<b>core</b>	Debugs messages from a license core module.
	<b>event</b>	Debugs only license core event messages.
	<b>errors</b>	Debugs license warnings and errors.
	<b>events</b>	Debugs license event messages.
	<b>ipc</b>	Debugs license interprocess communication (IPC) messages.

**Command Default** Debugging activity does not occur.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(35)SE2	This command was introduced.

**Usage Guidelines** Use this command to help troubleshoot issues with licenses on a device.

**Examples** The following example shows how to enable debugging for license warnings and errors on a router:

```
Router# debug license errors
```

The following example shows how to enable debugging for all license agent information on a switch:

```
Switch# debug license agent all
```

```
license agent app https[0x43FBC7C]: urlhook function
license agent app https[0x43FBC7C]: https action function
LIC_AGENT:Processing XML message
<?xml version="1.0" encoding="UTF-8"?>
<SOAP:Envelope xmlns:SOAP="http://www.w3.org/2003/05/soap-envelope">
<SOAP:Header>
<clm:Header version="1.0" xmlns:clm="http://www.cisco.com/clm">
<clm:Time>2003-04-23T20:27:19.827Z</clm:Time>
</clm:Header>
```

```

</SOAP:Header>
<SOAP:Body>
<lica:request xmlns:lica="http://www.cisco.com/clm">
<lica:installRequest>
<lica:license encoding="BASE64">
PENJU0NPX1dUX0FSVVE1GQUUNUyB2ZXJzaW9uPSIxLjAiPjxDSVNDT19XVF9MSUNFT1NF1HZ1cnNp
b249IjEuMCI+PEZfQVRVUkVfTkFNRT5pcGJhc2U8L0ZfQVRVUkVfTkFNRT48RkVBVfVSRV9WRVJT
SU9OPjEuMDwvRkVBVfVSRV9WRVJTSU9OPjxvREk+PFBJRD5CVUxMU0VZRTI0PC9QSUQ+PFNOpkNB
VDEwMDZSMEU4PC9TTj48L1VEST48U09VUkNFPkNpc2NvIEhRPC9TT1VSQ0U+PENSrUFURV9EQVRF
PjIwMDYtMTEtMjJUMDA6Mz6MNTA8L0NSRUFURV9EQVRFPPjxMSUNFT1NFX0xJTkVfSEFTSCBoYXNo
QWxnbnz0iU0hBMSI+NDJiNFVWVWpOd3pJK0ZNdEV6Q1NZSDRwdzFFPTwvTE1DRU5TRV9MSU5FX0hB
U0g+PFRZUEU+UkVHVUxUjwvVfLQRT48TE1DRU5TRV9MSU5FPjwhW0NEQVRBwzExIGlwYmFzZSAx
LjAgTE90RyBOT1JNQWUgU1RBTkRBTTE9ORSBFWENMIE1ORkLOSvRFx0tFwVWgSU5GSU5JVEVfS0VZ
UyBORVZFUibORVZFUibOaUwgU0xNX0NPREUgQ0xfTkRfTENLE5pTCAqMVZBUlY5WlJESzREOU5U
NDAwIE5pTCBoaUwgTm1MIDVfTU1OUyA8VURJpJxQSUQ+QlVMTTFNFUyNDwvUE1EPjxTTj5DQVQx
MDA2UjBFODwvU04+PC9VREk+IGUxwW8ws1U2VnJL0nBJZXRib1dJvKkEYz1VaVGdieU1EaklHWERR
VXc3dkxOYWlXRzZ0dUJOMG5lTXpKaHpzQ2tMN1l3TWFxS2paem05YW5FbVJHUUVPTHlDdmRVZksw
QmNlN0pPcnZsUkw0VjMyJDxXTEM+QVFFQk1RQUiVly9GbS8vWDkybThNb0NOZkVMShJiVzRjWDFM
ZGNpdDNMvU5Gw1V1OWppt0phcXB5Q2N6TTFpaU1KbVE3NEd5WHJFY3F2UG1BbVdTYUVtVVQ1NnJz
dGs2Z3ZtaItFUUtSZkQ5QTbpbWUxY3pyZE4Zk1MVDByVhUNDE2bndtZnA5M1R5YTZ2SVE0Rm5s
QmRxSjFzTXpYZVNX0FBtVmNUVT1BNG85aG1sOXZLdXI4Tj1lGODg1RD1HVkYwYkpIY21UNU09PC9X
TEM+XV0+PC9MSUNFT1NFX0xJTkU+PFVTRVJftU9ESUZJQUJMRV9DT01NRU5UIGZpZwXkUmVzdHJp
Y3Rpb25zPSJNYXggOTkgQVNDsUkgY2hhcmFjdGVycyBpb1BsZW5ndGguIj48L1VTRVJftU9ESUZJ
QUJMRV9DT01NRU5UPjwvQ01TQ09fV1RfTE1DRU5TRT48L0NjU0NPX1dUX0FSVVE1GQUUNUz4=
</lica:license>
</lica:installRequest>
</lica:request>
</SOAP:Body>
</SOAP:Envelope>

```

LIC\_AGENT: XML received opcode(1)

LIC\_AGENT: License ipbase

%IOS\_LICENSE\_IMAGE\_APPLICATION-6-LICENSE\_LEVEL: Next reboot level = ipbase and License = ipbase

LIC\_AGENT: Notification Event type = 1 License Installed

LIC\_AGENT: Notification Event type = 13 License Annotate

# license clear

To remove a license entry from license storage, use the **license clear** command in privileged EXEC mode. This command does not have a **no** form.

## Cisco Router Platforms

**license clear** *feature-name*

## Cisco Catalyst 3560-E Switch Platforms

**license clear** *feature-name*

## Cisco Catalyst 3750-E Switch and Switch Stack Platforms

**license clear** *feature-name* [**switch** *switch-num*]

## Cisco Catalyst 3750-E Switch Mixed Stack Platforms

**license clear** *feature-name* **switch** *switch-num*

Syntax Description		
	<i>feature-name</i>	Name of the feature to be removed.
	<b>switch</b>	(Optional) Specifies a switch in a switch stack. Specifies a switch in a mixed switch stack.
	<i>switch-num</i>	(Optional) Integer from 1 to 9 that identifies a switch in a switch stack. Integer from 1 to 9 that identifies a switch in a mixed switch stack.

**Command Default** Licenses are not removed.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(35)SE2	This command was introduced.

**Usage Guidelines** The **license clear** command verifies that the license line is valid and explicitly installed. Only explicit licenses that have been added using the **license install** command are removed. Implicit evaluation licenses are not removed.

When a switch is specified, the **license clear** command is executed only on that switch. When a mixed stack platform is used, the master switch has installed the minimum licensing feature needed to support the licensing operations of the slave switches. The **license clear** command is used to clear a license from license storage, which a master switch does not have. When the command is issued from the master switch, the switch number is required to clear a license on a specific switch.

If a license line is in use, the **license clear** command fails. For image-based licensing, the infrastructure has a dedicated callback to check in the license, so the **clear** command could succeed. In this case, after the license is cleared, error messages indicate that the device is running without a valid license. This option is not available for feature licenses.

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**Examples**

The following example shows how to clear a license associated with feature12:

```
Router# license clear feature12
```

The following example shows how to clear a license associated with feature12 on switch 9:

```
Switch# license clear feature12 switch 9
```

# license comment

To add or remove a comment about a feature license, use the **license comment** command in privileged EXEC mode. This command does not have a **no** form.

## Cisco Router Platforms

**license comment** {**add** *feature-name comment* | **delete**}

## Cisco Catalyst 3560-E Switch Platforms

**license comment** {**add** *feature-name comment* | **delete**}

## Cisco Catalyst 3750-E Switch Platforms

**license comment** {**add** *feature-name comment* **switch** *switch-num* | **delete**}

### Syntax Description

<b>add</b>	Adds a comment about a feature license.
<i>feature-name</i>	Name of the licensed feature.
<i>comment</i>	String of a maximum of 99 characters.
<b>delete</b>	Deletes a comment about a feature license.
<b>switch</b>	Specifies a switch in a switch stack.
<i>switch-num</i>	Integer from 1 to 9 that identifies a switch in a switch stack.

### Command Default

Comments are not added or deleted.

### Command Modes

Privileged EXEC

### Command History

Release	Modification
12.2(35)SE2	This command was introduced.

### Usage Guidelines

This command checks if a license associated with the specified feature is present in license storage. If a license is present and multiple license lines are stored, you are prompted to select a license line. If a comment exists in the license line, the comment is displayed before you are prompted to delete a comment or enter a new one.

This command is useful for both tracking a license when multiple licenses are stored on a device and for clarifying or adding information about a specific license.

### Related Commands

Command	Description
<b>show license</b>	Displays information about a Cisco IOS software license.



# license install

To install a license stored in a license file, use the **license install** command in privileged EXEC mode. This command does not have a **no** form.

**license install** *file-sys:file-sys://lic-location*

## Syntax Description

<i>file-sys:</i> <i>file-sys://lic-location</i>	<p>The <i>file-sys:file-sys://lic-location</i> argument indicates the location within a device where Cisco IOS software licenses are stored. Valid file system values are <b>archive</b>, <b>bs</b>, <b>flash</b>, <b>flash<i>n</i></b>, <b>ftp</b>, <b>http</b>, <b>https</b>, <b>null</b>, <b>nvr</b>am, <b>pram</b>, <b>r</b>cp, <b>sc</b>p, <b>syslog</b>, <b>system</b>, <b>tftp</b>, <b>tmp</b>sys, <b>vb</b>. The License location can be a directory</p> <ul style="list-style-type: none"> <li>• The <b>bs://</b>, <b>null://</b>, and <b>vb://</b> URLs do not accept filenames.</li> <li>• The <b>bs</b> file system is available only on mixed Cisco 3750-E switch stacks.</li> <li>• The <b>archive</b>, <b>pram</b>, <b>sc</b>p, and <b>syslog</b> file systems are available only on router platforms.</li> <li>• The <b>flash<i>n</i></b> file system, where <i>n</i> is an integer in the range of 1 to 9, is available only on Cisco 3750-E switches and stacks.</li> <li>• The <b>https</b> file system is available neither on mixed Cisco 3750-E switch stacks nor on the Cisco 3560-E switch.</li> </ul>
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## Command Default

A license is not installed.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(35)SE2	This command was introduced.

## Usage Guidelines

When a license is successfully installed, an informational message is displayed. This message states that the license installation is successful and says whether or not the licensed feature is present in the current image.

## Examples

The following example shows how to install a license named test.lic from a flash file system:

```
Switch# license install flash:flash//test.lic
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>license comment</b>	Adds or removes a comment about a feature license.
	<b>license clear</b>	Removes a license entry from a permanent license file.

# license save

To save a copy of a permanent license in a Cisco IOS device to a specified license file, use the **license save** command in privileged EXEC mode. This command does not have a **no** form.

**license save** *file-sys:file-sys://lic-location*

## Syntax Description

<i>file-sys:</i> <i>file-sys://lic-location</i>	The <i>file-sys:file-sys://lic-location</i> argument indicates the location within a device where Cisco IOS software licenses are stored. Valid file system values are <b>archive</b> , <b>bs</b> , <b>flash</b> , <b>flashn</b> , <b>ftp</b> , <b>http</b> , <b>https</b> , <b>null</b> , <b>nvr</b> , <b>pram</b> , <b>rcp</b> , <b>scp</b> , <b>syslog</b> , <b>system</b> , <b>tftp</b> , <b>tmpsys</b> , <b>vb</b> . The license location can be a directory. <ul style="list-style-type: none"> <li>The <b>bs://</b>, <b>null://</b>, and <b>vb://</b> URLs do not accept filenames.</li> <li>The <b>bs</b> file system is available only on mixed Cisco 3750-E switch stacks.</li> <li>The <b>archive</b>, <b>pram</b>, <b>scp</b>, and <b>syslog</b> file systems are available only on router platforms.</li> <li>The <b>flashn</b> file system, where <i>n</i> is an integer in the range of 1 to 9, is available only on Cisco 3750-E switches and stacks.</li> <li>The <b>https</b> file system is available neither on Cisco 3750-E switch mixed stacks nor on the Cisco 3560-E switch.</li> </ul>
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## Command Default

Licenses are not saved.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(35)SE2	This command was introduced.

## Usage Guidelines

Issuing this command stores the license line and comment in Extensible Markup Language (XML) format as required by the command. Issuing this command saves copies of all permanent licenses. Saved licenses may be restored using the **license install** command.

## Examples

The following example shows how to save a license named feat1.lic in the FTP file system:

```
Router# license save ftp:feat1.lic
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>license install</b>	Installs a license stored in a license file on a device.
	<b>license save credential</b>	Saves the identity information associated with a license to a specified URL.

# license save credential

To save the identity information associated with a device to a specified URL, use the **license save credential** command in privileged EXEC mode. This command does not have a **no** form.

**license save credential** *file-sys:file-sys://lic-location*

## Syntax Description

<i>file-sys:</i> <i>file-sys://lic-location</i>	The <i>file-sys:file-sys://lic-location</i> argument indicates the location within a device where Cisco IOS software licenses are stored. Valid file system values are <b>archive</b> , <b>bs</b> , <b>flash</b> , <b>flashn</b> , <b>ftp</b> , <b>http</b> , <b>https</b> , <b>null</b> , <b>nvr</b> , <b>pram</b> , <b>r</b> , <b>sc</b> , <b>syslog</b> , <b>system</b> , <b>tftp</b> , <b>tmpsys</b> , <b>vb</b> . The license location can be a directory. <ul style="list-style-type: none"> <li>The <b>bs://</b>, <b>null://</b>, and <b>vb://</b> URLs do not accept filenames.</li> <li>The <b>bs</b> file system is available only on mixed Cisco 3750-E switch stacks.</li> <li>The <b>archive</b>, <b>pram</b>, <b>sc</b>, and <b>syslog</b> file systems are available only on router platforms.</li> <li>The <b>flashn</b> file system, where <i>n</i> is an integer in the range of 1 to 9, is available only on Cisco 3750-E switches and stacks.</li> <li>The <b>https</b> file system is available neither on Cisco 3750-E switch mixed stacks nor on the Cisco 3560-E switch.</li> </ul>
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## Command Default

License credentials are not saved.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(35)SE2	This command was introduced.

## Usage Guidelines

Use this command to save credential information about a device.

## Examples

The following example shows how to save identity information about a license named feat1.lic in the http file system:

```
Switch# license save credential http:feat1.lic
```

The following example shows how to save identity information about a license named feat2.lic in the scp file system:

```
Router# license save credential scp:feat2.lic
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>license install</b>	Installs a license stored in a license file on a device.
	<b>license save</b>	Saves a copy of a permanent license in a Cisco IOS device to a specified license file.

# show license

To display information about a Cisco IOS software license, use the **show license** command in either user EXEC or privileged EXEC mode.

## Cisco Router Platforms

```
show license {all | detail feature-name | feature | file | handle | parser schema | status | udi}
```

## Cisco Catalyst 3560-E and 3750-E Switch Platforms

```
show license {agent {counters | schema | session} | {all | detail feature-name | feature | file | handle | status | udi} switch switch-num | parser schema}
```

## Cisco Catalyst 3750-E Mixed Switch Stacks

```
show license {agent {counters | schema | session} | detail {feature-name switch switch-num | switch switch-num} | {all | feature | file | handle | status | udi} switch switch-num | parser schema}
```

Syntax Description		
<b>all</b>		Shows information about all licenses in the system.
<b>detail</b>		Shows detailed information about a specified licensed feature.
<i>feature-name</i>		Name of the feature for which detailed information is requested.
<b>feature</b>		Shows a list of licensed features available in an image.
<b>file</b>		Shows license entries stored in the license file.
<b>handle</b>		Shows license handle information.
<b>parser schema</b>		Shows license parser and Extensible Markup Language (XML) response schema information.
<b>status</b>		Shows statistics of the licensing module.
<b>udi</b>		Shows all the universal device identifier (UDI) values that can be licensed in a system.
<b>agent</b>		Shows information about a license agent.
		This keyword is available only in privileged EXEC mode.
<b>counters</b>		Shows statistics counters for the license agent.
<b>schema</b>		Shows XML schema information related to a license agent.
<b>session</b>		Shows session information related to a license agent.
<b>switch</b>		Shows information about a switch.
<i>switch-num</i>		Integer from 1 to 9 that identifies a switch in a switch stack.

**Command Default** License-related information is not displayed.

**Command Modes** User EXEC  
Privileged EXEC

**Command History**

Release	Modification
12.2(35)SE2	This command was introduced.

**Usage Guidelines**

Use this command to display license information and to help with troubleshooting issues related to Cisco IOS software licenses. This command displays all the licenses in the system.

This command also displays the features that are available but not licensed to execute. Output is grouped according to how the features are stored in license storage.

If a switch ID is specified, information from that switch is displayed. If a switch ID is not specified, details of the local switch are displayed.

**Examples**

Following is sample output from the **show license all** command:

```
Router# show license all

License Store: Primary License Storage
StoreIndex: 0 Feature: TEST_FEATURE_1 Version: 1.0
License Type: Trial
License State: Active, Not in Use, EULA accepted
Trial total period: 1 day 0 hour
Trial period left: 0 second
Lock type: Node locked
Vendor info <PID>AS54XM-AC-RPS</PID><SN>JAE0948QXJW</SN>
License Addition: Additive
License Generation version 135266304
License Precedence: 1
```

[Table 1](#) describes the significant fields shown in the display.

**Table 1** *show license Field Descriptions*

Field	Description
License Storage	Storage name; for example, Primary License Storage
StoreIndex	Index of the license line in the license storage
Feature	Name of feature
License Type	Type of license; for example, Permanent or Trial
License State	Status of the license; for example, Active, In Use
Lock Type	Association of a license to a specific device; for example, Node locked
Vendor info	Information about the vendor associated with the device UDI
License Addition	Additive or exclusive status of the license; for example, Additive
License Generation	Version of license generated
License Precedence	Precedence of license in the order of license activation



# show subsys

To display the subsystem information, use the **show subsys** command in privileged EXEC mode.

**show subsys** [**class** *class* | **name** *name*]

Syntax Description		
<b>class</b> <i>class</i>	(Optional) Displays the subsystems of the specified class. Valid classes are <b>driver</b> , <b>kernel</b> , <b>library</b> , <b>license</b> , <b>management</b> , <b>protocol</b> , and <b>registry</b> .	
<b>name</b> <i>name</i>	(Optional) Displays the specified subsystem. Use the asterisk character (*) as a wildcard at the end of the name to list all subsystems, starting with the specified characters.	

**Command Modes** Privileged EXEC

Command History	Release	Modification
	11.1	This command was introduced.
	12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
	12.2(35)SE2	The <b>license</b> class was added, and this command was integrated into Cisco IOS Release 12.2(35)SE1.

**Usage Guidelines** Use the **show subsys** command to confirm that all required features are in the running image.

**Examples** Following is sample output from the **show subsys** command:

```
Router# show subsys

Name           Class      Version
static_map    Kernel    1.000.001
arp           Kernel    1.000.001
ether         Kernel    1.000.001
compress      Kernel    1.000.001
alignment     Kernel    1.000.002
monvar        Kernel    1.000.001
slot          Kernel    1.000.001
oir           Kernel    1.000.001
atm           Kernel    1.000.001
ip_addrpool_sys Library    1.000.001
chat          Library    1.000.001
dialer        Library    1.000.001
flash_services Library    1.000.001
ip_localpool_sys Library    1.000.001
nvram_common  Driver    1.000.001
ASP           Driver    1.000.001
sonict        Driver    1.000.001
oc3suni       Driver    1.000.001
oc12suni      Driver    1.000.001
ds3suni       Driver    1.000.001
```

Following is sample output from the **show subsys** command that includes the **license** class:

```
Router# show subsys

Name           Class      Version
license_mgmt_local  Management 1.000.001
license_admin_local Management 1.000.001
license_debug_core  Management 1.000.001
license_test_ui     Management 1.000.001
test_license_parser Management 1.000.001
license_ui          Management 1.000.001
license_parser      Management 1.000.001
license_registry    Registry   1.000.001
license_client      License    1.000.001
```

[Table 2](#) describes the fields shown in the display.

**Table 2** *show subsys Field Descriptions*

Field	Description
Name	Name of the subsystem.
Class	Class of the subsystem. Possible classes include Driver, Kernel, Library, License, Management, Protocol, Registry.
Version	Version of the subsystem.

# show subsys license

To display the subsystem running for a feature set, use the **show subsys license** command in either user EXEC or privileged EXEC mode.

**show subsys license** *subsystem*

Syntax Description	<i>subsystem</i>	Name of the subsystem for a specified license.
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**Command Default** Subsystem information is not displayed.

**Command Modes** User EXEC  
Privileged EXEC

Command History	Release	Modification
	12.2(35)SE2	This command was introduced.

**Usage Guidelines** Use this command to display license information and to help with troubleshooting issues related to Cisco IOS software licenses.

**Examples** Following is sample output that shows the subsystem running for the IP base feature set:

```
Router# show subsys license ipbase
```

```
License level: ipbase
```

Name	Class	Version
obfl_env_app	Kernel	1.000.001
exception	Kernel	1.000.001
xml_proxy_client	Kernel	1.000.000
proto_counter	Kernel	1.000.001
sched_ui	Kernel	1.000.001
policy_manager	Kernel	1.000.001
fib_table_trace	Kernel	1.000.001
ifmibapi_access	Kernel	1.000.000
xml_engine	Kernel	1.000.000
fddi_mtu	Kernel	1.000.001
fib_trace	Kernel	1.000.001
.		
.		
.		
qos_set	Protocol	1.000.001
rip	Protocol	1.000.001
ipdiag	Protocol	1.000.001
aaa_peruser	Protocol	1.000.001
identity_cli	Management	1.000.001
notification_log_mib	Management	1.000.000

## show subsys license

```

pagpmib                Management  1.000.000
ifmib                  Management  1.000.000
rtty_chain             Management  1.000.001
cdpmib                 Management  1.000.000
vlmem                  Management  1.000.000
.
.
.
psecure_registry      Registry   1.000.001
ip_ios_registry        Registry   1.000.001
sys_name_registry      Registry   1.000.001
INIT                   SystemInit 2.000.001
parser                 EHSA      1.000.001
tmpsys_ifs             EHSA      1.000.001
hulc_fib_rf_ehsa       EHSA      1.000.001
regexp_ui              EHSA      1.000.001
system_ifs             EHSA      1.000.001
chunk_ui               EHSA      1.000.001
rbcp                   EHSA      1.000.000
gdb_ui                 EHSA      1.000.001
ifs_image_elf          EHSA      1.000.001
nvram_common           EHSA      1.000.001
ifs_image_asciic       EHSA      1.000.001
clock_ui               EHSA      1.000.001
nv_ifs                 EHSA      1.000.001
sff8472                Pre-Driver 1.000.001
aggmgr                 Pre-Driver 1.000.000
ifindex_pers           Pre-Driver 1.000.001
sff8472_fixed          Pre-Driver 1.000.000
fib_rp_predriver       Pre-Driver 1.000.001
system_capability      Pre-Driver 1.000.001
fib_lc_predriver       Pre-Driver 1.000.001
fib_ios_chain          Pre-Driver 1.000.001
transceiver            Pre-Driver 1.000.002
fib_ios_predriver      Pre-Driver 1.000.001
license_client         License    1.000.001
hulc_flash             License    1.000.001
ios_licensing_image_application License    1.000.001
ifs                    License    1.000.001
sdb                    License    1.000.001
boot_upgrade           License    1.000.001
hulc_universal_only    License    1.000.001

```

Table 3 describes the fields shown in the display.

**Table 3** show subsys license Field Descriptions

Field	Description
License level	Feature set for which the license is issued; for example, Advanced IP services, IP services, or IP base.
Name	Name of the subsystem.
Class	Class of the subsystem. Possible classes include Driver, Kernel, Library, License, Management, Protocol, Registry.
Version	Version of the subsystem.

# Feature Information for Cisco IOS Software Licensing

Table 4 lists the release history for this feature.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.


**Note**

Table 4 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

**Table 4** Feature Information for Cisco IOS Software Licensing

Feature Name	Releases	Feature Information
Cisco IOS Software Licensing	12.2(35)SE2	This document describes CLI commands for managing Cisco IOS software licenses on Cisco Catalyst 3560-E and 3750-E switches.

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