



Debug Commands: a to i

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debug aaa

To configure the debugging of AAA settings, use the **debug aaa** command.

```
debug aaa { [all | avp-xml | detail | events | packet | ldap | local-auth | tacacs] [enable | disable] }
```

Syntax Description	all	(Optional) Configures the debugging of all AAA messages.
	avp-xml	(Optional) Configures debug of AAA Avp xml events.
	detail	(Optional) Configures the debugging of AAA errors.
	events	(Optional) Configures the debugging of AAA events.
	packet	(Optional) Configures the debugging of AAA packets.
	ldap	(Optional) Configures the debugging of the AAA Lightweight Directory Access Protocol (LDAP) events.
	local-auth	(Optional) Configures the debugging of the AAA local Extensible Authentication Protocol (EAP) events.
	tacacs	(Optional) Configures the debugging of the AAA TACACS+ events.
	enable	(Optional) Enables the debugging.
	disable	(Optional) Disables the debugging.

Command Default	None
-----------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of AAA LDAP events:

```
(Cisco Controller) > debug aaa ldap enable
```

Related Commands	debug aaa local-auth eap show running-config
------------------	---

debug aaa events

To configure the debugging related to DNS-based ACLs, use the **debug aaa events enable** command.

debug aaa events enable

Syntax Description	events Configures the debugging of DNS-based ACLs.				
Command History	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>7.6</td><td>This command is introduced.</td></tr></table>	Release	Modification	7.6	This command is introduced.
Release	Modification				
7.6	This command is introduced.				

The following example shows how to enable the debugging for DNS-based ACLs:

```
(Cisco Controller) > debug aaa events enable
```

debug aaa local-auth

To configure the debugging of AAA local authentication on the Cisco WLC, use the **debug aaa local-auth** command.

debug aaa local-auth {db | shim | eap {framework | method} {all | errors | events | packets | sm}} {enable | disable}

Syntax Description	db	Configures the debugging of the AAA local authentication back-end messages and events.
	shim	Configures the debugging of the AAA local authentication shim layer events.
	eap	Configures the debugging of the AAA local Extensible Authentication Protocol (EAP) authentication.
	framework	Configures the debugging of the local EAP framework.
	method	Configures the debugging of local EAP methods.
	all	Configures the debugging of local EAP messages.
	errors	Configures the debugging of local EAP errors.
	events	Configures the debugging of local EAP events.
	packets	Configures the debugging of local EAP packets.
	sm	Configures the debugging of the local EAP state machine.
	enable	Starts the debugging.
	disable	Stops the debugging.

Command Default	None
-----------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of the AAA local EAP authentication:

```
(Cisco Controller) > debug aaa local-auth eap method all enable
```

Related Commands	clear stats local-auth config local-auth active-timeout
------------------	--

config local-auth eap-profile
config local-auth method fast
config local-auth user-credentials
show local-auth certificates
show local-auth config
show local-auth statistics

debug airewave-director

To configure the debugging of Airewave Director software, use the **debug airewave-director** command.

debug airewave-director {**all** | **channel** | **detail** | **error** | **group** | **manager** | **message** | **packet** | **power** | **profile** | **radar** | **rf-change**} {**enable** | **disable**}

Syntax Description		
	all	Configures the debugging of all Airewave Director logs.
	channel	Configures the debugging of the Airewave Director channel assignment protocol.
	detail	Configures the debugging of the Airewave Director detail logs.
	error	Configures the debugging of the Airewave Director error logs.
	group	Configures the debugging of the Airewave Director grouping protocol.
	manager	Configures the debugging of the Airewave Director manager.
	message	Configures the debugging of the Airewave Director messages.
	packet	Configures the debugging of the Airewave Director packets.
	power	Configures the debugging of the Airewave Director power assignment protocol and coverage hole detection.
	profile	Configures the debugging of the Airewave Director profile events.
	radar	Configures the debugging of the Airewave Director radar detection/avoidance protocol.
	rf-change	Configures the debugging of the Airewave Director rf changes.
	enable	Enables the Airewave Director debugging.
	disable	Disables the Airewave Director debugging.
Command Default	None	

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of Airewave Director profile events:

```
(Cisco Controller) > debug airewave-director profile enable
```

Related Commands	debug disable-all show sysinfo
------------------	---

debug ap

To configure the remote debugging of Cisco lightweight access points or to remotely execute a command on a lightweight access point, use the **debug ap** command.

debug ap {**enable** | **disable** | **command** *cmd*} *cisco_ap*

Syntax Description		
enable	Enables the debugging on a lightweight access point.	
	Note	The debugging information is displayed only to the controller console and does not send output to a controller Telnet/SSH CLI session.
disable	Disables the debugging on a lightweight access point.	
	Note	The debugging information is displayed only to the controller console and does not send output to a controller Telnet/SSH CLI session.
command	Specifies that a CLI command is to be executed on the access point.	
<i>cmd</i>	Command to be executed.	
	Note	The command to be executed must be enclosed in double quotes, such as debug ap command "led flash 30" AP03 . The output of the command displays only to the controller console and does not send output to a controller Telnet/SSH CLI session.
<i>cisco_ap</i>	Name of a Cisco lightweight access point.	

Command Default The remote debugging of Cisco lightweight access points is disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the remote debugging on access point AP01:

```
(Cisco Controller) >debug ap enable AP01
```

The following example shows how to execute the **config ap location** command on access point AP02:

```
(Cisco Controller) >debug ap command "config ap location "Building 1" AP02"
```

The following example shows how to execute the flash LED command on access point AP03:

```
(Cisco Controller) >debug ap command "led flash 30" AP03
```

debug ap enable

To configure the remote debugging of Cisco lightweight access points or to remotely execute a command on a lightweight access point, use the **debug ap enable** command.

debug ap {**enable** | **disable** | **command** *cmd*} *cisco_ap*

Syntax Description	enable	Enables the remote debugging.
	Note	The debugging information is displayed only to the controller console and does not send output to a controller Telnet/SSH CLI session.
	disable	Disables the remote debugging.
	command	Specifies that a CLI command is to be executed on the access point.
	<i>cmd</i>	Command to be executed.
	Note	The command to be executed must be enclosed in double quotes, such as debug ap command "led flash 30" AP03 . The output of the command displays only to the controller console and does not send output to a controller Telnet/SSH CLI session.
	<i>cisco_ap</i>	Cisco lightweight access point name.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the remote debugging on access point AP01:

```
(Cisco Controller) >debug ap enable AP01
```

The following example shows how to disable the remote debugging on access point AP02:

```
(Cisco Controller) >debug ap disable AP02
```

The following example shows how to execute the flash LED command on access point AP03:

```
(Cisco Controller) >debug ap command "led flash 30" AP03
```

debug ap packet-dump

To configure the debugging of Packet Capture, use the **debug ap packet-dump** command.

debug ap packet-dump { **enable** | **disable** }

Syntax Description

enable Enables the debugging of Packet Capture of an access point.

disable Disables the debugging of Packet Capture of an access point.

Command Default

Debugging of Packet Capture is disabled.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

Usage Guidelines

Packet Capture does not work during inter-Cisco WLC roaming.

The Cisco WLC does not capture packets created in the radio firmware and sent out of the access point, such as beacon or probe response. Only packets that flow through the radio driver in the Tx path will be captured.

The following example shows how to enable the debugging of Packet Capture from an access point:

```
(Cisco Controller) >debug ap packet-dump enable
```

debug ap show stats

To debug video messages and statistics of Cisco lightweight access points, use the **debug ap show stats** command.

debug ap show stats {**802.11a** | **802.11b**} *cisco_ap* {**tx-queue** | **packet** | **load** | **multicast** | **client** {*client_MAC* | **video** | **all**} | **video metrics**}

debug ap show stats video *cisco_ap* {**multicast** **mgid** *mgid_database_number* | **admission** | **bandwidth**}

Syntax	Description				
802.11a	Specifies the 802.11a network.				
802.11b	Specifies the 802.11b/g network.				
<i>cisco_ap</i>	Cisco lightweight access point name.				
tx-queue	Displays the transmit queue traffic statistics of the AP.				
packet	Displays the packet statistics of the AP.				
load	Displays the QoS Basic Service Set (QBSS) and other statistics of the AP.				
multicast	Displays the multicast supported rate statistics of the AP.				
client	Displays the specified client metric statistics.				
<i>client_MAC</i>	MAC address of the client.				
video	Displays video statistics of all clients on the AP.				
all	Displays statistics of all clients on the AP.				
video metrics	Displays the video metric statistics.				
mgid	Displays detailed multicast information for a single multicast group ID (MGID).				
<i>mgid_database_number</i>	Layer 2 MGID database number.				
admission	Displays video admission control on the AP.				
bandwidth	Displays video bandwidth on the AP.				
Command Default	None				
Command History	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>7.6</td><td>This command was introduced in a release earlier than Release 7.6.</td></tr> </table>	Release	Modification	7.6	This command was introduced in a release earlier than Release 7.6.
Release	Modification				
7.6	This command was introduced in a release earlier than Release 7.6.				

The following example shows how to troubleshoot the access point AP01's transmit queue traffic on an 802.11a network:

```
(Cisco Controller) >debug ap show stats 802.11a AP01 tx-queue
```

The following example shows how to troubleshoot the access point AP02's multicast supported rates on an 802.11b/g network:

```
(Cisco Controller) >debug ap show stats 802.11b AP02 multicast
```

The following example shows how to troubleshoot the metrics of a client identified by its MAC address, associated with the access point AP01 on an 802.11a network:

```
(Cisco Controller) >debug ap show stats 802.11a AP01 client 00:40:96:a8:f7:98
```

The following example shows how to troubleshoot the metrics of all clients associated with the access point AP01 on an 802.11a network:

```
(Cisco Controller) >debug ap show stats 802.11a AP01 client all
```

debug ap show stats video

To configure the debugging of video messages and statistics of Cisco lightweight access points, use the **debug ap show stats video** command.

debug ap show stats video *cisco_ap* { **multicast mgid** *mgid_value* | **admission** | **bandwidth** }

Syntax Description	<i>cisco_ap</i>	Cisco lightweight access point name.
	multicast mgid	Displays multicast database related information for the specified MGID of an access point.
	<i>mgid_value</i>	Layer 2 MGID database number from 1 to 4095.
	admission	Displays the video admission control.
	bandwidth	Displays the video bandwidth.

Command Default	None
------------------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the debugging of an access point AP01's multicast group that is identified by the group's Layer 2 MGID database number:

```
(Cisco Controller) >debug ap show stats video AP01 multicast mgid 50
```

This example shows how to configure the debugging of an access point AP01's video bandwidth:

```
(Cisco Controller) >debug ap show stats video AP01 bandwidth
```

debug arp

To configure the debugging of Address Resolution Protocol (ARP) options, use the **debug arp** command.

debug arp {all | detail | events | message} {enable | disable}

Syntax Description		
all		Configures the debugging of all ARP logs.
detail		Configures the debugging of ARP detail messages.
error		Configures the debugging of ARP errors.
message		Configures the debugging of ARP messages.
enable		Enables the ARP debugging.
disable		Disables the ARP debugging.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable ARP debug settings:

```
(Cisco Controller) > debug arp error enable
```

The following example shows how to disable ARP debug settings:

```
(Cisco Controller) > debug arp error disable
```

Related Commands

- debug disable-all
- show sysinfo

debug avc

To configure the debugging of Application Visibility and Control (AVC) options, use the **debug avc error** command.

debug avc {**events** | **error**} {**enable** | **disable**}

Syntax Description	events	Configures the debugging of AVC events.
	error	Configures the debugging of AVC errors.
	enable	Enables the debugging of AVC events or errors.
	disable	Disables the debugging of AVC events or errors.

Command Default By default, the debugging of AVC options is disabled.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of AVC errors:

```
(Cisco Controller) > debug avc error enable
```

Related Commands	config avc profile delete
	config avc profile rule
	config wlan avc
	show avc profile
	show avc applications
	show avc statistics

debug bcast

To configure the debugging of broadcast options, use the **debug bcast** command.

debug bcast {all | error | message | igmp | detail} {enable | disable}

Syntax Description	all	Configures the debugging of all broadcast logs.
	error	Configures the debugging of broadcast errors.
	message	Configures the debugging of broadcast messages.
	igmp	Configures the debugging of broadcast IGMP messages.
	detail	Configures the debugging of broadcast detailed messages.
	enable	Enables the broadcast debugging.
	disable	Disables the broadcast debugging.

Command Default	None
-----------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of broadcast messages:

```
(Cisco Controller) > debug bcast message enable
```

The following example shows how to disable the debugging of broadcast mesages:

```
(Cisco Controller) > debug bcast message disable
```

Related Commands	debug disable-all
	show sysinfo

debug call-control

To configure the debugging of the SIP call control settings, use the **debug call-control** command.

debug call-control {all | event} {enable | disable}

Syntax Description	all	Configures the debugging options for all SIP call control messages.
	event	Configures the debugging options for SIP call control events.
	enable	Enables the debugging of SIP call control messages or events.
	disable	Disables the debugging of SIP call control messages or events.
Command Default	Disabled.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of all SIP call control messages:

(Cisco Controller) >**debug call-control all enable**

debug capwap

To configure the debugging of Control and Provisioning of Wireless Access Points (CAPWAP) settings, use the **debug capwap** command.

debug capwap {**detail** | **dtls-keepalive** | **errors** | **events** | **hexdump** | **info** | **packet** | **payload** | **mfp**} {**enable** | **disable**}

Syntax Description	detail	Configures the debugging for CAPWAP detail settings.
	dtls-keepalive	Configures the debugging for CAPWAP DTLS data keepalive packets settings.
	errors	Configures the debugging for CAPWAP error settings.
	events	Configures the debugging for CAPWAP events settings.
	hexdump	Configures the debugging for CAPWAP hexadecimal dump settings.
	info	Configures the debugging for CAPWAP info settings.
	packet	Configures the debugging for CAPWAP packet settings.
	payload	Configures the debugging for CAPWAP payload settings.
	mfp	Configures the debugging for CAPWAP mfp settings.
	enable	Enables the debugging of the CAPWAP command.
	disable	Disables the debugging of the CAPWAP command.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of CAPWAP details:

```
(Cisco Controller) >debug capwap detail enable
```

debug capwap reap

To configure the debugging of Control and Provisioning of Wireless Access Points (CAPWAP) settings on a FlexConnect access point, use the **debug capwap reap** command.

debug capwap reap [**mgmt** | **load**]

Syntax Description	mgmt	(Optional) Configures the debugging for client authentication and association messages.
	load	(Optional) Configures the debugging for payload activities, which is useful when the FlexConnect access point boots up in standalone mode.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the debugging of FlexConnect client authentication and association messages:

(Cisco Controller) >**debug capwap reap mgmt**

debug ccxdiag

To configure debugging of Cisco Compatible Extensions (CCX) diagnostic options, use the **debug ccxdiag** command.

debug ccxdiag {all | error | event | packet} {enable | disable}

Syntax Description

all	Configures debugging of all the CCX S69 messages.
error	Configures debugging of the CCX S69 errors.
event	Configures debugging of the CCX S69 events.
packet	Configures debugging of the CCX S69 packets.
enable	Enables debugging of the CCX S69 options.
disable	Disables debugging of the CCX S69 options.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable CCX S69 packets debugging:

```
(Cisco Controller) >debug ccxdiag packets enable
```

debug ccxrm

To configure debugging of the CCX Cisco Client eXtension (CCX) Radio Management (RM), use the **debug ccxrm** command.

debug ccxrm {**all** | **detail** | **error** | **location-calibration** | **message** | **packet** | **warning**}
{**enable** | **disable**}

Syntax Description		
all		Configures debugging of all CCX RM messages.
detail		Configures detailed debugging of CCX RM.
error		Configures debugging of the CCX RM errors.
location-calibration		Configures debugging of the CCX RM location calibration.
message		Configures debugging of CCX RM messages.
packet		Configures debugging of the CCX RM packets.
warning		Configures debugging of the CCX RM warnings.
enable		Enables debugging of the CCX RM options.
disable		Disables debugging of the CCX RM options.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable CCX RM debugging:

```
(Cisco Controller) > debug ccxrm all enable
```

debug ccxs69

To configure debugging of CCX S69 tasks, use the **debug ccxs69** command.

debug ccxs69 {all | error | event} {enable | disable}

Syntax Description
all
error
event
enable
disable

Configures debugging of all the CCX S69 messages.

Configures debugging of the CCX S69 errors.

Configures debugging of the CCX S69 events.

Enables debugging of the CCX S69 options.

Disables debugging of the CCX S69 options.
--

Command Default
None

Command History
Release
7.6

Modification

This command was introduced in a release earlier than Release 7.6.
--

The following example shows how to enable CCX S69 debugging:

```
(Cisco Controller) >debug ccxs69 all enable
```


debug cckm

To configure the debugging of the Cisco Centralized Key Management options, use the **debug cckm**

```
debug cckm {client | detailed} {enable | disable}
```

Syntax Description	client	Configures debugging of the Cisco Centralized Key Management of clients.
	detailed	Configures detailed debugging of Cisco Centralized Key Management.
	enable	Enables debugging of Cisco Centralized Key Management.
	disable	Disables debugging of Cisco Centralized Key Management.

Command Default	None
-----------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable detailed debugging of Cisco Centralized Key Management:

```
(Cisco Controller) > debug cckm detailed enable
```

debug client

To configure the debugging for a specific client, use the **debug client** command.

debug client *mac_address*

Syntax Description	<i>mac_address</i>	MAC address of the client.
Command Default	None	
Usage Guidelines	After entering the debug client <i>mac_address</i> command, if you enter the debug aaa events enable command, then the AAA events logs are displayed for that particular client MAC address.	
Command History	Release	Modification
	7.6	This command was introduced.

The following example shows how to debug a specific client:

```
(Cisco Controller) > debug client 01:35:6x:yy:21:00
```

debug cts sxp

To configure debugging of Cisco TrustSec SXP options, use the **debug cts sxp** command.

```
debug cts sxp {all | errors | events | framework | message} {enable | disable}
```

Syntax Description	all	Configures debugging of all the CTS SXP options
	errors	Configures debugging of the CTS SXP errors
	events	Configures debugging of the CTS SXP events
	framework	Configures debugging of the CTS SXP framework
	message	Configures debugging of the CTS SXP messages
	enable	Enables debugging
	disable	Disables debugging

Command Default	None
-----------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

debug cac

To configure the debugging of Call Admission Control (CAC) options, use the **debug cac** command.

debug cac {all | event | packet} {enable | disable}

Syntax Description

all	Configures the debugging options for all CAC messages.
event	Configures the debugging options for CAC events.
packet	Configures the debugging options for selected CAC packets.
kts	Configures the debugging options for KTS-based CAC messages.
enable	Enables the debugging of CAC settings.
disable	Disables the debugging of CAC settings.

Command Default

By default, the debugging of CAC options is disabled.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable debugging of CAC settings:

```
(Cisco Controller) > debug cac event enable
(Cisco Controller) > debug cac packet enable
```

Related Commands

config 802.11 cac video acm
config 802.11 cac video max-bandwidth
config 802.11 video roam-bandwidth
config 802.11 cac video tspec-inactivity-timeout
config 802.11 cac voice load-based
config 802.11 cac voice roam-bandwidth
config 802.11cac voice stream-size
config 802.11cac voice tspec-inactivity-timeout

debug cdp

To configure debugging of CDP, use the **debug cdp** command.

debug cdp {events | packets} {enable | disable}

Syntax Description	events	Configures debugging of the CDP events.
	packets	Configures debugging of the CDP packets.
	enable	Enables debugging of the CDP options.
	disable	Disables debugging of the CDP options.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable CDP event debugging in a Cisco controller:

```
(Cisco Controller) > debug cdp
```

debug crypto

To configure the debugging of the hardware cryptographic options, use the **debug crypto** command.

debug crypto { **all** | **sessions** | **trace** | **warning** } { **enable** | **disable** }

Syntax Description

all	Configures the debugging of all hardware crypto messages.
sessions	Configures the debugging of hardware crypto sessions.
trace	Configures the debugging of hardware crypto sessions.
warning	Configures the debugging of hardware crypto sessions.
enable	Enables the debugging of hardware cryptographic sessions.
disable	Disables the debugging of hardware cryptographic sessions.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of hardware crypto sessions:

```
(Cisco Controller) > debug crypto sessions enable
```

Related Commands

debug disable-all
show sysinfo

debug dhcp

To configure the debugging of DHCP, use the **debug dhcp** command.

debug dhcp {message | packet} {enable | disable}

Syntax Description	message	Configures the debugging of DHCP error messages.
	packet	Configures the debugging of DHCP packets.
	enable	Enables the debugging DHCP messages or packets.
	disable	Disables the debugging of DHCP messages or packets.

Command Default None

The following example shows how to enable the debugging of DHCP messages:

```
(Cisco Controller) >debug dhcp message enable
```

debug dhcp service-port

To enable or disable debugging of the Dynamic Host Configuration Protocol (DHCP) packets on the service port, use the **debug dhcp service-port** command.

debug dhcp service-port { **enable** | **disable** }

Syntax Description	enable	Enables the debugging of DHCP packets on the service port.
	disable	Disables the debugging of DHCP packets on the service port.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of DHCP packets on a service port:

```
(Cisco Controller) >debug dhcp service-port enable
```


debug disable-all

To disable all debug messages, use the **debug disable-all** command.

debug disable-all

Syntax Description

This command has no arguments or keywords.

Command Default

Disabled.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to disable all debug messages:

```
(Cisco Controller) > debug disable-all
```

debug dns

To configure debugging of Domain Name System (DNS) options, use the **debug dns** command.

debug dns {**all** | **detail** | **error** | **message**} {**enable** | **disable**}

Syntax Description

all	Configures debugging of all the DNS options.
detail	Configures debugging of the DNS details.
error	Configures debugging of the DNS errors.
message	Configures debugging of the DNS messages.
enable	Enables debugging of the DNS options.
disable	Disables debugging of the DNS options.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable DNS error debugging:

```
(Cisco Controller) > debug dns error enable
```

debug dot11

To configure the debugging of 802.11 events, use the **debug dot11** command.

debug dot11 {all | load-balancing | management | mobile | nmsp | probe | rldp | rogue | state} {enable | disable}

Syntax Description	all	Configures the debugging of all 802.11 messages.
	load-balancing	Configures the debugging of 802.11 load balancing events.
	management	Configures the debugging of 802.11 MAC management messages.
	mobile	Configures the debugging of 802.11 mobile events.
	nmsp	Configures the debugging of the 802.11 NMSP interface events.
	probe	Configures the debugging of probe.
	rldp	Configures the debugging of 802.11 Rogue Location Discovery.
	rogue	Configures the debugging of 802.11 rogue events.
	state	Configures the debugging of 802.11 mobile state transitions.
	enable	Enables the 802.11 debugging.
	disable	Disables the 802.11 debugging.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of 802.11 settings:

```
(Cisco Controller) > debug dot11 state enable
(Cisco Controller) > debug dot11 mobile enable
```

debug dot11

To configure the debugging of 802.11 events, use the **debug dot11** command.

debug dot11 {all | load-balancing | management | mobile | nmosp | probe | rldp | rogue | state} {enable | disable}

Syntax Description	all	Configures the debugging of all 802.11 messages.
	load-balancing	Configures the debugging of 802.11 load balancing events.
	management	Configures the debugging of 802.11 MAC management messages.
	mobile	Configures the debugging of 802.11 mobile events.
	nmosp	Configures the debugging of the 802.11 NMSP interface events.
	probe	Configures the debugging of probe.
	rldp	Configures the debugging of 802.11 Rogue Location Discovery.
	rogue	Configures the debugging of 802.11 rogue events.
	state	Configures the debugging of 802.11 mobile state transitions.
	enable	Enables the 802.11 debugging.
	disable	Disables the 802.11 debugging.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of 802.11 settings:

```
(Cisco Controller) > debug dot11 state enable
(Cisco Controller) > debug dot11 mobile enable
```

debug dot11 mgmt interface

To configure debugging of 802.11 management interface events, use the **debug dot11 mgmt interface** command.

debug dot11 mgmt interface

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to debug 802.11 management interface events:

```
(Cisco Controller) >debug dot11 mgmt interface
```

debug dot11 mgmt msg

To configure debugging of 802.11 management messages, use the **debug dot11 mgmt msg** command.

debug dot11 mgmt msg

Syntax Description	This command has no arguments or keywords.
--------------------	--

Command Default	None
-----------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

This example shows how to debug dot11 management messages:

```
(Cisco Controller) >debug dot11 mgmt msg
```

debug dot11 mgmt ssid

To configure debugging of 802.11 SSID management events, use the **debug dot11 mgmt ssid** command.

debug dot11 mgmt ssid

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the debugging of 802.11 SSID management events:

```
(Cisco Controller) >debug dot11 mgmt ssid
```

debug dot11 mgmt state-machine

To configure debugging of the 802.11 state machine, use the **debug dot11 mgmt state-machine** command.

debug dot11 mgmt state-machine

Syntax Description	This command has no arguments or keywords.	
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the debugging of 802.11 state machine:

```
(Cisco Controller) >debug dot11 mgmt state-machine
```


debug dot11 mgmt station

To configure the debugging of the management station settings, use the **debug dot11 mgmt station** command.

debug dot11 mgmt station

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the debugging of the management station settings:

```
(Cisco Controller) >debug dot11 mgmt station
```

debug dot1x

To configure debugging of the 802.1X options, use the **debug dot1x** command.

```
debug dot1x {aaa | all | events | packets | states} {enable | disable}
```

Syntax Description	aaa	Configures debugging of the 802.1X AAA interactions.
	all	Configures debugging of all the 802.1X messages.
	events	Configures debugging of the 802.1X events.
	packets	Configures debugging of the 802.1X packets.
	states	Configures debugging of the 802.1X state transitions.
	enable	Enables debugging of the 802.1X options.
	disable	Disables debugging of the 802.1X options.

Command Default	None	
-----------------	------	--

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable 802.1X state transitions debugging:

```
(Cisco Controller) > debug dot1x states enable
```

debug dtls

To configure debugging of the Datagram Transport Layer Security (DTLS) options, use the **debug dtls** command.

debug dtls {all | event | packet | trace} {enable | disable}

Syntax Description	all	Configures debugging of all the DTLS messages.
	event	Configures debugging of the DTLS events.
	packet	Configures debugging of the DTLS packets.
	trace	Configures debugging of the DTLS trace messages.
	enable	Enables debugging of the DTLS options.
	disable	Disables debugging of the DTLS options.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Usage Guidelines	The debug actions described here are used in conjunction with CAPWAP troubleshooting.	
	<p>The following example shows how to enable DTLS packet debugging:</p> <pre>(Cisco Controller) > debug dtls packet enable</pre>	

debug fastpath

To debug the issues in the 10-Gigabit Ethernet interface of the controller and to view details of all the management and control features of the controller, use the **debug fastpath** command.

```
debug fastpath [{disable | enable | errors | events | warning | log | status | dump | audit | clear}]
debug fastpath log [{error events show}]
debug fastpath dump [{stats DP_number} | {fpapoolDP_number} | {ownerdb} | {portdb}
| {tun4dbindexDP_number} | {scbdbindexDP_number} | {cfgtool -- dump.sfp} | {urlacldbstart-acl-id
start-rule-index} | {vlandb} | {dpcp-stats} | {clear stats} | {systemdb} | {debug |
{wlanappstatswlan_id}} | {appqosdb}]
```

Syntax Description		
disable		Enables debug of fastpath messages.
enable		Disables debug of fastpath messages.
errors		Displays the debug messages related to the fastpath errors.
events		Displays the debug messages related to the fastpath events.
warnings		Displays the debug messages related to the fastpath warnings.
log		Configures debug of log messages.
<i>errors</i>		Configures debug of fastpath errors.
<i>events</i>		Configures debug of fastpath events.
<i>show</i>		Displays log of most recent events related to fastpath.
status		Displays status of fastpath configuration.
dump		Displays the CLI dump commands.
stats		Displays the debug statistics from the data plane.
<i>DP_number</i>		<p>Displays the statistic counters at data plane based on selected data plane number. Values include 0, 1, and All. The default option is All. You must select:</p> <ul style="list-style-type: none"> • The index 0 for the Cisco Wireless LAN Controller 2504 Series, Cisco Wireless LAN Controller 5508 Series, Cisco Wireless LAN Controller 7500 Series, Cisco Wireless LAN Controller 8500 Series. • The index 0 and/or 1 respectively for the two data planes in WiSM2 to view statistics of individual data plane or from both.

fpapool	Displays statistics of packet buffer in data plane.
<i>DP_number</i>	<p>Displays statistics of packet buffer based on data plane number. Values include 0, 1, and All. The default option is All. You must select:</p> <ul style="list-style-type: none"> • The index 0 for the Cisco Wireless LAN Controller 2504 Series, Cisco Wireless LAN Controller 5508 Series, Cisco Wireless LAN Controller 7500 Series, Cisco Wireless LAN Controller 8500 Series. • The index 0 and/or 1 respectively for the two data planes in WiSM2 to view statistics of individual data plane or from both.
ownerdb	Displays the data plane owner information.
portdb	Displays the port database at data plane.
tun4db	Dumps the first 20 tunnels from the data plane.
<i>index</i>	Dumps 20 tunnel entries from index provided. You must use data plane number 0/1 to denote WISM2 data plane processor.
<i>DP_number</i>	<p>Dumps the first twenty client entries from the data plane. Values include 0, 1, and All. The default option is All. You must select:</p> <ul style="list-style-type: none"> • The index 0 for the Cisco Wireless LAN Controller 2504 Series, Cisco Wireless LAN Controller 5508 Series, Cisco Wireless LAN Controller 7500 Series, Cisco Wireless LAN Controller 8500 Series. • The index 0 and/or 1 respectively for the two data planes in WiSM2 to view statistics of individual data plane or from both.
scbdb	Dumps 20 client entries starting from index provided. You must use data plane number 0/1 to denote WISM2 data plane processor.
<i>index</i>	Dumps client information for the selected MAC address.

<i>DP_number</i>	Dumps the first twenty client entries from the data plane. Values include 0, 1, and All. The default option is All. You must select: <ul style="list-style-type: none"> • The index 0 for the Cisco Wireless LAN Controller 2504 Series, Cisco Wireless LAN Controller 5508 Series, Cisco Wireless LAN Controller 7500 Series, Cisco Wireless LAN Controller 8500 Series. • The index 0 and/or 1 respectively for the two data planes in WiSM2 to view statistics of individual data plane or from both.
cfgtool -- dump.sfp	Displays the model/type of SX/LC/T small form-factor plug-in (SFP) modules with the OUI Partnumber.
urlacldb <i>start-acl-id start-rule-index</i>	Dumps the URL ACL database.
vlandb	Dumps the VLAN database in the dataplane.
dpcp-stats	Displays the dataplane to controlplane message statistics.
clear stats	Clears the data plane statistic counters.
systemdb	Displays the global data plane configuration.
debug	Displays the few latest messages of the data plane to enable troubleshooting.
wlanappstats	Displays Application Visibility and Control (AVC) statistics of a WLAN.
<i>wlan_id</i>	The WLAN identifier of the WLAN you need identify the AVC statistics.
appqosdb	Displays Application Visibility and Control (AVC) database statistics of the data plane.
clear	Clear command.

Command Default	None
------------------------	------

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
	8.3	This command was enhanced in this release. The new keyword added is urlacldb

Usage Guidelines	None
-------------------------	------

Examples

The following is an example of the SX/LC/T small form-factor plug-in (SFP) modules model/type with the respective OUI Partnumber.

```
(Cisco Controller) >debug fastpath status
```

Pr	Type	STP Stat	Admin Mode	Physical Mode	Physical Status	Link Status	Link Trap	POE
SFPTYPE								
1	Normal	Forw	Enable	Auto	1000 Full	Up	Enable	N/A
1000BaseTX								
2	Normal	Forw	Enable	Auto	1000 Full	Up	Enable	N/A
1000BaseTX								

The following is an example of the fastpath status displayed while you execute the status command.

```
(Cisco Controller) >debug fastpath status
```

```
FP0.03:(119115)Received command: FP_CMD_ACL_COUNTER_GET
FP0.00:(119115)Received command: FP_CMD_ACL_COUNTER_GET
FP0.06:(119115)Received command: FP_CMD_ACL_COUNTER_GET
FP0.05:(119115)Received command: FP_CMD_ACL_COUNTER_GET
FP0.06:(119115)Received command: FP_CMD_ACL_COUNTER_GET
FP0.03:(119115)Received command: FP_CMD_ACL_COUNTER_GET
FP0.06:(119115)Received command: FP_CMD_ACL_COUNTER_GET
FP0.07:(119125)Received command: FP_CMD_ACL_COUNTER_GET
FP0.04:(119125)Received command: FP_CMD_ACL_COUNTER_GET
FP0.03:(119125)Received command: FP_CMD_ACL_COUNTER_GET
```

The following is an example of the fastpath errors displayed while you execute the debug fastpath log errors command.

```
(Cisco Controller) >debug fastpath log errors
```

```
FP0.04:(873365)[fp_ingress_capwap:429]Discarding Control/Data
Plane DTLS-Application packets after Lookup Failed
FP0.02:(873418)Change logDebugLevel from: 0x1e to 0x9
```

The following is an example of the fastpath events displayed while you execute the debug fastpath log events command.

```
(Cisco Controller) >debug fastpath log events
```

```
FP0.09:(873796)[fp_ingress_capwap:429]Discarding Control/Dat
a Plane DTLS-Application packets after Lookup Failed
FP0.06:(873921)Change logDebugLevel from: 0x9 to 0x1e
```

The following is an example displayed while you execute the debug fastpath log show command.

```
(Cisco Controller) >debug fastpath log show
```

```
FP0.07:(874033)Change logDebugLevel from: 0x1e to 0x9
Fastpath CPU0.02: FAST CACHE DISABLED
Fastpath CPU0.02: FAST CACHE ENABLED
Fastpath CPU0.00: Received command: FP_CMD_ADD_AP
Fastpath CPU0.05: Received command: FP_CMD_DEL_TUN4 ifTun=1113
```

```
Fastpath CPU0.03: Received command: FP_CMD_DEL_TUN4 ifTun=3161
Fastpath CPU0.03: Received command: FP_CMD_DEL_AP
FP0.02:[cmdDelMcastRgTun:6733]failed to delete mcast rg tun 0 ifTun=3161
FP0.07:[fp_ingress_capwap:429]Discarding Control/Data Plane
DTLS-Application packets after Lookup Failed
FP0.01:[fp_ingress_capwap:429]Discarding Control/Data Plane
DTLS-Application packets after Lookup Failed
Fastpath CPU0.01: Received command: FP_CMD_ADD_TUN4 type=CAPWAP ifTun=1114
dstIP
=9.4.110.100 dstMac=2037.06e2.5ec4 dstIPv6=
0000:0000:0000:0000:0000:0000:0000:0000
Fastpath CPU0.01: Tunnel 1114 srcip=9041820 dstip=9046e64 xor=0x7644(30276)
LAG Offset=0,0,0,0,1,0,1,4
Fastpath CPU0.09: Received command: FP_CMD_ADD_TUN4 type=CAPWAP ifTun=3162
dstIP
=9.4.110.100 dstMac=2037.06e2.5ec4 dstIPv6=
0000:0000:0000:0000:0000:0000:0000:0000
Fastpath CPU0.09: Tunnel 3162 srcip=9041820 dstip=9046e64 xor=0x7644(30276)
LAG Offset=0,0,0,0,1,0,1,4
Fastpath CPU0.00: Received command: FP_CMD_SET_INTERFACE_MTU
Fastpath CPU0.00: FAST CACHE DISABLED
Fastpath CPU0.00: FAST CACHE ENABLED
Fastpath CPU0.00: Received command: FP_CMD_ADD_AP
Fastpath CPU0.03: Received command: FP_CMD_UPDATE_EOIP for index=5122
Fastpath CPU0.02: Received command: FP_CMD_UPDATE_EOIP for index=5122
Fastpath CPU0.00: Received command: FP_CMD_DEL_TUN4 ifTun=1114
Fastpath CPU0.03: Received command: FP_CMD_DEL_TUN4 ifTun=3162
Fastpath CPU0.03: Received command: FP_CMD_DEL_AP
FP0.04:[cmdDelMcastRgTun:6733]failed to delete mcast rg tun 0 ifTun=3162
```


debug flexconnect avc

To debug a Flexconnect Application Visibility and Control (AVC) event, use the **debug flexconnect avc** command.

debug flexconnect avc {**event** | **error** | **detail**} {**enable** | **disable**}

Syntax Description	
event	Debugsa FlexConnect AVC event.
error	Debugs a FlexConnect AVC error.
detail	Debugs a FlexConnect AVC details.
enable	Enables debug.
disable	Disables debug.

Command Default	None
-----------------	------

Command History	Release	Modification
	8.1	This command was introduced.

The following example shows how to enable a debug action for an event:

```
(Cisco Controller) >debug flexconnect avc event enable
```

debug flexconnect aaa

To configure debugging of FlexConnect backup RADIUS server events or errors, use the **debug flexconnect aaa** command.

debug flexconnect aaa {event | error} {enable | disable}

Syntax Description	event	Configures the debugging for FlexConnect RADIUS server events.
	error	Configures the debugging for FlexConnect RADIUS server errors.
	enable	Enables the debugging of FlexConnect RADIUS server settings.
	disable	Disables the debugging of FlexConnect RADIUS server settings.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of FlexConnect RADIUS server events:

```
(Cisco Controller) >debug flexconnect aaa event enable
```

debug flexconnect acl

Configures debugging of FlexConnect access control lists (ACLs), use the **debug flexconnect acl** command.

debug flexconnect acl { **enable** | **disable** }

Syntax Description	enable	Enables the debugging of FlexConnect ACLs.
	disable	Disables the debugging of FlexConnect ACLs.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of FlexConnect ACLs:

(Cisco Controller) >**debug flexconnect acl enable**

debug flexconnect cckm

Configure debugging of FlexConnect Cisco Centralized Key Management (CCKM) fast roaming, use the **debug flexconnect cckm** command.

debug flexconnect cckm { **enable** | **disable** }

Syntax Description	enable	Enables the debugging of FlexConnect CCKM fast roaming settings.
	disable	Disables the debugging of FlexConnect CCKM fast roaming settings.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of FlexConnect CCKM fast roaming events:

```
(Cisco Controller) >debug flexconnect cckm event enable
```

debug group

To configure the debugging of access point groups, use the **debug group** command.

debug group {enable | disable}

Syntax Description	enable	Enables the debugging of access point groups.
	disable	Disables the debugging of access point groups.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of access point groups:

```
(Cisco Controller) >debug group enable
```

debug fmchs

To configure debugging of Fixed Mobile Convergence Handover Service (FMCHS) of the controller, use the **debug fmchs** command.

debug fmchs {**all** | **error** | **event** | **nmosp** | **packet**} {**enable** | **disable**}

Syntax Description

all	Configures debugging of all FMCHS messages.
error	Configures debugging of the FMCHS errors.
event	Configures debugging of the FMCHS events.
nmosp	Configures debugging of the FMCHS NMSP events.
packet	Configures debugging of the FMCHS packets.
enable	Enables debugging of the FMCHS options.
disable	Disables debugging of the FMCHS options.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable FMCHS event debugging:

```
(Cisco Controller) >debug fmchs event enable
```

debug flexconnect group

To configure debugging of FlexConnect access point groups, use the **debug flexconnect group** command.

debug flexconnect group {**enable** | **disable**}

Syntax Description	enable	Enables the debugging of FlexConnect access point groups.
	disable	Disables the debugging of FlexConnect access point groups.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable the debugging of FlexConnect access point groups:

(Cisco Controller) >**debug flexconnect group enable**

debug ft

To configure debugging of 802.11r, use the **debug ft** command.

debug ft { **events** | **keys** } { **enable** | **disable** }

Syntax Description

events	Configures debugging of the 802.11r events.
keys	Configures debugging of the 802.11r keys.
enable	Enables debugging of the 802.11r options.
disable	Disables debugging of the 802.11r options.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable 802.11r debugging:

```
(Cisco Controller) >debug ft events enable
```


debug hotspot

To configure debugging of HotSpot events or packets, use the **debug hotspot** command.

debug hotspot { **events** | **packets** } { **enable** | **disable** } { **enable** | **disable** }

Syntax Description	events	Configures debugging of HotSpot events.
	packets	Configures debugging of HotSpot packets.
	enable	Enables the debugging of HotSpot options.
	disable	Disables the debugging of HotSpot options.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to enable debugging of hotspot events:

```
(Cisco Controller) >debug hotspot events enable
```

debug ipv6

To configure debugging of IPv6 options, use the **debug ipv6** command.

debug ipv6 {**all** | **bt** | **classifier** | **errors** | **events** | **filter** | **fsm** | **gleaner** | **hwapi** | **memory** | **ndsuppress** | **parser** | **policy** | **ra_throttler** | **switcher**} {**enable** | **disable**}

Syntax Description		
all		Configures debugging of all the IPv6 information.
bt		Configures debugging of the IPv6 neighbor binding table.
classifier		Configures debugging of the IPv6 packet classifiers.
errors		Configures debugging of the IPv6 errors.
events		Configures debugging of the IPv6 events.
filter		Configures filters for the IPv6 debugs.
fsm		Configures debugging of the IPv6 finite state machine (FSM).
gleaner		Configures debugging of the IPv6 gleaner. Learning of entries is called gleaning.
hwapi		Configures debugging of the IPv6 hardware APIs.
memory		Configures debugging of the IPv6 binding table memory usage.
ndsuppress		Configures debugging of the suppressed IPv6 neighbor discoveries.
parser		Configures debugging of the IPv6 parser.
policy		Configures debugging of the IPv6 policies.
ra_throttler		Configures debugging of the IPv6 router advertising throttler.
switcher		Configures debugging of the IPv6 switcher.
enable		Enables debugging of the IPv6 options.
disable		Disables debugging of the IPv6 options.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to configure the debugging of IPv6 policies:

```
(Cisco Controller) >debug ipv6 policy enable
```