



Show Commands: a to i

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show aaa auth

To display the configuration settings for the AAA authentication server database, use the **show aaa auth** command.

show aaa auth

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the configuration settings for the AAA authentication server database:

```
(Cisco Controller) > show aaa auth
Management authentication server order:
 1..... local
 2..... tacacs
```

Related Commands

- config aaa auth**
- config aaa auth mgmt**

show acl

To display the access control lists (ACLs) that are configured on the controller, use the **show acl** command.

```
show acl {cpu | detailed acl_name | summary | layer2 { summary | detailed acl_name } }
```

Syntax Description		
cpu		Displays the ACLs configured on the Cisco WLC's central processing unit (CPU).
detailed		Displays detailed information about a specific ACL.
<i>acl_name</i>		ACL name. The name can be up to 32 alphanumeric characters.
summary		Displays a summary of all ACLs configured on the controller.
layer2		Displays the Layer 2 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 display the access control lists on the CPU.

```
(Cisco Controller) >show acl cpu

CPU Acl Name.....
Wireless Traffic..... Disabled
Wired Traffic..... Disabled
Applied to NPU..... No
```

The following example shows how to display a summary of the access control lists.

```
(Cisco Controller) > show acl summary

ACL Counter Status          Disabled
-----
IPv4 ACL Name               Applied
-----
acl1                         Yes
acl2                         Yes
acl3                         Yes
-----
IPv6 ACL Name               Applied
```

```
-----
acl6                                     No
-----
```

The following example shows how to display the detailed information of the access control lists.

```
(Cisco Controller) > show acl detailed acl_name
```

```

          Source           Destination           Source Port Dest Port
I Dir IP Address/Netmask IP Address/Netmask Prot   Range   Range   DSCP
Action Counter
-----
-----
1
Any 0.0.0.0/0.0.0.0   0.0.0.0/0.0.0.0   Any 0-65535  0-65535  0   Deny   0
2
In  0.0.0.0/0.0.0.0   200.200.200.0/    6    80-80  0-65535  Any  Permit  0
                               255.255.255.0
DenyCounter :      0

```



Note The Counter field increments each time a packet matches an ACL rule, and the DenyCounter field increments each time a packet does not match any of the rules.

Related Commands

- clear acl counters
- config acl apply
- config acl counter
- config acl cpu
- config acl create
- config acl delete
- config interface acl
- config acl rule

show acl detailed

To display detailed DNS-based ACL information, use the **show acl detailed** command.

show acl detailed*acl_name*

Syntax Description	<i>acl_name</i> Name of the access control list.
Command Default	None
Command History	Release Modification
	7.6 This command was introduced.

The following is a sample output of the **show acl detailed** *acl_name* command.

```
(Cisco Controller) > show acl detailed android
```

```
No rules are configured for this ACL.
```

```
DenyCounter : 0
```

```
URLs configured in this ACL
```

```
-----
```

```
*.play.google.com
```

```
*.store.google.com
```

show acl url-acl detailed

To display detailed URL ACL profile information, use the **show acl url-acl detailed** command.

show acl url-acl detailed *acl_name*

Syntax Description	<i>acl_name</i>	Name of the access control list.
---------------------------	-----------------	----------------------------------

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

Command History	Release	Modification
	8.3	This command was introduced.

This example shows detailed information of a specific URL ACL profile:

```
(Cisco Controller) >show acl url-acl detailed
```

show acl summary

To display DNS-based ACL information, use the **show acl summary** command.

show aclsummary

Syntax Description	summary Displays DNS-based ACL information.				
Command Default	None				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>7.6</td> <td>This command was introduced in a release earlier than Release 7.6.</td> </tr> </tbody> </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 is a sample output of the **show acl summary** command.

```
(Cisco Controller) > show acl summary
```

```

ACL Counter Status           Disabled
-----
IPv4 ACL Name                 Applied
-----
android                       No
StoreACL                      Yes
-----
IPv6 ACL Name                 Applied
-----

```

1

show acl url-acl summary

To display a summary of the URL ACL profiles, use the **show acl url-acl summary** command.

show acl url-acl summary

Syntax Description	summary	Displays URL ACL profiles information.
Command Default	None	
Command History	Release	Modification
	8.3	This command was introduced.

This example shows a summary of URL ACL profiles:

```
(Cisco Controller) > show acl summary

URL ACL Feature           Disabled
ACL Counter Status       Enabled
-----
URL ACL Name              Applied
-----
test                       No
```

show advanced 802.11 channel

To display the automatic channel assignment configuration and statistics, use the **show advanced 802.11 channel** command.

show advanced 802.11 {a | b} channel

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the automatic channel assignment configuration and statistics:

```
(Cisco Controller) > show advanced 802.11a channel
Automatic Channel Assignment
  Channel Assignment Mode..... AUTO
  Channel Update Interval..... 600 seconds [startup]
  Anchor time (Hour of the day)..... 0
  Channel Update Contribution..... SNI.
  Channel Assignment Leader..... 00:1a:6d:dd:1e:40
  Last Run..... 129 seconds ago
  DCA Sensitivity Level: ..... STARTUP (5 dB)
  DCA Minimum Energy Limit..... -95 dBm
Channel Energy Levels
  Minimum..... unknown
  Average..... unknown
  Maximum..... unknown
Channel Dwell Times
  Minimum..... unknown
  Average..... unknown
  Maximum..... unknown
Auto-RF Allowed Channel List.....
36, 40, 44, 48, 52, 56, 60, 64, 149,
..... 153, 157, 161
Auto-RF Unused Channel List.....
100, 104, 108, 112, 116, 132, 136,
```

```
..... 140,165,190,196  
DCA Outdoor AP option..... Enabled
```

show advanced 802.11 coverage

To display the configuration and statistics for coverage hole detection, use the **show advanced 802.11 coverage** command.

show advanced 802.11 {a | b} coverage

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the statistics for coverage hole detection:

```
(Cisco Controller) > show advanced 802.11a coverage
Coverage Hole Detection
 802.11a Coverage Hole Detection Mode..... Enabled
 802.11a Coverage Voice Packet Count..... 100 packets
 802.11a Coverage Voice Packet Percentage..... 50%
 802.11a Coverage Voice RSSI Threshold..... -80 dBm
 802.11a Coverage Data Packet Count..... 50 packets
 802.11a Coverage Data Packet Percentage..... 50%
 802.11a Coverage Data RSSI Threshold..... -80 dBm
 802.11a Global coverage exception level..... 25 %
 802.11a Global client minimum exception lev.... 3 clients
```

show advanced 802.11 group

To display 802.11a or 802.11b Cisco radio RF grouping, use the **show advanced 802.11 group** command.

show advanced 802.11{a | b} group

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display Cisco radio RF group settings:

```
(Cisco Controller) > show advanced 802.11a group
Radio RF Grouping
 802.11a Group Mode..... AUTO
 802.11a Group Update Interval..... 600 seconds
 802.11a Group Leader..... xx:xx:xx:xx:xx:xx
   802.11a Group Member..... xx:xx:xx:xx:xx:xx
 802.11a Last Run..... 133 seconds ago
```


show advanced hyperlocation summary

To view a summary of Cisco Hyperlocation configuration information, use the **show advanced hyperlocation summary** command.

show advanced hyperlocation summary

Command History	Release	Modification
	8.1	This command was introduced in Release 8.1.

The following is a sample output:

```
(Cisco Controller) >show advanced hyperlocation summary
```

```
Hyperlocation..... DOWN
Hyperlocation NTP Server..... 0.0.0.0
Hyperlocation pak-rssi Threshold..... -100
Hyperlocation pak-rssi Trigger-Threshold..... 10
Hyperlocation pak-rssi Reset-Threshold..... 8
Hyperlocation pak-rssi Timeout..... 3
```

AP Name config	Ethernet MAC	Slots	Hyperlocation	Explicit AP
APA023.9FD8.EA4C	40:ce:24:bf:8f:40	2	DOWN	0
APA023.9FD8.EA50	40:ce:24:bf:8f:80	2	DOWN	0
APA023.9FD8.EA9C	40:ce:24:bf:94:40	2	DOWN	0
AP0C75.BD13.B496	a0:23:9f:8a:5c:00	2	DOWN	0

show advanced hyperlocation ble-beacon

To view information about BLE beacons in APs, use the **show advanced hyperlocation ble-beacon** command.

show advanced hyperlocation ble-beacon {**all** | **firmware-download summary** | **beacon-id** *id* | {**ap-name** *ap-name* | **ap-group** *group-name*}}

Syntax Description		
all		Shows details of all BLE beacons.
firmware-download summary		Lists all APs in BLE firmware download process.
<i>value</i>		
beacon-id <i>id</i>		Shows information about the BLE beacon, the ID of which you specify.
ap-name <i>ap-name</i>		Shows information about the BLE beacon that is associated with the AP, the name of which you specify.
ap-group <i>group-name</i>		Shows information about the BLE beacon that is associated with the AP group, the name of which you specify.

Command History	Release	Modification
	8.1	This command was introduced in Release 8.1.

The following is an example of how to view the BLE beacon information for all beacons:

```
(Cisco Controller) >show advanced hyperlocation ble-beacon all
```

```
Global Configuration
```

```
BLE Advertised Transmit Power: c5 (-59 dBm)
```

BLE beacon ID Status	UUID	TX Power (dBm)	Interval (Hz)
1 Disabled	00000000-0000-0000-0000-000000000000	0	1
2 Disabled	00000000-0000-0000-0000-000000000000	0	1
3 Disabled	00000000-0000-0000-0000-000000000000	0	1
4 Disabled	00000000-0000-0000-0000-000000000000	0	1
5 Disabled	00000000-0000-0000-0000-000000000000	0	1

show advanced 802.11 l2roam

To display 802.11a or 802.11b/g Layer 2 client roaming information, use the **show advanced 802.11 l2roam** command.

show advanced 802.11 { **a** | **b** } **l2roam** { **rf-param** | **statistics** } *mac_address* }

Syntax Description		
a		Specifies the 802.11a network.
b		Specifies the 802.11b/g network.
rf-param		Specifies the Layer 2 frequency parameters.
statistics		Specifies the Layer 2 client roaming statistics.
<i>mac_address</i>		MAC address of the client.

Command Default None

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

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show advanced 802.11b l2roam rf-param** command:

```
(Cisco Controller) > show advanced 802.11b l2roam rf-param

L2Roam 802.11bg RF Parameters.....
  Config Mode..... Default
  Minimum RSSI..... -85
  Roam Hysteresis..... 2
  Scan Threshold..... -72
  Transition time..... 5
```

show advanced 802.11 logging

To display 802.11a or 802.11b RF event and performance logging, use the **show advanced 802.11 logging** command.

show advanced 802.11{a | b} logging

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display 802.11b RF event and performance logging:

```
(Cisco Controller) > show advanced 802.11b logging
RF Event and Performance Logging
Channel Update Logging..... Off
Coverage Profile Logging..... Off
Foreign Profile Logging..... Off
Load Profile Logging..... Off
Noise Profile Logging..... Off
Performance Profile Logging..... Off
TxPower Update Logging..... Off
```

show advanced 802.11 monitor

To display the 802.11a or 802.11b default Cisco radio monitoring, use the **show advanced 802.11 monitor** command.

show advanced 802.11 {a | b} monitor

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the radio monitoring for the 802.11b network:

```
(Cisco Controller) > show advanced 802.11b monitor
Default 802.11b AP monitoring
 802.11b Monitor Mode..... enable
 802.11b Monitor Channels..... Country channels
 802.11b RRM Neighbor Discovery Type..... Transparent
 802.11b AP Coverage Interval..... 180 seconds
 802.11b AP Load Interval..... 60 seconds
 802.11b AP Noise Interval..... 180 seconds
 802.11b AP Signal Strength Interval..... 60 seconds
```

show advanced 802.11 optimized roaming

To display the optimized roaming configurations for 802.11a/b networks, use the **show advanced 802.11 optimized roaming** command.

show advanced 802.11 {a | b} optimized roaming [stats]

Syntax Description	
	stats (Optional) Displays optimized roaming statistics for a 802.11a/b network.

Command Default	
	None

Command History	Release	Modification
	8.0	This command was introduced.

Command History	Release	Modification
	8.8	This command was introduced.

The following example shows how to display the optimized roaming configurations for an 802.11a network:

```
(Cisco Controller) > show advanced 802.11a optimized roaming
OptimizedRoaming
 802.11a OptimizedRoaming Mode..... Enabled
 802.11a OptimizedRoaming Reporting Interval.... 20 seconds
 802.11a OptimizedRoaming Rate Threshold..... disabled
```

The following example shows how to display the optimized roaming statistics for an 802.11a network:

```
(Cisco Controller) > show advanced 802.11a optimized roaming stats
OptimizedRoaming Stats
802.11a OptimizedRoaming Disassociations..... 2
802.11a OptimizedRoaming Rejections..... 1
```

show advanced 802.11 profile

To display the 802.11a or 802.11b lightweight access point performance profiles, use the **show advanced 802.11 profile** command.

show advanced 802.11 { **a** | **b** } **profile** { **global** | *cisco_ap* }

Syntax Description		
	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
	global	Specifies all Cisco lightweight access points.
	<i>cisco_ap</i>	Name of a specific Cisco lightweight access point.

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the global configuration and statistics of an 802.11a profile:

```
(Cisco Controller) > show advanced 802.11 profile global
Default 802.11a AP performance profiles
 802.11a Global Interference threshold..... 10%
 802.11a Global noise threshold..... -70 dBm
 802.11a Global RF utilization threshold..... 80%
 802.11a Global throughput threshold..... 1000000 bps
 802.11a Global clients threshold..... 12 clients
 802.11a Global coverage threshold..... 12 dB
 802.11a Global coverage exception level..... 80%
 802.11a Global client minimum exception lev..... 3 clients
```

The following example shows how to display the configuration and statistics of a specific access point profile:

```
(Cisco Controller) > show advanced 802.11 profile AP1
Cisco AP performance profile not customized
```

This response indicates that the performance profile for this lightweight access point is using the global defaults and has not been individually configured.

show advanced 802.11 receiver

To display the configuration and statistics of the 802.11a or 802.11b receiver, use the **show advanced 802.11 receiver** command.

show advanced 802.11{a | b} receiver

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the configuration and statistics of the 802.11a network settings:

```
(Cisco Controller) > show advanced 802.11 receiver
802.11a Receiver Settings
RxStart   : Signal Threshold..... 15
RxStart   : Signal Lamp Threshold..... 5
RxStart   : Preamble Power Threshold..... 2
RxReStart : Signal Jump Status..... Enabled
RxReStart : Signal Jump Threshold..... 10
TxStomp   : Low RSSI Status..... Enabled
TxStomp   : Low RSSI Threshold..... 30
TxStomp   : Wrong BSSID Status..... Enabled
TxStomp   : Wrong BSSID Data Only Status..... Enabled
RxAabort  : Raw Power Drop Status..... Disabled
RxAabort  : Raw Power Drop Threshold..... 10
RxAabort  : Low RSSI Status..... Disabled
RxAabort  : Low RSSI Threshold..... 0
RxAabort  : Wrong BSSID Status..... Disabled
RxAabort  : Wrong BSSID Data Only Status..... Disabled
```


show advanced 802.11 summary

To display the 802.11a or 802.11b Cisco lightweight access point name, channel, and transmit level summary, use the **show advanced 802.11 summary** command.

show advanced 802.11 {a | b} summary

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.

Command Default None

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display a summary of the 802.11b access point settings:

```
(Cisco Controller) > show advanced 802.11b summary
AP Name      MAC Address      Admin State  Operation State  Channel
TxPower
-----
CJ-1240      00:21:1b:ea:36:60  ENABLED     UP               161
1 ( )
CJ-1130      00:1f:ca:cf:b6:60  ENABLED     UP               56*
1 (*)
```



Note An asterisk (*) next to a channel number or power level indicates that it is being controlled by the global algorithm settings.

show advanced 802.11 txpower

To display the 802.11a or 802.11b automatic transmit power assignment, use the **show advanced 802.11 txpower** command.

show advanced 802.11{a | b} txpower

Syntax Description	a	Specifies the 802.11a network.
	b	Specifies the 802.11b/g network.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the configuration and statistics of the 802.11b transmit power cost:

```
(Cisco Controller) > show advanced 802.11b txpower
Automatic Transmit Power Assignment
  Transmit Power Assignment Mode..... AUTO
  Transmit Power Update Interval..... 600 seconds
  Transmit Power Threshold..... -65 dBm
  Transmit Power Neighbor Count..... 3 APs
  Transmit Power Update Contribution..... SN.
  Transmit Power Assignment Leader..... xx:xx:xx:xx:xx:xx
  Last Run..... 384 seconds ago
```

show advanced backup-controller

To display a list of primary and secondary backup WLCs, use the **show advanced backup-controller** command.

show advanced backup-controller

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 display the backup controller information:

```
(Cisco Controller) >  
show advanced backup-controller  
AP primary Backup Controller ..... controller 10.10.10.10  
AP secondary Backup Controller ..... 0.0.0.0
```

show advanced ble summary

To view all APs Bluetooth Low Energy (BLE) summary, use the **show advanced ble summary** command.

show advanced ble summary

Syntax Description This command has no arguments or keywords.

Command Default None

Command History	Release	Modification
	8.8.120.0	This command was introduced.

The following example shows how to display the BLE summary:

```
(Cisco Controller) > show advanced ble summary
```

show advanced dot11-padding

To display the state of over-the-air frame padding on a wireless LAN controller, use the **show advanced dot11-padding** command.

show advanced dot11-padding

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to view the state of over-the-air frame padding:

```
(Cisco Controller) > show advanced dot11-padding
dot11-padding..... Disabled
```

show advanced hotspot

To display the advanced HotSpot parameters, use the **show advanced hotspot** command.

show advanced hotspot

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 display the advanced HotSpot parameters:

```
(Cisco Controller) >show advanced hotspot
ANQP 4-way state..... Disabled
GARP Broadcast state: ..... Enabled
GAS request rate limit ..... Disabled
ANQP comeback delay in TUs(TU=1024usec)..... 50
```

show advanced max-1x-sessions

To display the maximum number of simultaneous 802.1X sessions allowed per access point, use the **show advanced max-1x-sessions** command.

show advanced max-1x-sessions

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the maximum 802.1X sessions per access point:

```
(Cisco Controller) >show advanced max-1x-sessions
Max 802.1x session per AP at a given time..... 0
```

show advanced probe

To display the number of probes sent to the Cisco WLC per access point per client and the probe interval in milliseconds, use the **show advanced probe** command.

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the probe settings for the WLAN controller:

```
(Cisco Controller) >show advanced probe
Probe request filtering..... Enabled
Probes fwd to controller per client per radio.... 12
Probe request rate-limiting interval..... 100 msec
```


show advanced rate

To display whether control path rate limiting is enabled or disabled, use the **show advanced rate** command.

show advanced rate

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 display the switch control path rate limiting mode:

```
(Cisco Controller) >show advanced rate
Control Path Rate Limiting..... Disabled
```

show advanced timers

To display the mobility anchor, authentication response, and rogue access point entry timers, use the **show advanced timers** command.

show advanced timers

Syntax Description This command has no arguments or keywords.

Command Default The defaults are shown in the “Examples” section.

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the system timers setting:

```
(Cisco Controller) >show advanced timers
Authentication Response Timeout (seconds)..... 10
Rogue Entry Timeout (seconds)..... 1200
AP Heart Beat Timeout (seconds)..... 30
AP Discovery Timeout (seconds)..... 10
AP Local mode Fast Heartbeat (seconds)..... disable
AP flexconnect mode Fast Heartbeat (seconds)..... disable
AP Primary Discovery Timeout (seconds)..... 120
```

show advanced client-handoff

To display the number of automatic client handoffs after retries, use the **show advanced client-handoff** command.

show advanced client-handoff

Syntax Description

This command has no arguments or keywords.

Command History

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

The following example shows how to display the client auto handoff mode after excessive retries:

```
(Cisco Controller) >show advanced client-handoff
Client auto handoff after retries..... 130
```

show advanced eap

To display Extensible Authentication Protocol (EAP) settings, use the **show advanced eap** command.

show advanced eap

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the EAP settings:

```
(Cisco Controller) > show advanced eap
EAP-Identity-Request Timeout (seconds)..... 1
EAP-Identity-Request Max Retries..... 20
EAP Key-Index for Dynamic WEP..... 0
EAP Max-Login Ignore Identity Response..... enable
EAP-Request Timeout (seconds)..... 1
EAP-Request Max Retries..... 20
EAPOL-Key Timeout (milliseconds)..... 1000
EAPOL-Key Max Retries..... 2
```

Related Commands

- config advanced eap**
- config advanced timers eap-identity-request-delay**
- config advanced timers eap-timeout**

show advanced fra

To display Flexible Radio Assignment (FRA) settings, use the **show advanced fra** command.

show advanced fra

Syntax Description This command has no arguments or keywords.

Command Default None

Command History	Release	Modification
	8.2	This command was introduced.

The following example shows the FRA settings when you set service-priority as coverage using the **config advanced fra service-priority coverage** command:

```
(Cisco Controller) > show advanced fra
FRA State..... Enabled
FRA Sensitivity..... medium (95%)
FRA Interval..... 1 Hour(s)
  Last Run..... 2890 seconds ago
  Last Run Time..... 0 seconds
Service Priority..... Coverage
```

```
AP Name          MAC Address      Slot Current Band
COF %      Sensor %  Suggested Mode
-----
AP3800          28:6f:7f:e0:60:40  0      2.4GHz
None          None      (Static)

COF : Coverage Overlap Factor
[] : COF when radio was in 2.4GHz Band
```

The following example shows the FRA settings when you set service-priority as client-aware using the **config advanced fra service-priority client-aware** command:

```
show advanced fra
FRA State..... Enabled
FRA Sensitivity..... medium (95%)
FRA Interval..... 1 Hour(s)
  Last Run..... 3329 seconds ago
  Last Run Time..... 0 seconds
Service Priority..... Client Aware
  Client Select Utilization Threshold..... 25%
  Client Reset Utilization Threshold..... 5%
```

802.11a Client Network Preference..... default

AP Name	MAC Address	Slot	Current Band
COF %	Sensor %	Suggested Mode	
AP3800	28:6f:7f:e0:60:40	0	2.4GHz
0	None	(Static)	

COF : Coverage Overlap Factor

[] : COF when radio was in 2.4GHz Band

show advanced send-disassoc-on-handoff

To display whether the WLAN controller disassociates clients after a handoff, use the **show advanced send-disassoc-on-handoff** command.

show advanced send-disassoc-on-handoff

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show advanced send-disassoc-on-handoff** command:

```
(Cisco Controller) > show advanced send-disassoc-on-handoff
Send Disassociate on Handoff..... Disabled
```

show advanced sip-preferred-call-no

To display the list of preferred call numbers, use the **show advanced sip-preferred-call-no** command.

show advanced sip-preferred-call-no

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 is a sample output of the **show advanced sip-preferred-call-no** command:

```
(Cisco Controller) > show advanced sip-preferred-call-no
Preferred Call Numbers List
Call Index          Preferred Call No
-----
1                   911
2                   100
3                   101
4                   102
5                   103
6                   104
```


show advanced sip-snooping-ports

To display the port range for call snooping, use the **show advanced sip-snooping-ports** command.

show advanced sip-snooping-ports

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 is a sample output of the **show advanced sip-snooping-ports** command:

```
(Cisco Controller) > show advanced sip-snooping-ports
SIP Call Snoop Ports: 1000 - 2000
```

show arp kernel

To display the kernel Address Resolution Protocol (ARP) cache information, use the **show arp kernel** command.

show arp kernel

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 is a sample output of the **show arp kernel** command:

```
(Cisco Controller) > show arp kernel
IP address      HW type   Flags      HW address    Mask         Device
192.0.2.1       0x1       0x2        00:1A:6C:2A:09:C2  *           dt10
192.0.2.8       0x1       0x6        00:1E:E5:E6:DB:56  *           dt10
```

show arp switch

To display the Cisco wireless LAN controller MAC addresses, IP addresses, and port types, use the **show arp switch** command.

show arp switch

Syntax Description

This command has no arguments or keywords.

Command History

Release Modification

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

The following is a sample output of the **show arp switch** command:

```
(Cisco Controller) > show arp switch
MAC Address          IP Address          Port          VLAN          Type
-----
xx:xx:xx:xx:xx:xx   xxx.xxx.xxx.xxx    service port   1
xx:xx:xx:xx:xx:xx   xxx.xxx.xxx.xxx    service port
xx:xx:xx:xx:xx:xx   xxx.xxx.xxx.xxx    service port
```

show ap auto-rf

To display the auto-RF settings for a Cisco lightweight access point, use the **show ap auto-rf** command.

show ap auto-rf 802.11{a | b} *cisco_ap*

Syntax Description	a	b	<i>cisco_ap</i>
	Specifies the 802.11a network.	Specifies the 802.11b/g network.	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.	
Command History	Release	Modification	
	8.3	This command was introduced.	

The following example shows how to display auto-RF information for an access point:

```
(Cisco Controller) > show ap auto-rf 802.11a AP1
Number Of Slots..... 2
AP Name..... AP03
MAC Address..... 00:0b:85:01:18:b7
  Radio Type..... RADIO_TYPE_80211a
  Noise Information
    Noise Profile..... PASSED
    Channel 36..... -88 dBm
    Channel 40..... -86 dBm
    Channel 44..... -87 dBm
    Channel 48..... -85 dBm
    Channel 52..... -84 dBm
    Channel 56..... -83 dBm
    Channel 60..... -84 dBm
    Channel 64..... -85 dBm
  Interference Information
    Interference Profile..... PASSED
    Channel 36..... -66 dBm @ 1% busy
    Channel 40..... -128 dBm @ 0% busy
    Channel 44..... -128 dBm @ 0% busy
    Channel 48..... -128 dBm @ 0% busy
    Channel 52..... -128 dBm @ 0% busy
    Channel 56..... -73 dBm @ 1% busy
    Channel 60..... -55 dBm @ 1% busy
    Channel 64..... -69 dBm @ 1% busy
```

```

Rogue Histogram (20/40_ABOVE/40_BELOW)
  Channel 36..... 16/ 0/ 0
  Channel 40..... 28/ 0/ 0
  Channel 44.....  9/ 0/ 0
  Channel 48.....  9/ 0/ 0
  Channel 52.....  3/ 0/ 0
  Channel 56.....  4/ 0/ 0
  Channel 60.....  7/ 1/ 0
  Channel 64.....  2/ 0/ 0
Load Information
  Load Profile..... PASSED
  Receive Utilization..... 0%
  Transmit Utilization..... 0%
  Channel Utilization..... 1%
  Attached Clients..... 1 clients
Coverage Information
  Coverage Profile..... PASSED
  Failed Clients..... 0 clients
Client Signal Strengths
  RSSI -100 dBm..... 0 clients
  RSSI -92 dBm..... 0 clients
  RSSI -84 dBm..... 0 clients
  RSSI -76 dBm..... 0 clients
  RSSI -68 dBm..... 0 clients
  RSSI -60 dBm..... 0 clients
  RSSI -52 dBm..... 0 clients
Client Signal To Noise Ratios
  SNR  0 dBm..... 0 clients
  SNR  5 dBm..... 0 clients
  SNR 10 dBm..... 0 clients
  SNR 15 dBm..... 0 clients
  SNR 20 dBm..... 0 clients
  SNR 25 dBm..... 0 clients
  SNR 30 dBm..... 0 clients
  SNR 35 dBm..... 0 clients
  SNR 40 dBm..... 0 clients
  SNR 45 dBm..... 0 clients
Nearby RADs
  RAD 00:0b:85:01:05:08 slot 0..... -46 dBm on 10.1.30.170
  RAD 00:0b:85:01:12:65 slot 0..... -24 dBm on 10.1.30.170
Channel Assignment Information
  Current Channel Average Energy..... -86 dBm
  Previous Channel Average Energy..... -75 dBm
  Channel Change Count..... 109
  Last Channel Change Time..... Wed Sep 29 12:53e:34
2004
  Recommended Best Channel..... 44
RF Parameter Recommendations
  Power Level..... 1
  RTS/CTS Threshold..... 2347
    
```

```
Fragmentation Threshold..... 2346  
Antenna Pattern..... 0
```

show ap aid-audit-mode

To view the AP aid-audit mode status, use the **show ap aid-audit mode** command.

show ap aid-audit mode

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

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

Command History	Release	Modification
	8.6	This command was introduced.

The following example shows how to display the aid-audit mode status:

```
(Cisco Controller) > show ap aid-audit-mode
Aid Audit Mode ..... Disabled
```

show ap ccx rm

To display an access point's Cisco Client eXtensions (CCX) radio management status information, use the **show ap ccx rm** command.

show ap ccx rm *ap_name* **status**

Syntax Description	<i>ap_name</i>	Specified access point name.
	status	Displays the CCX radio management status information for an access point.
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 display the status of the CCX radio management:

```
(Cisco Controller) >show ap ccx rm AP1240-21ac status
A Radio
Channel Load Request ..... Disabled
Noise Histogram Request ..... Disabled
Beacon Request ..... Disabled
Frame Request ..... Disabled
Interval ..... 60
Iteration ..... 10
G Radio
Channel Load Request ..... Disabled
Noise Histogram Request ..... Disabled
Beacon Request ..... Disabled
Frame Request ..... Disabled
Interval ..... 60
Iteration ..... 10
```


show ap cdp

To display the Cisco Discovery Protocol (CDP) information for an access point, use the **show ap cdp** command.

show ap cdp { **all** | **ap-name** *cisco_ap* | **neighbors** { **all** | **ap-name** *cisco_ap* | **detail** *cisco_ap* } }

Syntax Description	all	Displays the CDP status on all access points.
	ap-name	Displays the CDP status for a specified access point.
	<i>cisco_ap</i>	Specified access point name.
	neighbors	Displays neighbors using CDP.
	detail	Displays details about a specific access point neighbor using CDP.

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the CDP status of all access points:

```
(Cisco Controller) >show ap cdp all
AP CDP State
AP Name                AP CDP State
-----
SB_RAP1                enable
SB_MAP1                enable
SB_MAP2                enable
SB_MAP3                enable
```

The following example shows how to display the CDP status of a specified access point:

```
(Cisco Controller) >show ap cdp ap-name SB_RAP1
AP CDP State
AP Name                AP CDP State
-----
AP CDP State.....Enabled
AP Interface-Based CDP state
 Ethernet 0.....Enabled
  Slot 0.....Enabled
  Slot 1.....Enabled
```

The following example shows how to display details about all neighbors using CDP:

```
(Cisco Controller) >show ap cdp neighbor all
AP Name      AP IP      Neighbor Name  Neighbor IP  Neighbor Port
-----
SB_RAP1      192.168.102.154  sjc14-41a-sw1  192.168.102.2  GigabitEthernet1/0/13
SB_RAP1      192.168.102.154  SB_MAP1        192.168.102.137  Virtual-Dot11Radio0
SB_MAP1      192.168.102.137  SB_RAP1        192.168.102.154  Virtual-Dot11Radio0
SB_MAP1      192.168.102.137  SB_MAP2        192.168.102.138  Virtual-Dot11Radio0
SB_MAP2      192.168.102.138  SB_MAP1        192.168.102.137  Virtual-Dot11Radio1
SB_MAP2      192.168.102.138  SB_MAP3        192.168.102.139  Virtual-Dot11Radio0
SB_MAP3      192.168.102.139  SB_MAP2        192.168.102.138  Virtual-Dot11Radio1
```

The following example shows how to display details about a specific neighbor with a specified access point using CDP:

```
(Cisco Controller) >show ap cdp neighbors ap-name SB_MAP2
AP Name      AP IP      Neighbor Name  Neighbor IP  Neighbor Port
-----
SB_MAP2      192.168.102.138  SB_MAP1        192.168.102.137  Virtual-Dot11Radio1
SB_MAP2      192.168.102.138  SB_MAP3        192.168.102.139  Virtual-Dot11Radio0
```

The following example shows how to display details about neighbors using CDP:

```
(Cisco Controller) >show ap cdp neighbors detail SB_MAP2
AP Name:SB_MAP2
AP IP address:192.168.102.138
-----
Device ID: SB_MAP1
Entry address(es): 192.168.102.137
Platform: cisco AIR-LAP1522AG-A-K9 , Cap
Interface: Virtual-Dot11Radio0, Port ID (outgoing port): Virtual-Dot11Radio1
Holdtime : 180 sec
Version :
Cisco IOS Software, C1520 Software (C1520-K9W8-M), Experimental Version 12.4(20081114:084420) [BLD-v124_18a_ja_throttle.20081114 208] Copyright (c) 1986-2008 by Cisco Systems, Inc. Compiled Fri 14-Nov-08 23:08 by advertisement version: 2
-----
Device ID: SB_MAP3
Entry address(es): 192.168.102.139
Platform: cisco AIR-LAP1522AG-A-K9 , Capabilities: Trans-Bridge
Interface: Virtual-Dot11Radio1, Port ID (outgoing port): Virtual-Dot11Radio0
Holdtime : 180 sec
Version :
Cisco IOS Software, C1520 Software (C1520-K9W8-M), Experimental Version 12.4(20081114:084420) [BLD-v124_18a_ja_throttle.20081114 208] Copyright (c) 1986-2008 by Cisco Systems, Inc. Compiled Fri 14-Nov-08 23:08 by advertisement version: 2
```

show ap channel

To display the available channels for a specific mesh access point, use the **show ap channel** command.

show ap channel *ap_name*

Syntax Description	<i>ap_name</i>	Name of the mesh access point.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the available channels for a particular access point:

```
(Cisco Controller) >show ap channel AP47
 802.11b/g Current Channel .....1
Allowed Channel List.....1,2,3,4,5,6,7,8,9,10,11
802.11a Current Channel .....161
Allowed Channel List.....36,40,44,48,52,56,60,64,100,
.....104,108,112,116,132,136,140,
.....149,153,157,161
```

show ap config

To display the detailed configuration for a lightweight access point, use the **show ap config** command.

show ap config 802.11 {a | b} [summary] *cisco_ap*

Syntax Description		
	802.11a	Specifies the 802.11a or 802.11b/g network.
	802.11b	Specifies the 802.11b/g network.
	summary	(Optional) Displays radio summary of all APs
	<i>cisco_ap</i>	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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the detailed configuration for an access point:

```
(Cisco Controller) >show ap config 802.11a AP02
Cisco AP Identifier..... 0
Cisco AP Name..... AP02
Country code..... US - United States
Regulatory Domain allowed by Country..... 802.11bg:-A 802.11a:-A
AP Regulatory Domain..... Unconfigured
Switch Port Number ..... 1
MAC Address..... 00:0b:85:18:b6:50
IP Address Configuration..... DHCP
IP Address..... 1.100.49.240
IP NetMask..... 255.255.255.0
Gateway IP Addr..... 1.100.49.1
CAPWAP Path MTU..... 1485
Telnet State..... Disabled
Ssh State..... Disabled
Cisco AP Location..... default-location
Cisco AP Group Name..... default-group
Primary Cisco Switch..... Cisco_32:ab:63
Primary Cisco Switch IP Address..... Not Configured
Secondary Cisco Switch.....
Secondary Cisco Switch IP Address..... Not Configured
Tertiary Cisco Switch.....
Tertiary Cisco Switch IP Address..... Not Configured
Administrative State ..... ADMIN_ENABLED
Operation State ..... REGISTERED
Mirroring Mode ..... Disabled
AP Mode ..... Sniffer
```

```

Public Safety ..... Global: Disabled, Local: Disabled
AP SubMode ..... Not Configured
Remote AP Debug ..... Disabled
Logging trap severity level ..... informational
Logging syslog facility ..... kern
S/W Version ..... 7.0.110.6
Boot Version ..... 12.4.18.0
Mini IOS Version ..... 3.0.51.0
Stats Reporting Period ..... 180
Stats Re--More-- or (q)uit
LED State..... Enabled
PoE Pre-Standard Switch..... Enabled
PoE Power Injector MAC Addr..... Disabled
Power Type/Mode..... Power injector / Normal mode
Number Of Slots..... 2
AP Model..... AIR-LAP1142N-A-K9
AP Image..... C1140-K9W8-M
IOS Version..... 12.4(20100502:031212)
Reset Button..... Enabled
AP Serial Number..... FTX1305S180
AP Certificate Type..... Manufacture Installed
AP User Mode..... AUTOMATIC
AP User Name..... Not Configured
AP Dotlx User Mode..... Not Configured
AP Dotlx User Name..... Not Configured
Cisco AP system logging host..... 255.255.255.255
AP Up Time..... 47 days, 23 h 47 m 47 s
AP LWAPP Up Time..... 47 days, 23 h 10 m 37 s
Join Date and Time..... Tue May 4 16:05:00 2010
Join Taken Time..... 0 days, 00 h 01 m 37 s
Attributes for Slot 1
  Radio Type..... RADIO_TYPE_80211n-5
  Radio Subband..... RADIO_SUBBAND_ALL
  Administrative State ..... ADMIN_ENABLED
  Operation State ..... UP
  Radio Role ..... ACCESS
  CellId ..... 0
Station Configuration
  Configuration ..... AUTOMATIC
  Number Of WLANs ..... 2
  Medium Occupancy Limit ..... 100
  CFP Period ..... 4
  CFP MaxDuration ..... 60
  BSSID ..... 00:24:97:88:99:60
Operation Rate Set
  6000 Kilo Bits..... MANDATORY
  9000 Kilo Bits..... SUPPORTED
  12000 Kilo Bits..... MANDATORY
  18000 Kilo Bits..... SUPPORTED
  24000 Kilo Bits..... MANDATORY
  36000 Kilo Bits..... SUPPORTED
  48000 Kilo Bits..... SUPPORTED
  54000 Kilo Bits..... SUPPORTED
MCS Set
  MCS 0..... SUPPORTED
  MCS 1..... SUPPORTED
  MCS 2..... SUPPORTED
  MCS 3..... SUPPORTED
  MCS 4..... SUPPORTED
  MCS 5..... SUPPORTED
  MCS 6..... SUPPORTED
  MCS 7..... SUPPORTED
  MCS 8..... SUPPORTED
  MCS 9..... SUPPORTED

```

show ap config

```

MCS 10..... SUPPORTED
MCS 11..... SUPPORTED
MCS 12..... SUPPORTED
MCS 13..... SUPPORTED
MCS 14..... SUPPORTED
MCS 15..... SUPPORTED
Beacon Period ..... 100
Fragmentation Threshold ..... 2346
Multi Domain Capability Implemented ..... TRUE
Multi Domain Capability Enabled ..... TRUE
Country String ..... US
Multi Domain Capability
Configuration ..... AUTOMATIC
First Chan Num ..... 36
Number Of Channels ..... 21
MAC Operation Parameters
Configuration ..... AUTOMATIC
Fragmentation Threshold ..... 2346
Packet Retry Limit ..... 64
Tx Power
Num Of Supported Power Levels ..... 6
Tx Power Level 1 ..... 14 dBm
Tx Power Level 2 ..... 11 dBm
Tx Power Level 3 ..... 8 dBm
Tx Power Level 4 ..... 5 dBm
Tx Power Level 5 ..... 2 dBm
Tx Power Level 6 ..... -1 dBm
Tx Power Configuration ..... AUTOMATIC
Current Tx Power Level ..... 0
Phy OFDM parameters
Configuration ..... AUTOMATIC
Current Channel ..... 36
Extension Channel ..... NONE
Channel Width..... 20 Mhz
Allowed Channel List..... 36,40,44,48,52,56,60,64,100,
..... 104,108,112,116,132,136,140,
..... 149,153,157,161,165
TI Threshold ..... -50
Legacy Tx Beamforming Configuration ..... AUTOMATIC
Legacy Tx Beamforming ..... DISABLED
Antenna Type..... INTERNAL_ANTENNA
Internal Antenna Gain (in .5 dBi units).... 6
Diversity..... DIVERSITY_ENABLED
802.11n Antennas
Tx
A..... ENABLED
B..... ENABLED
Rx
A..... ENABLED
B..... ENABLED
C..... ENABLED
Performance Profile Parameters
Configuration ..... AUTOMATIC
Interference threshold..... 10 %
Noise threshold..... -70 dBm
RF utilization threshold..... 80 %
Data-rate threshold..... 1000000 bps
Client threshold..... 12 clients
Coverage SNR threshold..... 16 dB
Coverage exception level..... 25 %
Client minimum exception level..... 3 clients
Rogue Containment Information
Containment Count..... 0
CleanAir Management Information

```

```

CleanAir Capable..... No
Radio Extended Configurations:
  Buffer size .....30
  Data-rate.....0
  Beacon strt .....90 ms
  Rx-Sensitivity SOP threshold ..... -80 dB
  CCA threshold ..... -60 dB

```

The following example shows how to display the detailed configuration for another access point:

```

(Cisco Controller) >show ap config 802.11b AP02
Cisco AP Identifier..... 0
Cisco AP Name..... AP02
AP Regulatory Domain..... Unconfigured
Switch Port Number ..... 1
MAC Address..... 00:0b:85:18:b6:50
IP Address Configuration..... DHCP
IP Address..... 1.100.49.240
IP NetMask..... 255.255.255.0
Gateway IP Addr..... 1.100.49.1
Cisco AP Location..... default-location
Cisco AP Group Name..... default-group
Primary Cisco Switch..... Cisco_32:ab:63
Secondary Cisco Switch.....
Tertiary Cisco Switch.....
Administrative State ..... ADMIN_ENABLED
Operation State ..... REGISTERED
Mirroring Mode ..... Disabled
AP Mode ..... Local
Remote AP Debug ..... Disabled
S/W Version ..... 3.1.61.0
Boot Version ..... 1.2.59.6
Stats Reporting Period ..... 180
LED State..... Enabled
ILP Pre Standard Switch..... Disabled
ILP Power Injector..... Disabled
Number Of Slots..... 2
AP Model..... AS-1200
AP Serial Number..... 044110223A
AP Certificate Type..... Manufacture Installed
Attributes for Slot 1
  Radio Type..... RADIO_TYPE_80211g
  Administrative State ..... ADMIN_ENABLED
  Operation State ..... UP
  CellId ..... 0
  Station Configuration
    Configuration ..... AUTOMATIC
    Number Of WLANs ..... 1
    Medium Occupancy Limit ..... 100
    CFP Period ..... 4
    CFP MaxDuration ..... 60
    BSSID ..... 00:0b:85:18:b6:50
  Operation Rate Set
    1000 Kilo Bits..... MANDATORY
    2000 Kilo Bits..... MANDATORY
    5500 Kilo Bits..... MANDATORY
    11000 Kilo Bits..... MANDATORY
    6000 Kilo Bits..... SUPPORTED
    9000 Kilo Bits..... SUPPORTED
    12000 Kilo Bits..... SUPPORTED
    18000 Kilo Bits..... SUPPORTED
    24000 Kilo Bits..... SUPPORTED
    36000 Kilo Bits..... SUPPORTED

```

show ap config

```

    48000 Kilo Bits..... SUPPORTED
    54000 Kilo Bits..... SUPPORTED
    Beacon Period ..... 100
    DTIM Period ..... 1
    Fragmentation Threshold ..... 2346
    Multi Domain Capability Implemented ..... TRUE
    Multi Domain Capability Enabled ..... TRUE
    Country String ..... US
Multi Domain Capability
    Configuration ..... AUTOMATIC
    First Chan Num ..... 1
    Number Of Channels ..... 11
MAC Operation Parameters
    Configuration ..... AUTOMATIC
    RTS Threshold ..... 2347
    Short Retry Limit ..... 7
    Long Retry Limit ..... 4
    Fragmentation Threshold ..... 2346
    Maximum Tx MSDU Life Time ..... 512
    Maximum Rx Life Time..... 512
Tx Power
    Num Of Supported Power Levels..... 5
    Tx Power Level 1 ..... 17 dBm
    Tx Power Level 2..... 14 dBm
    Tx Power Level 3..... 11 dBm
    Tx Power Level 4..... 8 dBm
    Tx Power Level 5..... 5 dBm
    Tx Power Configuration..... CUSTOMIZED
    Current Tx Power Level..... 5
Phy OFDM parameters
    Configuration..... CUSTOMIZED
    Current Channel..... 1
    TI Threshold..... -50
    Legacy Tx Beamforming Configuration ..... CUSTOMIZED
    Legacy Tx Beamforming ..... ENABLED
    Antenna Type..... INTERNAL_ANTENNA
    Internal Antenna Gain (in5 dBm units)..... 11
    Diversity..... DIVERSITY_ENABLED
Performance Profile Parameters
    Configuration..... AUTOMATIC
    Interference threshold..... 10%
    Noise threshold..... -70 dBm
    RF utilization threshold..... 80%
    Data-rate threshold..... 1000000 bps
    Client threshold..... 12 clients
    Coverage SNR threshold..... 12 dB
    Coverage exception level..... 25%
    Client minimum exception level..... 3 clients
Rogue Containment Information
    Containment Count..... 0

```

The following example shows how to display the general configuration of a Cisco access point:

```

(Cisco Controller) >show ap config general cisco-ap
Cisco AP Identifier..... 9
Cisco AP Name..... cisco-ap
Country code..... US - United States
Regulatory Domain allowed by Country..... 802.11bg:-A 802.11a:-A
AP Country code..... US - United States
AP Regulatory Domain..... 802.11bg:-A 802.11a:-A
Switch Port Number ..... 1
MAC Address..... 12:12:12:12:12:12
IP Address Configuration..... DHCP

```



```

IP Address..... 10.10.10.21
IP NetMask..... 255.255.255.0
CAPWAP Path MTU..... 1485
Domain.....
Name Server.....
Telnet State..... Disabled
Ssh State..... Disabled
Cisco AP Location..... default location
Cisco AP Group Name..... default-group
Primary Cisco Switch Name..... 4404
Primary Cisco Switch IP Address..... 10.10.10.32
Secondary Cisco Switch Name.....
Secondary Cisco Switch IP Address..... Not Configured
Tertiary Cisco Switch Name..... 4404
Tertiary Cisco Switch IP Address..... 3.3.3.3
Administrative State ..... ADMIN_ENABLED
Operation State ..... REGISTERED
Mirroring Mode ..... Disabled
AP Mode ..... Local
Public Safety ..... Global: Disabled, Local: Disabled
AP subMode ..... WIPS
Remote AP Debug ..... Disabled
S/W Version ..... 5.1.0.0
Boot Version ..... 12.4.10.0
Mini IOS Version ..... 0.0.0.0
Stats Reporting Period ..... 180
LED State..... Enabled
PoE Pre-Standard Switch..... Enabled
PoE Power Injector MAC Addr..... Disabled
Power Type/Mode..... PoE/Low Power (degraded mode)
Number Of Slots..... 2
AP Model..... AIR-LAP1252AG-A-K9
IOS Version..... 12.4(10:0)
Reset Button..... Enabled
AP Serial Number..... serial_number
AP Certificate Type..... Manufacture Installed
Management Frame Protection Validation..... Enabled (Global MFP Disabled)
AP User Mode..... CUSTOMIZED
AP username..... maria
AP Dot1x User Mode..... Not Configured
AP Dot1x username..... Not Configured
Cisco AP system logging host..... 255.255.255.255
AP Up Time..... 4 days, 06 h 17 m 22 s
AP LWAPP Up Time..... 4 days, 06 h 15 m 00 s
Join Date and Time..... Mon Mar 3 06:19:47 2008
Ethernet Port Duplex..... Auto
Ethernet Port Speed..... Auto
AP Link Latency..... Enabled
  Current Delay..... 0 ms
  Maximum Delay..... 240 ms
  Minimum Delay..... 0 ms
  Last updated (based on AP Up Time)..... 4 days, 06 h 17 m 20 s
Rogue Detection..... Enabled
AP TCP MSS Adjust..... Disabled
Mesh preferred parent..... 00:24:13:0f:92:00

```

show ap config general

To display the access point specific syslog server settings for all access points, use the **show ap config general** command.

show ap config general *ap-name*

Syntax Description	<i>ap-name</i>	AP name
Command History	Release	Modification
	8.0	This command was introduced
	8.10.112.0	The output of the command is enhanced to show the status of AP antenna monitoring and failure detection for Cisco Wave 2 APs.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display AP specific server settings:

```
(Cisco Controller) >show ap config general APc89c.1d53.6799
Cisco AP Identifier..... 76
Cisco AP Name..... APc89c.1d53.6799
Country code..... Multiple Countries:IN,JP,US
Regulatory Domain allowed by Country..... 802.11bg:-AJPU 802.11a:-AJN
AP Country code..... US - United States
AP Regulatory Domain..... 802.11bg:-A 802.11a:-A
Switch Port Number ..... 1
MAC Address..... c8:9c:1d:53:67:99
IP Address Configuration..... DHCP
IP Address..... 10.8.77.103
IP NetMask..... 255.255.255.0
Gateway IP Addr..... 10.8.77.1
NAT External IP Address..... None
CAPWAP Path MTU..... 1485
Telnet State..... Globally Disabled
Ssh State..... Globally Disabled
Cisco AP Location..... default location
Cisco AP Floor Label..... 0
Cisco AP Group Name..... apGroup2
Primary Cisco Switch Name.....
Primary Cisco Switch IP Address..... Not Configured
Secondary Cisco Switch Name.....
Secondary Cisco Switch IP Address..... Not Configured
Tertiary Cisco Switch Name.....
Tertiary Cisco Switch IP Address..... Not Configured
Administrative State ..... ADMIN_ENABLED
Operation State ..... REGISTERED
Mirroring Mode ..... Disabled
AP Mode ..... Local
Public Safety ..... Disabled
AP SubMode ..... Not Configured
Remote AP Debug ..... Disabled
Logging trap severity level ..... informational
```

```

Logging syslog facility ..... system
S/W Version ..... 8.0.72.132
Boot Version ..... 12.4.23.0
Mini IOS Version ..... 3.0.51.0
Stats Reporting Period ..... 180
Stats Collection Mode ..... normal
LED State..... Enabled
PoE Pre-Standard Switch..... Disabled
PoE Power Injector MAC Addr..... Disabled
Power Type/Mode..... PoE/Full Power
Number Of Slots..... 2
AP Model..... AIR-LAP1142N-A-K9
AP Image..... C1140-K9W8-M
IOS Version..... 15.3(20140302:180954)$
Reset Button..... Enabled
AP Serial Number..... FGL1510S3VZ
AP Certificate Type..... Manufacture Installed
AP User Mode..... AUTOMATIC
AP User Name..... cisco
AP Dot1x User Mode..... Not Configured
AP Dot1x User Name..... Not Configured
Cisco AP system logging host..... 255.255.255.255
AP Up Time..... 0 days, 18 h 43 m 35 s
AP LWAPP Up Time..... 0 days, 18 h 42 m 23 s
Join Date and Time..... Wed Mar 5 07:26:07 2014
Join Taken Time..... 0 days, 00 h 01 m 11 s
Memory Type..... DDR3
Memory Size..... 98294 KBytes
CPU Type..... PowerPC405ex CPU at 586Mhz, revision
number 0x147E
Flash Type..... Onboard Flash
Flash Size..... 31374 KBytes
GPS Present..... NO
Ethernet Vlan Tag..... Disabled
Ethernet Port Duplex..... Auto
Ethernet Port Speed..... Auto
AP Link Latency..... Disabled
Rogue Detection..... Enabled
AP TCP MSS Adjust..... Disabled
Hotspot Venue Group..... Unspecified
Hotspot Venue Type..... Unspecified
DNS server IP ..... Not Available

AP broken antenna detection - Status ..... Enabled (Global)
RSSI Failure Threshold ..... 40

--More-- or (q)uit
Weak RSSI ..... 60
Detection Time ..... 12
If any broken antenna?..... ALL
Memory Type..... DDR3
Memory Size..... 1028096 KBytes
CPU Type..... ARMv7 Processor rev 1 (v7l)

```

show ap config global

To display the global syslog server settings for all access points that join the controller, use the **show ap config global** command.

show ap config global

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display global syslog server settings:

```
(Cisco Controller) >show ap config global
AP global system logging host..... 255.255.255.255
```

show ap core-dump

To display the memory core dump information for a lightweight access point, use the **show ap core-dump** command.

show ap core-dump *cisco_ap*

Syntax Description	<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.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display memory core dump information:

```
(Cisco Controller) >show ap core-dump AP02
Memory core dump is disabled.
```

show ap crash-file

To display the list of both crash and radio core dump files generated by lightweight access points, use the **show ap crash-file** command.

show ap crash-file

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the crash file generated by the access point:

```
(Cisco Controller) >show ap crash-file
```

show ap data-plane

To display the data plane status for all access points or a specific access point, use the **show ap data-plane** command.

show ap data-plane {all | cisco_ap}

Syntax Description	all	Specifies all Cisco lightweight access points.
	cisco_ap	Name of a Cisco lightweight access point.

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the data plane status of all access points:

```
(Cisco Controller) >show ap data-plane all
Min Data      Data      Max Data      Last
AP Name      Round Trip  Round Trip    Round Trip    Update
-----
1130          0.000s    0.000s        0.002s        18:51:23
1240          0.000s    0.000s        0.000s        18:50:45
```

show ap dtls-cipher-suite

To display the DTLS show cipher suite information, use the **show ap dtls-cipher-suite** command.

show ap dtls-cipher-suite

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

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

Command History	Release	Modification
	8.0	This command was introduced.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display DTLS cipher suite information:

```
(Cisco Controller) > show ap dtls-cipher-suite
DTLS Cipher Suite..... RSA-AES256-SHA
```


show ap ethernet tag

To display the VLAN tagging information of an Ethernet interface, use the **show ap ethernet tag** command.

```
show ap ethernet tag {summary | cisco_ap}
```

Syntax Description

summary Displays the VLAN tagging information for all access points associated to the controller.

cisco_ap Name of the Cisco lightweight access point. Displays the VLAN tagging information for a specific access point associated to the controller.

Command Default

None

Command History

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

Command History

Release	Modification
8.3	This command was introduced.

Usage Guidelines

If the access point is unable to route traffic or reach the controller using the specified trunk VLAN, it falls back to the untagged configuration. If the access point joins the controller using this fallback configuration, the controller sends a trap to a trap server such as the WCS, which indicates the failure of the trunk VLAN. In this scenario, the "Failover to untagged" message appears in show command output.

The following example shows how to display the VLAN tagging information for all access points associated to the controller:

```
(Cisco Controller) >show ap ethernet tag summary

AP Name           Vlan Tag Configuration
-----
AP2                7 (Failover to untagged)
charan.AP1140.II  disabled
```

show ap eventlog

To display the contents of the event log file for an access point that is joined to the controller, use the **show ap eventlog** command.

show ap eventlog *ap_name*

Syntax Description	<i>ap_name</i>	Event log for the specified access point.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the event log of an access point:

```
(Cisco Controller) >show ap eventlog ciscoAP
AP event log download has been initiated
Waiting for download to complete
AP event log download completed.
===== AP Event log Contents =====
*Feb 13 11:54:17.146: %CAPWAP-3-CLIENTEVENTLOG: AP event log has been cleared from the
contoller 'admin'
*Feb 13 11:54:32.874: *** Access point reloading. Reason: Reload Command ***
*Mar 1 00:00:39.134: %CDP_PD-4-POWER_OK: Full power - NEGOTIATED inline power source
*Mar 1 00:00:39.174: %LINK-3-UPDOWN: Interface Dot11Radio1, changed state to up
*Mar 1 00:00:39.211: %LINK-3-UPDOWN: Interface Dot11Radio0, changed state to up
*Mar 1 00:00:49.947: %CAPWAP-3-CLIENTEVENTLOG: Did not get vendor specific options from
DHCP.
...
```

show ap flexconnect

To view the details of APs in FlexConnect mode, use the **show ap flexconnect** command.

show ap flexconnect module-vlan *ap-name*

Syntax	Description
module-vlan	Displays the status of FlexConnect local switching and VLAN ID value
<i>ap-name</i>	Cisco AP name

Command History	Release	Modification
	8.1	This command was introduced

Command History	Release	Modification
	8.3	This command was introduced.

show ap image

To display the detailed information about the predownloaded image for specified access points, use the **show ap image** command.

```
show ap image { cisco_ap | all }
```

Syntax Description

<i>cisco_ap</i>	Name of the lightweight access point.
all	Specifies all access points.



Note If you have an AP that has the name *all*, it conflicts with the keyword **all** that specifies all access points. In this scenario, the keyword **all** takes precedence over the AP that is named *all*.

Command History

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

Command History

Release	Modification
8.3	This command was introduced.

show ap image status

To view download status on all APs, use the **show ap image status** command.

show ap image status

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

Command History	Release	Modification
	8.2	This command was introduced.

show ap inventory

To display inventory information for an access point, use the **show ap inventory** command.

show ap inventory {*ap-name* | **all**}

Syntax Description		
<i>ap-name</i>	Inventory for the specified AP.	
all	Inventory for all the APs.	
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the inventory of an access point:

```
(Cisco Controller) >show ap inventory test101
NAME: "test101" , DESCR: "Cisco Wireless Access Point"
PID: AIR-LAP1131AG-A-K9 , VID: V01, SN: FTX1123T2XX
```

show ap join stats detailed

To display all join-related statistics collected for a specific access point, use the **show ap join stats detailed** command.

show ap join stats detailed *ap_mac*

Syntax Description	<i>ap_mac</i>	Access point Ethernet MAC address or the MAC address of the 802.11 radio interface.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display join information for a specific access point trying to join the controller:

```
(Cisco Controller) >show ap join stats detailed 00:0b:85:02:0d:20
Discovery phase statistics
- Discovery requests received..... 2
- Successful discovery responses sent..... 2
- Unsuccessful discovery request processing..... 0
- Reason for last unsuccessful discovery attempt..... Not applicable
- Time at last successful discovery attempt..... Aug 21 12:50:23:335
- Time at last unsuccessful discovery attempt..... Not applicable
Join phase statistics
- Join requests received..... 1
- Successful join responses sent..... 1
- Unsuccessful join request processing..... 1
- Reason for last unsuccessful join attempt.....RADIUS authorization is pending for
the AP
- Time at last successful join attempt..... Aug 21 12:50:34:481
- Time at last unsuccessful join attempt..... Aug 21 12:50:34:374
Configuration phase statistics
- Configuration requests received..... 1
- Successful configuration responses sent..... 1
- Unsuccessful configuration request processing..... 0
- Reason for last unsuccessful configuration attempt... Not applicable
- Time at last successful configuration attempt..... Aug 21 12:50:34:374
- Time at last unsuccessful configuration attempt..... Not applicable
Last AP message decryption failure details
- Reason for last message decryption failure..... Not applicable
Last AP disconnect details
- Reason for last AP connection failure..... Not applicable
Last join error summary
- Type of error that occurred last..... Lwapp join request rejected
- Reason for error that occurred last..... RADIUS authorization is pending for
```

```
the AP
- Time at which the last join error occurred..... Aug 21 12:50:34:374
```


show ap join stats summary

To display the last join error detail for a specific access point, use the **show ap join stats summary** command.

show ap join stats summary *ap_mac*

Syntax Description	<i>ap_mac</i>	Access point Ethernet MAC address or the MAC address of the 802.11 radio interface.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.
Usage Guidelines	To obtain the MAC address of the 802.11 radio interface, enter the show interface command on the access point.	

The following example shows how to display specific join information for an access point:

```
(Cisco Controller) >show ap join stats summary 00:0b:85:02:0d:20
Is the AP currently connected to controller..... No
Time at which the AP joined this controller last time..... Aug 21 12:50:36:061
Type of error that occurred last..... Lwapp join request
rejected
Reason for error that occurred last..... RADIUS authorization
is pending for the AP
Time at which the last join error occurred..... Aug 21 12:50:34:374
```

show ap join stats summary all

To display the MAC addresses of all the access points that are joined to the controller or that have tried to join, use the **show ap join stats summary all** command.

show ap join stats summary all

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display a summary of join information for all access points:

```
(Cisco Controller) >show ap join stats summary all
Number of APs..... 4
Base Mac          AP EthernetMac    AP Name           IP Address        Status
00:0b:85:57:bc:c0 00:0b:85:57:bc:c0 AP1130            10.10.163.217    Joined
00:1c:0f:81:db:80 00:1c:63:23:ac:a0 AP1140            10.10.163.216    Not joined
00:1c:0f:81:fc:20 00:1b:d5:9f:7d:b2 AP1                10.10.163.215    Joined
00:21:1b:ea:36:60 00:0c:d4:8a:6b:c1 AP2                10.10.163.214    Not joined
```

show ap led-state

To view the LED state of all access points or a specific access point, use the **show ap led-state** command.

```
show ap led-state { all | cisco_ap }
```

Syntax Description	all	Shows the LED state for all access points.
	<i>cisco_ap</i>	Name of the access point whose LED state is to be shown.
Command Default	The AP LED state is enabled.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to get the LED state of all access points:

```
(Cisco Controller) >show ap led-state all
Global LED State: Enabled (default)
```

show ap led-flash

To display the LED flash status of an access point, use the **show ap led-flash** command.

show ap led-flash *cisco_ap*

Syntax Description	<i>cisco_ap</i> Enter the name of the Cisco AP.
---------------------------	---

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the LED flash status of an access point:

```
(Cisco Controller) >show ap led-flash
```

show ap link-encryption

To display the MAC addresses of all the access points that are joined to the controller or that have tried to join, use the **show ap link-encryption** command.

```
show ap link-encryption {all | cisco_ap}
```

Syntax Description	all	Specifies all access points.
	<i>cisco_ap</i>	Name of the lightweight access point.
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 display the link encryption status of all access points:

```
(Cisco Controller) >show ap link-encryption all
      Encryption  Dnstream  Upstream  Last
AP Name      State      Count      Count      Update
-----
1240          Dis       4406      237553     Never
1130          En        2484      276308     19:31
```

show ap max-count summary

To display the maximum number of access points supported by the Cisco WLC, use the **show ap max-count summary** command.

show ap max-count summary

Syntax Description This command has no arguments or keywords.

Command Default None

Command History	Release	Modification
	7.5	This command was introduced.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show ap max-count summary** command:

```
(Cisco Controller) >show ap max-count
```

```
The max number of AP's supported..... 500
```

show ap monitor-mode summary

To display the current channel-optimized monitor mode settings, use the **show ap monitor-mode summary** command.

show ap monitor-mode summary

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display current channel-optimized monitor mode settings:

```
(Cisco Controller) >show ap monitor-mode summary
AP Name           Ethernet MAC      Status      Scanning Channel List
-----
AP_004            xx:xx:xx:xx:xx:xx Tracking        1, 6, 11, 4
```

show ap module summary

To view detailed information about the external module, for a specific Cisco AP or for all Cisco APs, use the **show ap module summary** command.

show ap module summary {*ap-name* | **all**}

Syntax	Description
<i>ap-name</i>	Cisco AP name that has the external module
all	All Cisco APs that have the external module

Command History	Release	Modification
	8.1	This command was introduced.

Command History	Release	Modification
	8.3	This command was introduced.

show ap packet-dump status

To display access point Packet Capture configurations, use the **show ap packet-dump status** command.

show ap packet-dump status

Syntax Description This command has no arguments or keywords.

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

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines Packet Capture does not work during intercontroller roaming.
 The controller does not capture packets created in the radio firmware and sent out of the access point, such as the beacon or probe response. Only packets that flow through the Radio driver in the Tx path are captured.

The following example shows how to display the access point Packet Capture configurations:

```
(Cisco Controller) >show ap packet-dump status
Packet Capture Status..... Stopped
FTP Server IP Address..... 0.0.0.0
FTP Server Path.....
FTP Server Username.....
FTP Server Password..... *****
Buffer Size for Capture..... 2048 KB
Packet Capture Time..... 45 Minutes
Packet Truncate Length..... Unspecified
Packet Capture Classifier..... None
```

show ap prefer-mode stats

To view prefer-mode global and per AP group statistics, use the **show ap prefer-mode stats** command.

show ap prefer-mode stats

Syntax Description	stats Displays prefer-mode global and per AP group statistics
---------------------------	--

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

Command History	Release	Modification
	8.3	This command was introduced.

show ap retransmit

To display access point control packet retransmission parameters, use the **show ap retransmit** command.

show ap retransmit {all | *cisco_ap*}

Syntax Description	all	Specifies all access points.
	<i>cisco_ap</i>	Name of the access point.

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the control packet retransmission parameters of all access points on a network:

```
(Cisco Controller) >show ap retransmit all
Global control packet retransmit interval: 3 (default)
Global control packet retransmit count: 5 (default)
AP Name           Retransmit Interval  Retransmit count
-----
AP_004             3 (default)          5 (WLC default),5 (AP default)
```

show ap stats

To display the statistics for a Cisco lightweight access point, use the **show ap stats** command.

show ap stats {802.11{a | b} | wlan | ethernet summary} *cisco_ap* [**tsm** {*client_mac* | **all**}]

Syntax Description		
	802.11a	Specifies the 802.11a network
	802.11b	Specifies the 802.11b/g network.
	wlan	Specifies WLAN statistics.
	ethernet	Specifies AP ethernet interface statistics.
	summary	Displays ethernet interface summary of all the connected Cisco access points.
	<i>cisco_ap</i>	Name of the lightweight access point.
	tsm	(Optional) Specifies the traffic stream metrics.
	<i>client_mac</i>	(Optional) MAC address of the client.
	all	(Optional) Specifies all access points.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
	8.0	This command was modified. The OEAP WMM Counters were added to the output.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display statistics of an access point for the 802.11b network:

```
(Cisco Controller) >show ap stats 802.11a Ibiza

Number Of Slots..... 2
AP Name..... Ibiza
MAC Address..... 44:2b:03:9a:8a:73
Radio Type..... RADIO_TYPE_80211a
Stats Information
  Number of Users..... 0
  TxFragmentCount..... 84628
  MulticastTxFrameCnt..... 84628
  FailedCount..... 0
```

```

RetryCount..... 0
MultipleRetryCount..... 0
FrameDuplicateCount..... 0
RtsSuccessCount..... 1
RtsFailureCount..... 0
AckFailureCount..... 0
RxIncompleteFragment..... 0
MulticastRxFrameCnt..... 0
FcsErrorCount..... 20348857
TxFrameCount..... 84628
WepUndecryptableCount..... 19907
TxFramesDropped..... 0
OEAP WMM Stats :
Best Effort:
Tx Frame Count..... 0
Tx Failed Frame Count..... 0
Tx Expired Count..... 0
Tx Overflow Count..... 0
Tx Queue Count..... 0
Tx Queue Max Count..... 0
Rx Frame Count..... 0
Rx Failed Frame Count..... 0
Background:
Tx Frame Count..... 0
Tx Failed Frame Count..... 0
Tx Expired Count..... 0
Tx Overflow Count..... 0
Tx Queue Count..... 0
Tx Queue Max Count..... 0
Rx Frame Count..... 0
Rx Failed Frame Count..... 0
Video:
Tx Frame Count..... 0
Tx Failed Frame Count..... 0
Tx Expired Count..... 0
Tx Overflow Count..... 0
Tx Queue Count..... 0
Tx Queue Max Count..... 0
Rx Frame Count..... 0
Rx Failed Frame Count..... 0
Voice:
Tx Frame Count..... 0
Tx Failed Frame Count..... 0
Tx Expired Count..... 0
Tx Overflow Count..... 0
Tx Queue Count..... 0
Tx Queue Max Count..... 0
Rx Frame Count..... 0
Rx Failed Frame Count..... 0

Rate Limiting Stats:
Wlan 1:
Number of Data Packets Received..... 592
Number of Data Rx Packets Dropped..... 160
Number of Data Bytes Received..... 160783
Number of Data Rx Bytes Dropped..... 0
Number of Realtime Packets Received..... 592
Number of Realtime Rx Packets Dropped..... 0
Number of Realtime Bytes Received..... 160783
Number of Realtime Rx Bytes Dropped..... 0
Number of Data Packets Sent..... 131
Number of Data Tx Packets Dropped..... 0
Number of Data Bytes Sent..... 23436
Number of Data Tx Bytes Dropped..... 0
    
```

show ap stats

```

    Number of Realtime Packets Sent..... 131
    Number of Realtime Tx Packets Dropped..... 0
    Number of Realtime Bytes Sent..... 23436
    Number of Realtime Tx Bytes Dropped..... 0
Call Admission Control (CAC) Stats
Voice Bandwidth in use(% of config bw)..... 0
Voice Roam Bandwidth in use(% of config bw).... 0
    Total channel MT free..... 0
    Total voice MT free..... 0
    Na Direct..... 0
    Na Roam..... 0
Video Bandwidth in use(% of config bw)..... 0
Video Roam Bandwidth in use(% of config bw).... 0
Total BW in use for Voice(%)..... 0
Total BW in use for SIP Preferred call(%)..... 0
WMM TSPEC CAC Call Stats
Total num of voice calls in progress..... 0
Num of roaming voice calls in progress..... 0
Total Num of voice calls since AP joined..... 0
Total Num of roaming calls since AP joined..... 0
Total Num of exp bw requests received..... 0
Total Num of exp bw requests admitted..... 0
Num of voice calls rejected since AP joined.... 0
Num of roam calls rejected since AP joined.... 0
Num of calls rejected due to insufficient bw.... 0
Num of calls rejected due to invalid params.... 0
Num of calls rejected due to PHY rate..... 0
Num of calls rejected due to QoS policy..... 0
SIP CAC Call Stats
Total Num of calls in progress..... 0
Num of roaming calls in progress..... 0
Total Num of calls since AP joined..... 0
Total Num of roaming calls since AP joined..... 0
Total Num of Preferred calls received..... 0
Total Num of Preferred calls accepted..... 0
Total Num of ongoing Preferred calls..... 0
Total Num of calls rejected(Insuff BW)..... 0
Total Num of roam calls rejected(Insuff BW).... 0
WMM Video TSPEC CAC Call Stats
Total num of video calls in progress..... 0
Num of roaming video calls in progress..... 0
Total Num of video calls since AP joined..... 0
Total Num of video roaming calls since AP j.... 0
Num of video calls rejected since AP joined.... 0
Num of video roam calls rejected since AP j.... 0
Num of video calls rejected due to insuffic.... 0
Num of video calls rejected due to invalid .... 0
Num of video calls rejected due to PHY rate.... 0
Num of video calls rejected due to QoS poli.... 0
SIP Video CAC Call Stats
Total Num of video calls in progress..... 0
Num of video roaming calls in progress..... 0
Total Num of video calls since AP joined..... 0
Total Num of video roaming calls since AP j.... 0
Total Num of video calls rejected(Insuff BW).... 0
Total Num of video roam calls rejected(Insu... 0
Band Select Stats
Num of dual band client ..... 0
Num of dual band client added..... 0
Num of dual band client expired ..... 0
Num of dual band client replaced..... 0
Num of dual band client detected ..... 0
Num of suppressed client ..... 0
Num of suppressed client expired..... 0

```

Num of suppressed client replaced..... 0

show ap summary

To display a summary of all lightweight access points attached to the controller, use the **show ap summary** command.

show ap summary [*cisco_ap*]

Syntax Description	<i>cisco_ap</i>	(Optional) Type sequence of characters that make up the name of a specific AP or a group of APs, or enter a wild character search pattern.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.
Usage Guidelines	A list that contains each lightweight access point name, number of slots, manufacturer, MAC address, location, and the controller port number appears. When you specify	

The following example shows how to display a summary of all connected access points:

```
(Cisco Controller) >show ap summary
Number of APs..... 2
Global AP username..... user
Global AP Dot1x username..... Not Configured
Number of APs..... 2
Global AP username..... user
Global AP Dot1x username..... Not Configured

  AP Name          Slots  AP Model          Ethernet MAC      Location
Country  IP Address      Clients
-----
AP1140          2    AIR-LAP1142N-A-K9    f0:f7:55:75:f3:29    default
location      US    192.168.0.0          0
Access Points using IPv6 transport:
  AP Name  Slots  AP Model          Ethernet MAC      Location      Country      IPv6
  Address      Clients
-----
AP1040    2    AIR-LAP1042N-A-K9    00:40:96:b9:4b:89    default location  US
2001:DB8:0:1::1          0
```


show ap tcp-mss-adjust

To display the Basic Service Set Identifier (BSSID) value for each WLAN defined on an access point, use the **show ap tcp-mss-adjust** command.

```
show ap tcp-mss-adjust { cisco_ap | all }
```

Syntax Description		
	<i>cisco_ap</i>	Specified lightweight access point name.
	all	Specifies all access points.



Note If an AP itself is configured with the keyword **all**, the all access points case takes precedence over the AP that is with the keyword **all**.

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display Transmission Control Protocol (TCP) maximum segment size (MSS) information of all access points:

```
(Cisco Controller) >show ap tcp-mss-adjust all
AP Name          TCP State MSS Size
-----
AP-1140          enabled  536
AP-1240          disabled -
AP-1130          disabled -
```

show ap wlan

To display the Basic Service Set Identifier (BSSID) value for each WLAN defined on an access point, use the **show ap wlan** command.

show ap wlan 802.11{a | b} *cisco_ap*

Syntax Description	802.11a	Specifies the 802.11a network.
	802.11b	Specifies the 802.11b/g network.
	<i>ap_name</i>	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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display BSSIDs of an access point for the 802.11b network:

```
(Cisco Controller) >show ap wlan 802.11b AP01
Site Name..... MY_AP_GROUP1
Site Description..... MY_AP_GROUP1
WLAN ID      Interface      BSSID
-----
1            management    00:1c:0f:81:fc:20
2            dynamic      00:1c:0f:81:fc:21
```

show assisted-roaming

To display assisted roaming and 802.11k configurations, use the **show assisted-roaming** command.

show assisted-roaming

Syntax Description This command has no arguments or keywords.

Command Default None.

Command History	Release	Modification
	8.3	This command was introduced.

This example shows how to display assisted roaming and 802.11k configurations:

```
(Cisco Controller) >show assisted-roaming
Assisted Roaming and 80211k Information:
Floor RSSI Bias..... 15 dBm
Maximum Denial..... 2 counts
Minimum Optimized Neighbor Assigned..... 2 neighbors

Assisted Roaming Performance Chart:
Matching Assigned Neighbor..... [0] = 0
Matching Assigned Neighbor..... [1] = 0
Matching Assigned Neighbor..... [2] = 0
Matching Assigned Neighbor..... [3] = 0
Matching Assigned Neighbor..... [4] = 0
Matching Assigned Neighbor..... [5] = 0
Matching Assigned Neighbor..... [6] = 0
Matching Assigned Neighbor..... [7] = 0
No Matching Neighbor..... [8] = 0
No Neighbor Assigned..... [9] = 0
```

- Related Commands**
- config assisted-roaming**
 - config wlan assisted-roaming**
 - debug 11k**

show atf config

To monitor Cisco Airtime Fairness configuration, use the **show atf config** command.

show atf config {**all** | {**ap-name***ap-name*} | {**802.11**{**a** | **b**}} | **policy** | **wlan**}

Syntax	Description
all	Shows Cisco ATF configuration of all radios
ap-name	Shows Cisco ATF configuration of an AP
<i>ap-name</i>	AP name that you must specify
802.11a	Shows Cisco ATF configuration of all 5-GHz radios
802.11b	Shows Cisco ATF configuration of all 2.4-GHz radios
policy	Shows configuration of all airtime policies
wlan	Shows Cisco ATF configuration of all WLANs

Command Default None

Command History	Release	Modification
	8.1	This command was introduced

This example shows how to monitor Cisco Airtime Fairness configuration:

```
(Cisco Controller) >show atf config all
```

show atf statistics ap

To monitor Cisco Airtime Fairness statistics, use the **show atf statistics** command.

```
show atf statistics ap ap-name 802.11{a | b} {summary | wlan-id | policy-id}
```

Syntax	Description
802.11a	Shows detailed statistics on all 5-GHz radios.
802.11b	Shows detailed statistics on all 2.4-GHz radios.
summary	Shows summary statistics for the AP.
wlan <i>wlan-id</i>	Shows detailed ATF statistics for the specified WLAN.
policy <i>policy-name</i>	Shows detailed ATF statistics for the specified policy name.

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

Command History	Release	Modification
	8.1	This command was introduced.

This example shows how to monitor Cisco Airtime Fairness statistics:

```
(Cisco Controller) >show atf statistics ap Ap01323 802.11a summary
```

show auth-list

To display the access point authorization list, use the **show auth-list** command.

show auth-list

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the access point authorization list:

```
(Cisco Controller) >show auth-list
Authorize APs against AAA..... disabled
Allow APs with Self-signed Certificate (SSC)... disabled
Mac Addr          Cert Type      Key Hash
-----
xx:xx:xx:xx:xx:xx  MIC
```

show avc applications

To display all the supported Application Visibility and Control (AVC) applications, use the **show avc applications** command.

show avc applications

Syntax Description This command has no arguments or keywords.

Command Default None

Command History	Release	Modification
	7.4	This command was introduced.

Usage Guidelines AVC uses the Network-Based Application Recognition (NBAR) deep packet inspection technology to classify applications based on the protocol they use. Using AVC, the controller can detect more than 1500 Layer 4 to Layer 7 protocols.

The following is a sample output of the **show avc applications** command:

(Cisco Controller) > **show avc applications**

Application-Name	App-ID	Engine-ID	Selector-ID	Application-Group-Name
3com-amp3	538	3	629	other
3com-tsmux	977	3	106	obsolete
3pc	788	1	34	layer3-over-ip
914c/g	1109	3	211	net-admin
9pfs	479	3	564	net-admin
acap	582	3	674	net-admin
acas	939	3	62	other
accessbuilder	662	3	888	other
accessnetwork	607	3	699	other
acp	513	3	599	other
acr-nema	975	3	104	industrial-protocols
active-directory	1194	13	473	other
activesync	1419	13	490	business-and-productivity-tools
adobe-connect	1441	13	505	other
aed-512	963	3	149	obsolete
afpovertcp	1327	3	548	business-and-productivity-tools
agentx	609	3	705	net-admin
alpes	377	3	463	net-admin
aminet	558	3	2639	file-sharing
an	861	1	107	layer3-over-ip
----	----	---	-----	-----

show avc engine

To display information about the Network-Based Application Recognition 2 (NBAR2) engine, use the **show avc engine** command.

show avc engine version

Syntax Description	version
	Displays the version of the NBAR2 engine.

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

Command History	Release	Modification
	7.5	This command was introduced.

Usage Guidelines	The Application Visibility and Control (AVC) protocol pack is not supported in the Cisco 2500 Series Wireless Controllers.
------------------	--

The following is a sample output of the **show avc engine** command:

```
(Cisco Controller) > show avc engine version
```

```
AVC Engine Version: 13
```


show avc profile

To display Application Visibility and Control (AVC) profiles, use the **show avc profile** command.

show avc profile { **summary** | **detailed** *profile_name* }

Syntax Description	summary	Displays a summary of AVC profiles.
	detailed	Displays the details of an AVC profile.
	<i>profile_name</i>	Name of the AVC profile. The profile name can be up to 32 case-sensitive, alphanumeric characters.
Command Default	None	
Command History	Release	Modification
	7.4	This command was introduced.

The following is a sample output of the **show avc profile summary** command.

```
(Cisco Controller) > show avc profile summary

Profile-Name          Number of Rules
=====
profile 1              3
avc_profile2          1
```

The following is a sample output of the **show avc profile detailed** command.

```
(Cisco Controller) > show avc profile detailed

Application-Name      Application-Group-Name      Action  DSCP
=====
ftp                   file-sharing               Drop    -
flash-video           browsing                    Mark    10
facebook              browsing                    Mark    10

Associated WLAN IDs   :
Associated Remote LAN IDs :
Associated Guest LAN IDs :
```

show avc protocol-pack

To display information about the Application Visibility and Control (AVC) protocol pack in the Cisco Wireless LAN Controller (WLC), use the **show avc protocol-pack** command.

show avc protocol-pack version

Syntax Description	version Displays the version of the AVC protocol pack.
---------------------------	---

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

Command History	Release Modification
	7.5 This command was introduced.

Usage Guidelines	The AVC protocol pack is not supported in the Cisco 2500 Series Wireless Controllers.
-------------------------	---

The following is a sample output of the **show avc protocol-pack** command:

```
(Cisco Controller) > show avc protocol-pack version
```

```
AVC Protocol Pack Name: Advanced Protocol Pack
AVC Protocol Pack Version: 1.0
```

show avc statistics application

To display the statistics of an application, use the **show avc statistics application** command.

show avc statistics application *application_name* **top-users** [**downstream wlan** | **upstream wlan** | **wlan**] [*wlan_id*] }

Syntax Description	
<i>application_name</i>	Name of the application. The application name can be up to 32 case-sensitive, alphanumeric characters.
top-users	Displays AVC statistics for top application users.
downstream	(Optional) Displays statistics of top downstream applications.
wlan	(Optional) Displays AVC statistics of a WLAN.
<i>wlan_id</i>	WLAN identifier from 1 to 512.
upstream	(Optional) Displays statistics of top upstream applications.

Command Default None

Command History	Release	Modification
	7.4	This command was introduced.

The following is a sample output of the **show avc statistics application** command:

```
(Cisco Controller) > show avc statistics application ftp top-users downstream wlan 1

Client MAC          Client IP          WLAN ID  Packets  Bytes  Avg Pkt  Packets
Bytes              DSCP              (n secs) (n secs)  Size    (Total)
(Up/Down)
(Total)  In  Out
=====  ==  ==
00:0a:ab:15:00:9c (U) 172.16.31.156      1         16      91      5        43
338      0  0
          (D) 172.16.31.156      1         22     5911    268      48
6409     0  0
00:0a:ab:15:00:5a (U) 172.16.31.90       1          7       39      5        13
84       0  0
          (D) 172.16.31.90       1         12     5723    476      18
5869     0  0
00:0a:ab:15:00:60 (U) 172.16.31.96       1         19      117     6        75
8666     0  0
          (D) 172.16.31.96       1         19     4433    233      83
9595     0  0
00:0a:ab:15:00:a4 (U) 172.16.31.164      1         18      139     7        21
161      0  0
          (D) 172.16.31.164      1         23     4409    191      24
4439     0  0
00:0a:ab:15:00:48 (U) 172.16.31.72       1         21     2738    130      21
2738     0  0
          (D) 172.16.31.72       1         22     4367    198      22
```

show avc statistics application

```

4367      0  0
00:0a:ab:15:00:87 (U) 172.16.31.135      1      11      47      4      49
301       0  0
              (D) 172.16.31.135      1      12     4208     350     48
7755      0  0
00:0a:ab:15:00:92 (U) 172.16.31.146      1      10      73      7      11
84       0  0
              (D) 172.16.31.146      1      9      4168     463     11
4201      0  0
00:0a:ab:15:00:31 (U) 172.16.31.49      1      11      95      8      34
250      0  0
              (D) 172.16.31.49      1      18     3201     177     43
3755      0  0
00:0a:ab:15:00:46 (U) 172.16.31.70      1      7      47      6      20
175      0  0
              (D) 172.16.31.70      1      10     3162     316     23
3448      0  0
00:0a:ab:15:00:b3 (U) 172.16.31.179     1      10      85      8      34
241      0  0

```

show avc statistics client

To display the client Application Visibility and Control (AVC) statistics, use the **show avc statistics client** command.

show avc statistics client *client_MAC* { **application** *application_name* | **top-apps** [**upstream** | **downstream**] }

Syntax Description		
<i>client_MAC</i>	MAC address of the client.	
application	Displays AVC statistics for an application.	
<i>application_name</i>	Name of the application. The application name can be up to 32 case-sensitive, alphanumeric characters.	
top-apps	Displays AVC statistics for top applications.	
upstream	(Optional) Displays statistics of top upstream applications.	
downstream	(Optional) Displays statistics of top downstream applications.	

Command Default None

Command History	Release	Modification
	7.4	This command was introduced.

The following is a sample output of the **show avc statistics client** command:

```
(Cisco Controller) > show avc statistics client 00:0a:ab:15:00:01 application http
```

Description	Upstream	Downstream
=====	=====	=====
Number of Packtes (n secs)	5059	6369
Number of Bytes (n secs)	170144	8655115
Average Packet size (n secs)	33	1358
Total Number of Packtes	131878	150169
Total Number of Bytes	6054464	205239972
DSCP Incoming packet	16	0
DSCP Outgoing Packet	16	0

The following is a sample output of the **show avc statistics client** command.

```
(Cisco Controller) > show avc statistics client 00:0a:ab:15:00:01 top-apps
```

Application-Name (Up/Down)		Packets (n secs)	Bytes (n secs)	Avg Pkt Size	Packets (Total)	Bytes (Total)	DSCP In	DSCP Out
=====		=====	=====	=====	=====	=====	=====	=====
http	(U)	6035	637728	105	6035	637728	16	16
	(D)	5420	7218796	1331	5420	7218796	0	0
ggp	(U)	1331	1362944	1024	1331	1362944	0	0
	(D)	0	0	0	0	0	0	0
smp	(U)	1046	1071104	1024	1046	1071104	0	0
	(D)	0	0	0	0	0	0	0
vrrp	(U)	205	209920	1024	205	209920	0	0

	(D)	0	0	0	0	0	0	0
bittorrent	(U)	117	1604	13	117	1604	0	0
	(D)	121	70469	582	121	70469	0	0
icmp	(U)	0	0	0	0	0	0	0
	(D)	72	40032	556	72	40032	48	48
edonkey	(U)	112	4620	41	112	4620	0	0
	(D)	105	33076	315	105	33076	0	0
dns	(U)	10	380	38	10	380	0	0
	(D)	7	1743	249	7	1743	0	0
realmedia	(U)	2	158	79	2	158	24	24
	(D)	2	65	32	2	65	0	0

show avc statistics guest-lan

To display the Application Visibility and Control (AVC) statistics of a guest LAN, use the **show avc statistics guest-lan** command.

show avc statistics guest-lan *guest-lan_id* { **application** *application_name* | **top-app-groups** [**upstream** | **downstream**] | **top-apps** [**upstream** | **downstream**] }

Syntax Description	
<i>guest-lan_id</i>	Guest LAN identifier from 1 to 5.
application	Displays AVC statistics for an application.
<i>application_name</i>	Name of the application. The application name can be up to 32 case-sensitive, alphanumeric characters.
top-app-groups	Displays AVC statistics for top application groups.
upstream	(Optional) Displays statistics of top upstream applications.
downstream	(Optional) Displays statistics of top downstream applications.
top-apps	Displays AVC statistics for top applications.

Command Default None

Command History **Release Modification**

7.4 This command was introduced.

The following is a sample output of the **show avc statistics** command.

```
(Cisco Controller) > show avc statistics guest-lan 1

Application-Name          Packets   Bytes   Avg Pkt   Packets   Bytes
  (Up/Down)                (n secs) (n secs) Size      (Total)   (Total)
=====
unclassified              (U) 191464  208627    1        92208613 11138796586
                        (D) 63427   53440610 842       16295621  9657054635
ftp                       (U)  805    72880    90        172939    11206202
                        (D)  911    58143    63        190900    17418653
http                     (U) 264904 12508288 47        27493945 2837672192
                        (D) 319894 436915253 1365     29850934 36817587924
gre                       (U)  0      0        0        10158872 10402684928
                        (D)  0      0        0         0         0
icmp                     (U)  1      40       40         323      98476
                        (D) 7262   4034576 555       2888266 1605133372
ipinip                   (U) 62565  64066560 1024     11992305 12280120320
                        (D)  0      0        0         0         0
imap                     (U) 1430   16798    11        305161    3795766
                        (D) 1555   576371   370      332290    125799465
irc                       (U)  9      74       8         1736     9133
                        (D) 11     371     33        1972    173381
nntp                     (U)  22     158      7         1705     9612
                        (D)  22     372     16        2047    214391
```

show avc statistics remote-lan

To display the Application Visibility and Control (AVC) statistics of a remote LAN, use the **show avc statistics remote-lan** command.

show avc statistics remote-lan *remote-lan_id* { **application** *application_name* | **top-app-groups** [**upstream** | **downstream**] | **top-apps** [**upstream** | **downstream**] }

Syntax Description	
<i>remote-lan_id</i>	Remote LAN identifier from 1 to 512.
application	Displays AVC statistics for an application.
<i>application_name</i>	Name of the application. The application name can be up to 32 case-sensitive, alphanumeric characters.
top-app-groups	Displays AVC statistics for top application groups.
upstream	(Optional) Displays statistics of top upstream applications.
downstream	(Optional) Displays statistics of top downstream applications.
top-apps	Displays AVC statistics for top applications.

Command Default None

Command History	Release	Modification
	7.4	This command was introduced.

The following is a sample output of the **show avc statistics remote-lan** command.

```
(Cisco Controller) > show avc statistics remote-lan 1

Application-Name          Packets   Bytes   Avg Pkt   Packets   Bytes
  (Up/Down)                (n secs) (n secs) Size      (Total)  (Total)
=====
unclassified              (U) 191464  208627    1      92208613 11138796586
                          (D) 63427   53440610 842     16295621 9657054635
ftp                        (U) 805     72880    90      172939   11206202
                          (D) 911     58143    63      190900   17418653
http                       (U) 264904  12508288 47      27493945 2837672192
                          (D) 319894  436915253 1365    29850934 36817587924
gre                         (U) 0       0        0      10158872 10402684928
                          (D) 0       0        0        0         0
icmp                       (U) 1       40       40      323      98476
                          (D) 7262   4034576 555     2888266 1605133372
ipinip                     (U) 62565   64066560 1024    11992305 12280120320
                          (D) 0       0        0        0         0
imap                       (U) 1430   16798    11      305161   3795766
                          (D) 1555   576371   370     332290  125799465
irc                         (U) 9       74       8       1736     9133
                          (D) 11     371     33      1972    173381
nntp                       (U) 22     158     7       1705     9612
                          (D) 22     372     16      2047    214391
```


show avc statistics top-apps

To display the Application Visibility and Control (AVC) statistics for the most used applications, use the **show avc statistics top-apps** command.

show avc statistics top-apps [**upstream** | **downstream**]

Syntax Description	upstream	(Optional) Displays statistics of the most used upstream applications.
	downstream	(Optional) Displays statistics of the most used downstream applications.
Command Default	None	
Command History	Release	Modification
	7.4	This command was introduced.

The following is a sample output of the **show avc statistics top-apps** command:

(Cisco Controller) > **show avc statistics top-apps**

Application-Name (Up/Down)		Packets (n secs)	Bytes (n secs)	Avg Pkt Size	Packets (Total)	Bytes (Total)
=====		=====	=====	=====	=====	=====
http	(U)	204570	10610912	51	28272539	2882294016
	(D)	240936	327624221	1359	30750570	38026889010
realmedia	(U)	908	62154	68	400698	26470359
	(D)	166694	220522943	1322	35802836	47131836785
mpls-in-ip	(U)	77448	79306752	1024	10292787	10539813888
	(D)	0	0	0	0	0
fire	(U)	70890	72591360	1024	10242484	10488303616
	(D)	0	0	0	0	0
pipe	(U)	68296	69935104	1024	10224255	10469637120
	(D)	0	0	0	0	0
gre	(U)	60982	62445568	1024	10340221	10588386304
	(D)	0	0	0	0	0
crudp	(U)	26430	27064320	1024	10109812	10352447488
	(D)	0	0	0	0	0
rtp	(U)	0	0	0	0	0
	(D)	7482	9936096	1328	2603923	3458009744
icmp	(U)	0	0	0	323	98476
	(D)	10155	5640504	555	2924693	1625363564

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

show avc statistics wlan
show avc statistics applications
show avc statistics guest-lan
show avc statistics remote-lan
debug avc error
debug avc events

show avc statistics wlan

To display the Application Visibility and Control (AVC) statistics of a WLAN, use the **show avc statistics wlan** command.

```
show avc statistics wlan wlan_id { application application_name | top-app-groups [upstream | downstream] | top-apps [upstream | downstream] }
```

Syntax Description		
wlan_id		WLAN identifier from 1 to 512.
application		Displays AVC statistics for an application.
application_name		Name of the application. The application name can be up to 32 case-sensitive, alphanumeric characters.
top-app-groups		Displays AVC statistics for top application groups.
upstream		(Optional) Displays statistics of top upstream applications.
downstream		(Optional) Displays statistics of top downstream applications.
top-apps		Displays AVC statistics for top applications.

Command Default None

Command History **Release Modification**

7.4 This command was introduced.

The following is a sample output of the **show avc statistics** command.

```
(Cisco Controller) >show avc statistics wlan 1

Application-Name          Packets   Bytes   Avg Pkt   Packets   Bytes
  (Up/Down)                (n secs) (n secs) Size      (Total)  (Total)
=====
unclassified              (U) 191464  208627    1      92208613 11138796586
                        (D) 63427   53440610 842     16295621 9657054635
ftp                       (U) 805     72880    90      172939   11206202
                        (D) 911     58143    63      190900   17418653
http                     (U) 264904  12508288 47      27493945 2837672192
                        (D) 319894  436915253 1365    29850934 36817587924
gre                       (U) 0       0        0       10158872 10402684928
                        (D) 0       0        0       0         0
icmp                     (U) 1       40       40      323      98476
                        (D) 7262   4034576 555     2888266 1605133372
ipinip                   (U) 62565   64066560 1024    11992305 12280120320
                        (D) 0       0        0       0         0
imap                     (U) 1430   16798    11      305161   3795766
                        (D) 1555   576371   370     332290   125799465
irc                       (U) 9       74       8       1736     9133
                        (D) 11     371     33      1972     173381
nntp                     (U) 22     158      7       1705     9612
                        (D) 22     372     16      2047     214391
```

The following is a sample output of the **show avc statistics wlan** command.

```
(Cisco Controller) >show avc statistics wlan 1 application ftp
```

Description	Upstream	Downstream
=====	=====	=====
Number of Packtes(n secs)	0	0
Number of Bytes(n secs)	0	0
Average Packet size(n secs)	0	0
Total Number of Packtes	32459	64888
Total Number of Bytes	274	94673983

show boot

To display the primary and backup software build numbers with an indication of which is active, use the **show boot** command.

show boot

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.

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines Each Cisco wireless LAN controller retains one primary and one backup operating system software load in nonvolatile RAM to allow controllers to boot off the primary load (default) or revert to the backup load when desired.

The following is a sample output of the **show boot** command:

```
(Cisco Controller) > show boot
Primary Boot Image..... 3.2.13.0 (active)
Backup Boot Image..... 3.2.15.0
```

Related Commands **config boot**

show band-select

To display band selection information, use the **show band-select** command.

show band-select

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show band-select** command:

```
(Cisco Controller) > show band-select
Band Select Probe Response..... per WLAN enabling
  Cycle Count..... 3 cycles
  Cycle Threshold..... 200 milliseconds
  Age Out Suppression..... 20 seconds
  Age Out Dual Band..... 60 seconds
  Client RSSI..... -80 dBm
```

Related Commands **config band-select**
config wlan band-select

show buffers

To display buffer information of the controller, use the **show buffers** command.

show buffers

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show buffers** command:

```
(Cisco Controller) > show buffers
Pool[00]: 16 byte chunks
  chunks in pool: 50000
  chunks in use: 9196
  bytes in use: 147136
  bytes requested: 73218 (73918 overhead bytes)
Pool[01]: 64 byte chunks
  chunks in pool: 50100
  chunks in use: 19222
  bytes in use: 1230208
  bytes requested: 729199 (501009 overhead bytes)
Pool[02]: 128 byte chunks
  chunks in pool: 26200
  chunks in use: 9861
  bytes in use: 1262208
  bytes requested: 848732 (413476 overhead bytes)
Pool[03]: 256 byte chunks
  chunks in pool: 3000
  chunks in use: 596
  bytes in use: 152576
  bytes requested: 93145 (59431 overhead bytes)
Pool[04]: 384 byte chunks
  chunks in pool: 6000
  chunks in use: 258
  bytes in use: 99072
  bytes requested: 68235 (30837 overhead bytes)
Pool[05]: 512 byte chunks
  chunks in pool: 18700
  chunks in use: 18667
  bytes in use: 9557504
  bytes requested: 7933814 (1623690 overhead bytes)
Pool[06]: 1024 byte chunks
  chunks in pool: 3500
  chunks in use: 94
  bytes in use: 96256
  bytes requested: 75598 (20658 overhead bytes)
Pool[07]: 2048 byte chunks
```

```
chunks in pool: 1000
chunks in use: 54
bytes in use: 110592
bytes requested: 76153 (34439 overhead bytes)
Pool[08]: 4096 byte chunks
chunks in pool: 1000
chunks in use: 47
bytes in use: 192512
bytes requested: 128258 (64254 overhead bytes)
Raw Pool:
chunks in use: 256
bytes requested: 289575125
```


show cac voice stats

To view the detailed voice CAC statistics of the 802.11a or 802.11b radio, use the **show cac voice stats** command.

show cac voice stats { 802.11a | 802.11b }

Syntax Description	802.11a	802.11b
	Displays detailed voice CAC statistics for 802.11a.	
		Displays detailed voice CAC statistics for 802.11b/g.

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

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show cac voice stats 802.11b** command:

```
(Cisco Controller) > show cac voice stats 802.11b

WLC Voice Call Statistics for 802.11b Radio

WMM TSPEC CAC Call Stats
  Total num of Calls in progress..... 0
  Num of Roam Calls in progress..... 0
  Total Num of Calls Admitted..... 0
  Total Num of Roam Calls Admitted..... 0
  Total Num of exp bw requests received..... 0
  Total Num of exp bw requests Admitted..... 0
  Total Num of Calls Rejected..... 0
  Total Num of Roam Calls Rejected..... 0
  Num of Calls Rejected due to insufficent bw... 0
  Num of Calls Rejected due to invalid params... 0
  Num of Calls Rejected due to PHY rate..... 0
  Num of Calls Rejected due to QoS policy..... 0
SIP CAC Call Stats
  Total Num of Calls in progress..... 0
  Num of Roam Calls in progress..... 0
  Total Num of Calls Admitted..... 0
  Total Num of Roam Calls Admitted..... 0
  Total Num of Preferred Calls Received..... 0
  Total Num of Preferred Calls Admitted..... 0
  Total Num of Ongoing Preferred Calls..... 0
  Total Num of Calls Rejected(Insuff BW)..... 0
  Total Num of Roam Calls Rejected(Insuff BW).... 0
KTS based CAC Call Stats
  Total Num of Calls in progress..... 0
  Num of Roam Calls in progress..... 0
  Total Num of Calls Admitted..... 0
  Total Num of Roam Calls Admitted..... 0
  Total Num of Calls Rejected(Insuff BW)..... 0
  Total Num of Roam Calls Rejected(Insuff BW).... 0
```

show cac voice summary

To view the list of all APs with brief voice statistics (includes bandwidth used, maximum bandwidth available, and the number of calls information), use the **show cac voice summary** command.

show cac voice summary

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show cac voice summary** command:

```
(Cisco Controller) > show cac voice summary
  AP Name           Slot#   Radio  BW Used/Max  Calls
-----
APc47d.4f3a.3547   0       11b/g   0/23437      0
  1       11a   1072/23437  1
```

show cac video stats

To view the detailed video CAC statistics of the 802.11a or 802.11b radio, use the **show cac video stats** command.

show cac video stats {802.11a | 802.11b}

Syntax Description	802.11a	802.11b
	Displays detailed video CAC statistics for 802.11a.	Displays detailed video CAC statistics for 802.11b/g.

Command History	Release	Modification
	8.3	This command was introduced.

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

The following is a sample output of the **show cac video stats 802.11b** command:

```
(Cisco Controller) > show cac video stats 802.11b

WLC Video Call Statistics for 802.11b Radio

WMM TSPEC CAC Call Stats
  Total num of Calls in progress..... 0
  Num of Roam Calls in progress..... 0
  Total Num of Calls Admitted..... 0
  Total Num of Roam Calls Admitted..... 0
  Total Num of Calls Rejected..... 0
  Total Num of Roam Calls Rejected..... 0
  Num of Calls Rejected due to insufficient bw... 0
  Num of Calls Rejected due to invalid params... 0
  Num of Calls Rejected due to PHY rate..... 0
  Num of Calls Rejected due to QoS policy..... 0
SIP CAC Call Stats
  Total Num of Calls in progress..... 0
  Num of Roam Calls in progress..... 0
  Total Num of Calls Admitted..... 0
  Total Num of Roam Calls Admitted..... 0
  Total Num of Calls Rejected(Insuff BW)..... 0
  Total Num of Roam Calls Rejected(Insuff BW).... 0
```

- Related Commands**
- config 802.11 cac voice**
 - config 802.11 cac defaults**
 - config 802.11 cac video**
 - config 802.11 cac multimedia**
 - show cac voice stats**
 - show cac voice summary**

show cac video stats

show cac video summary

config 802.11 cac video load-based

config 802.11 cac video cac-method

config 802.11 cac video sip

show cac video summary

To view the list of all access points with brief video statistics (includes bandwidth used, maximum bandwidth available, and the number of calls information), use the **show cac video summary** command.

show cac video summary

Syntax Description This command has no arguments or keywords.

Command History

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

Command History

Release	Modification
8.3	This command was introduced.

The following is a sample output of the **show cac video summary** command:

```
(Cisco Controller) > show cac video summary

  AP Name           Slot#  Radio  BW Used/Max  Calls
-----
AP001b.d571.88e0   0      11b/g   0/10937      0
                   1      11a     0/18750      0
AP5_1250           0      11b/g   0/10937      0
                   1      11a     0/18750      0
```

Related Commands

- config 802.11 cac voice**
- config 802.11 cac defaults**
- config 802.11 cac video**
- config 802.11 cac multimedia**
- show cac voice stats**
- show cac voice summary**
- show cac video stats**
- show cac video summary**
- config 802.11 cac video load-based**
- config 802.11 cac video cac-method**
- config 802.11 cac video sip**

show call-control ap



Note The **show call-control ap** command is applicable only for SIP based calls.

To see the metrics for successful calls or the traps generated for failed calls, use the **show call-control ap** command.

```
show call-control ap {802.11a | 802.11b} cisco_ap {metrics | traps}
```

Syntax Description

802.11a	Specifies the 802.11a network
802.11b	Specifies the 802.11b/g network.
<i>cisco_ap</i>	Cisco access point name.
metrics	Specifies the call metrics information.
traps	Specifies the trap information for call control.

Command Default

None

Command History

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

Usage Guidelines

To aid in troubleshooting, the output of this command shows an error code for any failed calls. This table explains the possible error codes for failed calls.

Table 1: Error Codes for Failed VoIP Calls

Error Code	Integer	Description
1	unknown	Unknown error.
400	badRequest	The request could not be understood because of malformed syntax.
401	unauthorized	The request requires user authentication.
402	paymentRequired	Reserved for future use.
403	forbidden	The server understood the request but refuses to fulfill it.
404	notFound	The server has information that the user does not exist at the domain specified in the Request-URI.
405	methodNotallowed	The method specified in the Request-Line is understood but not allowed for the address identified by the Request-URI.

Error Code	Integer	Description
406	notAcceptable	The resource identified by the request is only capable of generating response entities with content characteristics that are not acceptable according to the Accept header field sent in the request.
407	proxyAuthenticationRequired	The client must first authenticate with the proxy.
408	requestTimeout	The server could not produce a response within a suitable amount of time.
409	conflict	The request could not be completed due to a conflict with the current state of the resource.
410	gone	The requested resource is no longer available at the server, and no forwarding address is known.
411	lengthRequired	The server is refusing to process a request because the request entity-body is larger than the server is willing or able to process.
413	requestEntityTooLarge	The server is refusing to process a request because the request entity-body is larger than the server is willing or able to process.
414	requestURITooLarge	The server is refusing to service the request because the Request-URI is longer than the server is willing to interpret.
415	unsupportedMediaType	The server is refusing to service the request because the message body of the request is in a format not supported by the server for the requested method.
420	badExtension	The server did not understand the protocol extension specified in a Proxy-Require or Require header field.
480	temporarilyNotAvailable	The callee's end system was contacted successfully, but the callee is currently unavailable.
481	callLegDoesNotExist	The UAS received a request that does not match any existing dialog or transaction.
482	loopDetected	The server has detected a loop.
483	tooManyHops	The server received a request that contains a Max-Forwards header field with the value zero.
484	addressIncomplete	The server received a request with a Request-URI that was incomplete.
485	ambiguous	The Request-URI was ambiguous.
486	busy	The callee's end system was contacted successfully, but the callee is currently not willing or able to take additional calls at this end system.

Error Code	Integer	Description
500	internalServerError	The server encountered an unexpected condition that prevented it from fulfilling the request.
501	notImplemented	The server does not support the functionality required to fulfill the request.
502	badGateway	The server, while acting as a gateway or proxy, received an invalid response from the downstream server it accessed in attempting to fulfill the request.
503	serviceUnavailable	The server is temporarily unable to process the request because of a temporary overloading or maintenance of the server.
504	serverTimeout	The server did not receive a timely response from an external server it accessed in attempting to process the request.
505	versionNotSupported	The server does not support or refuses to support the SIP protocol version that was used in the request.
600	busyEverywhere	The callee's end system was contacted successfully, but the callee is busy or does not want to take the call at this time.
603	decline	The callee's machine was contacted successfully, but the user does not want to or cannot participate.
604	doesNotExistAnywhere	The server has information that the user indicated in the Request-URI does not exist anywhere.
606	notAcceptable	The user's agent was contacted successfully, but some aspects of the session description (such as the requested media, bandwidth, or addressing style) were not acceptable.

The following is a sample output of the **show call-controller ap** command that displays successful calls generated for an access point:

```
(Cisco Controller) >show call-control ap 802.11a Cisco_AP metrics
Total Call Duration in Seconds..... 120
Number of Calls..... 10
Number of calls for given client is..... 1
```

The following is a sample output of the **show call-control ap** command that displays metrics of traps generated for an AP.

```
(Cisco Controller) >show call-control ap 802.11a Cisco_AP traps
Number of traps sent in one min..... 2
Last SIP error code..... 404
Last sent trap timestamp..... Jun 20 10:05:06
```


show call-control client

To see call information for a call-aware client when Voice-over-IP (VoIP) snooping is enabled and the call is active, use the **show call-control client** command

show call-control client callInfo *client_MAC_address*

Syntax Description	callInfo	Specifies the call-control information.
	<i>client_MAC_address</i>	Client MAC address.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example is a sample output of the **show call-controller client** command:

```
(Cisco Controller) > show call-control client callInfo 10.10.10.10.10
Uplink IP/port..... 0.0.0.0 / 0
Downlink IP/port..... 9.47.96.107 / 5006
UP..... 6
Calling Party..... sip:1021
Called Party..... sip:1000
Call ID..... 38423970c3fca477
Call on hold: ..... FALSE
Number of calls for given client is..... 1
```

show call-home summary

To view the Call Home details, use the **show call-home summary** command.

show call-home summary

Command History

Release	Modification
8.2	This command was introduced.

The following example shows the call-home summary:

```
(Cisco Controller) > show call-home summaryCurrent call home settings:
  call home feature : enabled
  contact person's email address: sch-smart-licensing@cisco.com

  Mail-server: Not yet set up
  http proxy: Not yet set up

  Smart licensing messages: disabled

  data-privacy: normal
  Event throttling: Off

  Rate-limit: 20 message(s) per minute
Profile name: CiscoTAC-1
  Status: Inactive
  TAC profile: Yes
  Mode: Full reporting
  Report data: SCH SL
  Msg Format: XML
  Msg size limit: 3145728
  Transport method: HTTP

--More-- or (q)uit In slWlcProcessSLStatsClearMsg
  https://tools.cisco.com/its/service/oddce/services/DDCEService
```

show capwap reap association

To display the list of clients associated with an access point and their SSIDs, use the **show capwap reap association** command.

show capwap reap association

Syntax Description This command has no arguments or keywords.

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display clients associated to an access point and their SSIDs:

```
(Cisco Controller) >show capwap reap association
```

show capwap reap status

To display the status of the FlexConnect access point (connected or standalone), use the **show capwap reap status** command.

show capwap reap status

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.

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines The command shows only the VLAN when configured as AP-specific.

The following example shows how to display the status of the FlexConnect access point:

```
(Cisco Controller) >show capwap reap status
```

show cdp

To display the status and details of the Cisco Discovery Protocol (CDP), use the **show cdp** command.

show cdp { **neighbors** [**detail**] | **entry all** | **traffic** }

Syntax Description

neighbors	Displays a list of all CDP neighbors on all interfaces.
detail	(Optional) Displays detailed information of the controller's CDP neighbors. This command shows only the CDP neighbors of the controller; it does not show the CDP neighbors of the controller's associated access points.
entry all	Displays all CDP entries in the database.
traffic	Displays CDP traffic information.

Command Default

None

Command History

Release Modification

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

Command History

Release Modification

8.3 This command was introduced.

The following is a sample output of the **show cdp** command:

```
(Cisco Controller) > show cdp
CDP counters :
Total packets output: 0, Input: 0
Chksum error: 0
No memory: 0, Invalid packet: 0,
```

Related Commands

config cdp

config ap cdp

show ap cdp

show certificate compatibility

To display whether or not certificates are verified as compatible in the Cisco wireless LAN controller, use the **show certificate compatibility** command.

show certificate compatibility

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show certificate compatibility** command:

```
(Cisco Controller) > show certificate compatibility
Certificate compatibility mode:..... off
```

show certificate lsc

To verify that the controller has generated a Locally Significant Certificate (LSC), use the **show certificate lsc summary** command.

show certificate lsc {**summary** | **ap-provision**}

Syntax Description	summary	Displays a summary of LSC certificate settings and certificates.
	ap-provision	Displays details about the access points that are provisioned using the LSC.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show certificate lsc summary** command:

```
(Cisco Controller) > show certificate lsc summary
LSC Enabled..... Yes
LSC CA-Server..... http://10.0.0.1:8080/caserver
LSC AP-Provisioning..... Yes
Provision-List..... Not Configured
LSC Revert Count in AP reboots..... 3
LSC Params:
Country..... 4
State..... ca
City..... ss
Orgn..... org
Dept..... dep
Email..... dep@co.com
KeySize..... 390
LSC Certs:
CA Cert..... Not Configured
RA Cert..... Not Configured
```

This example shows how to display the details about the access points that are provisioned using the LSC:

```
(Cisco Controller) > show certificate lsc ap-provision
LSC AP-Provisioning..... Yes
Provision-List..... Present
Idx Mac Address
-----
1 00:18:74:c7:c0:90
```

show certificate ssc

To view the Self Signed Device Certificate (SSC) and hash key of the virtual controller, use the **show certificate ssc** command.

show certificate ssc

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show certificate ssc** command :

```
(Cisco Controller) > show certificate ssc
SSC Hash validation..... Enabled.

SSC Device Certificate details:

    Subject Name :
        C=US, ST=California, L=San Jose, O=Cisco Virtual Wireless LAN Controller,
        CN=DEVICE-vWLC-AIR-CTVM-K9-000C297F2CF7, MAILTO=support@vwlc.com

    Validity :
        Start : 2012 Jul 23rd, 15:47:53 GMT
        End   : 2022 Jun 1st, 15:47:53 GMT

    Hash key : 5870ffabb15de2a617132bafcd73
```


show certificate summary

To verify that the controller has generated a certificate, use the **show certificate summary** command.

show certificate summary

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show certificate summary** command:

```
(Cisco Controller) > show certificate summary
Web Administration Certificate..... Locally Generated
Web Authentication Certificate..... Locally Generated
Certificate compatibility mode:..... off
```

show client ap

To display the clients on a Cisco lightweight access point, use the **show client ap** command.

show client ap 802.11 { **a** | **b** } *cisco_ap*

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.
Command Default	None	
Usage Guidelines	The show client ap command may list the status of automatically disabled clients. Use the show exclusionlist command to view clients on the exclusion list.	
Command History	Release	Modification
	8.3	This command was introduced.

This example shows how to display client information on an access point:

```
(Cisco Controller) >show client ap 802.11b AP1
MAC Address      AP Id  Status      WLAN Id  Authenticated
-----
xx:xx:xx:xx:xx:xx    1  Associated    1        No
```

show client calls

To display the total number of active or rejected calls on the controller, use the **show client calls** command.

show client calls { **active** | **rejected** } { **802.11a** | **802.11bg** | **all** }

Syntax Description	active	Specifies active calls.
	rejected	Specifies rejected calls.
	802.11a	Specifies the 802.11a network.
	802.11bg	Specifies the 802.11b/g network.
	all	Specifies both the 802.11a and 802.11b/g network.

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show client calls active 802.11a** command :

```
(Cisco Controller) > show client calls active 802.11a
Client MAC           Username           Total Call
                    Duration (sec)
-----
00:09:ef:02:65:70    abc               45
00:13:ce:cc:51:39    xyz               45
00:40:96:af:15:15    def               45
00:40:96:b2:69:df    def               45
Number of Active Calls ----- 4
```

show client ccx client-capability

To display the client's capability information, use the **show client ccx client-capability** command.

show client ccx client-capability *client_mac_address*

Syntax Description	<i>client_mac_address</i>	MAC address of the client.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Usage Guidelines	This command displays the client's available capabilities, not the current settings for the capabilities.	

The following is a sample output of the **show client ccx client-capability** command:

```
(Cisco Controller) >show client ccx client-capability 00:40:96:a8:f7:98
Service Capability..... Voice, Streaming(uni-directional)
Video, Interactive(bi-directional) Video
Radio Type..... DSSS OFDM(802.11a) HRDSSS(802.11b)
ERP(802.11g)
Radio Type..... DSSS
Radio Channels..... 1 2 3 4 5 6 7 8 9 10 11
Tx Power Mode..... Automatic
Rate List(MB)..... 1.0 2.0
Radio Type..... HRDSSS(802.11b)
Radio Channels..... 1 2 3 4 5 6 7 8 9 10 11
Tx Power Mode..... Automatic
Rate List(MB)..... 5.5 11.0
Radio Type..... ERP(802.11g)
Radio Channels..... 1 2 3 4 5 6 7 8 9 10 11
Tx Power Mode..... Automatic
Rate List(MB)..... 6.0 9.0 12.0 18.0 24.0 36.0 48.0 54.0
Are you sure you want to start? (y/N)y Are you sure you want to start? (y/N)
```

show client ccx frame-data

To display the data frames sent from the client for the last test, use the **show client ccx frame-data** command.

show client ccx frame-data *client_mac_address*

Syntax Description	<i>client_mac_address</i>	MAC address of the client.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show client ccx frame-data** command:

```
(Cisco Controller) >show client ccx frame-data
xx:xx:xx:xx:xx:xx
```

show client ccx last-response-status

To display the status of the last test response, use the **show client ccx last-response-status** command.

show client ccx last-response-status *client_mac_address*

Syntax Description	<i>client_mac_address</i>	MAC address of the client.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show client ccx last-response-status** command:

```
(Cisco Controller) >show client ccx last-response-status
Test Status ..... Success
Response Dialog Token..... 87
Response Status..... Successful
Response Test Type..... 802.1x Authentication Test
Response Time..... 3476 seconds since system boot
```

show client ccx last-test-status

To display the status of the last test, use the **show client ccx last-test-status** command.

show client ccx last-test-status *client_mac_address*

Syntax Description	<i>client_mac_address</i>	MAC address of the client.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show client ccx last-test-status** command:

```
(Cisco Controller) >show client ccx last-test-status

Test Type ..... Gateway Ping Test
Test Status ..... Pending/Success/Timeout
Dialog Token ..... 15
Timeout ..... 15000 ms
Request Time ..... 1329 seconds since system boot
```

show client ccx log-response

To display a log response, use the **show client ccx log-response** command.

show client ccx log-response { **roam** | **rsna** | **syslog** } *client_mac_address*

Syntax Description	roam	(Optional) Displays the CCX client roaming log response.
	rsna	(Optional) Displays the CCX client RSNA log response.
	syslog	(Optional) Displays the CCX client system log response.
	<i>client_mac_address</i>	Inventory for the specified access point.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show client ccx log-response syslog** command:

```
(Cisco Controller) >show client ccx log-response syslog 00:40:96:a8:f7:98
Tue Jun 26 18:07:48 2007      Syslog Response LogID=131: Status=Successful
      Event Timestamp=0d 00h 19m 42s 278987us
      Client SysLog = '<11> Jun 19 11:49:47 unraval13777 Mandatory elements missing in the
OID response'
      Event Timestamp=0d 00h 19m 42s 278990us
      Client SysLog = '<11> Jun 19 11:49:47 unraval13777 Mandatory elements missing in the
OID response'
Tue Jun 26 18:07:48 2007      Syslog Response LogID=131: Status=Successful
      Event Timestamp=0d 00h 19m 42s 278987us
      Client SysLog = '<11> Jun 19 11:49:47 unraval13777 Mandatory elements missing in the
OID response'
      Event Timestamp=0d 00h 19m 42s 278990us
      Client SysLog = '<11> Jun 19 11:49:47 unraval13777 Mandatory elements missing in the
OID response'
```

The following example shows how to display the client roaming log response:

```
(Cisco Controller) >show client ccx log-response roam 00:40:96:a8:f7:98
Thu Jun 22 11:55:14 2007      Roaming Response LogID=20: Status=Successful
Event Timestamp=0d 00h 00m 13s 322396us      Source BSSID=00:40:96:a8:f7:98
Target BSSID=00:0b:85:23:26:70,      Transition Time=100(ms)
Transition Reason: Normal roam, poor link      Transition Result: Success
Thu Jun 22 11:55:14 2007      Roaming Response LogID=133: Status=Successful
Event Timestamp=0d 00h 00m 16s 599006us      Source BSSID=00:0b:85:81:06:c2
Target BSSID=00:0b:85:81:06:c2,      Transition Time=3235(ms)
Transition Reason: Normal roam, poor link      Transition Result: Success
Thu Jun 22 18:28:48 2007      Roaming Response LogID=133: Status=Successful
Event Timestamp=0d 00h 00m 08s 815477us      Source BSSID=00:0b:85:81:06:c2
Target BSSID=00:0b:85:81:06:d2,      Transition Time=3281(ms)
Transition Reason: First association to WLAN      Transition Result: Success
```


show client ccx manufacturer-info

To display the client manufacturing information, use the **show client ccx manufacturer-info** command.

show client ccx manufacturer-info *client_mac_address*

Syntax Description	<i>client_mac_address</i>	MAC address of the client.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show client ccx manufacturer-info** command:

```
(Cisco Controller) >show client ccx manufacturer-info 00:40:96:a8:f7:98
Manufacturer OUI ..... 00:40:96
Manufacturer ID ..... Cisco
Manufacturer Model ..... Cisco Aironet 802.11a/b/g Wireless Adapter
Manufacturer Serial ..... FOC1046N3SX
Mac Address ..... 00:40:96:b2:8d:5e
Radio Type ..... DSSS OFDM(802.11a) HRDSSS(802.11b)
ERP(802.11g)
Antenna Type ..... Omni-directional diversity
Antenna Gain ..... 2 dBi
Rx Sensitivity:
Radio Type ..... DSSS
Rx Sensitivity ..... Rate:1.0 Mbps, MinRssi:-95, MaxRss1:-30
Rx Sensitivity ..... Rate:2.0 Mbps, MinRssi:-95, MaxRss1:-30
Radio Type ..... HRDSSS(802.11b)
Rx Sensitivity ..... Rate:5.5 Mbps, MinRssi:-95, MaxRss1:-30
Rx Sensitivity ..... Rate:11.0 Mbps, MinRssi:-95, MaxRss1:-30
Radio Type ..... ERP(802.11g)
Rx Sensitivity ..... Rate:6.0 Mbps, MinRssi:-95, MaxRss1:-30
Rx Sensitivity ..... Rate:9.0 Mbps, MinRssi:-95, MaxRss1:-30
Rx Sensitivity ..... Rate:12.0 Mbps, MinRssi:-95, MaxRss1:-30
Rx Sensitivity ..... Rate:18.0 Mbps, MinRssi:-95, MaxRss1:-30
```


show client ccx profiles

To display the client profiles, use the **show client ccx profiles** command.

show client ccx profiles *client_mac_address*

Syntax Description	<i>client_mac_address</i>	MAC address of the client.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show client ccx profiles** command:

```
(Cisco Controller) >show client ccx profiles 00:40:96:15:21:ac
Number of Profiles ..... 1
Current Profile ..... 1
Profile ID ..... 1
Profile Name ..... wifiEAP
SSID ..... wifiEAP
Security Parameters [EAP Method, Credential]..... EAP-TLS, Host OS Login Credentials
Auth Method ..... EAP
Key Management ..... WPA2+CCKM
Encryption ..... AES-CCMP
Power Save Mode ..... Constantly Awake
Radio Configuration:
Radio Type..... DSSS
  Preamble Type..... Long preamble
  CCA Method..... Energy Detect + Carrier
Detect/Correlation
  Data Retries..... 6
  Fragment Threshold..... 2342
  Radio Channels..... 1 2 3 4 5 6 7 8 9 10 11
  Tx Power Mode..... Automatic
  Rate List (MB)..... 1.0 2.0
Radio Type..... HRDSSS(802.11b)
  Preamble Type..... Long preamble
  CCA Method..... Energy Detect + Carrier
Detect/Correlation
  Data Retries..... 6
  Fragment Threshold..... 2342
  Radio Channels..... 1 2 3 4 5 6 7 8 9 10 11
  Tx Power Mode..... Automatic
  Rate List (MB)..... 5.5 11.0
Radio Type..... ERP(802.11g)
  Preamble Type..... Long preamble
  CCA Method..... Energy Detect + Carrier
Detect/Correlation
  Data Retries..... 6
  Fragment Threshold..... 2342
  Radio Channels..... 1 2 3 4 5 6 7 8 9 10 11
  Tx Power Mode..... Automatic
  Rate List (MB)..... 6.0 9.0 12.0 18.0 24.0 36.0 48.0 54.0
Radio Type..... OFDM(802.11a)
  Preamble Type..... Long preamble
  CCA Method..... Energy Detect + Carrier
```

```
Detect/Correlation
Data Retries..... 6
Fragment Threshold..... 2342
Radio Channels..... 36 40 44 48 52 56 60 64 149 153 157 161
165
Tx Power Mode..... Automatic
Rate List (MB)..... 6.0 9.0 12.0 18.0 24.0 36.0 48.0 54.0
```

show client ccx results

To display the results from the last successful diagnostic test, use the **show client ccx results** command.

show client ccx results *client_mac_address*

Syntax Description	<i>client_mac_address</i>	MAC address of the client.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show client ccx results** command:

```
(Cisco Controller) >show client ccx results xx.xx.xx.xx
dot1x Complete..... Success
EAP Method..... *1,Host OS Login Credentials
dot1x Status..... 255
```

show client ccx rm

To display Cisco Client eXtension (CCX) client radio management report information, use the **show client ccx rm** command.

```
show client ccx rm client_MAC {status | {report {chan-load | noise-hist | frame | beacon | pathloss } } }
```

Syntax Description		
<i>client_MAC</i>	Client MAC address.	
status	Displays the client CCX radio management status information.	
report	Displays the client CCX radio management report.	
chan-load	Displays radio management channel load reports.	
noise-hist	Displays radio management noise histogram reports.	
beacon	Displays radio management beacon load reports.	
frame	Displays radio management frame reports.	
pathloss	Displays radio management path loss reports.	
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 display the client radio management status information:

```
(Cisco Controller) >show client ccx rm 00:40:96:15:21:ac status

Client Mac Address..... 00:40:96:15:21:ac
Channel Load Request..... Enabled
Noise Histogram Request..... Enabled
Beacon Request..... Enabled
Frame Request..... Enabled
Interval..... 30
Iteration..... 10
```

The following example shows how to display the client radio management load reports:

```
(Cisco Controller) >show client ccx rm 00:40:96:15:21:ac report chan-load

Channel Load Report
Client Mac Address..... 00:40:96:ae:53:bc
Timestamp..... 788751121
Incapable Flag..... On
Refused Flag..... On
Chan CCA Busy Fraction
-----
1 194
```

```
2 86
3 103
4 0
5 178
6 82
7 103
8 95
9 13
10 222
11 75
```

The following example shows how to display the client radio management noise histogram reports:

```
(Cisco Controller) >show client ccx rm 00:40:96:15:21:ac report noise-hist
```

```
Noise Histogram Report
Client Mac Address..... 00:40:96:15:21:ac
Timestamp..... 4294967295
Incapable Flag..... Off
Refused Flag..... Off
Chan RPI0 RPI1 RPI2 RPI3 RPI4 RPI5 RPI6 RPI7
```

show client ccx stats-report

To display the Cisco Client eXtensions (CCX) statistics report from a specified client device, use the **show client ccx stats-report** command.

show client ccx stats-report *client_mac_address*

Syntax Description	<i>client_mac_address</i>	Client MAC address.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following is a sample output of the **show client ccx stats-report** command:

```
(Cisco Controller) > show client ccx stats-report 00:0c:41:07:33:a6
Measurement duration = 1
dot11TransmittedFragmentCount          = 1
dot11MulticastTransmittedFrameCount    = 2
dot11FailedCount                        = 3
dot11RetryCount                         = 4
dot11MultipleRetryCount                 = 5
dot11FrameDuplicateCount                = 6
dot11RTSSuccessCount                   = 7
dot11RTSFailureCount                   = 8
dot11ACKFailureCount                   = 9
dot11ReceivedFragmentCount              = 10
dot11MulticastReceivedFrameCount       = 11
dot11FCSErrorCount                     = 12
dot11TransmittedFrameCount              = 13
```


show client detail

To display IP addresses per client learned through DNS snooping (DNS-based ACL), use the **show client detail mac_address** command.

show client detail mac_address

Syntax Description	<i>mac_address</i> MAC address of the client.
---------------------------	---

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

Command History	Release Modification
	7.6 This command was introduced.

Command History	Release Modification
	8.3 This command was introduced.

The following is a sample output of the **show client detail mac_address** command.

```
(Cisco Controller) > show client detail 01:35:6x:yy:21:00
Client MAC Address..... 01:35:6x:yy:21:00
Client Username ..... test
AP MAC Address..... 00:11:22:33:44:x0
AP Name..... AP0011.2020.x111
AP radio slot Id..... 1
Client State..... Associated
Client NAC OOB State..... Access
Wireless LAN Id..... 7
Hotspot (802.11u)..... Not Supported
BSSID..... 00:11:22:33:44:xx
Connected For ..... 28 secs
Channel..... 56
IP Address..... 10.0.0.1
Gateway Address..... Unknown
Netmask..... Unknown
IPv6 Address..... xx20::222:6xyy:zeeb:2233
Association Id..... 1
Authentication Algorithm..... Open System
Reason Code..... 1
Status Code..... 0
Client CCX version..... No CCX support
Re-Authentication Timeout..... 1756
QoS Level..... Silver
Avg data Rate..... 0
Burst data Rate..... 0
Avg Real time data Rate..... 0
Burst Real Time data Rate..... 0
```

show client detail

```

802.1P Priority Tag..... disabled
CTS Security Group Tag..... Not Applicable
KTS CAC Capability..... No
WMM Support..... Enabled
  APSD ACs..... BK BE VI VO
Power Save..... ON
Current Rate..... m7
Supported Rates.....
6.0,9.0,12.0,18.0,24.0,36.0,
..... 48.0,54.0
Mobility State..... Local
Mobility Move Count..... 0
Security Policy Completed..... No
Policy Manager State..... SUPPLICANT_PROVISIONING
Policy Manager Rule Created..... Yes
AAA Override ACL Name..... android
AAA Override ACL Applied Status..... Yes
AAA Override Flex ACL Name..... none
AAA Override Flex ACL Applied Status..... Unavailable
AAA URL redirect.....
https://10.0.0.3:8443/guestportal/gateway?sessionId=0a68aa72000000015272404e&action=nsip
Audit Session ID..... 0a68aa72000000015272404e
AAA Role Type..... none
Local Policy Applied..... pl
IPv4 ACL Name..... none
FlexConnect ACL Applied Status..... Unavailable
IPv4 ACL Applied Status..... Unavailable
IPv6 ACL Name..... none
IPv6 ACL Applied Status..... Unavailable
Layer2 ACL Name..... none
Layer2 ACL Applied Status..... Unavailable
Client Type..... SimpleIP
mDNS Status..... Enabled
mDNS Profile Name..... default-mdns-profile
No. of mDNS Services Advertised..... 0
Policy Type..... WPA2
Authentication Key Management..... 802.1x
Encryption Cipher..... CCMP (AES)
Protected Management Frame ..... No
Management Frame Protection..... No
EAP Type..... PEAP
Interface.....
.. management
VLAN..... 0
Quarantine VLAN..... 0
Access VLAN..... 0
Client Capabilities:
  CF Pollable..... Not implemented
  CF Poll Request..... Not implemented
  Short Preamble..... Not implemented
  PBCC..... Not implemented

```

```

Channel Agility..... Not implemented
Listen Interval..... 10
Fast BSS Transition..... Not implemented
Client Wifi Direct Capabilities:
WFD capable..... No
Manged WFD capable..... No
Cross Connection Capable..... No
Support Concurrent Operation..... No
Fast BSS Transition Details:
Client Statistics:
Number of Bytes Received..... 123659
Number of Bytes Sent..... 120564
Number of Packets Received..... 1375
Number of Packets Sent..... 276
Number of Interim-Update Sent..... 0
Number of EAP Id Request Msg Timeouts..... 0
Number of EAP Id Request Msg Failures..... 0
Number of EAP Request Msg Timeouts..... 2
Number of EAP Request Msg Failures..... 0
Number of EAP Key Msg Timeouts..... 0
Number of EAP Key Msg Failures..... 0
Number of Data Retries..... 82
Number of RTS Retries..... 0
Number of Duplicate Received Packets..... 0
Number of Decrypt Failed Packets..... 0
Number of Mic Failed Packets..... 0
Number of Mic Missing Packets..... 0
Number of RA Packets Dropped..... 0
Number of Policy Errors..... 0
Radio Signal Strength Indicator..... -51 dBm
Signal to Noise Ratio..... 46 dB
Client Rate Limiting Statistics:
Number of Data Packets Recieved..... 0
Number of Data Rx Packets Dropped..... 0
Number of Data Bytes Recieved..... 0
Number of Data Rx Bytes Dropped..... 0
Number of Realtime Packets Recieved..... 0
Number of Realtime Rx Packets Dropped..... 0
Number of Realtime Bytes Recieved..... 0
Number of Realtime Rx Bytes Dropped..... 0
Number of Data Packets Sent..... 0
Number of Data Tx Packets Dropped..... 0
Number of Data Bytes Sent..... 0
Number of Data Tx Bytes Dropped..... 0
Number of Realtime Packets Sent..... 0
Number of Realtime Tx Packets Dropped..... 0
Number of Realtime Bytes Sent..... 0
Number of Realtime Tx Bytes Dropped..... 0
Nearby AP Statistics:
AP0022.9090.c545(slot 0)
antenna0: 26 secs ago..... -33 dBm
    
```

show client detail

```

    antennal: 26 secs ago..... -35 dBm
AP0022.9090.c545(slot 1)
    antenna0: 25 secs ago..... -41 dBm
    antennal: 25 secs ago..... -44 dBm
APc47d.4f3a.35c2(slot 0)
    antenna0: 26 secs ago..... -30 dBm
    antennal: 26 secs ago..... -36 dBm
APc47d.4f3a.35c2(slot 1)
    antenna0: 24 secs ago..... -43 dBm
    antennal: 24 secs ago..... -45 dBm
DNS Server details:
    DNS server IP ..... 0.0.0.0
    DNS server IP ..... 0.0.0.0

```

```
Client Dhcp Required:      False
```

```
Allowed (URL) IP Addresses
```

```

-----
209.165.200.225
209.165.200.226
209.165.200.227
209.165.200.228
209.165.200.229
209.165.200.230
209.165.200.231
209.165.200.232
209.165.200.233
209.165.200.234
209.165.200.235
209.165.200.236
209.165.200.237
209.165.200.238
209.165.201.1
209.165.201.2
209.165.201.3
209.165.201.4
209.165.201.5
209.165.201.6
209.165.201.7
209.165.201.8
209.165.201.9
209.165.201.10

```

show client location-calibration summary

To display client location calibration summary information, use the **show client location-calibration summary** command.

show client location-calibration summary

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the location calibration summary information:

```
(Cisco Controller) >show client location-calibration summary
MAC Address Interval
-----
10:10:10:10:10:10 60
21:21:21:21:21:21 45
```

show client probing

To display the number of probing clients, use the **show client probing** command.

show client probing

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the number of probing clients:

```
(Cisco Controller) >show client probing
Number of Probing Clients..... 0
```

show client roam-history

To display the roaming history of a specified client, use the **show client roam-history** command.

show client roam-history *mac_address*

Syntax Description	<i>mac_address</i>	Client MAC address.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines

This command provides the following information:

- The time when the report was received
- The MAC address of the access point to which the client is currently associated
- The MAC address of the access point to which the client was previously associated
- The channel of the access point to which the client was previously associated
- The SSID of the access point to which the client was previously associated
- The time when the client disassociated from the previous access point
- The reason for the client roam



Note For non-CCXv4 clients, the Layer 2 roam reason is not displayed in the command output. For more information, see [CSCvv85022](#).

Examples

The following is a sample output of the **show client roam-history** command:

```
(Cisco Controller) > show client roam-history 00:14:6c:0a:57:77
```

show client summary

To display a summary of clients associated with a Cisco lightweight access point, use the **show client summary** command.

show client summary [*ssid / ip / username / devicetype*]

Syntax Description This command has no arguments or keywords up to Release 7.4.

Syntax Description *ssid / ip / username / devicetype* (Optional) Displays active clients selective details on any of the following parameters or all the parameters in any order:

- SSID
- IP addresss
- Username
- Device type (such as Samsung-Device or WindowsXP-Workstation)

Command Default None

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

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines Use **show client ap** command to list the status of automatically disabled clients. Use the **show exclusionlist** command to display clients on the exclusion list.

The following example shows how to display a summary of the active clients:

```
(Cisco Controller) > show client summary
Number of Clients..... 24
Number of PMIPv6 Clients..... 200
MAC Address      AP Name      Status      WLAN/GLAN/RLAN Auth Protocol      Port
Wired  PMIPv6
-----  -----
00:00:15:01:00:01 NMSF-TalwarSIM1-2 Associated    1              Yes  802.11a      13
No      Yes
00:00:15:01:00:02 NMSF-TalwarSIM1-2 Associated    1              Yes  802.11a      13
No      No
00:00:15:01:00:03 NMSF-TalwarSIM1-2 Associated    1              Yes  802.11a      13
No      Yes
00:00:15:01:00:04 NMSF-TalwarSIM1-2 Associated    1              Yes  802.11a      13
No      No
```


The following example shows how to display all clients that are WindowsXP-Workstation device type:

```
(Cisco Controller) >show client summary WindowsXP-Workstation
```

```
Number of Clients in WLAN..... 0
```

```
MAC Address      AP Name      Status      Auth Protocol      Port Wired Mobility Role
```

```
-----
```

```
Number of Clients with requested device type..... 0
```

show client summary guest-lan

To display the active wired guest LAN clients, use the **show client summary guest-lan** command.

show client summary guest-lan

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show client summary guest-lan** command:

```
(Cisco Controller) > show client summary guest-lan
Number of Clients..... 1
MAC Address      AP Name      Status      WLAN  Auth  Protocol  Port  Wired
-----
00:16:36:40:ac:58  N/A         Associated   1     No   802.3     1     Yes
```

Related Commands **show client summary**

show client tsm

To display the client traffic stream metrics (TSM) statistics, use the **show client tsm** command.

show client tsm 802.11{a | b} *client_mac* {*ap_mac* | all}

Syntax Description	802.11a	Specifies the 802.11a network.
	802.11b	Specifies the 802.11 b/g network.
	<i>client_mac</i>	MAC address of the client.
	<i>ap_mac</i>	MAC address of the tsm access point.
	all	Specifies the list of all access points to which the client has associations.

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show client tsm 802.11a** command:

```
(Cisco Controller) > show client tsm 802.11a xx:xx:xx:xx:xx:xx all
AP Interface MAC: 00:0b:85:01:02:03
Client Interface Mac: 00:01:02:03:04:05
Measurement Duration: 90 seconds
Timestamp 1st Jan 2006, 06:35:80
UpLink Stats
=====
Average Delay (5sec intervals).....35
Delay less than 10 ms.....20
Delay bet 10 - 20 ms.....20
Delay bet 20 - 40 ms.....20
Delay greater than 40 ms.....20
Total packet Count.....80
Total packet lost count (5sec).....10
Maximum Lost Packet count(5sec).....5
Average Lost Packet count(5secs).....2
DownLink Stats
=====
Average Delay (5sec intervals).....35
Delay less than 10 ms.....20
Delay bet 10 - 20 ms.....20
Delay bet 20 - 40 ms.....20
Delay greater than 40 ms.....20
Total packet Count.....80
Total packet lost count (5sec).....10
```

```
Maximum Lost Packet count (5sec).....5  
Average Lost Packet count (5secs).....2
```

Related Commands**show client ap****show client detail****show client summary**

show client username

To display the client data by the username, use the **show client username** command.

show client username *username*

Syntax Description	<i>username</i>	Client's username. You can view a list of the first eight clients that are in RUN state associated to controller's access points.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show client username** command:

```
(Cisco Controller) > show client username local
```

MAC Address Device Type	AP Name	Status	WLAN	Auth	Protocol	Port
12:22:64:64:00:01 Unknown	WEB-AUTH-AP-1	Associated	1	Yes	802.11g	1
12:22:64:64:00:02 Unknown	WEB-AUTH-AP-1	Associated	1	Yes	802.11g	1
12:22:64:64:00:03 Unknown	WEB-AUTH-AP-1	Associated	1	Yes	802.11g	1
12:22:64:64:00:04 Unknown	WEB-AUTH-AP-1	Associated	1	Yes	802.11g	1
12:22:64:64:00:05 Unknown	WEB-AUTH-AP-1	Associated	1	Yes	802.11g	1
12:22:64:64:00:06 Unknown	WEB-AUTH-AP-1	Associated	1	Yes	802.11g	1
12:22:64:64:00:07 Unknown	WEB-AUTH-AP-1	Associated	1	Yes	802.11g	1
12:22:64:64:00:08 Unknown	WEB-AUTH-AP-1	Associated	1	Yes	802.11g	1

show client voice-diag

To display voice diagnostics statistics, use the **show client voice-diag** command.

show client voice-diag { **quos-map** | **roam-history** | **rsi** | **status** | **tspec** }

Syntax Description

quos-map	Displays information about the QoS/DSCP mapping and packet statistics in each of the four queues: VO, VI, BE, BK. The different DSCP values are also displayed.
roam-history	Displays information about history of the last three roamings. The output contains the timestamp, access point associated with the roaming, the roaming reason, and if there is a roaming failure, the reason for the roaming failure.
rsi	Displays the client's RSSI values in the last 5 seconds when voice diagnostics are enabled.
status	Displays the status of voice diagnostics for clients.
tspec	Displays TSPEC for the voice diagnostic for clients.

Command Default

None

Command History

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

Command History

Release	Modification
8.3	This command was introduced.

The following is a sample output of the **show client voice-diag status** command:

```
(Cisco Controller) > show client voice-diag status
Voice Diagnostics Status: FALSE
```

Related Commands

show client ap
show client detail
show client summary
debug voice-diag

show client wlan

To display the summary of clients associated with a WLAN, use the **show client wlan** command.

show client wlan *wlan_id* [**devicetype** *device*]

Syntax Description		
<i>wlan_id</i>		Wireless LAN identifier from 1 to 512.
devicetype		(Optional) Displays all clients with the specified device type.
<i>device</i>		Device type. For example, Samsung-Device or WindowsXP-Workstation.

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following are sample outputs of the **show client wlan** command:

```
(Cisco Controller) > show client wlan 1
Number of Clients in WLAN..... 0

(Cisco Controller) > show client devicetype WindowsXP-Workstation
Number of Clients in WLAN..... 0
MAC Address      AP Name      Status      Auth Protocol      Port Wired Mobility Role
-----
Number of Clients with requested device type..... 0
```

show cloud-services cmx summary

To view the cmx cloud services summary, use the **show cloud-services cmx summary** command.

show cloud-services cmx summary

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

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

Command History	Release	Modification
	8.3	This command was introduced.

This example shows the CMX Cloud Services summary:

```
(Cisco Controller) >show cloud-services cmx summary
```


show cloud-services cmx statistics

To view the cmx cloud services statistics, use the **show cloud-services cmx statistics** command.

show cloud-services cmx statistics

This command has no arguments or keywords.

Command Default

None

Command History

Release	Modification
8.3	This command was introduced.

This example shows the CMX Cloud Services statistics:

```
(Cisco Controller) >show cloud-services cmx statistics
```

show cts ap

To view CTS AP SGT information, use the **show cts ap** command.

show cts ap {**sgt-info** *cisco-ap* | **summary**}

Syntax Description		
sgt-info <i>cisco-ap</i>		Shows CTS SGT information for a specific AP
summary		Shows CTS SGT information for all APs.

Command Default None

Command History	Release	Modification
	8.4	This command was introduced.

This example shows how to view CTS SGT information for all APs:

(Cisco Controller) >**show cts ap summary**

```

Inline Tag Status..... Disabled
SGACL enforcement..... Disabled
SXP State..... Enabled
Default Password..... ****
Listener hold-time min ..... 2
Listener hold-time max ..... 3
Speaker hold-time ..... 120
Reconciliation time period..... 120
Retry time period ..... 120
Total num of SXP Connections..... 0
  Peer IP           Password           Mode
-----

```

show cts environment-data

To view CTS Environment data, use the **show cts environment-data** command.

show cts environment-data

Command Default None

Command History	Release	Modification
	8.4	This command was introduced.

```
(Cisco Controller) >show cts environment-data

CTS Environment Data
=====

Current State..... START
Last status..... WAITING_RESPONSE

Environment data is empty
```

show cts pacs

To view CTS Protected Access Credential (PAC) provisioning information, use the **show cts pacs** command.

show cts pacs

Command Default

None

Command History

Release	Modification
8.4	This command was introduced.

show cts policy

To view CTS SGT policy information, use the **show cts policy** command.

show cts policy {all | *sgt-tag*}

Syntax Description	all	Shows all SGT policy information
	<i>sgt-tag</i>	Shows policy information of a specific SGT
Command Default	None	
Command History	Release	Modification
	8.4	This command was introduced.

This example shows how to view all SGT policy information:

```
(Cisco Controller) >show cts policy all

Policy Matrix for SGT..... Unknown-0
  Generation Id..... 0x0
  Policy Download Status..... Failed
  Number of clients with this SGT..... 0

Policy Matrix for SGT..... Default-65535
  Generation Id..... 0x0
  Policy Download Status..... Failed
  Number of clients with this SGT..... 0
```

show cts sgACL

To view CTS SGACL information, use the **show cts sgACL** command.

show cts sgACL { **all** | *sgACL-name* }

Syntax Description	all	Shows all SGACL information
	<i>sgt-tag</i>	Shows information for a specific SGACL
Command Default	None	
Command History	Release	Modification
	8.4	This command was introduced.

show cts summary

To view CTS summary, use the **show cts summary** command.

show cts summary

Command Default None

Command History	Release	Modification
	8.4	This command was introduced.

```
(Cisco Controller) >show cts summary
```

```
CTS Status..... Enabled
CTS Device Identity..... Not Configured
Inline Tag Status..... Disabled
```

show cts sxp

To view CTS SXP information, use the **show cts sxp** command.

```
show cts sxp {{ap {connections | summary} cisco-ap} | connections | summary}
```

Command Default

None

Command History

Release	Modification
8.4	This command was introduced.

show coredump summary

To display a summary of the controller’s core dump file, use the **show coredump summary** command.

show coredump summary

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show coredump summary** command:

```
(Cisco Controller) > show coredump summary
Core Dump is enabled
FTP Server IP..... 10.10.10.17
FTP Filename..... file1
FTP Username..... ftpuser
FTP Password..... *****
```

- Related Commands**
- config coredump
 - config coredump ftp
 - config coredump username

show country

To display the configured country and the radio types that are supported, use the **show country** command.

show country

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the configured countries and supported radio types:

```
(Cisco Controller) >show country
Configured Country..... United States
Configured Country Codes
US - United States..... 802.11a / 802.11b / 802.11g
```


show country supported

To display a list of the supported country options, use the **show country supported** command.

show country supported

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display a list of all the supported countries:

```
(Cisco Controller) >show country supported
Configured Country..... United States
Supported Country Codes
AR - Argentina..... 802.11a / 802.11b / 802.11g
AT - Austria..... 802.11a / 802.11b / 802.11g
AU - Australia..... 802.11a / 802.11b / 802.11g
BR - Brazil..... 802.11a / 802.11b / 802.11g
BE - Belgium..... 802.11a / 802.11b / 802.11g
BG - Bulgaria..... 802.11a / 802.11b / 802.11g
CA - Canada..... 802.11a / 802.11b / 802.11g
CH - Switzerland..... 802.11a / 802.11b / 802.11g
CL - Chile..... 802.11b / 802.11g
CN - China..... 802.11a / 802.11b / 802.11g
CO - Colombia..... 802.11b / 802.11g
CY - Cyprus..... 802.11a / 802.11b / 802.11g
CZ - Czech Republic..... 802.11a / 802.11b
DE - Germany..... 802.11a / 802.11b / 802.11g
DK - Denmark..... 802.11a / 802.11b / 802.11g
EE - Estonia..... 802.11a / 802.11b / 802.11g
ES - Spain..... 802.11a / 802.11b / 802.11g
FI - Finland..... 802.11a / 802.11b / 802.11g
FR - France..... 802.11a / 802.11b / 802.11g
GB - United Kingdom..... 802.11a / 802.11b / 802.11g
GI - Gibraltar..... 802.11a / 802.11b / 802.11g
GR - Greece..... 802.11a / 802.11b / 802.11g
HK - Hong Kong..... 802.11a / 802.11b / 802.11g
HU - Hungary..... 802.11a / 802.11b / 802.11g
ID - Indonesia..... 802.11b / 802.11g
IE - Ireland..... 802.11a / 802.11b / 802.11g
IN - India..... 802.11a / 802.11b / 802.11g
IL - Israel..... 802.11a / 802.11b / 802.11g
ILO - Israel (outdoor)..... 802.11b / 802.11g
IS - Iceland..... 802.11a / 802.11b / 802.11g
IT - Italy..... 802.11a / 802.11b / 802.11g
JP - Japan (J)..... 802.11a / 802.11b / 802.11g
```

```
J2 - Japan 2(P)..... 802.11a / 802.11b / 802.11g
J3 - Japan 3(U)..... 802.11a / 802.11b / 802.11g
KR - Korea Republic (C)..... 802.11a / 802.11b / 802.11g
KE - Korea Extended (K)..... 802.11a / 802.11b / 802.11g
LI - Liechtenstein..... 802.11a / 802.11b / 802.11g
LT - Lithuania..... 802.11a / 802.11b / 802.11g
LU - Luxembourg..... 802.11a / 802.11b / 802.11g
LV - Latvia..... 802.11a / 802.11b / 802.11g
MC - Monaco..... 802.11a / 802.11b / 802.11g
MT - Malta..... 802.11a / 802.11b / 802.11g
MX - Mexico..... 802.11a / 802.11b / 802.11g
MY - Malaysia..... 802.11a / 802.11b / 802.11g
NL - Netherlands..... 802.11a / 802.11b / 802.11g
NZ - New Zealand..... 802.11a / 802.11b / 802.11g
NO - Norway..... 802.11a / 802.11b / 802.11g
PA - Panama..... 802.11b / 802.11g
PE - Peru..... 802.11b / 802.11g
PH - Philippines..... 802.11a / 802.11b / 802.11g
PL - Poland..... 802.11a / 802.11b / 802.11g
PT - Portugal..... 802.11a / 802.11b / 802.11g
RU - Russian Federation..... 802.11a / 802.11b / 802.11g
RO - Romania..... 802.11a / 802.11b / 802.11g
SA - Saudi Arabia..... 802.11a / 802.11b / 802.11g
SE - Sweden..... 802.11a / 802.11b / 802.11g
SG - Singapore..... 802.11a / 802.11b / 802.11g
SI - Slovenia..... 802.11a / 802.11b / 802.11g
SK - Slovak Republic..... 802.11a / 802.11b / 802.11g
TH - Thailand..... 802.11b / 802.11g
TR - Turkey..... 802.11b / 802.11g
TW - Taiwan..... 802.11a / 802.11b / 802.11g
UA - Ukraine..... 802.11a / 802.11b / 802.11g
US - United States..... 802.11a / 802.11b / 802.11g
USL - United States (Legacy)..... 802.11a / 802.11b / 802.11g
USX - United States (US + chan165)..... 802.11a / 802.11b / 802.11g
VE - Venezuela..... 802.11b / 802.11g
ZA - South Africa..... 802.11a / 802.11b / 802.11g
```

show cpu

To display current WLAN controller CPU usage information, use the **show cpu** command.

show cpu

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show cpu** command:

```
(Cisco Controller) > show cpu
Current CPU load: 2.50%
```

show custom-web

To display all the web authentication customization information, use the **show custom-web** command.

show custom-web *all remote-lan guest-lan sleep-client webauth-bundle wlan*

Syntax Description	all	Display all Web-Auth customization information.
	remote-lan	Display per WLAN Web-Auth customization information.
	guest-lan	Display per Guest LAN Web-Auth customization information.
	sleep-client	Display all Web-Auth Sleeping Client entries summary.
	webauth-bundle	Display the content of Web-Auth Bundle.
	wlan	Display per WLAN Web-Auth customization information.

Command History	Release	Modification
	7.6	This command was introduced in the release earlier than 7.6.
	8.2	This command was modified and the all, remote-lan, guest-lan, sleep-client, webauth-bundle, and wlan keywords are added.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show custom-web all** command:

```
(Cisco Controller) > show custom-web all
Radius Authentication Method..... PAP
Cisco Logo..... Enabled
CustomLogo..... None
Custom Title..... None
Custom Message..... None
Custom Redirect URL..... None
Web Authentication Type..... Internal Default
Logout-popup..... Enabled
External Web Authentication URL..... None
```

show database summary

To display the maximum number of entries in the database, use the **show database summary** command.

show database summary

Syntax Description This command has no arguments or keywords.

Command Default None

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show database summary** command:

```
(Cisco Controller) > show database summary
Maximum Database Entries..... 2048
Maximum Database Entries On Next Reboot..... 2048
Database Contents
  MAC Filter Entries..... 2
  Exclusion List Entries..... 0
  AP Authorization List Entries..... 1
  Management Users..... 1
  Local Network Users..... 1
    Local Users..... 1
    Guest Users..... 0
  Total..... 5
```

Related Commands [config database size](#)

show dhcp

To display the internal Dynamic Host Configuration Protocol (DHCP) server configuration, use the **show dhcp** command.

show dhcp {leases | summary | scope}

Syntax Description	leases	Displays allocated DHCP leases.
	summary	Displays DHCP summary information.
	scope	Name of a scope to display the DHCP information for that scope.
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 display the allocated DHCP leases:

```
(Cisco Controller) >show dhcp leases
No leases allocated.
```

The following example shows how to display the DHCP summary information:

```
(Cisco Controller) >show dhcp summary
Scope Name      Enabled      Address Range
003              No           0.0.0.0 -> 0.0.0.0
```

The following example shows how to display the DHCP information for the scope 003:

```
(Cisco Controller) >show dhcp 003
Enabled..... No
Lease Time..... 0
Pool Start..... 0.0.0.0
Pool End..... 0.0.0.0
Network..... 0.0.0.0
Netmask..... 0.0.0.0
Default Routers..... 0.0.0.0 0.0.0.0 0.0.0.0
DNS Domain.....
DNS..... 0.0.0.0 0.0.0.0 0.0.0.0
Netbios Name Servers..... 0.0.0.0 0.0.0.0 0.0.0.0
```

show dhcp proxy

To display the status of DHCP proxy handling, use the **show dhcp proxy** command.

show dhcp proxy

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 display the status of DHCP proxy information:

```
(Cisco Controller) >show dhcp proxy
```

```
DHCP Proxy Behavior: enabled
```

show dhcp timeout

To display the DHCP timeout value, use the **show dhcp timeout** command.

show dhcp timeout

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 display the DHCP timeout value:

```
(Cisco Controller) >show dhcp timeout
DHCP Timeout (seconds)..... 10
```

show dtls connections

To display the Datagram Transport Layer Security (DTLS) server status, use the **show dtls connections** command.

show dtls connections

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following is a sample output of the **show dtls connections** command.

```
Device > show dtls connections
```

AP Name	Local Port	Peer IP	Peer Port	Ciphersuite
1130	Capwap_Ctrl	1.100.163.210	23678	TLS_RSA_WITH_AES_128_CBC_SHA
1130	Capwap_Data	1.100.163.210	23678	TLS_RSA_WITH_AES_128_CBC_SHA
1240	Capwap_Ctrl	1.100.163.209	59674	TLS_RSA_WITH_AES_128_CBC_SHA

show exclusionlist

To display a summary of all clients on the manual exclusion list from associating with the controller, use the **show exclusionlist** command.

show exclusionlist

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.

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines This command displays all manually excluded MAC addresses.

The following example shows how to display the exclusion list:

```
(Cisco Controller) > show exclusionlist
No manually disabled clients.
Dynamically Disabled Clients
-----
MAC Address           Exclusion Reason           Time Remaining (in secs)
-----
00:40:96:b4:82:55    802.1X Failure            51
```

Related Commands **config exclusionlist**

show fabric summary

To check the status of fabric, MAP server ip details, VNID mappings and timers, use the **show fabric summary** command.

show fabric summary

Syntax Description	Description
	This command has no keywords or arguments.

Command History

Release Modification

8.5	This command was introduced.
-----	------------------------------

Example

The following example shows how to view the fabric status, MAP server ip details, VNID mappings, and timers:

```
(Controller) >show fabric summary

Fabric Support..... enabled

Enterprise Control Plane MS config
-----

Primary Active MAP Server
IP Address..... 209.165.200.10
Preshared Key..... secret

Guest Control Plane MS config
-----

VNID Mappings configured: 6

Name                L2-Vnid    L3-Vnid    IP Address/Subnet
-----
eid_9_6_51_0        10         100       9.6.51.0 / 255.255.255.0
eid_9_7_0_0         10         100       9.7.0.0 / 255.255.0.0
eid_9_6_53_0        1         0         0.0.0.0 / 0.0.0.0
eid_9_6_52_0        100        0         0.0.0.0 / 0.0.0.0
eid_9_6_54_0        100        25       1.2.3.4 / 255.255.255.0

anky                23         0         0.0.0.0 / 0.0.0.0

Fabric Flex-Acl-tables          Status
-----

Fabric Enabled Wlan summary
WLAN ID  WLAN Profile Name / SSID  Vnid  Encap  Tag  Peer ip
-----
6        testingA_6 / testingA_6   8     1     0   0.0.0.0
8        testingB_8 / testingB_8   80    1     0   0.0.0.0
17       TestA_17 / TestA_17      2     1     10  0.0.0.0
34       testingC_34 / testingC_34 2     1     0   0.0.0.0
```

```
35      testingD_35 / testingD_35  1      1      0      0.0.0.0
```

show flexconnect acl detailed

To display a detailed summary of FlexConnect access control lists, use the **show flexconnect acl detailed** command.

show flexconnect acl detailed *acl-name*

Syntax Description	<i>acl-name</i>	Name of the access control list.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the FlexConnect detailed ACLs:

```
(Cisco Controller) >show flexconnect acl detailed acl-2
```


show flexconnect acl summary

To display a summary of all access control lists on FlexConnect access points, use the **show flexconnect acl summary** command.

show flexconnect acl summary

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the FlexConnect ACL summary:

```
(Cisco Controller) >show flexconnect acl summary
ACL Name                               Status
-----
acl1                                     Modified
acl10                                    Modified
acl100                                   Modified
acl101                                   Modified
acl102                                   Modified
acl103                                   Modified
acl104                                   Modified
acl105                                   Modified
acl106                                   Modified
```

show flexconnect group detail

To display details of a FlexConnect group, use the **show flexconnect group detail** command.

show flexconnect group detail {*group_name* | *default-flex-group*} | [**module-vlan** | **aps**]

Syntax Description		
	<i>group_name</i>	Name of the FlexConnect group.
	module-vlan	Displays status of the FlexConnect local switching and VLAN ID in the group
	aps	Displays list of APs that are part of the FlexConnect group
	<i>default-flex-group</i>	Displays configuration of the default-flexgroup and the APs that are part of it.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
	8.1	The module-vlan and aps parameters were added.
	8.3	The <i>default-flex-group</i> option was added.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the detailed information for a specific FlexConnect group:

```
(Cisco Controller) >show flexconnect group detail myflexgroup
Number of Ap's in Group: 1
00:0a:b8:3b:0b:c2  AP1200  Joined
Group Radius Auth Servers:
  Primary Server Index ..... Disabled
  Secondary Server Index ..... Disabled
```

show flexconnect group summary

To display the current list of FlexConnect groups, use the **show flexconnect group summary** command.

show flexconnect group summary

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.

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the current list of FlexConnect groups:

```
(Cisco Controller) >show flexconnect group summary
flexconnect Group Summary:  Count 1
Group Name      # APs
Group 1         1
```

show flexconnect office-extend

To view information about OfficeExtend access points that in FlexConnect mode, use the **show flexconnect office-extend** command.

show flexconnect office-extend { **summary** | **latency** }

Syntax Description	summary	Displays a list of all OfficeExtend access points.
	latency	Displays the link delay for OfficeExtend access points.
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 display information about the list of FlexConnect OfficeExtend access points:

```
(Cisco Controller) >show flexconnect office-extend summary
Summary of OfficeExtend AP
AP Name           Ethernet MAC      Encryption  Join-Mode  Join-Time
-----
AP1130            00:22:90:e3:37:70  Enabled    Latency    Sun Jan 4 21:46:07 2009
AP1140            01:40:91:b5:31:70  Enabled    Latency    Sat Jan 3 19:30:25 2009
```

The following example shows how to display the FlexConnect OfficeExtend access point's link delay:

```
(Cisco Controller) >show flexconnect office-extend latency
Summary of OfficeExtend AP link latency
AP Name           Status  Current  Maximum  Minimum
-----
AP1130            Enabled 15 ms    45 ms    12 ms
AP1140            Enabled 14 ms    179 ms   12 ms
```

show flow exporter

To display the details or the statistics of the flow exporter, use the **show flow exporter** command.

show flow exporter {**summary** | **statistics**}

Syntax Description

summary Displays a summary of the flow exporter.

statistics Displays the statistics of flow exporters such as the number of records sent, or the time when the last record was sent.

Command Default

None

Command History

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

The following is a sample output of the **show flow exporter summary** command:

```
(Cisco Controller) > show flow exporter summary
Exporter-Name      Exporter-IP      Port
=====
exp01              9.9.120.115     800
```

show flow monitor summary

To display the details of the NetFlow monitor, use the **show flow monitor summary** command.

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.

Usage Guidelines Netflow record monitoring and export are used for integration with an NMS or any Netflow analysis tool.

The following is a sample output of the **show flow monitor summary**:

```
(Cisco Controller) > show flow monitor summary
Monitor-Name          Exporter-Name          Exporter-IP          Port  Record Name
=====
mon1                  expol                  9.9.120.115         800
ipv4_client_app_flow_record
```

show guest-lan

To display the configuration of a specific wired guest LAN, use the **show guest-lan** command.

show guest-lan *guest_lan_id*

Syntax Description	<i>guest_lan_id</i>	ID of the selected wired guest LAN.
---------------------------	---------------------	-------------------------------------

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

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

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines To display all wired guest LANs configured on the controller, use the **show guest-lan summary** command.

The following is a sample output of the **show guest-lan** *guest_lan_id* command:

```
(Cisco Controller) >show guest-lan 2
Guest LAN Identifier..... 1
Profile Name..... guestlan
Network Name (SSID)..... guestlan
Status..... Enabled
AAA Policy Override..... Disabled
Number of Active Clients..... 1
Exclusionlist Timeout..... 60 seconds
Session Timeout..... Infinity
Interface..... wired
Ingress Interface..... wired-guest
WLAN ACL..... unconfigured
DHCP Server..... 10.20.236.90
DHCP Address Assignment Required..... Disabled
Quality of Service..... Silver (best effort)
Security
  Web Based Authentication..... Enabled
  ACL..... Unconfigured
  Web-Passthrough..... Disabled
  Conditional Web Redirect..... Disabled
  Auto Anchor..... Disabled
Mobility Anchor List
GLAN ID IP Address Status
```

show icons summary

To display a summary of the icons present in the flash memory of the system, use the **show icons summary** command.

show icons summary

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

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

Command History	Release	Modification
	Release 8.2	This command was introduced.

Command History	Release	Modification
	8.3	This command was introduced.

The following is sample output from the **show icons summary** command::

```
Cisco Controller > show icons summary
```

```
Icon files (downloaded) in Flash memory
No.   Filename                               Size
-----
  1.   dhk_icon.png                          120694
  2.   myIconCopy1.png                       120694
  3.   myIconCopy2.png                       120694
```


show ike

To display active Internet Key Exchange (IKE) security associations (SAs), use the **show ike** command.

```
show ike {brief | detailed} IP_or_MAC_address
```

Syntax Description	brief	Displays a brief summary of all active IKE SAs.
	detailed	Displays a detailed summary of all active IKE SAs.
	<i>IP_or_MAC_address</i>	IP or MAC address of active IKE SA.
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 display the active Internet Key Exchange security associations:

```
(Cisco Controller) > show ike brief 209.165.200.254
```

show interface summary

To display summary details of the system interfaces, use the **show interface summary** command.

show interface summary

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.
	8.0	This command was updated and displays IPv6 related details

Command History	Release	Modification
	8.3	This command was introduced.

The following example displays the summary of the local IPv4 interfaces:

```
(Cisco Controller) > show interface summary
Number of Interfaces..... 6

Interface Name          Port Vlan Id  IP Address      Type   Ap Mgr Guest
-----
dyn59                   LAG  59         9.10.59.66     Dynamic No    No
management              LAG  56         9.10.56.60     Static  Yes   No
redundancy-management   LAG  56         0.0.0.0        Static  No    No
redundancy-port         -    untagged   0.0.0.0        Static  No    No
service-port            N/A  N/A        2.2.2.2        Static  No    No
virtual                 N/A  N/A        1.2.3.4        Static  No    No
```

The following example displays the summary of the local IPv6 interfaces:

```
show ipv6 interface summary
Number of Interfaces..... 2

Interface Name          Port Vlan Id  IPv6 Address/Prefix Length
-----
management              LAG  56         fe80::224:97ff:fe69:69af/64
                       LAG  56         2001:9:10:56::60/64
service-port            N/A  N/A        fe80::224:97ff:fe69:69a1/64
                       N/A  N/A         ::/128
```

show interface detailed

To display details of the system interfaces, use the **show interface** command.

show interfacedetailed { *interface_name* | **management** | **redundancy-management** | **redundancy-port** | **service-port** | **virtual** }

Syntax Description	Parameter	Description
	detailed	Displays detailed interface information.
	<i>interface_name</i>	Interface name for detailed display.
	management	Displays detailed management interface information.
	redundancy-management	Displays detailed redundancy management interface information.
	redundancy-port	Displays detailed redundancy port information.
	service-port	Displays detailed service port information.
	virtual	Displays detailed virtual gateway interface information.

Command Default None

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
	8.0	This command was updated in Release 8.0 and displays IPv6 related details

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display the detailed interface information:

```
(Cisco Controller) > show interface detailed management

Interface Name..... management
MAC Address..... 00:24:97:69:69:af
IP Address..... 9.10.56.60
IP Netmask..... 255.255.255.0
IP Gateway..... 9.10.56.1
External NAT IP State..... Disabled
External NAT IP Address..... 0.0.0.0
Link Local IPv6 Address..... fe80::224:97ff:fe69:69af/64
STATE ..... REACHABLE
Primary IPv6 Address..... 2001:9:10:56::60/64
STATE ..... REACHABLE
Primary IPv6 Gateway..... fe80::aea0:16ff:fe4f:2242
```

```

Primary IPv6 Gateway Mac Address..... ac:a0:16:4f:22:42
STATE ..... REACHABLE
VLAN..... 56
Quarantine-vlan..... 0
NAS-Identifier..... Building1
Active Physical Port..... LAG (13)
Primary Physical Port..... LAG (13)
Backup Physical Port..... Unconfigured
DHCP Proxy Mode..... Global
Primary DHCP Server..... 9.1.0.100
Secondary DHCP Server..... Unconfigured
DHCP Option 82..... Disabled
DHCP Option 82 bridge mode insertion..... Disabled
IPv4 ACL..... Unconfigured
IPv6 ACL..... Unconfigured
mDNS Profile Name..... Unconfigured
AP Manager..... Yes
Guest Interface..... No
L2 Multicast..... Enabled

```



Note Some WLAN controllers may have only one physical port listed because they have only one physical port.

The following example shows how to display the detailed redundancy management interface information:

```

(Cisco Controller) > show interface detailed redundancy-management
Interface Name..... redundancy-management
MAC Address..... 88:43:e1:7e:0b:20
IP Address..... 209.165.201.2

```

The following example shows how to display the detailed redundancy port information:

```

(Cisco Controller) > show interface detailed redundancy-port
Interface Name..... redundancy-port
MAC Address..... 88:43:e1:7e:0b:22
IP Address..... 169.254.120.5

```

The following example shows how to display the detailed service port information:

```

(Cisco Controller) > show interface detailed service-port
Interface Name..... redundancy-port
MAC Address..... 88:43:e1:7e:0b:22
IP Address..... 169.254.120.5

```

The following example shows how to display the detailed virtual gateway interface information:

```

(Cisco Controller) > show interface detailed virtual
Interface Name..... virtual
MAC Address..... 88:43:e1:7e:0b:20
IP Address..... 192.0.2.1

```

```
Virtual DNS Host Name..... Disabled
AP Manager..... No
Guest Interface..... No
```

show interface group

To display details of system interface groups, use the **show interface group** command.

show interface group {**summary** | **detailed** *interface_group_name*}

Syntax Description	summary	Displays a summary of the local interface groups.
	detailed	Displays detailed interface group information.
	<i>interface_group_name</i>	Interface group name for a detailed display.
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 display a summary of local interface groups:

```
(Cisco Controller) > show interface group summary
Interface Group Name      Total Interfaces  Total WLANs      Total AP
Groups      Quarantine
-----
mygroup1          1                0                0                No
mygroup2          1                0                0                No
mygroup3          5                1                0                No
```

The following example shows how to display the detailed interface group information:

```
(Cisco Controller) > show interface group detailed mygroup1
interface Group Name..... mygroup1
Quarantine ..... No
Number of Wlans using the Interface Group..... 0
Number of AP Groups using the Interface Group.... 0
Number of Interfaces Contained..... 1
mDNS Profile Name..... NCS12Prof
Interface Group Description..... My Interface Group
Next interface for allocation to client..... testabc
Interfaces Contained in this group ..... testabc
Interface marked with * indicates DHCP dirty interface
Interface list sorted based on vlan:
```

```
Index  Vlan      Interface Name
-----  ---  -----
```

```
0          42          testabc
```

show invalid-config

To see any ignored commands or invalid configuration values in an edited configuration file, use the **show invalid-config** command.

show invalid-config

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.

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines You can enter this command only before the **clear config** or **save config** command.

The following is a sample output of the **show invalid-config** command:

```
(Cisco Controller) > show invalid-config
config wlan peer-blocking drop 3
config wlan dhcp_server 3 192.168.0.44 required
```


show inventory

To display a physical inventory of the Cisco wireless LAN controller, use the **show inventory** command.

show inventory

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.

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines Some wireless LAN controllers may have no crypto accelerator (VPN termination module) or power supplies listed because they have no provisions for VPN termination modules or power supplies.

The following is a sample output of the **show inventory** command:

```
(Cisco Controller) > show inventory
Burned-in MAC Address..... 50:3D:E5:1A:31:A0
Power Supply 1..... Present, OK
Power Supply 2..... Absent
Maximum number of APs supported..... 500
NAME: "Chassis" , DESCR: "Cisco 5500 Series Wireless LAN Controller"
PID: AIR-CT5508-K9, VID: V01, SN: XXXXXXXXXXXX
```

show IPsec

To display active Internet Protocol Security (IPsec) security associations (SAs), use the **show IPsec** command.

show IPsec { **brief** | **detailed** } *IP_or_MAC_address*

Syntax Description		
brief		Displays a brief summary of active IPsec SAs.
detailed		Displays a detailed summary of active IPsec SAs.
<i>IP_or_MAC_address</i>		IP address or MAC address of a device.
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 display brief information about the active Internet Protocol Security (IPsec) security associations (SAs):

```
(Cisco Controller) > show IPsec brief 209.165.200.254
```

Related Commands	
	config radius acct ipsec authentication
	config radius acct ipsec disable
	config radius acct ipsec enable
	config radius acct ipsec encryption
	config radius auth IPsec encryption
	config radius auth IPsec authentication
	config radius auth IPsec disable
	config radius auth IPsec encryption
	config radius auth IPsec ike
	config trapflags IPsec
	config wlan security IPsec disable
	config wlan security IPsec enable
	config wlan security IPsec authentication
	config wlan security IPsec encryption
	config wlan security IPsec config
	config wlan security IPsec ike authentication

```
config wlan security IPsec ike dh-group
config wlan security IPsec ike lifetime
config wlan security IPsec ike phase1
config wlan security IPsec ike contivity
```

show ipv6 acl

To display the IPv6 access control lists (ACLs) that are configured on the controller, use the **show ipv6 acl** command.

show ipv6 acl detailed { *acl_name* | **summary** }

Syntax Description	<i>acl_name</i>	IPv6 ACL name. The name can be up to 32 alphanumeric characters.
	detailed	Displays detailed information about a specific ACL.
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 display the detailed information of the access control lists:

```
(Cisco Controller) >show ipv6 acl detailed acl6
Rule Index..... 1
Direction..... Any
IPv6 source prefix..... ::/0
IPv6 destination prefix..... ::/0
Protocol..... Any
Source Port Range..... 0-65535
Destination Port Range..... 0-65535
DSCP..... Any
Flow label..... 0
Action..... Permit
Counter..... 0
Deny Counter..... 0
```

show ipv6 summary

To display the IPv6 configuration settings, use the **show ipv6 summary** command.

show ipv6 summary

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 displays the output of the **show ipv6 summary** command:

```
(Cisco Controller) >show ipv6 summary
Global Config..... Enabled
Reachable-lifetime value..... 30
Stale-lifetime value..... 300
Down-lifetime value..... 300
RA Throttling..... Disabled
RA Throttling allow at-least..... 1
RA Throttling allow at-most..... no-limit
RA Throttling max-through..... 5
RA Throttling throttle-period..... 600
RA Throttling interval-option..... ignore
NS Multicast CacheMiss Forwarding..... Enabled
NA Multicast Forwarding..... Enabled
IPv6 Capwap UDP Lite..... Enabled
Operating System IPv6 state ..... Enabled
```

show guest-lan

To display the configuration of a specific wired guest LAN, use the **show guest-lan** command.

show guest-lan *guest_lan_id*

Syntax Description	<i>guest_lan_id</i>	ID of the selected wired guest LAN.
--------------------	---------------------	-------------------------------------

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

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

Command History	Release	Modification
	8.3	This command was introduced.

Usage Guidelines To display all wired guest LANs configured on the controller, use the **show guest-lan summary** command.

The following is a sample output of the **show guest-lan** *guest_lan_id* command:

```
(Cisco Controller) >show guest-lan 2
Guest LAN Identifier..... 1
Profile Name..... guestlan
Network Name (SSID)..... guestlan
Status..... Enabled
AAA Policy Override..... Disabled
Number of Active Clients..... 1
Exclusionlist Timeout..... 60 seconds
Session Timeout..... Infinity
Interface..... wired
Ingress Interface..... wired-guest
WLAN ACL..... unconfigured
DHCP Server..... 10.20.236.90
DHCP Address Assignment Required..... Disabled
Quality of Service..... Silver (best effort)
Security
  Web Based Authentication..... Enabled
  ACL..... Unconfigured
  Web-Passthrough..... Disabled
  Conditional Web Redirect..... Disabled
  Auto Anchor..... Disabled
Mobility Anchor List
GLAN ID IP Address Status
```

show icons file-info

To display icon parameters, use the **show icons file-info** command.

show icons file-info

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

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

Command History	Release	Modification
	Release 8.2	This command was introduced.

Command History	Release	Modification
	8.3	This command was introduced.

The following is sample output from the **show icons file-info** command:

```
Cisco Controller > show icons file-info
```

```
ICON File Info:
```

No.	Filename	Type	Lang	Width	Height
1	dhk_icon.png	png	eng	200	300
2	myIconCopy2.png	png	eng	222	333
3	myIconCopy1.png	png	eng	555	444

show ipv6 acl

To display the IPv6 access control lists (ACLs) that are configured on the controller, use the **show ipv6 acl** command.

show ipv6 acl detailed { *acl_name* | **summary** }

Syntax Description	<i>acl_name</i>	IPv6 ACL name. The name can be up to 32 alphanumeric characters.
	detailed	Displays detailed information about a specific ACL.
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 display the detailed information of the access control lists:

```
(Cisco Controller) >show ipv6 acl detailed acl6
Rule Index..... 1
Direction..... Any
IPv6 source prefix..... ::/0
IPv6 destination prefix..... ::/0
Protocol..... Any
Source Port Range..... 0-65535
Destination Port Range..... 0-65535
DSCP..... Any
Flow label..... 0
Action..... Permit
Counter..... 0
Deny Counter..... 0
```


show ipv6 acl cpu

To display the IPv6 ACL CPU details, use the **show ipv6 acl cpu** command.

show ipv6 acl cpu

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.
	8.0	This command supports IPv6 address format.

The following is a sample output of the **show ipv6 acl cpu** command:

```
(Cisco Controller) > show ipv6 acl cpu
```

```
CPU Acl Name..... NOT CONFIGURED
Wireless Traffic..... Disabled
Wired Traffic..... Disabled
```

show ipv6 acl detailed

To display the IPv6 ACL details, use the **show ipv6 acl detailed** command.

show ipv6 acl detailed

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.
	8.0	This command supports IPv6 address format.

The following is a sample output of the **show ipv6 acl detailed TestACL** command:

```
(Cisco Controller) > show ipv6 acl detailed ddd

Rule Index..... 1
Direction..... Any
IPv6 source prefix..... 2001:9:5:90::115/128
IPv6 destination prefix..... ::/0
Protocol..... 6
Source Port Range..... 0-65535
Destination Port Range..... 0-65535
DSCP..... Any
Action..... Permit
Counter..... 0

Rule Index..... 2
Direction..... Any
IPv6 source prefix..... ::/0
IPv6 destination prefix..... 2001:9:5:90::115/128
Protocol..... 6
Source Port Range..... 0-65535
Destination Port Range..... 0-65535
DSCP..... Any
Action..... Permit
Counter..... 0
```

show ipv6 neighbor-binding

To display the IPv6 neighbor binding data that are configured on the controller, use the **show ipv6 neighbor-binding** command.

```
show ipv6 neighbor-binding {capture-policy | counters | detailed {mac mac_address | port
port_number | vlanvlan_id} | features | policies | ra-throttle {statistics vlan_id | routers vlan_id}
| summary}
```

Syntax	Description
capture-policy	Displays IPv6 next-hop message capture policies.
counters	Displays IPv6 next-hop counters (Bridging mode only).
detailed	Displays the IPv6 neighbor binding table.
mac	Displays the IPv6 binding table entries for a specific MAC address.
<i>mac_address</i>	Displays the IPv6 binding table entries for a specific MAC address.
port	Displays the IPv6 binding table entries for a specific port.
<i>port_number</i>	Port Number. You can enter ap for an access point or LAG for a LAG port.
vlan	Displays the IPv6 neighbor binding table entries for a specific VLAN.
<i>vlan_id</i>	VLAN identifier.
features	Displays IPv6 next-hop registered features.
policies	Displays IPv6 next-hop policies.
ra-throttle	Displays RA throttle information.
statistics	Displays RA throttle statistics.
routers	Displays RA throttle routers.
summary	Displays the IPv6 neighbor binding table.

Command Default None

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

Usage Guidelines DHCPv6 counters are applicable only for IPv6 bridging mode.

The following is the output of the **show ipv6 neighbor-binding summary** command:

```
(Cisco Controller) >show ipv6 neighbor-binding summary
Binding Table has 6 entries, 5 dynamic
Codes: L - Local, S - Static, ND - Neighbor Discovery, DH - DDCP
```

show ipv6 neighbor-binding

```

Preflevel flags (prlvl):
0001:MAC and LLA match      0002:Orig trunk          0004:Orig access
0008:Orig trusted access    0010:Orig trusted trunk  0020:DHCP assigned
0040:Cga authenticated      0080:Cert authenticated  0100:Statically assigned
   IPv6 address                MAC Address              Port VLAN Type      prlvl age
   state      Time left
-----
ND fe80::216:46ff:fe43:eb01      00:16:46:43:eb:01      1  980 wired      0005
  2 REACHABLE  157
ND fe80::9cf9:b009:b1b4:1ed9    70:f1:a1:dd:cb:d4      AP 980 wireless  0005
  2 REACHABLE  157
ND fe80::6233:4bff:fe05:25ef    60:33:4b:05:25:ef     AP 980 wireless  0005
  2 REACHABLE  203
ND fe80::250:56ff:fe8b:4a8f     00:50:56:8b:4a:8f     AP 980 wireless  0005
  2 REACHABLE  157
ND 2001:410:0:1:51be:2219:56c6:a8ad 70:f1:a1:dd:cb:d4      AP 980 wireless  0005
  5 REACHABLE  157
S  2001:410:0:1::9              00:00:00:00:00:08     AP 980 wireless  0100
  1 REACHABLE  205

```

The following is the output of the **show ipv6 neighbor-binding detailed** command:

```

(Cisco Controller) >show ipv6 neighbor-binding detailed mac 60:33:4b:05:25:ef
macDB has 3 entries for mac 60:33:4b:05:25:ef, 3 dynamic
Codes: L - Local, S - Static, ND - Neighbor Discovery, DH - DDCP
Preflevel flags (prlvl):
0001:MAC and LLA match      0002:Orig trunk          0004:Orig access
0008:Orig trusted access    0010:Orig trusted trunk  0020:DHCP assigned
0040:Cga authenticated      0080:Cert authenticated  0100:Statically assigned
   IPv6 address                MAC Address              Port VLAN Type      prlvl age
   state      Time left
-----
ND fe80::6233:4bff:fe05:25ef    60:33:4b:05:25:ef     AP 980 wireless  0009
  0 REACHABLE  303
ND 2001:420:0:1:6233:4bff:fe05:25ef 60:33:4b:05:25:ef     AP 980 wireless  0009
  0 REACHABLE  300
ND 2001:410:0:1:6233:4bff:fe05:25ef 60:33:4b:05:25:ef     AP 980 wireless  0009
  0 REACHABLE  301

```

The following is the output of the **show ipv6 neighbor-binding counters** command:

```

(Cisco Controller) >show ipv6 neighbor-binding counters
Received Messages

NDP Router Solicitation          6
NDP Router Advertisement        19
NDP Neighbor Solicitation       557
NDP Neighbor Advertisement      48
NDP Redirect                     0
NDP Certificate Solicit         0
NDP Certificate Advert           0
DHCPv6 Solicitation             0
DHCPv6 Advertisement            0
DHCPv6 Request                  0
DHCPv6 Reply                    0
DHCPv6 Inform                   0
DHCPv6 Confirm                  0
DHCPv6 Renew                    0
DHCPv6 Rebind                   0
DHCPv6 Release                  0

```

```

DHCPv6 Decline                0
DHCPv6 Reconfigure            0
DHCPv6 Relay Forward          0
DHCPv6 Relay Rep              0

Bridged Messages

NDP Router Solicitation       6
NDP Router Advertisement     19
NDP Neighbor Solicitation     471
NDP Neighbor Advertisement    16
NDP Redirect                   0
NDP Certificate Solicit       0
NDP Certificate Advert        0
DHCPv6 Solicitation           0
DHCPv6 Advertisement         0
DHCPv6 Request                0
DHCPv6 Reply                  0
DHCPv6 Inform                 0
DHCPv6 Confirm                0
DHCPv6 Renew                  0
DHCPv6 Rebind                 0
DHCPv6 Release                0
DHCPv6 Decline                0
DHCPv6 Reconfigure            0
DHCPv6 Relay Forward          0
DHCPv6 Relay Rep              0
    
```

NDSUPPRESS Drop counters

```

total  silent ns_in_out ns_dad unicast multicast internal
-----
0      0      0      0      0      0      0
    
```

SNOOPING Drop counters

Dropped Msgs	total	silent	internal	CGA_vfy	RSA_vfy	limit	martian	martian_mac
no_trust not_auth stop								
NDP RS	0	0	0	0	0	0	0	0
NDP RA	0	0	0	0	0	0	0	0
NDP NS	0	0	0	0	0	0	0	0
NDP NA	0	0	0	0	0	0	0	0
NDP Redirect	0	0	0	0	0	0	0	0
NDP CERT SOL	0	0	0	0	0	0	0	0
NDP CERT ADV	0	0	0	0	0	0	0	0
DHCPv6 Sol	0	0	0	0	0	0	0	0
DHCPv6 Adv	0	0	0	0	0	0	0	0
DHCPv6 Req	0	0	0	0	0	0	0	0
DHCPv6 Confirm	0	0	0	0	0	0	0	0
DHCPv6 Renew	0	0	0	0	0	0	0	0
DHCPv6 Rebind	0	0	0	0	0	0	0	0

show ipv6 neighbor-binding

```

      0      0      0
DHCPv6 Reply          0      0      0      0      0      0      0      0
      0      0      0
DHCPv6 Release       0      0      0      0      0      0      0      0
      0      0      0
DHCPv6 Decline       0      0      0      0      0      0      0      0
      0      0      0
DHCPv6 Recfg         0      0      0      0      0      0      0      0
      0      0      0
DHCPv6 Infreq        0      0      0      0      0      0      0      0
      0      0      0
DHCPv6 Relayfwd      0      0      0      0      0      0      0      0
      0      0      0
DHCPv6 Relayreply    0      0      0      0      0      0      0      0
      0      0      0

```

CacheMiss Statistics

```

  Multicast NS Forwarded
    To STA  0
    To DS   0
  Multicast NS Dropped
    To STA 467
    To DS  467

```

Multicast NA Statistics

```

  Multicast NA Forwarded
    To STA  0
    To DS   0
  Multicast NA Dropped
    To STA  0
    To DS   0

```

(Cisco Controller) > >

show ipv6 ra-guard

To display the RA guard statistics, use the **show ipv6 ra-guard** command.

show ipv6 ra-guard { ap | wlc } summary

Syntax Description	ap	Displays Cisco access point details.
	wlc	Displays Cisco controller details.
	summary	Displays RA guard statistics.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example show the output of the **show ipv6 ra-guard ap summary** command:

```
(Cisco Controller) >show ipv6 ra-guard ap summary
IPv6 RA Guard on AP..... Enabled
RA Dropped per client:
MAC Address          AP Name              WLAN/GLAN      Number of RA Dropped
-----
00:40:96:b9:4b:89  Bhavik_1130_1_p13  2                19
-----
Total RA Dropped on AP..... 19
```

The following example shows how to display the RA guard statistics for a controller:

```
(Cisco Controller) >show ipv6 ra-guard wlc summary
IPv6 RA Guard on WLC..... Enabled
```

show ipv6 route summary

To display configuration information for IPv6 route, use the **show ipv6 route summary** command.

show ipv6 route summary

This command has no arguments or keywords.

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

Command History	Release	Modification
	8.0	This command was introduced in a Release 8.0.

The following is a sample output of the **show ipv6 route summary** command:

```
(Cisco Controller) > show ipv6 route summary
Number of Routes..... 1

Destination Network PrefixLength Gateway
-----
2001:9:5:90::115 /128 2001:9:5:91::1
```


show ipv6 summary

To display the IPv6 configuration settings, use the **show ipv6 summary** command.

show ipv6 summary

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 displays the output of the **show ipv6 summary** command:

```
(Cisco Controller) >show ipv6 summary
Global Config..... Enabled
Reachable-lifetime value..... 30
Stale-lifetime value..... 300
Down-lifetime value..... 300
RA Throttling..... Disabled
RA Throttling allow at-least..... 1
RA Throttling allow at-most..... no-limit
RA Throttling max-through..... 5
RA Throttling throttle-period..... 600
RA Throttling interval-option..... ignore
NS Multicast CacheMiss Forwarding..... Enabled
NA Multicast Forwarding..... Enabled
IPv6 Capwap UDP Lite..... Enabled
Operating System IPv6 state ..... Enabled
```

show known ap

To display known Cisco lightweight access point information, use the **show known ap** command.

show known ap {**summary** | **detailed** *MAC*}

Syntax Description		
	summary	Displays a list of all known access points.
	detailed	Provides detailed information for all known access points.
	<i>MAC</i>	MAC address of the known AP.

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

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

Command History	Release	Modification
	8.3	This command was introduced.

The following example shows how to display a summary of all known access points:

```
(Cisco Controller) >show known ap summary
MAC Address      State      # APs  # Clients  Last Heard
-----
```