Show Commands

Show Commands

Use the **show** commands to display information about your configuration settings.

show 802.11

To display basic 802.11a, 802.11b/g, or 802.11h network settings, use the **show 802.11** command.

show 802.11{**a** | **b** | **h**}

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.

Command Default

None.

This example shows to display basic 802.11a network settings:

```
>  show 802.11a
802.11a Network.............................. Enabled
11nSupport................................... Enabled
      802.11a Low Band....................... Enabled
      802.11a Mid Band....................... Enabled
      802.11a High Band...................... Enabled
802.11a Operational Rates
    802.11a 6M Rate.......................... Mandatory
    802.11a 9M Rate.......................... Supported
    802.11a 12M Rate......................... Mandatory
    802.11a 18M Rate......................... Supported
    802.11a 24M Rate......................... Mandatory
    802.11a 36M Rate......................... Supported
    802.11a 48M Rate......................... Supported
    802.11a 54M Rate......................... Supported
802.11n MCS Settings:
    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
    MCS 10................................... Supported
    MCS 11................................... Supported
    MCS 12................................... Supported
    MCS 13................................... Supported
    MCS 14................................... Supported
    MCS 15................................... Supported
802.11n Status:
    A-MPDU Tx:
        Priority 0........................... Enabled
```

```
        Priority 1.............................. Disabled
        Priority 2.............................. Disabled
        Priority 3.............................. Disabled
        Priority 4.............................. Disabled
        Priority 5.............................. Disabled
        Priority 6.............................. Disabled
        Priority 7.............................. Disabled
Beacon Interval................................. 100
CF Pollable mandatory........................... Disabled
CF Poll Request mandatory....................... Disabled
--More-- or (q)uit
CFP Period...................................... 4
CFP Maximum Duration............................ 60
Default Channel................................. 36
Default Tx Power Level.......................... 0
DTPC Status..................................... Enabled
Fragmentation Threshold......................... 2346
TI Threshold.................................... -50
Legacy Tx Beamforming setting................... Disabled
Traffic Stream Metrics Status................... Enabled
Expedited BW Request Status..................... Disabled
World Mode...................................... Enabled
EDCA profile type............................... default-wmm
Voice MAC optimization status................... Disabled
Call Admission Control (CAC) configuration
Voice AC:
   Voice AC - Admission control (ACM)............ Disabled
   Voice max RF bandwidth....................... 75
   Voice reserved roaming bandwidth.............. 6
   Voice load-based CAC mode..................... Disabled
   Voice tspec inactivity timeout................ Disabled
   Voice Stream-Size............................. 84000
   Voice Max-Streams............................. 2
Video AC:
   Video AC - Admission control (ACM)............ Disabled
   Video max RF bandwidth....................... Infinite
   Video reserved roaming bandwidth.............. 0
```

This example shows how to display basic 802.11h network settings:

```
> show 802.11h
802.11h ..................................... powerconstraint : 0
802.11h ..................................... channelswitch : Disable
802.11h ..................................... channelswitch mode : 0
```

Related Commands

show ap stats

show ap summary

show client summary

show network

show network summary

show port

show wlan

show 802.11 cleanair

To display the multicast-direct configuration state, use the **show 802.11 cleanair** command.

show 802.11{**a** | **b** | **h**} **cleanair config**

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.
config	Displays the network Cleanair configuration.

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 802.11a cleanair configuration:

```
(Cisco Controller) > show 802.11a cleanair
Clean Air Solution..............................  Enabled
Air Quality Settings:
    Air Quality Reporting.......................  Enabled
    Air Quality Reporting Period (min)..........  15
    Air Quality Alarms..........................  Enabled
    Air Quality Alarm Threshold.................  35 Interference Device
 Settings:
    Interference Device Reporting...............  Enabled
    Interference Device Types:
        TDD Transmitter.........................  Disabled
        Jammer..................................  Disabled
        Continuous Transmitter..................  Disabled
        DECT-like Phone.........................  Disabled
        Video Camera............................  Disabled
        WiFi Inverted...........................  Disabled
        WiFi Invalid Channel....................  Disabled
        SuperAG.................................  Disabled
        Radar...................................  Disabled
        Canopy..................................  Disabled
        WiMax Mobile............................  Disabled
        WiMax Fixed.............................  Disabled
Interference Device Alarms...................  Enabled
    Interference Device Types Triggering Alarms:
        TDD Transmitter.........................  Disabled
        Jammer..................................  Disabled
        Continuous Transmitter..................  Disabled
        DECT-like Phone.........................  Disabled
```

```
        Video Camera.............................. Disabled
        WiFi Inverted............................. Disabled
        WiFi Invalid Channel...................... Disabled
        SuperAG................................... Disabled
        Radar..................................... Disabled
        Canopy.................................... Disabled
        WiMax Mobile.............................. Disabled
        WiMax Fixed............................... Disabled Additional
Clean Air Settings:
    CleanAir Event-driven RRM State.............. Enabled
    CleanAir Driven RRM Sensitivity.............. Medium
    CleanAir Persistent Devices state............ Disabled
```

show 802.11 cleanair air-quality summary

To display the air quality summary information for the 802.11 networks, use the **show 802.11 cleanair air-quality summary** command.

show 802.11 {**a** | **b** | **h**} **cleanair air-quality summary**

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.
summary	Displays a summary of 802.11 radio band air quality information.

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 the air quality information for the 802.11a network:

```
(Cisco Controller) > show 802.11a cleanair air-quality summary
AQ = Air Quality
DFS = Dynamic Frequency Selection
AP Name            Channel  Avg AQ  Min AQ  Interferers  DFS
------------------ -------  ------  ------  -----------  ---
CISCO_AP3500       36   95  70   0
CISCO_AP3500     40   93  75   0
```

show 802.11 cleanair air-quality worst

To display the worst air quality information for the 802.11 networks, use the **show 802.11 cleanair air-quality worst** command.

show 802.11{**a** | **b** | **h**} **cleanair air-quality worst**

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.
worst	Displays the worst air quality information for 802.11 networks.

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 worst air quality information for the 802.11a network:

```
(Cisco Controller) > show 802.11 cleanair air-quality worst
AQ = Air Quality
DFS = Dynamic Frequency Selection
AP Name            Channel  Avg AQ  Min AQ  Interferers  DFS
------------------ -------  ------  ------  -----------  ---
CISCO_AP3500       1   83  57   3   5
```

show 802.11 cleanair device ap

To display the information of the device access point on the 802.11 radio band, use the **show 802.11 cleanair device ap** command.

show 802.11 {**a** | **b** | **h**} **cleanair device ap** *cisco_ap*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.
cisco_ap	Specified access point name.

Command Default

None

Command History

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

The following example shows how to display the device access point for the 802.11a network:

```
(Cisco Controller) > show 802.11a cleanair device ap AP_3500
DC = Duty Cycle (%)
ISI = Interference Severity Index (1-Low Interference, 100-High
Interference)
RSSI  = Received Signal Strength Index (dBm)
DevID = Device ID
No  ClusterID          DevID  Type             AP Name              ISI
RSSI   DC   Channel
--- ------------------ ------ ---------- --------------- ---- ----- ----
 -------------
1   c2:f7:40:00:00:03  0x8001 DECT phone  CISCO_AP3500  1    -43     3
    149,153,157,161
2   c2:f7:40:00:00:51  0x8002 Radar       CISCO_AP3500  1    -81     2
  153,157,161,165
3   c2:f7:40:00:00:03  0x8005 Canopy      CISCO_AP3500  2    -62     2
   153,157,161,165
```

show 802.11 cleanair device type

To display the information of all the interferers device type detected by a specific access point on the 802.11 radio band, use the **show 802.11 cleanair device type** command.

show 802.11{**a** | **b** | **h**} **cleanair device type** *device_type*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.

device_type	Interferer device type for a specified radio band. The device type is one of the following: • tdd-tx—Tdd-transmitter device information. • jammer—Jammer device information. • cont-tx—Continuous-transmitter devices information. • dect-like—Dect-like phone devices information. • video—Video devices information. • 802.11-inv—WiFi inverted devices information. • 802.11-nonstd—Nonstandard WiFi devices information. • superag—Superag devices information. • canopy—Canopy devices information. • wimax-mobile—WiMax mobile devices information. • wimax-fixed—WiMax fixed devices information.

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 information of all the interferers detected by a specified access point for the 802.11a network:

```
(Cisco Controller) > show 802.11a cleanair device type canopy
DC = Duty Cycle (%)
ISI = Interference Severity Index (1-Low Interference, 100-High
Interference)
RSSI  = Received Signal Strength Index (dBm)
DevID = Device ID
No  ClusterID          DevID  Type             AP Name             ISI
RSSI   DC   Channel
--- ------------------ ------ ---------- --------------- ---- ----- ----
 -------------
1c2:f7:40:00:00:03  0x8005 Canopy          CISCO_AP3500  2    -62      2
     153,157,161,165
```

show 802.11 cu-metrics

To display access point channel utilization metrics, use the **show 802.11 cu-metrics** command.

show 802.11 {**a** | **b**} **cu-metrics** *cisco_ap*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
cisco_ap	Access point name.

Command Default None

Command History

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

The following is a sample output of the **show 802.11a cu-metrics** command:

```
(Cisco Controller) > show 802.11a cu-metrics AP1
AP Interface Mac:           30:37:a6:c8:8a:50
Measurement Duration:       90sec
 Timestamp               Thu Jan 27 09:08:48 2011
   Channel Utilization stats
   ================
     Picc (50th Percentile)..................... 0
     Pib (50th Percentile)...................... 76
     Picc (90th Percentile)..................... 0
     Pib (90th Percentile)...................... 77
 Timestamp               Thu Jan 27 09:34:34 2011
```

show 802.11 extended

To display access point radio extended configurations, use the **show 802.11 extended** command.

show 802.11 {**a** | **b**} **extended**

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
extended	Displays the 802.11a/b radio extended configurations.

Command Default None

Command History

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

Release	Modification
8.0	The command output was expanded to include the Rx SOP threshold.

The following example shows how to display radio extended configurations:

```
(Cisco Controller) > show 802.11a extended
Default 802.11a band radio extended configurations:
    beacon period 300, range 60;
    multicast buffer 45, rate 200;
    RX SOP -80; CCA threshold -90;
AP0022.9090.b618 00:24:97:88:99:60
    beacon period 300, range 60; multicast buffer 45, rate 200;
    RX SOP -80; CCA threshold -77
AP0022.9090.bb3e 00:24:97:88:c5:d0
    beacon period 300, range 0; multicast buffer 0, rate 0;
    RX SOP -80; CCA threshold -0
ironRap.ddbf 00:17:df:36:dd:b0
    beacon period 300, range 0; multicast buffer 0, rate 0;
    RX SOP  -80; CCA threshold -0
```

The following example shows how to display radio extended configurations and the Rx SOP threshold:

```
(Cisco Controller) > show 802.11a extended
Default 802.11a band Radio Extended Configurations:
    Beacon period: 100, range: 0 (AUTO);
    Multicast buffer: 0 (AUTO), rate: 0 (AUTO);
    RX SOP threshold: -76; CCA threshold: 0 (AUTO);

AP3600-XALE3  34:a8:4e:6a:7b:00
    Beacon period: 100, range: 0 (AUTO);
    Multicast buffer: 0 (AUTO), rate: 0 (AUTO);
    RX SOP threshold: -76; CCA threshold: 0 (AUTO);
```

show 802.11 media-stream

To display the multicast-direct configuration state, use the **show 802.11 media-stream** command.

show 802.11 {**a** | **b** | **h**} **media-stream** *media_stream_name*

Syntax Description

a	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
h	Specifies the 802.11h network.
media_stream_name	Specified media stream name.

Command Default

None.

Command History

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

This example shows how to display the media-stream configuration:

```
> show 802.11a media-stream rrc
Multicast-direct................................ Enabled
Best Effort..................................... Disabled
Video Re-Direct................................. Enabled
Max Allowed Streams Per Radio................... Auto
Max Allowed Streams Per Client.................. Auto
Max Video Bandwidth............................. 0
Max Voice Bandwidth............................. 75
Max Media Bandwidth............................. 85
Min PHY Rate.................................... 6000
Max Retry Percentage............................ 80
```

Related Commands

show media-stream group summary

Show Advanced Commands

Use the **show advanced** commands to display more detailed information.

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.

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.

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.

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 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.
mac_address	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 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.

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.

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 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.
cisco_ap	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.

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.

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
  RxAbort  : Raw Power Drop Status....................... Disabled
  RxAbort  : Raw Power Drop Threshold.................... 10
  RxAbort  : Low RSSI Status............................. Disabled
  RxAbort  : Low RSSI Threshold.......................... 0
  RxAbort  : Wrong BSSID Status.......................... Disabled
  RxAbort  : 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.

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.

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 controllers, 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 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 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.

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 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.

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 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.

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 controller 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.

The following example shows how to display the probe settings for the 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 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.

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 advanced statistics

To display whether or not the Cisco wireless LAN controller port statistics are enabled or disabled, use the **show advanced statistics** command.

show advanced statistics

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 switch port statistics mode:

```
(Cisco Controller) > show advanced statistics
Switch port statistics.........................  Enabled
```

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.

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 Access Point Commands

Use the **show ap** commands to see access point settings.

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	Specifies the 802.11a network.
b	Specifies the 802.11b/g network.
cisco_ap	Cisco lightweight access point name.

Command Default

None

Command History

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

The following example shows how to 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 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

ap_name	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.
cisco_ap	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.

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(200
81114:084420) [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(200
81114:084420) [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

ap_name	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.

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
cisco_ap	Lightweight access point name.

Command Default

None

Command History

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

The following example shows how to 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 Dot1x User Mode.............................  Not Configured
AP Dot1x 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
        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
        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 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.

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

cisco_ap	Cisco lightweight access point name.

Command Default

None

Command History

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

The following example shows how to 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.

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.

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 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.

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

ap_name	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.

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 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

cisco_ap	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.

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

ap-name	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.

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

ap_mac	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.

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

ap_mac	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.

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.

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.
cisco_ap	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.

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 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.
cisco_ap	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 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.

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 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.

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 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.
cisco_ap	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.

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.
cisco_ap	Name of the lightweight access point.
tsm	(Optional) Specifies the traffic stream metrics.
client_mac	(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.

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
    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 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 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

cisco_ap	(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.

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

cisco_ap	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.

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.
ap_name	Lightweight access point name.

Command Default

None

Command History

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

The following example shows how to 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 CAC Commands

Use the **show cac** commands to display Call Admission Control (CAC) voice and video summary and statistics.

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	Displays detailed voice CAC statistics for 802.11a.
802.11b	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.

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.

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

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 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 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.

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 Client Commands

Use the **show client** commands to see client settings.

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.
cisco_ap	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.

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.

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            AP Name         Radio Type
                                          Duration (sec)
--------------------    ---------         ----------       ---------------      ----------
00:09: ef: 02:65:70        abc               45            VJ-1240C-ed45cc        802.11a
00:13: ce: cc: 51:39       xyz               45                AP1130-a416        802.11a
00:40:96: af: 15:15        def               45                AP1130-a416        802.11a
00:40:96:b2:69: df         def               45                AP1130-a416        802.11a
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

client_mac_address	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

client_mac_address	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

client_mac_address	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

client_mac_address	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.
client_mac_address	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

client_mac_address	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, MinRss1:-95, MaxRss1:-30
```

show client ccx operating-parameters

To display the client operating-parameters, use the **show client ccx operating-parameters** command.

show client ccx operating-parameters *client_mac_address*

Syntax Description

client_mac_address	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 operating-parameters** command:

```
(Cisco Controller) >show client ccx operating-parameters 00:40:96:b2:8d:5e
Client Mac ..................................... 00:40:96:b2:8d:5e
Radio Type ..................................... OFDM(802.11a)
Radio Type ..................................... OFDM(802.11a)
 Radio Channels ................................ 36 40 44 48 52 56 60 64 100 104 108 112
116 120 124 128 132 136 140 149 153 157 161 165
 Tx Power Mode ................................. Automatic
 Rate List(MB).................................. 6.0 9.0 12.0 18.0 24.0 36.0 48.0 54.0
Power Save Mode ................................ Normal Power Save
SSID ........................................... wifi
Security Parameters[EAP Method, Credential]..... None
Auth Method .................................... None
Key Management.................................. None
Encryption ..................................... None
Device Name .................................... Wireless Network Connection 15
Device Type .................................... 0
OS Id .......................................... Windows XP
OS Version ..................................... 5.1.6.2600 Service Pack 2
IP Type ........................................ DHCP address
IPv4 Address ................................... Available
IP Address ..................................... 70.0.4.66
Subnet Mask .................................... 255.0.0.0
Default Gateway ................................ 70.1.0.1
IPv6 Address ................................... Not Available
IPv6 Address ................................... 0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:
IPv6 Subnet Mask ............................... 0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:0:
DNS Servers .................................... 103.0.48.0
WINS Servers ...................................
System Name .................................... URAVAL3777
Firmware Version ............................... 4.0.0.187
Driver Version ................................. 4.0.0.187
```

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

client_mac_address	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

client_mac_address	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

client_MAC	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

client_mac_address	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

mac_address	MAC address of the client.

Command Default

None

Command History

Release	Modification
7.6	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
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=nsp
Audit Session ID................................. 0a68aa72000000015272404e
AAA Role Type.................................... none
Local Policy Applied............................. p1
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 Failured 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
        antenna1: 26 secs ago..... -35 dBm
      AP0022.9090.c545(slot 1)
        antenna0: 25 secs ago..... -41 dBm
        antenna1: 25 secs ago..... -44 dBm
      APc47d.4f3a.35c2(slot 0)
        antenna0: 26 secs ago..... -30 dBm
        antenna1: 26 secs ago..... -36 dBm
      APc47d.4f3a.35c2(slot 1)
        antenna0: 24 secs ago..... -43 dBm
        antenna1: 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.

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.

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

mac_address	Client MAC address.

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 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.

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 NMSP-TalwarSIM1-2 Associated    1              Yes  802.11a          13
  No      Yes
00:00:15:01:00:02 NMSP-TalwarSIM1-2 Associated    1              Yes  802.11a          13
  No      No
00:00:15:01:00:03 NMSP-TalwarSIM1-2 Associated    1              Yes  802.11a          13
  No      Yes
00:00:15:01:00:04 NMSP-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.

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.
client_mac	MAC address of the client.
ap_mac	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.

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

username	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.

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

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

MAC Address        AP Name            Status         WLAN  Auth  Protocol          Port
Device Type
-----------------  -----------------  -------------  ----  ----  ----------------  ----
-----------
```

```
12:22:64:64:00:01  WEB-AUTH-AP-1      Associated     1     Yes   802.11g           1
Unknown
12:22:64:64:00:02  WEB-AUTH-AP-1      Associated     1     Yes   802.11g           1
Unknown
12:22:64:64:00:03  WEB-AUTH-AP-1      Associated     1     Yes   802.11g           1
Unknown
12:22:64:64:00:04  WEB-AUTH-AP-1      Associated     1     Yes   802.11g           1
Unknown
12:22:64:64:00:05  WEB-AUTH-AP-1      Associated     1     Yes   802.11g           1
Unknown
12:22:64:64:00:06  WEB-AUTH-AP-1      Associated     1     Yes   802.11g           1
Unknown
12:22:64:64:00:07  WEB-AUTH-AP-1      Associated     1     Yes   802.11g           1
Unknown
12:22:64:64:00:08  WEB-AUTH-AP-1      Associated     1     Yes   802.11g           1
Unknown
```

show client voice-diag

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

show client voice-diag {**quos-map** | **roam-history** | **rssi** | **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.
rssi	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.

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 IPv6 Commands

Use the **show ipv6** commands to display the IPv6 settings and information.

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

acl_name	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 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* | **vlan***vlan_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.
mac_address	Displays the IPv6 binding table entries for a specific MAC address.
port	Displays the IPv6 binding table entries for a specific port.
port_number	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.
vlan_id	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
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

NDSUPRRESS 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
      0       0       0
NDP RA                          0       0       0       0       0       0       0       0
      0       0       0
NDP NS                          0       0       0       0       0       0       0       0
      0       0       0
NDP NA                          0       0       0       0       0       0       0       0
      0       0       0
NDP Redirect                    0       0       0       0       0       0       0       0
      0       0       0
NDP CERT SOL                    0       0       0       0       0       0       0       0
      0       0       0
NDP CERT ADV                    0       0       0       0       0       0       0       0
      0       0       0
DHCPv6 Sol                      0       0       0       0       0       0       0       0
      0       0       0
DHCPv6 Adv                      0       0       0       0       0       0       0       0
      0       0       0
DHCPv6 Req                      0       0       0       0       0       0       0       0
      0       0       0
DHCPv6 Confirm                  0       0       0       0       0       0       0       0
      0       0       0
DHCPv6 Renew                    0       0       0       0       0       0       0       0
      0       0       0
DHCPv6 Rebind                   0       0       0       0       0       0       0       0
      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 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 Mulitcast CacheMiss Forwarding............ Enabled
NA Mulitcast Forwarding...................... Enabled
IPv6 Capwap UDP Lite........................ Enabled
Operating System IPv6 state ................ Enabled
```

Show Media-Stream Commands

Use the **show media-stream** commands to see the multicast-direct configuration state.

show media-stream client

To display the details for a specific media-stream client or a set of clients, use the **show media-stream client** command.

show media-stream client {*media-stream_name* | **summary**}

Syntax Description

media-stream_name	Name of the media-stream client of which the details is to be displayed.
summary	Displays the details for a set of media-stream clients.

Command Default None.

This example shows how to display a summary media-stream clients:

```
> show media-stream client summary
Number of Clients............................... 1
Client Mac         Stream Name  Stream Type  Radio WLAN  QoS    Status
-----------------  -----------  -----------  ----  ----  ------ -------
00:1a:73:dd:b1:12  mountainview  MC-direct    2.4   2     Video  Admitted
```

Related Commands **show media-stream group summary**

show media-stream group detail

To display the details for a specific media-stream group, use the **show media-stream group detail** command.

show media-stream group detail *media-stream_name*

Syntax Description

media-stream_name	Name of the media-stream group.

Command Default None.

This example shows how to display media-stream group configuration details:

```
> show media-stream group detail abc
Media Stream Name.............................. abc
Start IP Address............................... 227.8.8.8
End IP Address................................. 227.9.9.9
 RRC Parameters
 Avg Packet Size(Bytes)......................... 1200
 Expected Bandwidth(Kbps)....................... 300
 Policy......................................... Admit
 RRC re-evaluation.............................. periodic
 QoS............................................ Video
```

```
Status..................................... Multicast-direct
Usage Priority............................. 5
Violation.................................. drop
```

Related Commands **show media-stream group summary**

show media-stream group summary

To display the summary of the media stream and client information, use the **show media-stream group summary** command.

show media-stream 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.

This example shows how to display a summary of the media-stream group:

```
(Cisco Controller) > show media-stream group summary
Stream Name   Start IP       End IP         Operation Status
------------- -------------- -------------- ----------------
abc           227.8.8.8      227.9.9.9      Multicast-direct
```

Related Commands **show 802.11 media-stream client**

show media-stream client

show media-stream group detail

show mesh Commands

Use the **show mesh** commands to see settings for outdoor and indoor mesh access points.

show mesh ap

To display settings for mesh access points, use the **show mesh ap** command.

show mesh ap {**summary** | **tree**}

Syntax Description

summary	Displays a summary of mesh access point information including the name, model, bridge virtual interface (BVI) MAC address, United States Computer Emergency Response Team (US-CERT) MAC address, hop, and bridge group name.
tree	Displays a summary of mesh access point information in a tree configuration, including the name, hop counter, link signal-to-noise ratio (SNR), and bridge group name.

Command Default

None

Command History

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

The following example shows how to display a summary format:

```
(Cisco Controller) >show mesh ap summary
AP Name AP Model             BVI MAC               CERT MAC         Hop    Bridge Group Name
------------------  -------------------  -----------------  ------------------   -----  --
SB_RAP1 AIR-LAP1522AG-A-K9   00:1d:71:0e:d0:00  00:1d:71:0e:d0:00   0      sbox
SB_MAP1 AIR-LAP1522AG-A-K9   00:1d:71:0e:85:00  00:1d:71:0e:85:00   1      sbox
SB_MAP2 AIR-LAP1522AG-A-K9   00:1b:d4:a7:8b:00  00:1b:d4:a7:8b:00   2      sbox
SB_MAP3 AIR-LAP1522AG-A-K9   00:1d:71:0d:ee:00  00:1d:71:0d:ee:00   3      sbox
Number of Mesh APs.............................. 4
Number of RAPs.................................. 1
Number of MAPs.................................. 3
```

The following example shows how to display settings in a hierarchical (tree) format:

```
(Cisco Controller) >show mesh ap tree
 ======================================================
||  AP Name [Hop Counter, Link SNR, Bridge Group Name] ||
 ======================================================
[Sector 1]
----------
SB_RAP1[0,0,sbox]
  |-SB_MAP1[1,32,sbox]
    |-SB_MAP2[2,27,sbox]
      |-SB_MAP3[3,30,sbox]
------------------------------------------------------
Number of Mesh APs.............................. 4
Number of RAPs.................................. 1
```

```
Number of MAPs.................................. 3
-------------------------------------------------
```

show mesh astools stats

To display antistranding statistics for outdoor mesh access points, use the **show mesh astools stats** command.

show mesh astools stats [*cisco_ap*]

Syntax Description		
	cisco_ap	(Optional) Antistranding feature statistics for a designated mesh 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 anti-stranding statistics on all outdoor mesh access points:

```
(Cisco Controller) >show mesh astools stats
Total No of Aps stranded : 0
```

The following example shows how to display anti-stranding statistics for access point *sb_map1*:

```
(Cisco Controller) >show mesh astools stats sb_map1
Total No of Aps stranded : 0
```

show mesh backhaul

To check the current backhaul information, use the **show mesh backhaul** command.

show mesh backhaul *cisco_ap*

Syntax Description		
	cisco_ap	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.

The following example shows how to display the current backhaul:

```
(Cisco Controller) >show mesh backhaul
```

If the current backhaul is 5 GHz, the output is as follows:

```
Basic Basic Attributes for Slot  0
    Radio Type..................................... RADIO_TYPE_80211g
    Radio Role..................................... DOWNLINK ACCESS
```

```
    Administrative State ..................... ADMIN_ENABLED
    Operation State .......................... UP
      Current Tx Power Level ................. 1
If the current backhaul is 2.4 GHz, the output is as follows:
Basic Attributes for Slot  1
    Radio Type.............................. RADIO_TYPE_80211a
    Radio Subband........................... RADIO_SUBBAND_ALL
    Radio Role.............................. DOWNLINK ACCESS
    Administrative State ..................... ADMIN_ENABLED
    Operation State .......................... UP
      Current Tx Power Level ................. 1
      Current Channel ........................ 165
      Antenna Type............................ EXTERNAL_ANTENNA
      External Antenna Gain (in .5 dBm units).... 0
Current Channel.................................6
Antenna Type....................................Externa_ANTENNA
External Antenna Gain (in .5 dBm units)...........0
```

show mesh cac

To display call admission control (CAC) topology and the bandwidth used or available in a mesh network, use the **show mesh cac** command.

show mesh cac {**summary** | {**bwused** {**voice** | **video**} | **access** | **callpath** | **rejected**} *cisco_ap*}

Syntax Description

summary	Displays the total number of voice calls and voice bandwidth used for each mesh access point.
bwused	Displays the bandwidth for a selected access point in a tree topology.
voice	Displays the mesh topology and the voice bandwidth used or available.
video	Displays the mesh topology and the video bandwidth used or available.
access	Displays access voice calls in progress in a tree topology.
callpath	Displays the call bandwidth distributed across the mesh tree.
rejected	Displays voice calls rejected for insufficient bandwidth in a tree topology.
cisco_ap	Mesh access point name.

Command Default

None

Command History

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

The following example shows how to display a summary of the call admission control settings:

```
(Cisco Controller) >show mesh cac summary
AP Name              Slot#    Radio  BW Used/Max  Calls
-----------------  -------  -----  -----------  -----
```

```
SB_RAP1              0        11b/g   0/23437      0
                     1        11a     0/23437      0
SB_MAP1              0        11b/g   0/23437      0
                     1        11a     0/23437      0
SB_MAP2              0        11b/g   0/23437      0
                     1        11a     0/23437      0
SB_MAP3              0        11b/g   0/23437      0
                     1        11a     0/23437      0
```

The following example shows how to display the mesh topology and the voice bandwidth used or available:

```
(Cisco Controller) >show mesh cac bwused voice SB_MAP1
AP Name                Slot#    Radio      BW Used/Max
-------------        -------  -----      -----------
    SB_RAP1              0      11b/g       0/23437
                         1      11a         0/23437
|   SB_MAP1              0      11b/g       0/23437
                         1      11a         0/23437
||  SB_MAP2              0      11b/g       0/23437
                         1      11a         0/23437
||| SB_MAP3              0      11b/g       0/23437
                         1      11a         0/23437
```

The following example shows how to display the access voice calls in progress in a tree topology:

```
(Cisco Controller) >show mesh cac access 1524_Map1
    AP Name             Slot#   Radio     Calls
    -------------      -------  -----    -----
    1524_Rap             0      11b/g      0
                         1      11a        0
                         2      11a        0
|   1524_Map1            0      11b/g      0
                         1      11a        0
                         2      11a        0
||  1524_Map2            0      11b/g      0
                         1      11a        0
                         2      11a        0
```

show mesh client-access

To display the backhaul client access configuration setting, use the **show mesh client-access** command.

show mesh client-access

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 backhaul client access configuration settings for a mesh access point:

```
(Cisco Controller) >show mesh client-access
Backhaul with client access status: enabled
Backhaul with client access extended status(3 radio AP): disabled
```

show mesh config

To display mesh configuration settings, use the **show mesh config** command.

show mesh 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.
8.0	The display was expanded to include Mesh Convergence Method.

The following example shows how to display global mesh configuration settings:

```
(Cisco Controller) >show mesh config
Mesh Range...................................... 12000
Mesh Statistics update period................... 3 minutes
Backhaul with client access status.............. disabled
Backhaul with extended client access status..... disabled
Background Scanning State....................... enabled
Backhaul Amsdu State............................ disabled
Mesh Security
   Security Mode................................ EAP
   External-Auth................................ disabled
   Use MAC Filter in External AAA server........ disabled
   Force External Authentication................ disabled
Mesh Alarm Criteria
   Max Hop Count................................ 4
   Recommended Max Children for MAP............. 10
   Recommended Max Children for RAP............. 20
   Low Link SNR................................. 12
   High Link SNR................................ 60
   Max Association Number....................... 10
   Association Interval......................... 60 minutes
   Parent Change Numbers........................ 3
Parent Change Interval..................... 60 minutes
Mesh Multicast Mode............................. In-Out
Mesh Full Sector DFS............................ enabled
Mesh Ethernet Bridging VLAN Transparent Mode..... disabled
Mesh DCA channels for serial backhaul APs........ enabled
Mesh Slot Bias.................................. enabled
Mesh Convergence Method......................... standard
```

show mesh env

To display global or specific environment summary information for mesh networks, use the **show mesh env** command.

show mesh env {**summary** | *cisco_ap*}

Syntax Description

summary	Displays global environment summary information.

cisco_ap	Name of access point for which environment summary information is requested.

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 global environment summary information:

```
(Cisco Controller) >show mesh env summary
AP Name             Temperature(C)  Heater   Ethernet  Battery
------------------  --------------  ------   --------  -------
ap1130:5f:be:90      N/A             N/A      DOWN     N/A
AP1242:b2.31.ea      N/A             N/A      DOWN     N/A
AP1131:f2.8d.92      N/A             N/A      DOWN     N/A
AP1131:46f2.98ac     N/A             N/A      DOWN     N/A
ap1500:62:39:70      -36             OFF      UP       N/A
```

The following example shows how to display an environment summary for an access point:

```
(Cisco Controller) >show mesh env SB_RAP1
AP Name..................................... SB_RAP1
AP Model.................................... AIR-LAP1522AG-A-K9
AP Role..................................... RootAP
Temperature................................. 21 C, 69 F
Heater...................................... OFF
Backhaul.................................... GigabitEthernet0
GigabitEthernet0 Status..................... UP
    Duplex.................................. FULL
    Speed................................... 100
    Rx Unicast Packets...................... 114754
    Rx Non-Unicast Packets.................. 1464
    Tx Unicast Packets...................... 9630
    Tx Non-Unicast Packets.................. 3331
GigabitEthernet1 Status..................... DOWN
  POE Out................................... OFF
Battery..................................... N/A
```

show mesh neigh

To display summary or detailed information about the mesh neighbors of a mesh access point, use the **show mesh neigh** command.

show mesh neigh {**detail** | **summary**} {*cisco_ap* | **all**}

Syntax Description

detail	Displays the channel and signal-to-noise ratio (SNR) details between the designated mesh access point and its neighbor.
summary	Displays the mesh neighbors for a designated mesh access point.
cisco_ap	Cisco lightweight access point name.
all	Displays all access points.

Note If an AP itself is configured with the **all**keyword, the **all**keyword access points take 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.

The following example shows how to display a neighbor summary of an access point:

```
(Cisco Controller) >show mesh neigh summary RAP1
AP Name/Radio Mac Channel Rate  Link-Snr  Flags      State
----------------- ------- ----- -------- --------   --------
00:1D:71:0F:CA:00 157      54     6        0x0        BEACON
00:1E:14:48:25:00 157      24     1        0x0        BEACON
MAP1-BB00         157      54     41       0x11       CHILD BEACON
```

The following example shows how to display the detailed neighbor statistics of an access point:

```
(Cisco Controller) >show mesh neigh detail RAP1
AP MAC : 00:1E:BD:1A:1A:00 AP Name: HOR1522_MINE06_MAP_S_Dyke
backhaul rate 54
FLAGS : 860 BEACON
worstDv 255, Ant 0, channel 153, biters 0, ppiters 0
Numroutes 0, snr 0, snrUp 8, snrDown 8, linkSnr 8
adjustedEase 0, unadjustedEase 0
txParent 0, rxParent 0
poorSnr 0
lastUpdate 2483353214 (Sun Aug 4 23:51:58 1912)
parentChange 0
Per antenna smoothed snr values: 0 0 0 0
Vector through 00:1E:BD:1A:1A:00
```

The following table lists the output flags displayed for the **show mesh neigh detail** command.

Table 1: Output Flags for the show mesh neigh detail command

Output Flag	Description
AP MAC	MAC address of a mesh neighbor for a designated mesh access point.
AP Name	Name of the mesh access point.

Output Flag	Description
FLAGS	Describes adjacency. The possible values are as follows: • UPDATED—Recently updated neighbor. • NEIGH—One of the top neighbors. • EXCLUDED—Neighbor is currently excluded. • WASEXCLUDED—Neighbor was recently removed from the exclusion list. • PERMSNR—Permanent SNR neighbor. • CHILD—A child neighbor. • PARENT—A parent neighbor. • NEEDUPDATE—Not a current neighbor and needs an update. • BEACON—Heard a beacon from this neighbor. • ETHER—Ethernet neighbor.
worstDv	Worst distance vector through the neighbor.
Ant	Antenna on which the route was received.
channel	Channel of the neighbor.
biters	Number of black list timeouts left.
ppiters	Number of potential parent timeouts left.
Numroutes	Number of distance routes.
snr	Signal to Noise Ratio.
snrUp	SNR of the link to the AP.
snrDown	SNR of the link from the AP.
linkSnr	Calculated SNR of the link.
adjustedEase	Ease to the root AP through this AP. It is based on the current SNR and threshold SNR values.
unadjustedEase	Ease to the root AP through this AP after applying correct for number of hops.
txParent	Packets sent to this node while it was a parent.
rxparent	Packets received from this node while it was a parent.
poorSnr	Packets with poor SNR received from a node.
lastUpdate	Timestamp of the last received message for this neighbor
parentChange	When this node last became parent.

Output Flag	Description
per antenna smoother SNR values	SNR value is populated only for antenna 0.

show mesh path

To display the channel and signal-to-noise ratio (SNR) details for a link between a mesh access point and its neighbor, use the **show mesh path** command.

show mesh path *cisco_ap*

Syntax Description

cisco_ap	Mesh access point name.

Command Default None

Command History

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

The following example shows how to display channel and SNR details for a designated link path:

```
(Cisco Controller) >show mesh path mesh-45-rap1
AP Name/Radio Mac Channel Rate  Link-Snr  Flags      State
----------------- ------- ----- -------- --------   --------
MAP1-BB00         157      54     32       0x0       UPDATED NEIGH PARENT BEACON
RAP1              157      54     37       0x0        BEACON
```

show mesh per-stats

To display the percentage of packet errors for packets transmitted by the neighbors of a specified mesh access point, use the **show mesh per-stats** command.

show mesh per-stats summary {*cisco_ap* | **all**}

Syntax Description

summary	Displays the packet error rate stats summary.
cisco_ap	Name of mesh access point.
all	Displays all mesh access points.

Note If an AP itself is configured with the **all**keyword, the **all**keyword access points take 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.

Usage Guidelines

The packet error rate percentage equals 1, which is the number of successfully transmitted packets divided by the number of total packets transmitted.

The following example shows how to display the percentage of packet errors for packets transmitted by the neighbors to a mesh access point:

```
(Cisco Controller) >show mesh per-stats summary ap_12
Neighbor MAC Address 00:0B:85:5F:FA:F0
Total Packets transmitted:              104833
Total Packets transmitted successfully: 104833
Total Packets retried for transmission: 33028
RTS Attempts:                           0
RTS Success:                            0
Neighbor MAC Address:                   00:0B:85:80:ED:D0
Total Packets transmitted:              0
Total Packets transmitted successfully: 0
Total Packets retried for transmission: 0
Neighbor MAC Address:                   00:17:94:FE:C3:5F
Total Packets transmitted:              0
Total Packets transmitted successfully: 0
Total Packets retried for transmission: 0
RTS Attempts:                           0
RTS Success:                            0
```

show mesh public-safety

To display 4.8-GHz public safety settings, use the **show mesh public-safety** command.

show mesh public-safety

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 view 4.8-GHz public safety settings:

```
(Cisco Controller) >(Cisco Controller) >show mesh public-safety
Global Public Safety status: disabled
```

show mesh security-stats

To display packet error statistics for a specific access point, use the **show mesh security-stats** command.

show mesh security-stats {*cisco_ap* | **all**}

Syntax Description

cisco_ap	Name of access point for which you want packet error statistics.
all	Displays all access points.

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

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 shows packet error statistics and a count of failures, timeouts, and successes with respect to associations and authentications as well as reassociations and reauthentications for the specified access point and its child.

The following example shows how to view packet error statistics for access point ap417:

```
(Cisco Controller) >show mesh security-stats ap417
AP MAC : 00:0B:85:5F:FA:F0
Packet/Error Statistics:
----------------------------
x Packets 14, Rx Packets 19, Rx Error Packets 0
Parent-Side Statistics:
-------------------------
Unknown Association Requests 0
Invalid Association Requests 0
Unknown Re-Authentication Requests 0
Invalid Re-Authentication Requests 0
Unknown Re-Association Requests 0
Invalid Re-Association Requests 0
Child-Side Statistics:
-------------------------
Association Failures 0
Association Timeouts 0
Association Successes 0
Authentication Failures 0
Authentication Timeouts 0
Authentication Successes 0
Re-Association Failures 0
Re-Association Timeouts 0
Re-Association Successes 0
Re-Authentication Failures 0
Re-Authentication Timeouts 0
Re-Authentication Successes 0
```

show mesh stats

To display the mesh statistics for an access point, use the **show mesh stats** command.

show mesh stats *cisco_ap*

Syntax Description

cisco_ap	Access point name.

Command Default

None

Command History

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

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

```
(Cisco Controller) >show mesh stats RAP_AP1
RAP in state Maint
rxNeighReq 759978, rxNeighRsp 568673
txNeighReq 115433, txNeighRsp 759978
rxNeighUpd 8266447 txNeighUpd 693062
tnextchan 0, nextant 0, downAnt 0, downChan 0, curAnts 0
tnextNeigh 0, malformedNeighPackets 244, poorNeighSnr 27901
blacklistPackets 0, insufficientMemory 0
authenticationFailures 0
Parent Changes 1, Neighbor Timeouts 16625
```

Show Mobility Commands

Use the **show mobility** commands to display mobility settings.

show mobility anchor

To display the wireless LAN anchor export list for the Cisco wireless LAN controller mobility groups or to display a list and status of controllers configured as mobility anchors for a specific WLAN or wired guest LAN, use the **show mobility anchor** command.

show mobility anchor [**wlan** *wlan_id* | **guest-lan** *guest_lan_id*]

Syntax Description

wlan	(Optional) Displays wireless LAN mobility group settings.
wlan_id	Wireless LAN identifier from 1 to 512 (inclusive).
guest-lan	(Optional) Displays guest LAN mobility group settings.
guest_lan_id	Guest LAN identifier from 1 to 5 (inclusive).

Command Default

None

Command History

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

Usage Guidelines

The status field display (see example) shows one of the following values:

- UP—The controller is reachable and able to pass data.
- CNTRL_PATH_DOWN—The mpings failed. The controller cannot be reached through the control path and is considered failed.
- DATA_PATH_DOWN—The epings failed. The controller cannot be reached and is considered failed.
- CNTRL_DATA_PATH_DOWN—Both the mpings and epings failed. The controller cannot be reached and is considered failed.

The following example shows how to display a mobility wireless LAN anchor list:

```
(Cisco Controller) >show mobility anchor
Mobility Anchor Export List
 WLAN ID     IP Address            Status
 -------     ---------------       ------
 12           192.168.0.15         UP
 GLAN ID     IP Address            Status
 -------     ---------------       -------
 1           192.168.0.9           CNTRL_DATA_PATH_DOWN
```

show mobility ap-list

To display the mobility AP list, use the **show mobility ap-list** command.

show mobility ap-list

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 mobility AP list:

Note The AP name is displayed only with New Mobility. With Old Mobility, the AP name is displayed as `Unknown`.

```
(Cisco Controller) >show mobility ap-list
AP Name                      AP Radio MAC address      Controller          Learnt From
---------------------------  ----------------------   ---------------    -----------------
AP30e4.dbc5.38ab              b8:62:1f:e5:33:10         9.7.104.10           Self
```

show mobility foreign-map

To display a mobility wireless LAN foreign map list, use the **show mobility foreign-map** command.

show mobility foreign-map wlan *wlan_id*

Syntax Description

wlan	Displays the mobility WLAN foreign-map list.
wlan_id	Wireless LAN identifier between 1 and 512.

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 get a mobility wireless LAN foreign map list:

```
(Cisco Controller) >show mobility foreign-map wlan 2
Mobility Foreign Map List
 WLAN ID              Foreign MAC Address               Interface
 -------              -------------------               ---------
```

```
2                    00:1b:d4:6b:87:20                dynamic-105
```

show mobility group member

To display the details of the mobility group members in the same domain, use the **show mobility group member** command.

show mobility group member hash

Syntax Description

hash	Displays the hash keys of the mobility group members in the same domain.

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 hash keys of the mobility group members:

```
(Cisco Controller) >show mobility group member hash
Default Mobility Domain..................... new-mob

 IP Address      Hash Key
-------------------------------------------------------

 9.2.115.68      a819d479dcfeb3e0974421b6e8335582263d9169

 9.6.99.10       0974421b6e8335582263d9169a819d479dcfeb3e

 9.7.7.7         feb3e0974421b6e8335582263d9169a819d479dc
```

show mobility statistics

To display the statistics information for the Cisco wireless LAN controller mobility groups, use the **show mobility statistics** command.

show mobility statistics

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 statistics of the mobility manager:

```
(Cisco Controller) >show mobility statistics
Global Mobility Statistics
   Rx Errors..................................... 0
   Tx Errors..................................... 0
   Responses Retransmitted....................... 0
   Handoff Requests Received..................... 0
   Handoff End Requests Received................. 0
   State Transitions Disallowed.................. 0
   Resource Unavailable.......................... 0
Mobility Initiator Statistics
   Handoff Requests Sent......................... 0
   Handoff Replies Received...................... 0
   Handoff as Local Received..................... 2
   Handoff as Foreign Received................... 0
   Handoff Denys Received........................ 0
   Anchor Request Sent........................... 0
   Anchor Deny Received.......................... 0
   Anchor Grant Received......................... 0
   Anchor Transfer Received...................... 0
Mobility Responder Statistics
   Handoff Requests Ignored...................... 0
   Ping Pong Handoff Requests Dropped............ 0
   Handoff Requests Dropped...................... 0
   Handoff Requests Denied....................... 0
   Client Handoff as Local....................... 0
   Client Handoff as Foreign  ................... 0
   Client Handoff Inter Group ................... 0
   Anchor Requests Received...................... 0
   Anchor Requests Denied........................ 0
   Anchor Requests Granted....................... 0
   Anchor Transferred............................ 0
```

show mobility summary

To display the summary information for the controller mobility groups, use the **show mobility summary** command.

show mobility 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.

Usage Guidelines

Some WLAN controllers may list no mobility security mode.

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

```
(Cisco Controller) >show mobility summary

Symmetric Mobility Tunneling (current) .......... Disabled
Symmetric Mobility Tunneling (after reboot) ..... Disabled
Mobility Protocol Port........................... 16666
```

```
Mobility Security Mode..... Disabled
Default Mobility Domain..... snmp_gui
Multicast Mode ..... Disabled
Mobility Domain ID for 802.11r..... 0x66bd
Mobility Keepalive Interval..... 10
Mobility Keepalive Count..... 3
Mobility Group Members Configured..... 1
Mobility Control Message DSCP Value..... 0
Controllers configured in the Mobility Group
MAC Address        IP Address       Group Name         Multicast IP  Status
00:1b:d4:6b:87:20    1.100.163.70     snmp_gui         0.0.0.0        Up
```

The following is a sample output of the **show mobility summary** command with new mobility architecture.

```
(Cisco Controller) >show mobility summary

Mobility Protocol Port..... 16666
Default Mobility Domain..... Mobility
Multicast Mode ..... Disabled
Mobility Domain ID for 802.11r..... 0xb348
Mobility Keepalive Interval..... 10
Mobility Keepalive Count..... 3
Mobility Group Members Configured..... 3
Mobility Control Message DSCP Value..... 0

Controllers configured in the Mobility Group
 IP Address  Public IP Address  Group Name     Multicast IP  MAC Address
Status
 9.71.106.2  9.72.106.2         Mobility      0.0.0.0      00:00:00:00:00:00  Control and
Data Path Down
 9.71.106.3  9.72.106.3         Mobility      0.0.0.0      00:00:00:00:00:00  Control and
Data Path Down
 9.71.106.69 9.72.106.69        Mobility      0.0.0.0      68:ef:bd:8e:5f:20          Up
```

Show Proxy Mobility IPv6 (PMIPv6) Commands

Use the **show pmipv6** commands to display PMIPv6 information of the Mobile Access Gateway (MAG) and the Local Mobility Anchor (LMA).

show pmipv6 domain

To display the summary information of a PMIPv6 domain, use the **show pmipv6 domain** command.

show pmipv6 domain *domain_name* **profile** *profile_name*

Syntax Description

domain_name	Name of the PMIPv6 domain. The domain name can be up to 127 case-sensitive alphanumeric characters.
profile	Specifies the PMIPv6 profile.
profile_name	Name of the profile associated with the PMIPv6 domain. The profile name can be up to 127 case-sensitive alphanumeric characters.

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 summary information of a PMIPv6 domain:

```
(Cisco Controller) >show pmipv6 domain floor1 profile profile1
NAI: @example.com
APN: Example
LMA: Examplelma

NAI: *
APN: ciscoapn
LMA: ciscolma
```

show pmipv6 mag bindings

To display the binding information of a Mobile Access Gateway (MAG), use the **show pmipv6 mag binding** command.

show pmipv6 mag bindings [**lma** *lma_name* | **nai** *nai_string*]

Syntax Description

lma	(Optional) Displays the binding details of the MAG to an Local Mobility Anchor (LMA).
lma_name	Name of the LMA. The LMA name is case-sensitive and can be up to 127 alphanumeric characters.

nai	(Optional) Displays the binding details of the MAG to a client.
nai_string	Network Access Identifier (NAI) of the client. The NAI is case-sensitive and can be up to 127 alphanumeric characters. You can use all special characters except a colon.

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 MAG bindings:

```
(Cisco Controller) >show pmipv6 mag binding
[Binding][MN]: Domain: D1, Nai: MN1@cisco.com
        [Binding][MN]: State: ACTIVE
        [Binding][MN]: Interface: Management
        [Binding][MN]: Hoa: 0xE0E0E02, att: 3, llid: aabb.cc00.c800
        [Binding][MN][LMA]: Id: LMA1
        [Binding][MN][LMA]: lifetime: 3600
        [Binding][MN][GREKEY]: Upstream: 102, Downstream: 1
```

show pmipv6 mag globals

To display the global PMIPv6 parameters of the Mobile Access Gateway (MAG), use the **show pmipv6 mag globals** command.

show pmipv6 mag globals

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 global PMIPv6 parameters of a MAG:

```
(Cisco Controller) >show pmipv6 mag globals
Domain  : D1

MAG Identifier  : M1
        MAG Interface                   : Management
        Max Bindings                    : 10000
        Registration Lifetime           : 3600 (sec)
        BRI Init-delay time             : 1000 (msec)
        BRI Max-delay time              : 2000 (msec)
        BRI Max retries                 : 1
        Refresh time                    : 300 (sec)
        Refresh RetxInit time           : 1000 (msec)
        Refresh RetxMax time            : 32000 (msec)
```

```
Timestamp option                : Enabled
Validity Window                 : 7
Peer#1:
        LMA Name: AN-LMA-5K      LMA IP: 209.165.201.10
Peer#2:
        LMA Name: AN-LMA         LMA IP: 209.165.201.4
Peer#3:
        LMA Name: AN-LMA         LMA IP: 209.165.201.4
```

show pmipv6 mag stats

To display the statistics of the Mobile Access Gateway (MAG), use the **show pmipv6 mag stats** command.

show pmipv6 mag stats [**domain** *domain_name* **peer** *lma_name*]

Syntax Description

domain	(Optional) Displays the MAG statistics for a Local Mobility Anchor (LMA) in the domain.
domain_name	Name of the PMIPv6 domain. The domain name is case-sensitive and can be up to 127 alphanumeric characters.
peer	(Optional) Displays the MAG statistics for an LMA.
lma_name	Name of the LMA. The LMA name is case sensitive and can be up to 127 alphanumeric characters.

Command History

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

Usage Guidelines

This table lists the descriptions of the LMA statistics.

Table 2: Descriptions of the LMA Statistics:

LMA Statistics	Description
PBU Sent	Total number of Proxy Binding Updates (PBUs) sent to the LMA by the MAG. PBU is a request message sent by the MAG to a mobile node's LMA for establishing a binding between the mobile node's interface and its current care-of address (Proxy-CoA).
PBA Received	Total number of Proxy Binding Acknowledgements (PBAs) received by the MAG from the LMA. PBA is a reply message sent by an LMA in response to a PBU message that it receives from a MAG.
PBRI Sent	Total number of Proxy Binding Revocation Indications (PBRIs) sent by the MAG to the LMA.
PBRI Received	Total number of PBRIs received from the LMA by the MAG.

LMA Statistics	Description
PBRA Sent	Total number of Proxy Binding Revocation Acknowledgements (PBRAs) sent by the MAG to the LMA.
PBRA Received	Total number of PBRAs that the MAG receives from the LMA.
Number of Handoff	Number of handoffs between the MAG and the LMA.

The following example shows how to display the LMA statistics:

```
(Cisco Controller) >show pmipv6 mag stats
[M1]: Total Bindings    : 1
[M1]: PBU Sent          : 7
[M1]: PBA Rcvd          : 4
[M1]: PBRI Sent         : 0
[M1]: PBRI Rcvd         : 0
[M1]: PBRA Sent         : 0
[M1]: PBRA Rcvd         : 0
[M1]: No Of handoff     : 0
```

show pmipv6 profile summary

To display the summary of the PMIPv6 profiles, use the **show pmipv6 profile summary** command.

show pmipv6 profile 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 shows how to display the summary of the PMIPv6 profiles:

```
(Cisco Controller) >show pmipv6 profile summary
 Profile Name    WLAN IDS (Mapped)
 ------------    -----------------
  Group1            6
```

Show RADIUS Commands

Use the **show radius** commands to display RADIUS settings.

show radius acct statistics

To display the RADIUS accounting server statistics for the Cisco wireless LAN controller, use the **show radius acct statistics** command.

show radius acct statistics

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 RADIUS accounting server statistics:

```
(Cisco Controller) > show radius acct statistics
Accounting Servers:
Server Index..................................... 1
Server Address................................... 10.1.17.10
Msg Round Trip Time.............................. 0 (1/100 second)
First Requests................................... 0
Retry Requests................................... 0
Accounting Responses............................. 0
Malformed Msgs................................... 0
Bad Authenticator Msgs........................... 0
Pending Requests................................. 0
Timeout Requests................................. 0
Unknowntype Msgs................................. 0
Other Drops...................................... 0
```

Related Commands

config radius acct

config radius acct ipsec authentication

config radius acct ipsec disable

config radius acct network

show radius auth statistics

show radius summary

show radius auth statistics

To display the RADIUS authentication server statistics for the Cisco wireless LAN controller, use the **show radius auth statistics** command.

show radius auth statistics

This command has no arguments or keyword.

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 RADIUS authentication server statistics:

```
(Cisco Controller) > show radius auth statistics
Authentication Servers:
  Server Index..................................... 1
  Server Address................................... 209.165.200.10
  Msg Round Trip Time.............................. 0 (1/100 second)
  First Requests................................... 0
  Retry Requests................................... 0
  Accept Responses................................. 0
  Reject Responses................................. 0
  Challenge Responses.............................. 0
  Malformed Msgs................................... 0
  Bad Authenticator Msgs........................... 0
  Pending Requests................................. 0
  Timeout Requests................................. 0
  Unknowntype Msgs................................. 0
  Other Drops...................................... 0
```

Related Commands

config radius auth

config radius auth management

config radius auth network

show radius summary

show radius rfc3576 statistics

To display the RADIUS rfc3576 server statistics for the Cisco wireless LAN controller, use the **show radius rfc3576 statistics** command.

show radius rfc3576 statistics

Syntax Description

This command has no arguments or keywords.

Command Default None

Usage Guidelines RFC 3576, an extension to the RADIUS protocol, allows dynamic changes to a user session, which includes support for disconnecting users and changing authorizations applicable to a user session; that is, it provides support for Disconnect and Change-of-Authorization (CoA) messages. Disconnect messages cause a user session to be terminated immediately. CoA messages modify session authorization attributes such as data filters.

The following example shows how to display the RADIUS RFC-3576 server statistics:

```
> show radius rfc3576 statistics
RFC-3576 Servers:
Server Index..................................... 1
Server Address................................... 10.1.17.10
Msg Round Trip Time.............................. 0 (1/100 second)
First Requests................................... 0
Retry Requests................................... 0
Accounting Responses............................. 0
Malformed Msgs................................... 0
Bad Authenticator Msgs........................... 0
Pending Requests................................. 0
Timeout Requests................................. 0
Unknown type Msgs................................ 0
Other Drops...................................... 0
```

Related Commands

config radius auth rfc3576

show radius auth statistics

show radius summary

show radius summary

To display the RADIUS authentication and accounting server summary, use the **show radius summary** command.

show radius 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 shows how to display a RADIUS authentication server summary:

```
(Cisco Controller) > show radius summary
Vendor Id Backward Compatibility................. Disabled
```

```
Credentials Caching.............................. Disabled
Call Station Id Type............................. IP Address
Administrative Authentication via RADIUS......... Enabled
Authentication Servers
Index  Type  Server Address    Port    State     Tout  RFC-3576  IPsec -
 AuthMod
e/Phase1/Group/Lifetime/Auth/Encr
-----  ----  ---------------  ------  --------  ----  --------  --------------
---------------------------------
Accounting Servers
Index  Type  Server Address    Port    State     Tout  RFC-3576  IPsec -
 AuthMod
e/Phase1/Group/Lifetime/Auth/Encr
-----  ----  ---------------  ------  --------  ----  --------  --------------
---------------------------------
```

Related Commands

show radius auth statistics

show radius acct statistics

Show Radio Frequency ID Commands

Use the **show rfid** commands to display radio frequency ID settings.

show rfid client

To display the radio frequency identification (RFID) tags that are associated to the controller as clients, use the **show rfid client** command.

show rfid client

Syntax Description This command has no arguments or keywords.

Command Default None.

Usage Guidelines When the RFID tag is not in client mode, the above fields are blank.

This example shows how to display the RFID tag that is associated to the controller as clients:

```
> show rfid client
------------------  -------- --------- ----------------- ------ ----------------
                                  Heard
   RFID Mac             VENDOR   Sec Ago    Associated AP    Chnl    Client State
------------------  -------- --------- ----------------- ------ ----------------
00:14:7e:00:0b:b1     Pango           35      AP0019.e75c.fef4     1          Probing
```

Related Commands

config rfid status

config rfid timeout

show rfid config

show rfid detail

show rfid summary

show rfid config

To display the current radio frequency identification (RFID) configuration settings, use the **show rfid config** command.

show rfid config

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the current RFID configuration settings:

```
> show rfid config
```

```
RFID Tag Data Collection ............................. Enabled
RFID Tag Auto-Timeout ................................ Enabled
RFID Client Data Collection .......................... Disabled
RFID Data Timeout .................................... 200 seconds
```

Related Commands

config rfid status

config rfid timeout

show rfid client

show rfid detail

show rfid summary

show rfid detail

To display detailed radio frequency identification (RFID) information for a specified tag, use the **show rfid detail** command.

show rfid detail *mac_address*

Syntax Description

mac_address	MAC address of an RFID tag.

Command Default

None.

This example shows how to display detailed RFID information:

```
> show rfid detail 00:12:b8:00:20:52
RFID address..................................... 00:12:b8:00:20:52
Vendor........................................... G2
Last Heard....................................... 51 seconds ago
Packets Received................................. 2
Bytes Received................................... 324
Cisco Type.....................................
Content Header
==================
Version.......................................... 0
Tx Power......................................... 12 dBm
Channel.......................................... 1
Reg Class........................................ 12
Burst Length..................................... 1
CCX Payload
===========
Last Sequence Control............................ 0
Payload length................................... 127
Last Sequence Control............................ 0
Payload length................................... 127
Payload Data Hex Dump
01 09 00 00 00 00 0b 85 52 52 52 02 07 4b ff ff
7f ff ff ff 03 14 00 12 7b 10 48 53 c1 f7 51 4b
50 ba 5b 97 27 80 00 67 00 01 03 05 01 42 34 00
00 03 05 02 42 5c 00 00 03 05 03 42 82 00 00 03
05 04 42 96 00 00 03 05 05 00 00 00 55 03 05 06
42 be 00 00 03 02 07 05 03 12 08 10 00 01 02 03
04 05 06 07 08 09 0a 0b 0c 0d 0e 0f 03 0d 09 03
08 05 07 a8 02 00 10 00 23 b2 4e 03 02 0a 03
Nearby AP Statistics:
```

```
lap1242-2(slot 0, chan 1) 50 seconds ag.... -76 dBm
lap1242(slot 0, chan 1) 50 seconds ago..... -65 dBm
```

Related Commands

config rfid status

config rfid timeout

show rfid config

show rfid client

show rfid summary

show rfid summary

To display a summary of the radio frequency identification (RFID) information for a specified tag, use the **show rfid summary** command.

show rfid summary

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display a summary of RFID information:

```
> show rfid summary
Total Number of RFID   : 5
---------------- -------- ----------------- ------ --------------------
     RFID ID      VENDOR       Closest AP      RSSI  Time Since Last Heard
---------------- -------- ----------------- ------ --------------------
00:04:f1:00:00:04 Wherenet ap:1120             -51      858 seconds ago
00:0c:cc:5c:06:d3 Aerosct  ap:1120             -51       68 seconds ago
00:0c:cc:5c:08:45 Aerosct  AP_1130             -54      477 seconds ago
00:0c:cc:5c:08:4b Aerosct  wolverine           -54      332 seconds ago
00:0c:cc:5c:08:52 Aerosct  ap:1120             -51      699 seconds ago
```

Related Commands

config rfid status

config rfid timeout

show rfid client

show rfid detail

show rfid config

Show Redundancy Commands

Use the **show redundancy** commands to display redundancy information of the active and standby controllers.

show redundancy summary

To display the redundancy summary information, use the **show redundancy summary** command.

show redundancy 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 shows how to display the redundancy summary information of the controller:

```
(Cisco Controller) >show redundancy summary
 Redundancy Mode = SSO DISABLED
     Local State = ACTIVE
      Peer State = N/A
            Unit = Primary
         Unit ID = 88:43:E1:7E:03:80
Redundancy State = N/A
    Mobility MAC = 88:43:E1:7E:03:80
Network Monitor = ENABLED
Link Encryption = DISABLED

 BulkSync Status = <Status>
Average Redundancy Peer Reachability Latency = 1390 usecs
Average Management Gateway Reachability Latency = 1165 usecs

Redundancy Management IP Address.................. 9.4.92.12
Peer Redundancy Management IP Address............. 9.4.92.14
Redundancy Port IP Address........................ 169.254.92.12
Peer Redundancy Port IP Address................... 169.254.92.14
```

show redundancy latency

To display the average latency to reach the management gateway and the peer redundancy management IP address, use the **show redundancy latency** command .

show redundancy latency

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 average latency to reach the management gateway and the peer redundancy management IP address:

```
(Cisco Controller) >show redundancy latency

Network Latencies (RTT) for the Peer Reachability on the Redundancy Port in micro seconds
for the past 10 intervals
Peer Reachability Latency[ 1 ]                    : 524 usecs
Peer Reachability Latency[ 2 ]                    : 524 usecs
Peer Reachability Latency[ 3 ]                    : 522 usecs
Peer Reachability Latency[ 4 ]                    : 526 usecs
Peer Reachability Latency[ 5 ]                    : 524 usecs
Peer Reachability Latency[ 6 ]                    : 524 usecs
Peer Reachability Latency[ 7 ]                    : 522 usecs
Peer Reachability Latency[ 8 ]                    : 522 usecs
Peer Reachability Latency[ 9 ]                    : 526 usecs
Peer Reachability Latency[ 10 ]                   : 523 usecs

Network Latencies (RTT) for the Management Gateway Reachability in micro seconds for the
past 10 intervals
Gateway Reachability Latency[ 1 ]                 : 1347 usecs
Gateway Reachability Latency[ 2 ]                 : 2427 usecs
Gateway Reachability Latency[ 3 ]                 : 1329 usecs
Gateway Reachability Latency[ 4 ]                 : 2014 usecs
Gateway Reachability Latency[ 5 ]                 : 2675 usecs
Gateway Reachability Latency[ 6 ]                 : 731 usecs
Gateway Reachability Latency[ 7 ]                 : 1882 usecs
Gateway Reachability Latency[ 8 ]                 : 2853 usecs
Gateway Reachability Latency[ 9 ]                 : 832 usecs
Gateway Reachability Latency[ 10 ]                : 3708 usecs
```

show redundancy interfaces

To display details of redundancy and service port IP addresses, use the **show redundancy interfaces** command.

show redundancy interfaces

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 redundancy and service port IP addresses information:

```
(Cisco Controller) >show redundancy interfaces

Redundancy Management IP Address.............. 9.4.120.5
Peer Redundancy Management IP Address............ 9.4.120.3
Redundancy Port IP Address..................... 169.254.120.5
Peer Redundancy Port IP Address................ 169.254.120.3
Peer Service Port IP Address................... 10.104.175.189
```

show redundancy mobilitymac

To display the High Availability (HA) mobility MAC address that is used to communicate with the peer, use the **show redundancy mobilitymac** command.

show redundancy mobilitymac

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 HA mobility MAC address used to communicate with the peer:

```
(Cisco Controller) >show redundancy mobilitymac
          ff:ff:ff:ff:ff:ff
```

show redundancy peer-route summary

To see the routes assigned to the standby controller, use the **show redundancy peer-route summary** command.

show redundancy peer-route 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 shows how to view all the configured routes of the standby controller:

```
(Cisco Controller) >show redundancy peer-route summary
Number of Routes.............................. 1
```

```
Destination Network          Netmask              Gateway
-------------------    -------------------   -------------------
xxx.xxx.xxx.xxx           255.255.255.0       xxx.xxx.xxx.xxx
```

show redundancy statistics

To display the statistics information of the Redundancy Manager, use the **show redundancy statistics** command.

show redundancy statistics

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

This command displays the statistics of different redundancy counters.

Local Physical Ports - Connectivity status of each physical port of the controller. 1 indicates that the port is up and 0 indicates that the port is down.

Peer Physical Ports - Connectivity status of each physical port of the peer controller. 1 indicates that the port is up and 0 indicates that the port is down.

The following example shows how to display the statistics information of the Redundancy Manager:

```
(Cisco Controller) >show redundancy statistics

        Redundancy Manager Statistics

        Keep Alive Request Send Counter          : 16
        Keep Alive Response Receive Counter      : 16

        Keep Alive Request Receive Counter       : 500322
        Keep Alive Response Send Counter         : 500322

        Ping Request to Default GW Counter       : 63360
        Ping Response from Default GW Counter    : 63360

        Ping Request to Peer Counter             : 12
        Ping Response from Peer Counter          : 3

        Keep Alive Loss Counter                  : 0
        Default GW Loss Counter                  : 0

        Local Physical Ports 1...8               : 10000000
        Peer  Physical Ports 1...8               : 10000000
```

show redundancy timers

To display details of the Redundancy Manager timers, use the **show redundancy timers** command.

show redundancy timers

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 details of the Redundancy Manager timers:

```
(Cisco Controller) >show redundancy timers

          Keep Alive Timer         : 100 msecs

          Peer Search Timer        : 120 secs
```

Show RF-Profile Commands

Use the **show RF-Profile** commands to display RF profiles details.

show rf-profile summary

To display a summary of RF profiles in the controller, use the **show rf-profile summary** command.

show rf-profile 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 is the output of the **show rf-profile summary** command:

```
(Cisco Controller) >show rf-profile summary
Number of RF Profiles.......................... 2
Out Of Box State............................... Disabled
RF Profile Name            Band     Description                Applied
-------------------------  -------  -------------------------  -------
T1a                        5 GHz    <none>                     No
T1b                        2.4 GHz  <none>                     No
```

show rf-profile details

To display the RF profile details in the Cisco wireless LAN controller, use the **show rf-profile details** command.

show rf-profile details *rf-profile-name*

Syntax Description

rf-profile-name	Name of the RF profile.

Command Default None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.
8.0	The output was updated to include the Rx SOP threshold.
8.5	The output was updated to include the Client Aware FRA configurations.

The following is the output of the **show rf-profile details** command::

```
(Cisco Controller) >show rf-profile details profile1
Description..................................... <none>
AP Group Name................................... test
Radio policy.................................... 5 GHz
11n-client-only................................. disabled
Transmit Power Threshold v1..................... -70 dBm
Transmit Power Threshold v2..................... -67 dBm
Min Transmit Power.............................. -10 dBm
Max Transmit Power.............................. 30 dBm
802.11a Operational Rates
    802.11a 6M Rate............................. Mandatory
    802.11a 9M Rate............................. Supported
    802.11a 12M Rate............................ Mandatory
    802.11a 18M Rate............................ Supported
    802.11a 24M Rate............................ Mandatory
    802.11a 36M Rate............................ Supported
    802.11a 48M Rate............................ Supported
    802.11a 54M Rate............................ Supported
Max Clients..................................... 200

WLAN ID          Max Clients
-------          -------
  1                600

--More-- or (q)uit
  2                600
  4                600
  9                600
  11               600
  12               600
  13               600
  14               600
  15               600
  16               600

Trap Threshold
    Clients..................................... 12 clients
    Interference................................ 10 %
    Noise....................................... -70 dBm
    Utilization................................. 80 %
Multicast Data Rate............................. 0
Rx Sop Threshold................................ AUTO
Cca Threshold................................... 0 dBm
Slot Admin State:............................... Enabled

Client Aware FRA
    State....................................... Disabled
    Client Select Utilization Threshold.......... 20%

--More-- or (q)uit
    Client Reset Utilization Threshold........... 5%

Band Select
    Probe Response.............................. Disabled
    Cycle Count................................. 2 cycles
    Cycle Threshold............................. 200 milliseconds
    Expire Suppression.......................... 20 seconds
    Expire Dual Band............................ 60 seconds
    Client Rssi................................. -80 dBm
    Client Mid Rssi............................. -80 dBm

Load Balancing
    Denial...................................... 3 count
```

```
    Window..................................... 5 clients

Coverage Data
    Data....................................... -80 dBm
    Voice...................................... -80 dBm
    Minimum Client Level....................... 3 clients
    Exception Level............................ 25 %
DCA Channel List............................... 36,40,44,48,52,56,60,64,100,
                                                104,108,112,116,120,124,128,
                                                132,136,140,144,149,153,157,

--More-- or (q)uit
                                                161
DCA Bandwidth.................................. 20
DCA Foreign AP Contribution.................... enabled
HSR Mode....................................... disabled

802.11n MCS Rates
    MCS-00 Rate................................ enabled
    MCS-01 Rate................................ enabled
    MCS-02 Rate................................ enabled
    MCS-03 Rate................................ enabled
    MCS-04 Rate................................ enabled
    MCS-05 Rate................................ enabled
    MCS-06 Rate................................ enabled
    MCS-07 Rate................................ enabled
    MCS-08 Rate................................ enabled
    MCS-09 Rate................................ enabled
    MCS-10 Rate................................ enabled
    MCS-11 Rate................................ enabled
    MCS-12 Rate................................ enabled
    MCS-13 Rate................................ enabled
    MCS-14 Rate................................ enabled
    MCS-15 Rate................................ enabled
    MCS-16 Rate................................ enabled

--More-- or (q)uit
    MCS-17 Rate................................ enabled
    MCS-18 Rate................................ enabled
    MCS-19 Rate................................ enabled
    MCS-20 Rate................................ enabled
    MCS-21 Rate................................ enabled
    MCS-22 Rate................................ enabled
    MCS-23 Rate................................ enabled
    MCS-24 Rate................................ enabled
    MCS-25 Rate................................ enabled
    MCS-26 Rate................................ enabled
    MCS-27 Rate................................ enabled
    MCS-28 Rate................................ enabled
    MCS-29 Rate................................ enabled
    MCS-30 Rate................................ enabled
    MCS-31 Rate................................ enabled
 Client Network Preference...................... default
```

Show Rogue Commands

Use the **show rogue** commands to display unverified (rogue) device settings.

show rogue adhoc detailed

To display details of an ad-hoc rogue access point detected by the Cisco wireless LAN controller, use the **show rogue adhoc client detailed** command.

show rogue adhoc detailed *MAC_address*

Syntax Description

MAC_address	Adhoc rogue 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 shows how to display detailed ad-hoc rogue MAC address information:

```
(Cisco Controller) > show rogue adhoc client detailed 02:61:ce:8e:a8:8c
Adhoc Rogue MAC address..................... 02:61:ce:8e:a8:8c
Adhoc Rogue BSSID........................... 02:61:ce:8e:a8:8c
State....................................... Alert
First Time Adhoc Rogue was Reported.............. Tue Dec 11 20:45:45
2007
Last Time Adhoc Rogue was Reported.............. Tue Dec 11 20:45:45
2007
Reported By
AP 1
MAC Address............................. 00:14:1b:58:4a:e0
Name.................................... AP0014.1ced.2a60
Radio Type.............................. 802.11b
SSID.................................... rf4k3ap
Channel................................. 3
RSSI.................................... -56 dBm
SNR..................................... 15 dB
Encryption.............................. Disabled
ShortPreamble........................... Disabled
WPA Support............................. Disabled
Last reported by this AP.............. Tue Dec 11 20:45:45 2007
```

Related Commands

config rogue adhoc

show rogue ignore-list

show rogue rule summary

show rogue rule detailed

config rogue rule

show rogue adhoc summary

show rogue adhoc summary

To display a summary of the ad-hoc rogue access points detected by the Cisco wireless LAN controller, use the **show rogue adhoc summary** command.

show rogue adhoc 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 shows how to display a summary of all ad-hoc rogues:

```
(Cisco Controller) > show rogue adhoc summary
Detect and report Ad-Hoc Networks..... Enabled
Client MAC Address   Adhoc BSSID    State  # APs       Last Heard
------------------   -----------    -----    ---       -------
xx:xx:xx:xx:xx:xx    super          Alert    1         Sat Aug  9 21:12:50
 2004
xx:xx:xx:xx:xx:xx                    Alert    1          Aug  9 21:12:50
2003
xx:xx:xx:xx:xx:xx                   Alert    1         Sat Aug  9 21:10:50
 2003
```

Related Commands

config rogue adhoc

show rogue ignore-list

show rogue rule summary

show rogue rule detailed

config rogue rule

show rogue adhoc detailed

show rogue ap clients

To display details of rogue access point clients detected by the Cisco wireless LAN controller, use the **show rogue ap clients** command.

show rogue ap clients *ap_mac_address*

Syntax Description

ap_mac_address	Rogue access point 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 shows how to display details of rogue access point clients:

```
(Cisco Controller) > show rogue ap clients xx:xx:xx:xx:xx:xx
MAC Address State # APs Last Heard
----------------- ------------------ ----- -------------------------
00:bb:cd:12:ab:ff Alert 1 Fri Nov 30 11:26:23 2007
```

Related Commands

config rogue adhoc

config rogue ap classify

config rogue ap friendly

config rogue ap rldp

config rogue ap timeout

config rogue ap valid-client

config rogue client

config trapflags rogueap

show rogue ap detailed

show rogue ap summary

show rogue ap friendly summary

show rogue ap malicious summary

show rogue ap unclassified summary

show rogue client detailed

show rogue client summary

show rogue ignore-list

show rogue rule detailed

show rogue rule summary

show rogue ap detailed

To display details of a rogue access point detected by the Cisco wireless LAN controller, use the **show rogue-ap detailed** command.

show rogue ap detailed *ap_mac_address*

Syntax Description

ap_mac_address	Rogue access point 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 shows how to display detailed information of a rogue access point:

```
(Cisco Controller) > show rogue ap detailed xx:xx:xx:xx:xx:xx
Rogue BSSID..................................... 00:0b:85:63:d1:94
Is Rogue on Wired Network....................... No
Classification.................................. Unclassified
State........................................... Alert
First Time Rogue was Reported................... Fri Nov 30 11:24:56
2007
Last Time Rogue was Reported.................... Fri Nov 30 11:24:56
2007
Reported By
AP 1
MAC Address.............................. 00:12:44:bb:25:d0
Name..................................... flexconnect
Radio Type............................... 802.11g
SSID..................................... edu-eap
Channel.................................. 6
RSSI..................................... -61 dBm
SNR...................................... -1 dB
Encryption............................... Enabled
ShortPreamble............................ Enabled
WPA Support.............................. Disabled
Last reported by this AP.............. Fri Nov 30 11:24:56 2007
```

This example shows how to display detailed information of a rogue access point with a customized classification:

```
(Cisco Controller) > show rogue ap detailed xx:xx:xx:xx:xx:xx
Rogue BSSID..................................... 00:17:0f:34:48:a0
Is Rogue on Wired Network....................... No
Classification.................................. custom
Severity Score ................................. 1
Class Name.....................................VeryMalicious
```

```
Class Change by.............................. Rogue Rule
Classified at ............................... -60 dBm
Classified by................................ c4:0a:cb:a1:18:80

State........................................ Contained
State change by.............................. Rogue Rule
First Time Rogue was Reported................ Mon Jun  4 10:31:18
2012
Last Time Rogue was Reported................. Mon Jun  4 10:31:18
2012
Reported By
    AP 1
        MAC Address.......................... c4:0a:cb:a1:18:80
        Name................................. SHIELD-3600-2027
        Radio Type........................... 802.11g
        SSID................................. sri
        Channel.............................. 11
        RSSI................................. -87 dBm
        SNR.................................. 4 dB
        Encryption........................... Enabled
        ShortPreamble........................ Enabled
        WPA Support.......................... Enabled
        Last reported by this AP............. Mon Jun  4 10:31:18
2012
```

Related Commands

config rogue adhoc

config rogue ap classify

config rogue ap friendly

config rogue ap rldp

config rogue ap timeout

config rogue ap valid-client

config rogue client

config trapflags rogueap

show rogue ap clients

show rogue ap summary

show rogue ap friendly summary

show rogue ap malicious summary

show rogue ap unclassified summary

show rogue client detailed

show rogue client summary

show rogue ignore-list

show rogue rule detailed

show rogue rule summary

show rogue ap summary

To display a summary of the rogue access points detected by the Cisco wireless LAN controller, use the **show rogue-ap summary** command.

show rogue ap summary {**ssid** | **channel**}

Syntax Description

ssid	Displays specific user-configured SSID of the rogue access point.
channel	Displays specific user-configured radio type and channel of the rogue access point.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.
8.0	The new keywords **SSID** and **channel** are added.

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

```
(Cisco Controller) > show rogue ap summary

Rogue Location Discovery Protocol.................  Disabled
Rogue ap timeout..............................  1200
Rogue on wire Auto-Contain..................... Disabled
Rogue using our SSID Auto-Contain.............. Disabled
Valid client on rogue AP Auto-Contain.......... Disabled
Rogue AP timeout............................... 1200
Rogue Detection Report Interval................ 10
Rogue Detection Min Rssi....................... -128
Rogue Detection Transient Interval............. 0
Rogue Detection Client Num Thershold........... 0
Total Rogues(AP+Ad-hoc) supported.............. 2000
Total Rogues classified........................ 729

MAC Address        Classification     # APs # Clients Last Heard
-----------------  ------------------ ----- --------- -----------------------
xx:xx:xx:xx:xx:xx  friendly           1     0         Thu Aug  4 18:57:11 2005
xx:xx:xx:xx:xx:xx  malicious          1     0         Thu Aug  4 19:00:11 2005
xx:xx:xx:xx:xx:xx  malicious          1     0         Thu Aug  4 18:57:11 2005
xx:xx:xx:xx:xx:xx  malicious          1     0         Thu Aug  4 18:57:11 2005
```

The following example shows how to display a summary of all rogue access points with SSID as extended parameter.

```
(Cisco Controller) > show rogue ap summary ssid

MAC Address        Class              State      SSID  Security
-------------------------------------------------------------------------------------
```

```
xx:xx:xx:xx:xx:xx  Unclassified       Alert       xxx   Open
xx:xx:xx:xx:xx:xx  Unclassified       Alert       xxx   Open
xx:xx:xx:xx:xx:xx  Pending            Pending     xxx   Open
xx:xx:xx:xx:xx:xx  Unclassified       Alert       xxx   WEP/WPA
```

The following example shows how to display a summary of all rogue access points with channel as extended parameter.

```
(Cisco Controller) > show rogue ap summary channel

MAC Address        Class              State  Det RadioType    Channel RSSIlast/Max)
-------------------------------------------------------------------------------------------------------------

xx:xx:xx:xx:xx:xx  Unclassified       Alert  802.11g           11    -53 / -48
xx:xx:xx:xx:xx:xx  Unclassified       Alert  802.11g           11    -53 / -48
xx:xx:xx:xx:xx:xx  Unclassified       Alert  802.11a           149    -74 / -69
xx:xx:xx:xx:xx:xx  Unclassified       Alert  802.11a           149    -74 / -69
xx:xx:xx:xx:xx:xx  Unclassified       Alert  802.11a           149    -74 / -69
```

The following example shows how to display a summary of all rogue access points with both SSID and channel as extended parameters.

```
(Cisco Controller) > show rogue ap summary ssid channel

MAC Address        Class        State    SSID                  Security  Det RadioType
Channel  RSSI(last/Max)
-------------------------------------------------------------------------------------------------------------
xx:xx:xx:xx:xx:xx  Unclassified  Alert   dd                    WEP/WPA     802.11n5G
56    -73 / -62
xx:xx:xx:xx:xx:xx  Unclassified  Alert   SSID IS HIDDEN        Open        802.11a
149   -68 / -66
xx:xx:xx:xx:xx:xx  Unclassified  Alert   wlan16                WEP/WPA     802.11n5G
149   -71 / -71
xx:xx:xx:xx:xx:xx  Unclassified  Alert   wlan15                WEP/WPA     802.11n5G
149   -71 / -71
xx:xx:xx:xx:xx:xx  Unclassified  Alert   wlan14                WEP/WPA     802.11n5G
149   -71 / -71
xx:xx:xx:xx:xx:xx  Unclassified  Alert   wlan13                WEP/WPA     802.11n5G
149   -71 / -70
xx:xx:xx:xx:xx:xx  Unclassified  Alert   wlan12                WEP/WPA     802.11n5G
149   -71 / -71
```

Related Commands

config rogue adhoc

config rogue ap classify

config rogue ap friendly

config rogue ap rldp

config rogue ap timeout

config rogue ap valid-client

config rogue client

config trapflags rogueap

show rogue ap clients

show rogue ap detailed

show rogue ap friendly summary

show rogue ap malicious summary

show rogue ap unclassified summary

show rogue client detailed

show rogue client summary

show rogue ignore-list

show rogue rule detailed

show rogue rule summary

show rogue ap friendly summary

To display a list of the friendly rogue access points detected by the controller, use the **show rogue ap friendly summary** command.

show rogue ap friendly 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 shows how to display a summary of all friendly rogue access points:

```
(Cisco Controller) > show rogue ap friendly summary
Number of APs.................................... 1
MAC Address       State     # APs  # Clients Last Heard
----------------- ----------------- ----- ---------
--------------------------
XX:XX:XX:XX:XX:XX Internal    1   0  Tue Nov 27 13:52:04 2007
```

Related Commands

config rogue adhoc

config rogue ap classify

config rogue ap friendly

config rogue ap rldp

config rogue ap timeout

config rogue ap valid-client

config rogue client

config trapflags rogueap

show rogue ap clients

show rogue ap detailed

show rogue ap summary

show rogue ap malicious summary

show rogue ap unclassified summary

show rogue client detailed

show rogue client summary

show rogue ignore-list

show rogue rule detailed

show rogue rule summary

show rogue ap malicious summary

To display a list of the malicious rogue access points detected by the controller, use the **show rogue ap malicious summary** command.

show rogue ap malicious 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 shows how to display a summary of all malicious rogue access points:

```
(Cisco Controller) > show rogue ap malicious summary
Number of APs.................................... 2
MAC Address      State     # APs  # Clients Last Heard
---------------- ----------------- ----- ---------
---------------------------
XX:XX:XX:XX:XX:XX Alert           1   0  Tue Nov 27 13:52:04 2007
XX:XX:XX:XX:XX:XX Alert           1   0  Tue Nov 27 13:52:04 2007
```

Related Commands

config rogue adhoc

config rogue ap classify

config rogue ap friendly

config rogue ap rldp

config rogue ap timeout

config rogue ap valid-client

config rogue client

config trapflags rogueap

show rogue ap clients

show rogue ap detailed

show rogue ap summary

show rogue ap friendly summary

show rogue ap unclassified summary

show rogue client detailed

show rogue client summary

show rogue ignore-list

show rogue rule detailed

show rogue rule summary

show rogue ap unclassified summary

To display a list of the unclassified rogue access points detected by the controller, use the **show rogue ap unclassified summary** command.

show rogue ap unclassified 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 shows how to display a list of all unclassified rogue access points:

```
(Cisco Controller) > show rogue ap unclassified summary
Number of APs.................................. 164
MAC Address      State  # APs # Clients Last Heard
---------------- ------------ ----- --------- ---------------
XX:XX:XX:XX:XX:XX Alert   1       0    Fri Nov 30 11:12:52 2007
XX:XX:XX:XX:XX:XX Alert   1       0    Fri Nov 30 11:29:01 2007
XX:XX:XX:XX:XX:XX Alert   1       0    Fri Nov 30 11:26:23 2007
XX:XX:XX:XX:XX:XX Alert   1       0    Fri Nov 30 11:26:23 2007
```

show rogue auto-contain

To display information about rogue auto-containment, use the **show rogue auto-contain** command.

show rogue auto-contain

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 information about rogue auto-containment:

```
(Cisco Controller) > show rogue auto-contain
Containment Level.............................. 3
monitor_ap_only................................ false
```

Related Commands

config rogue adhoc

config rogue auto-contain level

show rogue client detailed

To display details of a rogue client detected by a Cisco wireless LAN controller, use the **show rogue client detailed** command.

show rogue client detailed *Rogue_AP MAC_address*

Syntax Description

Rogue_AP	Rogue AP address.
MAC_address	Rogue client MAC address.

Command Default None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.
8.1	The *Rogue_AP* parameter to the **show rogue client detailed** command is added.

The following example shows how to display detailed information for a rogue client:

```
(Cisco Controller) > show rogue client detailed xx:xx:xx:xx:xx:xx
Rogue BSSID.................................... 00:0b:85:23:ea:d1
State.......................................... Alert
First Time Rogue was Reported.................. Mon Dec 3 21:50:36 2007
Last Time Rogue was Reported................... Mon Dec 3 21:50:36 2007
Rogue Client IP address........................ Not known
Reported By
AP 1
MAC Address.......................... 00:15:c7:82:b6:b0
Name................................. AP0016.47b2.31ea
Radio Type........................... 802.11a
RSSI................................. -71 dBm
```

```
SNR..................................... 23 dB
Channel................................. 149
Last reported by this AP.............. Mon Dec 3 21:50:36 2007
```

Related Commands

show rogue client summary

show rogue ignore-list

config rogue rule client

config rogue rule

show rogue client summary

To display a summary of the rogue clients detected by the Cisco wireless LAN controller, use the **show rogue client summary** command.

show rogue client 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 shows how to display a list of all rogue clients:

```
(Cisco Controller) > show rogue client summary
Validate rogue clients against AAA.............. Disabled
Total Rogue Clients supported................... 2500
Total Rogue Clients present..................... 3
MAC Address        State              # APs Last Heard
-----------------  ------------------ ----- ----------------------
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:00:08 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:00:08 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:00:08 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:00:08 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:00:08 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:00:08 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:09:11 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:03:11 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:03:11 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:09:11 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 18:57:08 2005
xx:xx:xx:xx:xx:xx  Alert              1     Thu Aug  4 19:12:08 2005
```

Related Commands

show rogue client detailed

show rogue ignore-list

config rogue client

config rogue rule

show rogue ignore-list

To display a list of rogue access points that are configured to be ignored, use the **show rogue ignore-list** command.

show rogue ignore-list

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 a list of all rogue access points that are configured to be ignored.

```
(Cisco Controller) > show rogue ignore-list

MAC Address
-----------------
xx:xx:xx:xx:xx:xx
```

Related Commands

config rogue adhoc

config rogue ap classify

config rogue ap friendly

config rogue ap rldp

config rogue ap ssid

config rogue ap timeout

config rogue ap valid-client

config rogue rule

config trapflags rogueap

show rogue client detailed

show rogue ignore-list

show rogue rule summary

show rogue client summary

show rogue ap unclassified summary

show rogue ap malicious summary

show rogue ap friendly summary

config rogue client

show rogue ap summary

show rogue ap clients

show rogue ap detailed

config rogue rule

show rogue rule detailed

To display detailed information for a specific rogue classification rule, use the **show rogue rule detailed** command.

show rogue rule detailed *rule_name*

Syntax Description

rule_name	Rogue rule name.

Command Default

None

Command History

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

The following example shows how to display detailed information on a specific rogue classification rule:

```
(Cisco Controller) > show rogue rule detailed Rule2
Priority..................................... 2
Rule Name.................................... Rule2
State........................................ Enabled
Type......................................... Malicious
Severity Score............................... 1
Class Name................................... Very_Malicious
Notify....................................... All
State ....................................... Contain
Match Operation.............................. Any
Hit Count.................................... 352
Total Conditions............................. 2
Condition 1
    type..................................... Client-count
    value.................................... 10
Condition 2
    type..................................... Duration
    value (seconds).......................... 2000
Condition 3
    type..................................... Managed-ssid
    value.................................... Enabled
Condition 4
    type..................................... No-encryption
    value.................................... Enabled
Condition 5
    type..................................... Rssi
    value (dBm).............................. -50
Condition 6
    type..................................... Ssid
```

```
SSID Count.................................. 1
SSID 1..................................... test
```

Related Commands

config rogue rule

show rogue ignore-list

show rogue rule summary

show rogue rule summary

To display the rogue classification rules that are configured on the controller, use the **show rogue rule summary** command.

show rogue rule 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 shows how to display a list of all rogue rules that are configured on the controller:

```
(Cisco Controller) > show rogue rule summary
Priority Rule Name                State    Type          Match Hit Count
-------- ---------------------- -------- ------------- ----- ---------
1        mtest                  Enabled  Malicious     All   0
2        asdfasdf               Enabled  Malicious     All   0
```

The following example shows how to display a list of all rogue rules that are configured on the controller:

```
(Cisco Controller) > show rogue rule summary
Priority         Rule Name                 Rule state Class Type   Notify
   State    Match Hit Count
-------- ------------------------------ ----------- ----------- --------
 -------- ------ ---------
1        rule2                          Enabled    Friendly     Global
   Alert    All    234
2        rule1                          Enabled    Custom       Global
   Alert    All    0
```

Related Commands

config rogue rule

show rogue ignore-list

show rogue rule detailed

Show TACACS Commands

Use the **show tacacs** commands to display Terminal Access Controller Access Control System (TACACS) protocol settings and statistics.

show tacacs acct statistics

To display detailed radio frequency identification (RFID) information for a specified tag, use the **show tacacs acct statistics** command.

show tacacs acct statistics

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 detailed RFID information:

```
(Cisco Controller) > show tacacs acct statistics
Accounting Servers:
Server Index..................................... 1
Server Address................................... 10.0.0.0
Msg Round Trip Time.............................. 0 (1/100 second)
First Requests................................... 1
Retry Requests................................... 0
Accounting Response.............................. 0
Accounting Request Success....................... 0
Accounting Request Failure....................... 0
Malformed Msgs................................... 0
Bad Authenticator Msgs........................... 0
Pending Requests................................. -1
Timeout Requests................................. 1
Unknowntype Msgs................................. 0
Other Drops...................................... 0
```

show tacacs athr statistics

To display TACACS+ server authorization statistics, use the **show tacacs athr statistics** command.

show tacacs athr statistics

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 TACACS server authorization statistics:

```
(Cisco Controller) > show tacacs athr statistics
Authorization Servers:
Server Index..................................... 3
Server Address................................... 10.0.0.3
Msg Round Trip Time.............................. 0 (1/100 second)
First Requests................................... 0
Retry Requests................................... 0
Received Responses............................... 0
Authorization Success............................ 0
Authorization Failure............................ 0
Challenge Responses.............................. 0
Malformed Msgs................................... 0
Bad Authenticator Msgs........................... 0
Pending Requests................................. 0
Timeout Requests................................. 0
Unknowntype Msgs................................. 0
Other Drops...................................... 0
```

Related Commands

config tacacs acct

config tacacs athr

config tacacs auth

show tacacs auth statistics

show tacacs summary

show tacacs auth statistics

To display TACACS+ server authentication statistics, use the **show tacacs auth statistics** command.

show tacacs auth statistics

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 TACACS server authentication statistics:

```
(Cisco Controller) > show tacacs auth statistics
Authentication Servers:
Server Index..................................... 2
Server Address................................... 10.0.0.2
Msg Round Trip Time.............................. 0 (msec)
First Requests................................... 0
Retry Requests................................... 0
Accept Responses................................. 0
Reject Responses................................. 0
Error Responses.................................. 0
Restart Responses................................ 0
Follow Responses................................. 0
GetData Responses................................ 0
Encrypt no secret Responses...................... 0
Challenge Responses.............................. 0
Malformed Msgs................................... 0
Bad Authenticator Msgs........................... 0
Pending Requests................................. 0
Timeout Requests................................. 0
Unknowntype Msgs................................. 0
Other Drops...................................... 0
```

show tacacs summary

To display TACACS+ server summary information, use the **show tacacs summary** command.

show tacacs 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 shows how to display TACACS server summary information:

```
(Cisco Controller) > show tacacs summary
Authentication Servers
Idx  Server Address    Port    State     Tout
---  ----------------  ------  --------  ----
2    10.0.0.1          49       Enabled   30
Accounting Servers
Idx  Server Address    Port    State     Tout
---  ----------------  ------  --------  ----
```

```
1    10.0.0.0          49      Enabled    5
Authorization Servers
Idx  Server Address    Port    State     Tout
---  ----------------  ------  --------  ----
3    10.0.0.3          49       Enabled   5
Idx  Server Address    Port    State     Tout
---  ----------------  ------  --------  ----
4    2001:9:6:40::623  49       Enabled   5
...
```

Related Commands

config tacacs acct

config tacacs athr

config tacacs auth

show tacacs summary

show tacacs athr statistics

show tacacs auth statistics

Show WPS Commands

Use the **show wps** commands to display Wireless Protection System (WPS) settings.

show wps ap-authentication summary

To display the access point neighbor authentication configuration on the controller, use the **show wps ap-authentication summary** command.

show wps ap-authentication 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 shows how to display a summary of the Wireless Protection System (WPS) access point neighbor authentication:

```
(Cisco Controller) > show wps ap-authentication summary
AP neighbor authentication is <disabled>.
Authentication alarm threshold is 1.
RF-Network Name: <B1>
```

Related Commands

config wps ap-authentication

show wps cids-sensor

To display Intrusion Detection System (IDS) sensor summary information or detailed information on a specified Wireless Protection System (WPS) IDS sensor, use the **show wps cids-sensor** command.

show wps cids-sensor {**summary** | **detail** *index*}

Syntax Description

summary	Displays a summary of sensor settings.
detail	Displays all settings for the selected sensor.
index	IDS sensor identifier.

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 all settings for the selected sensor:

```
(Cisco Controller) > show wps cids-sensor detail1
IP Address..................................... 10.0.0.51
Port........................................... 443
Query Interval................................. 60
Username....................................... Sensor_user1
Cert Fingerprint............................... SHA1:
00:00:00:00:00:00:00:00:
00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
Query State.................................... Disabled
Last Query Result.............................. Unknown
Number of Queries Sent......................... 0
```

Related Commands **config wps ap-authentication**

show wps mfp

To display Management Frame Protection (MFP) information, use the **show wps mfp** command.

show wps mfp {**summary** | **statistics**}

Syntax Description

summary	Displays the MFP configuration and status.
statistics	Displays MFP 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 shows how to display a summary of the MFP configuration and status:

```
(Cisco Controller) > show wps mfp summary
Global Infrastructure MFP state.................. DISABLED (*all infrastructure
settings are overridden)
Controller Time Source Valid..................... False
                                  WLAN       Infra.      Client
WLAN ID  WLAN Name                Status     Protection  Protection
-------  -------------------------  ---------  ----------  ----------
1        homeap                   Disabled   *Enabled    Optional but inactive
 (WPA2 not configured)
2        7921                     Enabled    *Enabled    Optional but inactive
 (WPA2 not configured)
```

```
3        open1                        Enabled    *Enabled    Optional but inactive
 (WPA2 not configured)
4        7920                         Enabled    *Enabled    Optional but inactive
 (WPA2 not configured)
                      Infra.              Operational     --Infra. Capability--
AP Name               Validation  Radio   State           Protection  Validation
--------------------  ----------  -----   --------------  ----------  ----------
AP1252AG-EW           *Enabled    b/g     Down            Full        Full
                                  a       Down            Full        Full
```

The following example shows how to display the MFP statistics:

```
(Cisco Controller) > show wps mfp statistics
BSSID             Radio Validator AP         Last Source Addr  Found  Error Type
     Count      Frame Types
----------------- ----- -------------------- ----------------- ------ ----------
---- ---------- -----------
no errors
```

Related Commands **config wps mfp**

show wps shun-list

To display the Intrusion Detection System (IDS) sensor shun list, use the **show wps shun-list** command.

show wps shun-list

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 IDS system sensor shun list:

```
(Cisco Controller) > show wps shun-list
```

Related Commands **config wps shun-list re-sync**

show wps signature detail

To display installed signatures, use the **show wps signature detail** command.

show wps signature detail *sig-id*

Syntax Description

sig-id	Signature ID of an installed signature.

Command Default None

Command History

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

This example shows how to display information on the attacks detected by standard signature 1:

```
(Cisco Controller) > show wps signature detail 1
Signature-ID..................................... 1
Precedence....................................... 1
Signature Name................................... Bcast deauth
Type............................................. standard
FrameType........................................ management
State............................................ enabled
Action........................................... report
Tracking......................................... per Signature and Mac
Signature Frequency.............................. 500 pkts/interval
Signature Mac Frequency.......................... 300 pkts/interval
Interval......................................... 10 sec
Quiet Time....................................... 300 sec
Description...................................... Broadcast Deauthentication Frame
Patterns:
                0(Header):0x0:0x0
                4(Header):0x0:0x0
```

Related Commands

config wps signature

config wps signature frequency

config wps signature mac-frequency

config wps signature interval

config wps signature quiet-time

config wps signature reset

show wps signature events

show wps signature summary

show wps summary

show wps signature events

To display more information about the attacks detected by a particular standard or custom signature, use the **show wps signature events** command.

show wps signature events {**summary** | {**standard** | **custom**} *precedenceID* {**summary** | **detailed**}

Syntax Description

summary	Displays all tracking signature summary information.
standard	Displays Standard Intrusion Detection System (IDS) signature settings.

custom	Displays custom IDS signature settings.
precedenceID	Signature precedence identification value.
detailed	Displays tracking source MAC address details.

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 number of attacks detected by all enabled signatures:

```
(Cisco Controller) > show wps signature events summary
Precedence  Signature Name        Type       # Events
----------  --------------------  --------   --------
1           Bcast deauth          Standard      2
2           NULL probe resp 1     Standard      1
```

This example shows how to display a summary of information on the attacks detected by standard signature 1:

```
(Cisco Controller) > show wps signature events standard 1 summary
Precedence..................................... 1
Signature Name................................. Bcast deauth
Type........................................... Standard
Number of active events........................ 2
Source MAC Addr    Track Method   Frequency # APs Last Heard
-----------------  -------------- --------- ----- ------------------------
00:a0:f8:58:60:dd  Per Signature  50        1     Wed Oct 25 15:03:05
2006
00:a0:f8:58:60:dd  Per Mac        30        1     Wed Oct 25 15:02:53
2006
```

Related Commands

config wps signature frequency

config wps signature mac-frequency

config wps signature interval

config wps signature quiet-time

config wps signature reset

config wps signature

show wps signature summary

show wps summary

show wps signature summary

To see individual summaries of all of the standard and custom signatures installed on the controller, use the **show wps signature summary** command.

show wps signature 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 shows how to display a summary of all of the standard and custom signatures:

```
(Cisco Controller) > show wps signature summary
Signature-ID..................................... 1
Precedence....................................... 1
Signature Name................................... Bcast deauth
Type............................................. standard
FrameType........................................ management
State............................................ enabled
Action........................................... report
Tracking......................................... per Signature and Mac
Signature Frequency.............................. 50 pkts/interval
Signature Mac Frequency.......................... 30 pkts/interval
Interval......................................... 1 sec
Quiet Time....................................... 300 sec
Description...................................... Broadcast
Deauthentication Frame
Patterns:
                0(Header):0x00c0:0x00ff
                4(Header):0x01:0x01
...
```

Related Commands

config wps signature frequency

config wps signature interval

config wps signature quiet-time

config wps signature reset

show wps signature events

show wps summary

config wps signature mac-frequency

config wps signature

show wps summary

To display Wireless Protection System (WPS) summary information, use the **show wps summary** command.

show wps summary

Syntax Description This command has no arguments or keywords.

Command Default None

The following example shows how to display WPS summary information:

```
(Cisco Controller) > show wps summary
Auto-Immune
  Auto-Immune.................................. Disabled
Client Exclusion Policy
  Excessive 802.11-association failures..... Enabled
  Excessive 802.11-authentication failures..... Enabled
  Excessive 802.1x-authentication.............. Enabled
  IP-theft..................................... Enabled
  Excessive Web authentication failure..... Enabled
Trusted AP Policy
  Management Frame Protection.................. Disabled
  Mis-configured AP Action..................... Alarm Only
    Enforced encryption policy................. none
    Enforced preamble policy..................... none
    Enforced radio type policy................... none
    Validate SSID................................ Disabled
  Alert if Trusted AP is missing.............. Disabled
  Trusted AP timeout........................... 120
Untrusted AP Policy
  Rogue Location Discovery Protocol.............. Disabled
    RLDP Action.................................. Alarm Only
  Rogue APs
    Rogues AP advertising my SSID................ Alarm Only
    Detect and report Ad-Hoc Networks............ Enabled
  Rogue Clients
    Validate rogue clients against AAA..... Enabled
    Detect trusted clients on rogue APs..... Alarm Only
  Rogue AP timeout............................. 1300
Signature Policy
  Signature Processing......................... Enabled
...
```

show wps wips statistics

To display the current state of the Cisco Wireless Intrusion Prevention System (wIPS) operation on the controller, use the **show wps wips statistics** command.

show wps wips statistics

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 statistics of the wIPS operation:

```
(Cisco Controller) > show wps wips statistics
Policy Assignment Requests..... 1
Policy Assignment Responses..... 1
Policy Update Requests..... 0
Policy Update Responses..... 0
Policy Delete Requests..... 0
Policy Delete Responses..... 0
Alarm Updates..... 13572
Device Updates..... 8376
Device Update Requests..... 0
Device Update Responses..... 0
Forensic Updates..... 1001
Invalid WIPS Payloads..... 0
Invalid Messages Received..... 0
NMSP Transmitted Packets..... 22950
NMSP Transmit Packets Dropped..... 0
NMSP Largest Packet..... 1377
```

Related Commands

config 802.11 enable

config ap mode

config ap monitor-mode

show ap config

show ap monitor-mode summary

show wps wips summary

show wps wips summary

To display the adaptive Cisco Wireless Intrusion Prevention System (wIPS) configuration that the Wireless Control System (WCS) forwards to the controller, use the **show wps wips summary** command.

show wps wips 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 shows how to display a summary of the wIPS configuration:

```
(Cisco Controller) > show wps wips summary
Policy Name..................................... Default
Policy Version.................................. 3
```

Related Commands

config 802.11 enable

config ap mode

config ap monitor-mode

show ap config

show ap monitor-mode summary

show wps wips statistics

Other Show Commands

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.

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 controller's central processing unit (CPU).
detailed	Displays detailed information about a specific ACL.
acl_name	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 cpu

To display the access control lists (ACLs) configured on the central processing unit (CPU), use the **show acl cpu** command.

show 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.

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
```

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

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     *        dtl0
192.0.2.8        0x1         0x6         00:1E:E5:E6:DB:56     *        dtl0
```

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 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.

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 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.

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.

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.

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 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.

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 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.
cisco_ap	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 3: 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.
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.

Error Code	Integer	Description
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.
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.
client_MAC_address	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 10.10.10.10.10.10
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 capwap client config

To display the list of clients associated with the CAPWAP access point, use the **show capwap client** command.

show capwap client config

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 clients associated with CAPWAP access point:

```
> show capwap client
configMagicMark         0xF1E2D3C4
chkSumV2                23845
chkSumV1                43434
swVer                   4.2.37.156
adminState              ADMIN_ENABLED(1)
name                    AP001b.0cfc.3f80
location                default location
group name
mwarName                WLC1
mwarIPAddress           9.41.80.67
mwarName
mwarIPAddress           0.0.0.0
mwarName
mwarIPAddress           0.0.0.0
ssh status              Disabled
Telnet status           Disabled
numOfSlots              2
spamRebootOnAssert      1
spamStatTimer           180
randSeed                0x0
transport               SPAM_TRANSPORT_L3(2)
transportCfg            SPAM_TRANSPORT_DEFAULT(0)
initialisation          SPAM_PRODUCTION_DISCOVERY(1)
```

show capwap client ip config

To display the CAPWAP static IP configuration, use the **show capwap client ip config** command.

show capwap client ip config

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 CAPWAP static IP information:

```
> show capwap client ip config
LWAPP Static IP Configuration
Primary Controller 9.41.80.88
```

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.

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.

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 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.

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.

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.

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 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.

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 channels

To display the radio channels supported in the configured country, use the **show country channels** command.

show country channels

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 auto-RF channels for the configured countries:

```
(Cisco Controller) >show country channels
Configured Country..............................  United States
      KEY: * = Channel is legal in this country and may be configured manually.
Configured Country..............................  United States
      KEY: * = Channel is legal in this country and may be configured manually.
           A = Channel is the Auto-RF default in this country.
           . = Channel is not legal in this country.
           C = Channel has been configured for use by Auto-RF.
           x = Channel is available to be configured for use by Auto-RF.
---------:+-+-+-+-+-+-+-+-+-+-+-+-+-+-
802.11BG :
Channels :                   1 1 1 1 1
         : 1 2 3 4 5 6 7 8 9 0 1 2 3 4
---------:+-+-+-+-+-+-+-+-+-+-+-+-+-+-
     US  : A * * * * A * * * * A . . .
---------:+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-
 802.11A :  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Channels : 3 3 3 4 4 4 4 4 5 5 6 6 0 0 0 1 1 2 2 2 3 3 4 4 5 5 6 6
```

```
         : 4 6 8 0 2 4 6 8 2 6 0 4 0 4 8 2 6 0 4 8 2 6 0 9 3 7 1 5
---------:+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-
     US  : . A . A . A . A A A A A * * * * * . . . * * * A A A A *
---------:+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-
```

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.

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 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.

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 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.

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.

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

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 debug

To determine if the MAC address and other flag debugging is enabled or disabled, sse the **show debug** command.

show debug [**packet**]

Syntax Description

packet	Displays information about packet debugs.

Command Default None.

This example shows how to display if debugging is enabled:

```
> show debug
MAC debugging.............................. disabled
Debug Flags Enabled:
  arp error enabled.
  bcast error enabled.
```

This example shows how to display if debugging is enabled:

```
> show debug packet
Status..................................... disabled
Number of packets to display..................... 0
Bytes/packet to display.......................... 0
Packet display format............................ text2pcap
   Driver ACL:
      [1]: disabled
      [2]: disabled
      [3]: disabled
      [4]: disabled
      [5]: disabled
      [6]: disabled
   Ethernet ACL:
      [1]: disabled
      [2]: disabled
      [3]: disabled
      [4]: disabled
      [5]: disabled
      [6]: disabled
   IP ACL:
      [1]: disabled
      [2]: disabled
      [3]: disabled
      [4]: disabled
      [5]: disabled
      [6]: disabled
   EoIP-Ethernet ACL:
      [1]: disabled
      [2]: disabled
      [3]: disabled
      [4]: disabled
      [5]: disabled
      [6]: disabled
   EoIP-IP ACL:
      [1]: disabled
      [2]: disabled
      [3]: disabled
      [4]: disabled
      [5]: disabled
      [6]: disabled
   LWAPP-Dot11 ACL:
      [1]: disabled
      [2]: disabled
      [3]: disabled
      [4]: disabled
      [5]: disabled
      [6]: disabled
   LWAPP-IP ACL:
      [1]: disabled
      [2]: disabled
      [3]: disabled
      [4]: disabled
```

```
[5]: disabled
[6]: disabled
```

Related Commands **debug mac**

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 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.

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 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 eventlog

To display the event log, use the **show eventlog** command.

show eventlog

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 eventlog** command:

```
(Cisco Controller) > show eventlog
                                                  Time
       File     Line TaskID   Code        d  h  m  s
EVENT> bootos.c  788 125CEBCC AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 125CEBCC AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 125C597C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 125C597C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 125C597C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 125C597C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 125C597C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 125C597C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 1216C36C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 1216C36C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 1216C36C AAAAAAAA    0  0  0  6
EVENT> bootos.c  788 1216C36C AAAAAAAA    0  0  0 11
```

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.

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 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

acl-name	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.

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.

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 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

guest_lan_id	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.

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 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

group_name	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
default-flex-group	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 *default-flex-group* option was added.

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.

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 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.
IP_or_MAC_address	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 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

detailed	Displays detailed interface information.
interface_name	Interface name for detailed display.
management	Displays detailed management interface information. **Note** This command output shows the port MAC address.
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

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.
interface_group_name	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.

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.

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: XXXXXXXXXXX
```

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.
IP_or_MAC_address	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 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.

MAC	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.

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
-----------         -----------  -----   --------   -----------------
```

show l2tp

To display Layer 2 Tunneling Protocol (L2TP) sessions, use the **show l2tp** command.

show l2tp {**summary** | *ip_address*}

Syntax Description

summary	Displays all L2TP sessions.
ip_address	IP 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 shows how to display a summary of all L2TP sessions:

```
(Cisco Controller) > show l2tp summary
LAC_IPaddr LTid LSid RTid RSid ATid ASid State
---------- ---- ---- ---- ---- ---- ---- -----
```

show lag eth-port-hash

To display the physical port used for specific MAC addresses, use the **show lag eth-port-hash** command.

show lag eth-port-hash *dest_MAC* [*source_MAC*]

Syntax Description

dest_MAC	MAC address to determine output port for non-IP packets.

source_MAC	(Optional) MAC address to determine output port for non-IP packets.

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 physical port used for a specific MAC address:

```
(Cisco Controller) > show lag eth-port-hash 11:11:11:11:11:11
Destination MAC 11:11:11:11:11:11 currently maps to port 1
```

show lag ip-port-hash

To display the physical port used for specific IP addresses, use the **show lag ip-port-hash** command.

show lag ip-port-hash *dest_IP* [*source_IP*]

Syntax Description

dest_IP	IP address to determine the output port for IP packets.
source_IP	(Optional) IP address to determine the output port for IP packets.

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 both— IPv4 and IPv6 addresses.

Usage Guidelines

For CAPWAP packets, enter the IP address of the access points. For EOIP packets, enter the IP address of the controller. For WIRED_GUEST packets, enter its IP address. For non-tunneled IP packets from controller, enter the destination IP address. For other non-tunneled IP packets, enter both destination and source IP addresses.

This command is applicable for both IPv4 and IPv6 addresses.

The following example shows how to display the physical port used for a specific IP address:

```
(Cisco Controller) > show lag ip-port-hash 192.168.102.138
Destination IP 192.168.102.138 currently maps to port 1
```

show lag summary

To display the current link aggregation (LAG) status, use the **show lag summary** command.

show lag 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 shows how to display the current status of the LAG configuration:

```
(Cisco Controller) > show lag summary
LAG Enabled
```

show ldap

To display the Lightweight Directory Access Protocol (LDAP) server information for a particular LDAP server, use the **show ldap** command.

show ldap *index*

Syntax Description

index	LDAP server index. Valid values are from 1 to 17.

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 LDAP server information:

```
(Cisco Controller) > show ldap 1
Server Index..................................... 1
Address.......................................... 2.3.1.4
Port............................................. 389
Enabled.......................................... Yes
User DN.......................................... name1
User Attribute................................... attr1
User Type........................................ username1
Retransmit Timeout............................... 3 seconds
Bind Method ..................................... Anonymous
```

Related Commands

config ldap

config ldap add

config ldap simple-bind

show ldap statistics

show ldap summary

show ldap statistics

To display all Lightweight Directory Access Protocol (LDAP) server information, use the **show ldap statistics** command.

show ldap statistics

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 LDAP server statistics:

```
(Cisco Controller) > show ldap statistics
Server Index..................................... 1
Server statistics:
  Initialized OK................................. 0
  Initialization failed.......................... 0
  Initialization retries......................... 0
  Closed OK...................................... 0
Request statistics:
  Received....................................... 0
  Sent........................................... 0
  OK............................................. 0
  Success........................................ 0
  Authentication failed.......................... 0
  Server not found............................... 0
  No received attributes......................... 0
  No passed username............................. 0
  Not connected to server........................ 0
  Internal error................................. 0
  Retries........................................ 0
Server Index..................................... 2
...
```

Related Commands

config ldap

config ldap add

config ldap simple-bind

show ldap

show ldap summary

show ldap summary

To display the current Lightweight Directory Access Protocol (LDAP) server status, use the **show ldap summary** command.

show ldap 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 shows how to display a summary of configured LDAP servers:

```
(Cisco Controller) > show ldap summary
Idx  Server Address   Port  Enabled
---  ---------------  ----  -------
1    2.3.1.4          389   Yes
2    10.10.20.22      389   Yes
```

Related Commands

config ldap

config ldap add

config ldap simple-bind

show ldap statistics

show ldap

show license agent

To display the license agent counter and session information on the Cisco 5500 Series Controller, use the **show license agent** command.

show license agent {**counters** | **sessions**}

Syntax Description

counters	Displays license agent counter information.
sessions	Displays session information.

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 license agent counters** command:

```
(Cisco Controller) > show license agent counters
License Agent Counters
Request Messages Received:0: Messages with Errors:0
Request Operations Received:0: Operations with Errors:0
Notification Messages Sent:0: Transmission Errors:0: Soap Errors:0
```

The following is a sample output of the **show license agent sessions** command:

```
(Cisco Controller) > show license agent sessions
License Agent Sessions: 0 open, maximum is 9
```

Related Commands

config license agent

clear license agent

show license all

show license detail

show license feature

show license image-level

show license summary

show license all

To display information for all licenses on the controllers, use the **show license all** command.

show license all

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display all the licenses:

```
> show license all
License Store: Primary License Storage
StoreIndex:  0  Feature: wplus-ap-count   Version: 1.0
        License Type: Permanent
        License State: Inactive
        License Count: 12/0/0
        License Priority: Medium
StoreIndex:  1  Feature: base   Version: 1.0
        License Type: Permanent
        License State: Active, Not in Use
        License Count: Non-Counted
        License Priority: Medium
```

```
StoreIndex:  2  Feature: wplus   Version: 1.0
        License Type: Permanent
        License State: Active, In Use
        License Count: Non-Counted
        License Priority: Medium
License Store: Evaluation License Storage
StoreIndex:  0  Feature: wplus   Version: 1.0
        License Type: Evaluation
        License State: Inactive
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  6 weeks  6 days
        License Count: Non-Counted
        License Priority: Low
StoreIndex:  1  Feature: wplus-ap-count   Version: 1.0
        License Type: Evaluation
        License State: Active, In Use
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  2 weeks  3 days
            Expiry date: Thu Jun 25 18:09:43 2009
        License Count: 250/250/0
        License Priority: High
StoreIndex:  2  Feature: base   Version: 1.0
        License Type: Evaluation
        License State: Inactive
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  8 weeks  4 days
        License Count: Non-Counted
        License Priority: Low
StoreIndex:  3  Feature: base-ap-count   Version: 1.0
        License Type: Evaluation
        License State: Active, Not in Use, EULA accepted
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  8 weeks  3 days
        License Count: 250/0/0
        License Priority: Low
```

This example shows how to view all the licenses on the Smart License mechanism:

```
(Cisco Controller) > show license all


Smart Licensing Status
======================

Smart Licensing is ENABLED

Registration:
  Status: REGISTERED
  Smart Account: vWLC-Prod
  Virtual Account: Default
  Export-Controlled Functionality: Allowed
  Initial Registration: SUCCEEDED on Dec 11 12:19:38 2015 UTC
  Last Renewal Attempt: None
  Next Renewal Attempt: Jun 08 12:19:37 2016 UTC
  Registration Expires: Dec 10 12:16:56 2016 UTC

License Authorization:
  Status: AUTHORIZED on Dec 11 12:20:12 2015 UTC
  Last Communication Attempt: SUCCEEDED on Dec 11 12:20:12 2015 UTC
  Next Communication Attempt: Jan 10 12:20:11 2016 UTC
  Communication Deadline: Mar 10 12:17:43 2016 UTC
```

```
--More-- or (q)uit

License Usage
==============

No licenses in use

Product Information
====================
UDI: PID:AIR-CTVM-K9,SN:91U8NQ5XDBE

Agent Version
=============
Smart Agent for Licensing: 1.4.0_rel/25
Component Versions: SA:1.4, SI:0.1, CH:rel_1, PK:x.x
```

show license capacity

To display the maximum number of access points allowed for this license on the Cisco 5500 Series Controller, the number of access points currently joined to the controller, and the number of access points that can still join the controller, use the **show license capacity** command.

show license capacity

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the license capacity:

```
> show license capacity
Licensed Feature    Max Count         Current Count     Remaining Count
-------------------------------------------------------------------------
AP Count            250               47                203
```

Related Commands

license install

show license all

show license detail

show license feature

show license image-level

show license summary

license modify priority

show license evaluation

show license detail

To display details of a specific license on the Cisco 5500 Series Controller, use the **show license detail** command.

show license detail *license-name*

Syntax Description		
	license-name	Name of a specific license.

Command Default None.

This example shows how to display the license details:

```
> show license detail wplus
Feature: wplus           Period left: Life time
Index:  1       Feature: wplus   Version: 1.0
        License Type: Permanent
        License State: Active, In Use
        License Count: Non-Counted
        License Priority: Medium
        Store Index: 2
        Store Name: Primary License Storage
Index:  2       Feature: wplus   Version: 1.0
        License Type: Evaluation
        License State: Inactive
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  6 weeks  6 days
        License Count: Non-Counted
        License Priority: Low
        Store Index: 0
```

Related Commands

license install

show license agent

show license all

show license feature

show license image-level

show license summary

license modify priority

show license expiring

To display details of expiring licenses on the Cisco 5500 Series Controller, use the **show license expiring** command.

show license expiring

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the details of the expiring licenses:

```
> show license expiring
StoreIndex:  0  Feature: wplus   Version: 1.0
        License Type: Evaluation
```

```
        License State: Inactive
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  6 weeks  6 days
        License Count: Non-Counted
        License Priority: Low
StoreIndex:  1  Feature: wplus-ap-count   Version: 1.0
        License Type: Evaluation
        License State: Active, In Use
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  2 weeks  3 days
            Expiry date: Thu Jun 25 18:09:43 2009
        License Count: 250/250/0
        License Priority: High
StoreIndex:  2  Feature: base   Version: 1.0
        License Type: Evaluation
        License State: Inactive
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  8 weeks  4 days
        License Count: Non-Counted
        License Priority: Low
StoreIndex:  3  Feature: base-ap-count   Version: 1.0
        License Type: Evaluation
        License State: Active, Not in Use, EULA accepted
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  8 weeks  3 days
        License Count: 250/0/0
        License Priority: Low
```

Related Commands

license install

show license all

show license detail

show license in-use

show license summary

license modify priority

show license evaluation

show license evaluation

To display details of evaluation licenses on the Cisco 5500 Series Controller, use the **show license evaluation** command.

show license evaluation

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the details of the evaluation licenses:

```
> show license evaluation
StoreIndex:  0  Feature: wplus   Version: 1.0
        License Type: Evaluation
        License State: Inactive
```

```
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  6 weeks  6 days
        License Count: Non-Counted
        License Priority: Low
StoreIndex:  1  Feature: wplus-ap-count   Version: 1.0
        License Type: Evaluation
        License State: Active, In Use
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  2 weeks  3 days
            Expiry date: Thu Jun 25 18:09:43 2009
        License Count: 250/250/0
        License Priority: High
StoreIndex:  2  Feature: base   Version: 1.0
        License Type: Evaluation
        License State: Inactive
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  8 weeks  4 days
        License Count: Non-Counted
        License Priority: Low
StoreIndex:  3  Feature: base-ap-count   Version: 1.0
        License Type: Evaluation
        License State: Active, Not in Use, EULA accepted
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  8 weeks  3 days
        License Count: 250/0/0
        License Priority: Low
```

Related Commands

license install

show license all

show license detail

show license expiring

show license in-use

show license summary

license modify priority

show license feature

To display a summary of license-enabled features on the Cisco 5500 Series Controller, use the **show license feature** command.

show license feature

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the license-enabled features:

```
> show license feature
        Feature name Enforcement  Evaluation  Clear Allowed  Enabled
               wplus         yes         yes            yes      yes
      wplus-ap-count         yes         yes            yes      yes
```

```
                base          no          yes             yes        no
        base-ap-count         yes          yes             yes        no
```

Related Commands

license install

show license all

show license detail

show license expiring

show license image-level

show license in-use

show license summary

show license modify priority

show license evaluation

show license file

To display a summary of license-enabled features on the Cisco 5500 Series Controller, use the **show license file** command.

show license file

Syntax Description

This command has no arguments or keywords.

This example shows how to display the license files:

```
> show license file
License Store: Primary License Storage
  Store Index: 0
    License: 11 wplus-ap-count 1.0 LONG NORMAL STANDALONE EXCL 12_KEYS INFINIT
             E_KEYS NEVER NEVER NiL SLM_CODE CL_ND_LCK NiL *1AR5NS7M5AD8PPU400
              NiL NiL NiL 5_MINS <UDI><PID>AIR-CT5508-K9</PID><SN>RFD000P2D27<
             /SN></UDI> Pe0L7tv8KDUqo:zlPe423S5wasgM8G,tTs0i,7zLyA3VfxhnIe5aJa
             m63lR5l8JM3DPkr4O2DI43iLlKn7jomo3RFl1LjMRqLkKhiLJ2tOyuftQSq2bCAO6
             nR3wIb38xKi3t$<WLC>AQEBIQAB//++mCzRUbOhw28vz0czAY0iAm7ocDLUMb9ER0
             +BD3w2PhNEYwsBN/T3xXBqJqfC+oKRqwInXo3s+nsLU7rOtdOxoIxYZAo3LYmUJ+M
             FzsqlhKoJVlPyEvQ8H21MNUjVbhoN0gyIWsyiJaM8AQIkVBQFzhr10GYolVzdzfJf
             EPQIx6tZ++/Vtc/q3SF/5Ko8XCY=</WLC>
    Comment:
       Hash: iOGjuLlXgLhcTB113ohIzxVioHA=
. . .
```

Related Commands

license install

show license all

show license detail

show license expiring

show license feature

show license image-level

show license in-use

show license summary

show license evaluation

show license handle

To display the license handles on the Cisco 5500 Series Controller, use the **show license handle** command.

show license handle

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the license handles:

```
> show license handle
Feature: wplus                          , Handle Count: 1
    Units: 01( 0), ID: 0x5e000001, NotifyPC: 0x1001e8f4 LS-Handle (0x00000001),
Units: ( 1)
    Registered clients: 1
        Context 0x1051b610, epID 0x10029378
Feature: base                           , Handle Count: 0
    Registered clients: 1
        Context 0x1053ace0, epID 0x10029378
Feature: wplus-ap-count                 , Handle Count: 1
    Units: 250( 0), ID: 0xd4000002, NotifyPC: 0x1001e8f4        LS-Handle (0x000
00002), Units: (250)
    Registered clients: None
Feature: base-ap-count                  , Handle Count: 0
    Registered clients: None
Global Registered clients: 2
               Context 0x10546270, epID 0x100294cc
               Context 0x1053bae8, epID 0x100294cc
```

Related Commands

license install

show license all

show license detail

show license expiring

show license feature

show license image-level

show license in-use

show license summary

show license image-level

To display the license image level that is in use on the Cisco 5500 Series Controller, use the **show license image-level** command.

show license image-level

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the image level license settings:

```
> show license image-level
Module name  Image level  Priority  Configured  Valid license
wnbu         wplus        1         YES         wplus
             base         2         NO
 NOTE: wplus includes two additional features: Office Extend AP, Mesh AP.
```

Related Commands

license install

show license all

show license detail

show license expiring

show license feature

license modify priority

show license in-use

show license summary

show license in-use

To display the licenses that are in use on the Cisco 5500 Series Controller, use the **show license in-use** command.

show license in-use

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the licenses that are in use:

```
> show license in-use
StoreIndex:  2  Feature: wplus   Version: 1.0
        License Type: Permanent
        License State: Active, In Use
        License Count: Non-Counted
        License Priority: Medium
StoreIndex:  1  Feature: wplus-ap-count   Version: 1.0
        License Type: Evaluation
        License State: Active, In Use
            Evaluation total period:  8 weeks  4 days
            Evaluation period left:  2 weeks  3 days
            Expiry date: Thu Jun 25 18:09:43 2009
        License Count: 250/250/0
        License Priority: High
```

Related Commands

license install

show license all

show license detail

show license expiring

show license feature

show license image-level

show license modify priority

show license summary

show license permanent

show license evaluation

show license permanent

To display the permanent licenses on the Cisco 5500 Series Controller, use the **show license permanent** command.

show license permanent

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the permanent license's information:

```
> show license permanent
StoreIndex:  0  Feature: wplus-ap-count   Version: 1.0
        License Type: Permanent
        License State: Inactive
        License Count: 12/0/0
        License Priority: Medium
StoreIndex:  1  Feature: base   Version: 1.0
        License Type: Permanent
        License State: Active, Not in Use
        License Count: Non-Counted
        License Priority: Medium
StoreIndex:  2  Feature: wplus   Version: 1.0
        License Type: Permanent
        License State: Active, In Use
        License Count: Non-Counted
        License Priority: Medium
```

Related Commands

license install

show license all

show license detail

show license expiring

show license feature

show license image-level

show license in-use

show license summary

license modify priority

show license evaluation

show license status

To display the license status on the Cisco Wireless Controller, use the **show license status** command.

show license status

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to view the **license status** on the RTU license mechanism:

```
> show license status
               License Type Supported
        permanent  Non-expiring node locked license
        extension  Expiring node locked license
        evaluation Expiring non node locked license
               License Operation Supported
        install    Install license
        clear      Clear license
        annotate   Comment license
        save       Save license
        revoke     Revoke license
               Device status
        Device Credential type: DEVICE
        Device Credential Verification: PASS
        Rehost Type: DC_OR_IC
```

This example shows how to view the **license status** on the Smart License mechanism:

```
(Cisco Controller) >show license status

Smart Licensing is ENABLED

Registration:
  Status: REGISTERED
  Smart Account: vWLC-Prod
  Virtual Account: Default
  Export-Controlled Functionality: Allowed
  Initial Registration: SUCCEEDED on Dec 11 12:19:38 2015 UTC
  Last Renewal Attempt: None
  Next Renewal Attempt: Jun 08 12:19:37 2016 UTC
  Registration Expires: Dec 10 12:16:56 2016 UTC

License Authorization:
  Status: AUTHORIZED on Dec 11 12:20:12 2015 UTC
  Last Communication Attempt: SUCCEEDED on Dec 11 12:20:12 2015 UTC
  Next Communication Attempt: Jan 10 12:20:11 2016 UTC
```

```
Communication Deadline: Mar 10 12:17:43 2016 UTC
```

show license statistics

To display license statistics on the Cisco 5500 Series Controller, use the **show license statistics** command.

show license statistics

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the license statistics:

```
> show license statistics
                Administrative statistics
        Install success count:       0
        Install failure count:       0
        Install duplicate count:     0
        Comment add count:           0
        Comment delete count:        0
        Clear count:                 0
c        Save count:                  0
        Save cred count:             0
                Client status
        Request success count     2
        Request failure count     0
        Release count             0
        Global Notify count       0
```

Related Commands

license install

show license all

show license detail

show license expiring

show license feature

show license image-level

show license in-use

show license summary

license modify priority

show license evaluation

show license summary

To see a brief summary of all licenses on the controllers, use the **show license summary** command.

show license summary

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display a brief summary of all licenses:

```
> show license summary
Index 1 Feature: wplus
        Period left: Life time
        License Type: Permanent
        License State: Active, In Use
        License Count: Non-Counted
        License Priority: Medium
Index 2 Feature: wplus-ap-count
        Period left:  2 weeks  3 days
        License Type: Evaluation
        License State: Active, In Use
        License Count: 250/250/0
        License Priority: High
Index 3 Feature: base
        Period left: Life time
        License Type: Permanent
        License State: Active, Not in Use
        License Count: Non-Counted
        License Priority: Medium
Index 4 Feature: base-ap-count
        Period left:  8 weeks  3 days
        License Type: Evaluation
        License State: Active, Not in Use, EULA accepted
        License Count: 250/0/0
        License Priority: Low
```

This example shows how to view the **license summary** on the Smart License mechanism:

```
(Cisco Controller) >show license summary

Smart Licensing is ENABLED

Registration:
  Status: REGISTERED
  Smart Account: vWLC-Prod
  Virtual Account: Default
  Export-Controlled Functionality: Allowed
  Last Renewal Attempt: None
  Next Renewal Attempt: Jun 08 12:19:38 2016 UTC

License Authorization:
  Status: AUTHORIZED
  Last Communication Attempt: SUCCEEDED
  Next Communication Attempt: Jan 10 12:20:11 2016 UTC
```

show license udi

To display unique device identifier (UDI) values for licenses on the controllers, use the **show license udi** command.

show license udi

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to view the UDI values for licenses on the RTU license mechanism:

```
(Cisco Controller) > show license udi
Device# PID                     SN                      UDI
------------------------------------------------------------------------------
*0      AIR-CT5508-K9           RFD000P2D27             AIR-CT5508-K9:RFD000P2D27
```

This example shows how to view the UDI values for licenses on the Smart License mechanism:

```
(Cisco Controller) > show license udi

UDI: PID:AIR-CTVM-K9,SN:91U8NQ5XDBE
```

show load-balancing

To display the status of the load-balancing feature, use the **show load-balancing** command.

show load-balancing

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the load-balancing status:

```
> show load-balancing
Aggressive Load Balancing..................... Enabled
Aggressive Load Balancing Window.............. 0 clients
Aggressive Load Balancing Denial Count........... 3
Statistics
Total Denied Count............................ 10 clients
Total Denial Sent............................. 20 messages
Exceeded Denial Max Limit Count............... 0 times
None 5G Candidate Count....................... 0 times
None 2.4G Candidate Count..................... 0 times
```

Related Commands **config load-balancing**

show local-auth certificates

To display local authentication certificate information, use the **show local-auth certificates** command:

show local-auth certificates

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 authentication certificate information stored locally:

```
(Cisco Controller) > show local-auth certificates
```

Related Commands

clear stats local-auth

config local-auth active-timeout

config local-auth eap-profile

config local-auth method fast

config local-auth user-credentials

debug aaa local-auth

show local-auth config

show local-auth statistics

show local-auth config

To display local authentication configuration information, use the **show local-auth config** command.

show local-auth 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.

The following example shows how to display the local authentication configuration information:

```
(Cisco Controller) > show local-auth config
User credentials database search order:
Primary ..................................... Local DB
Configured EAP profiles:
Name ........................................ fast-test
Certificate issuer ..................... default
Enabled methods ....................... fast
Configured on WLANs ................... 2
EAP Method configuration:
EAP-TLS:
```

```
Certificate issuer ..................... default
Peer verification options:
 Check against CA certificates ..... Enabled
 Verify certificate CN identity .... Disabled
 Check certificate date validity ... Enabled
EAP-FAST:
TTL for the PAC ....................... 3 600
Initial client message ................ <none>
Local certificate required ............ No
Client certificate required ........... No
Vendor certificate required ........... No
Anonymous provision allowed ........... Yes
Authenticator ID ...................... 7b7fffffff0000000000000000000000
Authority Information ................. Test
EAP Profile..................................... tls-prof
Enabled methods for this profile .......... tls
Active on WLANs ........................... 1 3EAP Method configuration:
EAP-TLS:
Certificate issuer used ............... cisco
Peer verification options:
 Check against CA certificates ..... disabled
 Verify certificate CN identity .... disabled
 Check certificate date validity ... disabled
```

Related Commands

clear stats local-auth

config local-auth active-timeout

config local-auth eap-profile

config local-auth method fast

config local-auth user-credentials

debug aaa local-auth

show local-auth certificates

show local-auth statistics

show local-auth statistics

To display local Extensible Authentication Protocol (EAP) authentication statistics, use the **show local-auth statistics** command:

show local-auth statistics

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 local authentication certificate statistics:

```
(Cisco Controller) > show local-auth statistics
Local EAP authentication DB statistics:
Requests received ............................... 14
Responses returned .............................. 14
Requests dropped (no EAP AVP) ................... 0
Requests dropped (other reasons) ................ 0
Authentication timeouts ......................... 0
Authentication statistics:
  Method          Success         Fail
  ------------------------------------
  Unknown               0            0
  LEAP                  0            0
  EAP-FAST              2               0
  EAP-TLS               0            0
  PEAP                  0            0
Local EAP credential request statistics:
Requests sent to LDAP DB ........................ 0
Requests sent to File DB ........................ 2
Requests failed (unable to send) ................ 0
Authentication results received:
  Success ....................................... 2
  Fail .......................................... 0
Certificate operations:
Local device certificate load failures .......... 0
Total peer certificates checked ................. 0
Failures:
  CA issuer check ............................... 0
  CN name not equal to identity ................. 0
  Dates not valid or expired .................... 0
```

Related Commands

clear stats local-auth

config local-auth active-timeout

config local-auth eap-profile

config local-auth method fast

config local-auth user-credentials

debug aaa local-auth

show local-auth config

show local-auth certificates

show location

To display location system information, use the **show location** command.

show location [**detail** *mac_address* | **summary**]

Syntax Description

detail	(Optional) Displays detailed location information.
mac_address	MAC address of a client.
summary	(Optional) Displays summary location information.

Command Default None.

This example shows how to display the location summary information:

```
> show location summary
 Location Summary
 Algorithm used:                 Average
 Client
        RSSI expiry timeout:     5 sec
        Half life:               0 sec
        Notify Threshold:        0 db
 Calibrating Client
        RSSI expiry timeout:     5 sec
        Half life:               0 sec
 Rogue AP
        RSSI expiry timeout:     5 sec
        Half life:               0 sec
        Notify Threshold:        0 db
 RFID Tag
        RSSI expiry timeout:     5 sec
        Half life:               0 sec
        Notify Threshold:        0 db
```

Related Commands

clear location rfid

clear location statistics rfid

show location statistics rfid

config location

show location statistics rfid

To see any radio frequency identification (RFID)-related errors, use the **show location statistics rfid** command.

show location statistics rfid

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the detailed location RFID statistics:

```
> show location statistics rfid
RFID Statistics
Database Full :          0        Failed Delete:          0
Null Bufhandle:          0        Bad Packet:             0
Bad LWAPP Data:          0        Bad LWAPP Encap:        0
Off Channel:             0        Bad CCX Version:        0
Bad AP Info :            0
Above Max RSSI:          0        Below Max RSSI:         0
Invalid RSSI:            0        Add RSSI Failed:        0
Oldest Expired RSSI:     0        Smallest Overwrite:     0
```

Related Commands

clear location rfid

clear location statistics rfid

show location

config location

show logging

To display the syslog facility logging parameters and buffer contents, use the **show logging** command.

show logging

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 current settings and buffer content details:

```
(Cisco Controller) >show logging

(Cisco Controller) > config logging syslog host 10.92.125.52
System logs will be sent to 10.92.125.52 from now on

(Cisco Controller) > config logging syslog host 2001:9:6:40::623
System logs will be sent to 2001:9:6:40::623 from now on

(Cisco Controller) > show logging
Logging to buffer :
- Logging of system messages to buffer :
 - Logging filter level.......................... errors
 - Number of system messages logged.............. 1316
 - Number of system messages dropped............. 6892
- Logging of debug messages to buffer ........... Disabled
 - Number of debug messages logged............... 0
 - Number of debug messages dropped.............. 0
- Cache of logging  ............................. Disabled
- Cache of logging time(mins) ................... 10080
- Number of over cache time log dropped  ........ 0
Logging to console :
```

```
- Logging of system messages to console :
 - Logging filter level..................... disabled
 - Number of system messages logged.............. 0
 - Number of system messages dropped............. 8243
- Logging of debug messages to console ......... Enabled
 - Number of debug messages logged............... 0
 - Number of debug messages dropped.............. 0
Logging to syslog :
- Syslog facility............................... local0
- Logging of system messages to console :
 - Logging filter level..................... disabled
 - Number of system messages logged.............. 0
 - Number of system messages dropped............. 8208
- Logging of debug messages to console ......... Enabled
 - Number of debug messages logged............... 0
 - Number of debug messages dropped.............. 0
- Logging of system messages to syslog :
 - Logging filter level..................... errors
 - Number of system messages logged.............. 1316
 - Number of system messages dropped............. 6892
- Logging of debug messages to syslog .......... Disabled
 - Number of debug messages logged............... 0
 - Number of debug messages dropped.............. 0
- Number of remote syslog hosts................. 2
- syslog over tls............................... Disabled
  - Host 0...................................... 10.92.125.52
  - Host 1...................................... 2001:9:6:40::623
  - Host 2......................................
Logging of RFC 5424............................ Disabled
Logging of Debug messages to file :
- Logging of Debug messages to file............. Disabled
- Number of debug messages logged............... 0
- Number of debug messages dropped.............. 0
Logging of traceback........................... Enabled
```

show loginsession

To display the existing sessions, use the **show loginsession** command.

show loginsession

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the current session details:

```
> show loginsession
ID    username     Connection From   Idle Time    Session Time
-- ---------------  ---------------  ------------  ------------
00 admin            EIA-232          00:00:00      00:19:04
```

Related Commands

config loginsession close

show macfilter

To display the MAC filter parameters, use the **show macfilter** command.

show macfilter {**summary** | **detail***MAC* | **mesh** | {**wlan** *wlan-id*}}

Syntax Description

summary	Displays a summary of all MAC filter entries.
detail *MAC*	Displays details of a MAC filter entry.
mesh	Display a summary of all MESH AP MAC filter entries.
wlan *wlan-id*	Display a summary of all MAC filter entries on given wlan.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.
8.4	**wlan** *wlan-id* was added.

Usage Guidelines

The MAC delimiter (none, colon, or hyphen) for MAC addresses sent to RADIUS servers is displayed. The MAC filter table lists the clients that are always allowed to associate with a wireless LAN.

The following example shows how to display the detailed display of a MAC filter entry:

```
(Cisco Controller) >show macfilter detail xx:xx:xx:xx:xx:xx
MAC Address..................................... xx:xx:xx:xx:xx:xx
WLAN Identifier................................. Any
Interface Name.................................. management
Description..................................... RAP
```

The following example shows how to display a summary of the MAC filter parameters:

```
(Cisco Controller) > show macfilter summary
MAC Filter RADIUS Compatibility mode.............. Cisco ACS
MAC Filter Delimiter.............................. None
Local Mac Filter Table
MAC Address               WLAN Id          Description
-----------------------   --------------   --------------------------------
xx:xx:xx:xx:xx:xx         Any              RAP
xx:xx:xx:xx:xx:xx         Any              PAP2 (2nd hop)
xx:xx:xx:xx:xx:xx         Any              PAP1 (1st hop)
```

show memory monitor

To display a summary of memory analysis settings and any discovered memory issues, use the **show memory monitor** command.

show memory monitor [**detail**]

Syntax Description

detail	(Optional) Displays details of any memory leaks or corruption.

Command Default

None

Command History

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

Usage Guidelines

Be careful when changing the defaults for the **config memory monitor** command unless you know what you are doing, you have detected a problem, or you are collecting troubleshooting information.

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

```
(Cisco Controller) > show memory monitor
Memory Leak Monitor Status:
low_threshold(10000), high_threshold(30000), current status(disabled)
-----------------------------------------
Memory Error Monitor Status:
Crash-on-error flag currently set to (disabled)
No memory error detected.
```

The following is a sample output of the **show memory monitor detail** command:

```
(Cisco Controller) > show memory monitor detail
Memory error detected. Details:
-----------------------------------------------
- Corruption detected at pmalloc entry address:        (0x179a7ec0)
- Corrupt entry:headerMagic(0xdeadf00d),trailer(0xabcd),poison(0xreadceef),
entrysize(128),bytes(100),thread(Unknown task name,task id = (332096592)),
file(pmalloc.c),line(1736),time(1027)
Previous 1K memory dump from error location.
-----------------------------------------------
(179a7ac0): 00000000 00000000 00000000 ceeff00d readf00d 00000080 00000000 00000000
(179a7ae0): 17958b20 00000000 1175608c 00000078 00000000 readceef 179a7afc 00000001
(179a7b00): 00000003 00000006 00000001 00000004 00000001 00000009 00000009 0000020d
(179a7b20): 00000001 00000002 00000002 00000001 00000004 00000000 00000000 5d7b9aba
(179a7b40): cbddf004 192f465e 7791acc8 e5032242 5365788c a1b7cee6 00000000 00000000
(179a7b60): 00000000 00000000 00000000 00000000 00000000 ceeff00d readf00d 00000080
(179a7b80): 00000000 00000000 17958dc0 00000000 1175608c 00000078 00000000 readceef
(179a7ba0): 179a7ba4 00000001 00000003 00000006 00000001 00000004 00000001 00003763
(179a7c00): 1722246c 1722246c 00000000 00000000 00000000 00000000 00000000 ceeff00d
(179a7c20): readf00d 00000080 00000000 00000000 179a7b78 00000000 1175608c 00000078
...
```

show mgmtuser

To display the local management user accounts on the Cisco wireless LAN controller, use the **show mgmtuser** command.

show mgmtuser

Syntax Description

This command has no arguments or keywords.

Command Default None.

This example shows how to display a list of management users:

```
> show mgmtuser
User Name                 Permissions    Description           Password Strength
------------------------  -------------  --------------        ------------------
admin                     read-write                                 Weak
```

Related Commands

config mgmtuser add

config mgmtuser delete

config mgmtuser description

config mgmtuser password

show msglog

To display the message logs written to the controller database, use the **show msglog** command.

show msglog

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 If there are more that 15 entries, you are prompted to display the messages shown in the example.

The following example shows how to display message logs:

```
 (Cisco Controller) >show msglog
Message Log Severity Level..................... ERROR
Thu Aug  4 14:30:08 2005  [ERROR] spam_lrad.c 1540: AP 00:0b:85:18:b6:50 associated. Last
AP failure was due to Link Failure
Thu Aug  4 14:30:08 2005  [ERROR] spam_lrad.c 13840: Updating IP info for AP 00:
0b:85:18:b6:50 -- static 0, 1.100.49.240/255.255.255.0, gtw 1.100.49.1
Thu Aug  4 14:29:32 2005  [ERROR] dhcpd.c 78: dhcp server: binding to 0.0.0.0
Thu Aug  4 14:29:32 2005  [ERROR] rrmgroup.c 733: Airewave Director: 802.11a switch group
reset
Thu Aug  4 14:29:32 2005  [ERROR] rrmgroup.c 733: Airewave Director: 802.11bg sw
itch group reset
Thu Aug  4 14:29:22 2005  [ERROR] sim.c 2841: Unable to get link state for primary port 0
of interface ap-manager
Thu Aug  4 14:29:22 2005  [ERROR] dtl_l2_dot1q.c 767: Unable to get USP
Thu Aug  4 14:29:22 2005  Previous message occurred 2 times
Thu Aug  4 14:29:14 2005  [CRITICAL] osapi_sem.c 794: Error!  osapiMutexTake called with
NULL pointer: osapi_bsntime.c:927
Thu Aug  4 14:29:14 2005  [CRITICAL] osapi_sem.c 794: Error!  osapiMutexTake called with
NULL pointer: osapi_bsntime.c:919
Thu Aug  4 14:29:14 2005  [CRITICAL] hwutils.c 1861: Security Module not found
```

```
Thu Aug  4 14:29:13 2005  [CRITICAL] bootos.c 791: Starting code...
```

show nac statistics

To display detailed Network Access Control (NAC) information about a Cisco wireless LAN controller, use the **show nac statistics** command.

show nac statistics

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 detailed statistics of network access control settings:

```
(Cisco Controller) > show nac statistics
Server Index..................................................... 1
Server Address.....................................................
xxx.xxx.xxx.xxx
Number of requests sent.......................................... 0
Number of retransmissions........................................ 0
Number of requests received...................................... 0
Number of malformed requests received............................ 0
Number of bad auth requests received............................. 0
Number of pending requests....................................... 0
Number of timed out requests..................................... 0
Number of misc dropped request received.......................... 0
Number of requests sent.......................................... 0
```

Related Commands

show nac summary

config guest-lan nac

config wlan nac

debug nac

show nac summary

To display NAC summary information for a Cisco wireless LAN controller, use the **show nac summary** command.

show nac 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 shows how to display a summary information of network access control settings:

```
(Cisco Controller) > show nac summary
NAC ACL Name ..............................................
Index  Server Address                              Port     State
-----  ---------------------------------------  ----     -----
1      xxx.xxx.xxx.xxx                           13336    Enabled
```

Related Commands

show nac statistics

config guest-lan nac

config wlan nac

debug nac

show netuser

To display the configuration of a particular user in the local user database, use the **show netuser** command.

show netuser {**detail** *user_name* | **guest-roles** | **summary**}

Syntax Description

detail	Displays detailed information about the specified network user.
user_name	Network user.
guest_roles	Displays configured roles for guest users.
summary	Displays a summary of all users in the local user database.

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 netuser summary** command:

```
(Cisco Controller) > show netuser summary
Maximum logins allowed for a given username ........Unlimited
```

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

```
(Cisco Controller) > show netuser detail john10
username..................................... abc
WLAN Id...................................... Any
Lifetime..................................... Permanent
Description.................................. test user
```

Related Commands

config netuser add

config netuser delete

config netuser description

config netuser guest-role apply

config netuser wlan-id

config netuser guest-roles

show netuser guest-roles

To display a list of the current quality of service (QoS) roles and their bandwidth parameters, use the **show netuser guest-roles** command.

show netuser guest-roles

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command History

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

This example shows how to display a QoS role for the guest network user:

```
(Cisco Controller) > show netuser guest-roles
Role Name.............................. Contractor
 Average Data Rate..................... 10
 Burst Data Rate....................... 10
 Average Realtime Rate................. 100
 Burst Realtime Rate................... 100
Role Name.............................. Vendor
 Average Data Rate..................... unconfigured
 Burst Data Rate....................... unconfigured
 Average Realtime Rate................. unconfigured
 Burst Realtime Rate................... unconfigured
```

Related Commands

config netuser add

config netuser delete

config netuser description

config netuser guest-role apply

config netuser wlan-id

show netuser guest-roles

show netuser

show network

To display the current status of 802.3 bridging for all WLANs, use the **show network** command.

show network

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the network details:

```
(Cisco Controller) > show network
```

Related Commands

config network

show network summary

show network multicast mgid detail

show network multicast mgid summary

show network summary

To display the network configuration of the Cisco wireless LAN controller, use the **show network summary** command.

show network summary

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display a summary configuration:

```
(Cisco Controller) >show network summary
RF-Network Name............................. RF
Web Mode.................................... Disable
Secure Web Mode............................. Enable
Secure Web Mode Cipher-Option High.......... Disable
Secure Web Mode Cipher-Option SSLv2......... Disable
Secure Web Mode RC4 Cipher Preference....... Disable
OCSP........................................ Disabled
OCSP responder URL..........................
```

```
Secure Shell (ssh)..... Enable
Telnet..... Enable
Ethernet Multicast Mode..... Disable   Mode: Ucast
Ethernet Broadcast Mode..... Disable
Ethernet Multicast Forwarding..... Disable
Ethernet Broadcast Forwarding..... Disable
AP Multicast/Broadcast Mode..... Unicast
IGMP snooping..... Disabled
IGMP timeout..... 60 seconds
IGMP Query Interval..... 20 seconds
MLD snooping..... Disabled
MLD timeout..... 60 seconds
MLD query interval..... 20 seconds
User Idle Timeout..... 300 seconds
AP Join Priority..... Disable
ARP Idle Timeout..... 300 seconds
ARP Unicast Mode..... Disabled
Cisco AP Default Master..... Disable
Mgmt Via Wireless Interface..... Disable
Mgmt Via Dynamic Interface..... Disable
Bridge MAC filter Config..... Enable
Bridge Security Mode..... EAP
Over The Air Provisioning of AP's..... Enable
Apple Talk ..... Disable
Mesh Full Sector DFS..... Enable
AP Fallback ..... Disable
Web Auth CMCC Support ..... Disabled
Web Auth Redirect Ports ..... 80
Web Auth Proxy Redirect  ..... Disable
Web Auth Captive-Bypass   ..... Disable
Web Auth Secure Web  ..... Enable
Fast SSID Change ..... Disabled
AP Discovery - NAT IP Only ..... Enabled
IP/MAC Addr Binding Check ..... Enabled
CCX-lite status ..... Disable
oeap-600 dual-rlan-ports ..... Disable
oeap-600 local-network ..... Enable
mDNS snooping..... Disabled
mDNS Query Interval..... 15 minutes
Web Color Theme..... Red
Web Color Theme..... Default
CAPWAP Prefer Mode..... IPv4
```

show network multicast mgid detail

To display all the clients joined to the multicast group in a specific multicast group identification (MGID), use the **show network multicast mgid detail** command.

show network multicast mgid detail *mgid_value*

Syntax Description

mgid_value	Number between 550 and 4095.

Command Default

None.

This example shows how to display details of the multicast database:

```
> show network multicast mgid detail
Mgid ..... 550
```

```
Multicast Group Address ..... 239.255.255.250
Vlan ............................ 0
Rx Packet Count ................. 807399588
No of clients ................... 1
Client List ....................
  Client MAC       Expire TIme (mm:ss)
   00:13:02:23:82:ad   0:20
```

Related Commands

show network summary

show network multicast mgid detail

show network

show network multicast mgid summary

To display all the multicast groups and their corresponding multicast group identifications (MGIDs), use the **show network multicast mgid summary** command.

show network multicast mgid summary

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display a summary of multicast groups and their MGIDs:

```
> show network multicast mgid summary
Layer2 MGID Mapping:
--------------------
InterfaceName             vlanId     MGID
------------------------------ ------  -----
management              0      0
test            0    9
wired          20     8
Layer3 MGID Mapping:
--------------------
Number of Layer3 MGIDs ................ 1
 Group address          Vlan    MGID
 -----------------  -----   ------
 239.255.255.250        0      550
```

Related Commands

show network summary

show network multicast mgid detail

show network

show nmsp notify-interval summary

To display the Network Mobility Services Protocol (NMSP) configuration settings, use the **show nmsp notify-interval summary** command.

show nmsp notify-interval summary

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display NMSP configuration settings:

```
> show nmsp notify-interval summary
NMSP Notification Interval Summary
 Client
        Measurement interval:    2 sec
 RFID
        Measurement interval:    8 sec
 Rogue AP
        Measurement interval:    2 sec
 Rogue Client
        Measurement interval:    2 sec
```

Related Commands

clear locp statistics

clear nmsp statistics

config nmsp notify-interval measurement

show nmsp statistics

show nmsp status

show nmsp statistics

To display Network Mobility Services Protocol (NMSP) counters, use the **show nmsp statistics** command.

show nmsp statistics {**summary** | **connection all**}

Syntax Description

summary	Displays common NMSP counters.
connection all	Displays all connection-specific counters.

Command Default None.

This example shows how to display a summary of common NMSP counters:

```
> show nmsp statistics summary
Send RSSI with no entry:               0
Send too big msg:                      0
Failed SSL write:                      0
Partial SSL write:                     0
SSL write attempts to want write:
Transmit Q full:0
Max Measure Notify Msg:                0
Max Info Notify Msg:                   0
Max Tx Q Size:                         2
Max Rx Size:                           1
Max Info Notify Q Size:                0
Max Client Info Notify Delay:          0
Max Rogue AP Info Notify Delay:        0
Max Rogue Client Info Notify Delay:    0
```

```
Max Client Measure Notify Delay:       0
Max Tag Measure Notify Delay:          0
Max Rogue AP Measure Notify Delay:     0
Max Rogue Client Measure Notify Delay: 0
Max Client Stats Notify Delay:         0
Max Tag Stats Notify Delay:            0
RFID Measurement Periodic :            0
RFID Measurement Immediate :           0
Reconnect Before Conn Timeout:         0
```

This example shows how to display all the connection-specific NMSP counters:

```
> show nmsp statistics connection all
NMSP Connection Counters
Connection 1 :
 Connection status:  UP
 Freed Connection:    0
 Nmsp Subscr Req:     0          NMSP Subscr Resp:   0
 Info Req:            1          Info Resp:          1
 Measure Req:         2          Measure Resp:        2
 Stats Req:           2          Stats Resp:          2
 Info Notify:         0          Measure Notify:      0
 Loc Capability:      2
 Location Req:        0          Location Rsp:        0
 Loc Subscr Req:      0          Loc Subscr Rsp:      0
 Loc Notif:           0
 Loc Unsubscr Req:    0          Loc Unsubscr Rsp:    0
 IDS Get Req:         0          IDS Get Resp:        0
 IDS Notif:           0
 IDS Set Req:         0          IDS Set Resp:        0
```

Related Commands

show nmsp notify-interval summary

clear nmsp statistics

config nmsp notify-interval measurement

show nmsp status

show nmsp status

To display the status of active Network Mobility Services Protocol (NMSP) connections, use the **show nmsp status** command.

show nmsp status

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the status of the active NMSP connections:

```
> show nmsp status
LocServer IP   TxEchoResp  RxEchoReq TxData  RxData
-------------- ----------- --------- ------- -------
171.71.132.158 21642       21642     51278   21253
```

Related Commands

show nmsp notify-interval summary

clear nmsp statistics

config nmsp notify-interval measurement

show nmsp status

clear locp statistics

show nmsp statistics

show nmsp subscription

To display the Network Mobility Services Protocol (NMSP) services that are active on the controller, use the **show nmsp subscription** command.

show nmsp subscription {**summary** | **detail** *ip-addr*}

Syntax Description

summary	Displays all of the NMSP services to which the controller is subscribed.
detail	Displays details for all of the NMSP services to which the controller is subscribed.
ip-addr	Details only for the NMSP services subscribed to by a specific IPv4 or IPv6 address.

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 both IPv4 and IPv6 address formats.

This example shows how to display a summary of all the NMSP services to which the controller is subscribed:

```
> show nmsp subscription summary
Mobility Services Subscribed:
Server IP          Services
---------          --------
10.10.10.31        RSSI, Info, Statistics
```

This example shows how to display details of all the NMSP services:

```
> show nmsp subscription detail 10.10.10.31
Mobility Services Subscribed by 10.10.10.31
Services          Sub-services
--------          ------------
RSSI              Mobile Station, Tags,
Info              Mobile Station,
Statistics        Mobile Station, Tags,
```

```
> show nmsp subscription detail 2001:9:6:40::623
Mobility Services Subscribed by 2001:9:6:40::623
Services          Sub-services
--------          ------------
RSSI              Mobile Station, Tags,
Info              Mobile Station,
Statistics        Mobile Station, Tags,
```

show ntp-keys

To display network time protocol authentication key details, use the **show ntp-keys** command.

show ntp-keys

Syntax Description This command has no arguments or keywords.

Command Default None

Command History

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

This example shows how to display NTP authentication key details:

```
(Cisco Controller) > show ntp-keys
Ntp Authentication Key Details...................
      Key Index
     -----------
         1
         3
```

Related Commands **config time ntp**

show pmk-cache

To display information about the pairwise master key (PMK) cache, use the **show pmk-cache** command.

show pmk-cache {**all** | *MAC*}

Syntax Description

all	Displays information about all entries in the PMK cache.
MAC	Information about a single entry in the PMK cache.

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 a single entry in the PMK cache:

```
(Cisco Controller) >show pmk-cache xx:xx:xx:xx:xx:xx
```

The following example shows how to display information about all entries in the PMK cache:

```
(Cisco Controller) >show pmk-cache all
PMK Cache
                  Entry
Station           Lifetime   VLAN Override          IP Override
----------------  --------   --------------------   ---------------
```

show port

To see the controller port settings on an individual or global basis, use the **show port** command.

show port { *port-number* | **summary** | **detailed-info** | **sfp-info** | **vlan** }

Syntax Description

port-number	Port number of the physical interface.
summary	Displays a summary of all ports.
detailed-info	Displays detailed port information.
sfp-info	Displays SFP information. **Note** This feature is applicable only to Cisco 5520 and 8540 controllers.
vlan	Displays VLAN port table summary.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.
8.8	**sfp-info** parameter was added.

The following example shows how to display information about an individual controller port:

```
 (Cisco Controller) > show port 1             STP   Admin   Physical   Physical
  Link   Link    Mcast
Pr  Type   Stat   Mode     Mode      Status   Status  Trap   Appliance
 POE
-- ------- ---- ------- ---------- ---------- ------ ------- ---------
-------
1  Normal  Disa Enable  Auto       1000 Full  Down   Enable  Enable
N/A
```

Note Some controllers may not have multicast or Power over Ethernet (PoE) listed because they do not support those features.

The following example shows how to display a summary of all ports:

```
 (Cisco Controller) > show port summary             STP   Admin   Physical
Physical   Link   Link    Mcast
Pr  Type   Stat   Mode     Mode      Status   Status  Trap   Appliance
 POE SFPType
-- ------- ---- ------- ---------- ---------- ------ ------- ---------
-------------
1  Normal  Forw Enable  Auto       1000 Full  Up     Enable  Enable
N/A NotPresent
2  Normal  Disa Enable  Auto       1000 Full  Down   Enable  Enable
N/A NotPresent
3  Normal  Disa Enable  Auto       1000 Full  Down   Enable  Enable
N/A NotPresent
4  Normal  Disa Enable  Auto       1000 Full  Down   Enable  Enable
N/A NotPresent
```

Note Some controllers may have only one port listed because they have only one physical port.

The following example shows how to display SFP information:

```
 (Cisco Controller) > show port sfp-info (Cisco Controller) > FP0 Port SFP Vendor
  Transceiver Type    OUI PartNumber       Rev  SerialNumber     DateCode
 Auth
   1 CISCO-AVAGO      (0x08)1000BaseTX        XXXX-XXXXX
XXXXXXXXXXX      XXXXXX   ok
   2 Not Present      (0x00)NOT_SUPPORTED
                      fail
FP0.
```

show process

To display how various processes in the system are using the CPU at that instant in time, use the **show process** command.

show process {**cpu** | **memory**}

Syntax Description

cpu	Displays how various system tasks are using the CPU at that moment.
memory	Displays the allocation and deallocation of memory from various processes in the system at that moment.

Command Default None.

Usage Guidelines

This command is helpful in understanding if any single task is monopolizing the CPU and preventing other tasks from being performed.

This example shows how to display various tasks in the system that are using the CPU at a given moment:

```
> show process cpu
Name    Priority    CPU Use    Reaper
 reaperWatcher    ( 3/124)    0 %   ( 0/ 0)%    I
 osapiReaper    (10/121)    0 %    ( 0/ 0)%    I
 TempStatus    (255/ 1)    0 %    ( 0/ 0)%    I
 emWeb    (255/ 1)    0 %    ( 0/ 0)%    T 300
 cliWebTask    (255/ 1)    0 %    ( 0/ 0)%    I
 UtilTask    (255/ 1)    0 %    ( 0/ 0)%    T 300
```

This example shows how to display the allocation and deallocation of memory from various processes at a given moment:

```
> show process memory
Name    Priority    BytesinUse    Reaper
 reaperWatcher    ( 3/124)    0   ( 0/ 0)%    I
 osapiReaper    (10/121)    0    ( 0/ 0)%    I
 TempStatus    (255/ 1)    308    ( 0/ 0)%    I
 emWeb    (255/ 1)    294440    ( 0/ 0)%    T 300
 cliWebTask    (255/ 1)    738    ( 0/ 0)%    I
 UtilTask    (255/ 1)    308    ( 0/ 0)%    T 300
```

Related Commands

debug memory

transfer upload datatype

show qos

To display quality of service (QoS) information, use the **show qos** command.

show qos {**bronze** | **gold** | **platinum** | **silver**}

Syntax Description

bronze	Displays QoS information for the bronze profile of the WLAN.
gold	Displays QoS information for the gold profile of the WLAN.
platinum	Displays QoS information for the platinum profile of the WLAN.
silver	Displays QoS information for the silver profile of the WLAN.

Command Default

None.

This example shows how to display QoS information for the gold profile:

```
> show qos gold
Description..................................... For Video Applications
Maximum Priority................................ video
Unicast Default Priority........................ video
```

```
Multicast Default Priority..................... video
Per-SSID Rate Limits........................... UpstreamDownstream
Average Data Rate.............................. 0 0
Average Realtime Data Rate..................... 0 0
Burst Data Rate................................ 0 0
Burst Realtime Data Rate....................... 0 0
Per-Client Rate Limits......................... UpstreamDownstream
Average Data Rate.............................. 0 0
Average Realtime Data Rate..................... 0 0
Burst Data Rate................................ 0 0
Burst Realtime Data Rate....................... 0 0
protocol....................................... none

802.11a Customized EDCA Settings:
ecwmin..................................... 3
ecwmax..................................... 4
aifs....................................... 7
txop....................................... 94

802.11a Customized packet parameter Settings:
Packet retry time.......................... 3
Not retrying threshold..................... 100
Disassociating threshold................... 500
Time out value............................. 35
```

Related Commands **config qos protocol-type**

show reset

To display the scheduled system reset parameters, use the **show reset** command.

show reset

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the scheduled system reset parameters:

```
> show reset
System reset is scheduled for Mar 27 01 :01 :01 2010
Current local time and date is Mar 24 02:57:44 2010
A trap will be generated 10 minutes before each scheduled system reset.
Use 'reset system cancel' to cancel the reset.
Configuration will be saved before the system reset.
```

Related Commands **reset system at**

reset system in

reset system cancel

reset system notify-time

show remote-lan

To display information about remote LAN configuration, use the **show remote-lan** command.

show remote-lan { **summary** | *remote-lan-id* }

Syntax Description

summary	Displays a summary of all remote LANs.
remote-lan-id	Remote LAN identifier.

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 all remote LANs:

```
(Cisco Controller) >show remote-lan summary
Number of Remote LANS.......................... 2
RLAN ID  RLAN Profile Name                     Status    Interface Name
-------  -----------------------------------  --------  --------------------
2        remote                               Disabled  management
8        test                                 Disabled  management
```

The following example shows configuration information about the remote LAN with the *remote-lan-id* 2:

```
(Cisco Controller) >show remote-lan 2
Remote LAN Identifier.......................... 2
Profile Name................................... remote
Status......................................... Disabled
MAC Filtering.................................. Disabled
AAA Policy Override............................ Disabled
Network Admission Control
  Radius-NAC State............................. Disabled
  SNMP-NAC State............................... Disabled
  Quarantine VLAN.............................. 0
Maximum number of Associated Clients.............. 0
Number of Active Clients....................... 0
Exclusionlist.................................. Disabled
Session Timeout................................ Infinity
CHD per Remote LAN............................. Enabled
Webauth DHCP exclusion......................... Disabled
Interface...................................... management
Remote LAN ACL................................. unconfigured
DHCP Server.................................... Default
DHCP Address Assignment Required............... Disabled
Static IP client tunneling..................... Disabled
Radius Servers
   Authentication.............................. Global Servers
   Accounting.................................. Global Servers
   Dynamic Interface........................... Disabled
Security
   Web Based Authentication.................... Enabled
        ACL..................................... Unconfigured
```

```
        Web Authentication server precedence:
        1..................................... local
        2..................................... radius
        3..................................... ldap
    Web-Passthrough.............................. Disabled
    Conditional Web Redirect..................... Disabled
    Splash-Page Web Redirect..................... Disabled
```

show route kernel

To display the kernel route cache information, use the **show route kernel** command.

show route kernel

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display the kernel route cache information:

```
> show route kernel
Iface  Destination  Gateway   Flags    RefCnt Use  Metric   Mask   MTU   Window   IRTT
dtl0    14010100    00000000  0001      0     0     0    FFFFFF00  0      0        0
dtl0    28282800    00000000  0001      0     0     0    FFFFFF00  0      0        0
dtl0    34010100    00000000  0001      0     0     0    FFFFFF00  0      0        0
eth0    02020200    00000000  0001      0     0     0    FFFFFF00  0      0        0
dtl0    33010100    00000000  0001      0     0     0    FFFFFF00  0      0        0
dtl0    0A010100    00000000  0001      0     0     0    FFFFFF00  0      0        0
dtl0    32010100    00000000  0001      0     0     0    FFFFFF00  0      0        0
dtl0    0A000000    0202020A  0003      0     0     0    FF000000  0      0        0
lo      7F000000    00000000  0001      0     0     0    FF000000  0      0        0
dtl0    00000000    0A010109  0003      0     0     0    00000000  0      0        0
```

Related Commands

clear ap

debug arp

show arp kernel

config route add

config route delete

show route summary

To display the routes assigned to the Cisco wireless LAN controller service port, use the **show route summary** command.

show route summary

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display all the configured routes:

```
> show route summary
Number of Routes............................. 1
Destination Network          Genmask              Gateway
-------------------    -------------------   -------------------
xxx.xxx.xxx.xxx        255.255.255.0         xxx.xxx.xxx.xxx
```

Related Commands **config route**

show rules

To display the active internal firewall rules, use the **show rules** command.

show rules

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 active internal firewall rules:

```
(Cisco Controller) > show rules
-----------------------------------------------------------
Rule ID.............: 3
Ref count...........: 0
Precedence..........: 99999999
Flags...............: 00000001 ( PASS )
Source IP range:
        (Local stack)
Destination IP range:
        (Local stack)
-----------------------------------------------------------
Rule ID.............: 25
Ref count...........: 0
Precedence..........: 99999999
Flags...............: 00000001 ( PASS )
Service Info
        Service name........: GDB
        Protocol............: 6
        Source port low.....: 0
        Source port high....: 0
        Dest port low.......: 1000
        Dest port high......: 1000
Source IP range:
```

```
IP High.............: 0.0.0.0
        Interface..........: ANY
Destination IP range:
        (Local stack)
-------------------------------------------------------
```

show run-config

To display a comprehensive view of the current Cisco wireless LANMobility Express controller configuration, use the **show run-config all** command.

show run-config {**all** | **commands**} [**no-ap** | **commands**]

Syntax Description

all	Shows all the commands under the show run-config.
no-ap	(Optional) Excludes access point configuration settings.
commands	(Optional) Displays a list of user-configured commands on

Command Default

None

Command History

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

Usage Guidelines

These commands have replaced the **show running-config** command.

Some WLAN 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 **show run-config all** command shows only values configured by the user. It does not show system-configured default values.

The following is a sample output of the **show run-config all** command:

```
(Cisco Controller) > show run-config all
Press Enter to continue...
System Inventory
Switch Description.............................. Cisco Controller
Machine Model...................................
Serial Number................................... FLS0923003B
Burned-in MAC Address........................... xx:xx:xx:xx:xx:xx
Crypto Accelerator 1............................ Absent
Crypto Accelerator 2............................ Absent
Power Supply 1.................................. Absent
Power Supply 2.................................. Present, OK
Press Enter to continue Or <Ctl Z> to abort...
```

show serial

To display the serial (console) port configuration, use the **show serial** command.

show serial

Syntax Description This command has no arguments or keywords.

Command Default The default values for Baud rate, Character, Flow Control, Stop Bits, Parity type of the port configuration are 9600, 8, off, 1, 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 EIA-232 parameters and the serial port inactivity timeout:

```
(Cisco Controller) > show serial
Serial Port Login Timeout (minutes)..... 45
Baud Rate............................... 9600
Character Size.......................... 8
Flow Control:........................... Disable
Stop Bits............................... 1
Parity Type:............................ none
```

show sessions

To display the console port login timeout and maximum number of simultaneous command-line interface (CLI) sessions, use the **show sessions** command.

show sessions

Syntax Description This command has no arguments or keywords.

Command Default 5 minutes, 5 sessions.

This example shows how to display the CLI session configuration setting:

```
> show sessions
CLI Login Timeout (minutes)..... 0
Maximum Number of CLI Sessions..... 5
```

The response indicates that the CLI sessions never time out and that the Cisco wireless LAN controller can host up to five simultaneous CLI sessions.

Related Commands **config sessions maxsessions**

config sessions timeout

show snmpcommunity

To display Simple Network Management Protocol (SNMP) community entries, use the **show snmpcommunity** command.

show snmpcommunity

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display SNMP community entries:

```
> show snmpcommunity
SNMP Community Name Client IP Address Client IP Mask    Access Mode Status
------------------- ----------------- ----------------- ----------- --------
public              0.0.0.0           0.0.0.0           Read Only   Enable
**********          0.0.0.0           0.0.0.0           Read/Write  Enable
```

Related Commands

config snmp community accessmode

config snmp community create

config snmp community delete

config snmp community ipaddr

config snmp community mode

config snmp syscontact

show snmpengineID

To display the SNMP engine ID, use the **show snmpengineID** command.

show snmpengineID

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the SNMP engine ID:

```
> show snmpengineID
SNMP EngineId... ffffffffffff
```

Related Commands

config snmp engineID

show snmptrap

To display Cisco wireless LAN controller Simple Network Management Protocol (SNMP) trap receivers and their status, use the **show snmptrap** command.

show snmptrap

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display SNMP trap receivers and their status:

```
> show snmptrap
SNMP Trap Receiver Name    IP Address        Status
-------------------------  ----------------- --------
xxx.xxx.xxx.xxx            xxx.xxx.xxx.xxx   Enable
```

show snmpv3user

To display Simple Network Management Protocol (SNMP) version 3 configuration, use the **show snmpv3user** command.

show snmpv3user

Syntax Description This command has no arguments or keywords.

Command Default None.

This example shows how to display SNMP version 3 configuration information:

```
> show snmpv3user
SNMP v3 username    AccessMode  Authentication Encryption
------------------- ----------- -------------- ----------
default              Read/Write  HMAC-SHA       CFB-AES
```

Related Commands **config snmp v3user create**

config snmp v3user delete

show snmpversion

To display which versions of Simple Network Management Protocol (SNMP) are enabled or disabled on your controller, use the **show snmpversion** command.

show snmpversion

Syntax Description This command has no arguments or keywords.

Command Default Enable.

This example shows how to display the SNMP v1/v2/v3 status:

```
> show snmpversion
SNMP v1  Mode..................................... Disable
SNMP v2c Mode..................................... Enable
SNMP v3  Mode..................................... Enable
```

Related Commands **config snmp version**

show spanningtree port

To display the Cisco wireless LAN controller spanning tree port configuration, use the **show spanningtree port** command.

show spanningtree port *port*

Syntax Description

port	Physical port number: • 1 through 4 on Cisco 2100 Series Wireless LAN Controller. • 1 or 2 on Cisco 4402 Series Wireless LAN Controller. • 1 through 4 on Cisco 4404 Series Wireless LAN Controller.

Command Default The default SPT configuration output values are 800C, Disabled, 802.1D, 128, 100, Auto.

Command History

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

Usage Guidelines When the a Cisco 4400 Series wireless LAN controller is configured for port redundancy, the Spanning Tree Protocol (STP) must be disabled for all ports on the Cisco 4400 Series Wireless LAN Controller. STP can remain enabled on the switch connected to the Cisco 4400 Series Wireless LAN Controller.

Note Some WLAN controllers do not support the spanning tree function.

The following example shows how to display spanning tree values on a per port basis:

```
(Cisco Controller) > show spanningtree port 3
STP Port ID..................................... 800C
STP Port State.................................. Disabled
STP Port Administrative Mode.................... 802.1D
STP Port Priority............................... 128
```

```
STP Port Path Cost..................... 100
STP Port Path Cost Mode................. Auto
```

show spanningtree switch

To display the Cisco wireless LAN controller network (DS port) spanning tree configuration, use the **show spanningtree switch** command.

show spanningtree switch

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

Some WLAN controllers do not support the spanning tree function.

The following example shows how to display spanning tree values on a per switch basis:

```
(Cisco Controller) > show spanningtree switch
STP Specification...................... IEEE 802.1D
STP Base MAC Address................... 00:0B:85:02:0D:20
Spanning Tree Algorithm................ Disable
STP Bridge Priority.................... 32768
STP Bridge Max. Age (seconds).......... 20
STP Bridge Hello Time (seconds)........ 2
STP Bridge Forward Delay (seconds)..... 15
```

show stats port

To display physical port receive and transmit statistics, use the **show stats port** command.

show stats port {**detailed** *port* | **summary** *port*}

Syntax Description

detailed	Displays detailed port statistics.
summary	Displays port summary statistics.

port	Physical port number: • 1 through 4 on Cisco 2100 Series Wireless LAN Controllers. • 1 or 2 on Cisco 4402 Series Wireless LAN Controllers. • 1 through 4 on Cisco 4404 Series Wireless LAN Controllers. • 1 on Cisco WLCM Series Wireless LAN Controllers.

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 port summary information:

```
(Cisco Controller) > show stats port summary
Packets Received Without Error..................... 399958
Packets Received With Error........................ 0
Broadcast Packets Received......................... 8350
Packets Transmitted Without Error.................. 106060
Transmit Packets Errors............................ 0
Collisions Frames.................................. 0
Time Since Counters Last Cleared.............. 2 day 11 hr 16 min 23 sec
```

The following example shows how to display the detailed port information:

```
(Cisco Controller) > show stats port detailed 1
PACKETS RECEIVED (OCTETS)
Total Bytes....................................... 267799881
64 byte pkts        :918281
65-127 byte pkts    :354016         128-255 byte pkts   :1283092
256-511 byte pkts   :8406           512-1023 byte pkts  :3006
1024-1518 byte pkts :1184           1519-1530 byte pkts :0
> 1530 byte pkts    :2
PACKETS RECEIVED SUCCESSFULLY
Total............................................. 2567987
Unicast Pkts  :2547844      Multicast Pkts:0         Broadcast Pkts:20143
PACKETS RECEIVED WITH MAC ERRORS
Total............................................. 0
Jabbers   :0              Undersize :0              Alignment :0
FCS Errors:0              Overruns  :0
RECEIVED PACKETS NOT FORWARDED
```

```
Total..................................... 0
Local Traffic Frames:0              RX Pause Frames     :0
Unacceptable Frames :0              VLAN Membership     :0
VLAN Viable Discards:0              MulticastTree Viable:0
ReserveAddr Discards:0
CFI Discards        :0              Upstream Threshold  :0
PACKETS TRANSMITTED (OCTETS)
Total Bytes.............................. 353831
64 byte pkts        :0              65-127 byte pkts    :0
128-255 byte pkts   :0              256-511 byte pkts   :0
512-1023 byte pkts  :0              1024-1518 byte pkts :2
1519-1530 byte pkts :0              Max Info            :1522
PACKETS TRANSMITTED SUCCESSFULLY
Total..................................... 5875
Unicast Pkts  :5868          Multicast Pkts:0          Broadcast Pkts:7
TRANSMIT ERRORS
Total Errors............................. 0
FCS Error     :0           TX Oversized  :0           Underrun Error:0
TRANSMIT DISCARDS
Total Discards........................... 0
Single Coll Frames  :0              Multiple Coll Frames:0
Excessive Coll Frame:0              Port Membership     :0
VLAN Viable Discards:0
PROTOCOL STATISTICS
BPDUs Received      :6              BPDUs Transmitted   :0
802.3x RX PauseFrame:0
Time Since Counters Last Cleared.............. 2 day 0 hr 39 min 59 sec
```

show stats switch

To display the network (DS port) receive and transmit statistics, use the **show stats switch** command.

show stats switch {**detailed** | **summary**}

Syntax Description

detailed	Displays detailed switch statistics.
summary	Displays switch summary 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 shows how to display switch summary statistics:

```
(Cisco Controller) > show stats switch summary
Packets Received Without Error................. 136410
```

```
Broadcast Packets Received..................... 18805
Packets Received With Error.................... 0
Packets Transmitted Without Error.............. 78002
Broadcast Packets Transmitted.................. 3340
Transmit Packet Errors......................... 2
Address Entries Currently In Use............... 26
VLAN Entries Currently In Use.................. 1
Time Since Counters Last Cleared.............. 2 day 11 hr 22 min 17 sec
```

The following example shows how to display detailed switch statistics:

```
(Cisco Controller) > show stats switch detailed
RECEIVE
Octets......................................... 19351718
Total Pkts..................................... 183468
Unicast Pkts................................... 180230
Multicast Pkts................................. 3219
Broadcast Pkts................................. 19
Pkts Discarded................................. 0
TRANSMIT
Octets......................................... 354251
Total Pkts..................................... 5882
Unicast Pkts................................... 5875
Multicast Pkts................................. 0
Broadcast Pkts................................. 7
Pkts Discarded................................. 0
ADDRESS ENTRIES
Most Ever Used................................. 1
Currently In Use............................... 1
VLAN ENTRIES
Maximum....................................... 128
Most Ever Used................................. 1
Static In Use.................................. 1
Dynamic In Use................................. 0
VLANs Deleted.................................. 0
Time Since Ctrs Last Cleared.................... 2 day 0 hr 43 min 22
sec
```

show switchconfig

To display parameters that apply to the Cisco wireless LAN controller, use the **show switchconfig** command.

show switchconfig

Syntax Description This command has no arguments or keywords.

Command Default Enabled.

Command History

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

This example shows how to display parameters that apply to the Cisco wireless LAN controller:

```
(Cisco Controller) >> show switchconfig
802.3x Flow Control Mode..................... Disabled
FIPS prerequisite features................... Enabled
Boot Break................................... Enabled
secret obfuscation........................... Enabled
Strong Password Check Features:
         case-check ...........Disabled
         consecutive-check ....Disabled
         default-check .......Disabled
         username-check ......Disabled
```

Related Commands

config switchconfig mode

config switchconfig secret-obfuscation

config switchconfig strong-pwd

config switchconfig flowcontrol

config switchconfig fips-prerequisite

show stats switch

show sysinfo

To see high-level controller information, use the **show sysinfo** command.

Note This command output shows the burned-in MAC address.

show sysinfo

Syntax Description

This command has no arguments or keywords.

Command Default

None

This example shows a sample output of the command run on Cisco 8540 Wireless Controller using Release 8.3:

```
 (Cisco Controller) >show sysinfo

Manufacturer's Name.............................. Cisco Systems Inc.
Product Name..................................... Cisco Controller
Product Version.................................. 8.3.100.0
RTOS Version..................................... 8.3.100.0
Bootloader Version............................... 8.0.110.0
Emergency Image Version.......................... 8.0.110.0
```

```
OUI File Last Update Time..................... Sun Sep 07 10:44:07 IST 2014


Build Type.................................... DATA + WPS

System Name................................... TestSpartan8500Dev1
System Location...............................
System Contact................................
System ObjectID............................... 1.3.6.1.4.1.9.1.1615
Redundancy Mode............................... Disabled
IP Address.................................... 8.1.4.2
IPv6 Address.................................. ::
System Up Time................................ 0 days 17 hrs 20 mins 58 secs

--More-- or (q)uit
System Timezone Location.....................
System Stats Realtime Interval................ 5
System Stats Normal Interval.................. 180

Configured Country............................ Multiple Countries : IN,US
Operating Environment......................... Commercial (10 to 35 C)
Internal Temp Alarm Limits.................... 10 to 38 C
Internal Temperature.......................... +21 C
Fan Status.................................... OK

RAID Volume Status
Drive 0....................................... Good
Drive 1....................................... Good

State of 802.11b Network...................... Enabled
State of 802.11a Network...................... Enabled
Number of WLANs............................... 7
Number of Active Clients...................... 1

OUI Classification Failure Count.............. 0

Burned-in MAC Address......................... F4:CF:E2:0A:27:00
Power Supply 1................................ Present, OK

--More-- or (q)uit
Power Supply 2................................ Present, OK
Maximum number of APs supported.............. 6000
System Nas-Id.................................
WLC MIC Certificate Types..................... SHA1/SHA2
Licensing Type................................ RTU
```

show tech-support

To display Cisco wireless LAN controller variables frequently requested by Cisco Technical Assistance Center (TAC), use the **show tech-support** command.

show tech-support

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display system resource information:

```
> show tech-support
Current CPU Load..............................  0%
System Buffers
   Max Free Buffers...........................  4608
   Free Buffers...............................  4604
   Buffers In Use.............................  4
Web Server Resources
   Descriptors Allocated......................  152
   Descriptors Used...........................  3
   Segments Allocated.........................  152
   Segments Used..............................  3
System Resources
   Uptime.....................................  747040 Secs
   Total Ram..................................  127552 Kbytes
   Free Ram...................................  19540 Kbytes
   Shared Ram.................................  0 Kbytes
   Buffer Ram.................................  460 Kbytes
```

show time

To display the Cisco wireless LAN controller time and date, use the **show time** command.

show time

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display the controller time and date when authentication is not enabled:

```
> show time
Time..........................................  Wed Apr 13 09:29:15 2011
Timezone delta................................  0:0
Timezone location.............................  (GMT +5:30) Colombo, New Delhi, Chennai, Kolkata
NTP Servers
    NTP Polling Interval.....................      3600
     Index     NTP Key Index     NTP Server      NTP Msg Auth Status
    -------  ------------------------------------------------------------
       1              0           9.2.60.60       AUTH DISABLED
```

This example shows successful authentication of NTP Message results in the AUTH Success:

```
> show time
Time..........................................  Thu Apr  7 13:56:37 2011
Timezone delta................................  0:0
Timezone location.............................  (GMT +5:30) Colombo, New Delhi, Chennai, Kolkata
NTP Servers
    NTP Polling Interval.....................      3600
     Index     NTP Key Index     NTP Server      NTP Msg Auth Status
    -------  ------------------------------------------------------------
       1              1           9.2.60.60       AUTH SUCCESS
```

This example shows that if the packet received has errors, then the NTP Msg Auth status will show AUTH Failure:

```
> show time
Time..................................... Thu Apr  7 13:56:37 2011
Timezone delta........................... 0:0
Timezone location........................ (GMT +5:30) Colombo, New Delhi, Chennai, Kolkata
NTP Servers
    NTP Polling Interval.....................     3600
     Index     NTP Key Index     NTP Server      NTP Msg Auth Status
    -------  ------------------------------------------------------------
       1              10           9.2.60.60       AUTH FAILURE
```

This example shows that if there is no response from NTP server for the packets, the NTP Msg Auth status will be blank:

```
> show time
Time..................................... Thu Apr  7 13:56:37 2011
Timezone delta........................... 0:0
Timezone location........................ (GMT +5:30) Colombo, New Delhi, Chennai,
 Kolkata
NTP Servers
    NTP Polling Interval.....................     3600
     Index     NTP Key Index     NTP Server      NTP Msg Auth Status
    -------  ------------------------------------------------------------
       1              11           9.2.60.60
```

Related Commands

config time manual

config time ntp

config time timezone

config time timezone location

show trapflags

To display the Cisco wireless LAN controller Simple Network Management Protocol (SNMP) trap flags, use the **show trapflags** command.

show trapflags

Syntax Description

This command has no arguments or keywords.

Command Default

None.

This example shows how to display controller SNMP trap flags:

```
> show trapflags
Authentication Flag.......................... Enable
Link Up/Down Flag............................ Enable
Multiple Users Flag.......................... Enable
Spanning Tree Flag........................... Enable
Client Related Traps
        802.11 Disassociation..................... Disable
        802.11 Association.........................Disabled
        802.11 Deauthenticate..................... Disable
        802.11 Authenticate Failure............... Disable
        802.11 Association Failure................ Disable
        Authentication.............................Disabled
```

```
        Excluded..................................... Disable
        Max Client Warning Threshold................. 90%
       Nac-Alert Traps.............................. Disabled
       RFID Related Traps
        Max RFIDs Warning Threshold..................... 90%

802.11 Security related traps
        WEP Decrypt Error............................ Enable
        IDS Signature Attack......................... Disable

Cisco AP
        Register..................................... Enable
        InterfaceUp.................................. Enable
Auto-RF Profiles
        Load......................................... Enable
        Noise........................................ Enable
        Interference................................. Enable
        Coverage..................................... Enable
Auto-RF Thresholds
        tx-power..................................... Enable
        channel...................................... Enable
        antenna...................................... Enable
AAA
        auth......................................... Enable
        servers...................................... Enable
rogueap..................................... Enable
adjchannel-rogueap.............................. Disabled
wps......................................... Enable
configsave.................................. Enable
IP Security
        esp-auth..................................... Enable
        esp-replay................................... Enable
        invalidSPI................................... Enable
        ike-neg...................................... Enable
        suite-neg.................................... Enable
        invalid-cookie............................... Enable
Mesh
        auth failure................................. Enabled
        child excluded parent........................ Enabled
        parent change................................ Enabled
        child moved.................................. Enabled
        excessive parent change...................... Enabled
        onset SNR.................................... Enabled
        abate SNR.................................... Enabled
        console login................................ Enabled
        excessive association........................ Enabled
        default bridge group name.................... Enabled
        excessive hop count.......................... Disabled
        excessive children........................... Enabled
        sec backhaul change.......................... Disabled
```

Related Commands

config trapflags 802.11-Security

config trapflags aaa

config trapflags ap

config trapflags authentication

config trapflags client

config trapflags configsave

config trapflags IPsec

config trapflags linkmode

show traplog

To display the Cisco wireless LAN controller Simple Network Management Protocol (SNMP) trap log, use the **show traplog** command.

show traplog

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 traplog** command:

```
(Cisco Controller) > show traplog
Number of Traps Since Last Reset..... 2447
Number of Traps Since Log Last Displayed... 2447
Log System Time              Trap
--- ------------------------ ------------------------------------------------
  0 Thu Aug  4 19:54:14 2005 Rogue AP : 00:0b:85:52:62:fe detected on Base Rad
                             io MAC : 00:0b:85:18:b6:50  Interface no:1(802.11
                             b/g) with RSSI: -78 and SNR: 10
  1 Thu Aug  4 19:54:14 2005 Rogue AP : 00:0b:85:52:19:d8 detected on Base Rad
                             io MAC : 00:0b:85:18:b6:50  Interface no:1(802.11
                             b/g) with RSSI: -72 and SNR: 16
  2 Thu Aug  4 19:54:14 2005 Rogue AP : 00:0b:85:26:a1:8d detected on Base Rad
                             io MAC : 00:0b:85:18:b6:50  Interface no:1(802.11
                             b/g) with RSSI: -82 and SNR: 6
  3 Thu Aug  4 19:54:14 2005 Rogue AP : 00:0b:85:14:b3:4f detected on Base Rad
                             io MAC : 00:0b:85:18:b6:50  Interface no:1(802.11
                             b/g) with RSSI: -56 and SNR: 30
Would you like to display more entries? (y/n)
```

show version

To display access point's software information, use the **show version** command.

show version

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

You can only use this command from the access point console port when not connected to a controller.

The following example shows how to display the access point version number:

```
AP# show version
```

show watchlist

To display the client watchlist, use the **show watchlist** command.

show watchlist

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 client watchlist information:

```
(Cisco Controller) >show watchlist
client watchlist state is disabled
```

show wlan

To display configuration information for a specified wireless LAN or a foreign access point, or to display wireless LAN summary information, use the **show wlan** command.

show wlan { **apgroups** | **summary** | *wlan_id* | **foreignAp** | **lobby-admin-access**}

Syntax Description

apgroups	Displays access point group information.
summary	Displays a summary of all wireless LANs.
wlan_id	Displays the configuration of a WLAN. The Wireless LAN identi to 512.
foreignAp	Displays the configuration for support of foreign access points.

lobby-admin-access	Display all wlans that have lobby-admin-access enabled.

Command Default

None

Usage Guidelines

For 802.1X client security type, which creates the PMK cache, the maximum session timeout that can be set is 86400 seconds when the session timeout is disabled. For other client security such as open, WebAuth, and PSK for which the PMK cache is not created, the session timeout value is shown as infinite when session timeout is disabled.

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.
8.4	Shows WLANs which have lobby-admin-access enabled.

The following example shows how to display a summary of wireless LANs for wlan_id 1:

```
(Cisco Controller) >show wlan 1
WLAN Identifier.................................. 1
Profile Name..................................... aicha
Network Name (SSID).............................. aicha
Status........................................... Enabled
MAC Filtering.................................... Disabled
Broadcast SSID................................... Enabled
AAA Policy Override.............................. Disabled
Network Admission Control
   RADIUS Profiling Status ..................... Disabled
   DHCP ........................................ Disabled
   HTTP ........................................ Disabled
Client Profiling Status ..................... Disabled
   DHCP ........................................ Disabled
   HTTP ........................................ Disabled
   Radius-NAC State............................. Enabled
   SNMP-NAC State............................... Enabled
Quarantine VLAN.............................. 0
Maximum number of Associated Clients.............. 0
Maximum number of Clients per AP Radio........... 200
Number of Active Clients......................... 0
Exclusionlist Timeout............................ 60 seconds
Session Timeout.................................. 1800 seconds
User Idle Timeout................................ 300 seconds
User Idle Threshold.............................. 0 Bytes
NAS-identifier................................... Talwar1
CHD per WLAN..................................... Enabled
Webauth DHCP exclusion........................... Disabled
Interface........................................ management
Multicast Interface.............................. Not Configured
WLAN IPv4 ACL.................................... unconfigured
WLAN IPv6 ACL.................................... unconfigured
mDNS Status...................................... Disabled
mDNS Profile Name................................ unconfigured
DHCP Server...................................... Default
DHCP Address Assignment Required................. Disabled
Static IP client tunneling....................... Enabled
PMIPv6 Mobility Type............................. none
Quality of Service............................... Silver (best effort)
Per-SSID Rate Limits............................. Upstream      Downstream
Average Data Rate................................   0             0
Average Realtime Data Rate.......................   0             0
```

```
Burst Data Rate.................................   0             0
Burst Realtime Data Rate........................   0             0
Per-Client Rate Limits.......................... Upstream      Downstream
Average Data Rate...............................   0             0
Average Realtime Data Rate......................   0             0
Burst Data Rate.................................   0             0
Burst Realtime Data Rate........................   0             0
Scan Defer Priority.............................. 4,5,6
Scan Defer Time.................................. 100 milliseconds
WMM.............................................. Allowed
WMM UAPSD Compliant Client Support............... Disabled
Media Stream Multicast-direct.................... Disabled
CCX - AironetIe Support.......................... Enabled
CCX - Gratuitous ProbeResponse (GPR)............. Disabled
CCX - Diagnostics Channel Capability............. Disabled
Dot11-Phone Mode (7920).......................... Disabled
Wired Protocol................................... None
Passive Client Feature........................... Disabled
IPv6 Support..................................... Disabled
Peer-to-Peer Blocking Action..................... Disabled
Radio Policy..................................... All
DTIM period for 802.11a radio.................... 1
DTIM period for 802.11b radio.................... 1
Radius Servers
   Authentication................................ Global Servers
   Accounting.................................... Global Servers
   Interim Update............................... Disabled
   Dynamic Interface............................. Disabled
Local EAP Authentication......................... Enabled (Profile 'Controller_Local_EAP')
Radius NAI-Realm................................. Enabled
Security
   802.11 Authentication:........................ Open System
    FT Support.................................... Disabled
   Static WEP Keys............................... Disabled
   802.1X........................................ Disabled
   Wi-Fi Protected Access (WPA/WPA2)............. Enabled
      WPA (SSN IE)............................... Enabled
         TKIP Cipher............................. Disabled
         AES Cipher.............................. Enabled
      WPA2 (RSN IE)............................... Enabled
         TKIP Cipher............................. Disabled
         AES Cipher.............................. Enabled
Auth Key Management
         802.1x.................................. Enabled
         PSK..................................... Disabled
         CCKM.................................... Enabled
         FT(802.11r)............................. Disabled
         FT-PSK(802.11r)......................... Disabled
         PMF-1X(802.11w)......................... Enabled
         PMF-PSK(802.11w)........................ Disabled
FT Reassociation Timeout......................... 20
FT Over-The-Air mode............................. Enabled
FT Over-The-Ds mode.............................. Enabled
      GTK Randomization.......................... Disabled
      SKC Cache Support.......................... Disabled
      CCKM TSF Tolerance......................... 1000
   Wi-Fi Direct policy configured................ Disabled
   EAP-Passthrough............................... Disabled
CKIP ..................................... Disabled
   IP Security................................... Disabled
   IP Security Passthru.......................... Disabled
   Web Based Authentication...................... Disabled
   Web-Passthrough............................... Disabled
   Conditional Web Redirect...................... Disabled
```

```
   Splash-Page Web Redirect..................... Disabled
   Auto Anchor.................................. Disabled
   FlexConnect Local Switching.................. Enabled
   flexconnect Central Dhcp Flag................ Disabled
   flexconnect nat-pat Flag..................... Disabled
   flexconnect Dns Override Flag................ Disabled
   FlexConnect Vlan based Central Switching ..... Disabled
   FlexConnect Local Authentication............. Disabled
   FlexConnect Learn IP Address................. Enabled
   Client MFP................................... Optional
   PMF.......................................... Disabled
   PMF Association Comeback Time................ 1
   PMF SA Query RetryTimeout.................... 200
   Tkip MIC Countermeasure Hold-down Timer..... 60
Call Snooping................................... Disabled
Roamed Call Re-Anchor Policy.................... Disabled
SIP CAC Fail Send-486-Busy Policy............... Enabled
SIP CAC Fail Send Dis-Association Policy........ Disabled
KTS based CAC Policy............................ Disabled
Band Select..................................... Disabled
Load Balancing.................................. Disabled
 Mobility Anchor List
 WLAN ID     IP Address            Status
 -------     ---------------       ------
802.11u.......................................... Enabled
  Network Access type........................... Chargeable Public Network
  Internet service.............................. Enabled
  Network Authentication type................... Not Applicable
  HESSID........................................ 00:00:00:00:00:00
  IP Address Type Configuration
    IPv4 Address type...........................  Available
    IPv6 Address type...........................  Not Known

  Roaming Consortium List
    Index       OUI List     In Beacon
    -----   --------------   ---------
      1         313131       Yes
      2         DDBBCC       No
      3         DDDDDD       Yes
 Realm configuration summary
    Realm index.................................. 1
    Realm name................................... jobin
      EAP index.................................. 1
      EAP method................................. Unsupported
    Index   Inner Authentication           Authentication Method
    -----   --------------------           ---------------------
        1               Credential Type                   SIM
        2   Tunneled Eap Credential Type                  SIM
        3               Credential Type                   SIM
        4               Credential Type                  USIM
        5               Credential Type        Hardware Token
        6               Credential Type             SoftToken
  Domain name configuration summary
    Index  Domain name
    -------------------
        1   rom3
        2   ram
        3   rom1

Hotspot 2.0...................................... Enabled

  Operator name configuration summary
    Index   Language   Operator name
    -----   --------   -------------
```

```
        1        ros   Robin

  Port config summary
 Index   IP protocol   Port number   Status
    -----   -----------   -----------   -------
        1             1             0    Closed
        2             1             0    Closed
        3             1             0    Closed
        4             1             0    Closed
        5             1             0    Closed
        6             1             0    Closed
        7             1             0    Closed
 WAN Metrics Info
    Link status.................................. Up
    Symmetric Link............................... No
    Downlink speed............................... 4 kbps
    Uplink speed................................. 4 kbps

MSAP Services................................... Disabled
Local Policy
----------------
Priority  Policy Name
--------  ---------------
   1        Teacher_access_policy
```

The following example shows how to display a summary of all WLANs:

```
(Cisco Controller) >show wlan summary
Number of WLANs................................. 1

WLAN ID  WLAN Profile Name / SSID               Status    Interface Name        PMIPv6
Mobility
-------  -------------------------------------  --------  --------------------
---------------
1        apsso / apsso                          Disabled  management            none
```

The following example shows how to display the configuration for support of foreign access points:

```
(Cisco Controller) >show wlan foreignap
Foreign AP support is not enabled.
```

The following example shows how to display the AP groups:

```
(Cisco Controller) >show wlan apgroups
Total Number of AP Groups..................... 1
Site Name..................................... APuser
Site Description.............................. <none>
Venue Name.................................... Not configured
Venue Group Code.............................Unspecified
Venue Type Code.............................Unspecified
Language Code................................. Not configured
AP Operating Class............................ 83,84,112,113,115,116,117,118,123
RF Profile
----------
2.4 GHz band.................................. <none>
5 GHz band.................................... <none>
WLAN ID          Interface          Network Admission Control          Radio Policy
-------          -----------        --------------------------         ------------
 14              int_4                Disabled                          All
AP Name             Slots  AP Model             Ethernet MAC       Location          Port
```

```
 Country  Priority
------------------  -----  -------------------  -----------------  ----------------  ----
 -------  --------
Ibiza                2     AIR-CAP2602I-A-K9    44:2b:03:9a:8a:73  default location  1
 US       1
Larch                2     AIR-CAP3502E-A-K9    f8:66:f2:ab:23:95  default location  1
 US       1

Zest                 2     AIR-CAP3502I-A-K9    00:22:90:91:6d:b6               ren  1
 US       1

Number of Clients.............................. 1

MAC Address       AP Name          Status        Device Type
----------------- ---------- ------------- -----------------

24:77:03:89:9b:f8      ap2       Associated      Android
```