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config known ap

To configure a known Cisco lightweight access point, use the **config known ap** command.

```
config known ap {add | alert | delete} MAC
```

| Syntax Description | add | Alerts |
|--------------------|--------------------------------------|--------------------------------------------------------------------|
| | Adds a new known access point entry. | Generates a trap upon detection of the access point. |
| | delete | Deletes an existing known access point entry. |
| | MAC | MAC address of the known 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 add a new access point entry ac:10:02:72:2f:bf on a known access point:

```
(Cisco Controller) >config known ap add ac:10:02:72:2f:bf 12
```

config lag

To enable or disable link aggregation (LAG), use the **config lag** command.

config lag { **enable** | **disable** }

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables the link aggregation (LAG) settings. |
| | disable | Disables the link aggregation (LAG) settings. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable LAG settings:

```
(Cisco Controller) > config lag enable
Enabling LAG will map your current interfaces setting to LAG interface,
All dynamic AP Manager interfaces and Untagged interfaces will be deleted
All WLANs will be disabled and mapped to Mgmt interface
Are you sure you want to continue? (y/n)
You must now reboot for the settings to take effect.
```

The following example shows how to disable LAG settings:

```
(Cisco Controller) > config lag disable
Disabling LAG will map all existing interfaces to port 1.
Are you sure you want to continue? (y/n)
You must now reboot for the settings to take effect.
```


config ldap

To configure the Lightweight Directory Access Protocol (LDAP) server settings, use the **config ldap** command.

```
config ldap {add | delete | enable | disable | retransmit-timeout | retry | user |
security-mode | simple-bind} index
```

```
config ldap add index server_ip_address port user_base user_attr user_type [ secure]
```

```
config ldap retransmit-timeout index retransmit-timeout
```

```
config ldap retry attempts
```

```
config ldap user {attr index user-attr | base index user-base | typeindex user-type}
```

```
config ldap security-mode {enable | disable} index
```

```
config ldap simple-bind {anonymous index | authenticated index username password}
```

Syntax Description

| | |
|---------------------------|----------------------------------------------------------------------------------------|
| add | Specifies that an LDAP server is being added. |
| delete | Specifies that an LDAP server is being deleted. |
| enable | Specifies that an LDAP server is enabled. |
| disable | Specifies that an LDAP server is disabled. |
| retransmit-timeout | Changes the default retransmit timeout for an LDAP server. |
| retry | Configures the retry attempts for an LDAP server. |
| user | Configures the user search parameters. |
| security-mode | Configures the security mode. |
| simple-bind | Configures the local authentication bind method. |
| anonymous | Allows anonymous access to the LDAP server. |
| authenticated | Specifies that a username and password be entered to secure access to the LDAP server. |
| <i>index</i> | LDAP server index. The range is from 1 to 17. |
| <i>server_ip_address</i> | IP address of the LDAP server. |
| <i>port</i> | Port number. |
| <i>user_base</i> | Distinguished name for the subtree that contains all of the users. |

| | |
|---------------------------|-------------------------------------------------------------------------------|
| <i>user_attr</i> | Attribute that contains the username. |
| <i>user_type</i> | ObjectType that identifies the user. |
| secure | (Optional) Specifies that Transport Layer Security (TLS) is used. |
| <i>retransmit-timeout</i> | Retransmit timeout for an LDAP server. The range is from 2 to 30. |
| <i>attempts</i> | Number of attempts that each LDAP server is retried. |
| attr | Configures the attribute that contains the username. |
| base | Configures the distinguished name of the subtree that contains all the users. |
| type | Configures the user type. |
| <i>username</i> | Username for the authenticated bind method. |
| <i>password</i> | Password for the authenticated bind method. |

Command Default None

| Command History | Release | Modification |
|------------------------|----------------|--------------------------------------------------------------------|
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| | 7.6 | The secure keyword was added to support secure LDAP. |

Usage Guidelines When you enable secure LDAP, the controller does not validate the server certificate.

The following example shows how to enable LDAP server index 10:

```
(Cisco Controller) > config ldap enable 10
```

Related Commands

- config ldap add**
- config ldap simple-bind**
- show ldap summary**

config local-auth active-timeout

To specify the amount of time in which the controller attempts to authenticate wireless clients using local Extensible Authentication Protocol (EAP) after any pair of configured RADIUS servers fails, use the **config local-auth active-timeout** command.

config local-auth active-timeout *timeout*

| | | |
|---------------------------|-------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | <i>timeout</i> | Timeout measured in seconds. The range is from 1 to 3600. |
| Command Default | The default timeout value is 100 seconds. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to specify the active timeout to authenticate wireless clients using EAP to 500 seconds:

```
(Cisco Controller) > config local-auth active-timeout 500
```

| | |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Related Commands | clear stats local-auth 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 config show local-auth statistics |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

config local-auth eap-profile

To configure local Extensible Authentication Protocol (EAP) authentication profiles, use the **config local-auth eap-profile** command.

```
config local-auth eap-profile { [add | delete] profile_name | cert-issuer {cisco | vendor} | method method local-cert {enable | disable} profile_name | method method client-cert {enable | disable} profile_name | method method peer-verify ca-issuer {enable | disable} | method method peer-verify cn-verify {enable | disable} | method method peer-verify date-valid {enable | disable}
```

| Syntax Description | |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| add | (Optional) Specifies that an EAP profile or method is being added. |
| delete | (Optional) Specifies that an EAP profile or method is being deleted. |
| <i>profile_name</i> | EAP profile name (up to 63 alphanumeric characters). Do not include spaces within a profile name. |
| cert-issuer | (For use with EAP-TLS, PEAP, or EAP-FAST with certificates) Specifies the issuer of the certificates that will be sent to the client. The supported certificate issuers are Cisco or a third-party vendor. |
| cisco | Specifies the Cisco certificate issuer. |
| vendor | Specifies the third-party vendor. |
| method | Configures an EAP profile method. |
| <i>method</i> | EAP profile method name. The supported methods are leap, fast, tls, and peap. |
| local-cert | (For use with EAP-FAST) Specifies whether the device certificate on the controller is required for authentication. |
| enable | Specifies that the parameter is enabled. |
| disable | Specifies that the parameter is disabled. |
| client-cert | (For use with EAP-FAST) Specifies whether wireless clients are required to send their device certificates to the controller in order to authenticate. |
| peer-verify | Configures the peer certificate verification options. |
| ca-issuer | (For use with EAP-TLS or EAP-FAST with certificates) Specifies whether the incoming certificate from the client is to be validated against the Certificate Authority (CA) certificates on the controller. |

| | |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cn-verify | (For use with EAP-TLS or EAP-FAST with certificates) Specifies whether the common name (CN) in the incoming certificate is to be validated against the CA certificates' CN on the controller. |
| date-valid | (For use with EAP-TLS or EAP-FAST with certificates) Specifies whether the controller is to verify that the incoming device certificate is still valid and has not expired. |

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 create a local EAP profile named FAST01:

```
(Cisco Controller) > config local-auth eap-profile add FAST01
```

The following example shows how to add the EAP-FAST method to a local EAP profile:

```
(Cisco Controller) > config local-auth eap-profile method add fast FAST01
```

The following example shows how to specify Cisco as the issuer of the certificates that will be sent to the client for an EAP-FAST profile:

```
(Cisco Controller) > config local-auth eap-profile method fast cert-issuer cisco
```

The following example shows how to specify that the incoming certificate from the client be validated against the CA certificates on the controller:

```
(Cisco Controller) > config local-auth eap-profile method fast peer-verify ca-issuer enable
```

Related Commands

config local-auth active-timeout
config local-auth method fast
config local-auth user-credentials
debug aaa local-auth
show local-auth certificates
show local-auth config
show local-auth statistics

config local-auth method fast

To configure an EAP-FAST profile, use the **config local-auth method fast** command.

```
config local-auth method fast { anon-prov [enable | disable] | authority-id auth_id pac-ttl days
| server-key key_value }
```

| Syntax Description | | |
|------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| anon-prov | | Configures the controller to allow anonymous provisioning, which allows PACs to be sent automatically to clients that do not have one during Protected Access Credentials (PAC) provisioning. |
| enable | | (Optional) Specifies that the parameter is enabled. |
| disable | | (Optional) Specifies that the parameter is disabled. |
| authority-id | | Configures the authority identifier of the local EAP-FAST server. |
| <i>auth_id</i> | | Authority identifier of the local EAP-FAST server (2 to 32 hexadecimal digits). |
| pac-ttl | | Configures the number of days for the Protected Access Credentials (PAC) to remain viable (also known as the time-to-live [TTL] value). |
| <i>days</i> | | Time-to-live value (TTL) value (1 to 1000 days). |
| server-key | | Configures the server key to encrypt or decrypt PACs. |
| <i>key_value</i> | | Encryption key value (2 to 32 hexadecimal digits). |
| 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 disable the controller to allows anonymous provisioning:

```
(Cisco Controller) > config local-auth method fast anon-prov disable
```

The following example shows how to configure the authority identifier 0125631177 of the local EAP-FAST server:

```
(Cisco Controller) > config local-auth method fast authority-id 0125631177
```

The following example shows how to configure the number of days to 10 for the PAC to remain viable:

```
(Cisco Controller) > config local-auth method fast pac-ttl 10
```

Related Commands

clear stats local-auth
config local-auth eap-profile
config local-auth active-timeout
config local-auth user-credentials
debug aaa local-auth
show local-auth certificates
show local-auth config
show local-auth statistics

config local-auth user-credentials

To configure the local Extensible Authentication Protocol (EAP) authentication database search order for user credentials, use the **config local-auth user credentials** command.

```
config local-auth user-credentials {local [ldap] | ldap [local] }
```

| | | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | local | Specifies that the local database is searched for the user credentials. |
| | ldap | (Optional) Specifies that the Lightweight Directory Access Protocol (LDAP) database is searched for the user credentials. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | <p>The order of the specified database parameters indicate the database search order.</p> <p>The following example shows how to specify the order in which the local EAP authentication database is searched:</p> <pre>(Cisco Controller) > config local-auth user credentials local lda</pre> <p>In the above example, the local database is searched first and then the LDAP database.</p> | |

| | |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Related Commands | <ul style="list-style-type: none"> clear stats local-auth config local-auth eap-profile config local-auth method fast config local-auth active-timeout debug aaa local-auth show local-auth certificates show local-auth config show local-auth statistics |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

config lync-sdn

To configure the Lync service, use the **config lync-sdn** command.

```
config lync-sdn {port port-number} | {enable | disable}
```

| Syntax Description | port | Configures the Lync server port number. |
|--------------------|--------------------|-----------------------------------------|
| | <i>port-number</i> | Port number of the server. |
| | enable | Enables Lync service globally. |
| | disable | Disables Lync service globally. |
| Command Default | None | |
| Command History | Release | Modification |
| | 8.1 | This command was introduced. |

The following example shows how to enable Lync service globally:

```
(Cisco Controller) >config lync-sdn enable
```

config licensing

To switch between Cisco Smart Software Licensing and RTU licensing platform, use the **config licensing** command.

```
config licensing { rtu | smart-license } dns-server ip address
```

| Syntax Description | | |
|--------------------|----------------------|-----------------------------------------------------------|
| | rtu | Right To Use license platform. |
| | smart-license | Cisco Smart Software License platform. |
| | dns-server | Configures smart software licensing dns server parameters |

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.2 | This command was introduced. |

Command Default The Right To Use (RTU) is the default license mechanism in the device.

The following example shows how to activate Cisco Smart Software License on the controller:

```
(Cisco Controller) > config licensing smart-license dns-server 209.165.200.224
```



Note The controller needs to be rebooted to activate the change in the license platform.

config license boot

To specify the license level to be used on the next reboot of the Cisco 5500 Series Controller, use the **config license boot** command.

```
config license boot {base | wplus | auto}
```

| Syntax Description | | |
|--------------------|--------------|---------------------------------|
| | base | Specifies the base boot level. |
| | wplus | Specifies the wplus boot level. |
| | auto | Specifies the auto boot level. |

Command Default None

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

Usage Guidelines If you enter **auto**, the licensing software automatically chooses the license level to use on the next reboot. It generally chooses permanent licenses over evaluation licenses and wplus licenses over base licenses.



Note If you are considering upgrading from a base license to a wplus license, you can try an evaluation wplus license before upgrading to a permanent wplus license. To activate the evaluation license, you need to set the image level to wplus in order for the controller to use the wplus evaluation license instead of the base permanent license.



Note To prevent disruptions in operation, the controller does not switch licenses when an evaluation license expires. You must reboot the controller in order to return to a permanent license. Following a reboot, the controller defaults to the same feature set level as the expired evaluation license. If no permanent license at the same feature set level is installed, the controller uses a permanent license at another level or an unexpired evaluation license.

The following example shows how to set the license boot settings to wplus:

```
(Cisco Controller) > config license boot wplus
```

Related Commands

- license install**
- show license in-use**
- license modify priority**

config load-balancing

To globally configure aggressive load balancing on the controller, use the **config load-balancing** command.

```
config load-balancing { window client_count | status { enable | disable } | denial denial_count }
```

```
config load-balancing uplink-threshold traffic_threshold
```

| Syntax Description | | |
|--------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| window | | Specifies the aggressive load balancing client window. |
| <i>client_count</i> | | Aggressive load balancing client window with the number of clients from 1 to 20. |
| status | | Sets the load balancing status. |
| enable | | Enables load balancing feature. |
| disable | | Disables load balancing feature. |
| denial | | Specifies the number of association denials during load balancing. |
| <i>denial_count</i> | | Maximum number of association denials during load balancing. from 0 to 10. |
| uplink-threshold | | Specifies the threshold traffic for an access point to deny new associations. |
| <i>traffic_threshold</i> | | Threshold traffic for an access point to deny new associations. This value is a percentage of the WAN utilization measured over a 90 second interval. For example, the default threshold value of 50 triggers the load balancing upon detecting an utilization of 50% or more on an access point WAN interface. |

Command Default By default, the aggressive load balancing is disabled.

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

Usage Guidelines Load-balancing-enabled WLANs do not support time-sensitive applications like voice and video because of roaming delays.

When you use Cisco 7921 and 7920 Wireless IP Phones with controllers, make sure that aggressive load balancing is disabled on the voice WLANs for each controller. Otherwise, the initial roam attempt by the phone might fail, causing a disruption in the audio path.

Clients can only be load balanced across access points joined to the same controller. The WAN utilization is calculated as a percentage using the following formula: (Transmitted Data Rate (per second) + Received Data Rate (per second))/(1000Mbps TX + 1000Mbps RX) * 100

The following example shows how to enable the aggressive load-balancing settings:

```
(Cisco Controller) > config load-balancing aggressive enable
```

Related Commands

show load-balancing

config wlan load-balance

config location

To configure a location-based system, use the **config location** command.

```
config location {algorithm {simple | rssi-average} | {rssi-half-life | expiry} [client |
calibrating-client | tags | rogue-aps] seconds | notify-threshold [client | tags | rogue-aps]
threshold | interface-mapping {add | delete} location wlan_id interface_name | plm {client
{enable | disable} burst_interval | calibrating {enable | disable} {uniband | multiband}}
```

| Syntax Description | | Note |
|-------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| algorithm | | We recommend that you do not use or modify the config location algorithm command. It is set to optimal default values. Configures the algorithm used to average RSSI and SNR values. |
| simple | | Specifies a faster algorithm that requires low CPU overhead but provides less accuracy. |
| rss i-average | | Specifies a more accurate algorithm but requires more CPU overhead. |
| rss i-half-life | | Note We recommend that you do not use or modify the config location rss i-half-life command. It is set to optimal default values. Configures the half-life when averaging two RSSI readings. |
| expiry | | Note We recommend that you do not use or modify the config location expiry command. It is set to optimal default values. Configures the timeout for RSSI values. |
| client | | (Optional) Specifies the parameter applies to client devices. |
| calibrating-client | | (Optional) Specifies the parameter is used for calibrating client devices. |
| tags | | (Optional) Specifies the parameter applies to radio frequency identification (RFID) tags. |
| rogue-aps | | (Optional) Specifies the parameter applies to rogue access points. |

| | |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>seconds</i> | Time value (0, 1, 2, 5, 10, 20, 30, 60, 90, 120, 180, 300 seconds). |
| notify-threshold | <p>Note We recommend that you do not use or modify the config location notify-threshold command. It is set to optimal default values.</p> <p>Specifies the NMSP notification threshold for RSSI measurements.</p> |
| <i>threshold</i> | Threshold parameter. The range is 0 to 10 dB, and the default value is 0 dB. |
| interface-mapping | Adds or deletes a new location, wireless LAN, or interface mapping element. |
| <i>wlan_id</i> | WLAN identification name. |
| <i>interface_name</i> | Name of interface to which mapping element applies. |
| plm | Specifies the path loss measurement (S60) request for normal clients or calibrating clients. |
| client | Specifies normal, noncalibrating clients. |
| <i>burst_interval</i> | Burst interval. The range is from 1 to 3600 seconds, and the default value is 60 seconds. |
| calibrating | Specifies calibrating clients. |
| uniband | Specifies the associated 802.11a or 802.11b/g radio (uniband). |
| multiband | Specifies the associated 802.11a/b/g radio (multiband). |

Command Default See the “Syntax Description” section for default values of individual 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 specify the simple algorithm for averaging RSSI and SNR values on a location-based controller:

```
(Cisco Controller) > config location algorithm simple
```

Related Commands

- config location info rogue**
- clear location rfid**
- clear location statistics rfid**

show location

show location statistics rfid

config location info rogue

To configure info-notification for rogue service, use the **config location info rogue** command.

```
config location info rogue {basic | extended}
```

Syntax Description

basic Configures basic rogue parameters such as mode, class, containmentlevel, numclients, firsttime, lasttime, ssid, and so on, for rogue info-notification service.

Note Configure the basic parameters if the version of Cisco MSE is older than the version of the Cisco WLC.

extended Configures extended rogue parameters, which is basic parameters plus security type, detecting LRAD type, and so on, for rogue info-notification service.

Command History

| Release | Modification |
|---------|--------------|
|---------|--------------|

| | |
|-----|------------------------------|
| 8.0 | This command was introduced. |
|-----|------------------------------|

config logging buffered

To set the severity level for logging messages to the controller buffer, use the **config logging buffered** command.

config logging buffered *security_level*

Syntax Description

security_level

Security level. Choose one of the following:

- emergencies—Severity level 0
 - alerts—Severity level 1
 - critical—Severity level 2
 - errors—Severity level 3
 - warnings—Severity level 4
 - notifications—Severity level 5
 - informational—Severity level 6
 - debugging—Severity level 7
-

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 set the controller buffer severity level for logging messages to 4:

```
(Cisco Controller) > config logging buffered 4
```

Related Commands

config logging syslog facility

config logging syslog level

show logging

config logging console

To set the severity level for logging messages to the controller console, use the **config logging console** command.

config logging console *security_level*

Syntax Description

security_level

Severity level. Choose one of the following:

- emergencies—Severity level 0
 - alerts—Severity level 1
 - critical—Severity level 2
 - errors—Severity level 3
 - warnings—Severity level 4
 - notifications—Severity level 5
 - informational—Severity level 6
 - debugging—Severity level 7
-

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 set the controller console severity level for logging messages to 3:

```
(Cisco Controller) > config logging console 3
```

Related Commands

config logging syslog facility

config logging syslog level

show logging

config logging debug

To save debug messages to the controller buffer, the controller console, or a syslog server, use the **config logging debug** command.

config logging debug { **buffered** | **console** | **syslog** } { **enable** | **disable** }

| Syntax Description | | |
|--------------------|--|-------------------------------------------------|
| buffered | | Saves debug messages to the controller buffer. |
| console | | Saves debug messages to the controller console. |
| syslog | | Saves debug messages to the syslog server. |
| enable | | Enables logging of debug messages. |
| disable | | Disables logging of debug messages. |

Command Default The **console** command is enabled and the **buffered** and **syslog** commands are disabled by default.

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

The following example shows how to save the debug messages to the controller console:

```
(Cisco Controller) > config logging debug console enable
```

Related Commands **show logging**

config logging fileinfo

To cause the controller to include information about the source file in the message logs or to prevent the controller from displaying this information, use the **config logging fileinfo** command.

config logging fileinfo { **enable** | **disable** }

| | | |
|---------------------------|----------------|------------------------------------------------------------------------------------------------|
| Syntax Description | enable | Includes information about the source file in the message logs. |
| | disable | Prevents the controller from displaying information about the source file in the message logs. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable the controller to include information about the source file in the message logs:

```
(Cisco Controller) > config logging fileinfo enable
```

Related Commands **show logging**

config logging procinfo

To cause the controller to include process information in the message logs or to prevent the controller from displaying this information, use the **config logging procinfo** command.

config logging procinfo {enable | disable}

| | | |
|---------------------------|----------------|----------------------------------------------------------------------------------|
| Syntax Description | enable | Includes process information in the message logs. |
| | disable | Prevents the controller from displaying process information in the message logs. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable the controller to include the process information in the message logs:

```
(Cisco Controller) > config logging procinfo enable
```

Related Commands **show logging**

config logging traceinfo

To cause the controller to include traceback information in the message logs or to prevent the controller from displaying this information, use the **config logging traceinfo** command.

config logging traceinfo { **enable** | **disable** }

| Syntax Description | enable | disable |
|--------------------|-----------------------------------------------------|------------------------------------------------------------------------------------|
| | Includes traceback information in the message logs. | Prevents the controller from displaying traceback information in the message logs. |

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 disable the controller to include the traceback information in the message logs:

```
(Cisco Controller) > config logging traceinfo disable
```

Related Commands `show logging`

config logging syslog host

To configure a remote host for sending syslog messages, use the **config logging syslog host** command.

config logging syslog host *ip_addr*

| | | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | <i>ip_addr</i> | IP address for the remote host. |
| 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. |
| Usage Guidelines | <ul style="list-style-type: none"> • To configure a remote host for sending syslog messages, use the config logging syslog host <i>ip_addr</i> command. • To remove a remote host that was configured for sending syslog messages, use the config logging syslog host <i>ip_addr delete</i> command. • To display the configured syslog servers on the controller, use the show logging command. | |

The following example shows how to configure two remote hosts 10.92.125.52 and 2001:9:6:40::623 for sending the syslog messages and displaying the configured syslog servers on the controller:

```
(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

```

The following example shows how to remove two remote hosts 10.92.125.52 and 2001:9:6:40::623 that were configured for sending syslog messages and displaying that the configured syslog servers were removed from the controller:

```

(Cisco Controller) > config logging syslog host 10.92.125.52 delete
System logs will not be sent to 10.92.125.52 anymore

(Cisco Controller) > config logging syslog host 2001:9:6:40::623 delete
System logs will not be sent to 2001:9:6:40::623 anymore

(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..... 6895
- 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..... 8211
- 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 syslog :
  - Logging filter level..... errors
  - Number of system messages logged..... 1316

```

```
- Number of system messages dropped..... 6895
- Logging of debug messages to syslog ..... Disabled
- Number of debug messages logged..... 0
- Number of debug messages dropped..... 0
- Number of remote syslog hosts..... 0
- syslog over tls..... Disabled
  - Host 0.....
  - Host 1.....
  - 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
- Traceback logging level..... errors
Logging of source file informational..... Enabled
Timestamping of messages.....
- Timestamping of system messages..... Enabled
  - Timestamp format..... Date and Time
```

config logging syslog facility

To set the facility for outgoing syslog messages to the remote host, use the **config logging syslog facility** command.

config logging syslog facility *facility_code*

| | | |
|---------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | <i>facility_code</i> | Facility code. Choose one of the following: |
| | | <ul style="list-style-type: none"> • authorization—Authorization system. Facility level—4. • auth-private—Authorization system (private). Facility level—10. • cron—Cron/at facility. Facility level—9. • daemon—System daemons. Facility level—3. • ftp—FTP daemon. Facility level—11. • kern—Kernel. Facility level—0. • local0—Local use. Facility level—16. • local1—Local use. Facility level—17. • local2—Local use. Facility level—18. • local3—Local use. Facility level—19. • local4—Local use. Facility level—20. • local5—Local use. Facility level—21. • local6—Local use. Facility level—22. • local7—Local use. Facility level—23. • lpr—Line printer system. Facility level—6. • mail—Mail system. Facility level—2. • news—USENET news. Facility level—7. • sys12—System use. Facility level—12. • sys13—System use. Facility level—13. • sys14—System use. Facility level—14. • sys15—System use. Facility level—15. • syslog—The syslog itself. Facility level—5. • user—User process. Facility level—1. • uucp—UNIX-to-UNIX copy system. Facility level—8. |
| 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 set the facility for outgoing syslog messages to authorization:

```
(Cisco Controller) > config logging syslog facility authorization
```

Related Commands

config logging syslog host

config logging syslog level

show logging

config logging syslog facility client

To configure the syslog facility to AP, use the **config logging syslog facility client** { **assocfail Dot11** | **associate Dot11** | **authentication** | **authfail Dot11** | **deauthenticate Dot11** | **disassociate Dot11** | **exclude** } { **enable** | **disable** } command.

config logging syslog facility *Client*

| Syntax Description | <i>Client</i> | <p>Facility Client. Has the following functions:</p> <ul style="list-style-type: none"> • assocfail Dot11—Association fail syslog for clients • associate Dot11—Association syslog for clients • authentication—Authentication success syslog for clients • authfail Dot11—Authentication fail syslog for clients • deauthenticate Dot11—Deauthentication syslog for clients • disassociate Dot11—Disassociation syslog for clients • excluded—Excluded syslog for clients | | | | |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----|--------------------------------------------------------------------|--|
| Command Default | None | | | | | |
| Command History | <table border="1"> <thead> <tr> <th style="text-align: left;">Release</th> <th style="text-align: left;">Modification</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">7.5</td> <td style="vertical-align: top;">This command was introduced in a release earlier than Release 7.5.</td> </tr> </tbody> </table> | Release | Modification | 7.5 | This command was introduced in a release earlier than Release 7.5. | |
| Release | Modification | | | | | |
| 7.5 | This command was introduced in a release earlier than Release 7.5. | | | | | |
| Related Commands | show logging flags client | | | | | |

The following example shows how to set the facility syslog facility for client:

```
cisco controller config logging syslog facility client
```

config logging syslog facility ap

To configure the syslog facility to AP, use the **config logging syslog facility ap** { **associate** | **disassociate** } { **enable** | **disable** } command.

config logging syslog facility *AP*

| | | |
|---------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | <i>AP</i> | Facility AP. Has the following functions: <ul style="list-style-type: none"> • associate—Association syslog for AP • disassociate—Disassociation syslog for AP |
|---------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

| | | |
|------------------------|----------------|--------------------------------------------------------------------|
| Command History | Release | Modification |
| | 7.5 | This command was introduced in a release earlier than Release 7.5. |

The following example shows how to configure syslog facility for AP:

```
cisco controller config logging syslog facility ap
```

| | |
|-------------------------|------------------------------|
| Related Commands | show logging flags ap |
|-------------------------|------------------------------|

config logging syslog ipsec

To configure transmission of syslog messages over IPsec, use the **config logging syslog ipsec** command.

config logging syslog ipsec { enable | disable }

| Syntax Description | enable | enable |
|--------------------|---------|------------------------------------------------------|
| | | Enables transmission of syslog messages over IPsec. |
| | disable | Disables transmission of syslog messages over IPsec. |

Command Default By default, transmission of syslog messages over IPsec is disabled.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.0 | This command was introduced. |

Examples

The following example shows how to enable transmission of syslog messages over IPsec:

```
(Cisco Controller) > config logging syslog ipsec enable
```


config logging syslog ipsec profile

To configure an IPSec profile to define IPSec parameters for the connection, use the **config logging syslog ipsec profile** command.

config logging syslog ipsec profile *profile-name*

| | | |
|---------------------------|-----------------------------|-----------------------------------|
| Syntax Description | <i>profile-name</i> | Name of the IPSec profile to use. |
| Command Default | None | |
| Command History | Release Modification | |
| | 8.0 | This command was introduced. |

Examples

The following example shows how to configure an IPSec profile name to define IPSec parameters:

```
(Cisco Controller) > config logging syslog ipsec profile ipsec-profile-1
```

config logging syslog tls

To configure transmission of syslog messages over transport layer security (TLS), use the **config logging syslog tls** command.

config logging syslog tls { enable | disable }

| Syntax Description | enable | disable |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| | Enables transmission of syslog messages over TLS. Enabling syslog over TLS on the controller enables the feature for all syslog hosts defined in the controller. You can define up to three syslog hosts per controller. The controller transmits messages concurrently to all the configured syslog hosts. | Disables transmission of syslog messages over TLS. |

Command Default By default, transmission of syslog messages over TLS is disabled.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.0 | This command was introduced. |

Examples

The following example shows how to enable transmission of syslog messages over TLS:

```
(Cisco Controller) > config logging syslog tls enable
```

Related Commands **show logging**

config logging syslog level

To set the severity level for filtering syslog messages to the remote host, use the **config logging syslog level** command.

config logging syslog level *severity_level*

Syntax Description

severity_level

Severity level. Choose one of the following:

- emergencies—Severity level 0
- alerts—Severity level 1
- critical—Severity level 2
- errors—Severity level 3
- warnings—Severity level 4
- notifications—Severity level 5
- informational—Severity level 6
- debugging—Severity level 7

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 set the severity level for syslog messages to 3:

```
(Cisco Controller) > config logging syslog level 3
```

Related Commands

config logging syslog host
config logging syslog facility
show logging

config loginsession close

To close all active Telnet sessions, use the **config loginsession close** command.

```
config loginsession close {session_id | all}
```

| Syntax Description | | |
|--------------------|-------------------|-----------------------------|
| | <i>session_id</i> | ID of the session to close. |
| | all | Closes all Telnet sessions. |

Command Default None

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

The following example shows how to close all active Telnet sessions:

```
(Cisco Controller) > config loginsession close all
```

Related Commands **show loginsession**

config macfilter

To create or delete a MAC filter entry on the Cisco wireless LAN controller, use the **config macfilter** {*add* | *delete*} command.

config macfilter {**add** *client_MAC wlan_id [interface_name] [description] [macfilter_IP]* | **delete** *client_MAC*}

| Syntax | Description |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| add | Adds a MAC filter entry on the controller. |
| delete | Deletes a MAC filter entry on the controller. |
| <i>MAC_addr</i> | Client MAC address. |
| <i>wlan_id</i> | Wireless LAN identifier with which the MAC filter entry should associate. A zero value associates the entry with any wireless LAN. |
| <i>interface_name</i> | (Optional) Name of the interface. Enter 0 to specify no interface. |
| <i>description</i> | (Optional) Short description of the interface (up to 32 characters) in double quotes. Note A description is mandatory if <i>macfilter_IP</i> is specified. |
| <i>IP Address</i> | (Optional) IPv4 address of the local MAC filter database. |

Command Default None

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

Usage Guidelines Use the **config macfilter add** command to add a client locally to a wireless LAN on the Cisco wireless LAN controller. This filter bypasses the RADIUS authentication process.

As on release 7.6, the optional *macfilter_IP* supports only IPv4 address.

The following example shows how to add a MAC filter entry 00:E0:77:31:A3:55 with the wireless LAN ID 1, interface name labconnect, and MAC filter IP 10.92.125.51 on the controller:

```
(Cisco Controller) > config macfilter add 00:E0:77:31:A3:55 1 lab02 "labconnect" 10.92.125.51
```

Related Commands

- show macfilter
- config macfilter ip-address

config macfilter description

To add a description to a MAC filter, use the **config macfilter description** command.

config macfilter description *MAC addr**description*

| Syntax Description | | |
|--------------------|--------------------|--------------------------------------------------------------------|
| | <i>MAC addr</i> | Client MAC address. |
| | <i>description</i> | (Optional) Description within double quotes (up to 32 characters). |

Command Default None

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

The following example shows how to configure the description MAC filter 01 to MAC address 11:11:11:11:11:11:

```
(Cisco Controller) > config macfilter description 11:11:11:11:11:11 "MAC Filter 01"
```

Related Commands **show macfilter**

config macfilter interface

To create a MAC filter client interface, use the **config macfilter interface** command.

config macfilter interface *MAC_addr interface*

| | | |
|---------------------------|------------------|-----------------------------------------------------------|
| Syntax Description | <i>MAC_addr</i> | Client MAC address. |
| | <i>interface</i> | Interface name. A value of zero is equivalent to no 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 configure a MAC filter interface Lab01 on client 11:11:11:11:11:11:

```
(Cisco Controller) > config macfilter interface 11:11:11:11:11:11 Lab01
```

Related Commands **show macfilter**

config macfilter ip-address

To enter passive client IP address , use the **config macfilter ip-address** command.

config macfilter ip-address *MAC_addr IP Address*

| Syntax Description | | |
|--------------------|-------------------|-----------------------------------------|
| | <i>MAC_addr</i> | MAC address of the client. |
| | <i>IP Address</i> | Adds an IP address for passive clients. |

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 only IPv4. |

The following example shows how to add an IP address for a passive client:

```
(Cisco Controller) > config macfilter ip-address aa-bb-cc-dd-ee-ff 10.92.125.51
```

Related Commands **show macfilter**

config macfilter mac-delimiter

To set the MAC delimiter (colon, hyphen, none, and single-hyphen) for MAC addresses sent to RADIUS servers, use the **config macfilter mac-delimiter** command.

config macfilter mac-delimiter { none | colon | hyphen | single-hyphen }

| Syntax Description | none | Description |
|--------------------|---------------|---------------------------------------------------------------------|
| | none | Disables the delimiters (for example, xxxxxxxxxx). |
| | colon | Sets the delimiter to a colon (for example, xx:xx:xx:xx:xx:xx). |
| | hyphen | Sets the delimiter to a hyphen (for example, xx-xx-xx-xx-xx-xx). |
| | single-hyphen | Sets the delimiter to a single hyphen (for example, xxxxxx-xxxxxx). |

Command Default The default delimiter is hyphen.

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

The following example shows how to have the operating system send MAC addresses to the RADIUS server in the form aa:bb:cc:dd:ee:ff:

```
(Cisco Controller) > config macfilter mac-delimiter colon
```

The following example shows how to have the operating system send MAC addresses to the RADIUS server in the form aa-bb-cc-dd-ee-ff:

```
(Cisco Controller) > config macfilter mac-delimiter hyphen
```

The following example shows how to have the operating system send MAC addresses to the RADIUS server in the form aabbccddeeff:

```
(Cisco Controller) > config macfilter mac-delimiter none
```

Related Commands **show macfilter**

config macfilter radius-compat

To configure the Cisco wireless LAN controller for compatibility with selected RADIUS servers, use the **config macfilter radius-compat** command.

config macfilter radius-compat { **cisco** | **free** | **other** }

| Syntax Description | | |
|--------------------|--------------|------------------------------------------------------------------------------------------|
| | cisco | Configures the Cisco ACS compatibility mode (password is the MAC address of the server). |
| | free | Configures the Free RADIUS server compatibility mode (password is secret). |
| | other | Configures for other server behaviors (no password is necessary). |
| Command Default | Other | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| | 8.0 | This command supports only IPv4. |

The following example shows how to configure the Cisco ACS compatibility mode to “other”:

```
(Cisco Controller) > config macfilter radius-compat other
```

Related Commands **show macfilter**

config macfilter wlan-id

To modify a wireless LAN ID for a MAC filter, use the **config macfilter wlan-id** command.

config macfilter wlan-id *MAC_addr WLAN_id*

| Syntax Description | <i>MAC_addr</i> | Client MAC address. |
|--------------------|-----------------|----------------------------------------------------------------------------|
| | <i>WLAN_id</i> | Wireless LAN identifier to associate with. A value of zero is not allowed. |

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 modify client wireless LAN ID 2 for a MAC filter 11:11:11:11:11:11:

```
(Cisco Controller) > config macfilter wlan-id 11:11:11:11:11:11 2
```

Related Commands

- show macfilter
- show wlan

config mdns ap

To configure multicast Domain Name System (mDNS) snooping on an access point, use the **config mdns ap** command.

```
config mdns ap {enable {ap_name | all} [vlan vlan_id] | disable {ap_name | all} | vlan
{add | delete} vlan ap_name}
```

| Syntax Description | | |
|--------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enable | | Enables mDNS snooping on an access point. |
| <i>ap_name</i> | | Name of the access point on which mDNS snooping has to be configured. |
| all | | Configures mDNS snooping on all access points. |
| vlan | | (Optional) Configures the VLAN on which the access point snoops and forwards the mDNS packets. |
| <i>vlan_id</i> | | VLAN identifier. |
| disable | | Disables mDNS snooping on an access point. |
| add | | Adds a VLAN from which the access point snoops and forwards the mDNS packets to the Cisco Wireless LAN Controller (WLC). You can configure up to 10 VLANs for an mDNS access point. |
| delete | | Deletes a VLAN from which the access point snoops and forwards the mDNS packets to the Cisco WLC. |

Command Default The mDNS-enabled access point snoops the access or native VLANs by default.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 7.5 | This command was introduced. |

Usage Guidelines Enabling mDNS snooping on access points allows the access points to snoop the wired services on VLANs that are invisible to the Cisco WLC. mDNS snooping is supported only on local-mode and monitor-mode access points. The access point must be in the access mode or trunk mode. If the access point is in the trunk mode, you must configure the VLAN on the Cisco WLC on which the access point snoops and forwards the mDNS packets. You must also configure the native VLAN from the Cisco WLC for the access point to snoop and send mDNS queries on. The access point also tags the packets with the native VLAN.

Global mDNS snooping overrides mDNS access point snooping.

The following example shows how to enable mDNS snooping on an access point and the VLAN on which it must snoop for mDNS packets:

```
(Cisco Controller) > config mdns ap enable vlan 1
```

config mdns profile

To configure a multicast DNS (mDNS) profile and associate a service with the profile, use the **config mdns profile** command.

```
config mdns profile { create | delete | service { add | delete } service _name profile_name
```

| Syntax Description | create | Creates an mDNS profile. |
|--------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------|
| | delete | Deletes an mDNS profile. If the profile is associated to an interface group, an interface, or a WLAN, an error appears. |
| | service | Configures an mDNS service. |
| | add | Adds an mDNS service to an mDNS profile. |
| | delete | Deletes an mDNS service from an mDNS profile. |
| | <i>service -name</i> | Name of the mDNS service. |
| | <i>profile_name</i> | Name of the mDNS profile. You can create a maximum of 16 profiles. |

Command Default By default, the controller has an mDNS profile, default-mdns-profile. You cannot delete this default profile.

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 7.4 | This command was introduced. |

Usage Guidelines After creating a new profile, you must map the profile to an interface group, an interface, or a WLAN. Clients receive service advertisements only for the services associated with the profile. The controller gives the highest priority to the profiles associated to interface groups, followed by the interface profiles, and then the WLAN profiles. Each client is mapped to a profile based on the order of priority.

By default, the controller has an mDNS profile, default-mdns-profile. You cannot delete this default profile.

The following example shows how to add the Apple TV mDNS service to the mDNS profile1.

```
(Cisco Controller) > config mdns profile create profile1 Apple TV
```

| Related Commands |
|--------------------------------------------|
| config mdns query interval |
| config mdns service |
| config mdns snooping |
| config interface mdns-profile |
| config interface group mdns-profile |
| config wlan mdns |
| show mdns profile |

show mdns service
clear mdns service-database
debug mdns all
debug mdns error
debug mdns detail
debug mdns message

config mdns query interval

To configure the query interval for multicast DNS (mDNS) services, use the **config mdns query interval** command.

config mdns query interval *interval_value*

| Syntax Description | <i>interval_value</i> mDNS query interval, in minutes, that you can set. The query interval is the frequency at which the controller sends periodic queries to all the services defined in the Master Services database. The range is from 10 to 120. | | | | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|-----|------------------------------|
| Command Default | The default query interval for an mDNS service is 15 minutes. | | | | |
| Command History | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>7.4</td> <td>This command was introduced.</td> </tr> </tbody> </table> | Release | Modification | 7.4 | This command was introduced. |
| Release | Modification | | | | |
| 7.4 | This command was introduced. | | | | |
| Usage Guidelines | The controller snoops and learns about the mDNS service advertisements only if the service is available in the Master Services database. mDNS uses the multicast IP address 224.0.0.251 as the destination address and 5353 as UDP destination port. | | | | |

The following example shows how to configure the query interval for mDNS services as 20 minutes.

```
(Cisco Controller) > config mdns query interval 20
```

| | |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Related Commands | <ul style="list-style-type: none"> config mdns profile config mdns service config mdns snooping config interface mdns-profile config interface group mdns-profile config wlan mdns show mdns profile show mnds service clear mdns service-database debug mdns all debug mdns error debug mdns detail debug mdns message |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

config mdns service

To configure multicast DNS (mDNS) services in the master services database, use the **config mdns service** command.

The following command is valid in Release 7.5 and later releases:

```
config mdns service { create service_name service_string origin { Wireless | Wired | All } lss { enable | disable } [ query { enable | disable } ] | lss { enable | disable } { service_name | all } | priority-mac { add | delete } priority-mac service_name [ ap-group ap-group-name ] | origin { Wireless | Wired | All } { service_name | all }
```

Syntax Description

| | |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create | Adds a new mDNS service to the Master Services database. |
| <i>service_name</i> | Name of the mDNS service, for example, Air Tunes, iTunes Music Sharing, FTP, Apple File Sharing Protocol (AFP). |
| <i>service_string</i> | Unique string associated to an mDNS service, for example, <code>_airplay._tcp.local</code> . is the service string associated with Apple TV. |
| delete | Deletes an mDNS service from the Master Services database. Before deleting the service, the controller checks if any profile is using the service. Note You must delete the service from all profiles before deleting it. |
| query | Configures the query status for the mDNS service. |
| enable | Enables periodic query for an mDNS service by the controller. |
| disable | Disables periodic query for an mDNS service by the controller. |
| origin | Configures the origin of the mDNS service. You can restrict the origin of the service as wired or wireless. |
| Wireless | Configures the origin of the mDNS service as wireless. |
| Wired | Configures the origin of the mDNS service as wired. |
| All | Configures the origin of the mDNS service as wireless or wired. |
| lss | Configures Location Specific Services (LSS) for a service or all mDNS services. LSS is not applicable for registered service providers. The registered service providers are always included if the querying client corresponds to the user. You cannot configure LSS on the services configured as only wired. |
| all | Configures LSS for all mDNS services. |
| priority-mac | Configures the MAC address of a service provider device. This device gets a priority even if the service provider database is full. |
| add | Adds the MAC address of a service provider device for priority. You can configure up to 50 MAC addresses for a service. |

| | |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| delete | Deletes the MAC address of a service provider device from the priority list. |
| <i>priority-mac</i> | MAC address of a service provider device that needs priority. The MAC address must be unique for each service. |
| ap-group | Configures the access point group for wired service providers. These service providers get priority over others. When a client mNDS query originates from this AP group, the wired entries with priority MAC addresses and access point groups are listed first in the aggregated response. |
| <i>ap-group-name</i> | Name of the access point group to which the service provider belongs. |

Command Default

By default, LSS is disabled, but it is enabled for all the discovered services.

Command History**Release Modification**

- | | |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.4 | This command was introduced. |
| 7.5 | This command was modified. The origin , Wireless , Wired , All , lss , priority-mac , add , delete , ap-group keywords and <i>priority-mac ap-group-name</i> arguments were added. |

Usage Guidelines

In Release 7.5 and later releases, the maximum number of service providers for different controller models are as follows:

- Cisco 5500 Series Controller and Cisco 2500 Series Controller—6400
- Cisco Wireless Services Module 2—6400
- Cisco 8500 Series Controller and Cisco 7500 Series Controller—16000

You cannot change the services with the origin set to Wireless to Wired if LSS is enabled for the service.

The following example shows how to add the HTTP mDNS service to the Master Services database, configure the origin as wireless, and enable LSS for the service:

```
(Cisco Controller) > config mdns service create http _http._tcp.local. origin wireless lss enable
```

The following example shows how to add a priority MAC address of a HTTP service provider device:

```
(Cisco Controller) > config mdns service priority-mac add 44:03:a7:a3:04:45 http
```

config mdns snooping

To enable or disable global multicast DNS (mDNS) snooping on the Cisco WLC, use the **config mdns snooping** command.

config mdns snooping { **enable** | **disable** }

Syntax Description

enable Enables mDNS snooping on the Cisco WLC.

disable Disables mDNS snooping on the Cisco WLC.

Command Default

By default, mDNS snooping is enabled on the Cisco WLC.

Command History

Release Modification

7.4 This command was introduced.

Usage Guidelines

mDNS service discovery provides a way to announce and discover services on the local network. mDNS perform DNS queries over IP multicast. mDNS supports zero configuration IP networking.

The following example shows how to enable mDNS snooping:

```
(Cisco Controller) > config mdns snooping enable
```

Related Commands

config mdns query interval
config mdns service
config mdns profile
config interface mdns-profile
config interface group mdns-profile
config wlan mdns
show mdns profile
show mnds service
clear mdns service-database
debug mdns all
debug mdns error
debug mdns detail
debug mdns message

config mdns policy enable

To configure the mDNS policy use the **config mdns policy enable | disable** command.

config mdnspolicyenable | disable

| Syntax Description | policy Name of the mDNS policy. enable Enables the policy for an mDNS service by the controller. disable Disables the policy for an mDNS service by the controller. | | | | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|-----|------------------------------|
| Command Default | None | | | | |
| Command History | <table><thead><tr><th>Release</th><th>Modification</th></tr></thead><tbody><tr><td>8.0</td><td>This command was introduced.</td></tr></tbody></table> | Release | Modification | 8.0 | This command was introduced. |
| Release | Modification | | | | |
| 8.0 | This command was introduced. | | | | |
| Usage Guidelines | This command is valid for 8.0 release onwards. | | | | |

Example

The following example show how to configure the mDNS policy.

```
(Cisco Controller) >config mdns
  policy enable
```

config mdns policy service-group

To create or delete mDNS policy service group use the **config mdns policy service-group** command.

config mdns policy service-group { **create** | **delete** } *service-group-name*

| Syntax Description | | |
|---------------------------|--|---------------------------------|
| create | | Creates the mDNS service group. |
| delete | | Deletes the mDNS service group. |
| <i>service-group-name</i> | | Name of the service group. |

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

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.0 | This command was introduced. |

Example

The following example shows how to delete a mDNS service group.

```
(Cisco Controller) >config mdns policy service-group create <service-group-name>
```

config mdns policy service-group parameters

To configure the parameters of a service group, use the **config mdns policy service-group** command.

```
config mdnspolycyservice-group device-mac add service-group-name mac-addr device name location-type
[AP_LOCATION | AP_NAME | AP_GROUP] device-location [location string | any | same]
```

| Syntax Description | Parameter | Description |
|--------------------|---------------------------------------------|------------------------------------------------------------------------|
| | device-mac | Configures MAC address of a service provider device. |
| | add | Adds the service group name of the service provider device. |
| | <i>service-group-name</i> | Name of a mDNS service group. |
| | <i>device-name</i> | Name of a device to which the service provider belongs. |
| | location type | Configures a location type of a service provider device. |
| | [<i>AP_LOCATION AP_NAME AP_GROUP</i>] | Name, location, group of the access point. |
| | device-location | Configures location of a device to which the service provider belongs. |
| | [<i>location string any same</i>] | location string of a device. |

Command Default None

Command History

Release Modification

8.0 This command was introduced.

Example

The following example shows how to configure a location type of a service provider device.

```
(Cisco Controller) >config mdns policy service-group location type [AP_LOCATION | AP_NAME
| AP_GROUP]
```

config mdns policy service-group user-name

To configure a user role for a mDNS service group, use the **config mdns policy service-group user-name add | delete <service-group-name> <user-role-name>** command

config mdnspolicyservice-groupuser-name**add | delete**service-group-name user-name

| Syntax Description | user-name | Configures name of a user for mDNS service group. |
|--------------------|--------------------|---------------------------------------------------|
| | service-group-name | Name of a mDNS service group |
| | user-name | Name of the user role for mDNS service group |
| Command Default | None | |
| Command History | Release | Modification |
| | 8.0 | This command was introduced. |

Example

The following example show how to add user name for a mDNS service group

```
(Cisco Controller) >config mdns policy service-group user-name add <service-group-name>
<user-role-name>
```

config mdns policy service-group user-role

To configure a user role for a mDNS service group, use the **config mdns policy service-group user-role add | delete <service-group-name> <user-role-name>** command.

config mdnspolicyservice-groupuser-roleadd | delete*service-group-name user-role-name*

| Syntax Description | user-role | Configures a user role for mDNS service group. |
|--------------------|---------------------------|------------------------------------------------|
| | <i>service-group-name</i> | Name of a mDNS service group |
| | <i>user-role-name</i> | Name of the user role for mDNS service group |

Command Default None

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.0 | This command was introduced. |

Example

The following example show how to add user role details for a mDNS service group

```
(Cisco Controller) >config mdns policy service-group user-role add <service-group-name>
<user-role-name>
```

config media-stream multicast-direct

To configure the media-stream multicast direct, use the **config media-stream multicast direct** command.

```
config media-stream multicast-direct {enable | disable}
```

| Syntax Description | enable | Disables a media stream. |
|--------------------|---------|--------------------------|
| | disable | Enables a media stream. |

Command Default None.

Usage Guidelines Media-stream multicast-direct requires load based Call Admission Control (CAC) to run.

This example shows how to enable media-stream multicast-direct settings:

```
> config media-stream multicast-direct enable
```

This example shows how to disable media-stream multicast-direct settings:

```
> config media-stream multicast-direct disable
```

Related Commands

- config 802.11 media-stream video-redirect**
- show 802.11a media-stream name**
- show media-stream group summary**
- show media-stream group detail**

config media-stream message

To configure various parameters of message configuration, use the **config media-stream message** command.

```
config media-stream message {state [enable | disable] | url url | email email | phone
phone_number | note note}
```

| Syntax Description | | |
|---------------------|--|-------------------------------------------------------------|
| state | | Specifies the media stream message state. |
| enable | | (Optional) Enables the session announcement message state. |
| disable | | (Optional) Disables the session announcement message state. |
| url | | Configures the URL. |
| <i>url</i> | | Session announcement URL. |
| email | | Configures the email ID. |
| <i>email</i> | | Specifies the session announcement e-mail. |
| phone | | Configures the phone number. |
| <i>phone_number</i> | | Session announcement phone number. |
| note | | Configures the notes. |
| <i>note</i> | | Session announcement notes. |

Command Default Disabled.

Usage Guidelines Media-stream multicast-direct requires load-based Call Admission Control (CAC) to run.

This example shows how to enable the session announcement message state:

```
> config media-stream message state enable
```

This example shows how to configure the session announcement e-mail address:

```
> config media-stream message mail abc@co.com
```

Related Commands

- config media-stream**
- show 802.11a media-stream name**
- show media-stream group summary**
- show media-stream group detail**

config media-stream add

To configure the various global media-stream configurations, use the **config media-stream add** command.

```
config media-stream add multicast-direct media_stream_name start-IP end-IP [template { very coarse
| coarse | ordinary | low-resolution | med-resolution | high-resolution } | detail { bandwidth
packet-size { periodic | initial } } qos priority { drop | fallback }
```

| Syntax Description | | |
|--------------------------|--|-----------------------------------------------------------------------------------------|
| multicast-direct | | Specifies the media stream for the multicast-direct setting. |
| <i>media_stream_name</i> | | Media-stream name. |
| <i>start-IP</i> | | IP multicast destination start address. |
| <i>end-IP</i> | | IP multicast destination end address. |
| template | | (Optional) Configures the media stream from templates. |
| very coarse | | Applies a very-coarse template. |
| coarse | | Applies a coarse template. |
| ordinary | | Applies an ordinary template. |
| low-resolution | | Applies a low-resolution template. |
| med-resolution | | Applies a medium-resolution template. |
| high-resolution | | Applies a high-resolution template. |
| detail | | Configures the media stream with specific parameters. |
| <i>bandwidth</i> | | Maximum expected stream bandwidth. |
| <i>packet-size</i> | | Average packet size. |
| periodic | | Specifies the periodic admission evaluation. |
| initial | | Specifies the Initial admission evaluation. |
| <i>qos</i> | | AIR QoS class (video only). |
| <i>priority</i> | | Media-stream priority. |
| drop | | Specifies that the stream is dropped on a periodic reevaluation. |
| fallback | | Specifies if the stream is demoted to the best-effort class on a periodic reevaluation. |

Command Default None

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

Usage Guidelines Media-stream multicast-direct requires load-based Call Admission Control (CAC) to run.

This example shows how to configure a new media stream:

```
> config media-stream add multicast-direct abc 227.8.8.8 227.9.9.9 detail 2 150 periodic  
video 1 drop
```

Related Commands

- show 802.11a media-stream name
- show media-stream group summary
- show media-stream group detail

config media-stream admit

To allow traffic for a media stream group, use the **config media-stream admit** command.

config media-stream admit *media_stream_name*

| | | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | <i>media_stream_name</i> | Media-stream group name. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | <p>When you try to allow traffic for the media stream group, you will be prompted that IGMP snooping will be disabled and enabled again, and all clients might observe a glitch on the multicast traffic.</p> <p>This example shows how to allow traffic for a media stream group:</p> <pre>(Cisco Controller) > config media-stream admit MymediaStream</pre> | |
| Related Commands | <p>show 802.11a media-stream name</p> <p>show media-stream group summary</p> <p>show media-stream group detail</p> | |

config media-stream deny

To block traffic for a media stream group, use the **config media-stream deny** command.

Syntax Description

media_stream_name Media-stream group name.

config media-stream deny *media_stream_name*

Command Default

None

Command History

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

Usage Guidelines

When you try to block traffic for the media stream group, you will be prompted that IGMP snooping will be disabled and enabled again, and all clients might observe a glitch on the multicast traffic.

This example shows how to block traffic for a media stream group:

```
(Cisco Controller) > config media-stream deny MymediaStream
```

Related Commands

show 802.11a media-stream name
show media-stream group summary
show media-stream group detail

config media-stream delete

To configure the various global media-stream configurations, use the **config media-stream delete** command.

config media-stream delete *media_stream_name*

| | | |
|---------------------------|--------------------------|--------------------|
| Syntax Description | <i>media_stream_name</i> | Media-stream name. |
|---------------------------|--------------------------|--------------------|

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

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

| | |
|-------------------------|----------------------------------------------------------------------------------------|
| Usage Guidelines | Media-stream multicast-direct requires load-based Call Admission Control (CAC) to run. |
|-------------------------|----------------------------------------------------------------------------------------|

This example shows how to delete the media stream named abc:

```
(Cisco Controller) > config media-stream delete abc
```

| | |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Related Commands | <p>show 802.11a media-stream name</p> <p>show media-stream group summary</p> <p>show media-stream group detail</p> |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|

config memory monitor errors

To enable or disable monitoring for memory errors and leaks, use the **config memory monitor errors** command.

config memory monitor errors {**enable** | **disable**}



Caution

The **config memory monitor** commands can be disruptive to your system and should be run only when you are advised to do so by the Cisco TAC.

Syntax Description

| | |
|----------------|----------------------------------------------|
| enable | Enables the monitoring for memory settings. |
| disable | Disables the monitoring for memory settings. |

Command Default

Monitoring for memory errors and leaks is disabled by default.

Command History

Release Modification

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

Usage Guidelines

Be cautious about 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 example shows how to enable monitoring for memory errors and leaks for a controller:

```
(Cisco Controller) > config memory monitor errors enable
```

Related Commands

config memory monitor leaks
debug memory
show memory monitor

config memory monitor leaks

To configure the controller to perform an auto-leak analysis between two memory thresholds, use the **config memory monitor leaks** command.

config memory monitor leaks *low_thresh high_thresh*



Caution

The **config memory monitor** commands can be disruptive to your system and should be run only when you are advised to do so by the Cisco TAC.

Syntax Description

| | |
|--------------------|-----------------------------------------------------------------------------------------------------------|
| <i>low_thresh</i> | Value below which free memory cannot fall without crashing. This value cannot be set lower than 10000 KB. |
| <i>high_thresh</i> | Value below which the controller enters auto-leak-analysis mode. See the “Usage Guidelines” section. |

Command Default

The default value for *low_thresh* is 10000 KB; the default value for *high_thresh* is 30000 KB.

Command History

Release Modification

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

Usage Guidelines



Note

Be cautious about 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.

Use this command if you suspect that a memory leak has occurred.

If the free memory is lower than the *low_thresh* threshold, the system crashes, generating a crash file. The default value for this parameter is 10000 KB, and you cannot set it below this value.

Set the *high_thresh* threshold to the current free memory level or higher so that the system enters auto-leak-analysis mode. After the free memory reaches a level lower than the specified *high_thresh* threshold, the process of tracking and freeing memory allocation begins. As a result, the **debug memory events enable** command shows all allocations and frees, and the **show memory monitor detail** command starts to detect any suspected memory leaks.

The following example shows how to set the threshold values for auto-leak-analysis mode to 12000 KB for the low threshold and 35000 KB for the high threshold:

```
(Cisco Controller) > config memory monitor leaks 12000 35000
```

Related Commands

config memory monitor leaks

debug memory

show memory monitor

config mesh alarm

To configure alarm settings for outdoor mesh access points, use the **config mesh alarm** command.

```
config mesh alarm {max-hop | max-children | low-snr | high-snr | association | parent-change count} value
```

| Syntax Description | | |
|----------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max-hop | | Sets the maximum number of hops before triggering an alarm for traffic over the mesh network. The valid values are 1 to 16 (inclusive). |
| max-children | | Sets the maximum number of mesh access points (MAPs) that can be assigned to a mesh router access point (RAP) before triggering an alarm. The valid values are 1 to 16 (inclusive). |
| low-snr | | Sets the low-end signal-to-noise ratio (SNR) value before triggering an alarm. The valid values are 1 to 30 (inclusive). |
| high-snr | | Sets the high-end SNR value before triggering an alarm. The valid values are 1 to 30 (inclusive). |
| association | | Sets the mesh alarm association count value before triggering an alarm. The valid values are 1 to 30 (inclusive). |
| parent-change count | | Sets the number of times a MAP can change its RAP association before triggering an alarm. The valid values are 1 to 30 (inclusive). |
| <i>value</i> | | Value above or below which an alarm is generated. The valid values vary for each command. |

Command Default See the “Syntax Description” section for command and argument value ranges.

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

The following example shows how to set the maximum hops threshold to 8:

```
(Cisco Controller) >config mesh alarm max-hop 8
```

The following example shows how to set the upper SNR threshold to 25:

```
(Cisco Controller) >config mesh alarm high-snr 25
```

config mesh astools

To globally enable or disable the anti-stranding feature for outdoor mesh access points, use the **config mesh astools** command.

```
config mesh astools {enable | disable}
```

| Syntax Description | | |
|--------------------|----------------|-----------------------------------------------------------|
| | enable | Enables this feature for all outdoor mesh access points. |
| | disable | Disables this feature for all outdoor mesh 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 enable anti-stranding on all outdoor mesh access points:

```
(Cisco Controller) >config mesh astools enable
```

config mesh backhaul rate-adapt

To globally configure the backhaul Tx rate adaptation (universal access) settings for indoor and outdoor mesh access points, use the **config mesh backhaul rate-adapt** command.

config mesh backhaul rate-adapt [**all** | **bronze** | **silver** | **gold** | **platinum**] {**enable** | **disable**}

| Syntax Description | | |
|--------------------|-----------------|-------------------------------------------------------------------------------------|
| | all | (Optional) Grants universal access privileges on mesh access points. |
| | bronze | (Optional) Grants background-level client access privileges on mesh access points. |
| | silver | (Optional) Grants best effort-level client access privileges on mesh access points. |
| | gold | (Optional) Grants video-level client access privileges on mesh access points. |
| | platinum | (Optional) Grants voice-level client access privileges on mesh access points. |
| | enable | Enables this backhaul access level for mesh access points. |
| | disable | Disables this backhaul access level for mesh access points. |

Command Default Backhaul access level for mesh access points is disabled.

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

Usage Guidelines To use this command, mesh backhaul with client access must be enabled by using the **config mesh client-access** command.



Note After this feature is enabled, all mesh access points reboot.

The following example shows how to set the backhaul client access to the best-effort level:

```
(Cisco Controller) >config mesh backhaul rate-adapt silver
```

config mesh backhaul slot

To configure the slot radio as a downlink backhaul, use the **config mesh backhaul slot** command.

```
config mesh backhaul slot slot_id {enable | disable} cisco_ap
```

| Syntax Description | | |
|--------------------|--|------------------------------------------------------------------------------------------|
| <i>slot_id</i> | | Slot number between 0 and 2. |
| enable | | Enables the entered slot radio as a downlink backhaul. |
| disable | | Disables the entered slot radio as a downlink backhaul. |
| <i>cisco_ap</i> | | Name of the Root AP of the sector on which the backhaul needs to be enabled or disabled. |

Command Default The entered slot radio as a downlink backhaul is disabled.

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

Usage Guidelines For 2.4 GHz, only slot 0 and 1 are valid. If slot 0 is enabled, slot 1 is automatically be disabled. If slot 0 is disabled, slot 1 is automatically enabled.

The following example shows how to enable slot 1 as the preferred backhaul for the root AP myrootap1:

```
(Cisco Controller) >config mesh backhaul slot 1 enable myrootap1
```

config mesh battery-state

To configure the battery state for Cisco mesh access points, use the **config mesh battery-state** command.

```
config mesh battery-state disable {all | cisco_ap}
```

| Syntax Description | disable | Disables the battery-state for mesh access points. |
|--------------------|----------------------------|--------------------------------------------------------------------|
| | all | Applies this command to all mesh access points. |
| | cisco_ap | Specific mesh access point. |
| Command Default | Battery state is disabled. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to disable battery state for all mesh APs:

```
(Cisco Controller) >config mesh battery-state disable all
```

config mesh client-access

To enable or disable client access to the mesh backhaul on indoor and outdoor mesh access points, use the **config mesh client-access** command.

config mesh client-access { **enable** [**extended**] | **disable** }

| Syntax Description | enable | extended | disable |
|--------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| | Allows wireless client association over the mesh access point backhaul 802.11a radio. | (Optional) Enables client access over both the backhaul radios for backhaul access points. | Restricts the 802.11a radio to backhaul traffic, and allows client association only over the 802.11b/g radio. |
| Command Default | Client access is disabled. | | |
| Command History | Release | Modification | |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. | |

Usage Guidelines

Backhaul interfaces (802.11a radios) act as primary Ethernet interfaces. Backhauls function as trunks in the network and carry all VLAN traffic between the wireless and wired network. No configuration of primary Ethernet interfaces is required.

When this feature is enabled, the mesh access points allow wireless client association over the 802.11a radio, which implies that a 152x mesh access point can carry both backhaul traffic and 802.11a client traffic over the same 802.11a radio.

When this feature is disabled, the mesh access points carry backhaul traffic over the 802.11a radio and allows client association only over the 802.11b/g radio.

The following example shows how to enable client access extended to allow a wireless client association over the 802.11a radio:

```
(Cisco Controller) >config mesh client-access enable extended
Enabling client access on both backhaul slots
Same BSSIDs will be used on both slots
All Mesh AP will be rebooted
Are you sure you want to start? (y/N)Y
```

The following example shows how to restrict a wireless client association to the 802.11b/g radio:

```
(Cisco Controller) >config mesh client-access disable
All Mesh AP will be rebooted
Are you sure you want to start? (Y/N) Y
Backhaul with client access is canceled.
```

config mesh ethernet-bridging allow-bpdu

To configure STP BPDUs towards wired mesh uplink, use the **config mesh ethernet-bridging allow-bpdu** command.

config mesh ethernet-bridging allow-bpdu { **enable** | **disable** }

| | | |
|---------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------|
| Syntax Description | enable | Enables STP BPDUs towards wired mesh uplink. |
| | disable | Disables STP BPDUs towards wired mesh uplink. |
| Command Default | Disabled | |
| Command History | Release | Modification |
| | 8.0.110.0 | This command was introduced. |
| Usage Guidelines | Cisco WLC does not allow you to use this command if VLAN transparency is enabled. | |

config mesh ethernet-bridging vlan-transparent

To configure how a mesh access point handles VLAN tags for Ethernet bridged traffic, use the **config mesh ethernet-bridging vlan-transparent** command.

config mesh ethernet-bridging vlan-transparent { **enable** | **disable** }

| Syntax Description | enable | Bridges packets as if they are untagged. |
|--------------------|------------------------------------------|--------------------------------------------------------------------|
| | disable | Drops all tagged packets. |
| Command Default | Bridges packets as if they are untagged. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to configure Ethernet packets as untagged:

```
(Cisco Controller) >config mesh ethernet-bridging vlan-transparent enable
```

The following example shows how to drop tagged Ethernet packets:

```
(Cisco Controller) >config mesh ethernet-bridging vlan-transparent disable
```

config mesh full-sector-dfs

To globally enable or disable full-sector Dynamic Frequency Selection (DFS) on mesh access points, use the **config mesh full-sector-dfs** command.

```
config mesh full-sector-dfs {enable | disable}
```

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables DFS for mesh access points. |
| | disable | Disables DFS for mesh access points. |
| 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 instructs the mesh sector to make a coordinated channel change on the detection of a radar signal. For example, if a mesh access point (MAP) detects a radar signal, the MAP will notify the root access point (RAP), and the RAP will initiate a sector change.

All MAPs and the RAP that belong to that sector go to a new channel, which lowers the probability of MAPs stranding when radar is detected on the current backhaul channel, and no other valid parent is available as backup.

Each sector change causes the network to be silent for 60 seconds (as dictated by the DFS standard).

It is expected that after a half hour, the RAP will go back to the previously configured channel, which means that if radar is frequently observed on a RAP's channel, it is important that you configure a different channel for that RAP to exclude the radar affected channel at the controller.

This example shows to enable full-sector DFS on mesh access points:

```
(Cisco Controller) >config mesh full-sector-dfs enable
```



```

rx lost packets:      0 (incr for each pkt seq missed or out of order)
rx dup pkts:         0
rx out of order:     0
avgSNR:      30, high: 33, low: 3
SNR profile [0dB...60dB]
    0          6          0          0          0
    0          0          1          2          77
    2888       3          0          0          0
    0          0          0          0          0
(>60dB)         0
avgNf:      -95, high: -67, low: -97
Noise Floor profile [-100dB...-40dB]
    0          2948       19          3          1
    0          0          0          0          0
    3          3          0          0          0
    0          0          0          0          0
(>-40dB)         0
avgRssi:     64, high: 68, low: 63
RSSI profile [-100dB...-40dB]
    0          0          0          0          0
    0          0          0          0          0
    0          0          0          0          0
    0          0          0          0          0
(>-40dB)       2977
Summary PktFailedRate (Total pkts sent/recvd):          0.000%
Physical layer Error rate (Total pkts with errors/Total pkts heard): 0.000%

```

This example shows how to enable external MAC filtering on access point AP001d.71d.e300:

```

(Cisco Controller) >config mesh linkdata AP001d.710d.e300
[SD:0,0,0(0,0,0), 0,0, 0,0]
[SD:1,105,0(0,0,0), 30,704,95,707]
[SD:2,103,0(0,0,0), 30,46,95,25]
[SD:3,105,0(0,0,0), 30,73,95,29]
[SD:4,82,0(0,0,0), 30,39,95,24]
[SD:5,82,0(0,0,0), 30,60,95,26]
[SD:6,105,0(0,0,0), 30,47,95,23]
[SD:7,103,0(0,0,0), 30,51,95,24]
[SD:8,105,0(0,0,0), 30,55,95,24]
[SD:9,103,0(0,0,0), 30,740,95,749]
[SD:10,105,0(0,0,0), 30,39,95,20]
[SD:11,104,0(0,0,0), 30,58,95,23]
[SD:12,105,0(0,0,0), 30,53,95,24]
[SD:13,103,0(0,0,0), 30,64,95,43]
[SD:14,105,0(0,0,0), 30,54,95,27]
[SD:15,103,0(0,0,0), 31,51,95,24]
[SD:16,105,0(0,0,0), 30,59,95,23]
[SD:17,104,0(0,0,0), 30,53,95,25]
[SD:18,105,0(0,0,0), 30,773,95,777]
[SD:19,103,0(0,0,0), 30,745,95,736]
[SD:20,105,0(0,0,0), 30,64,95,54]
[SD:21,103,0(0,0,0), 30,747,95,751]
[SD:22,105,0(0,0,0), 30,55,95,25]
[SD:23,104,0(0,0,0), 30,52,95,35]
[SD:24,105,0(0,0,0), 30,134,95,23]
[SD:25,103,0(0,0,0), 30,110,95,76]
[SD:26,105,0(0,0,0), 30,791,95,788]
[SD:27,103,0(0,0,0), 30,53,95,23]
[SD:28,105,0(0,0,0), 30,128,95,25]
[SD:29,104,0(0,0,0), 30,49,95,24]
[SD:30,0,0(0,0,0), 0,0, 0,0]

```

config mesh linktest

To verify client access between mesh access points, use the **config mesh linktest** command.

config mesh linktest *source_ap* { *dest_ap* | *MAC addr* } *datarate* *packet_rate* *packet_size* *duration*

| Syntax Description | |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>source_ap</i> | Source access point. |
| <i>dest_ap</i> | Destination access point. |
| <i>MAC addr</i> | MAC address. |
| <i>datarate</i> | <ul style="list-style-type: none"> Data rate for 802.11a radios. Valid values are 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps. Data rate for 802.11b radios. Valid values are 6, 12, 18, 24, 36, 54, or 100 Mbps. Data rate for 802.11n radios. Valid values are MCS rates between m0 to m15. |
| <i>packet_rate</i> | Number of packets per second. Valid range is 1 through 3000, but the recommended default is 100. |
| <i>packet_size</i> | (Optional) Packet size in bytes. If not specified, packet size defaults to 1500 bytes. |
| <i>duration</i> | (Optional) Duration of the test in seconds. Valid values are 10-300 seconds, inclusive. If not specified, duration defaults to 30 seconds. |

Command Default 100 packets per second, 1500 bytes, 30-second duration.

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

Usage Guidelines The **config mesh linktest** and **config mesh linkdata** commands are designed to be used together to verify information between a source and a destination access point. To get this information, first enter the **config mesh linktest** command with the access point that you want link data from in the *dest_ap* argument. When the command completes, enter the **config mesh linkdata** command and list the same destination access point, to display the link data.

The following warning message appears when you run a linktest that might oversubscribe the link:

```
Warning! Data Rate (100 Mbps) is not enough to perform this link test on
packet size (2000bytes) and (1000) packets per second. This may cause AP
to disconnect or reboot. Are you sure you want to continue?
```

The following example shows how to verify client access between mesh access points *SB_MAP1* and *SB_RAP2* at *36 Mbps*, *20 fps*, *100 frame size*, and *15-second* duration:

```
(Cisco Controller) >config mesh linktest SB_MAP1 SB_RAP1 36 20 100 15
LinkTest started on source AP, test ID: 0
[00:1D:71:0E:85:00]->[00:1D:71:0E:D0:0F]
Test config: 100 byte packets at 20 pps for 15 seconds, a-link rate 36 Mb/s
In progress: | || || || || || || |
LinkTest complete
Results
=====
txPkts:                290
txBuffAllocErr:       0
txQFullErrs:          0
Total rx pkts heard at destination:      290
rx pkts decoded correctly:
  err pkts: Total      0 (PHY 0 + CRC 0 + Unknown 0), TooBig 0, TooSmall 0
  rx lost packets:    0 (incr for each pkt seq missed or out of order)
  rx dup pkts:        0
  rx out of order:    0
avgSNR: 37, high: 40, low: 5
SNR profile [0dB...60dB]
  0          1          0          0          1
  3          0          1          0          2
  8          27         243         4          0
  0          0          0          0          0
(>60dB)     0
avgNf: -89, high: -58, low: -90
Noise Floor profile [-100dB...-40dB]
  0          0          0          145         126
  11         2          0          1          0
  3          0          1          0          1
  0          0          0          0          0
(>-40dB)    0
avgRssi: 51, high: 53, low: 50
RSSI profile [-100dB...-40dB]
  0          0          0          0          0
  0          0          0          0          0
  0          0          0          0          0
  0          7          283         0          0
(>-40dB)    0
Summary PktFailedRate (Total pkts sent/recvd): 0.000%
Physical layer Error rate (Total pkts with errors/Total pkts heard): 0.000%
```

The following table lists the output flags displayed for the **config mesh linktest** command.

Table 1: Output Flags for the Config Mesh Linktest Command

| Output Flag | Description |
|------------------------------------|---------------------------------------------------------------------------------------------------------|
| txPkts | Number of packets sent by the source. |
| txBuffAllocErr | Number of linktest buffer allocation errors at the source (expected to be zero). |
| txQFullErrs | Number of linktest queue full errors at the source (expected to be zero). |
| Total rx pkts heard at destination | Number of linktest packets received at the destination (expected to be same as or close to the txPkts). |

| Output Flag | Description |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rx pkts decoded correctly | Number of linktest packets received and decoded correctly at the destination (expected to be same as close to txPkts). |
| err pkts: Total | Packet error statistics for linktest packets with errors. |
| rx lost packets | Total number of linktest packets not received at the destination. |
| rx dup pkts | Total number of duplicate linktest packets received at the destination. |
| rx out of order | Total number of linktest packets received out of order at the destination. |
| avgNF | Average noise floor. |
| Noise Floor profile | Noise floor profile in dB and are negative numbers. |
| avgSNR | Average SNR values. |
| SNR profile [odb...60dB] | Histogram samples received between 0 to 60 dB. The different columns in the SNR profile is the number of packets falling under the bucket 0-3, 3-6, 6-9, up to 57-60. |
| avgRSSI | Average RSSI values. The average high and low RSSI values are positive numbers. |
| RSSI profile [-100dB...-40dB] | The RSSI profile in dB and are negative numbers. |

config mesh lsc

To configure a locally significant certificate (LSC) on mesh access points, use the **config mesh lsc** command.

config mesh lsc {enable | disable}

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables an LSC on mesh access points. |
| | disable | Disables an LSC on mesh 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 enable LSC on mesh access points:

```
(Cisco Controller) >config mesh lsc enable
```


config mesh lsc advanced

To configure an advanced locally significant certificate (LSC) when a wildcard is used in an external authentication, authorization, and accounting (AAA) server for a mesh Access Point (AP), use the **config mesh lsc advanced** command.

```
config mesh lsc advanced {enable | disable}
```

| | |
|---------------------------|-----------------------------------------------------|
| Syntax Description | enable Enables advanced LSC for a mesh AP. |
| | disable Disables advanced LSC for a mesh AP. |

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

| | |
|------------------------|------------------------------------|
| Command History | Release Modification |
| | 8.0 This command was introduced. |

The following example shows how to enable advanced LSC for a mesh AP:

```
(Cisco Controller) >config mesh lsc advanced enable
```

config mesh lsc advanced ap-provision

To configure advanced mesh locally significant certificate (LSC) Access Point (AP) provision if a wildcard is used in an external authentication, authorization, and accounting (AAA) server for a mesh AP, use the **config mesh lsc advanced ap-provision** command.

config mesh lsc advanced ap-provision {enable | disable | open-window {enable | disable} | provision-controller {enable | disable}}

| Syntax | Description |
|-----------------------------|--------------------------------------------------------------------------------------------------------|
| enable | Enables advanced mesh LSC AP provision if a wildcard is used in an external AAA server for a mesh AP. |
| disable | Disables advanced mesh LSC AP provision if a wildcard is used in an external AAA server for a mesh AP. |
| open-window | Configures mesh LSC provision for all mesh APs without MAC validation. |
| enable | Enables AP provision for all mesh APs without MAC validation. |
| disable | Disables AP provision for all mesh APs without MAC validation. |
| provision-controller | Configures the provision controller details for mesh APs to get an LSC. |
| enable | Enables the provision controller option to get an LSC. |
| disable | Disables the provision controller option to get an LSC. |

Command Default None

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.0 | This command was introduced. |

The following example shows how to enable the advanced AP provision method:

```
(Cisco Controller) >config mesh lsc advanced ap-provision enable
```

config mesh multicast

To configure multicast mode settings to manage multicast transmissions within the mesh network, use the **config mesh multicast** command.

```
config mesh multicast { regular | in | in-out }
```

| Syntax Description | regular | in | in-out |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Multicasts the video across the entire mesh network and all its segments by bridging-enabled root access points (RAPs) and mesh access points (MAPs). | Forwards the multicast video received from the Ethernet by a MAP to the RAP's Ethernet network. No additional forwarding occurs, which ensures that non-LWAPP multicasts received by the RAP are not sent back to the MAP Ethernet networks within the mesh network (their point of origin), and MAP-to-MAP multicasts do not occur because they are filtered out | Configures the RAP and MAP to multicast, but each in a different manner: If multicast packets are received at a MAP over Ethernet, they are sent to the RAP; however, they are not sent to other MAP Ethernets, and the MAP-to-MAP packets are filtered out of the multicast. If multicast packets are received at a RAP over Ethernet, they are sent to all the MAPs and their respective Ethernet networks. See the Usage Guidelines section for more information. |
| Command Default | In-out mode | | |
| Command History | Release | Modification | |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. | |

Usage Guidelines

Multicast for mesh networks cannot be enabled using the controller GUI.

Mesh multicast modes determine how bridging-enabled access points mesh access points (MAPs) and root access points (RAPs) send multicasts among Ethernet LANs within a mesh network. Mesh multicast modes manage non-LWAPP multicast traffic only. LWAPP multicast traffic is governed by a different mechanism.

You can use the controller CLI to configure three mesh multicast modes to manage video camera broadcasts on all mesh access points. When enabled, these modes reduce unnecessary multicast transmissions within the mesh network and conserve backhaul bandwidth.

When using in-out mode, it is important to properly partition your network to ensure that a multicast sent by one RAP is not received by another RAP on the same Ethernet segment and then sent back into the network.



Note If 802.11b clients need to receive CAPWAP multicasts, then multicast must be enabled globally on the controller as well as on the mesh network (by using the **config network multicast global** command). If multicast does not need to extend to 802.11b clients beyond the mesh network, you should disable the global multicast parameter.

The following example shows how to multicast video across the entire mesh network and all its segments by bridging-enabled RAPs and MAPs:

```
(Cisco Controller) >config mesh multicast regular
```

config mesh parent preferred

To configure a preferred parent for a mesh access point, use the **config mesh parent preferred** command.

```
config mesh parent preferred cisco_ap {mac_address | none}
```

Syntax Description

| | |
|--------------------|--------------------------------------|
| <i>cisco_ap</i> | Name of the child access point. |
| <i>mac_address</i> | MAC address of the preferred parent. |
| none | Clears the configured parent. |

Command Default

None

Command History

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

Usage Guidelines

A child AP selects the preferred parent based on the following conditions:

- The preferred parent is the best parent.
- The preferred parent has a link SNR of at least 20 dB (other parents, however good, are ignored).
- The preferred parent has a link SNR in the range of 12 dB and 20 dB, but no other parent is significantly better (that is, the SNR is more than 20 percent better). For an SNR lower than 12 dB, the configuration is ignored.
- The preferred parent is not in a blocked list.
- The preferred parent is not in silent mode because of dynamic frequency selection (DFS).
- The preferred parent is in the same bridge group name (BGN). If the configured preferred parent is not in the same BGN and no other parent is available, the child joins the parent AP using the default BGN.

The following example shows how to configure a preferred parent with the MAC address 00:21:1b:ea:36:60 for a mesh access point myap1:

```
(Cisco Controller) >config mesh parent preferred myap1 00:21:1b:ea:36:60
```

The following example shows how to clear a preferred parent with the MAC address 00:21:1b:ea:36:60 for a mesh access point myap1, by using the keyword none:

```
(Cisco Controller) >config mesh parent preferred myap1 00:21:1b:ea:36:60 none
```

config mesh public-safety

To enable or disable the 4.9-GHz public safety band for mesh access points, use the **config mesh public-safety** command.

```
config mesh public-safety {enable | disable} {all | cisco_ap}
```

| Syntax Description | | |
|--------------------|--|------------------------------------------------|
| enable | | Enables the 4.9-GHz public safety band. |
| disable | | Disables the 4.9-GHz public safety band. |
| all | | Applies the command to all mesh access points. |
| <i>cisco_ap</i> | | Specific mesh access point. |

Command Default The 4.9-GHz public safety band is disabled.

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

Usage Guidelines 4.9 GHz is a licensed frequency band restricted to public-safety personnel.

The following example shows how to enable the 4.9-GHz public safety band for all mesh access points:

```
(Cisco Controller) >config mesh public-safety enable all
4.9GHz is a licensed frequency band in -A domain for public-safety usage
Are you sure you want to continue? (y/N) y
```

config mesh radius-server

To enable or disable external authentication for mesh access points, use the **config mesh radius-server** command.

```
config mesh radius-server index {enable | disable}
```

| Syntax Description | <i>index</i> | RADIUS authentication method. Options are as follows: |
|--------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <ul style="list-style-type: none"> Enter eap to designate Extensible Authentication Protocol (EAP) for the mesh RADIUS server setting. Enter psk to designate Preshared Keys (PSKs) for the mesh RADIUS server setting. |
| | enable | Enables the external authentication for mesh access points. |
| | disable | Disables the external authentication for mesh access points. |

Command Default EAP 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 enable external authentication for mesh access points:

```
(Cisco Controller) >config mesh radius-server eap enable
```

config mesh range

To globally set the maximum range between outdoor root access points (RAPs) and mesh access points (MAPs), use the **config mesh range** command.

config mesh range [*distance*]

| | | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Syntax Description | <i>distance</i> | (Optional) Maximum operating range (150 to 132000 ft) of the mesh access point. |
| Command Default | 12,000 feet. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | After this command is enabled, all outdoor mesh access points reboot. This command does not affect indoor access points. | |

The following example shows how to set the range between an outdoor mesh RAP and a MAP:

```
(Cisco Controller) >config mesh range 300
Command not applicable for indoor mesh. All outdoor Mesh APs will be rebooted
Are you sure you want to start? (y/N) y
```


config mesh secondary-backhaul

To configure a secondary backhaul on the mesh network, use the **config mesh secondary-backhaul** command.

```
config mesh secondary-backhaul { enable [force-same-secondary-channel] | disable [rll-retransmit
| rll-transmit] }
```

| Syntax Description | enable | force-same-secondary- channel | disable | rll-transmit | rll-retransmit |
|--------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| | Enables the secondary backhaul configuration. | (Optional) Enables secondary-backhaul mesh capability. Forces all access points rooted at the first hop node to have the same secondary channel and ignores the automatic or manual channel assignments for the mesh access points (MAPs) at the second hop and beyond. | Specifies the secondary backhaul configuration is disabled. | (Optional) Uses reliable link layer (RLL) at the second hop and beyond. | (Optional) Extends the number of RLL retry attempts in an effort to improve reliability. |

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 uses a secondary backhaul radio as a temporary path for traffic that cannot be sent on the primary backhaul due to intermittent interference.

The following example shows ho to enable a secondary backhaul radio and force all access points rooted at the first hop node to have the same secondary channel:

```
(Cisco Controller) >config mesh secondary-backhaul enable force-same-secondary-channel
```

config mesh security

To configure the security settings for mesh networks, use the **config mesh security** command.

config mesh security {{**rad-mac-filter** | **force-ext-auth** } {**enable** | **disable**}} | {{**eap** | **psk provisioning** | **provisioning window** } | {**enable** | **disable**}} | {**delete_psk** | **key**}

| Syntax Description | | |
|----------------------------|--|-----------------------------------------------------------------------------------------------------------------|
| rad-mac-filter | | Enables a Remote Authentication Dial-In User Service (RADIUS) MAC address filter for the mesh security setting. |
| force-ext-auth | | Disables forced external authentication for the mesh security setting. |
| lsc-only-auth | | Enables Locally Significant Certificate only authentication for the mesh security setting. |
| enable | | Enables the mesh security setting. |
| disable | | Disables the mesh security setting. |
| eap | | Designates the Extensible Authentication Protocol (EAP) for the mesh security setting by default. |
| psk | | Designates a preshared key (PSK) for the mesh security setting. |
| provisioning | | Encrypts provisioning for the PSK in Cisco Wireless Controller (WLC). |
| provisioning window | | Encrypts provisioning window for the PSK in Cisco WLC. |
| enable | | Enables provisioning of the PSK. |
| disable | | Disables provisioning of the PSK. |
| key | | Specifies the key for the PSK. |

Command Default The EAP is designated as default for the mesh security.

| Command History | Release | Modification |
|-----------------|---------|------------------------------------------------------------------------------------------|
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| | 8.2 | This command was modified, the psk provisioning and psk provisioning keywords are added. |

The following example shows how to configure EAP as the security option for all mesh access points:

```
(Cisco Controller) config mesh security eap
```

The following example shows how to configure PSK as the security option for all mesh access points:

```
(Cisco Controller) config mesh security psk
```

The following example shows how to enable PSK provisioning as the security option for all mesh access points:

```
(Cisco Controller)> config mesh security psk provisioning enable
```

The following example shows how to configure a PSK provisioning key as the security option for all mesh access points:

```
(Cisco Controller)> config mesh security psk provisioning key 5
```

The following example shows how to enable a PSK provisioning window as the security option for all mesh access points:

```
(Cisco Controller)> config mesh security psk provisioning window enable
```

The following example shows how to delete the PSK provisioning for Cisco WLC :

```
(Cisco Controller)> config mesh security psk provisioning delete_psk wlc
```

The following example shows how to delete the PSK provisioning for all mesh access points:

```
(Cisco Controller)> config mesh security psk provisioning delete_psk ap
```

The following example shows how to delete PSK provisioning for all configurations in Cisco WLC :

```
(Cisco Controller)> config mesh security psk provisioning delete_psk wlc all
```

config mesh slot-bias

To enable or disable slot bias for serial backhaul mesh access points, use the **config mesh slot-bias** command.

```
config mesh slot-bias {enable | disable}
```

| Syntax Description | enable | enable |
|--------------------|---------|--------------------------------------------------|
| | | Enables slot bias for serial backhaul mesh APs. |
| | disable | Disables slot bias for serial backhaul mesh APs. |

Command Default By default, slot bias is in enabled state.

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

Usage Guidelines Follow these guidelines when using this command:

- The **config mesh slot-bias** command is a global command and therefore applicable to all 1524SB APs associated with the same controller.
- Slot bias is applicable only when both slot 1 and slot 2 are available. If a slot radio does not have a channel that is available because of dynamic frequency selection (DFS), the other slot takes up both the uplink and downlink roles.
- If slot 2 is not available because of hardware issues, slot bias functions normally. Corrective action should be taken by disabling the slot bias or fixing the antenna.

The following example shows how to disable slot bias for serial backhaul mesh APs:

```
(Cisco Controller) >config mesh slot-bias disable
```

config mgmtuser add

To add a local management user to the controller, use the **config mgmtuser add** command.

config mgmtuser add *username password* {**lobby-admin** | **read-write** | **read-only**} [*description*]

Syntax Description

| | |
|--------------------|----------------------------------------------------------------------------------------------------------------------|
| <i>username</i> | Account username. The username can be up to 24 alphanumeric characters. |
| <i>password</i> | Account password. The password can be up to 24 alphanumeric characters. |
| lobby-admin | Creates a management user with lobby ambassador privileges. |
| read-write | Creates a management user with read-write access. |
| read-only | Creates a management user with read-only access. |
| <i>description</i> | (Optional) Description of the account. The description can be up to 32 alphanumeric characters within double quotes. |

Command Default

None

Command History

Release Modification

- | | |
|-----|--------------------------------------------------------------------|
| 7.6 | This command was introduced in a release earlier than Release 7.6. |
| 8.4 | This command creates lobby-admin user . |

The following example shows how to create a management user account with read-write access.

```
(Cisco Controller) > config mgmtuser add admin admin read-write "Main account"
```

Related Commands

show mgmtuser

config mgmtuser delete

To delete a management user from the controller, use the **config mgmtuser delete** command.

config mgmtuser delete *username*

| Syntax Description | |
|--------------------|-------------------------------------------------------------------------|
| <i>username</i> | Account username. The username can be up to 24 alphanumeric characters. |

Command Default The management user is not deleted by default.

Command History

Release Modification

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

The following example shows how to delete a management user account admin from the controller.

```
(Cisco Controller) > config mgmtuser delete admin
```

```
Deleted user admin
```

Related Commands **show mgmtuser**

config mgmtuser description

To add a description to an existing management user login to the controller, use the **config mgmtuser description** command.

config mgmtuser description *username description*

| Syntax Description | | |
|--------------------|--------------------|-----------------------------------------------------------------------------------------------------------|
| | <i>username</i> | Account username. The username can be up to 24 alphanumeric characters. |
| | <i>description</i> | Description of the account. The description can be up to 32 alphanumeric characters within double quotes. |

Command Default No description is added to the management user.

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

The following example shows how to add a description “primary-user” to the management user “admin”:

```
(Cisco Controller) > config mgmtuser description admin "primary-user"
```

| Related Commands | |
|------------------|---------------------------------|
| | config mgmtuser add |
| | config mgmtuser delete |
| | config mgmtuser password |
| | show mgmtuser |

config mgmtuser password

To configure a management user password, use the **config mgmtuser password** command.

config mgmtuser password *username password*

| Syntax Description | | |
|--------------------|-----------------|-------------------------------------------------------------------------|
| | <i>username</i> | Account username. The username can be up to 24 alphanumeric characters. |
| | <i>password</i> | Account password. The password can be up to 24 alphanumeric characters. |

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 change the password of the management user “admin” with the new password 5rTfm:

```
(Cisco Controller) > config mgmtuser password admin 5rTfm
```

Related Commands **show mgmtuser**

config mgmtuser telnet

To enable local management users to use Telnet to connect to the Cisco Wireless LAN Controller, use the **config mgmtuser telnet** command.

```
config mgmtuser telnet user_name {enable | disable}
```

Syntax Description

user_name Username of a local management user.

enable Enables a local management user to use Telnet to connect to the Cisco WLC. You can enter up to 24 alphanumeric characters.

disable Disables a local management user from using Telnet to connect to the Cisco WLC.

Command Default

Local management users can use Telnet to connect to the Cisco WLC.

Command History

Release Modification

7.5 This command was introduced.

Usage Guidelines

You must enable global Telnet to enable this command. Secure Shell (SSH) connection is not affected when you enable this option.

The following example shows how to enable a local management user to use Telnet to connect to the Cisco WLC:

```
(Cisco Controller) > config mgmtuser telnet admin1 enable
```

config mgmtuser termination-interval

To configure the user re-authentication terminal interval in seconds, use the **config mgmtuser termination-interval** command.

config mgmtuser termination-interval {*seconds* }

Syntax Description

seconds Re-authentication terminal interval in seconds for a user before being logged out. Default value is 0, the valid range is 0 to 300 seconds.

Command History**Release Modification**

8.2 This command was introduced in this release.

The following example shows how to set the interval in seconds before the user is logged out:

```
(Cisco Controller) > config mgmtuser termination-interval 180
```

config mobility dscp

To configure the mobility intercontroller DSCP value, use the **config mobility dscp** command.

config mobility dscp *dscp_value*

| | | |
|---------------------------|-------------------|--------------------------------------------------------------------|
| Syntax Description | <i>dscp_value</i> | DSCP value ranging from 0 to 63. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to configure the mobility intercontroller DSCP value to 40:

```
(Cisco Controller) >config mobility dscp 40
```

config mobility group anchor

To create a new mobility anchor for the WLAN or wired guest LAN, enter, use the **config mobility group anchor** command.

```
config mobility group anchor {add | delete} {wlan wlan_id | guest-lan guest_lan_id} anchor_ip
```

| Syntax Description | | |
|---------------------|--|--------------------------------------------------------|
| add | | Adds or changes a mobility anchor to a wireless LAN. |
| delete | | Deletes a mobility anchor from a wireless LAN. |
| wlan | | Specifies the wireless LAN anchor settings. |
| <i>wlan_id</i> | | Wireless LAN identifier between 1 and 512 (inclusive). |
| guest-lan | | Specifies the guest LAN anchor settings. |
| <i>guest_lan_id</i> | | Guest LAN identifier between 1 and 5 (inclusive). |
| <i>anchor_ip</i> | | IP address of the anchor controller. |

Command Default None

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

Usage Guidelines The *wlan_id* or *guest_lan_id* must exist and be disabled.

Auto-anchor mobility is enabled for the WLAN or wired guest LAN when you configure the first mobility anchor. Deleting the last anchor disables the auto-anchor mobility feature and resumes normal mobility for new associations.

The following example shows how to add a mobility anchor with the IP address 192.12.1.5 to a wireless LAN ID 2:

```
(Cisco Controller) >config mobility group anchor add wlan 2 192.12.1.5
```

The following example shows how to delete a mobility anchor with the IP address 193.13.1.15 from a wireless LAN:

```
(Cisco Controller) >config mobility group anchor delete wlan 5 193.13.1.15
```

config mobility group domain

To configure the mobility domain name, use the **config mobility group domain** command.

config mobility group domain *domain_name*

| | | |
|---------------------------|--------------------|-------------------------------------------------------------------------|
| Syntax Description | <i>domain_name</i> | Domain name. The domain name can be up to 31 case-sensitive characters. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to configure a mobility domain name lab1:

```
(Cisco Controller) >config mobility group domain lab1
```

config mobility group keepalive count

To configure the Cisco WLC to detect failed mobility group members (including anchor Cisco WLCs), use the **config mobility group keepalive count** command.

config mobility group keepalive count *count*

| | | |
|---------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | <i>count</i> | Number of times that a ping request is sent to a mobility group member before the member is considered unreachable. The range is from 3 to 20. The default is 3. |
| Command Default | The default number of times that a ping request is sent to a mobility group member is 3. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to specify the number of times a ping request is sent to a mobility group member before the member is considered unreachable to three counts:

```
(Cisco Controller) >config mobility group keepalive count 3
```

config mobility group keepalive interval

To configure the controller to detect failed mobility group members (including anchor controllers), use the **config mobility group keepalive** command.

config mobility group keepalive *interval*

| | | |
|---------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | <i>interval</i> | Interval of time between each ping request sent to a mobility group member. The range is from 1 to 30 seconds. The default value is 10 seconds. |
| Command Default | The default interval of time between each ping request is 10 seconds. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to specify the amount of time between each ping request sent to a mobility group member to 10 seconds:

```
(Cisco Controller) >config mobility group keepalive 10
```

config mobility group member

To add or delete users from the mobility group member list, use the **config mobility group member** command.

```
config mobility group member {add MAC-addr IP-addr [group_name] [encrypt {enable | disable} | [data-dtls mac-addr {enable | disable} | delete MAC-addr | hash IP-addr {key | none}] }
```

| Syntax Description | | |
|------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| add | | Adds or changes a mobility group member to the list. |
| <i>MAC-addr</i> | | Member switch MAC address. |
| <i>IP-addr</i> | | Member switch IP address. |
| <i>group_name</i> | | (Optional) Member switch group name (if different from the default group name). |
| delete | | (Optional) Deletes a mobility group member from the list. |
| hash | | Configures the hash key for authorization. You can configure the hash key only if the member is a virtual controller in the same domain. |
| <i>key</i> | | Hash key of the virtual controller. For example, a819d479dcfeb3e0974421b6e8335582263d9169 |
| none | | Clears the previous hash key of the virtual controller. |
| 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. |
| | 8.8.111.0 | This command was updated by adding encrypt , data-dtls keywords to support IRCM functionality. |

The following example shows how to add a mobility group member with an IPv4 address to the list:

```
(Cisco Controller) >config mobility group member add 11:11:11:11:11:11 209.165.200.225
```

The following example shows how to add a mobility group member with an IPv6 address to the list:

```
(Cisco Controller) >config mobility group member add 11:11:11:11:11:11 2001:DB8::1
```

The following example shows how to configure the hash key of a virtual controller in the same domain:



Note The IP address in this example can be in either IPv4 or IPv6 format.

```
(Cisco Controller) >config mobility group member hash 209.165.201.1  
a819d479dcfeb3e0974421b6e8335582263d9169
```

config mobility group multicast-address

To configure the multicast group IP address for nonlocal groups within the mobility list, use the **config mobility group multicast-address** command.

config mobility group multicast-address *group_name ip_address*

| | | |
|---------------------------|-------------------|----------------------------------------------------------------------|
| Syntax Description | <i>group_name</i> | Member switch group name (if different from the default group name). |
| | <i>ip_address</i> | Member switch IP 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. |

The following example shows how to configure the multicast group IP address 10.10.10.1 for a group named test:

```
(Cisco Controller) >config mobility group multicast-address test 10.10.10.1
```

The following example shows how to configure the multicast group IP address 2001:DB8::1 for a group named test:

```
(Cisco Controller) >config mobility group multicast-address test 2001:DB8::1
```

config mobility multicast-mode

To enable or disable mobility multicast mode, use the **config mobility multicast-mode** command.

```
config mobility multicast-mode {enable | disable} local_group_multicast_address
```

| Syntax Description | enable | disable |
|--------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| | Enables the multicast mode; the controller uses multicast mode to send Mobile Announce messages to the local group. | Disables the multicast mode; the controller uses unicast mode to send the Mobile Announce messages to the local group. |
| | <i>local_group_multicast_address</i> | IP address for the local mobility group. |
| Command Default | The mobility multicast mode is disabled. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable the multicast mobility mode for the local mobility group IP address 157.168.20.0:

```
(Cisco Controller) >config mobility multicast-mode enable 157.168.20.0
```

config mobility new-architecture

To enable new mobility on the Cisco Wireless LAN Controller (WLC), use the **config mobility new-architecture** command.

config mobility new-architecture { **enable** | **disable** }

| Syntax Description | |
|--------------------|---------------------------------------------------------------------------|
| enable | Configures the Cisco WLC to switch to the new mobility architecture. |
| disable | Configures the Cisco WLC to switch to the old flat mobility architecture. |

Command Default By default, new mobility is disabled.

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 7.3.112.0 | This command was introduced. |

Usage Guidelines New mobility is supported only on Cisco WiSM2, Cisco 2500 Series Wireless Controllers, Cisco 5500 Series Wireless Controllers, and Cisco 8500 Series Wireless Controllers. New mobility enables the Cisco WLC to be compatible with Converged Access controllers with Wireless Control Module (WCM), such as Cisco Catalyst 3850 Series and the Cisco 5760 Wireless LAN Controllers.

The following example shows how to enable new mobility on the Cisco WLC:

```
(Cisco Controller) >config mobility new-architecture enable
```

config mobility oracle

To configure the Mobility Oracle (MO), use the **config mobility oracle** command.

```
config mobility oracle { enable | disable | ip ip_address }
```

| Syntax Description | | |
|--------------------|--|-------------------------------------|
| enable | | Enables the MO on startup. |
| disable | | Disables the MO on startup. |
| ip | | Specifies the IP address of the MO. |
| <i>ip_address</i> | | IP address of the MO. |

Command Default None

| Command History | Release | Modification |
|-----------------|-----------|-------------------------------------------------|
| | 7.3.112.0 | This command was introduced. |
| | 8.0 | This command supports only IPv4 address format. |

Usage Guidelines The MO maintains the client database under one complete mobility domain. It consists of a station database, an interface to the mobility Cisco WLC, and an NTP server. There can be only one MO in the entire mobility domain.

The IPv6 address format for this command is not supported.

The following example shows how to configure the MO IP address:

```
(Cisco Controller) >config mobility oracle ip 27.0.0.1
```

config mobility secure-mode

To configure the secure mode for mobility messages between Cisco WLCs, use the **config mobility secure-mode** command.

config mobility secure-mode {enable | disable}

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables the mobility group message security. |
| | disable | Disables mobility group message security. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable the secure mode for mobility messages:

```
(Cisco Controller) >config mobility secure-mode enable
```

config mobility statistics reset

To reset the mobility statistics, use the **config mobility statistics reset** command.

config mobility statistics reset

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 reset the mobility group statistics:

```
(Cisco Controller) >config mobility statistics reset
```

config netuser add

To add a guest user on a WLAN or wired guest LAN to the local user database on the controller, use the **config netuser add** command.

config netuser add *username password* { **wlan** *wlan_id* | **guestlan** *guestlan_id* } **userType** **guest** **lifetime** *lifetime* **description** *description*

| Syntax | Description |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <i>username</i> | Guest username. The username can be up to 50 alphanumeric characters. |
| <i>password</i> | User password. The password can be up to 24 alphanumeric characters. |
| wlan | Specifies the wireless LAN identifier to associate with or zero for any wireless LAN. |
| <i>wlan_id</i> | Wireless LAN identifier assigned to the user. A zero value associates the user with any wireless LAN. |
| guestlan | Specifies the guest LAN identifier to associate with or zero for any wireless LAN. |
| <i>guestlan_id</i> | Guest LAN ID. |
| userType | Specifies the user type. |
| guest | Specifies the guest for the guest user. |
| lifetime | Specifies the lifetime. |
| <i>lifetime</i> | Lifetime value (60 to 259200 or 0) in seconds for the guest user. Note A value of 0 indicates an unlimited lifetime. |
| <i>description</i> | Short description of user. The description can be up to 32 characters enclosed in double-quotes. |

Command Default None

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

Usage Guidelines Local network usernames must be unique because they are stored in the same database.

The following example shows how to add a permanent username Jane to the wireless network for 1 hour:


```
(Cisco Controller) > config netuser add jane able2 1 wlan_id 1 userType permanent
```

The following example shows how to add a guest username George to the wireless network for 1 hour:

```
(Cisco Controller) > config netuser add george able1 guestlan 1 3600
```

Related Commands

show netuser

config netuser delete

config netuser delete

To delete an existing user from the local network, use the **config netuser delete** command.

config netuser delete *username*

| | | |
|---------------------------|-----------------|-------------------------------------------------------------------------|
| Syntax Description | <i>username</i> | Network username. The username can be up to 24 alphanumeric characters. |
|---------------------------|-----------------|-------------------------------------------------------------------------|

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

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

Usage Guidelines Local network usernames must be unique because they are stored in the same database.

The following example shows how to delete an existing username named able1 from the network:

```
(Cisco Controller) > config netuser delete able1
Deleted user able1
```

| | |
|-------------------------|---------------------|
| Related Commands | show netuser |
|-------------------------|---------------------|

config netuser description

To add a description to an existing net user, use the **config netuser description** command.

config netuser description *username description*

| Syntax Description | | |
|--------------------|--------------------|-----------------------------------------------------------------------------------------------------------------|
| | <i>username</i> | Network username. The username can contain up to 24 alphanumeric characters. |
| | <i>description</i> | (Optional) User description. The description can be up to 32 alphanumeric characters enclosed in double quotes. |

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 add a user description “HQ1 Contact” to an existing network user named 1:

```
(Cisco Controller) > config netuser description able1 "HQ1 Contact"
```

Related Commands `show netuser`

config network dns serverip

To configure the network dns server, use the **config network dns serverip** command.

```
config network dns serverip { ipaddr }
```

| | | |
|---------------------------|-----------------------------------------------------------------|-----------------------------|
| Syntax Description | <i>ipaddr</i> | Specifies the ip-address. |
| Command Default | The default network-level web authentication value is disabled. | |
| Command History | Release | Modification |
| | 8.3 | This command was introduced |

The following example shows how to enable proxy redirect support for web authentication clients:

```
cisco controller config network dns serverip 198.172.202.252
```

Related Commands **show network summary**

config netuser guest-lan-id

To configure a wired guest LAN ID for a network user, use the **config netuser guest-lan-id** command.

```
config netuser guest-lan-id username lan_id
```

| Syntax Description | | |
|--------------------|-----------------|-------------------------------------------------------------------------------------------------------------|
| | <i>username</i> | Network username. The username can be 24 alphanumeric characters. |
| | <i>lan_id</i> | Wired guest LAN identifier to associate with the user. A zero value associates the user with any wired LAN. |

Command Default None

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

The following example shows how to configure a wired LAN ID 2 to associate with the user named aire1:

```
(Cisco Controller) > config netuser guest-lan-id aire1 2
```

Related Commands

- show netuser**
- show wlan summary**

config netuser guest-role apply

To apply a quality of service (QoS) role to a guest user, use the **config netuser guest-role apply** command.

config netuser guest-role apply *username role_name*

| Syntax Description | | |
|--------------------|------------------|----------------------|
| | <i>username</i> | Name of the user. |
| | <i>role_name</i> | QoS guest role name. |

Command Default None

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

Usage Guidelines If you do not assign a QoS role to a guest user, the Role field in the User Details shows the role as default. The bandwidth contracts for this user are defined in the QoS profile for the WLAN.

If you want to unassign a QoS role from a guest user, use the **config netuser guest-role apply** *username default*. This user now uses the bandwidth contracts defined in the QoS profile for the WLAN.

The following example shows how to apply a QoS role to a guest user jsmith with the QoS guest role named Contractor:

```
(Cisco Controller) > config netuser guest-role apply jsmith Contractor
```

Related Commands **config netuser guest-role create**
config netuser guest-role delete

config netuser guest-role create

To create a quality of service (QoS) role for a guest user, use the **config netuser guest-role create** command.

config netuser guest-role create *role_name*

| | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | <i>role name</i> QoS guest role name. |
| Command Default | None |
| Command History | Release Modification 7.6 This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | To delete a QoS role, use the config netuser guest-role delete <i>role-name</i> . The following example shows how to create a QoS role for the guest user named guestuser1: (Cisco Controller) > config netuser guest-role create guestuser1 |
| Related Commands | config netuser guest-role delete |

config netuser guest-role delete

To delete a quality of service (QoS) role for a guest user, use the **config netuser guest-role delete** command.

config netuser guest-role delete *role_name*

| Syntax Description | <i>role_name</i> | Quality of service (QoS) guest role 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 delete a quality of service (QoS) role for guestuser1:

```
(Cisco Controller) > config netuser guest-role delete guestuser1
```

| Related Commands | config netuser guest-role create |
|------------------|----------------------------------|
|------------------|----------------------------------|

config netuser guest-role qos data-rate average-data-rate

To configure the average data rate for TCP traffic on a per user basis, use the **config netuser guest-role qos data-rate average-data-rate** command.

config netuser guest-role qos data-rate average-data-rate *role_name* *rate*

| | | |
|---------------------------|------------------|-------------------------------------------|
| Syntax Description | <i>role_name</i> | Quality of service (QoS) guest role name. |
| | <i>rate</i> | Rate for TCP traffic on a per user basis. |

Command Default None

Usage Guidelines For the *role_name* parameter in each of these commands, enter a name for the new QoS role. The name uniquely identifies the role of the QoS user (such as contractor, vendor, and so on.). For the *rate* parameter, you can enter a value between 0 and 60,000 Kbps (inclusive). A value of 0 imposes no bandwidth restriction on the QoS role.

The following example shows how to configure an average rate for the QoS guest named guestuser1:

```
(Cisco Controller) > config netuser guest-role qos data-rate average-data-rate guestuser1
0
```

Related Commands

- config netuser guest-role create**
- config netuser guest-role delete**
- config netuser guest-role qos data-rate burst-data-rate**

config netuser guest-role qos data-rate average-realtime-rate

To configure the average data rate for TCP traffic on a per user basis, use the **config netuser guest-role qos data-rate average-realtime-rate** command.

config netuser guest-role qos data-rate average-realtime-rate *role_name* *rate*

| | | |
|---------------------------|------------------|-------------------------------------------|
| Syntax Description | <i>role_name</i> | Quality of service (QoS) guest role name. |
| | <i>rate</i> | Rate for TCP traffic on a per user basis. |

Command Default None

Usage Guidelines For the *role_name* parameter in each of these commands, enter a name for the new QoS role. The name uniquely identifies the role of the QoS user (such as contractor, vendor, and so on.). For the *rate* parameter, you can enter a value between 0 and 60,000 Kbps (inclusive). A value of 0 imposes no bandwidth restriction on the QoS role.

The following example shows how to configure an average data rate for the QoS guest user named `guestuser1` with the rate for TCP traffic of 0 Kbps:

```
(Cisco Controller) > config netuser guest-role qos data-rate average-realtime-rate guestuser1
0
```

Related Commands

- config netuser guest-role**
- config netuser guest-role qos data-rate average-data-rate**

config netuser guest-role qos data-rate burst-data-rate

To configure the peak data rate for TCP traffic on a per user basis, use the **config netuser guest-role qos data-rate burst-data-rate** command.

config netuser guest-role qos data-rate burst-data-rate *role_name* *rate*

| | | |
|---------------------------|------------------|-------------------------------------------|
| Syntax Description | <i>role_name</i> | Quality of service (QoS) guest role name. |
| | <i>rate</i> | Rate for TCP traffic on a per user basis. |

Command Default None

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

Usage Guidelines

The burst data rate should be greater than or equal to the average data rate. Otherwise, the QoS policy may block traffic to and from the wireless client.

For the *role_name* parameter in each of these commands, enter a name for the new QoS role. The name uniquely identifies the role of the QoS user (such as contractor, vendor, and so on.). For the *rate* parameter, you can enter a value between 0 and 60,000 Kbps (inclusive). A value of 0 imposes no bandwidth restriction on the QoS role.

The following example shows how to configure the peak data rate for the QoS guest named guestuser1 with the rate for TCP traffic of 0 Kbps:

```
(Cisco Controller) > config netuser guest-role qos data-rate burst-data-rate guestuser1 0
```

Related Commands

- config netuser guest-role create**
- config netuser guest-role delete**
- config netuser guest-role qos data-rate average-data-rate**

config netuser guest-role qos data-rate burst-realtime-rate

To configure the burst real-time data rate for UDP traffic on a per user basis, use the **config netuser guest-role qos data-rate burst-realtime-rate** command.

config netuser guest-role qos data-rate burst-realtime-rate *role_name* *rate*

| | | |
|---------------------------|------------------|--------------------------------------------------------------------|
| Syntax Description | <i>role_name</i> | Quality of service (QoS) guest role name. |
| | <i>rate</i> | Rate for TCP traffic on a per user basis. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

Usage Guidelines

The burst real-time rate should be greater than or equal to the average real-time rate. Otherwise, the quality of service (QoS) policy may block traffic to and from the wireless client.

For the *role_name* parameter in each of these commands, enter a name for the new QoS role. The name uniquely identifies the role of the QoS user (such as contractor, vendor, and so on.). For the *rate* parameter, you can enter a value between 0 and 60,000 Kbps (inclusive). A value of 0 imposes no bandwidth restriction on the QoS role.

The following example shows how to configure a burst real-time rate for the QoS guest user named guestuser1 with the rate for TCP traffic of 0 Kbps:

```
(Cisco Controller) > config netuser guest-role qos data-rate burst-realtime-rate guestuser1
0
```

Related Commands

- config netuser guest-role**
- config netuser guest-role qos data-rate average-data-rate**
- config netuser guest-role qos data-rate burst-data-rate**

config netuser lifetime

To configure the lifetime for a guest network user, use the **config netuser lifetime** command.

config netuser lifetime *username time*

| Syntax Description | | |
|--------------------|-----------------|-------------------------------------------------------------------------|
| | <i>username</i> | Network username. The username can be up to 50 alphanumeric characters. |
| | <i>time</i> | Lifetime between 60 to 31536000 seconds or 0 for no limit. |

Command Default None

Command History **Release** **Modification**

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

The following example shows how to configure lifetime for a guest network user:

```
(Cisco Controller) > config netuser lifetime guestuser1 22450
```

Related Commands **show netuser**

show wlan summary

config netuser maxUserLogin

To configure the maximum number of login sessions allowed for a network user, use the **config netuser maxUserLogin** command.

config netuser maxUserLogin *count*

| | | |
|---------------------------|--------------|-----------------------------------------------------------------------------------------------------|
| Syntax Description | <i>count</i> | Maximum number of login sessions for a single user. The allowed values are from 0 (unlimited) to 8. |
|---------------------------|--------------|-----------------------------------------------------------------------------------------------------|

| | |
|------------------------|--------------------------------------------------------------------------------------|
| Command Default | By default, the maximum number of login sessions for a single user is 0 (unlimited). |
|------------------------|--------------------------------------------------------------------------------------|

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

The following example shows how to configure the maximum number of login sessions for a single user to 8:

```
(Cisco Controller) > config netuser maxUserLogin 8
```

| | |
|-------------------------|---------------------|
| Related Commands | show netuser |
|-------------------------|---------------------|

config netuser password

To change a local network user password, use the **config netuser password** command.

config netuser password *username password*

| | | |
|---------------------------|-----------------|-----------------------------------------------------------------------------------|
| Syntax Description | <i>username</i> | Network username. The username can be up to 24 alphanumeric characters. |
| | <i>password</i> | Network user password. The password can contain up to 24 alphanumeric characters. |

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 change the network user password from aire1 to aire2:

```
(Cisco Controller) > config netuser password aire1 aire2
```

Related Commands show netuser

config netuser wlan-id

To configure a wireless LAN ID for a network user, use the **config netuser wlan-id** command.

config netuser wlan-id *username wlan_id*

| | | |
|---------------------------|-----------------|-------------------------------------------------------------------------------------------------------------|
| Syntax Description | <i>username</i> | Network username. The username can be 24 alphanumeric characters. |
| | <i>wlan_id</i> | Wireless LAN identifier to associate with the user. A zero value associates the user with any wireless LAN. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

Examples

The following example shows how to configure a wireless LAN ID 2 to associate with the user named aire1:

```
(Cisco Controller) > config netuser wlan-id aire1 2
```

| | |
|-------------------------|--------------------------|
| Related Commands | show netuser |
| | show wlan summary |

config network client-ip-conflict-detection

To enable or disable client DHCP address conflict detection in a network, use the **config network client-ip-conflict-detection** command.

config network client-ip-conflict-detection { **enable** | **disable** }

| | | |
|---------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | enable | If a wireless client receives a DHCP address, which is already registered to another client, the earlier client will be disconnected and will have to reconnect and get a new address. |
| | disable | Disables this feature. |
| Command Default | Disabled. | |
| Command History | Release | Modification |
| | 8.1 | This command was introduced. |

config network http-proxy ip-address

To configure network http proxy server ipaddress, use the **config network http-proxy ip-address** command.

config network http-proxy ip-address *ip-address***port***port-no*

| | | |
|---------------------------|-------------------|------------------------------|
| Syntax Description | <i>ip-address</i> | IP address for http-proxy. |
| | <i>port-no</i> | Port number for http-proxy. |
| Command Default | None | |
| Command History | Release | Modification |
| | 8.3 | This command was introduced. |

The following example shows how to enable configure network http proxy server ipaddress:

```
cisco controller config network http-proxy ip-address 10.10.10.11 port 8080
```

Related Commands **show network summary**

config network bridging-shared-secret

To configure the bridging shared secret, use the **config network bridging-shared-secret** command.

```
config network bridging-shared-secret shared_secret
```

| | | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Syntax Description | <i>shared_secret</i> | Bridging shared secret string. The string can contain up to 10 bytes. |
| Command Default | The bridging shared secret is enabled by default. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | This command creates a secret that encrypts backhaul user data for the mesh access points that connect to the switch. The zero-touch configuration must be enabled for this command to work. The following example shows how to configure the bridging shared secret string “shhh1”: (Cisco Controller) > config network bridging-shared-secret shhh1 | |
| Related Commands | show network summary | |

config network web-auth captive-bypass

To configure the controller to support bypass of captive portals at the network level, use the **config network web-auth captive-bypass** command.

config network web-auth captive-bypass {enable | disable}

| Syntax Description | enable | disable |
|--------------------|-------------------------------------------------------------|----------------------------------------------------------------|
| | Allows the controller to support bypass of captive portals. | Disallows the controller to support bypass of captive portals. |

Command Default None

The following example shows how to configure the controller to support bypass of captive portals:

```
(Cisco Controller) > config network web-auth captive-bypass enable
```

Related Commands

- show network summary**
- config network web-auth cmcc-support**

config network web-auth port

To configure an additional port to be redirected for web authentication at the network level, use the **config network web-auth port** command.

config network web-auth port *port*

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | <i>port</i> | Port number. The valid range is from 0 to 65535. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to configure an additional port number 1200 to be redirected for web authentication:

```
(Cisco Controller) > config network web-auth port 1200
```

Related Commands **show network summary**

config network web-auth proxy-redirect

To configure proxy redirect support for web authentication clients, use the **config network web-auth proxy-redirect** command.

config network web-auth proxy-redirect { **enable** | **disable** }

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | enable | Allows proxy redirect support for web authentication clients. |
| | disable | Disallows proxy redirect support for web authentication clients. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable proxy redirect support for web authentication clients:

```
(Cisco Controller) > config network web-auth proxy-redirect enable
```

Related Commands **show network summary**

config network web-auth secureweb

To configure the secure web (https) authentication for clients, use the **config network web-auth secureweb** command.

config network web-auth secureweb { **enable** | **disable** }

| | | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Syntax Description | enable | Allows secure web (https) authentication for clients. |
| | disable | Disallows secure web (https) authentication for clients. Enables http web authentication for clients. |
| Command Default | The default secure web (https) authentication for clients is enabled. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | <p>If you configure the secure web (https) authentication for clients using the config network web-auth secureweb disable command, then you must reboot the Cisco WLC to implement the change.</p> <p>The following example shows how to enable the secure web (https) authentication for clients:</p> <pre>(Cisco Controller) > config network web-auth secureweb enable</pre> | |
| Related Commands | show network summary | |

config network webmode

To enable or disable the web mode, use the **config network webmode** command.

```
config network webmode { enable | disable }
```

Syntax Description**enable**

Enables the web interface.

disable

Disables the web interface.

Command Default

The default value for the web mode is **enable**.

Command History**Release Modification**

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

The following example shows how to disable the web interface mode:

```
(Cisco Controller) > config network webmode disable
```

Related Commands**show network summary**

config network web-auth

To configure the network-level web authentication options, use the **config network web-auth** command.

```
config network web-auth {port port-number} | {proxy-redirect {enable | disable}}
```

| Syntax Description | | |
|-----------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port | | Configures additional ports for web authentication redirection. |
| <i>port-number</i> | | Port number (between 0 and 65535). |
| proxy-redirect | | Configures proxy redirect support for web authentication clients. |
| enable | | Enables proxy redirect support for web authentication clients. Note Web-auth proxy redirection will be enabled for ports 80, 8080, and 3128, along with user defined port 345. |
| disable | | Disables proxy redirect support for web authentication clients. |

Command Default The default network-level web authentication value is disabled.

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

Usage Guidelines You must reset the system for the configuration to take effect.

The following example shows how to enable proxy redirect support for web authentication clients:

```
(Cisco Controller) > config network web-auth proxy-redirect enable
```

Related Commands

- show network summary**
- show run-config**
- config qos protocol-type**

config network 802.3-bridging

To enable or disable 802.3 bridging on a controller, use the **config network 802.3-bridging** command.

```
config network 802.3-bridging {enable | disable}
```

| Syntax Description | enable | Disables the 802.3 bridging. |
|--------------------|---------|------------------------------|
| | disable | Enables the 802.3 bridging. |

Command Default By default, 802.3 bridging on the controller is disabled.

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

Usage Guidelines In controller software release 5.2, the software-based forwarding architecture for Cisco 2100 Series Controllers is being replaced with a new forwarding plane architecture. As a result, Cisco 2100 Series Controllers and the Cisco wireless LAN controller Network Module for Cisco Integrated Services Routers bridge 802.3 packets by default. Therefore, 802.3 bridging can now be disabled only on Cisco 4400 Series Controllers, the Cisco WiSM, and the Catalyst 3750G Wireless LAN Controller Switch.

To determine the status of 802.3 bridging, enter the **show netuser guest-roles** command.

The following example shows how to enable the 802.3 bridging:

```
(Cisco Controller) > config network 802.3-bridging enable
```

Related Commands

- show netuser guest-roles**
- show network**

config network allow-old-bridge-aps

To configure an old bridge access point's ability to associate with a switch, use the **config network allow-old-bridge-aps** command.

```
config network allow-old-bridge-aps {enable | disable}
```

| Syntax Description | | |
|--------------------|----------------|----------------------------------|
| | enable | Enables the switch association. |
| | disable | Disables the switch association. |

| Command Default | Switch association 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 configure an old bridge access point to associate with the switch:

```
(Cisco Controller) > config network allow-old-bridge-aps enable
```

config network ap-discovery

To enable or disable NAT IP in an AP discovery response, use the **config network ap-discovery** command.

```
config network ap-discovery nat-ip-only {enable | disable}
```

| | | |
|---------------------------|----------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables use of NAT IP only in discovery response. |
| | disable | Enables use of both NAT IP and non NAT IP in discovery response. |
| Command Default | The use of NAT IP only in discovery response is enabled. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

Usage Guidelines

- If the **config interface nat-address management** command is set, this command controls which address(es) are sent in the CAPWAP discovery responses.
- If all APs are on the outside of the NAT gateway of the controller, enter the **config network ap-discovery nat-ip-only enable** command, and only the management NAT address is sent.
- If the controller has both APs on the outside and the inside of its NAT gateway, enter the **config network ap-discovery nat-ip-only disable** command, and both the management NAT address and the management inside address are sent. Ensure that you have entered the **config ap link-latency disable all** command to avoid stranding APs.
- If you disable **nat-ip-only**, the controller sends all active AP-Manager interfaces with their non-NAT IP in discovery response to APs.

If you enable **nat-ip-only**, the controller sends all active AP-Manager interfaces with NAT IP if configured for the interface, else non-NAT IP.

We recommend that you configure the interface as AP-Manager interface with NAT IP or non-NAT IP keeping these scenarios in mind because the AP chooses the least loaded AP-Manager interface received in the discovery response.

The following example shows how to enable NAT IP in an AP discovery response:

```
(Cisco Controller) > config network ap-discovery nat-ip-only enable
```

config network ap-easyadmin

To configure Cisco AP easyadmin feature, use the **config network ap-easyadmin** command.

```
config network ap-easyadmin {enable | disable}
```

| | | |
|---------------------------|---------------------------------------|---------------------------------------------|
| Syntax Description | enable | Enables AP EasyAdmin. |
| | disable | Disables AP EasyAdmin. |
| Command Default | The easyadmin is disabled by default. | |
| Command History | Release | Modification |
| | 8.4 | This command was introduced in this release |

The following example shows how to enable the Cisco AP easyadmin:

```
(Cisco Controller) > config network ap-easyadmin enable
```

config network ap-fallback

To configure Cisco lightweight access point fallback, use the **config network ap-fallback** command.

config network ap-fallback { **enable** | **disable** }

| Syntax Description | enable | disable |
|--------------------|---------------------------------------------------------|--------------------------------------------------------------------|
| | Enables the Cisco lightweight access point fallback. | Disables the Cisco lightweight access point fallback. |
| Command Default | The Cisco lightweight access point fallback 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 enable the Cisco lightweight access point fallback:

```
(Cisco Controller) > config network ap-fallback enable
```

config network ap-priority

To enable or disable the option to prioritize lightweight access points so that after a controller failure they reauthenticate by priority rather than on a first-come-until-full basis, use the **config network ap-priority** command.

config network ap-priority {enable | disable}

| Syntax Description | enable | enable |
|--------------------|---------------------------------------------------------------------|--------------------------------------------------------------------|
| | enable | Enables the lightweight access point priority reauthentication. |
| | disable | Disables the lightweight access point priority reauthentication. |
| Command Default | The lightweight access point priority reauthentication is disabled. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable the lightweight access point priority reauthorization:

```
(Cisco Controller) > config network ap-priority enable
```

config network apple-talk

To configure AppleTalk bridging, use the **config network apple-talk** command.

config network apple-talk { **enable** | **disable** }

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables the AppleTalk bridging. |
| | disable | Disables the AppleTalk bridging. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to configure AppleTalk bridging:

```
(Cisco Controller) > config network apple-talk enable
```


config network arptimeout

To set the Address Resolution Protocol (ARP) entry timeout value, use the **config network arptimeout** command.

config network arptimeout *seconds*

| | | |
|---------------------------|----------------|----------------------------------------------------------------------------------------|
| Syntax Description | <i>seconds</i> | Timeout in seconds. The minimum value is 10 seconds. The default value is 300 seconds. |
|---------------------------|----------------|----------------------------------------------------------------------------------------|

| | |
|------------------------|-----------------------------------------------------|
| Command Default | The default ARP entry timeout value is 300 seconds. |
|------------------------|-----------------------------------------------------|

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

This example shows how to set the ARP entry timeout value to 240 seconds:

```
(Cisco Controller) > config network arptimeout 240
```

| | |
|-------------------------|-----------------------------|
| Related Commands | show network summary |
|-------------------------|-----------------------------|

config assisted-roaming

To configure assisted roaming parameters on the controller, use the **config assisted-roaming** command.

```
config assisted-roaming { denial-maximum count | floor-bias RSSI | prediction-minimum
number_of_APs }
```

| Syntax Description | Parameter | Description |
|--------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | denial-maximum | Configures the maximum number of counts for association denial. |
| | <i>count</i> | Maximum number of times that a client is denied for association when the association request that was sent to an access point does not match any access point on the prediction list. The range is from 1 to 10. |
| | floor-bias | Configures the RSSI bias for access points on the same floor. |
| | <i>RSSI</i> | RSSI bias for access points on the same floor. The range is from 5 to 25. Access points on the same floor have more preference. |
| | prediction-minimum | Configures the minimum number of optimized access points for the assisted roaming feature. |
| | <i>number_of_APs</i> | Minimum number of optimized access points for the assisted roaming feature. The range is from 1 to 6. If the number of access points in the prediction assigned to the client is smaller than this number, the assisted roaming feature does not work. |

Command Default The default RSSI bias for access points on the same floor is 15 dBm.

Usage Guidelines 802.11k allows a client to request a neighbor report that contains information about known neighbor access points, which can be used for a service set transition. The neighbor list reduces the need for active and passive scanning.

This example shows how to configure the minimum number of optimized access points for the assisted roaming feature:

```
(Cisco Controller) >config assisted-roaming prediction-minimum 4
```

config network allow-old-bridge-aps

To configure an old bridge access point's ability to associate with a switch, use the **config network allow-old-bridge-aps** command.

```
config network allow-old-bridge-aps {enable | disable}
```

| Syntax Description | | |
|--------------------|----------------|----------------------------------|
| | enable | Enables the switch association. |
| | disable | Disables the switch association. |

| Command Default | Switch association 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 configure an old bridge access point to associate with the switch:

```
(Cisco Controller) > config network allow-old-bridge-aps enable
```

config network ap-discovery

To enable or disable NAT IP in an AP discovery response, use the **config network ap-discovery** command.

```
config network ap-discovery nat-ip-only {enable | disable}
```

| Syntax Description | enable | disable |
|--------------------|---------------------------------------------------|------------------------------------------------------------------|
| | Enables use of NAT IP only in discovery response. | Enables use of both NAT IP and non NAT IP in discovery response. |

Command Default The use of NAT IP only in discovery response is enabled.

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

Usage Guidelines

- If the **config interface nat-address management** command is set, this command controls which address(es) are sent in the CAPWAP discovery responses.
- If all APs are on the outside of the NAT gateway of the controller, enter the **config network ap-discovery nat-ip-only enable** command, and only the management NAT address is sent.
- If the controller has both APs on the outside and the inside of its NAT gateway, enter the **config network ap-discovery nat-ip-only disable** command, and both the management NAT address and the management inside address are sent. Ensure that you have entered the **config ap link-latency disable all** command to avoid stranding APs.
- If you disable **nat-ip-only**, the controller sends all active AP-Manager interfaces with their non-NAT IP in discovery response to APs.

If you enable **nat-ip-only**, the controller sends all active AP-Manager interfaces with NAT IP if configured for the interface, else non-NAT IP.

We recommend that you configure the interface as AP-Manager interface with NAT IP or non-NAT IP keeping these scenarios in mind because the AP chooses the least loaded AP-Manager interface received in the discovery response.

The following example shows how to enable NAT IP in an AP discovery response:

```
(Cisco Controller) > config network ap-discovery nat-ip-only enable
```

config network ap-fallback

To configure Cisco lightweight access point fallback, use the **config network ap-fallback** command.

```
config network ap-fallback {enable | disable}
```

| | | |
|---------------------------|---------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables the Cisco lightweight access point fallback. |
| | disable | Disables the Cisco lightweight access point fallback. |
| Command Default | The Cisco lightweight access point fallback 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 enable the Cisco lightweight access point fallback:

```
(Cisco Controller) > config network ap-fallback enable
```

config network ap-priority

To enable or disable the option to prioritize lightweight access points so that after a controller failure they reauthenticate by priority rather than on a first-come-until-full basis, use the **config network ap-priority** command.

config network ap-priority {enable | disable}

| Syntax Description | enable | Disables the lightweight access point priority reauthentication. |
|--------------------|---------------------------------------------------------------------|--------------------------------------------------------------------|
| | enable | Enables the lightweight access point priority reauthentication. |
| Command Default | The lightweight access point priority reauthentication is disabled. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable the lightweight access point priority reauthorization:

```
(Cisco Controller) > config network ap-priority enable
```

config network apple-talk

To configure AppleTalk bridging, use the **config network apple-talk** command.

```
config network apple-talk {enable | disable}
```

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables the AppleTalk bridging. |
| | disable | Disables the AppleTalk bridging. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to configure AppleTalk bridging:

```
(Cisco Controller) > config network apple-talk enable
```

config network bridging-shared-secret

To configure the bridging shared secret, use the **config network bridging-shared-secret** command.

config network bridging-shared-secret *shared_secret*

| | | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Syntax Description | <i>shared_secret</i> | Bridging shared secret string. The string can contain up to 10 bytes. |
| Command Default | The bridging shared secret is enabled by default. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | <p>This command creates a secret that encrypts backhaul user data for the mesh access points that connect to the switch.</p> <p>The zero-touch configuration must be enabled for this command to work.</p> <p>The following example shows how to configure the bridging shared secret string “shhh1”:</p> <pre>(Cisco Controller) > config network bridging-shared-secret shhh1</pre> | |
| Related Commands | show network summary | |

config network bridging-shared-secret

To configure the bridging shared secret, use the **config network bridging-shared-secret** command.

```
config network bridging-shared-secret shared_secret
```

| | | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Syntax Description | <i>shared_secret</i> | Bridging shared secret string. The string can contain up to 10 bytes. |
| Command Default | The bridging shared secret is enabled by default. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | This command creates a secret that encrypts backhaul user data for the mesh access points that connect to the switch. The zero-touch configuration must be enabled for this command to work. The following example shows how to configure the bridging shared secret string “shhh1”: (Cisco Controller) > config network bridging-shared-secret shhh1 | |
| Related Commands | show network summary | |

config network broadcast

To enable or disable broadcast packet forwarding, use the **config network broadcast** command.

```
config network broadcast {enable | disable}
```

Syntax Description

| | |
|----------------|-------------------------------------------|
| enable | Enables the broadcast packet forwarding. |
| disable | Disables the broadcast packet forwarding. |

Command Default

The broadcast packet forwarding is disabled by default.

Command History

Release Modification

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

Usage Guidelines

This command allows you to enable or disable broadcasting. You must enable multicast mode before enabling broadcast forwarding. Use the **config network multicast mode command** to configure multicast mode on the controller.



Note

The default multicast mode is unicast in case of all controllers except for Cisco 2106 Controllers. The broadcast packets and multicast packets can be independently controlled. If multicast is off and broadcast is on, broadcast packets still reach the access points, based on the configured multicast mode.

The following example shows how to enable broadcast packet forwarding:

```
(Cisco Controller) > config network broadcast enable
```

Related Commands

- show network summary**
- config network multicast global**
- config network multicast mode**

config network fast-ssid-change

To enable or disable fast Service Set Identifier (SSID) changing for mobile stations, use the **config network fast-ssid-change** command.

```
config network fast-ssid-change { enable | disable }
```

| | | |
|---------------------------|----------------|------------------------------------------------------|
| Syntax Description | enable | Enables the fast SSID changing for mobile stations |
| | disable | Disables the fast SSID changing for mobile stations. |

Command Default None

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

Usage Guidelines When you enable the Fast SSID Change feature, the controller allows clients to move between SSIDs. When the client sends a new association for a different SSID, the client entry in the controller connection table is cleared before the client is added to the new SSID.

When you disable the FastSSID Change feature, the controller enforces a delay before clients are allowed to move to a new SSID.

The following example shows how to enable the fast SSID changing for mobile stations:

```
(Cisco Controller) > config network fast-ssid-change enable
```

Related Commands show network summary

config network ip-mac-binding

To validate the source IP address and MAC address binding within client packets, use the **config network ip-mac-binding** command.

```
config network ip-network-binding {enable | disable}
```

| Syntax Description | enable | Disables the validation of the source IP address to MAC address binding in clients packets. |
|--------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| | enable | Enables the validation of the source IP address to MAC address binding in clients packets. |
| Command Default | The validation of the source IP address to MAC address binding in clients packets is enabled by default. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

Usage Guidelines

In controller software release 5.2, the controller enforces strict IP address-to-MAC address binding in client packets. The controller checks the IP address and MAC address in a packet, compares them to the addresses that are registered with the controller, and forwards the packet only if they both match. In previous releases, the controller checks only the MAC address of the client and ignores the IP address.



Note You might want to disable this binding check if you have a routed network behind a workgroup bridge (WGB).

The following example shows how to validate the source IP and MAC address within client packets:

```
(Cisco Controller) > config network ip-mac-binding enable
```

config network link local bridging

To configure bridging of link local traffic at the local site, use the **config network link-local-bridging** command.

```
config network link-local-bridging {enable | disable}
```

| | |
|---------------------------|--------------------------------------------------------------------------|
| Syntax Description | enable Enables bridging of link local traffic at the local site |
| | disable Disables bridging of link local traffic at the local site |
| Command Default | Disabled |
| Command History | Release Modification |
| | 8.0 This command was introduced |

config network master-base

To enable or disable the Cisco wireless LAN controller as an access point default primary, use the **config network master-base** command.

config network master-base {enable | disable}

| | | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Syntax Description | enable | Enables the Cisco wireless LAN controller acting as a Cisco lightweight access point default primary. |
| | disable | Disables the Cisco wireless LAN controller acting as a Cisco lightweight access point default primary. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | <p>This setting is only used upon network installation and should be disabled after the initial network configuration. Because the primary Cisco wireless LAN controller is normally not used in a deployed network, the primary Cisco wireless LAN controller setting can be saved from 6.0.199.0 or later releases.</p> <p>The following example shows how to enable the Cisco wireless LAN controller as a default primary:</p> <pre>(Cisco Controller) > config network master-base enable</pre> | |

config network mgmt-via-wireless

To enable Cisco wireless LAN controller management from an associated wireless client, use the **config network mgmt-via-wireless** command.

config network mgmt-via-wireless {**enable** | **disable**}

| | | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables the switch management from a wireless interface. |
| | disable | Disables the switch management from a wireless interface. |
| Command Default | The switch management from a wireless interface is disabled by default. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | This feature allows wireless clients to manage only the Cisco wireless LAN controller associated with the client and the associated Cisco lightweight access point. That is, clients cannot manage another Cisco wireless LAN controller with which they are not associated. | |
| | This example shows how to configure switch management from a wireless interface: | |
| | <code>(Cisco Controller) > config network mgmt-via-wireless enable</code> | |
| Related Commands | show network summary | |

config network multicast global

To enable or disable multicasting on the controller, use the **config network multicast global** command.

```
config network multicast global { enable | disable }
```

| Syntax Description | enable | Disables the multicast global support. |
|--------------------|---------|----------------------------------------|
| | disable | Enables the multicast global support. |

Command Default Multicasting on the controller is disabled by default.

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

Usage Guidelines The **config network broadcast {enable | disable}** command allows you to enable or disable broadcasting without enabling or disabling multicasting as well. This command uses the multicast mode configured on the controller (by using the **config network multicast mode command**) to operate.

The following example shows how to enable the global multicast support:

```
(Cisco Controller) > config network multicast global enable
```

Related Commands

- show network summary
- config network broadcast
- config network multicast mode

config network multicast igmp query interval

To configure the IGMP query interval, use the **config network multicast igmp query interval** command.

config network multicast igmp query interval *value*

| | | |
|---------------------------|--------------|------------------------------------------------------------------------------------------------|
| Syntax Description | <i>value</i> | Frequency at which controller sends IGMP query messages. The range is from 15 to 2400 seconds. |
|---------------------------|--------------|------------------------------------------------------------------------------------------------|

| | |
|------------------------|------------------------------------------------|
| Command Default | The default IGMP query interval is 20 seconds. |
|------------------------|------------------------------------------------|

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

Usage Guidelines

To configure IGMP query interval, ensure that you do the following:

- Enable the global multicast by entering the **config network multicast global enable** command.
- Enable IGMP snooping by entering the **config network multicast igmp snooping enable** command.

The following example shows how to configure the IGMP query interval at 20 seconds:

```
(Cisco Controller) > config network multicast igmp query interval 20
```

| | |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Related Commands | config network multicast global config network multicast igmp snooping config network multicast igmp timeout |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|

config network multicast igmp snooping

To enable or disable IGMP snooping, use the **config network multicast igmp snooping** command.

```
config network multicast igmp snooping {enable | disable}
```

| Syntax Description | enable | Disables IGMP snooping. |
|--------------------|---------|-------------------------|
| | disable | Enables IGMP snooping. |

Command Default None

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

The following example shows how to enable internet IGMP snooping settings:

```
(Cisco Controller) > config network multicast igmp snooping enable
```

Related Commands

- config network multicast global
- config network multicast igmp query interval
- config network multicast igmp timeout

config network multicast igmp timeout

To set the IGMP timeout value, use the **config network multicast igmp timeout** command.

config network multicast igmp timeout *value*

| | | |
|---------------------------|-----------------------------|--------------------------------------------------------------------|
| Syntax Description | <i>value</i> | Timeout range from 30 to 7200 seconds. |
| 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 a timeout value between 30 and 7200 seconds. The controller sends three queries in one timeout value at an interval of timeout/3 to see if any clients exist for a particular multicast group. If the controller does not receive a response through an IGMP report from the client, the controller times out the client entry from the MGID table. When no clients are left for a particular multicast group, the controller waits for the IGMP timeout value to expire and then deletes the MGID entry from the controller. The controller always generates a general IGMP query (to destination address 224.0.0.1) and sends it on all WLANs with an MGID value of 1.

The following example shows how to configure the timeout value 50 for IGMP network settings:

```
(Cisco Controller) > config network multicast igmp timeout 50
```

Related Commands

- config network multicast global**
- config network igmp snooping**
- config network multicast igmp query interval**

config network multicast l2mcast

To configure the Layer 2 multicast on an interface or all interfaces, use the **config network multicast l2mcast** command.

```
config network multicast l2mcast { enable | disable { all | interface-name }
```

| Syntax Description | | |
|-----------------------|--|---------------------------------------------------------------------------|
| enable | | Enables Layer 2 multicast. |
| disable | | Disables Layer 2 multicast. |
| all | | Applies to all interfaces. |
| <i>interface-name</i> | | Interface name for which the Layer 2 multicast is to enabled or disabled. |

Command Default None

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

The following example shows how to enable Layer 2 multicast for all interfaces:

```
(Cisco Controller) > config network multicast l2mcast enable all
```

Related Commands

- config network multicast global**
- config network multicast igmp snooping**
- config network multicast igmp query interval**
- config network multicast mld**

config network multicast mld

To configure the Multicast Listener Discovery (MLD) parameters, use the **config network multicast mld** command.

```
config network multicast mld { query interval interval-value | snooping { enable | disable } | timeout timeout-value }
```

| Syntax Description | | |
|-----------------------|--|-------------------------------------------------------------------------|
| query interval | | Configures query interval to send MLD query messages. |
| <i>interval-value</i> | | Query interval in seconds. The range is from 15 to 2400 seconds. |
| snooping | | Configures MLD snooping. |
| enable | | Enables MLD snooping. |
| disable | | Disables MLD snooping. |
| timeout | | Configures MLD timeout. |
| <i>timeout-value</i> | | Timeout value in seconds. The range is from 30 seconds to 7200 seconds. |

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 set a query interval of 20 seconds for MLD query messages:

```
(Cisco Controller) > config network multicast mld query interval 20
```

Related Commands

- config network multicast global**
- config network multicast igmp snooping**
- config network multicast igmp query interval**
- config network multicast l2mcast**

config network multicast mode multicast

To configure the controller to use the multicast method to send broadcast or multicast packets to an access point, use the **config network multicast mode multicast** command.

config network multicast mode multicast

Syntax Description This command has no arguments or keywords.

Command Default None

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

The following example shows how to configure the multicast mode to send a single copy of data to multiple receivers:

```
(Cisco Controller) > config network multicast mode multicast
```

Related Commands

- config network multicast global**
- config network broadcast**
- config network multicast mode unicast**

config network multicast mode unicast

To configure the controller to use the unicast method to send broadcast or multicast packets to an access point, use the **config network multicast mode unicast** command.

config network multicast mode unicast

Syntax Description This command has no arguments or keywords.

Command Default None

Command History

| Release | Modification |
|---------|--------------|
|---------|--------------|

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

The following example shows how to configure the controller to use the unicast mode:

```
(Cisco Controller) > config network multicast mode unicast
```

Related Commands

- config network multicast global**
- config network broadcast**
- config network multicast mode multicast**

config network oeap-600 dual-rlan-ports

To configure the Ethernet port 3 of Cisco OfficeExtend 600 Series access points to operate as a remote LAN port in addition to port 4, use the **config network oeap-600 dual-rlan-ports** command.

config network oeap-600 dual-rlan-ports { **enable** | **disable** }

| | | |
|---------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | enable | Enables Ethernet port 3 of Cisco OfficeExtend 600 Series access points to operate as a remote LAN port in addition to port 4. |
| | disable | Resets the Ethernet port 3 Cisco OfficeExtend 600 Series access points to function as a local LAN port. |
| Command Default | The Ethernet port 3 Cisco 600 Series OEAP is reset. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable the Ethernet port 3 of Cisco OfficeExtend 600 Series access points to operate as a remote LAN port:

```
(Cisco Controller) > config network oeap-600 dual-rlan-ports enable
```


config network oep-600 local-network

To configure access to the local network for the Cisco 600 Series OfficeExtend access points, use the **config network oep-600 local-network** command.

```
config network oep-600 local-network {enable | disable}
```

| Syntax Description | enable | Disables access to the local network for the Cisco 600 Series OfficeExtend access points. |
|--------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| | disable | Enables access to the local network for the Cisco 600 Series OfficeExtend access points. |
| Command Default | Access to the local network for the Cisco 600 Series OEAPs is disabled. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable access to the local network for the Cisco 600 Series OfficeExtend access points:

```
(Cisco Controller) > config network oep-600 local-network enable
```

config network otap-mode

To enable or disable over-the-air provisioning (OTAP) of Cisco lightweight access points, use the **config network otap-mode** command.

config network otap-mode {enable | disable}

| Syntax Description | enable | enable |
|--------------------|---------|---------------------------------|
| | enable | Enables the OTAP provisioning. |
| | disable | Disables the OTAP provisioning. |

Command Default The OTAP provisioning 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 disable the OTAP provisioning:

```
(Cisco Controller) >config network otap-mode disable
```

config network profiling

To profile http port for a specific port, use the **config network profiling http-port** command.

config network profiling http-port *port number*

| | | |
|---------------------------|--------------------|---------------------------------------------|
| Syntax Description | <i>port number</i> | Interface port number. Default value is 80. |
| Command History | Release | Modification |
| | 8.2 | This command was introduced |

The following example shows how to configure the http port in a network:

```
(Cisco Controller) > config network profiling http-port 80
```

config network rf-network-name

To set the RF-Network name, use the **config network rf-network-name** command.

config network rf-network-name *name*

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | <i>name</i> | RF-Network name. The name can contain up to 19 characters. |
| 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 set the RF-network name to travelers:

```
(Cisco Controller) > config network rf-network-name travelers
```

Related Commands **show network summary**

config network secureweb

To change the state of the secure web (https is http and SSL) interface for management users, use the **config network secureweb** command.

```
config network secureweb { enable | disable }
```

| Syntax Description | enable | disable |
|--------------------|--------------------------------------------------------|---------------------------------------------------------|
| | Enables the secure web interface for management users. | Disables the secure web interface for management users. |

Command Default The secure web interface for management users is enabled by default.

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

Usage Guidelines This command allows management users to access the controller GUI using an http://ip-address. Web mode is not a secure connection.

The following example shows how to enable the secure web interface settings for management users:

```
(Cisco Controller) > config network secureweb enable
You must reboot for the change to take effect.
```

Related Commands

- config network secureweb cipher-option**
- show network summary**

config network secureweb cipher-option

To enable or disable secure web mode with increased security, or to enable or disable Secure Sockets Layer (SSL v2) for web administration and web authentication, use the **config network secureweb cipher-option** command.

config network secureweb cipher-option {**high** | **sslv2** | **rc4-preference**} {**enable** | **disable**}

| Syntax Description | | |
|-----------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| high | | Configures whether or not 128-bit ciphers are required for web administration and web authentication. |
| sslv2 | | Configures SSLv2 for both web administration and web authentication. |
| rc4-preference | | Configures preference for RC4-SHA (Rivest Cipher 4-Secure Hash Algorithm) cipher suites (over CBC cipher suites) for web authentication and web administration. |
| enable | | Enables the secure web interface. |
| disable | | Disables the secure web interface. |

Command Default The default is **disable** for secure web mode with increased security and **enable** for SSL v2.

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

Usage Guidelines



Note The **config network secureweb cipher-option** command allows users to access the controller GUI using an http://ip-address but only from browsers that support 128-bit (or larger) ciphers.

When cipher-option sslv2 is disabled, users cannot connect using a browser configured with SSLv2 only. They must use a browser that is configured to use a more secure protocol such as SSLv3 or later.

In RC4-SHA based cipher suites, RC4 is used for encryption and SHA is used for message authentication.

The following example shows how to enable secure web mode with increased security:

```
(Cisco Controller) > config network secureweb cipher-option
```

The following example shows how to disable SSL v2:

```
(Cisco Controller) > config network secureweb cipher-option sslv2 disable
```

Related Commands

`config network secureweb`
`show network summary`

config network ssh

To allow or disallow new Secure Shell (SSH) sessions, use the **config network ssh** command.

```
config network ssh {enable | disable}
```

Syntax Description**enable**

Allows the new SSH sessions.

disable

Disallows the new SSH sessions.

Command Default

The default value for the new SSH session is **disable**.

The following example shows how to enable the new SSH session:

```
(Cisco Controller) > config network ssh enable
```

Related Commands**show network summary**

config network telnet

To allow or disallow new Telnet sessions, use the **config network telnet** command.

```
config network telnet {enable | disable}
```

| Syntax Description | enable | Allows new Telnet sessions. |
|--------------------|---------|--------------------------------|
| | disable | Disallows new Telnet sessions. |

Command Default By default, the new Telnet session is disallowed and the value is **disable**.

Usage Guidelines Telnet is not supported on Cisco Aironet 1830 and 1850 Series Access Points.

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

The following example shows how to configure the new Telnet sessions:

```
(Cisco Controller) > config network telnet enable
```

Related Commands

- config ap telnet
- show network summary

config network usertimeout

To change the timeout for idle client sessions, use the **config network usertimeout** command.

config network usertimeout *seconds*

| | | |
|---------------------------|----------------|-------------------------------------------------------------------------------------------------|
| Syntax Description | <i>seconds</i> | Timeout duration in seconds. The minimum value is 90 seconds. The default value is 300 seconds. |
|---------------------------|----------------|-------------------------------------------------------------------------------------------------|

| | | |
|------------------------|-------------------------------------------------------------------|--|
| Command Default | The default timeout value for idle client session is 300 seconds. | |
|------------------------|-------------------------------------------------------------------|--|

| | | |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------|--|
| Usage Guidelines | Use this command to set the idle client session duration on the Cisco wireless LAN controller. The minimum duration is 90 seconds. | |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------|--|

The following example shows how to configure the idle session timeout to 1200 seconds:

```
(Cisco Controller) > config network usertimeout 1200
```

| | |
|-------------------------|-----------------------------|
| Related Commands | show network summary |
|-------------------------|-----------------------------|

config network web-auth captive-bypass

To configure the controller to support bypass of captive portals at the network level, use the **config network web-auth captive-bypass** command.

```
config network web-auth captive-bypass {enable | disable}
```

| Syntax Description | | |
|--------------------|----------------|----------------------------------------------------------------|
| | enable | Allows the controller to support bypass of captive portals. |
| | disable | Disallows the controller to support bypass of captive portals. |

Command Default None

The following example shows how to configure the controller to support bypass of captive portals:

```
(Cisco Controller) > config network web-auth captive-bypass enable
```

Related Commands

- show network summary**
- config network web-auth cmcc-support**

config network web-auth cmcc-support

To configure eWalk on the controller, use the **config network web-auth cmcc-support** command.

```
config network web-auth cmcc-support { enable | disable }
```

Syntax Description

enable Enables eWalk on the controller.

disable Disables eWalk on the controller.

Command Default

None

The following example shows how to enable eWalk on the controller:

```
(Cisco Controller) > config network web-auth cmcc-support enable
```

Related Commands

show network summary

config network web-auth captive-bypass

config network web-auth port

To configure an additional port to be redirected for web authentication at the network level, use the **config network web-auth port** command.

config network web-auth port *port*

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | <i>port</i> | Port number. The valid range is from 0 to 65535. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to configure an additional port number 1200 to be redirected for web authentication:

```
(Cisco Controller) > config network web-auth port 1200
```

Related Commands **show network summary**

config network web-auth proxy-redirect

To configure proxy redirect support for web authentication clients, use the **config network web-auth proxy-redirect** command.

config network web-auth proxy-redirect {enable | disable}

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | enable | Allows proxy redirect support for web authentication clients. |
| | disable | Disallows proxy redirect support for web authentication clients. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable proxy redirect support for web authentication clients:

```
(Cisco Controller) > config network web-auth proxy-redirect enable
```

Related Commands **show network summary**

config network web-auth secureweb

To configure the secure web (https) authentication for clients, use the **config network web-auth secureweb** command.

config network web-auth secureweb { **enable** | **disable** }

| Syntax Description | enable | Allows secure web (https) authentication for clients. |
|--------------------|----------------|----------------------------------------------------------------------------------------------------------|
| | disable | Disallows secure web (https) authentication for clients. Enables http web authentication for clients. |

Command Default The default secure web (https) authentication for clients is enabled.

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

Usage Guidelines If you configure the secure web (https) authentication for clients using the **config network web-auth secureweb disable** command, then you must reboot the Cisco WLC to implement the change.

The following example shows how to enable the secure web (https) authentication for clients:

```
(Cisco Controller) > config network web-auth secureweb enable
```

Related Commands **show network summary**

config network web-auth https-redirect

To configure https redirect support for web authentication clients, use the **config network web-auth https-redirect** command.

```
config network web-auth https-redirect {enable | disable}
```

| Syntax Description | enable | Disables the secure redirection(https) for web-authentication clients. |
|--------------------|--------------------------------------|------------------------------------------------------------------------|
| | disable | Enables the secure redirection(https) for web-authentication clients. |
| Command Default | This command is by default disabled. | |
| Command History | Release | Modification |
| | 8.0 | This command was introduced in Release 8.0 |

The following example shows how to enable proxy redirect support for web authentication clients:

```
(Cisco Controller) > config network web-auth https-redirect enable
```

Related Commands **show network summary**

config network webmode

To enable or disable the web mode, use the **config network webmode** command.

```
config network webmode {enable | disable}
```

| Syntax Description | | |
|--------------------|----------------|-----------------------------|
| | enable | Enables the web interface. |
| | disable | Disables the web interface. |

Command Default The default value for the web mode is **enable**.

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

The following example shows how to disable the web interface mode:

```
(Cisco Controller) > config network webmode disable
```

Related Commands **show network summary**

config network web-auth

To configure the network-level web authentication options, use the **config network web-auth** command.

```
config network web-auth {port port-number} | {proxy-redirect {enable | disable}}
```

| Syntax Description | | |
|-----------------------|-------------|------------------------------------------------------------------------------------------------------------|
| port | | Configures additional ports for web authentication redirection. |
| <i>port-number</i> | | Port number (between 0 and 65535). |
| proxy-redirect | | Configures proxy redirect support for web authentication clients. |
| enable | | Enables proxy redirect support for web authentication clients. |
| | Note | Web-auth proxy redirection will be enabled for ports 80, 8080, and 3128, along with user defined port 345. |
| disable | | Disables proxy redirect support for web authentication clients. |

Command Default The default network-level web authentication value is disabled.

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

Usage Guidelines You must reset the system for the configuration to take effect.

The following example shows how to enable proxy redirect support for web authentication clients:

```
(Cisco Controller) > config network web-auth proxy-redirect enable
```

Related Commands

- show network summary**
- show run-config**
- config qos protocol-type**

config network zero-config

To configure bridge access point ZeroConfig support, use the **config network zero-config** command.

```
config network zero-config {enable | disable}
```

| | | |
|---------------------------|--------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables the bridge access point ZeroConfig support. |
| | disable | Disables the bridge access point ZeroConfig support. |
| Command Default | The bridge access point ZeroConfig support 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 enable the bridge access point ZeroConfig support:

```
(Cisco Controller) >config network zero-config enable
```

config network master-base

To enable or disable the Cisco wireless LAN controller as an access point default primary, use the **config network master-base** command.

```
config network master-base {enable | disable}
```

| | | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Syntax Description | enable | Enables the Cisco wireless LAN controller acting as a Cisco lightweight access point default primary. |
| | disable | Disables the Cisco wireless LAN controller acting as a Cisco lightweight access point default primary. |
| Command Default | None | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Usage Guidelines | <p>This setting is only used upon network installation and should be disabled after the initial network configuration. Because the primary Cisco wireless LAN controller is normally not used in a deployed network, the primary Cisco wireless LAN controller setting can be saved from 6.0.199.0 or later releases.</p> <p>The following example shows how to enable the Cisco wireless LAN controller as a default primary:</p> <pre>(Cisco Controller) > config network master-base enable</pre> | |

config network oeap-600 dual-rlan-ports

To configure the Ethernet port 3 of Cisco OfficeExtend 600 Series access points to operate as a remote LAN port in addition to port 4, use the **config network oeap-600 dual-rlan-ports** command.

config network oeap-600 dual-rlan-ports { **enable** | **disable** }

| | | |
|---------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | enable | Enables Ethernet port 3 of Cisco OfficeExtend 600 Series access points to operate as a remote LAN port in addition to port 4. |
| | disable | Resets the Ethernet port 3 Cisco OfficeExtend 600 Series access points to function as a local LAN port. |
| Command Default | The Ethernet port 3 Cisco 600 Series OEAP is reset. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable the Ethernet port 3 of Cisco OfficeExtend 600 Series access points to operate as a remote LAN port:

```
(Cisco Controller) > config network oeap-600 dual-rlan-ports enable
```

config network oeap-600 local-network

To configure access to the local network for the Cisco 600 Series OfficeExtend access points, use the **config network oeap-600 local-network** command.

config network oeap-600 local-network { **enable** | **disable** }

| Syntax Description | enable | disable |
|--------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| | Enables access to the local network for the Cisco 600 Series OfficeExtend access points. | Disables access to the local network for the Cisco 600 Series OfficeExtend access points. |
| Command Default | Access to the local network for the Cisco 600 Series OEAPs is disabled. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to enable access to the local network for the Cisco 600 Series OfficeExtend access points:

```
(Cisco Controller) > config network oeap-600 local-network enable
```

config network otap-mode

To enable or disable over-the-air provisioning (OTAP) of Cisco lightweight access points, use the **config network otap-mode** command.

```
config network otap-mode {enable | disable}
```

| Syntax Description | | |
|--------------------|----------------|---------------------------------|
| | enable | Enables the OTAP provisioning. |
| | disable | Disables the OTAP provisioning. |

Command Default The OTAP provisioning 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 disable the OTAP provisioning:

```
(Cisco Controller) >config network otap-mode disable
```

config network zero-config

To configure bridge access point ZeroConfig support, use the **config network zero-config** command.

```
config network zero-config {enable | disable}
```

| | | |
|---------------------------|--------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | enable | Enables the bridge access point ZeroConfig support. |
| | disable | Disables the bridge access point ZeroConfig support. |
| Command Default | The bridge access point ZeroConfig support 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 enable the bridge access point ZeroConfig support:

```
(Cisco Controller) >config network zero-config enable
```


config nmsp notify-interval measurement

To modify the Network Mobility Services Protocol (NMSP) notification interval value on the controller to address latency in the network, use the **config nmsp notify-interval measurement** command.

```
config nmsp notify-interval measurement { client | rfid | rogue } interval
```

| Syntax Description | | |
|--------------------|--|------------------------------------------------------------------------------|
| client | | Modifies the interval for clients. |
| rfid | | Modifies the interval for active radio frequency identification (RFID) tags. |
| rogue | | Modifies the interval for rogue access points and rogue clients. |
| <i>interval</i> | | Time interval. The range is from 1 to 30 seconds. |

Command Default None

Command History

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

Usage Guidelines

The TCP port (16113) that the controller and location appliance communicate over must be open (not blocked) on any firewall that exists between the controller and the location appliance for NMSP to function.

The following example shows how to modify the NMSP notification interval for the active RFID tags to 25 seconds:

```
(Cisco Controller) > config nmsp notify-interval measurement rfid 25
```

Related Commands

- clear locp statistics**
- clear nmsp statistics**
- show nmsp notify-interval summary**
- show nmsp statistics**
- show nmsp status**

config.opendns

To enable or disable open Domain Name System (DNS) on the Cisco Wireless Controller (WLC), use the **config.opendns** command.

```
config.opendns { enable | disable }
```

| Syntax Description | |
|--------------------|--------------------------------------------|
| enable | Enables the.opendns global configuration. |
| disable | Disables the.opendns global configuration. |

| Command Default | |
|-----------------|-----------------------------|
| | Open DNS is not configured. |

| Command Modes | |
|---------------|---------------------|
| | Controller Config > |

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.4 | This command was introduced. |

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

Example

The following example shows how to enable open DNS on the Cisco WLC:

```
(Cisco Controller) > config.opendns enable
```

config.opendns.api-token

To enable or disable OpenDNS API token help for registering on Cisco Wireless Controller (WLC), use the **config.opendns.api-token** command.

config.opendns.api-token *api-token*

| | |
|---------------------------|---------------------------------------------|
| Syntax Description | <i>api-token</i> API token for the OpenDNS. |
| Command Modes | (Controller Configuration) > |
| Command History | Release Modification |
| | 8.4 This command was introduced. |
| Usage Guidelines | None |

Example

The following example shows how to enable API token help for registering OpenDNS on the Cisco WLC:

```
(Cisco Controller) > config.opendns.api-token 12
```

config.opendns.forced

To enable or disable OpenDNS on Cisco Wireless Controller (WLC), use the **config.opendns.forced** command.

config.opendns.forced { **enable** | **disable** }

| Syntax Description | |
|--------------------|--------------------------------------------|
| enable | Enables the OpenDNS global configuration. |
| disable | Disables the OpenDNS global configuration. |

Command Default OpenDNS is not configured.

Command Modes (Controller Configuration) >

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.4 | This command was introduced. |

Usage Guidelines None

Example

The following example shows how to enable OpenDNS on Cisco WLC:

```
(Cisco Controller) > config.opendns.forced enable
```

config.opendns.profile

To configure a profile for the OpenDNS, which can be applied to a user group, or wireless LAN (WLAN), or site, use the **config.opendns.profile** command.

config.opendns.profile { **create** | **delete** | **refresh** } *profile-name*

| Syntax Description | |
|---------------------|---------------------------------------------------------------------------------------------|
| create | Creates an OpenDNS identity name. |
| delete | Removes an OpenDNS identity name. |
| refresh | Refreshes OpenDNS identity by retriggering the registration, irrespective of current state. |
| <i>profile-name</i> | OpenDNS identity name. |

Command Default OpenDNS profile is not created.

Command Modes (Controller Configuration) >

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.4 | This command was introduced. |

Usage Guidelines None

Example

The following example shows how to configure a profile for OpenDNS, which can be applied to a user group:

```
(Cisco Controller) > config.opendns.profile create usergroup1
```

config pmipv6 domain

To configure PMIPv6 and to enable Mobile Access Gateway (MAG) functionality on Cisco WLC, use the **config pmipv6 domain** command.

config pmipv6 domain *domain_name*

| Syntax Description | <i>domain_name</i> Name of the PMIPv6 domain. The domain name can be up to 127 case-sensitive, alphanumeric characters. | | | | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|-----|--------------------------------------------------------------------|
| Command Default | None | | | | |
| Command History | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>7.6</td> <td>This command was introduced in a release earlier than Release 7.6.</td> </tr> </tbody> </table> | Release | Modification | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Release | Modification | | | | |
| 7.6 | This command was introduced in a release earlier than Release 7.6. | | | | |

The following example shows how to configure a domain name for a PMIPv6 WLAN:

```
(Cisco Controller) >config pmipv6 domain floor1
```

config pmipv6 add profile

To create a Proxy Mobility IPv6 (PMIPv6) profile for the WLAN, use the **config pmipv6 add profile** command. You can configure PMIPv6 profiles based on a realm or a service set identifier (SSID).

config pmipv6 add profile *profile_name* **nai** {*user@realm* | *@realm* | *} **lma** *lma_name* **apn** *apn_name*

| Syntax Description | |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>profile_name</i> | Name of the profile. The profile name is case sensitive and can be up to 127 alphanumeric characters. |
| nai | Specifies the Network Access Identifier of the client. |
| <i>user@realm</i> | Network Access Identifier of the client in the format <i>user@realm</i> . The NAI name is case sensitive and can be up to 127 alphanumeric characters. |
| <i>@realm</i> | Network Access Identifier of the client in the format <i>@realm</i> . |
| * | All Network Access Identifiers. You can have profiles based on an SSID for all users. |
| lma | Specifies the Local Mobility Anchor (LMA). |
| <i>lma_name</i> | Name of LMA. The LMA name is case sensitive and can be up to 127 alphanumeric characters. |
| apn | Specifies the access point. |
| <i>ap_name</i> | Name of the access point. The access point name is case sensitive and can be up to 127 alphanumeric characters. |

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 is a prerequisite for using PMIPv6 configuration commands if the controller uses open authentication.

The following example shows how to create a PMIPv6 profile:

```
(Cisco Controller) >config pmipv6 add profile profile1 nai @vodafone.com lma vodfonelma apn
vodafoneapn
```

config pmipv6 delete

To delete a Proxy Mobility IPv6 (PMIPv6) profile, domain, or Local Mobility Anchor (LMA), use the **config pmipv6 delete** command.

```
config pmipv6 delete { profile profile_name nai { nai_id | all } | domain domain_name | lma lma_name }
```

Syntax Description

| | |
|---------------------|-----------------------------------------------------------------------------------------------------------------------|
| profile | Specifies the PMIPv6 profile. |
| <i>profile_name</i> | Name of the PMIPv6 profile. The profile name is case sensitive and can be up to 127 alphanumeric characters. |
| nai | Specifies the Network Access Identifier (NAI) of a mobile client. |
| <i>nai_id</i> | Network Access Identifier of a mobile client. The NAI is case sensitive and can be up to 127 alphanumeric characters. |
| all | Specifies all NAIs. When you delete all NAIs, the profile is deleted. |
| domain | Specifies the PMIPv6 domain. |
| <i>domain_name</i> | Name of the PMIPv6 domain. The domain name is case sensitive and can be up to 127 alphanumeric characters. |
| lma | Specifies the LMA. |
| <i>lma_name</i> | Name of the LMA. The LMA name is case sensitive and can be up to 127 alphanumeric characters. |

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 delete a domain:

```
(Cisco Controller) >config pmipv6 delete lab1
```


config pmipv6 mag apn

To configure an Access Point Name (APN) for a mobile access gateway (MAG), use the **config pmipv6 mag apn** command.

config pmipv6 mag apn *apn-name*

| | |
|---------------------------|------------------------------------------------|
| Syntax Description | <i>apn-name</i> Access point name for the MAG. |
|---------------------------|------------------------------------------------|

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

| Command History | Release | Modification |
|------------------------|----------------|------------------------------|
| | 8.0 | This command was introduced. |

Usage Guidelines By default, the MAG role is WLAN. However, for the lightweight access points, MAG role should be configured as 3GPP. If the MAG role is 3GPP, it is mandatory to specify an APN for the MAG.

To delete an APN for a MAG, use the **config pmipv6 delete mag apn** *apn-name* command.

The following example shows how to add an APN for a MAG:

```
(Cisco Controller) >config pmipv6 mag apn myCiscoAP
```

config pmipv6 mag binding init-retx-time

To configure the initial timeout between the proxy binding updates (PBUs) when the Mobile Access Gateway (MAG) does not receive the proxy binding acknowledgements (PBAs), use the **config pmipv6 mag binding init-retx-time** command.

config pmipv6 mag binding init-retx-time *units*

| | | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | <i>units</i> Initial timeout between the PBUs when the MAG does not receive the PBAs. The range is from 100 to 65535 seconds. | |
| Command Default | The default initial timeout is 1000 seconds. | |
| Command History | Release | Modification |
| | 7.6 | This command was introduced in a release earlier than Release 7.6. |

The following example shows how to configure the initial timeout between the PBUs when the MAG does not receive the PBAs:

```
(Cisco Controller) >config pmipv6 mag binding init-retx-time 500
```

config pmipv6 mag binding lifetime

To configure the lifetime of the binding entries in the Mobile Access Gateway (MAG), use the **config pmipv6 mag binding lifetime** command.

config pmipv6 mag binding lifetime *units*

| Syntax Description | <i>units</i> Lifetime of the binding entries in the MAG. The binding lifetime must be a multiple of 4 seconds. The range is from 10 to 65535 seconds. | | | | |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|-----|--------------------------------------------------------------------|
| Command Default | The default lifetime of the binding entries is 65535 seconds. | | | | |
| Command History | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>7.6</td> <td>This command was introduced in a release earlier than Release 7.6.</td> </tr> </tbody> </table> | Release | Modification | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Release | Modification | | | | |
| 7.6 | This command was introduced in a release earlier than Release 7.6. | | | | |
| Usage Guidelines | <p>You must configure a Proxy Mobility IPv6 (PMIPv6) domain before you configure the lifetime of the binding entries in the controller.</p> <p>The following example shows how to configure the lifetime of the binding entries in the controller:</p> <pre>(Cisco Controller) >config pmipv6 mag binding lifetime 5000</pre> | | | | |

config pmipv6 mag binding max-retx-time

To configure the maximum timeout between the proxy binding updates (PBUs) when the Mobility Access Gateway (MAG) does not receive the proxy binding acknowledgments (PBAs), use the **config pmipv6 mag binding max-retx-time** command.

config pmipv6 mag binding max-retx-time *units*

| | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | <i>units</i> Maximum timeout between the PBUs when the MAG does not receive the PBAs. The range is from 100 to 65535 seconds. |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------|

| | |
|------------------------|-----------------------------------------------|
| Command Default | The default maximum timeout is 32000 seconds. |
|------------------------|-----------------------------------------------|

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

The following example shows how to configure the maximum timeout between the PBUs when the MAG does not receive the PBAs:

```
(Cisco Controller) >config pmipv6 mag binding max-retx-time 50
```

config pmipv6 mag binding maximum

To configure the maximum number of binding entries in the Mobile Access Gateway (MAG), use the **config pmipv6 mag binding maximum** command.

config pmipv6 mag binding maximum *units*

| Syntax Description | <i>units</i> Maximum number of binding entries in the MAG. This number indicates the maximum number of users connected to the MAG. The range is from 0 to 40000. | | | | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|-----|--------------------------------------------------------------------|
| Command Default | The default maximum number of binding entries in the MAG is 10000. | | | | |
| Command History | <table border="1"> <thead> <tr> <th style="text-align: left;">Release</th> <th style="text-align: left;">Modification</th> </tr> </thead> <tbody> <tr> <td>7.6</td> <td>This command was introduced in a release earlier than Release 7.6.</td> </tr> </tbody> </table> | Release | Modification | 7.6 | This command was introduced in a release earlier than Release 7.6. |
| Release | Modification | | | | |
| 7.6 | This command was introduced in a release earlier than Release 7.6. | | | | |
| Usage Guidelines | <p>You must configure a Proxy Mobility IPv6 (PMIPv6) domain before you configure the maximum number of binding entries in the MAG.</p> <p>The following example shows how to configure the maximum number of binding entries in the MAG:</p> <pre>(Cisco Controller) >config pmipv6 mag binding maximum 20000</pre> | | | | |

config pmipv6 mag binding refresh-time

To configure the refresh time of the binding entries in the MAG, use the **config pmipv6 mag binding refresh-time** command.

config pmipv6 mag binding refresh-time *units*

Syntax Description

units Refresh time of the binding entries in the MAG. The binding refresh time must be a multiple of 4. The range is from 4 to 65535 seconds.

Command Default

The default refresh time of the binding entries in the MAG is 300 seconds.

Usage Guidelines

You must configure a PMIPv6 domain before you configure the refresh time of the binding entries in the MAG.

The following example shows how to configure the refresh time of the binding entries in the MAG:

```
(Cisco Controller) >config pmipv6 mag binding refresh-time 500
```

config pmipv6 mag bri delay

To configure the maximum or minimum amount of time that the MAG waits before retransmitting a Binding Revocation Indication (BRI) message, use the **config pmipv6 mag bri delay** command.

config pmipv6 mag bri delay { **min** | **max** } *time*

Syntax Description

| | |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| min | Specifies the minimum amount of time that the MAG waits before retransmitting a BRI message. |
| max | Specifies the maximum amount of time that the MAG waits before retransmitting a BRI message. |
| <i>time</i> | Maximum or minimum amount of time that the Cisco WLC waits before retransmitting a BRI message. The range is from 500 to 65535 milliseconds. |

Command Default

The default value of the maximum amount of time that the MAG waits before retransmitting a BRI message is 2 seconds.

The default value of the minimum amount of time that the MAG waits before retransmitting a BRI message is 1 second.

Command History

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

The following example shows how to configure the minimum amount of time that the MAG waits before retransmitting a BRI message:

```
(Cisco Controller) >config pmipv6 mag bri delay min 500
```

config pmipv6 mag bri retries

To configure the maximum number of times that the MAG retransmits the Binding Revocation Indication (BRI) message before receiving the Binding Revocation Acknowledgment (BRA) message, use the **config pmipv6 mag bri retries** command.

config pmipv6 mag bri retries *retries*

Syntax Description

retries Maximum number of times that the MAG retransmits the BRI message before receiving the BRA message. The range is from 1 to 10 retries.

Command Default

The default is 1 retry.

The following example shows how to configure the maximum number of times that the MAG retries:

```
(Cisco Controller) >config pmipv6 mag bri retries 5
```


config pmipv6 mag lma

To configure a local mobility anchor (LMA) with the mobile access gateway (MAG), use the **config pmipv6 mag lma** command.

```
config pmipv6 mag lma lma_name ipv4-address address
```

| | | |
|---------------------------|---------------------|------------------------------------------------------------------------------------------|
| Syntax Description | <i>lma_name</i> | Name of the LMA. The LMA name can be a NAI or a string that uniquely identifies the LMA. |
| | ipv4-address | Specifies the IP address of the LMA. |
| | <i>address</i> | IP address of the LMA. |
| 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 is a prerequisite to configure PMIPv6 parameters on the MAG.

The following example shows how to configure an LMA with the MAG:

```
(Cisco Controller) >config pmipv6 mag lma vodafonelma ipv4-address 209.165.200.254
```

config pmipv6 mag replay-protection

To configure the maximum amount of time difference between the timestamp in the received proxy binding acknowledgment (PBA) and the current time of the day for replay protection, use the **config pmipv6 mag replay-protection** command.

```
config pmipv6 mag replay-protection { timestamp window time | sequence-no sequence | mobile-node-timestamp mobile_node_timestamp }
```

| Syntax Description | | |
|------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------|
| timestamp | | Specifies the time stamp of the PBA message. |
| window | | Specifies the maximum time difference between the time stamp in the received PBA message and the current time of day. |
| <i>time</i> | | Maximum time difference between the time stamp in the received PBA message and the current time of day. The range is from 1 to 300 milliseconds. |
| sequence-no | | (Optional) Specifies the sequence number in a Proxy Binding Update message. |
| <i>sequence</i> | | (Optional) Sequence number in the Proxy Binding Update message. |
| mobile_node_timestamp | | (Optional) Specifies the time stamp of the mobile node. |
| <i>mobile_node_timestamp</i> | | (Optional) Time stamp of the mobile node. |

Command Default The default maximum time difference is 300 milliseconds.

Usage Guidelines Only the timestamp option is supported.

The following example shows how to configure the maximum amount of time difference in milliseconds between the time stamp in the received PBA message and the current time of day:

```
(Cisco Controller) >config pmipv6 mag replay-protection timestamp window 200
```

config port power

To enable or disable Power over Ethernet (PoE) for a specific controller port or for all ports, use the **config port power** command.

```
config port power {all | port} {enable | disable}
```

| | | |
|---------------------------|----------------|--------------------------------------------------------------------|
| Syntax Description | all | Configures all ports. |
| | <i>port</i> | Port number. |
| | enable | Enables the specified ports. |
| | disable | Disables the specified ports. |
| Command Default | 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 enable PoE on all ports:

```
(Cisco Controller) > config port power all enable
```

The following example shows how to disable PoE on port 8:

```
(Cisco Controller) > config port power 8 disable
```

config policy action.opendns-profile-name

To configure an OpenDNS action to a policy, use the **config policy action.opendns-profile-name** command.

config policy *policy-name* **action.opendns-profile-name** { **enable** | **disable** }

| Syntax Description | |
|--------------------|------------------------------------------------------------------------|
| | <i>policy-name</i> Policy name, for example, iPad, iPhone, smartphone. |
| | enable Enables the action. |
| | disable Disables the action. |

Command Modes (Controller Configuration) >

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 8.4 | This command was introduced. |

Usage Guidelines None

Example

The following example shows how to configure an OpenDNS action to a policy:

```
(Cisco Controller) > config policy ipad action.opendns-profile-name enable
```

config paging

To enable or disable scrolling of the page, use the **config paging** command.

```
config paging {enable | disable}
```

| | | |
|---------------------------|----------------|-------------------------------------|
| Syntax Description | enable | Enables the scrolling of the page. |
| | disable | Disables the scrolling of the page. |

Command Default By default, scrolling of the page is enabled.

Usage Guidelines Commands that produce a huge number of lines of output with the scrolling of the page disabled might result in the termination of SSH/Telnet connection or user session on the console.

The following example shows how to enable scrolling of the page:

```
(Cisco Controller) > config paging enable
```

Related Commands **show run-config**

config passwd-cleartext

To enable or disable temporary display of passwords in plain text, use the **config passwd-cleartext** command.

```
config passwd-cleartext {enable | disable}
```

| Syntax Description | enable | enable |
|--------------------|---------|--------------------------------------------------|
| | | Enables the display of passwords in plain text. |
| | disable | Disables the display of passwords in plain text. |

Command Default By default, temporary display of passwords in plain text is disabled.

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

Usage Guidelines This command must be enabled if you want to see user-assigned passwords displayed in clear text when using the **show run-config** command.

To execute this command, you must enter an admin password. This command is valid only for this particular session. It is not saved following a reboot.

The following example shows how to enable display of passwords in plain text:

```
(Cisco Controller) > config passwd-cleartext enable
The way you see your passwds will be changed
You are being warned.
Enter admin password:
```

Related Commands **show run-config**

config policy

To configure a native profiling policy on the Cisco Wireless LAN Controller (WLC), use the **config policy** command.

```
config policy policy_name { action { acl { enable | disable } acl_name | { average-data-rate | average-realtime-rate | burst-data-rate | burst-realtime-rate | qos | session-timeout | sleeping-client-timeout | vlan } { enable | disable } } } | active { add hours start_time end_time days day | delete days day } | create | delete | match { device-type { add | delete } device-type | eap-type { add | delete } { eap-fast | eap-tls | leap | peap } | role { role_name | none } }
```

Syntax Description

| | |
|--------------------------------|------------------------------------------------------|
| <i>policy_name</i> | Name of a profiling policy. |
| action | Configures an action for the policy. |
| acl | Configures an ACL for the policy |
| enable | Enables an action for the policy. |
| disable | Disables an action for the policy. |
| <i>acl_name</i> | Name of an ACL. |
| average-data-rate | Configures the QoS average data rate. |
| average-realtime-rate | Configures the QoS average real-time rate. |
| burst-data-rate | Configures the QoS burst data rate. |
| burst-realtime-rate | Configures the QoS burst real-time rate. |
| qos | Configures a QoS action for the policy. |
| session-timeout | Configures a session timeout action for the policy. |
| sleeping-client-timeout | Configures a sleeping client timeout for the policy. |
| vlan | Configures a VLAN action for the policy. |
| active | Configures the active hours and days for the policy. |
| add | Adds active hours and days. |
| hours | Configures active hours for the policy. |
| <i>start_time</i> | Start time for the policy. |
| <i>end_time</i> | End time for the policy. |
| days | Configures the day on the policy must work. |

| | |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>day</i> | Day of the week, such as mon, tue, wed, thu, fri, sat, sun . You can also specify daily or weekdays for the policy to occur daily or on all weekdays. |
| delete | Deletes active hours and days. |
| create | Creates a policy. |
| match | Configures a match criteria for the policy. |
| device-type | Configures a device type match. |
| <i>device-type</i> | Device type on which the policy must be applied. You can configure up to 16 devices types for a policy. |
| eap-type | Configures the Extensible Authentication Protocol (EAP) type as a match criteria. |
| eap-fast | Configures the EAP type as EAP Flexible Authentication via Secure Tunneling (FAST). |
| eap-tls | Configures the EAP type as EAP Transport Layer Security (TLS). |
| leap | Configures the EAP type as Lightweight EAP (LEAP). |
| peap | Configures the EAP type as Protected EAP (PEAP). |
| role | Configures the user type or user group for the user. |
| <i>role_name</i> | User type or user group of the user, for example, student, employee. You can configure only one role per policy. |
| none | Configures no user type or user group for the user. |

Command Default There is no native profiling policy on the Cisco WLC.

Command History

| Release | Modification |
|---------|------------------------------|
| 7.5 | This command was introduced. |

Usage Guidelines The maximum number of policies that you can configure is 64.

The following example shows how to configure a role for a policy:

```
(Cisco Controller) > config policy student_policy role student
```


config policy match role

To Configure a role match to a policy, use the **config policy match role** command.

```
config policy policy-name match role-name | none
```

| Syntax Description | | |
|--------------------|--------------------|---------------------------------------------|
| | <i>policy-name</i> | Name of the policy. |
| | match | Configures a match to a policy. |
| | role | Configures a role match to a policy. |
| | <i>role-name</i> | Role name to the policy. |
| | <i>none</i> | Name of the Cisco lightweight access point. |
| Command Default | None. | |
| Command History | Release | Modification |
| | 8.3 | This command was introduced. |

This example shows how to :

```
(Cisco Controller) >config policy match role
```

config port adminmode

To enable or disable the administrative mode for a specific controller port or for all ports, use the **config port adminmode** command.

```
config port adminmode {all | port} {enable | disable}
```

| Syntax Description | | |
|--------------------|-------------------------------|--------------------------------------------------------------------|
| all | Configures all ports. | |
| <i>port</i> | Number of the port. | |
| enable | Enables the specified ports. | |
| disable | Disables the specified ports. | |
| Command Default | 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 disable port 8:

```
(Cisco Controller) > config port adminmode 8 disable
```

The following example shows how to enable all ports:

```
(Cisco Controller) > config port adminmode all enable
```

config port maxspeed

To configure maximum speed for a port, use the **config port maxspeed** command.

```
config port maxspeed port { 1000 | 2500 | 5000 }
```

| Syntax Description | | |
|--------------------|-------------|----------------------------------------|
| | <i>port</i> | Port number |
| | 1000 | Configures 1 Gbps speed for the port |
| | 2500 | Configures 2.5 Gbps speed for the port |
| | 5000 | Configures 5 Gbps speed for the port |
| Command Default | None | |
| Command History | Release | Modification |
| | 8.0 | The command was introduced. |

Examples

The following example shows how to configure the maximum speed for port 4 to 5 Gbps:

```
(Cisco Controller) > config port maxspeed 4 5000
```

config port linktrap

To enable or disable the up and down link traps for a specific controller port or for all ports, use the **config port linktrap** command.

```
config port linktrap { all | port } { enable | disable }
```

| Syntax Description | | |
|--------------------|---------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| | all | Configures all ports. |
| | <i>port</i> | Number of the port. |
| | enable | Enables the specified ports. |
| | disable | Disables the specified ports. |
| Command Default | The default value for down link traps for a specific controller port or for all ports 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 disable port 8 traps:

```
(Cisco Controller) > config port linktrap 8 disable
```

The following example shows how to enable all port traps:

```
(Cisco Controller) > config port linktrap all enable
```

config port multicast appliance

To enable or disable the multicast appliance service for a specific controller port or for all ports, use the **config port multicast appliance** commands.

```
config port multicast appliance {all | port} {enable | disable}
```

| | | |
|---------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Syntax Description | all | Configures all ports. |
| | <i>port</i> | Number of the port. |
| | enable | Enables the specified ports. |
| | disable | Disables the specified ports. |
| Command Default | The default multicast appliance service for a specific controller port or for all ports 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 enable multicast appliance service on all ports:

```
(Cisco Controller) > config port multicast appliance all enable
```

The following example shows how to disable multicast appliance service on port 8:

```
(Cisco Controller) > config port multicast appliance 8 disable
```

config prompt

To change the CLI system prompt, use the **config prompt** command.

config prompt *prompt*

| | | |
|---------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------|
| Syntax Description | <i>prompt</i> | New CLI system prompt enclosed in double quotes. The prompt can be up to 31 alphanumeric characters and is case sensitive. |
|---------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------|

| | |
|------------------------|-----------------------------------------------------------|
| Command Default | The system prompt is configured using the startup wizard. |
|------------------------|-----------------------------------------------------------|

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

| | |
|-------------------------|----------------------------------------------------------------------------------------------------------|
| Usage Guidelines | Because the system prompt is a user-defined variable, it is omitted from the rest of this documentation. |
|-------------------------|----------------------------------------------------------------------------------------------------------|

The following example shows how to change the CLI system prompt to Cisco 4400:

```
(Cisco Controller) > config prompt "Cisco 4400"
```

config qos average-data-rate

To define the average data rate in Kbps for TCP traffic per user or per service set identifier (SSID), use the `config qos average-data-rate` command.

```
config qos average-data-rate {bronze | silver | gold | platinum} {per-ssid | per-client}
{downstream | upstream} rate
```

| Syntax Description | | |
|--------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bronze | | Specifies the average data rate for the queue bronze. |
| silver | | Specifies the average data rate for the queue silver. |
| gold | | Specifies the average data rate for the queue gold. |
| platinum | | Specifies the average data rate for the queue platinum. |
| per-ssid | | Configures the rate limit for an SSID per radio. The combined traffic of all clients will not exceed this limit. |
| per-client | | Configures the rate limit for each client associated with the SSID. |
| downstream | | Configures the rate limit for downstream traffic. |
| upstream | | Configures the rate limit for upstream traffic. |
| <i>rate</i> | | Average data rate for TCP traffic per user. A value between 0 and 51,200 Kbps (inclusive). A value of 0 imposes no bandwidth restriction on the QoS profile. |

Command Default None

Command History

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

The following example shows how to configure the average data rate 0 Kbps for the queue gold per SSID:

```
(Cisco Controller) > config qos average-data-rate gold per ssid downstream 0
```

Related Commands

- `config qos burst-data-rate`
- `config qos average-realtime-rate`
- `config qos burst-realtime-rate`
- `config wlan override-rate-limit`

config qos average-realtime-rate

To define the average real-time data rate in Kbps for UDP traffic per user or per service set identifier (SSID), use the **config qos average-realtime-rate** command.

```
config qos average-realtime-rate {bronze | silver | gold | platinum} {per-ssid | per-client}
{downstream | upstream} rate
```

| Syntax Description | | |
|--------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bronze | | Specifies the average real-time data rate for the queue bronze. |
| silver | | Specifies the average real-time data rate for the queue silver. |
| gold | | Specifies the average real-time data rate for the queue gold. |
| platinum | | Specifies the average real-time data rate for the queue platinum. |
| per-ssid | | Configures the rate limit for an SSID per radio. The combined traffic of all clients will not exceed this limit. |
| per-client | | Configures the rate limit for each client associated with the SSID. |
| downstream | | Configures the rate limit for downstream traffic. |
| upstream | | Configures the rate limit for upstream traffic. |
| <i>rate</i> | | Average real-time data rate for UDP traffic per user. A value between 0 and 51,200 Kbps (inclusive). A value of 0 imposes no bandwidth restriction on the QoS profile. |

Command Default None

Command History

Release Modification

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

The following example shows how to configure the average real-time actual rate for queue gold:

```
(Cisco Controller) > config qos average-realtime-rate gold per ssid downstream 10
```

Related Commands

config qos average-data-rate

config qos burst-data-rate


```
config qos burst-realtime-rate  
config wlan override-rate-limit
```

config qos burst-data-rate

To define the peak data rate in Kbps for TCP traffic per user or per service set identifier (SSID), use the **config qos burst-data-rate** command.

```
config qos burst-data-rate {bronze | silver | gold | platinum} {per-ssid | per-client}
{downstream | upstream} rate
```

Syntax Description

| | |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| bronze | Specifies the peak data rate for the queue bronze. |
| silver | Specifies the peak data rate for the queue silver. |
| gold | Specifies the peak data rate for the queue gold. |
| platinum | Specifies the peak data rate for the queue platinum. |
| per-ssid | Configures the rate limit for an SSID per radio. The combined traffic of all clients will not exceed this limit. |
| per-client | Configures the rate limit for each client associated with the SSID. |
| downstream | Configures the rate limit for downstream traffic. |
| upstream | Configures the rate limit for upstream traffic. |
| <i>rate</i> | Peak data rate for TCP traffic per user. A value between 0 and 51,200 Kbps (inclusive). A value of 0 imposes no bandwidth restriction on the QoS profile. |

Command Default

None

Command History

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

The following example shows how to configure the peak rate 30000 Kbps for the queue gold:

```
(Cisco Controller) > config qos burst-data-rate gold per ssid downstream 30000
```

Related Commands

config qos average-data-rate
config qos average-realtime-rate
config qos burst-realtime-rate
config wlan override-rate-limit

config qos burst-realtime-rate

To define the burst real-time data rate in Kbps for UDP traffic per user or per service set identifier (SSID), use the **config qos burst-realtime-rate** command.

```
config qos burst-realtime-rate {bronze | silver | gold | platinum} { per-ssid | per-client }
{ downstream | upstream } rate
```

| Syntax Description | | |
|--------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bronze | | Specifies the burst real-time data rate for the queue bronze. |
| silver | | Specifies the burst real-time data rate for the queue silver. |
| gold | | Specifies the burst real-time data rate for the queue gold. |
| platinum | | Specifies the burst real-time data rate for the queue platinum. |
| per-ssid | | Configures the rate limit for an SSID per radio. The combined traffic of all clients will not exceed this limit. |
| per-client | | Configures the rate limit for each client associated with the SSID. |
| downstream | | Configures the rate limit for downstream traffic. |
| upstream | | Configures the rate limit for upstream traffic. |
| <i>rate</i> | | Burst real-time data rate for UDP traffic per user. A value between 0 and 51,200 Kbps (inclusive). A value of 0 imposes no bandwidth restriction on the QoS profile. |

Command Default None

Command History

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

The following example shows how to configure the burst real-time actual rate 2000 Kbps for the queue gold:

```
(Cisco Controller) > config qos burst-realtime-rate gold per ssid downstream 2000
```

Related Commands

- config qos average-data-rate
- config qos burst-data-rate

config qos average-realtime-rate

config wlan override-rate-limit

config qos description

To change the profile description, use the **config qos description** command.

```
config qos description {bronze | silver | gold | platinum} description
```

| Syntax Description | | |
|--------------------|--------------------|---------------------------------------------------------------|
| | bronze | Specifies the QoS profile description for the queue bronze. |
| | silver | Specifies the QoS profile description for the queue silver. |
| | gold | Specifies the QoS profile description for the queue gold. |
| | platinum | Specifies the QoS profile description for the queue platinum. |
| | <i>description</i> | QoS profile description. |

Command Default None

Command History

Release Modification

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

The following example shows how to configure the QoS profile description “description” for the queue gold:

```
(Cisco Controller) > config qos description gold abc
```

Related Commands

show qos average-data-rate
config qos burst-data-rate
config qos average-realtime-rate
config qos burst-realtime-rate
config qos max-rf-usage

config qos fastlane

To enable the Fastlane QoS feature on each WLAN, use the **config qos fastlane** command.

```
config qos fastlane {enable | disable} wlan-id
```

| | | |
|---------------------------|-----------------------------|-------------------------------------|
| Syntax Description | enable | Enables Fastlane QoS on each WLAN. |
| | disable | Disables Fastlane QoS on each WLAN. |
| | <i>wlan-id</i> | WLAN identifier. |
| Command Default | Fastlane is not configured. | |
| Command Modes | WLAN configuration | |
| Command History | Release | Modification |
| | 8.3 | This command was introduced. |

Example

The following example shows how to configure Fastlane QoS on each WLAN:

```
Controller(config)# config qos fastlane enable 1
```

config qos fastlane disable global

To disable the Fastlane QoS feature globally, use the **config qos fastlane disable global** command.

config qos fastlane disable global

| Syntax Description | This command has no keywords or arguments. | | | | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|-----|------------------------------|
| Command Default | None | | | | |
| Command Modes | Global configuration (config) | | | | |
| Command History | <table><thead><tr><th>Release</th><th>Modification</th></tr></thead><tbody><tr><td>8.3</td><td>This command was introduced.</td></tr></tbody></table> | Release | Modification | 8.3 | This command was introduced. |
| Release | Modification | | | | |
| 8.3 | This command was introduced. | | | | |
| Usage Guidelines | Fastlane QoS must be disabled on all WLANs before executing this command. | | | | |

Examples

The following example shows how to disable Fastlane QoS globally for Apple wireless clients:

```
Controller(config)# config qos fastlane disable global
```

config qos max-rf-usage

To specify the maximum percentage of RF usage per access point, use the **config qos max-rf-usage** command.

```
config qos max-rf-usage { bronze | silver | gold | platinum } usage_percentage
```

| Syntax Description | | |
|-------------------------|--|----------------------------------------------------------------------|
| bronze | | Specifies the maximum percentage of RF usage for the queue bronze. |
| silver | | Specifies the maximum percentage of RF usage for the queue silver. |
| gold | | Specifies the maximum percentage of RF usage for the queue gold. |
| platinum | | Specifies the maximum percentage of RF usage for the queue platinum. |
| <i>usage-percentage</i> | | Maximum percentage of RF usage. |

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 specify the maximum percentage of RF usage for the queue gold:

```
(Cisco Controller) > config qos max-rf-usage gold 20
```

| Related Commands | |
|------------------|-----------------------------------------|
| | show qos description |
| | config qos average-data-rate |
| | config qos burst-data-rate |
| | config qos average-realtime-rate |
| | config qos burst-realtime-rate |

config qos dot1p-tag

To define the maximum value (0 to 7) for the priority tag associated with packets that fall within the profile, use the **config qos dot1p-tag** command.

```
config qos dot1p-tag {bronze | silver | gold | platinum} dot1p_tag
```

| Syntax Description | | |
|--------------------|------------------|------------------------------------------------------|
| | bronze | Specifies the QoS 802.1p tag for the queue bronze. |
| | silver | Specifies the QoS 802.1p tag for the queue silver. |
| | gold | Specifies the QoS 802.1p tag for the queue gold. |
| | platinum | Specifies the QoS 802.1p tag for the queue platinum. |
| | <i>dot1p_tag</i> | Dot1p tag value between 1 and 7. |

Command Default None

Command History

Release Modification

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

The following example shows how to configure the a QoS 802.1p tag for the queue gold with the dot1p tag value of 5:

```
(Cisco Controller) > config qos dot1p-tag gold 5
```

Related Commands

show qos queue_length all

config qos protocol-type

config qos priority

To define the maximum and default QoS levels for unicast and multicast traffic when you assign a QoS profile to a WLAN, use the **config qos priority** command.

```
config qos priority {bronze | silver | gold | platinum} {maximum-priority | default-unicast-priority | default-multicast-priority}
```

| Syntax Description | | |
|-----------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bronze | | Specifies a Bronze profile of the WLAN. |
| silver | | Specifies a Silver profile of the WLAN. |
| gold | | Specifies a Gold profile of the WLAN. |
| platinum | | Specifies a Platinum profile of the WLAN. |
| <i>maximum-priority</i> | | Maximum QoS priority as one of the following: <ul style="list-style-type: none"> • besteffort • background • video • voice |
| <i>default-unicast-priority</i> | | Default unicast priority as one of the following: <ul style="list-style-type: none"> • besteffort • background • video • voice |
| <i>default-multicast-priority</i> | | Default multicast priority as one of the following: <ul style="list-style-type: none"> • besteffort • background • video • voice |

Command History

Release Modification

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

Usage Guidelines

The maximum priority level should not be lower than the default unicast and multicast priority levels.

The following example shows how to configure the QoS priority for a gold profile of the WLAN with voice as the maximum priority, video as the default unicast priority, and besteffort as the default multicast priority.

```
(Cisco Controller) > config qos priority gold voice video besteffort
```

Related Commands **config qos protocol-type**

config qos protocol-type

To define the maximum value (0 to 7) for the priority tag associated with packets that fall within the profile, use the **config qos protocol-type** command.

```
config qos protocol-type {bronze | silver | gold | platinum} {none | dot1p}
```

| Syntax Description | | |
|--------------------|--|------------------------------------------------------|
| bronze | | Specifies the QoS 802.1p tag for the queue bronze. |
| silver | | Specifies the QoS 802.1p tag for the queue silver. |
| gold | | Specifies the QoS 802.1p tag for the queue gold. |
| platinum | | Specifies the QoS 802.1p tag for the queue platinum. |
| none | | Specifies when no specific protocol is assigned. |
| <i>dot1p</i> | | Specifies when dot1p type protocol is assigned. |

Command Default None

Command History

Release Modification

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

The following example shows how to configure the QoS protocol type silver:

```
(Cisco Controller) > config qos protocol-type silver dot1p
```

Related Commands

show qos queue_length all

config qos dot1p-tag

config qos queue_length

To specify the maximum number of packets that access points keep in their queues, use the **config qos queue_length** command.

```
config qos queue_length {bronze | silver | gold | platinum} queue_length
```

| Syntax Description | | |
|--------------------|---------------------|--------------------------------------------------|
| | bronze | Specifies the QoS length for the queue bronze. |
| | silver | Specifies the QoS length for the queue silver. |
| | gold | Specifies the QoS length for the queue gold. |
| | platinum | Specifies the QoS length for the queue platinum. |
| | <i>queue_length</i> | Maximum queue length values (10 to 255). |

Command Default None

Command History

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

The following example shows how to configure the QoS length for the queue “gold” with the maximum queue length value as 12:

```
(Cisco Controller) > config qos queue_length gold 12
```

Related Commands `show qos`

config qos qosmap

To configure QoS map, use the **config qos qosmap** command.

```
config qos qosmap {enable | disable | default }
```

| Syntax Description | | |
|--------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enable | | Enables the QoS map feature. |
| disable | | Disables the QoS map feature. |
| default | | Resets to default QoS map. This resets the QoS map values to 255 (default), and also adds DSCP UP exceptions if not present previously. To clear the DSCP UP values, enter the config qos qosmap clear-all command. |

Command History

Release Modification

8.1 This command was introduced.

The following example shows how to enable the QoS map.

```
(Cisco Controller) > config qos qosmap enable
```

config qos qosmap up-to-dscp-map

To configure the DSCP range for UP, use the **config qos qosmap** command.

config qos qosmap up-to-dscp-map { *up dscp-default dscp-start dscp-end* }

Syntax Description

| | |
|-----------------------|---------------------------------------------|
| <i>up-to-dscp-map</i> | Sets the DSCP range for UP |
| <i>up</i> | Wireless UP value |
| <i>dscp-default</i> | Default DSCP value for this UP |
| <i>dscp-start</i> | The DSCP start range. Range is between 0-63 |
| <i>dscp-end</i> | The DSCP stop range. Range is 0-63 |

Command History

| Release | Modification |
|---------|------------------------------|
| 8.1 | This command was introduced. |

The following example shows how to set the DSCP range for UP.

```
(Cisco Controller) > config qos qosmap up-to-dscp-map 2 3 5 20
```

config qos qosmap dscp-to-up-exception

To configure the DSCP exception, use the **config qos qosmap** command.

config qos qosmap dscp-to-up-exception { *dscp up* }

Syntax Description

| | |
|-----------------------------|------------------------------------------------|
| <i>dscp-to-up-exception</i> | Allows to configure DSCP exception. |
| <i>dscp</i> | Exception DSCP value for the UP value |
| <i>up</i> | Links to the Wireless User Priority (UP) value |

The following example shows how to configure the DSCP exception:

```
(Cisco Controller) > config qos qosmap dscp-to-up-exception 3 1
```


config qos qosmap delete-dscp-exception

To delete a dscp exception, use the **config qos qosmap** command.

config qos qosmap delete-dscp-exception *dscp*

Syntax Description

delete-dscp-exception

Deletes exception for DSCP

dscp

DSCP exception for the UP

Command History

Release Modification

8.1 This command was introduced.

The following example shows how to delete a exception for DSCP.

```
(Cisco Controller) > config qos qosmap delete-dscp-exception 23
```

config qos qosmap clear-all

To delete all the exceptions from the QoS map, use the **config qos qosmap** command.

config qos qosmap clear-all

| Syntax Description | clear-all | Deletes all the exceptions |
|--------------------|-----------|----------------------------|
|--------------------|-----------|----------------------------|

Command History

| Release | Modification |
|---------|--------------|
|---------|--------------|

| | |
|-----|------------------------------|
| 8.1 | This command was introduced. |
|-----|------------------------------|

The following example shows how to clear all the exceptions from the QoS map.

```
(Cisco Controller) > config qos qosmap clear-all
```

config qos qosmap trust dscp upstream

To mark the upstream packets using the client dscp, use the **config qos qosmap** command.

```
config qos qosmap trust-dscp-upstream { enable | disable }
```

| Syntax Description | | |
|--------------------|----------------------------|-------------------------------------------------------------|
| | trust-dscp-upstream | Based on the client's DSCP the upstream packets are marked |
| | enable | Enables the upstream packet marking using the client dscp. |
| | disable | Disables the upstream packet marking using the client dscp. |

Command History

| Release | Modification |
|---------|--------------|
|---------|--------------|

| | |
|-----|------------------------------|
| 8.1 | This command was introduced. |
|-----|------------------------------|

The following example shows how to enable client dscp based packet marking.

```
(Cisco Controller) > config qos qosmap trust-dscp-upstream enable
```

config qos qosmap trust dscp upstream