



## CLI Commands

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The Cisco Wireless LAN solution command-line interface (CLI) enables operators to connect an ASCII console to the Cisco Wireless LAN Controller and configure the controller and its associated access points.

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## show Commands

This section lists the **show** commands to display information about your mobility configuration settings.

## show advanced client-handoff

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

**show advanced client-handoff**

### Syntax Description

This command has no arguments or keywords.

### Examples

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

```
> show advanced client-handoff
Client auto handoff after retries..... 130
```

### Related Commands

**config advanced client-handoff**  
**config advanced 802.11 summary**

## show l2tp

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

**show l2tp** {**summary** | *ip\_address*}

### Syntax Description

<b>summary</b>	Displays all L2TP sessions.
<i>ip_address</i>	IP address.

### Command Default

None.

### Examples

This example shows how to display a summary of all L2TP sessions:

```
> show l2tp summary
LAC_IPaddr LTid LSid RTid RSid ATid ASid State
-----
```

## show logging

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

### show logging

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

**Command Default** None.

**Examples** This example shows how to display the current settings and buffer content details:

```
> show logging
Logging to buffer :
- Logging of system messages to buffer :
  - Logging filter level..... errors
  - Number of system messages logged..... 67227
  - Number of system messages dropped..... 21136
- Logging of debug messages to buffer ..... Disabled
  - Number of debug messages logged..... 0
  - Number of debug messages dropped..... 0
Logging to console :
- Logging of system messages to console :
  - Logging filter level..... errors
  - Number of system messages logged..... 0
  - Number of system messages dropped..... 88363
- 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..... 67227
  - Number of system messages dropped..... 21136
- 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
  - Host 0..... Not Configured
  - Host 1..... Not Configured
  - Host 2..... Not Configured
Logging of traceback..... Disabled
Logging of process information..... Disabled
Logging of source file informational..... Enabled
Timestamping of messages.....
- Timestamping of system messages..... Enabled
  - Timestamp format..... Date and Time
- Timestamping of debug messages..... Enabled
  - Timestamp format..... Date and Time
Logging buffer (67227 logged, 21136 dropped)
*Apr 03 09:48:01.728: %MM-3-INVALID_PKT_RECVD: mm_listen.c:5508 Received an invalid
packet from 1.100.163.51. Source member:0.0.0.0. source member unknown.
*Apr 03 09:47:34.194: %LWAPP-3-DECODE_ERR: spam_lrad.c:1271 Error decoding discovery
request from AP 00:13:5f:0e:d4:20
*Apr 03 09:47:34.194: %LWAPP-3-DISC_OTAP_ERR: spam_lrad.c:5554 Ignoring OTAP discovery
request from AP 00:13:5f:0e:d4:20, OTAP is disabled
Previous message occurred 2 times.
```

**Related Commands**

config logging syslog host  
config logging syslog facility  
config logging syslog level

## show mobility anchor

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

**show mobility anchor** [**wlan** *wlan\_id* | **guest-lan** *guest\_lan\_id*]

### Syntax Description

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

### Command Default

None.

### Usage Guidelines

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

- UP—The controller is reachable and able to pass data.
- CNTRL\_PATH\_DOWN—The mpings failed. The controller cannot be reached through the control path and is considered failed.
- DATA\_PATH\_DOWN—The epings failed. The controller cannot be reached and is considered failed.
- CNTRL\_DATA\_PATH\_DOWN—Both the mpings and epings failed. The controller cannot be reached and is considered failed.

### Examples

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

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

### Related Commands

**config guest-lan mobility anchor**  
**config mobility group domain**  
**config mobility group keepalive count**  
**config mobility group keepalive interval**

**config mobility group member**  
**config mobility group multicast-address**  
**config mobility multicast-mode**  
**config mobility secure-mode**  
**config mobility statistics reset**  
**config wlan mobility anchor**  
**debug mobility**  
**show mobility anchor**  
**show mobility statistics**  
**show mobility foreign-map**  
**show mobility summary**

## show mobility ap-list

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

**show mobility ap-list**

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

**Command Default** None.

**Examples** This example shows how to display the mobility AP list:

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

**Related Commands**

- config mobility group
- debug mobility
- show mobility anchor
- config wlan mobility foreign-map
- config mobility group member
- config wlan mobility anchor
- show mobility summary



## show mobility foreign-map

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

**show mobility foreign-map wlan** *wlan\_id*

### Syntax Description

<b>wlan</b>	Displays the mobility WLAN foreign-map list.
<i>wlan_id</i>	Wireless LAN identifier between 1 and 512.

### Command Default

None.

### Examples

This example shows how to get a mobility wireless LAN foreign map list:

```
> show mobility foreign-map wlan 2
Mobility Foreign Map List
WLAN ID          Foreign MAC Address          Interface
-----          -
2                00:1b:d4:6b:87:20          dynamic-105
```

### Related Commands

**debug mobility**  
**show mobility anchor**  
**config wlan mobility foreign-map**  
**config mobility group member**  
**config wlan mobility anchor**  
**show mobility summary**

## show mobility group member

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

**show mobility group member hash**

### Syntax Description

<b>hash</b>	Displays the hash keys of the mobility group members in the same domain.
-------------	--

### Command Default

None.

### Examples

This example shows how to display the hash keys of the mobility group members:

```
> show mobility group member hash
Default Mobility Domain..... new-mob

  IP Address      Hash Key
  -----
  9.2.115.68      a819d479dcfeb3e0974421b6e8335582263d9169
  9.6.99.10       0974421b6e8335582263d9169a819d479dcfeb3e
  9.7.7.7         feb3e0974421b6e8335582263d9169a819d479dc
```

### Related Commands

- show certificate ssc
- show mobility group member
- config certificate ssc
- config mobility group member hash
- debug mobility
- show mobility anchor
- config wlan mobility foreign-map
- config mobility group member
- config wlan mobility anchor
- show mobility summary

## show mobility statistics

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

**show mobility statistics**

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

**Command Default** None.

**Examples** This example shows how to display statistics of the mobility manager:

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

**Related Commands**

- config mobility group anchor**
- config mobility group domain**
- config mobility group keepalive count**
- config mobility group keepalive interval**
- config mobility group member**
- config mobility group multicast-address**
- config mobility multicast-mode**

**config mobility secure-mode**  
**config mobility statistics reset**  
**debug mobility**  
**show mobility anchor**  
**show mobility summary**

## show mobility summary

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

**show mobility summary**

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

**Command Default** None

**Usage Guidelines** Some WLAN controllers may list no mobility security mode.

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

```
Device > show mobility summary

Symmetric Mobility Tunneling (current) ..... Disabled
Symmetric Mobility Tunneling (after reboot) ..... Disabled
Mobility Protocol Port..... 16666
Mobility Security Mode..... Disabled
Default Mobility Domain..... snmp_gui
Multicast Mode ..... Disabled
Mobility Domain ID for 802.11r..... 0x66bd
Mobility Keepalive Interval..... 10
Mobility Keepalive Count..... 3
Mobility Group Members Configured..... 1
Mobility Control Message DSCP Value..... 0
Controllers configured in the Mobility Group
MAC Address      IP Address      Group Name      Multicast IP      Status
00:1b:d4:6b:87:20  1.100.163.70    snmp_gui        0.0.0.0           Up
```

**Related Commands**

- config guest-lan mobility anchor**
- config mobility group domain**
- config mobility group keepalive count**
- config mobility group keepalive interval**
- config mobility group member**
- config mobility group multicast-address**
- config mobility multicast-mode**
- config mobility secure-mode**
- config mobility statistics reset**
- config wlan mobility anchor**
- debug mobility**
- show mobility anchor**

**show mobility statistics**

## show pmipv6 domain

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

**show pmipv6 domain** *domain\_name* **profile** *profile\_name*

### Syntax Description

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

### Examples

This example shows how to display the summary information of a PMIPv6 domain:

```
> show pmipv6 domain floor1 profile profile1
NAI: @vodafone.com
APN: Vodafone
LMA: Vodafonelma

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

### Related Commands

**show pmipv6 profile summary**  
**show wlan summary**  
**show client summary**  
**show mag globals**  
**config wlan pmipv6 profile-name**  
**config pmipv6 domain**  
**config pmipv6 add profile**

## show pmipv6 mag bindings

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

**show pmipv6 mag bindings** [*lma lma\_name* | *nai nai\_string*]

### Syntax Description

<b>lma</b>	(Optional) Displays the binding details of the MAG to an Local Mobility Anchor (LMA).
<i>lma_name</i>	Name of the LMA. The LMA name is case-sensitive and can be up to 127 alphanumeric characters.
<b>nai</b>	(Optional) Displays the binding details of the MAG to a client.
<i>nai_string</i>	Network Access Identifier (NAI) of the client. The NAI is case-sensitive and can be up to 127 alphanumeric characters. You can use all special characters except a colon.

### Examples

This example shows how to display the MAG bindings:

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

### Related Commands

**show pmipv6 domain**  
**show wlan summary**  
**show client summary**  
**show pmipv6 mag globals**  
**show pmipv6 mag stats**  
**config pmipv6 mag lma**  
**config pmipv6 mag bri retries**  
**config pmipv6 mag binding init-retx-time**  
**config pmipv6 mag binding max-ret-time**  
**config pmipv6 mag binding maximum**  
**config pmipv6 mag binding lifetime**



**config pmipv6 mag binding refresh-time**

**config pmipv6 mag replay-protection**

**config pmipv6 mag bri delay**

## show pmipv6 mag globals

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

**show pmipv6 mag globals**

### Syntax Description

This command has no arguments or keywords.

### Examples

This example shows how to display the global PMIPv6 parameters of a MAG:

```
> show pmipv6 mag globals
Domain      : D1

MAG Identifier : M1
  MAG Interface      : Management
  Max Bindings       : 10000
  Registration Lifetime : 3600 (sec)
  BRI Init-delay time : 1000 (msec)
  BRI Max-delay time  : 2000 (msec)
  BRI Max retries     : 1
  Refresh time        : 300 (sec)
  Refresh RetxInit time : 1000 (msec)
  Refresh RetxMax time : 32000 (msec)
  Timestamp option    : Enabled
  Validity Window     : 7
Peer#1:
  LMA Name: AN-LMA-5K      LMA IP: 209.165.201.10
Peer#2:
  LMA Name: AN-LMA         LMA IP: 209.165.201.4
Peer#3:
  LMA Name: AN-LMA         LMA IP: 209.165.201.4
```

### Related Commands

**show pmipv6 domain**  
**show wlan summary**  
**show client summary**  
**show pmipv6 mag stats**  
**show pmipv6 mag bindings**  
**config pmipv6 mag lma**  
**config pmipv6 mag bri retries**  
**config pmipv6 mag binding init-retx-time**  
**config pmipv6 mag binding max-ret-time**  
**config pmipv6 mag binding maximum**  
**config pmipv6 mag binding lifetime**  
**config pmipv6 mag binding refresh-time**  
**config pmipv6 mag replay-protection**  
**config pmipv6 mag bri delay**

## show pmipv6 mag stats

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

**show pmipv6 mag stats** [**domain** *domain\_name* **peer** *lma\_name*]

### Syntax Description

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

### Usage Guidelines

This table lists the descriptions of the LMA statistics.

**Table 1: Descriptions of the LMA Statistics:**

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

LMA Statistics	Description
PBRA Received	Total number of PBRA's that the MAG receives from the LMA.
Number of Handoff	Number of handoffs between the MAG and the LMA.

### Examples

This example shows how to display the LMA statistics:

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

### Related Commands

```
show pmipv6 domain
show wlan summary
show client summary
show pmipv6 mag globals
show pmipv6 mag bindings
config pmipv6 mag lma
config pmipv6 mag bri retries
config pmipv6 mag binding init-retx-time
config pmipv6 mag binding max-ret-time
config pmipv6 mag binding maximum
config pmipv6 mag binding lifetime
config pmipv6 mag binding refresh-time
config pmipv6 mag replay-protection
config pmipv6 mag bri delay
```

## show pmipv6 profile summary

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

**show pmipv6 profile summary**

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

**Command Default** None.

**Examples** This example shows how to display the summary of the PMIPv6 profiles:

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

**Related Commands**

- show pmipv6 domain**
- show wlan summary**
- show client summary**
- show mag globals**
- config wlan pmipv6 profile-name**

## config Commands

This section lists the **config** commands to configure mobility.

## 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.

### Examples

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

```
> config mobility dscp 40
```

### Related Commands

- config guest-lan mobility anchor**
- config mobility group domain**
- config mobility group keepalive count**
- config mobility group keepalive interval**
- config mobility group member**
- config mobility group multicast-address**
- config mobility multicast-mode**
- config mobility secure-mode**
- config mobility statistics reset**
- config wlan mobility anchor**
- debug mobility**

## 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

<b>add</b>	Adds or changes a mobility anchor to a wireless LAN.
<b>delete</b>	Deletes a mobility anchor from a wireless LAN.
<b>wlan</b>	Specifies the wireless LAN anchor settings.
<i>wlan_id</i>	Wireless LAN identifier between 1 and 512 (inclusive).
<b>guest-lan</b>	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.

### 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.

### Examples

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

```
> config mobility group anchor add wlan 2 192.12.1.5
```

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

```
> config mobility group anchor delete wlan 5 193.13.1.5
```

### Related Commands

**config guest-lan mobility anchor**  
**config mobility group domain**  
**config mobility group keepalive count**  
**config mobility group keepalive interval**  
**config mobility group member**  
**config mobility group multicast-address**

**config mobility multicast-mode**

**config mobility secure-mode**

**config mobility statistics reset**

**config wlan mobility anchor**

**debug mobility**

**show mobility anchor**

**show mobility statistics**

**show mobility summary**



## 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.

### Examples

This example shows how to configure a mobility domain name lab1:

```
> config mobility group domain lab1
```

### Related Commands

- config guest-lan mobility anchor**
- config mobility group domain**
- config mobility group keepalive count**
- config mobility group keepalive interval**
- config mobility group member**
- config mobility group multicast-address**
- config mobility multicast-mode**
- config mobility secure-mode**
- config mobility statistics reset**
- config wlan mobility anchor**
- debug mobility**
- show mobility anchor**
- show mobility statistics**
- show mobility summary**

## 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

3.

### Examples

This 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:

```
> config mobility group keepalive count 3
```

### Related Commands

- config guest-lan mobility anchor
- config mobility group domain
- config mobility group keepalive count
- config mobility group keepalive interval
- config mobility group member
- config mobility group multicast-address
- config mobility multicast-mode
- config mobility secure-mode
- config mobility statistics reset
- config wlan mobility anchor
- debug mobility
- show mobility anchor
- show mobility statistics
- show mobility summary

## 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

10 seconds.

### Examples

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

```
> config mobility group keepalive 10
```

### Related Commands

- config guest-lan mobility anchor
- config mobility group domain
- config mobility group keepalive count
- config mobility group keepalive interval
- config mobility group member
- config mobility group multicast-address
- config mobility multicast-mode
- config mobility secure-mode
- config mobility statistics reset
- config wlan mobility anchor
- debug mobility
- show mobility anchor
- show mobility statistics
- show mobility summary

## 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 IP\_address* [*group\_name*] | **delete** *MAC IP\_address* | **hash** *IP\_address* {*key* | **none**}}

### Syntax Description

<b>add</b>	Adds or changes a mobility group member to the list.
<i>MAC</i>	Member switch MAC address.
<i>IP_address</i>	Member switch IP address.
<i>group_name</i>	(Optional) Member switch group name (if different from the default group name).
<b>delete</b>	(Optional) Deletes a mobility group member from the list.
<b>hash</b>	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
<b>none</b>	Clears the previous hash key of the virtual controller.

### Command Default

None.

### Examples

This example shows how to add a mobility group member to the list:

```
> config mobility group member add 11:11:11:11:11:11 192.12.1.2
```

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

```
> config mobility group member hash 9.2.115.68 a819d479dcfeb3e0974421b6e8335582263d9169
```

### Related Commands

**config guest-lan mobility anchor**  
**config mobility group domain**  
**config mobility group keepalive count**  
**config mobility group keepalive interval**

**config mobility group member**  
**config mobility group multicast-address**  
**config mobility multicast-mode**  
**config mobility secure-mode**  
**config mobility statistics reset**  
**config wlan mobility anchor**  
**debug mobility**  
**show mobility anchor**  
**show mobility statistics**  
**show mobility summary**

## 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.

### Examples

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

```
> config mobility group multicast-address test 10.10.10.1
```

### Related Commands

**config guest-lan mobility anchor**  
**config mobility group domain**  
**config mobility group keepalive count**  
**config mobility group keepalive interval**  
**config mobility group member**  
**config mobility group multicast-address**  
**config mobility multicast-mode**  
**config mobility secure-mode**  
**config mobility statistics reset**  
**config wlan mobility anchor**  
**debug mobility**  
**show mobility anchor**  
**show mobility statistics**  
**show mobility summary**

## config mobility multicast-mode

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

**config mobility multicast-mode** {enable | disable} *local\_group\_multicast\_address*

Syntax Description		
	<b>enable</b>	Enables the multicast mode; the controller uses multicast mode to send Mobile Announce messages to the local group.
	<b>disable</b>	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** Disabled.

**Examples** This example shows how to enable the multicast mobility mode for the local mobility group IP address 157.168.20.0:

```
> config mobility multicast-mode enable 157.168.20.0
```

**Related Commands**

- config guest-lan mobility anchor
- config mobility group domain
- config mobility group keepalive count
- config mobility group keepalive interval
- config mobility group member
- config mobility group multicast-address
- config mobility secure-mode
- config mobility statistics reset
- config wlan mobility anchor
- debug mobility
- show mobility anchor
- show mobility statistics
- show mobility summary

## config mobility secure-mode

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

**config mobility secure-mode {enable | disable}**

### Syntax Description

<b>enable</b>	Enables the mobility group message security.
<b>disable</b>	Disables mobility group message security.

### Command Default

None.

### Examples

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

```
> config mobility secure-mode enable
```

### Related Commands

**config mobility group domain**  
**config mobility group keepalive count**  
**config mobility group keepalive interval**  
**config mobility group member**  
**config mobility group multicast-address**  
**config mobility multicast-mode**  
**config mobility statistics reset**  
**config wlan mobility anchor**  
**debug mobility**  
**show mobility anchor**  
**show mobility statistics**  
**show mobility summary**



## config mobility statistics reset

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

**config mobility statistics reset**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Command Default</b>	None.
------------------------	-------

<b>Examples</b>	This example shows how to reset the mobility group statistics:
-----------------	--

```
> config mobility statistics reset
```

<b>Related Commands</b>	<b>config mobility group anchor</b> <b>config mobility group domain</b> <b>config mobility group keepalive count</b> <b>config mobility group keepalive interval</b> <b>config mobility group member</b> <b>config mobility group multicast-address</b> <b>config mobility multicast-mode</b> <b>config mobility secure-mode</b> <b>config wlan mobility anchor</b> <b>debug mobility</b> <b>show mobility anchor</b> <b>show mobility statistics</b> <b>show mobility summary</b>
-------------------------	--

## config pmipv6 domain

To configure PMIPv6 and to enable Mobile Access Gateway (MAG) functionality on the controller, 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.

### Examples

This example shows how to configure a domain name for a PMIPv6 WLAN:

```
> config pmipv6 domain floor1
```

### Related Commands

**config pmipv6 add profile**  
**config pmipv6 mag lma**  
**config pmipv6 delete**  
**config wlan pmipv6 profile-name**  
**config wlan pmipv6 mobility-type**  
**config wlan pmipv6 default-realm**  
**config pmipv6 domain**  
**show wlan summary**

## 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.
<b>nai</b>	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.
<b>lma</b>	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.
<b>apn</b>	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.

### Usage Guidelines

This command is a prerequisite for using PMIPv6 configuration commands if the controller uses open authentication.

### Examples

This example shows how to create a PMIPv6 profile:

```
> config pmipv6 add profile profile1 nai @vodafone.com lma vodfonelma apn vodafoneapn
```

### Related Commands

**config pmipv6 mag lma**  
**config pmipv6 delete**  
**config wlan pmipv6 profile-name**  
**config wlan pmipv6 mobility-type**

**config wlan pmipv6 default-realm**

**config pmipv6 domain**

**show pmipv6 domain**

**show wlan summary**

**show client summary**

## 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

<b>profile</b>	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.
<b>nai</b>	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.
<b>all</b>	Specifies all NAIs. When you delete all NAIs, the profile is deleted.
<b>domain</b>	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.
<b>lma</b>	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.

### Examples

This example shows how to delete a domain:

```
> config pmipv6 delete lab1
```

### Related Commands

**config pmipv6 add profile**  
**config pmipv6 mag lma**  
**config wlan pmipv6 profile-name**  
**config wlan pmipv6 mobility-type**  
**config wlan pmipv6 default-realm**  
**config pmipv6 domain**  
**show wlan summary**

## 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

1000 seconds.

### Examples

This example shows how to configure the initial timeout between the PBUs when the MAG does not receive the PBAs:

```
> config pmipv6 mag binding init-retx-time 500
```

### Related Commands

- config pmipv6 mag binding lifetime
- config pmipv6 mag binding refresh-time
- config pmipv6 mag binding max-ret-time
- config pmipv6 mag
- config pmipv6 delete
- config wlan pmipv6 profile\_name
- config wlan pmipv6 mobility-type
- config wlan pmipv6 default-realm
- config pmipv6 domain

## 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

65535 seconds.

### Usage Guidelines

You must configure a Proxy Mobility IPv6 (PMIPv6) domain before you configure the lifetime of the binding entries in the controller.

### Examples

This example shows how to configure the lifetime of the binding entries in the controller:

```
> config pmipv6 mag binding lifetime 5000
```

### Related Commands

**config pmipv6 mag binding lifetime**  
**config pmipv6 mag binding refresh-time**  
**config pmipv6 mag binding init-retx-time**  
**config pmipv6 mag binding max-ret-time**  
**config pmipv6 delete**  
**config wlan pmipv6 profile-name**  
**config wlan pmipv6 mobility-type**  
**config wlan pmipv6 default-realm**  
**config pmipv6 domain**  
**show pmipv6 domain**  
**show wlan summary**  
**show client summary**

## 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 acknowledgements (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

32000 seconds.

### Examples

This example shows how to configure the maximum timeout between the PBUs when the MAG does not receive the PBAs:

```
> config pmipv6 mag binding max-retx-time 50
```

### Related Commands

- config pmipv6 mag binding lifetime
- config pmipv6 mag binding refresh-time
- config pmipv6 mag binding init-retx-time
- config pmipv6 add
- config pmipv6 delete
- config wlan pmipv6 profile-name
- config wlan pmipv6 mobility-type
- config wlan pmipv6 default-realm
- config pmipv6 domain



## 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

10000.

### Usage Guidelines

You must configure a Proxy Mobility IPv6 (PMIPv6) domain before you configure the maximum number of binding entries in the MAG.

### Examples

This example shows how to configure the maximum number of binding entries in the MAG:

```
> config pmipv6 mag binding maximum 20000
```

### Related Commands

**config pmipv6 mag binding lifetime**  
**config pmipv6 mag binding refresh-time**  
**config pmipv6 mag binding init-retx-time**  
**config pmipv6 mag binding max-ret-time**  
**config wlan pmipv6 profile-name**  
**config wlan pmipv6 mobility-type**  
**config wlan pmipv6 default-realm**  
**config pmipv6 domain**  
**show pmipv6 domain**  
**show wlan summary**  
**show client summary**  
**show mag globals**

## 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

<i>units</i>	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

300 seconds.

### Usage Guidelines

You must configure a PMIPv6 domain before you configure the refresh time of the binding entries in the MAG.

### Examples

This example shows how to configure the refresh time of the binding entries in the MAG:

```
> config pmipv6 mag binding refresh-time 500
```

### Related Commands

**config pmipv6 mag binding lifetime**  
**config pmipv6 mag binding maximum**  
**config pmipv6 mag binding init-retx-time**  
**config pmipv6 mag binding max-ret-time**  
**config pmipv6 delete**  
**config wlan pmipv6 profile-name**  
**config wlan pmipv6 mobility-type**  
**config wlan pmipv6 default-realm**  
**config pmipv6 domain**  
**show pmipv6 domain**  
**show wlan summary**  
**show client summary**

## 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

<b>min</b>	Specifies the minimum amount of time that the MAG waits before retransmitting a BRI message.
<b>max</b>	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.


### Examples

This example shows how to configure the minimum amount of time that the MAG waits before retransmitting a BRI message:

```
> config pmipv6 mag bri delay min 500
```

### Related Commands

```
config pmipv6 mag binding lifetime
config pmipv6 mag binding refresh-time
config pmipv6 mag binding init-retx-time
config pmipv6 mag binding max-ret-time
config pmipv6 mag bri retries
config pmipv6 delete
config wlan pmipv6 profile-name
config wlan pmipv6 mobility-type
config wlan pmipv6 default-realm
config pmipv6 domain
show pmipv6 domain
show wlan summary
show client summary
```

 `config pmipv6 mag bri delay``show mag globals`

## 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 Acknowledgement (BRA) message, use the **config pmipv6 mag bri retries** command.

**config pmipv6 mag bri retries** *retries*

### Syntax Description

<i>retries</i>	Maximum number of times that the MAG retransmits the BRI message before receiving the BRA message. The range is from 1 to 10 seconds.
----------------	---

### Command Default

1 second.

### Examples

This example shows how to configure the maximum number of times that the MAG retries:

```
> config pmipv6 mag bri retries 5
```

### Related Commands

- config pmipv6 mag binding lifetime
- config pmipv6 mag binding refresh-time
- config pmipv6 mag binding init-retx-time
- config pmipv6 mag binding max-ret-time
- config pmipv6 mag lma
- config pmipv6 delete
- config wlan pmipv6 profile-name
- config wlan pmipv6 mobility-type
- config wlan pmipv6 default-realm
- config pmipv6 domain
- show pmipv6 domain
- show wlan summary
- show client summary
- show mag globals

## 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.
<b>ipv4-address</b>	Specifies the IP address of the LMA.
<i>address</i>	IP address of the LMA.

### Command Default

None.

### Usage Guidelines

This command is a prerequisite to configure PMIPv6 parameters on the MAG.

### Examples

This example shows how to configure an LMA with the MAG:

```
> config pmipv6 mag lma vodafonelma ipv4-address 209.165.200.254
```

### Related Commands

**config pmipv6 mag binding lifetime**  
**config pmipv6 mag binding refresh-time**  
**config pmipv6 mag binding init-retx-time**  
**config pmipv6 mag binding max-ret-time**  
**show pmipv6 mag stats**  
**config pmipv6 delete**  
**config wlan pmipv6 profile-name**  
**config wlan pmipv6 mobility-type**  
**config wlan pmipv6 default-realm**  
**config pmipv6 domain**  
**show pmipv6 domain**  
**show wlan summary**  
**show client summary**  
**show mag globals**

## config pmipv6 mag replay-protection

To configure the maximum amount of time difference between the time stamp in the received proxy binding acknowledgement (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

<b>timestamp</b>	Specifies the time stamp of the PBA message.
<b>window</b>	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.
<b>sequence-no</b>	(Optional) Specifies the sequence number in a Proxy Binding Update message.
<i>sequence</i>	(Optional) Sequence number in the Proxy Binding Update message.
<b>mobile_node_timestamp</b>	(Optional) Specifies the time stamp of the mobile node.
<i>mobile_node_timestamp</i>	(Optional) Time stamp of the mobile node.

### Command Default

300 milliseconds.

### Usage Guidelines

This release supports only the time-stamp option.

### Examples

This 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:

```
> config pmipv6 mag replay-protection timestamp window 200
```

### Related Commands

```
config pmipv6 mag binding lifetime
config pmipv6 mag binding refresh-time
config pmipv6 mag binding init-retx-time
config pmipv6 mag binding max-ret-time
config pmipv6 add
config pmipv6 delete
```

```
config wlan pmipv6 profile-name  
config wlan pmipv6 mobility-type  
config wlan pmipv6 default-realm  
config pmipv6 domain
```



## config wlan mobility anchor

To change the state of MAC filtering on a wireless LAN, use the **config wlan mobility anchor** command.

**config wlan mobility anchor** {**add** | **delete**} *wlan\_id ip\_address*

### Syntax Description

<b>add</b>	Enables MAC filtering on a wireless LAN.
<b>delete</b>	Disables MAC filtering on a wireless LAN.
<i>wlan_id</i>	Wireless LAN identifier between 1 and 512.
<i>ip_address</i>	Member switch IP address for anchoring the wireless LAN.

### Command Default

None.

### Examples

This example shows how to configure the mobility wireless LAN anchor list with WLAN ID 4 and IP address 192.168.0.14:6:

```
> config wlan mobility anchor add 4 192.168.0.14
```

### Related Commands

**config guest-lan mobility anchor**  
**config mobility group domain**  
**config mobility group keepalive count**  
**config mobility group keepalive interval**  
**config mobility group member**  
**config mobility group multicast-address**  
**config mobility multicast-mode**  
**config mobility secure-mode**  
**config mobility statistics reset**  
**debug mobility**  
**show mobility anchor**  
**show mobility statistics**  
**show mobility summary**  
**config wlan mobility foreign-map**

## config wlan mobility foreign-map

To configure interfaces or interface groups for foreign Cisco WLCs, use the **config wlan mobility foreign-map** command.

**config wlan mobility foreign-map** {add | delete} *wlan\_id* *foreign\_mac\_address* {*interface\_name* | *interface\_group\_name*}

### Syntax Description

<b>add</b>	Adds an interface or interface group to the map of foreign controllers.
<b>delete</b>	Deletes an interface or interface group from the map of foreign controllers.
<i>wlan_id</i>	Wireless LAN identifier from 1 to 512.
<i>foreign_mac_address</i>	Foreign switch MAC address on a WLAN.
<i>interface_name</i>	Interface name up to 32 alphanumeric characters.
<i>interface_group_name</i>	Interface group name up to 32 alphanumeric characters.

### Command Default

None.

### Examples

This example shows how to add an interface group for foreign Cisco WLCs with WLAN ID 4 and a foreign switch MAC address on WLAN 00:21:1b:ea:36:60:

```
> config wlan mobility foreign-map add 4 00:21:1b:ea:36:60 mygroup1
```

### Related Commands

**config wlan mobility anchor**  
**config mobility group member**  
**debug mobility**  
**show mobility anchor**  
**show mobility summary**

## config wlan pmipv6 default-realm

To configure a default realm for a PMIPv6 WLAN, use the **config wlan pmipv6 default-realm** command.

**config wlan pmipv6 default-realm** { *default-realm-name* | **none** } *wlan\_id*

### Syntax Description

<i>default-realm-name</i>	Default realm name for the WLAN.
<b>none</b>	Clears the realm name for the WLAN.
<i>wlan_id</i>	Wireless LAN identifier between 1 and 512.

### Command Default

None.

### Examples

This example shows how to configure a default realm name on a PMIPv6 WLAN:

```
> config wlan pmipv6 default-realm XYZ 6
```

### Related Commands

**config wlan pmipv6 profile-name**  
**config wlan pmipv6 mobility-type**  
**config pmipv6 domain**  
**show wlan summary**  
**show client summary**

## config wlan pmipv6 mobility-type

To configure the mobility type on a WLAN, use the **config wlan pmipv6 mobility-type** command.

**config wlan pmipv6 mobility-type** {none | pmipv6} { *wlan\_id* | all }

### Syntax Description

<b>none</b>	Configures a WLAN with Simple IP mobility.
<b>pmipv6</b>	Configures a WLAN with PMIPv6 mobility.
<b>all</b>	Enables the specified type of mobility for all WLANs.
<i>wlan_id</i>	WLAN identifier between 1 and 512.

### Command Default

None.

### Usage Guidelines

You must disable the WLAN when you configure the mobility type.

### Examples

This example shows how to configure the mobility type as PMIPv6 on a WLAN:

```
> config wlan pmipv6 mobility-type pmipv6 16
```

### Related Commands

**config wlan pmipv6 profile-name**  
**config wlan pmipv6 default-realm**  
**config pmipv6 domain**  
**show wlan summary**  
**show client summary**

## config wlan pmipv6 profile\_name

To configure a profile name for the PMIPv6 WLAN, use the **config wlan pmipv6 profile\_name** command.

**config wlan pmipv6 profile\_name** *profile\_name* *wlan\_id*

### Syntax Description

<i>profile_name</i>	Profile name for the PMIPv6 WLAN.
<i>wlan_id</i>	Wireless LAN identifier from 1 to 512.

### Command Default

None.

### Usage Guidelines

This command binds a profile name to the PMIPv6 WLAN or SSID. Each time that a mobile node associates with the controller, it uses the profile name and NAI in the trigger to the PMIPv6 module. The PMIPv6 module extracts all the profile specific parameters such as LMA IP, APN, and NAI and sends the PBU to the ASR5K.

### Examples

This example shows how to create a profile named ABC01 on a PMIPv6 WLAN:

```
> config wlan pmipv6 profile_name ABC01 16
```

### Related Commands

**config wlan pmipv6 mobility-type**  
**config wlan pmipv6 default-realm**  
**config pmipv6 domain**  
**show wlan summary**

## clear, debug and ping Commands

This section lists the **config** , **debug** , **ping** commands for mobility.

## clear stats mobility

To clear mobility manager statistics, use the **clear stats mobility** command.

**clear stats mobility**

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

**Command Default** None.

**Examples** This example shows how to clear mobility manager statistics:

```
> clear stats mobility
  Mobility stats cleared.
```

**Related Commands**

- clear transfer**
- clear download datatype**
- clear download filename**
- clear download mode**
- clear download serverip**
- clear download start**
- clear upload datatype**
- clear upload filename**
- clear upload mode**
- clear upload path**
- clear upload serverip**
- clear upload start**
- clear stats port**

## debug dot11

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

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

### Syntax Description

<b>all</b>	Configures the debugging of all 802.11 messages.
<b>load-balancing</b>	Configures the debugging of 802.11 load balancing events.
<b>management</b>	Configures the debugging of 802.11 MAC management messages.
<b>mobile</b>	Configures the debugging of 802.11 mobile events.
<b>nmosp</b>	Configures the debugging of the 802.11 NMSP interface events.
<b>probe</b>	Configures the debugging of probe.
<b>rldp</b>	Configures the debugging of 802.11 Rogue Location Discovery.
<b>rogue</b>	Configures the debugging of 802.11 rogue events.
<b>state</b>	Configures the debugging of 802.11 mobile state transitions.
<b>enable</b>	Enables the 802.11 debugging.
<b>disable</b>	Disables the 802.11 debugging.

### Command Default

None.

### Examples

This example shows how to enable the debugging of 802.11 settings:

```
> debug dot11 state enable
> debug dot11 mobile enable
```

### Related Commands

debug disable-all  
 debug dot11 mgmt interface  
 debug dot11 mgmt msg  
 debug dot11 mgmt ssid  
 debug dot11 mgmt state-machine  
 debug dot11 mgmt station

## debug client

To configure the debugging of a passive client that is associated correctly with the access point, use the **debug client** command.

**debug client** *mac\_address*

### Syntax Description

<i>mac_address</i>	MAC address of the client.
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### Command Default

None.

### Examples

This example shows how to debug a passive client with MAC address 00:0d:28:f4:c0:45:

```
> debug client 00:0d:28:f4:c0:45
```

### Related Commands

**debug disable-all**  
**show capwap reap association**  
**show capwap reap status**



## debug mobility

To configure the debugging of wireless mobility, use the **debug mobility** command.

**debug mobility** {**ap-list** | **config** | **directory** | **dtls** | **handoff** | **keep-alive** | **multicast** | **packet** | **peer-ip** *IP-address* | **pmk** | **pmtu-discovery** | **redha**} {**enable** | **disable**}

### Syntax Description

<b>ap-list</b>	Configures the debugging of wireless mobility access point list.
<b>config</b>	Configures the debugging of wireless mobility configuration.
<b>directory</b>	Configures the debugging of wireless mobility error messages.
<b>dtls</b>	Configures the debugging of wireless mobility Datagram Transport Layer Security (DTLS) options.
<b>handoff</b>	Configures the debugging of wireless mobility handoff messages.
<b>keep-alive</b>	Configures the debugging of wireless mobility CAPWAP data DTLS keep-alive packets.
<b>multicast</b>	Configures the debugging of multicast mobility packets.
<b>packet</b>	Configures the debugging of wireless mobility packets.
<b>peer-ip</b>	Configures IP address of the mobility peer for which incoming and outgoing mobility messages should be displayed.
<i>IP-address</i>	IP address of the mobility peer for which incoming and outgoing mobility messages should be displayed.
<b>pmk</b>	Configures the debugging of wireless mobility pairwise master key (PMK).
<b>pmtu-discovery</b>	Configures the debugging of the wireless mobility path MTU discovery.
<b>redha</b>	Configures the debugging of the multicast mobility high availability.

<b>enable</b>	Enables the debugging of the wireless mobility feature.
<b>disable</b>	Disables the debugging of the wireless mobility feature.

**Command Default**

None

**Examples**

The following example shows how to enable the debugging of wireless mobility packets.

```
Device > debug mobility handoff enable
```

**Related Commands**

**config guest-lan mobility anchor**  
**config mobility group domain**  
**config mobility group keepalive count**  
**config mobility group keepalive interval**  
**config mobility group member**  
**config mobility group multicast-address**  
**config mobility multicast-mode**  
**config mobility secure-mode**  
**config mobility statistics reset**  
**config wlan mobility anchor**  
**show mobility anchor**  
**show mobility statistics**  
**show mobility summary**

## eping

To test the mobility Ethernet over IP (EoIP) data packet communication between two controllers, use the **eping** command.

**eping** *mobility\_peer\_IP\_address*

### Syntax Description

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<i>mobility_peer_IP_address</i>	IP address of a controller that belongs to a mobility group.
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### Command Default

None.

### Usage Guidelines

This command tests the mobility data traffic over the management interface.



#### Note

---

This ping test is not Internet Control Message Protocol (ICMP) based. The term “ping” is used to indicate an echo request and an echo reply message.

---

### Examples

This example shows how to test EoIP data packets and to set the IP address of a controller that belongs to a mobility group to 172.12.35.31:

```
> eping 172.12.35.31
```

### Related Commands

**mping**  
**config logging buffered debugging**  
**show logging**  
**debug mobility handoff enable**

## mping

To test mobility UDP control packet communication between two controllers, use the **mping** command.

**mping** *mobility\_peer\_IP\_address*

### Syntax Description

*mobility\_peer\_IP\_address* IP address of a controller that belongs to a mobility group.

### Command Default

None.

### Usage Guidelines

This test runs over mobility UDP port 16666. It tests whether the mobility control packet can be reached over the management interface.



#### Note

This ping test is not Internet Control Message Protocol (ICMP) based. The term “ping” is used to indicate an echo request and an echo reply message.

### Examples

This example shows how to test mobility UDP control packet communications and to set the IP address of a controller that belongs to a mobility group to 172.12.35.31:

```
> mping 172.12.35.31
```

### Related Commands

**eping**  
**config logging buffered debugging**  
**show logging**  
**debug mobility handoff enable**