



FlexConnect Commands

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show ap flexconnect

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

show ap flexconnect module-vlan *ap-name*

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

Command History	Release	Modification
	8.1	This command was introduced

show capwap reap association

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

show capwap reap association

Syntax Description

This command has no arguments or keywords.

Command History

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

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

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

Related Topics

[config flexconnect group](#), on page 21

[show capwap reap status](#), on page 5

show capwap reap status

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

show capwap reap status

Syntax Description This command has no arguments or keywords.

Command Default None

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

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

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

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

Related Topics

[config flexconnect group](#), on page 21

[show capwap reap association](#), on page 4

show flexconnect acl detailed

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

show flexconnect acl detailed *acl-name*

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

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

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

Related Topics

[config flexconnect \[ipv6\] acl](#), on page 17

show flexconnect acl summary

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

show flexconnect acl summary

Syntax Description This command has no arguments or keywords.

Command Default None

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

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

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

show flexconnect group detail

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

show flexconnect group detail *group_name*

Syntax Description	<i>group_name</i>		Name of the FlexConnect group.
Command History	Release	Modification	
	7.6	This command was introduced in a release earlier than Release 7.6.	
	8.1	The module-vlan and aps parameters were added.	

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

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

Related Topics

[config flexconnect group](#), on page 21

show flexconnect group summary

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

show flexconnect group summary

Syntax Description This command has no arguments or keywords.

Command Default None

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

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

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

Related Topics

[config flexconnect group](#), on page 21

show flexconnect office-extend

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

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

Syntax Description	summary	Displays a list of all OfficeExtend access points.
	latency	Displays the link delay for OfficeExtend access points.
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to display information about the list of FlexConnect OfficeExtend access points:

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

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

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

Related Topics

[config flexconnect office-extend](#), on page 29

config ap autoconvert

To automatically convert all access points to FlexConnect mode or Monitor mode upon associating with the Cisco WLC, use the **config ap autoconvert** command.

config ap autoconvert { **flexconnect** | **monitor** | **disable** }

Syntax Description	flexconnect	Configures all the access points automatically to FlexConnect mode.
	monitor	Configures all the access points automatically to monitor mode.
	disable	Disables the autoconvert option on the 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

When access points in local mode connect to a Cisco 7500 Series Wireless Controller, they do not serve clients. The access point details are available in the controller. To enable access points to serve clients or perform monitoring related tasks when connected to the Cisco 7500 Series Wireless Controller, the access points must be in FlexConnect mode or Monitor mode.

The command can also be used for conversion of AP modes in Cisco 5520, 8540, and 8510 Series Wireless Controller platforms.

The following example shows how to automatically convert all access points to the FlexConnect mode:

```
(Cisco Controller) >config ap autoconvert flexconnect
```

The following example shows how to disable the autoconvert option on the APs:

```
(Cisco Controller) >config ap autoconvert disable
```

config ap flexconnect radius auth set

To configure a primary or secondary RADIUS server for a specific FlexConnect access point, use the **config ap flexconnect radius auth set** command.

config ap flexconnect radius auth set { **primary** | **secondary** } *ip_address auth_port secret*

Syntax Description		
primary		Specifies the primary RADIUS server for a specific FlexConnect access point
secondary		Specifies the secondary RADIUS server for a specific FlexConnect AP
<i>ip_address</i>		IP address of the RADIUS server
<i>auth_port secret</i>		Name of the port
<i>secret</i>		RADIUS server secret
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 primary RADIUS server for a specific access point:

```
(Cisco Controller) >config ap flexconnect radius auth set primary 192.12.12.1
```

Related Topics

- [config ap flexconnect vlan](#), on page 13
- [config ap flexconnect vlan native](#), on page 15
- [config ap flexconnect vlan wlan](#), on page 16

config ap flexconnect vlan

To enable or disable VLAN tagging for a FlexConnect access, use the **config ap flexconnect vlan** command.

```
config ap flexconnect vlan {enable | disable} cisco_ap
```

Syntax Description	enable	disable	cisco_ap
	enable	disable	cisco_ap
	Enables the access point's VLAN tagging.	Disables the access point's VLAN tagging.	Name of the Cisco lightweight access point.
Command Default	Disabled. Once enabled, WLANs enabled for local switching inherit the VLAN assigned at the Cisco WLC.		
Command History	Release	Modification	
	7.6	This command was introduced in a release earlier than Release 7.6.	

This example shows how to enable the access point's VLAN tagging for a FlexConnect access:

```
(Cisco Controller) >config ap flexconnect vlan enable AP02
```

Related Topics

- [config ap flexconnect radius auth set](#), on page 12
- [config ap flexconnect vlan](#), on page 13
- [config ap flexconnect vlan native](#), on page 15
- [config ap flexconnect vlan wlan](#), on page 16

config ap flexconnect vlan add

To add a VLAN to a FlexConnect access point, use the **config ap flexconnect vlan add** command.

config ap flexconnect vlan add *vlan-id acl in-acl out-acl cisco_ap*

Syntax Description		
<i>vlan-id</i>	VLAN identifier.	
<i>acl</i>	ACL name that contains up to 32 alphanumeric characters.	
<i>in-acl</i>	Inbound ACL name that contains up to 32 alphanumeric characters.	
<i>out-acl</i>	Outbound ACL name that contains up to 32 alphanumeric characters.	
<i>cisco_ap</i>	Name of the 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 configure the FlexConnect access point:

```
(Cisco Controller) >config ap flexconnect vlan add 21 acl inacl1 outacl1 ap1
```

Related Topics

- [config ap flexconnect vlan](#), on page 13
- [config ap flexconnect radius auth set](#), on page 12
- [config ap flexconnect vlan native](#), on page 15
- [config ap flexconnect vlan wlan](#), on page 16

config ap flexconnect vlan native

To configure a native VLAN for a FlexConnect access point, use the **config ap flexconnect vlan native** command.

```
config ap flexconnect vlan native vlan-id cisco_ap
```

Syntax Description	<i>vlan-id</i>	VLAN identifier.
	<i>cisco_ap</i>	Name of the 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 configure a native VLAN for a FlexConnect access point mode:

```
(Cisco Controller) >config ap flexconnect vlan native 6 AP02
```

Related Topics

- [config ap flexconnect vlan](#), on page 13
- [config ap flexconnect radius auth set](#), on page 12
- [config ap flexconnect vlan add](#), on page 14
- [config ap flexconnect vlan wlan](#), on page 16

config ap flexconnect vlan wlan

To assign a VLAN ID to a FlexConnect access point, use the **config ap flexconnect vlan wlan** command.

config ap flexconnect vlan wlan *wlan-id vlan-id cisco_ap*

Syntax Description		
<i>wlan-id</i>		WLAN identifier
<i>vlan-id</i>		VLAN identifier (1 - 4094).
<i>cisco_ap</i>		Name of the Cisco lightweight access point.
Command Default	VLAN ID associated to the WLAN.	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

The following example shows how to assign a VLAN ID to a FlexConnect access point:

```
(Cisco Controller) >config ap flexconnect vlan wlan 192.12.12.1 6 AP02
```

Related Topics

- [config ap flexconnect vlan](#), on page 13
- [config ap flexconnect radius auth set](#), on page 12
- [config ap flexconnect vlan add](#), on page 14
- [config ap flexconnect vlan native](#), on page 15

config flexconnect [ipv6] acl

To apply access control lists that are configured on a FlexConnect access point, use the **config flexconnect [ipv6] acl** command. Use the **ipv6** keyword to configure IPv6 FlexConnect ACLs .

```
config flexconnect [ipv6] acl {apply | create | delete} acl_name
```

Syntax Description		
ipv6		Use this option to configure IPv6 FlexConnect ACLs. If you don't use this option, then IPv4 FlexConnect ACLs will be configured.
apply		Applies an ACL to the data path.
create		Creates an ACL.
delete		Deletes an ACL.
<i>acl_name</i>		ACL name that contains up to 32 alphanumeric characters.

Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.
	8.8	IPv6 ACL option was introduced.

The following example shows how to apply the IPv4 ACL configured on a FlexConnect access point:

```
(Cisco Controller) >config flexconnect acl apply acl1
```

config flexconnect [ipv6] acl rule

To configure access control list (ACL) rules on a FlexConnect access point, use the **config flexconnect [ipv6] acl rule** command.

```
config flexconnect [ipv6] acl rule {action rule_name rule_index {permit | deny} | add rule_name
rule_index | change index rule_name old_index new_index | delete rule_name rule_index | destination
address rule_name rule_index ip_address netmask | destination port range rule_name rule_index start_port
end_port | direction rule_name rule_index {in | out | any} | dscp rule_name rule_index dscp
| protocol rule_name rule_index protocol | source address rule_name rule_index ip_address netmask
| source port range rule_name rule_index start_port end_port | swap index rule_name index_1 index_2}
```

Syntax Description		
ipv6		Use this option to configure IPv6 FlexConnect ACL rules. If you don't use this option, then IPv4 FlexConnect ACL rules will be configured.
action		Configures whether to permit or deny access.
<i>rule_name</i>		ACL name that contains up to 32 alphanumeric characters.
<i>rule_index</i>		Rule index between 1 and 32.
permit		Permits the rule action.
deny		Denies the rule action.
add		Adds a new rule.
change		Changes a rule's index.
index		Specifies a rule index.
delete		Deletes a rule.
destination address		Configures a rule's destination IP address and netmask.
<i>ip_address</i>		IP address of the rule.
<i>netmask</i>		Netmask of the rule.
<i>start_port</i>		Start port number (between 0 and 65535).
<i>end_port</i>		End port number (between 0 and 65535).
direction		Configures a rule's direction to in, out, or any.
in		Configures a rule's direction to in.
out		Configures a rule's direction to out.
any		Configures a rule's direction to any.

dscp	Configures a rule's DSCP.
<i>dscp</i>	Number between 0 and 63, or any .
protocol	Configures a rule's DSCP.
<i>protocol</i>	Number between 0 and 255, or any .
source address	Configures a rule's source IP address and netmask.
source port range	Configures a rule's source port range.
swap	Swaps two rules' indices.
<i>index_1</i>	The rule first index to swap.
<i>index_2</i>	The rule index to swap the first index with.

Command Default

None

Command History

Release	Modification
7.6	This command was introduced in a release earlier than Release 7.6.
8.8	IPv6 ACL option was introduced.

This example shows how to configure an ACL to permit access:

```
(Cisco Controller) >config flexconnect acl rule action lab1 4 permit
```

config flexconnect arp-caching

To save an ARP entry for a client in the cache with locally switched WLAN on FlexConnect APs or in a software-defined access (Fabric) deployment, use **config flexconnect arp-caching** command.

config flexconnect arp-caching {enable } disable}

Syntax Description	arp-caching enable	Instructs the access point to save the ARP entry for a client in the cache and reply on its behalf of the client for locally switched WLAN.
	arp-caching disable	Disables ARP caching.
Command Default	None	
Command History	Release	Modification
	8.0	This command was introduced.
	8.5.151.0, 8.8.12x.0, 8.9.111.0, 8.10	This command was made applicable to software-defined access deployments as well.

Example

The following example shows how to apply the proxy ARP with locally switched WLAN on FlexConnect APs.

```
(Cisco Controller) >config flexconnect arp-caching enable
```

config flexconnect group

To add, delete, or configure a FlexConnect group, use the **config flexconnect group** command.

```
config flexconnect group group_name {add | delete | ap {add | delete} ap-mac | radius {ap
{authority {id hex_id | info auth_info} | disable | eap-fast {enable | disable} | enable | leap
{enable | disable} | pac-timeout timeout | server-key {auto | key} | user {add {username
password} | delete username}} | server auth {add | delete} {primary | secondary}
server_index IP_address auth_port secret} | predownload {disable | enable} | master ap_name |
slave {retry-count max_count | ap-name cisco_ap} | start {primary backup abort} | local-split
{wlan wlan_id acl acl_name {enable | disable}} | multicast overridden-interface {enable | disable}
| vlan {add vlan_id acl in-aclname out-aclname | delete vlan_id} | web-auth wlan wlan_id acl
acl_name {enable | disable} | web-policy acl {add | delete} acl_name}
```

Syntax Description

<i>group_name</i>	Group name.
add	Adds a FlexConnect group.
delete	Deletes a FlexConnect group.
ap	Adds or deletes an access point to a FlexConnect group.
add	Adds an access point to a FlexConnect group.
delete	Deletes an access point to a FlexConnect group.
<i>ap_mac</i>	MAC address of the access point.
radius	Configures the RADIUS server for client authentication for a FlexConnect group.
ap	Configures an access point based RADIUS server for client authentication for a FlexConnect group.
authority	Configures the Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST) authority parameters.
id	Configures the authority identifier of the local EAP-FAST server.
<i>hex_id</i>	Authority identifier of the local EAP-FAST server in hexadecimal characters. You can enter up to 32 hexadecimal even number of characters.
info	Configures the authority identifier of the local EAP-FAST server in text format.
<i>auth_info</i>	Authority identifier of the local EAP-FAST server in text format.

disable	Disables an AP based RADIUS server.
eap-fast	Enables or disables Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST) authentication.
enable	Enables EAP-FAST authentication.
disable	Disables EAP-FAST authentication.
enable	Enables AP based RADIUS Server.
leap	Enables or disables Lightweight Extensible Authentication Protocol (LEAP) authentication.
disable	Disables LEAP authentication.
enable	Enables LEAP authentication.
pac-timeout	Configures the EAP-FAST Protected Access Credential (PAC) timeout parameters.
<i>timeout</i>	PAC timeout in days. The range is from 2 to 4095. A value of 0 indicates that it is disabled.
server-key	Configures the EAP-FAST server key. The server key is used to encrypt and decrypt PACs.
auto	Automatically generates a random server key.
<i>key</i>	Key that disables efficient upgrade for a FlexConnect group.
user	Manages the user list at the AP-based RADIUS server.
add	Adds a user. You can configure a maximum of 100 users.
<i>username</i>	Username that is case-sensitive and alphanumeric and can be up to 24 characters.
<i>password</i>	Password of the user.
delete	Deletes a user.
server	Configures an external RADIUS server.
add	Adds an external RADIUS server.
delete	Deletes an external RADIUS server.
primary	Configures an external primary RADIUS server.
secondary	Configures an external secondary RADIUS server.
<i>server_index</i>	Index of the RADIUS server.

<i>IP_address</i>	IP address of the RADIUS server.
<i>auth_port</i>	Port address of the RADIUS server.
<i>secret</i>	Index of the RADIUS server.
predownload	Configures an efficient AP upgrade for the FlexConnect group. You can download an upgrade image to the access point from the controller without resetting the access point or losing network connectivity.
disable	Disables an efficient upgrade for a FlexConnect group.
enable	Enables an efficient upgrade for a FlexConnect group.
master	Manually designates an access point in the FlexConnect group as the primary AP.
<i>ap_name</i>	Access point name.
slave	Manually designates an access point in the FlexConnect group as the subordinate AP.
retry-count	Configures the number of times the subordinate access point tries to predownload an image from the primary.
<i>max_count</i>	Maximum number of times the subordinate access point tries to predownload an image from the primary.
ap_name	Override the manually configured primary.
<i>cisco_ap</i>	Name of the primary access point.
start	Starts the predownload image upgrade for the FlexConnect group.
primary	Starts the predownload primary image upgrade for the FlexConnect group.
backup	Starts the predownload backup image upgrade for the FlexConnect group.
abort	Terminates the predownload image upgrade for the FlexConnect group.
local-split	Configures a local-split ACL on a FlexConnect AP group per WLAN.
wlan	Configures a WLAN for a local split ACL on a FlexConnect AP group.
<i>wlan_id</i>	Wireless LAN identifier between 1 and 512 (inclusive).

acl	Configures a local split ACL on a FlexConnect AP group per WLAN.
<i>acl_name</i>	Name of the ACL.
multicast overridden-interface	Configures multicast across the Layer 2 broadcast domain on the overridden interface for locally switched clients.
vlan	Configures a VLAN to the FlexConnect group.
add	Adds a VLAN to the FlexConnect group.
<i>vlan_id</i>	VLAN identifier.
<i>in-acl</i>	Inbound ACL name that contains up to 32 alphanumeric characters.
<i>out-acl</i>	Outbound ACL name that contains up to 32 alphanumeric characters.
delete	Deletes a VLAN from the FlexConnect group.
web-auth	Configures a FlexConnect ACL for external web authentication.
wlan	Specifies the wireless LAN to be configured with a FlexConnect ACL.
<i>wlan_id</i>	Wireless LAN identifier between 1 and 512 (inclusive).
<i>cisco_ap</i>	Name of the FlexConnect access point.
acl	Configures a FlexConnect ACLs.
web-policy	Configures a web policy FlexConnect ACL.
add	Adds a web policy FlexConnect ACL to the FlexConnect group.
delete	Deletes a web policy FlexConnect ACL from the FlexConnect group
http-proxy ipaddress	Configures http-proxy server.

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 add up to 100 clients.

Beginning in Release 7.4 and later releases, the supported maximum number of RADIUS servers is 100.

The following example shows how to add a FlexConnect group for MAC address 192.12.1.2:

```
(Cisco Controller) >config flexconnect group 192.12.1.2 add
```

The following example shows how to add a RADIUS server as a primary server for a FlexConnect group with the server index number 1:

```
(Cisco Controller) >config flexconnect group 192.12.1.2 radius server add primary 1
```

The following example shows how to enable a local split ACL on a FlexConnect AP group for a WLAN:

```
(Cisco Controller) >config flexconnect group flexgroup1 local-split wlan 1 acl flexacl1 enable
```

Related Topics

[config flexconnect join min-latency](#), on page 28

[config flexconnect office-extend](#), on page 29

[debug flexconnect group](#), on page 43

[show flexconnect group detail](#), on page 8

[show flexconnect group summary](#), on page 9

config flexconnect group vlan

To configure VLAN for a FlexConnect group, use the **config flexconnect group vlan** command.

```
config flexconnect group group_name vlan {add vlan-id acl in-aclname out-aclname | delete vlan-id}
```

Syntax Description		
<i>group_name</i>		FlexConnect group name.
add		Adds a VLAN for the FlexConnect group.
<i>vlan-id</i>		VLAN ID.
acl		Specifies an access control list.
<i>in-aclname</i>		In-bound ACL name.
<i>out-aclname</i>		Out-bound ACL name.
delete		Deletes a VLAN from the FlexConnect group.

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 VLAN ID 1 for the FlexConnect group myflexacl where the in-bound ACL name is in-acl and the out-bound ACL is out-acl:

```
(Cisco Controller) >config flexconnect group vlan myflexacl vlan add 1 acl in-acl out-acl
```

Related Topics

- [debug flexconnect group](#), on page 43
- [show flexconnect group detail](#), on page 8
- [show flexconnect group summary](#), on page 9

config flexconnect group *group-name* dhcp overridden-interface

To enable or disable the DHCP overridden interface for a FlexConnect group, use the **config flexconnect group *group-name* dhcp overridden-interface** command.

```
config flexconnect group group-name dhcp overridden-interface {enable | disable}
```

Syntax Description	overridden-interface	The DHCP overridden interface for FlexConnect group.
	<i>group-name</i>	Name of the FlexConnect group.
	enable	Instructs the access point to enable DHCP broadcast for locally switched clients.
	disable	Disables the feature.
Command Default	None	
Command History	Release	Modification
	8.0	This command was introduced.

Example

The following example shows how to enable DHCP broadcast for locally switched clients.

```
(Cisco Controller) >config flexconnect
  group flexgroup dhcp overridden-interface enable
```

config flexconnect join min-latency

To enable or disable the access point to choose the controller with the least latency when joining, use the **config flexconnect join min-latency** command.

```
config flexconnect join min-latency {enable | disable} cisco_ap
```

Syntax Description	enable	disable	cisco_ap
	Enables the access point to choose the controller with the least latency when joining.	Disables the access point to choose the controller with the least latency when joining.	Cisco lightweight access point.

Command Default The access point cannot choose the controller with the least latency when joining.

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

Usage Guidelines When you enable this feature, the access point calculates the time between the discovery request and discovery response and joins the controller that responds first. This command is supported only on the following controller releases:

- Cisco 2500 Series Controller
- Cisco 5500 Series Controller
- Cisco Flex 7500 Series Controllers
- Cisco 8500 Series Controllers
- Cisco Wireless Services Module 2

This configuration overrides the HA setting on the controller, and is applicable only for OEAP access points.

The following example shows how to enable the access point to choose the controller with the least latency when joining:

```
(Cisco Controller) >config flexconnect join min-latency enable CISCO_AP
```

config flexconnect office-extend

To configure FlexConnect mode for an OfficeExtend access point, use the **config flexconnect office-extend** command.

```
config flexconnect office-extend {{enable | disable} cisco_ap | clear-personalssid-config cisco_ap}
```

Syntax Description	enable	disable	clear-personalssid-config	cisco_ap
	Enables the OfficeExtend mode for an access point.	Disables the OfficeExtend mode for an access point.	Clears only the access point's personal SSID.	Cisco lightweight access point.
Command Default	OfficeExtend mode is enabled automatically when you enable FlexConnect mode on the access point.			
Command History	Release	Modification		
	7.6	This command was introduced in a release earlier than Release 7.6.		

Usage Guidelines Currently, only Cisco Aironet 1130 series and 1140 series access points that are joined to a Cisco 5500 Series Controller with a WPlus license can be configured to operate as OfficeExtend access points.

Rogue detection is disabled automatically when you enable the OfficeExtend mode for an access point. OfficeExtend access points, which are deployed in a home environment, are likely to detect a large number of rogue devices. You can enable or disable rogue detection for a specific access point or for all access points by using the **config rogue detection** command.

DTLS data encryption is enabled automatically when you enable the OfficeExtend mode for an access point. However, you can enable or disable DTLS data encryption for a specific access point or for all access points by using the **config ap link-encryption** command.

Telnet and SSH access are disabled automatically when you enable the OfficeExtend mode for an access point. However, you can enable or disable Telnet or SSH access for a specific access point by using the **config ap telnet** or **config ap ssh** command.

Link latency is enabled automatically when you enable the OfficeExtend mode for an access point. However, you can enable or disable link latency for a specific access point or for all access points currently associated to the controller by using the **config ap link-latency** command.

The following example shows how to enable the office-extend mode for the access point Cisco_ap:

```
(Cisco Controller) >config flexconnect office-extend enable Cisco_ap
```

The following example shows how to clear only the access point's personal SSID for the access point Cisco_ap:

```
(Cisco Controller) >config flexconnect office-extend clear-personalssid-config Cisco_ap
```

config wlan flexconnect ap-auth

To configure local authentication of clients associated with FlexConnect on a locally switched WLAN, use the **config wlan flexconnect ap-auth** command.

```
config wlan flexconnect ap-auth wlan_id {enable | disable}
```

Syntax Description	ap-auth	Configures local authentication of clients associated with an FlexConnect on a locally switched WLAN.
	<i>wlan_id</i>	Wireless LAN identifier between 1 and 512.
	enable	Enables AP authentication on a WLAN.
	disable	Disables AP authentication on a WLAN.

Command Default None

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

Usage Guidelines Local switching must be enabled on the WLAN where you want to configure local authentication of clients associated with FlexConnect.

The following example shows how to enable authentication of clients associated with FlexConnect on a specified WLAN:

```
(Cisco Controller) >config wlan flexconnect ap-auth 6 enable
```

config wlan flexconnect learn-ipaddr

To enable or disable client IP address learning for the Cisco WLAN controller, use the **config wlan flexconnect learn-ipaddr** command.

```
config wlan flexconnect learn-ipaddr wlan_id {enable | disable}
```

Syntax Description		
	<i>wlan_id</i>	Wireless LAN identifier between 1 and 512.
	enable	Enables client IPv4 address learning on a wireless LAN.
	disable	Disables client IPv4 address learning on a wireless LAN.

Command Default Disabled when the **config wlan flexconnect local-switching** command is disabled. Enabled when the **config wlan flexconnect local-switching** command is enabled.

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 address format.

Usage Guidelines If the client is configured with Layer 2 encryption, the controller cannot learn the client IP address, and the controller will periodically drop the client. Disable this option to keep the client connection without waiting to learn the client IP address.



Note This command is valid only for IPv4.



Note The ability to disable IP address learning is not supported with FlexConnect central switching.

The following example shows how to disable client IP address learning for WLAN 6:

```
(Cisco Controller) >config wlan flexconnect learn-ipaddr disable 6
```

Related Commands `show wlan`

config wlan flexconnect local-switching

To configure local switching, central DHCP, NAT-PAT, or the override DNS option on a FlexConnect WLAN, use the **config wlan flexconnect local switching** command.

```
config wlan flexconnect local-switching wlan_id {enable | disable} { {central-dhcp {enable | disable} nat-pat {enable | disable} } | {override option dns { enable | disable} } }
```

Syntax Description

<i>wlan_id</i>	Wireless LAN identifier from 1 to 512.
enable	Enables local switching on a FlexConnect WLAN.
disable	Disables local switching on a FlexConnect WLAN.
central-dhcp	Configures central switching of DHCP packets on the local switching FlexConnect WLAN. When you enable this feature, the DHCP packets received from the AP are centrally switched to the controller and forwarded to the corresponding VLAN based on the AP and the SSID.
enable	Enables central DHCP on a FlexConnect WLAN.
disable	Disables central DHCP on a FlexConnect WLAN.
nat-pat	Configures Network Address Translation (NAT) and Port Address Translation (PAT) on the local switching FlexConnect WLAN.
enable	Enables NAT-PAT on the FlexConnect WLAN.
disable	Disables NAT-PAT on the FlexConnect WLAN.
override	Specifies the DHCP override options on the FlexConnect WLAN.
option dns	Specifies the override DNS option on the FlexConnect WLAN. When you override this option, the clients get their DNS server IP address from the AP, not from the controller.
enable	Enables the override DNS option on the FlexConnect WLAN.
disable	Disables the override DNS option on the FlexConnect WLAN.

Command Default

This feature is disabled.

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 address format.

Usage Guidelines

When you enable the **config wlan flexconnect local-switching** command, the **config wlan flexconnect learn-ipaddr** command is enabled by default.



Note This command is valid only for IPv4.



Note The ability to disable IP address learning is not supported with FlexConnect central switching.

The following example shows how to enable WLAN 6 for local switching and enable central DHCP and NAT-PAT:

```
(Cisco Controller) >config wlan flexconnect local-switching 6 enable central-dhcp enable nat-pat enable
```

The following example shows how to enable the override DNS option on WLAN 6:

```
(Cisco Controller) >config wlan flexconnect local-switching 6 override option dns enable
```

debug capwap reap

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

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

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

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

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

debug dot11 mgmt interface

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

debug dot11 mgmt interface

Syntax Description This command has no arguments or keywords.

Command Default None

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

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

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

debug dot11 mgmt msg

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

debug dot11 mgmt msg

Syntax Description This command has no arguments or keywords.

Command Default None

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

This example shows how to debug dot11 management messages:

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

debug dot11 mgmt ssid

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

debug dot11 mgmt ssid

Syntax Description This command has no arguments or keywords.

Command Default None

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

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

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

debug dot11 mgmt state-machine

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

debug dot11 mgmt state-machine

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

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

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

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

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

debug dot11 mgmt station

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

debug dot11 mgmt station

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

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

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

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

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

debug flexconnect aaa

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

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

Syntax Description		
	event	Configures the debugging for FlexConnect RADIUS server events.
	error	Configures the debugging for FlexConnect RADIUS server errors.
	enable	Enables the debugging of FlexConnect RADIUS server settings.
	disable	Disables the debugging of FlexConnect RADIUS server settings.

Command Default None

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

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

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


debug flexconnect acl

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

debug flexconnect acl {enable | disable}

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

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

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

debug flexconnect cckm

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

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

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

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

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

debug flexconnect group

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

debug flexconnect group {enable | disable}

Syntax Description		
	enable	Enables the debugging of FlexConnect access point groups.
	disable	Disables the debugging of FlexConnect access point groups.

Command Default None

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

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

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

debug pem

To configure debugging of the access policy manager, use the **debug pem** command.

debug pem {events | state} {enable | disable}

Syntax Description	events	state	enable	disable
	Configures the debugging of the policy manager events.	Configures the debugging of the policy manager state machine.	Enables the debugging of the access policy manager.	Disables the debugging of the access policy manager.
Command Default	None			
Command History	Release	Modification		
	7.6	This command was introduced in a release earlier than Release 7.6.		

The following example shows how to enable the debugging of the access policy manager:

```
(Cisco Controller) >debug pem state enable
```

Integrated Management Module Commands in Cisco Flex 7500 Series Controllers

imm address

To configure the static IP address of the IMM, use the **imm address** command.

```
imm address ip-addr netmask gateway
```

Syntax Description		
	<i>ip-addr</i>	IP address of the IMM
	<i>netmask</i>	Netmask of the IMM
	<i>gateway</i>	Gateway of the IMM

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 address format.

The following example shows how to set the static IP address of an IMM:

```
(Cisco Controller) >imm address 209.165.200.225 255.255.255.224 10.1.1.1
```

imm dhcp

To configure DHCP for the IMM, use the **imm dhcp** command.

```
imm dhcp {enable | disable | fallback}
```

Syntax Description		
	enable	Enables DHCP for the IMM
	disable	Disables DHCP for the IMM
	fallback	Enables DHCP for the IMM, but if it fails, then uses static IP of the IMM

Command Default DHCP for IMM 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 DHCP for the IMM:

```
(Cisco Controller) >imm dhcp enable
```

imm mode

To configure the IMM mode, use the **imm mode** command.

```
imm mode {shared | dedicated}
```

Syntax Description	shared	Sets IMM in shared mode
	dedicated	Sets IMM in dedicated mode
Command Default	Dedicated	
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 IMM in shared mode:

```
(Cisco Controller) >imm mode
```

imm restart

To restart the IMM, use the **imm restart** command.

```
imm restart
```

Syntax Description	restart	Saves your settings and restarts the IMM
Command Default	None	
Command History	Release	Modification
	7.6	This command was introduced in a release earlier than Release 7.6.

imm summary

To view the IMM parameters, use the **imm summary** command.

```
imm summary
```

Syntax Description	summary	Lists the IMM parameters
--------------------	---------	--------------------------

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 a typical summary of the IMM:

```
(Cisco Controller) >imm summary
User ID.....username1
Mode..... Shared
DHCP..... Enabled
IP Address..... 209.165.200.225
Subnet Mask..... 255.255.255.224
Gateway..... 10.1.1.1
```

imm username

To configure the logon credentials for an IMM user, use the **imm username** command.

imm username *username password*

Syntax Description		
<i>username</i>		Username for the user
<i>password</i>		Password for the user

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 logon credentials of an IMM user:

```
(Cisco Controller) >imm username username1 password1
```

imm username