



# Configuring Auto Anchor and Mobility Groups on Wireless Services

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This document describes the procedure to configure an auto anchor between Cisco 5500 Series Wireless Controller and Cisco Catalyst 3850 Series Switches. It also includes the procedure to configure mobility groups on Cisco Catalyst 3850 Series Switches and the procedure to configure a Pre Shared Key (PSK) Service Set Identifier (SSID).

This article considers Cisco Catalyst 3850 Series Switch as both foreign and anchor Wireless LAN Controller (WLC).

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## Supported Platforms and Releases

- Cisco Catalyst 3850 Series Switch
- Cisco 5500 Series Wireless Controller

# Configuring Mobility Groups on Cisco Catalyst 3850 Series Switch

To configure the Cisco Catalyst 3850 Series Switch for mobility groups, the Cisco Catalyst 3850 Series Switch needs to be in the Mobility Controller (MC) mode.

Device# **configure terminal**

Device(config)# **wireless mobility controller**

To configure the mobility groups on Cisco Catalyst 3850 Series Switch, reset the switch and then configure the mobility groups on the Cisco Catalyst 3850 Series Switch. The following table displays the details that are used to create a sample mobility group for Cisco Catalyst 3850 Series Switch and Cisco 5500 Series Wireless Controller:

Model	IP address	MAC Address	Group Name
5508	192.0.2.1	00:24:97:69:63:c0	mcast_mob
3850	192.0.2.2	20:37:06:cf:5f:f9	Converged Access



## Note

- To document the Cisco Catalyst 3850 Series Switch MAC address, use the following command:  
**show interface vlan 262**
- To configure Mobility Controller with the Cisco 5500 Series Wireless Controller information and form a mobility group, use the following command:  
**wireless mobility group member ip 192.0.2.1 group mcast\_mob**
- To configure the Cisco Catalyst 3850 Series Switch to be in the Converged Access mobility group, use the following command:  
**wireless mobility group name Converged Access**

The following is the output that is displayed after you perform the above configurations on Cisco Catalyst 3850 Series Switches:

```
Device# do show run | section wireless
qos wireless-default-untrust
wireless mobility controller
wireless mobility group member ip 192.0.2.1 public-ip 192.168.75.44 group mcast_mob
wireless mobility group name Converged Access
wireless management interface Vlan262
```

## Configuring Foreign SSID

To create a PSK SSID, the SSID is configured as a foreign SSID and the clients are pushed to Cisco 5500 Series Wireless Controller.

- To create the SSID on Cisco Catalyst 3850 Series Switch, use the following commands:

```
wlan anchor-profile 1 anchor-ssid
no security wpa akm dot1x
security wpa wpa1 ciphers tkip
security wpa akm psk set-key ascii 0 Testlab1
```

- To enable the Service Set Identifier (SSID) to push the clients to the Cisco anchor 5500 WLC, use the following commands:

```
mobility anchor 192.0.2.1
no shutdown
```

## Configuring Auto Mobility Groups on Cisco 5500 Series Wireless Controller GUI

To form a mobility group between Cisco Catalyst 3850 Series Switches and Cisco 5500 Series Wireless Controller, perform the following steps:

- 1 To enable New Mobility, navigate to **Controller > Mobility Management > Mobility Configuration**.

**Note**

- After you enable New Mobility, the Wireless LAN Controller restarts.
- Cisco Catalyst 3850 Series Switch and Cisco 5500 Series Wireless Controller can form a mobility group only if New Mobility is enabled.

- 2 Confirm that Cisco 5500 Series Wireless Controller's Management IP address is listed in the Mobility Controller's public IP address. The WLC is configured to support the new mobility architecture.

**Note**

You can also enable the Mobility Oracle. However, this is optional.

- 3 Add the Cisco Catalyst 3850 Series Switches in the mobility group. The mobility group is configured. However, approximately a minute is taken for the control path to form as compared to the flat mobility group architecture.

**Note**

The procedure is similar to configuring any other WLC.

## Configuring Anchor SSID on Cisco 5500 Series GUI

To configure an anchor SSID on Cisco 5500 Series GUI, perform the following tasks:

- 1 Configure Cisco 5500 Series Wireless Controller with WPA1 TKIP or WPA2 AES PSK SSID that is pointed to the management interface of the WLC.
- 2 Configure the SSID to be an anchor SSID on the Cisco 5500 Wireless Controller.

## Testing Client Connectivity on Wireless Services

To test the connectivity between the client and Cisco Catalyst 3850 Series Switches and Cisco 5500 Series Wireless Controller, perform the following:

- To verify that the client connects to Cisco Catalyst 3850 Series Switch, use the following command:

```
Device# show wireless client summary
show wireless client mac-address <MAC ADDR> detail
```

The following output displays the connectivity status of the client on Cisco Catalyst 3850 Series Switch:

```
Wireless LAN Id : 1
Wireless LAN Name: anchor-profile
Policy Manager State : RUN
```

- To confirm that the client successfully connects to Cisco 5500 Series Wireless Controller, use the following commands:

```
Device# show client summary
show client detail <mac addr> or use the GUI
```

## Configuring Auto Anchor SSID on Cisco Catalyst 3850 Series Switch

To configure the anchor SSID on Cisco Catalyst 3850 Series Switch, perform the following tasks:

- 1 To remove the previous mobility command from the SSID, use the following commands:
 

```
wlan anchor-profile 1 anchor-ssid
no mobility anchor 192.0.2.1
```
- 2 To define Cisco Catalyst 3850 Series Switch as the anchor of the SSID, use the following command:
 

```
mobility anchor 192.0.2.2
```
- 3 To configure SSID to map a client to a particular client VLAN, use the following command:
 

```
Client vlan 21
```

## Configuring Foreign SSID on Cisco 5500 Series Wireless Controller

To configure the Cisco 5500 Series Wireless Controller so that the clients are navigated to Cisco Catalyst 3850 Series Switch, change the mobility anchor settings so that the mobility anchor sends the clients to Cisco Catalyst 3850 Series switch.

## Verifying Auto Anchor and Mobility Groups Configuration

The new mobility architecture uses three User Datagram Protocol (UDP) ports to transfer information between WLCs in the mobility group. The three UDPs must be open in both directions for communication to work. The three UDPs to transfer information between WLCs in the mobility group are the following:

UDP Port	Function
16666	Mobility Control Path
16667	Mobility Data Path
16668	Mobility Oracle Path

To display the status of the mobility group, use the following command:

```
Device# show wireless mobility summary
```

The following output displays the summary of the mobility controller:

```
Mobility Role                : Mobility Controller
Mobility Protocol Port       : 16666
Mobility Group Name          : CONVERGEDACCESS
Mobility Oracle IP Address   : 0.0.0.0
DTLS Mode                    : Enabled
Mobility Domain ID for 802.11r : 0x8ff4
Mobility Keepalive Interval  : 10
Mobility Keepalive Count     : 3
Mobility Control Message DSCP Value : 0
Mobility Domain Member Count : 2
```

Link Status is Control Link Status: Data Link Status

The following displays the controllers that are configured in the mobility domain:

IP	Public IP	Group Name	Multicast IP	Link Status
198.51.100.1	-	CONVERGED ACCESS	0.0.0.0	UP : UP
203.0.113.1	192.0.2.254	mcast_mob		UP : UP

## Verifying Client Connectivity Status

To verify the status of client connectivity, use the following commands:

```
Device# show wireless mobility controller client summary
```

```
Device# show wireless client summary
```

## Verifying Mobility Group Status between Wireless Services

The mobility group between Cisco 5500 Series Wireless Controller and Cisco Catalyst 3850 Series Switch is enabled when the following is displayed on the terminal:

```
Device#
*Apr 17 05:47:59.230: %IOSXE-6-PLATFORM: 1 process wcm: *capwapPingSocketTask:
%MM-6-MEMBER_UP:
Data path to mobility member 198.51.100.1 is UP.
3850#
*Apr 17 05:48:29.228: %IOSXE-6-PLATFORM: 1 process wcm: *mcListen: %MM-6-MEMBER_UP:
Control path to mobility member 203.0.113.1 is UP.
```

