

INTELBRAS Access Controllers

AP Association with the AC at Layer 3

Configuration Examples

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Introduction

The following information provides an example for configuring APs to associate with the AC at Layer 3.

Prerequisites

This document applies to Comware-based access controllers and access points. Procedures and information in the examples might be slightly different depending on the software or hardware version of the access controllers and access points.

The configuration examples in this document were created and verified in a lab environment, and all the devices were started with the factory default configuration. When you are working on a live network, make sure you understand the potential impact of every command on your network.

This document assumes that you have basic knowledge of WLAN access.

Example: Configuring an AP to associate with the AC at Layer 3

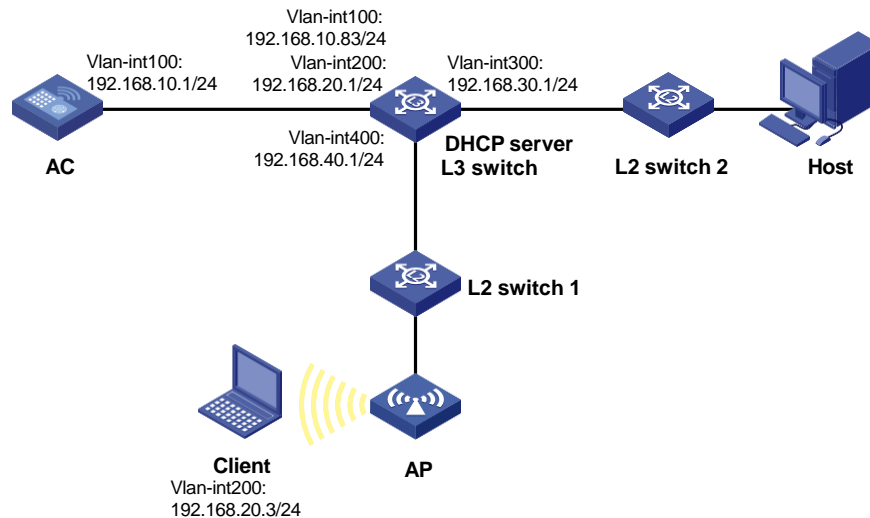
Network configuration

As shown in [Figure 1](#), the AC is attached to the Layer 3 switch and the Layer 3 switch acts as a DHCP server to assign IP addresses to the AP, client, and host. Assume centralized forwarding is used in this example.

Configure the following settings for the client to communicate with the host:

- Configure the client to access the WLAN through VLAN 200, and the host to access the network through VLAN 300.
- Assign the AC to VLAN 100 and the AP to VLAN 400, and configure the AC to establish tunnels with the AP through a Layer 3 network.
- Configure Layer 2 switch 1 to supply power to the AP through PoE.

Figure 1 Network diagram



Analysis

- For the AP, the client, and the host to obtain IP addresses through DHCP, enable the DHCP server feature on the Layer 3 switch.
- For the AC to reach the Layer 3 switch, configure a static route on the AC with the Layer 3 switch as the next hop.
- For the AP to establish tunnels with the AC, configure the DHCP server to send the AC's IP address to the AP through DHCP Option 43.
- For Layer 2 switch 1 to supply power to the AP, enable PoE on the switch.
- For the client to access the network, configure wireless services on the AC.

Restrictions and guidelines

When you configure AP's association with the AC at Layer 3, follow these restrictions and guidelines:

- Use the serial ID labeled on the AP's rear panel to specify an AP.
- Configure the switch's interface that connects Layer 2 switch 1 to the AP as an access port.

Procedures

Configuring the AC

1. Configure AC interfaces:

Create VLAN 100 and VLAN-interface 100, and assign an IP address to the VLAN interface. The AC will use this IP address to establish a CAPWAP tunnel with the AP.

```
<AC> system-view
[AC] vlan 100
[AC-vlan100] quit
[AC] interface vlan-interface100
[AC-Vlan-interface100] ip address 192.168.10.1 255.255.255.0
```

```
[AC-Vlan-interface100] quit
```

Create VLAN 200. The AC will use VLAN 200 to forward client traffic.

```
[AC] vlan 200
```

```
[AC-vlan200] quit
```

Configure GigabitEthernet 1/0/1 that connects the AC to the switch as a trunk port, remove the port from VLAN 1, and assign the port to VLANs 100 and 200.

```
[AC] interface gigabitethernet 1/0/1
```

```
[AC-GigabitEthernet1/0/1] port link-type trunk
```

```
[AC-GigabitEthernet1/0/1] undo port trunk permit vlan 1
```

```
[AC-GigabitEthernet1/0/1] port trunk permit vlan 100 200
```

```
[AC-GigabitEthernet1/0/1] quit
```

2. Configure a static route, whose next hop is the Layer 3 switch.

```
[AC] ip route-static 0.0.0.0 0 24 192.168.10.83
```

3. Configure wireless services:

Create service template 1 and enter its view.

```
[AC] wlan service-template 1
```

Configure the AC to forward client data traffic. You can skip this step if the AC is the client traffic forwarder by default.

```
[AC-wlan-st-1] client forwarding-location ac
```

Configure the SSID as **service**.

```
[AC-wlan-st-1] ssid service
```

Set the PSK AKM mode and specify plaintext string **12345678** as the preshared key.

```
[AC-wlan-st-1] akm mode psk
```

```
[AC-wlan-st-1] preshared-key pass-phrase simple 12345678
```

Set the CCMP cipher suite and enable the RSN security IE.

```
[AC-wlan-st-1] cipher-suite ccmp
```

```
[AC-wlan-st-1] security-ie rsn
```

Enable the service template.

```
[AC-wlan-st-1] service-template enable
```

```
[AC-wlan-st-1] quit
```

4. Configure the AP:

NOTE:

In a large-scale network, configure AP groups instead of single APs as a best practice.

Create manual AP **ap1**, and specify the AP model and serial ID.

```
[AC] wlan ap ap1 model AP 3620
```

```
[AC-wlan-ap-ap1] serial-id 219801A28N819CE0002T
```

```
[AC-wlan-ap-ap1] quit
```

Create AP group **group1**, and add the AP to the AP group.

```
[AC] wlan ap-group group1
```

```
[AC-wlan-ap-group-group1] ap ap1
```

Bind service template 1 and VLAN 200 to radio 1.

```
[AC-wlan-ap-group-group1] ap-model AP 3620
```

```
[AC-wlan-ap-group-group1-ap-model-AP 3620] radio 1
```

```
[AC-wlan-ap-group-group1-ap-model-AP 3620-radio-1] service-template 1 vlan 200
```

Enable radio 1.

```
[AC-wlan-ap-group-group1-ap-model-AP 3620-radio-1] radio enable
```

```
[AC-wlan-ap-group-group1-ap-model-AP 3620-radio-1] return
```

Configuring the Layer 3 switch

1. Configure switch interfaces:

Create VLAN 100, VLAN 400, VLAN-interface 100 and VLAN-interface 400, and assign IP addresses to the VLAN interfaces. The switch will use VLAN 100 and VLAN 400 to forward packets between the AC and the AP.

```
<L3 switch> system-view
[L3 switch] vlan 100
[L3 switch-vlan100] quit
[L3 switch] interface vlan-interface 100
[L3 switch-Vlan-interface100] ip address 192.168.10.83 255.255.255.0
[L3 switch-Vlan-interface100] quit
[L3 switch] vlan 400
[L3 switch-vlan400] quit
[L3 switch] interface vlan-interface 400
[L3 switch-Vlan-interface400] ip address 192.168.40.1 255.255.255.0
[L3 switch-Vlan-interface400] quit
```

Create VLAN 200 and VLAN-interface 200 and assign an IP address to the VLAN interface. This VLAN will be used for client access.

```
[L3 switch] vlan 200
[L3 switch-vlan200] quit
[L3 switch] interface vlan-interface 200
[L3 switch-Vlan-interface200] ip address 192.168.20.1 255.255.255.0
[L3 switch-Vlan-interface200] quit
```

Create VLAN 300 and VLAN-interface 300 and assign an IP address to the VLAN interface. This VLAN will be used for host access.

```
[L3 switch] vlan 300
[L3 switch-vlan300] quit
[L3 switch] interface vlan-interface 300
[L3 switch-Vlan-interface300] ip address 192.168.30.1 255.255.255.0
[L3 switch-Vlan-interface300] quit
```

Configure GigabitEthernet 1/0/1 that connects the switch to the AC as a trunk port, and assign the port to VLANs 100 and 200.

```
[L3 switch] interface gigabitEthernet 1/0/1
[L3 switch-GigabitEthernet1/0/1] port link-type trunk
[L3 switch-GigabitEthernet1/0/1] port trunk permit vlan 100 200
[L3 switch-GigabitEthernet1/0/1] quit
```

Set the link type of GigabitEthernet 1/0/2 that connects the switch to Layer 2 switch 1 to trunk, remove the port from VLAN 1, and assign the port to VLAN 400.

```
[L3 switch] interface gigabitEthernet 1/0/2
[L3 switch-GigabitEthernet1/0/2] port link-type trunk
[L3 switch-GigabitEthernet1/0/2] undo port trunk permit vlan 1
[L3 switch-GigabitEthernet1/0/2] port trunk permit vlan 400
[L3 switch-GigabitEthernet1/0/2] quit
```

Set the link type of GigabitEthernet 1/0/3 that connects the switch to Layer 2 switch 2 to trunk, remove the port from VLAN 1, and assign the port to VLAN 300.

```
[L3 switch] interface gigabitEthernet 1/0/3
```

```
[L3 switch-GigabitEthernet1/0/3] port link-type trunk
[L3 switch-GigabitEthernet1/0/3] undo port trunk permit vlan 1
[L3 switch-GigabitEthernet1/0/3] port trunk permit vlan 300
[L3 switch-GigabitEthernet1/0/3] quit
```

2. Configure DHCP:

Enable DHCP.

```
[L3 switch] dhcp enable
```

Create DHCP address pool 1 to assign an IP address to the AP, and specify subnet 192.168.40.0/24 in the DHCP address pool.

```
[L3 switch] dhcp server ip-pool 1
[L3 switch-dhcp-pool-1] network 192.168.40.0 mask 255.255.255.0
```

Specify the gateway address as 192.168.40.1 in the DHCP address pool.

```
[L3 switch-dhcp-pool-1] gateway-list 192.168.40.1
```

Configure Option 43 to specify AC IP address in the hexadecimal format in DHCP address pool 1.

```
[L3 switch-dhcp-pool-1] option 43 hex 8007000001c0a80a01
[L3 switch-dhcp-pool-1] quit
```

Create DHCP address pool 2 to assign an IP address to the client, and specify subnet 192.168.20.0/24 in the DHCP address pool.

```
[L3 switch] dhcp server ip-pool 2
[L3 switch-dhcp-pool-2] network 192.168.20.0 mask 255.255.255.0
```

Specify the gateway address as 192.168.20.1 in the DHCP address pool.

```
[L3 switch-dhcp-pool-2] gateway-list 192.168.20.1
[L3 switch-dhcp-pool-2] quit
```

Create DHCP address pool 3 to assign an IP address to the host, and specify subnet 192.168.30.0/24 in the DHCP address pool.

```
[L3 switch] dhcp server ip-pool 3
[L3 switch-dhcp-pool-3] network 192.168.30.0 mask 255.255.255.0
```

Specify the gateway address as 192.168.30.1 in the DHCP address pool.

```
[L3 switch-dhcp-pool-3] gateway-list 192.168.30.1
[L3 switch-dhcp-pool-3] quit
```

Configuring Layer 2 switch 1

Create VLAN 400. The switch will use this VLAN for AP access.

```
<L2 switch 1> system-view
[L2 switch 1] vlan 400
[L2 switch 1-vlan400] quit
```

Set the link type of GigabitEthernet 1/0/1 that connects the switch to the Layer 3 switch to trunk, remove the port from VLAN 1, and assign the port to VLAN 400.

```
[L2 switch 1] interface gigabitEthernet 1/0/1
[L2 switch 1-GigabitEthernet1/0/1] port link-type trunk
[L2 switch 1-GigabitEthernet1/0/1] undo port trunk permit vlan 1
[L2 switch 1-GigabitEthernet1/0/1] port trunk permit vlan 400
[L2 switch 1-GigabitEthernet1/0/1] quit
```

Set the link type of GigabitEthernet 1/0/2 that connects the switch to the AP to access, assign the port to VLAN 400, and enable PoE.

```
[L2 switch 1] interface gigabitEthernet 1/0/2
```

```
[L2 switch 1-GigabitEthernet1/0/2] port link-type access
[L2 switch 1-GigabitEthernet1/0/2] port access vlan 400
[L2 switch 1-GigabitEthernet1/0/2] poe enable
[L2 switch 1-GigabitEthernet1/0/2] quit
```

Configuring Layer 2 switch 2

Create VLAN 300. The switch will use this VLAN for host access.

```
<L2 switch 2> system-view
[L2 switch 2] vlan 300
[L2 switch 2-vlan300] quit
```

Set the link type of GigabitEthernet 1/0/1 that connects the switch to the Layer 3 switch to trunk, remove the port from VLAN 1, and assign the port to VLAN 300.

```
[L2 switch 2] interface gigabitEthernet 1/0/1
[L2 switch 2-GigabitEthernet1/0/1] port link-type trunk
[L2 switch 2-GigabitEthernet1/0/1] undo port trunk permit vlan 1
[L2 switch 2-GigabitEthernet1/0/1] port trunk permit vlan 300
[L2 switch 2-GigabitEthernet1/0/1] quit
```

Set the link type of GigabitEthernet 1/0/2 that connects the switch to the host to access, and assign the port to VLAN 300.

```
[L2 switch 2] interface gigabitEthernet 1/0/2
[L2 switch 2-GigabitEthernet1/0/2] port link-type access
[L2 switch 2-GigabitEthernet1/0/2] port access vlan 300
[L2 switch 2-GigabitEthernet1/0/2] quit
```

Verifying the configuration

Verify that the AP is in R/M state.

```
<AC> display wlan ap all
Total number of APs: 1
Total number of connected APs: 1
Total number of connected manual APs: 1
Total number of connected auto APs: 0
Total number of connected common APs: 1
Total number of connected WTUs: 0
Total number of inside APs: 0
Maximum supported APs: 399
Remaining APs: 399
Total AP licenses: 0
Local AP licenses: 0
Server AP licenses: 0
Remaining local AP licenses: 0
Sync AP licenses: 0
```

AP information

```
State : I = Idle,      J = Join,      JA = JoinAck,      IL = ImageLoad
        C = Config,    DC = DataCheck,  R = Run,      M = Master,  B = Backup
```


| AP name | APID | State | Model | Serial ID |
|---------|------|-------|---------|----------------------|
| ap1 | 1 | R/M | AP 3620 | 219801A28N819CE0002T |

Verify that the client is connected to radio 1 on AP officeap.

```
<AC> display wlan client
```

```
Total number of clients: 1
```

| MAC address | User name | AP name | R IP address | VLAN |
|----------------|-----------|---------|----------------|------|
| 90b9-311a-bef6 | N/A | ap1 | 1 192.168.20.3 | 200 |

Verify that the client and the host can ping each other successfully.

```
C:\Users\system32>ping 192.168.20.3 -t
```

```
Pinging 192.168.20.3 with 32 bytes of data:
```

```
Reply from 192.168.20.3: bytes=32 time=2470ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=2ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=1427ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=2ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=86ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=142ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=561ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=84ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=465ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=114ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=124ms TTL=63
```

```
Reply from 192.168.20.3: bytes=32 time=446ms TTL=63
```

```
Ping statistics for 192.168.20.3:
```

```
Packets: Sent = 12, Received = 12, Lost = 0 (0% loss),
```

```
Approximate round trip times in milli-seconds:
```

```
Minimum = 2ms, Maximum = 2470ms, Average = 495ms
```

```
Control-C
```

```
^C
```

```
C:\Users\system32>
```

Configuration files

- AC:


```
#
vlan 100
#
vlan 200
#
interface Vlan-interface100
 ip address 192.168.10.1 255.255.255.0
#
wlan service-template 1
 client forwarding-location ac
 akm mode psk
 preshared-key pass-phrase simple 12345678
```

```

cipher-suite ccmp
security-ie rsn
ssid service
service-template enable
#
interface GigabitEthernet1/0/1
port link-type trunk
port trunk permit vlan 100 200
#
ip route-static 192.168.40.0 24 192.168.10.83
#
wlan ap ap1 model AP 3620
serial-id 219801A28N819CE0002T
#
wlan ap-group group1
ap ap1
ap-model AP 3620
radio 1
radio enable
service-template 1 vlan 200
radio 2
#

```

- **Layer 3 switch:**

```

#
dhcp enable
#
vlan 100
#
vlan 200
#
vlan 300
#
vlan 400
#
dhcp server ip-pool 1
gateway-list 192.168.40.1
network 192.168.40.0 mask 255.255.255.0
option 43 hex 8007000001c0a80a01
#
dhcp server ip-pool 2
gateway-list 192.168.20.1
network 192.168.20.0 mask 255.255.255.0
#
dhcp server ip-pool 3
gateway-list 192.168.30.1
network 192.168.30.0 mask 255.255.255.0
#
interface Vlan-interface100

```

```

ip address 192.168.10.83 255.255.255.0
#
interface Vlan-interface200
ip address 192.168.20.1 255.255.255.0
#
interface Vlan-interface300
ip address 192.168.30.1 255.255.255.0
#
interface Vlan-interface400
ip address 192.168.40.1 255.255.255.0
#
interface GigabitEthernet1/0/1
port link-type trunk
undo port trunk permit vlan 1
port trunk permit vlan 100 200
#
interface GigabitEthernet1/0/2
port link-type trunk
undo port trunk permit vlan 1
port trunk pvid vlan 400
#
interface GigabitEthernet1/0/3
port link-type trunk
undo port trunk permit vlan 1
port trunk permit vlan 300
#

```

- **Layer 2 switch 1:**

```

#
vlan 400
#
interface GigabitEthernet1/0/1
port link-type trunk
undo port trunk permit vlan 1
port trunk permit vlan 400
#
interface GigabitEthernet1/0/2
port link-type access
port access vlan 400
poe enable
#

```

- **Layer 2 switch 2:**

```

#
vlan 300
#
interface GigabitEthernet1/0/1
port link-type trunk
undo port trunk permit vlan 1
port trunk permit vlan 300

```

```
#
interface GigabitEthernet1/0/2
 port link-type access
 port access vlan 300
 poe enable
#
```

Related documentation

- *AP and WT Management Command Reference in INTELBRAS Access Controllers Command References*
- *AP and WT Management Configuration Guide in INTELBRAS Access Controllers Configuration Guides*
- *Network Connectivity Command Reference in INTELBRAS Access Controllers Command References*
- *Network Connectivity Configuration Guide in INTELBRAS Access Controllers Configuration Guides*
- *WLAN Access Command Reference in INTELBRAS Access Controllers Command References*
- *WLAN Access Configuration Guide in INTELBRAS Access Controllers Configuration Guides*

INTELBRAS Access Controllers

AP Association with the AC at Layer 3 (IPv6)

Configuration Examples

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Introduction

The following information provides an example for configuring APs to associate with the AC at Layer 3 on an IPv6 network.

Prerequisites

The following information applies to Comware-based access controllers and access points. Procedures and information in the examples might be slightly different depending on the software or hardware version of the access controllers and access points.

The configuration examples were created and verified in a lab environment, and all the devices were started with the factory default configuration. When you are working on a live network, make sure you understand the potential impact of every command on your network.

The following information is provided based on the assumption that you have basic knowledge of IPv6 basics and WLAN access.

Restrictions and guidelines

When you configure AP's association with the AC at Layer 3, follow these restrictions and guidelines:

- Use the actual serial ID of an AP to uniquely identify that AP.
- To prevent too many packets from entering VLAN 1, configure the switch's interface that connects the switch to the AP to deny packets from VLAN 1.

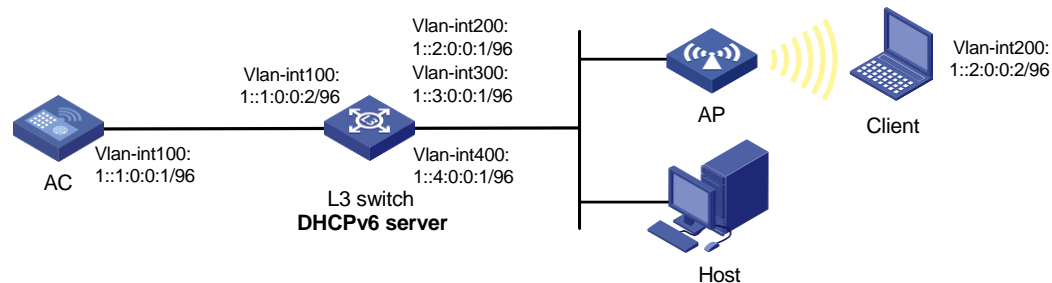
Example: Configuring an AP to associate with the AC at Layer 3 (IPv6)

Network configuration

As shown in [Figure 1](#), the AC acts as a DHCPv6 server to assign IPv6 addresses to the AP, client, and host. Assume centralized forwarding is used in this example.

Configure wireless services to enable the client to access the wireless services and communicate with the host.

Figure 1 Network diagram



Procedures

Configuring the AC

1. Configure AC interfaces:

Create VLAN 100 and VLAN-interface 100, and assign an IPv6 address to the VLAN interface. The AC will use this IPv6 address to establish a CAPWAP tunnel with the AP.

```
<AC> system-view
[AC] vlan 100
[AC-vlan100] interface vlan-interface 100
[AC-Vlan-interface100] ipv6 address 1::1:0:0:1/96
[AC-Vlan-interface100] quit
```

Create VLAN 200. VLAN 200 will be used for client access.

```
[AC] vlan 200
[AC-vlan200] quit
```

Configure GigabitEthernet 1/0/1 that connects the AC to the switch as a trunk port, remove the port from VLAN 1, and assign the port to VLANs 100 and 200.

```
[AC] interface gigabitethernet 1/0/1
[AC-GigabitEthernet1/0/1] port link-type trunk
[AC-GigabitEthernet1/0/1] undo port trunk permit vlan 1
[AC-GigabitEthernet1/0/1] port trunk permit vlan 100 200
[AC-GigabitEthernet1/0/1] quit
```

2. Configure an IPv6 static route.

```
[AC] ipv6 route-static 1::4:0:0:0 96 1::1:0:0:2
```

3. Configure wireless services:

Create service template 1 and enter its view.

```
[AC] wlan service-template 1
```

Configure the AC to forward client data traffic. You can skip this step if the AC is the client traffic forwarder by default.

```
[AC-wlan-st-1] client forwarding-location ac
```

Configure the SSID as **service**.

```
[AC-wlan-st-1] ssid service
```

Set the PSK AKM mode and specify plaintext string **12345678** as the preshared key.

```
[AC-wlan-st-1] akm mode psk
[AC-wlan-st-1] preshared-key pass-phrase simple 12345678
```

Set the CCMP cipher suite and enable the RSN security IE.

```
[AC-wlan-st-1] cipher-suite ccmp
[AC-wlan-st-1] security-ie rsn
```

Enable the service template.

```
[AC-wlan-st-1] service-template enable
```

Enable snooping DHCPv6 packets and ND packets.

```
[AC-wlan-st-1] client ipv6-snooping dhcpv6-learning enable
[AC-wlan-st-1] client ipv6-snooping nd-learning enable
[AC-wlan-st-1] quit
```

4. Configure the AP:

NOTE:

In a large-scale network, configure AP groups instead of single APs as a best practice.

Create manual AP ap1, and specify the AP model and serial ID.

```
[AC] wlan ap ap1 model AP 3620
[AC-wlan-ap-ap1] serial-id 219801A28N819CE0002T
[AC-wlan-ap-ap1] quit
```

Create AP group group1 and add the AP to the AP group.

```
[AC] wlan ap-group group1
[AC-wlan-ap-group-group1] ap ap1
```

Bind service template 1 and VLAN 200 to radio 1.

```
[AC-wlan-ap-group-group1] ap-model AP 3620
[AC-wlan-ap-group-group1-ap-model-AP 3620] radio 1
[AC-wlan-ap-group-group1-ap-model-AP 3620-radio-1] service-template 1 vlan 200
```

Enable radio 1.

```
[AC-wlan-ap-group-group1-ap-model-AP 3620-radio-1] radio
enable [AC-wlan-ap-group-group1-ap-model-AP 3620-radio-1]
return
```

Configuring the Layer 3 switch

1. Configure switch interfaces:

Create VLAN 100, VLAN 400, VLAN-interface 100 and VLAN-interface 400, and assign IPv6 addresses to the VLAN interfaces. The switch will use VLAN 100 and VLAN 400 to forward packets between AC and AP.

```
<L3 switch> system-view
[L3 switch] vlan 100
[L3 switch-vlan100] quit
[L3 switch] interface vlan-interface 100
[L3 switch-Vlan-interface100] ipv6 address 1::1:0:0:2/96
[L3 switch-Vlan-interface100] quit
[L3 switch] vlan 400
[L3 switch-vlan400] quit
[L3 switch] interface vlan-interface 400
[L3 switch-Vlan-interface400] ipv6 address 1::4:0:0:1/96
[L3 switch-Vlan-interface400] quit
```

Create VLAN 200 and VLAN-interface 200 and assign an IPv6 address to the VLAN interface. This VLAN will be used for client access.

```
[L3 switch] vlan 200
[L3 switch-vlan200] quit
[L3 switch] interface vlan-interface 200
[L3 switch-Vlan-interface200] ipv6 address 1::2:0:0:1/96
[L3 switch-Vlan-interface200] quit
```

Create VLAN 300 and VLAN-interface 300 and assign an IPv6 address to the VLAN interface. This VLAN will be used for host access.

```
[L3 switch] vlan 300
[L3 switch-vlan300] quit
[L3 switch] interface vlan-interface 300
[L3 switch-Vlan-interface300] ipv6 address 1::3:0:0:1/96
```

```
[L3 switch-Vlan-interface300] quit
```

Configure GigabitEthernet 1/0/1 that connects the switch to the AC as a trunk port, remove the port from VLAN 1, and assign the port to VLANs 100 and 200.

```
[L3 switch] interface gigabitEthernet 1/0/1
```

```
[L3 switch-GigabitEthernet1/0/1] port link-type trunk
```

```
[L3 switch-GigabitEthernet1/0/2] undo port trunk permit vlan 1
```

```
[L3 switch-GigabitEthernet1/0/1] port trunk permit vlan 100 200
```

```
[L3 switch-GigabitEthernet1/0/1] quit
```

Configure GigabitEthernet 1/0/2 that connects the switch to the AP as a trunk port, remove the port from VLAN 1, configure the PVID as VLAN 400, and assign the port to VLANs 200 and 400.

```
[L3 switch] interface gigabitEthernet 1/0/2
```

```
[L3 switch-GigabitEthernet1/0/2] port link-type trunk
```

```
[L3 switch-GigabitEthernet1/0/2] undo port trunk permit vlan 1
```

```
[L3 switch-GigabitEthernet1/0/2] port trunk permit vlan 200 400
```

```
[L3 switch-GigabitEthernet1/0/2] port trunk pvid vlan 400
```

```
[L3 switch-GigabitEthernet1/0/2] quit
```

Configure GigabitEthernet 1/0/3 that connects the switch to the host as an access port, and assign the port to VLAN 300.

```
[L3 switch] interface gigabitEthernet 1/0/3
```

```
[L3 switch-GigabitEthernet1/0/3] port access vlan 300
```

```
[L3 switch-GigabitEthernet1/0/3] quit
```

2. Configure DHCPv6:

Enable the DHCPv6 server on VLAN-interface 200, VLAN-interface 300, and VLAN-interface 400, and apply address pools 1, 2, and 3 to these interfaces, respectively.

```
[L3 switch] interface vlan-interface 200
```

```
[L3 switch-Vlan-interface200] ipv6 dhcp select server
```

```
[L3 switch-Vlan-interface200] ipv6 dhcp server apply pool 1
```

```
[L3 switch-Vlan-interface200] quit
```

```
[L3 switch] interface vlan-interface 300
```

```
[L3 switch-Vlan-interface300] ipv6 dhcp select server
```

```
[L3 switch-Vlan-interface300] ipv6 dhcp server apply pool 2
```

```
[L3 switch-Vlan-interface300] quit
```

```
[L3 switch] interface vlan-interface 400
```

```
[L3 switch-Vlan-interface400] ipv6 dhcp select server
```

```
[L3 switch-Vlan-interface400] ipv6 dhcp server apply pool 3
```

```
[L3 switch-Vlan-interface400] quit
```

Disable RA message suppression, and set both the managed address configuration flag (M) and the other stateful configuration flag (O) to 1 in RA advertisements to be sent for the created VLAN interfaces.

```
[L3 switch] interface vlan-interface 200
```

```
[L3 switch-Vlan-interface200] undo ipv6 nd ra halt
```

```
[L3 switch-Vlan-interface200] ipv6 nd autoconfig managed-address-flag
```

```
[L3 switch-Vlan-interface200] ipv6 nd autoconfig other-flag
```

```
[L3 switch-Vlan-interface200] quit
```

```
[L3 switch] interface vlan-interface 300
```

```
[L3 switch-Vlan-interface300] undo ipv6 nd ra halt
```

```
[L3 switch-Vlan-interface300] ipv6 nd autoconfig managed-address-flag
```

```
[L3 switch-Vlan-interface300] ipv6 nd autoconfig other-flag
```

```
[L3 switch-Vlan-interface300] quit
```

```

[L3 switch] interface vlan-interface 400
[L3 switch-Vlan-interface400] undo ipv6 nd ra halt
[L3 switch-Vlan-interface400] ipv6 nd autoconfig managed-address-flag
[L3 switch-Vlan-interface400] ipv6 nd autoconfig other-flag
[L3 switch-Vlan-interface400] quit

# Create DHCPv6 address pool 1 to assign an IPv6 address to the AP, and specify subnet
1::2:0:0/96 in the DHCP address pool.

[L3 switch] ipv6 dhcp pool 1
[L3 switch-dhcp6-pool-1] network 1::2:0:0/96
[L3 switch-dhcp6-pool-1] quit

# Create DHCPv6 address pool 2 to assign an IPv6 address to the client, and specify subnet
1::3:0:0/96 in the DHCP address pool.

[L3 switch] ipv6 dhcp pool 2
[L3 switch-dhcp6-pool-2] network 1::3:0:0/96
[L3 switch-dhcp6-pool-2] quit

# Create DHCPv6 address pool 3 to assign an IPv6 address to the host, specify subnet
1::4:0:0/96 in the DHCP address pool, and configure Option 52 to specify the AC's IPv6
address.

[L3 switch] ipv6 dhcp pool 3
[L3 switch-dhcp6-pool-3] network 1::4:0:0/96
[L3 switch-dhcp6-pool-3] option 52 hex 00010000000000000001000000000001
[L3 switch-dhcp6-pool-3] quit

```

Verifying the configuration

Verify that the AP is in R/M state.

```

<AC> display wlan ap all
Total number of APs: 1
Total number of connected APs: 1
Total number of connected manual APs: 1
Total number of connected auto APs: 0
Total number of connected common APs: 1
Total number of connected WTUs: 0
Total number of inside APs: 0
Maximum supported APs: 3072
Remaining APs: 3071
Total AP licenses: 512
Local AP licenses: 512
Server AP licenses: 0
Remaining Local AP licenses: 511
Sync AP licenses: 0

```

AP information

```

State : I = Idle,      J = Join,      JA = JoinAck,      IL = ImageLoad
        C = Config,    DC = DataCheck,  R = Run,      M = Master,  B = Backup

```

| AP name | APID | State | Model | Serial ID |
|---------|------|-------|---------|----------------------|
| ap1 | 1 | R/M | AP 3620 | 219801A28N819CE0002T |

Verify that the client is connected to radio 1 on AP officeap.

```
<AC> display wlan client ipv6
Total number of clients: 1
```

| MAC address | AP name | RID | IPv6 address | VLAN |
|----------------|---------|-----|--------------|------|
| 784f-43b6-077c | ap1 | 1 | 1::2:0:0:2 | 200 |

Verify that the client and the host can ping each other successfully.

```
C:\Users\system32>ping 1::2:0:0:2 -t
```

```
Pinging 1::2:0:0:2 with 32 bytes of data:
Reply from 1::2:0:0:2: bytes=32 time=2470ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=2ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=1427ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=2ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=86ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=142ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=561ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=84ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=465ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=114ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=124ms TTL=63
Reply from 1::2:0:0:2: bytes=32 time=446ms TTL=63
```

```
Ping statistics for 1::2:0:0:2:
```

```
    Packets: Sent = 12, Received = 12, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 2470ms, Average = 495ms
```

```
Control-C
```

```
^C
```

```
C:\Users\system32>
```

Configuration files

- AC:

```
#
vlan 100
#
vlan 200
#
interface Vlan-interface100
  ipv6 address 1::1:0:0:1/96
#
wlan service-template 1
  ssid service
  client forwarding-location ac
  akm mode psk
  preshared-key pass-phrase simple 12345678
  cipher-suite ccmp
```

#

#

#

#

#

#

#

```
ipv6 dhcp select server
```

```

ipv6 dhcp server apply pool 1
ipv6 address 1::2:0:0:1/96
ipv6 nd autoconfig managed-address-flag
ipv6 nd autoconfig other-flag
undo ipv6 nd ra halt
#
interface Vlan-interface300
  ipv6 dhcp select server
  ipv6 dhcp server apply pool 2
  ipv6 address 1::3:0:0:1/96
  ipv6 nd autoconfig managed-address-flag
  ipv6 nd autoconfig other-flag
  undo ipv6 nd ra halt
#
interface Vlan-interface400
  ipv6 dhcp select server
  ipv6 dhcp server apply pool 3
  ipv6 address 1::4:0:0:1/96
  ipv6 nd autoconfig managed-address-flag
  ipv6 nd autoconfig other-flag
  undo ipv6 nd ra halt
#
interface GigabitEthernet1/0/1
  port link-type trunk
  undo port trunk permit vlan 1
  port trunk permit vlan 100 200
#
interface GigabitEthernet1/0/2
  port link-type trunk
  undo port trunk permit vlan 1
  port trunk permit vlan 200 400
  port trunk pvid vlan 400
#
interface GigabitEthernet1/0/3
  port access vlan 300
#

```

Related documentation

- *AP and WT Management Command Reference* in *INTELBRAS Access Controllers Command References*
- *AP and WT Management Configuration Guide* in *INTELBRAS Access Controllers Configuration Guides*
- *Network Connectivity Command Reference* in *INTELBRAS Access Controllers Command References*
- *Network Connectivity Configuration Guide* in *INTELBRAS Access Controllers Configuration Guides*