

# ىلع VLAN تاكبش و SSID تافرعم نيوكت ةيتاذلا لوصول طاقن

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## ةمدقملا

ئل ةيتاذلا (AP) لوصول طاقن نيوكت ةيفيك دن تسملا اذه حّضوي

- (VLANs) ةيرهاظلا ةيلحمل ةقطنملا تاكبش
- ةقداصملا حتف
- (RADIUS) ةيلخالل دي عبل م دختسملا لاصتا بلط ةقداصم ةمدخ عم 802.1x
- يجراخلل RADIUS عم 802.1x
- (PSK) اقبسم كرتشم حاتفم
- MAC ناونع ةقداصم
- (يخلخالل رطقلا فصن) بيولا ةقداصم
- بيولا رورم

## ةيساسألا تابلطتملا

تابلطتملا



```
# encapsulation dot1q 2403
# bridge-group 243
802.11a ةهجاو لا ويدا ر ن ي وكت
```

```
# interface dot11radio 1.2401
# encapsulation dot1q 2401 native
```

```
# interface dot11radio 1.2402
# encapsulation dot1q 2402
# bridge-group 242
```

```
# interface dot11radio 1.2403
# encapsulation dot1q 2403
# bridge-group 243
```

VLAN ةكبش م دختسي هنأل، (0 dot11radio ةهجاو) 802.11b ويدا ر ن ي وكت متي مل :ةظحالم  
لوصول ةطقنل ةيلصلأل.

## VLAN حاتفم تللكش

```
# conf t
# vlan 2401-2403
```

:تطبر نوكتي ap ل شح نراقل تللكش

```
# conf t
# interface <port-id-where-AP-is-connected>
# switchport trunk encapsulation dot1q
# switchport mode trunk
# switchport trunk native vlan 2401
# switchport trunk allowed vlan 2401-2403
# spanning-tree portfast trunk
```

## لوصول ةطقنل ةيلصلأل VLAN ةكبش - ةحوتفم ال SSID ةقداصم

ءالمعلا صيصخت متيو (ءالمعلل يئرم) هضرع متيو، نيمأت يلع اذه SSID فرعم يوتحي ال  
ةيلصلأل VLAN ةكبش ل WLAN ةكبش يل نومضني نيل نيلكيكلساللل.

SSID ن ي وكتب مق 1. ةوطخال

```
# dot11 ssid OPEN
# authentication open
# guest-mode
```

802. 11b. ويدا ر ن ي وكتب مق 2. ةوطخال

```
# interface dot11radio 0
# ssid OPEN
```

## يـلـخـادـلـا SSID 802.1x - RADIUS

معدت RADIUS مـداخـك لـوصـولـا ةـطـقـن نأ مـلـعـا RADIUS مـداخـك لـوصـولـا ةـطـقـن اذـه SSID مـدخـتـسـي MAC و EAP-FAST و LEAP ةـقـداصـم طـقـف

RADIUS مـداخـك لـوصـولـا ةـطـقـن نـيـكـمـت 1. ةـوطـخـلـا

IP ناونع نأل ارطن، لوصولا ةطقنل BVI ناونع وه (NAS) ةكبشلا لوصولا مداخل IP ناونع رورم ةملكوم مدختسم مسا عاشناب مق، اضيأ. هسفن لوصولا ةقداصم لبلط لسري يذلا وه اذ

```
# aaa new-model
# radius-server local
# nas <a.b.c.d> key 0 <shared-key>
# user <username> password 0 <password>
```

نأ امب، ةقداصم لبلط لوصولا ةطقن هيل لسرت يذلا RADIUS مداخل نيوكتب مق 2. ةوطخال AP (BVI) رسج لوكوتورب ةهجاول هنييغت متي يذلا وه IP ناونع نإف، يلحمل RADIUS

```
# radius server <radius-server-name>
# address ipv4 <a.b.c.d> auth-port 1812 acct-port 1813
# timeout 10
# retransmit 3
# key 0 <shared-key>
```

RADIUS ةومجمل اذـه RADIUS مـداخـ نـيـيـعـت 3. ةـوطـخـلـا

```
# aaa group server radius <radius-group>
# server name <radius-server-name>
```

ةـقـداصـم بـولـسـأل هـذـه رـطـقـلـا فـصـن ةـومـجـم نـيـيـعـت بـ مق 4. ةـوطـخـلـا

```
# aaa authentication login <eap-method-name> group <radius-group>
```

VLAN 2402 لـجـ هـنـيـيـعـت و، SSID عاشناب مق 5. ةوطخال

```
# dot11 ssid internal-radius
# vlan 2402
# authentication open eap <eap-method-name>
# authentication network-eap <eap-method-name>
# authentication key-management wpa version 2
# mbssid guest-mode
```

ريـفـشـتـلـا عـضـو دـحـو و 802.11a ةـهـجـاـولـا لـجـ SSID نـيـيـعـت بـ مق 6. ةـوطـخـلـا

```
# interface dot11radio 1
# mbssid
# encryption vlan 2402 mode ciphers aes-ccm
# ssid internal-radius
```

## يچراخ ل RADIUS - SSID 802.1x

يچراخ ل RADIUS ل ابيرقت هسفن وه نيوكت ل.

ديج AAA جزومن نيوكت 1. ةوطخ ل.

رطق ل فرصن ل يچراخ ل IP ناوع مدختسأ، لوصول ةطقن ل IP ناوع نم ال دب، 2 ةوطخ ل.

## SSID - PSK

ةكبشل اذ ه SSID ل ع ني مدختس م ل صي صخت متي و نام ل WPA2/PSK اذ ه SSID مدختسي VLAN 2402.

SSID نيوكت ب مق 1. ةوطخ ل.

```
# conf t
# dot11 ssid PSK-ex
# authentication open
# authentication key-management wpa version 2
# wpa-psk ascii 0 <password>
# mbssid guest-mode
# vlan 2402
```

ري فش ت ل عضو ل يش ت و وي دار ل ة ج اول SSID صي صخت ب مق 2. ةوطخ ل.

```
# interface dot11radio 1
# encryption vlan 2402 mode ciphers aes-ccm
# ssid PSK-ex
```

## MAC ناوع ةق داصم - SSID

وه و ا ه صاخ ل MAC ناوع ل ا انا ت سا ة ي كل س ال ة لي م ال ة زه أ ل ا ه SSID ق داصي RADIUS، ل حم ك ap ل ل م عي ل ا ت م ا ه ي ف . رورم ة م ل ك / م دختس م م سا ك MAC ناوع مدختسي RADIUS م داخ ل ع نيوكت ل س فن قي بطت ن ك مي و . ة م ئ ا ق ناوع ك ام ن زخي ap ل ل ك ل ذل يچراخ ل .

ةطقن ب صاخ ل BVI وه IP NAS ناوع . RADIUS م داخ ل لوصول ةطقن ني ك مت 1. ةوطخ ل MAC AABBCCCC ناوع م داخ ت س اب ل ل م ع ل ل ا خ د ا ل ا ء اش ن ا ب مق . لوصول

```
# aaa new-model
# radius-server local
# nas <a.b.c.d> key 0 <shared-key>
# user aaaabbbbcccc password 0 aaaabbbbcccc mac-auth-only
```

وهو) ةقداصم لابلط لوصولا ةطقن هيل لسرت يذلا RADIUS مداخ نيوكتب مق 2. ةوطخال (اهسفن لوصولا ةطقن).

```
# radius server <radius-server-name>
# address ipv4 <a.b.c.d> auth-port 1812 acct-port 1813
# timeout 10
# retransmit 3
# key 0 <shared-key>
```

RADIUS. ةومجم ل اذه RADIUS مداخ نيوعت 3. ةوطخال

```
# aaa group server radius <radius-group>
# server name <radius-server-name>
```

ةقداصم بولسأل هذه رطقالا فصن ةومجم نييعتت مق 4. ةوطخال

```
# aaa authentication login <mac-method> group <radius-group>
```

2402 مقرر VLAN ةكبشله نييعتت لاثملا اذه موقى، SSID ءاشناب مق 5. ةوطخال

```
# dot11 ssid mac-auth
# vlan 2402
# authentication open mac-address <mac-method>
# mbssid guest-mode
```

802. 11a. ةهجاو لل SSID صيصختت مق 6. ةوطخال

```
# interface dot11radio 1
# mbssid
# ssid mac-auth
```

## ةيلخادلا بولاقداصم - SSID

لاخدال بولاقداصم لخدم لىل اذه SSID ب نولصتت نيذلا نيمدختتسملا هيجوت ةداع متت لىل لوصولا قح مهيدل حبصى، ةقداصملا حاجن ةلاح يفو، ةحل اص رورم ةملك/مدختتسم مسا يلمل RADIUS مداخ لىل نيمدختتسملا نيختت متي، لاثملا اذه يف. ةكبشلا

2403 مقرر VLAN ةكبشلا SSID صيصختت متي، لاثملا اذه يف

ةطقن ب صاخلا BVI وه IP NAS ناونع. RADIUS مداخك لوصولا ةطقن نيكتت مق 1. ةوطخال لوصول.

```
# aaa new-model
# radius-server local
# nas <a.b.c.d> key 0 <shared-key>
```

وهو) ةقداصم لابلط لوصولا ةطقن هيل لسرت يذلا RADIUS مداخ نيوكتب مق 2. ةوطخال (اهسفن لوصولا ةطقن).

```
# radius server <radius-name>
```

```
# address ipv4 <a.b.c.d> auth-port 1812 acct-port 1813
# timeout 10
# retransmit 3
# key 0 <shared-key>
```

RADIUS. ةومجم ىل اذ ة RADIUS مءاخ نيءت 3. ةوطءال

```
# aaa group server radius <radius-group>
# server name <radius-name>
```

ةءاءصم ةولسأل هءه رءقلال فصن ةومجم نيءت ة مء 4. ةوطءال

```
# aaa authentication login <web-method> group <radius-group>
```

ل.وبقلال ءاساىس ءاشناب مء 5. ةوطءال

```
# ip admission name webauth-pol proxy http
# ip admission name webauth-pol method-list authentication <web-method>
```

SSID. نيوكء ة مء 6. ةوطءال

```
# conf t
# dot11 ssid webauth-autonomous
# authentication open
# web-auth
# vlan 2403
# mbssid guest-mode
```

ةءءاولل SSID نيءت ة مء 7. ةوطءال

```
# conf t
# int dot11radio 1
# ssid webauth-autonomous
```

ىنمىل ةىءرفل ةءءاولل ىل ءءنل نيءت ة مء 8. ةوطءال

```
# conf t
# int dot11radio 1.2403
# ip admission webauth-pol
```

ىل ءرءشابم ةساىسلال قىءطء مءىسف ،لصلأل ىل ءلمءى SSID ناك اذا :ءءءالم  
(dot11radio 0 وء dot11radio 1) ةىءرفل ةءءاولل ىل ءسىلو ،ةءءاولل

فوىضلل نيءءءسملل رورملا ءمءك/مءءءسملل مسا ءاشناب مء 9. ةوطءال





ap# **show dot11 associations**

802.11 Client Stations on Dot11Radio0:

SSID [webpassth-autonomous] :

MAC Address	IP address	IPV6 address	Device	Name
Parent	State			
c4b3.01d8.5c9d	172.16.0.122	::	unknown	-
self	Assoc			

**# show dot11 associations aaa.bbbb.cccc**

و RSSI هنأ لىل ع MAC ناو ن ع يف ددحم لى كلساللى لىم ع لى لى صافات ن م دىزم لى ح ضوى اذ هو  
اهرى غو ةم و ع دم لى تان اى ب لى تال د ع م و SNR.

ap# **show dot11 associations c4b3.01d8.5c9d**

Address : c4b3.01d8.5c9d Name : NONE  
IP Address : 172.16.0.122 IPv6 Address : ::  
Gateway Address : 0.0.0.0  
Netmask Address : 0.0.0.0 Interface : Dot11Radio 0  
Bridge-group : 1  
reap\_flags\_1 : 0x0 ip\_learn\_type : 0x0 transient\_static\_ip : 0x0  
Device : unknown Software Version : NONE  
CCX Version : NONE Client MFP : Off

State : Assoc Parent : self  
SSID : webpassth-autonomous  
VLAN : 0  
Hops to Infra : 1 Association Id : 1  
Clients Associated: 0 Repeaters associated: 0  
Tunnel Address : 0.0.0.0  
Key Mgmt type : NONE Encryption : Off  
Current Rate : m15b2 Capability : WMM ShortHdr ShortSlot  
Supported Rates : 1.0 2.0 5.5 11.0 6.0 9.0 12.0 18.0 24.0 36.0 48.0 54.0 m0-2 m1-2 m2-2 m3-2 m4-2 m5-2 m6-2 m7-2 m8-2 m9-2 m10-2 m11-2 m12-2 m13-2 m14-2 m15-2  
Voice Rates : disabled Bandwidth : 20 MHz  
Signal Strength : -30 dBm Connected for : 447 seconds  
Signal to Noise : 56 dB Activity Timeout : 56 seconds  
Power-save : On Last Activity : 4 seconds ago  
Apsd DE AC(s) : NONE

Packets Input : 1035 Packets Output : 893  
Bytes Input : 151853 Bytes Output : 661627  
Duplicates Rcvd : 1 Data Retries : 93  
Decrypt Failed : 0 RTS Retries : 0  
MIC Failed : 0 MIC Missing : 0  
Packets Redirected: 0 Redirect Filtered: 0  
IP source guard failed : 0 PPPoE passthrough failed : 0  
DAI failed : IP mismatch : 0 src MAC mismatch : 0 target MAC mismatch : 0  
Existing IP failed : 0 New IP failed : 0  
llw Status : Off

**# show dot11 webauth-session**

م ت اذ ا م د خ ت س م ل م س ا و بى و ل ا رى ر م ت و ا بى و ل ا ة ق د ا ص م ل IPv4 ناو ن ع و MAC ناو ن ع ح ضوى اذ هو  
بى و ل ا ة ق د ا ص م ل SSID نى و ك ت .

ap# **show dot11 webauth-sessions**

c4b3.01d8.5c9d 172.16.0.122 connected

**# show dot11 bssid**

ويداره جاول لكل WLAN تاك بشب ةطب ترمل ال BSSIDs ضرعي اذه

ap# **show dot11 bssid**

Interface	BSSID	Guest	SSID
Dot11Radio0	00c8.8b1b.49f0	Yes	webpassth-autonomous
Dot11Radio1	00c8.8b04.ffb0	Yes	PSK-ex
Dot11Radio1	00c8.8b04.ffb1	Yes	mac-auth

**# رسج ال ضرع ضرع ضرع**

رسج ال تاوعوم جمو ةي عرف ال تاهاج اول نيب ةقالع ال حضوي اذهو

ap# **show bridge verbose**

Total of 300 station blocks, 297 free  
Codes: P - permanent, S - self

Flood ports (BG 1)	RX count	TX count
Dot11Radio0	0	0
Dot11Radio1.2401	0	7
GigabitEthernet0.2401	31	225

Flood ports (BG 242)	RX count	TX count
Dot11Radio1.2402	0	0
GigabitEthernet0.2402	0	0

Flood ports (BG 243)	RX count	TX count
Dot11Radio1.2403	0	0
GigabitEthernet0.2403	0	0

## اه حال صاوا ءاطخ ال فاشكتسا

اه حال صاوا نيوكت ال ءاطخا فاشكتسا ال اهم ادختسا كنكمي تامولعم مسقلا اذه رفوي

**# clear dot11 client aaa.bbbb.cccc**

ةك بشلاب يكلس ال ليمع لاصتا عطق يف رمال اذه دعاسي

**# ءحضاو 11 ةطقن بيو ةقداصم مدختسم مدختسم مسا**

ددحمال مدختسم لل بيو ةقداصم ةسلج فزح يف رمال اذه دعاسي

لليمع لل ةقداصم ال ةيلمع نم ققحتل هذه ءاطخ ال حيحصت رماوا ليعشتب مق

```
# debug condition mac-address <H.H.H>
# debug dot11 client
# debug radius authentication
# debug dot11 mgmt ssid
# debug dot11 mgmt interface
```

## PSK

```
*Apr 16 02:06:47.885: (6c94.f871.3b73): SM: ---Open Authentication 0x9630924: AuthReq (0)SM:
Init (0) --> Auth_not_Assoc (1)
*Apr 16 02:06:47.885: dot11_mgmt: [2A937303] send auth=0, status[0] to dst=6c94.f871.3b73,
src=f07f.06f4.4430, bssid=f07f.06f4.4430, seq=2, if=Dot11Radiol
*Apr 16 02:06:47.885: (6c94.f871.3b73): SM: ---Open Authentication 0x9630924: AssocReq (1)SM:
Auth_not_Assoc (1) --> DONT CHANGE STATE (255)
*Apr 16 02:06:47.889: (0000.0000.0000): dot11_mgmt: insert mac 6c94.f871.3b73 into ssid[PSK-ex]
tree
```

!----- Authentication frame received from the client and response

```
*Apr 16 02:06:47.889: (6c94.f871.3b73): SM: ---Open Authentication 0x9630924: IAPP-Resp (3)SM:
IAPP_get (5) --> DONT CHANGE STATE (255)
*Apr 16 02:06:47.889: (6c94.f871.3b73): SM: ---Open Authentication 0x9630924: Drv Add Resp
(8)SM: Drv_Add_InProg (8) --> DONT CHANGE STATE (255)
*Apr 16 02:06:47.889: (0000.0000.0000): dot11_mgmt: [2A937B59] send assoc resp, status[0] to
dst=6c94.f871.3b73, aid[1] on Dot11Radiol
```

!----- Association frame received from client and response

```
*Apr 16 02:06:47.889: (0000.0000.0000): dot11_aaa: Starting wpav2 4-way handshake for PSK or pmk
cache supplicant 6c94.f871.3b73
*Apr 16 02:06:47.889: (0000.0000.0000): dot11_aaa: sending eapol to client on BSSID
f07f.06f4.4430
*Apr 16 02:06:47.889: (0000.0000.0000): dot11_aaa: [count = 1] Sent PTK msg 1 to client, no
timer set
*Apr 16 02:06:47.893: (0000.0000.0000): dot11_aaa: Received wpav2 ptk msg2
*Apr 16 02:06:47.901: (0000.0000.0000): dot11_aaa: sending eapol to client on BSSID
f07f.06f4.4430
*Apr 16 02:06:47.901: (0000.0000.0000): dot11_aaa: [count = 1] Sent PTK msg 3 to client, no
timer set
*Apr 16 02:06:47.901: (0000.0000.0000): dot11_aaa: Received EAPOL packet from client
*Apr 16 02:06:47.901: (0000.0000.0000): dot11_aaa: wpav2 recv PTK MSG4
*Apr 16 02:06:47.901: (0000.0000.0000): dot11_aaa: 4-way Handshake pass for client
```

!----- Successfull 4-way-handshake

```
*Apr 16 02:06:47.901: (0000.0000.0000): dot11_aaa: Sending auth response: 2 for client
*Apr 16 02:06:47.901: (6c94.f871.3b73): SM: ---Open Authentication 0x9630924: AAA Auth OK (5)SM:
AAA_Auth (6) --> Assoc (2)
*Apr 16 02:06:47.901: %DOT11-6-ASSOC: Interface Dot11Radiol, Station 6c94.f871.3b73 Associated
KEY_MGMT[WPav2 PSK]
*Apr 16 02:06:47.901: (0000.0000.0000): dot11_aaa: client Associated
```

!----- Authentication completed

```
*Apr 16 02:06:50.981: (0000.0000.0000): dot11_mgmt: Updating the client IP (172.16.0.91) to the
controller
```

!-----Client's IP address updated on the AP database

## 802,1x

```
*Apr 14 09:54:03.083: (38b1.db54.26ff): SM: ---Open Authentication 0x9630924: AuthReq (0)SM:
Init (0) --> Auth_not_Assoc (1)
*Apr 14 09:54:03.083: dot11_mgmt: [75F0D029] send auth=0, status[0] to dst=38b1.db54.26ff,
src=f07f.06f4.4430, bssid=f07f.06f4.4430, seq=2, if=Dot11Radio1

!----- Authentication frame received from the client and response

*Apr 14 09:54:03.091: (38b1.db54.26ff): SM: ---Open Authentication 0x9630924: AssocReq (1)SM:
Auth_not_Assoc (1) --> DONT CHANGE STATE (255)
*Apr 14 09:54:03.091: (0000.0000.0000): dot11_mgmt: insert mac 38b1.db54.26ff into
ssid[internal-radius] tree
*Apr 14 09:54:03.091: (0000.0000.0000): dot11_mgmt: [75F0F8AE] send assoc resp, status[0] to
dst=38b1.db54.26ff, aid[1] on Dot11Radio1

!----- Association frame received from client and response

*Apr 14 09:54:03.091: (0000.0000.0000): dot11_aaa: Received dot11_aaa_auth_request for
clientSSID: internal-radius, auth_algorithm 0, key_mgmt 1027073
*Apr 14 09:54:03.095: (0000.0000.0000): dot11_aaa: eap list name: eap-method
*Apr 14 09:54:03.095: (0000.0000.0000): dot11_aaa: Send auth request for this client to local
Authenticator
*Apr 14 09:54:03.095: (0000.0000.0000): dot11_auth: Sending EAPOL to requestor
*Apr 14 09:54:03.095: (0000.0000.0000): dot11_aaa: Received DOT11_AAA_EAP from Local
Authenticator
*Apr 14 09:54:03.095: (0000.0000.0000): dot11_aaa: sending eapol to client on BSSID
f07f.06f4.4430
*Apr 14 09:54:05.103: (0000.0000.0000): dot11_aaa: Received EAPOL packet from client

*Apr 14 09:54:05.107: RADIUS(0000003B): Send Access-Request to 172.16.0.48:1812 id 1645/12, len
194
*Apr 14 09:54:05.107: RADIUS: User-Name          [1]  7  "user1"
.
.
.
*Apr 14 09:54:05.119: RADIUS: Received from id 1645/14 172.16.0.48:1812, Access-Accept, len 214
*Apr 14 09:54:05.119: RADIUS: User-Name          [1]  28 "user1          "

!----- 802.1x Authentication success

*Apr 14 09:54:05.119: (0000.0000.0000): dot11_auth: Checking for Airespace-Vlan-Name in server
attributes
*Apr 14 09:54:05.119: (0000.0000.0000): dot11_auth: Checking for VLAN ID in server attributes
*Apr 14 09:54:05.119: (0000.0000.0000): dot11_auth: Checking for Airespace-Acl-Name in server
attributes
*Apr 14 09:54:05.119: (0000.0000.0000): dot11_auth: client authenticated, node_type 64 for
application 0x1

!----- AP verifies if there is any attribute pushed by the RADIUS server

*Apr 14 09:54:05.119: (0000.0000.0000): dot11_aaa: [count = 1] Sent PTK msg 1 to client, no
timer set
*Apr 14 09:54:05.123: (0000.0000.0000): dot11_aaa: Received wpav2 ptk msg2
*Apr 14 09:54:05.131: (0000.0000.0000): dot11_aaa: [count = 1] Sent PTK msg 3 to client, no
timer set
*Apr 14 09:54:05.131: (0000.0000.0000): dot11_aaa: wpav2 recv PTK MSG4
*Apr 14 09:54:05.131: (0000.0000.0000): dot11_aaa: 4-way Handshake pass for client
*Apr 14 09:54:05.131: (38b1.db54.26ff): SM: ---Open Authentication 0x9630924: AAA Auth OK (5)SM:
AAA_Auth (6) --> Assoc (2)

!----- 4-way-handshake process completed
```

```
*Apr 14 09:54:05.131: %DOT11-6-ASSOC: Interface Dot11Radiol, Station 38b1.db54.26ff Associated
KEY_MGMT[WPAv2]
*Apr 14 09:54:05.131: (0000.0000.0000): dot11_aaa: client Associated

!----- Authentication completed
```

```
*Apr 14 09:54:05.611: (0000.0000.0000): dot11_mgmt: Updating the client IP (172.16.0.90) to the
controller
```

```
!-----Client's IP address updated on the AP database
```

## MAC قداصم

```
*Apr 16 03:42:14.819: (2477.033a.e00c): SM: ---Open Authentication 0x947A804: AuthReq (0)SM:
Init (0) --> Auth_not_Assoc (1)
*Apr 16 03:42:14.819: dot11_mgmt: [EE8DFCD2] send auth=0, status[0] to dst=2477.033a.e00c,
src=f07f.06f4.4430, bssid=f07f.06f4.4430, seq=2, if=Dot11Radiol
```

```
!----- Authentication frame received from the client and response
```

```
*Apr 16 03:42:14.823: (2477.033a.e00c): SM: ---Open Authentication 0x947A804: AssocReq (1)SM:
Auth_not_Assoc (1) --> DONT CHANGE STATE (255)
*Apr 16 03:42:14.823: (0000.0000.0000): dot11_mgmt: insert mac 2477.033a.e00c into ssid[mac-
auth] tree
*Apr 16 03:42:14.823: (0000.0000.0000): dot11_mgmt: [EE8E12C4] send assoc resp, status[0] to
dst=2477.033a.e00c, aid[1] on Dot11Radiol
```

```
!----- Association frame received from client and response
```

```
*Apr 16 03:42:14.823: (0000.0000.0000): dot11_aaa: Received dot11_aaa_auth_request for
clientSSID: mac-auth, auth_algorithm 0, key_mgmt 0
*Apr 16 03:42:14.823: (0000.0000.0000): dot11_aaa: Start local Authenticator request
*Apr 16 03:42:14.823: (0000.0000.0000): dot11_auth: Start auth method MAC

*Apr 16 03:42:14.827: RADIUS(00000050): Send Access-Request to 172.16.0.48:1812 id 1645/81, len
169
*Apr 16 03:42:14.827: RADIUS: User-Name [1] 14 "2477033ae00c"
*Apr 16 03:42:14.827: RADIUS: Calling-Station-Id [31] 16 "2477.033a.e00c"

*Apr 16 03:42:14.827: RADIUS: Received from id 1645/81 172.16.0.48:1812, Access-Accept, len 116
*Apr 16 03:42:14.827: RADIUS: User-Name [1] 28 "2477033ae00c"
```

```
!----- MAC Authentication success
```

```
*Apr 16 03:42:14.827: (0000.0000.0000): dot11_auth: Checking for SSID in server attributes
*Apr 16 03:42:14.827: (0000.0000.0000): dot11_auth: Checking for Airespace-Vlan-Name in server
attributes
*Apr 16 03:42:14.827: (0000.0000.0000): dot11_auth: Checking for VLAN ID in server attributes
*Apr 16 03:42:14.827: (0000.0000.0000): dot11_auth: Checking for Airespace-Acl-Name in server
attributes
```

```
!----- AP verifies if there is any attribute pushed by the RADIUS server
```

```
*Apr 16 03:42:14.827: (0000.0000.0000): dot11_auth: client authenticated, node_type 64 for
application 0x1
*Apr 16 03:42:14.827: (0000.0000.0000): dot11_aaa: Received DOT11_AAA_SUCCESS from Local
```

Authenticator

\*Apr 16 03:42:14.827: (2477.033a.e00c): SM: ---Open Authentication 0x947A804: AAA Auth OK (5)SM: AAA\_Auth (6) --> Assoc (2)

\*Apr 16 03:42:14.827: %DOT11-6-ASSOC: Interface Dot11Radio1, Station 2477.033a.e00c Associated KEY\_MGMT[NONE]

!----- Authentication completed

\*Apr 16 03:42:16.895: (0000.0000.0000): dot11\_mgmt: Updating the client IP (172.16.0.92) to the controller

!-----Client's IP address updated on the AP database

ةمچرتل هذه ل و ح

ةلأل تاي نقتل ن م ة و مچ م ادخت ساب دن تسم ل ا ذه Cisco ت مچرت  
م ل ا ل ا ا ن ا ع مچ ي ف ن ي م دخت س م ل ل م عد ي و ت ح م م ي دقت ل ة ي ر ش ب ل و  
ا م ك ة ق ي ق د ن و ك ت ن ل ة ل ا ة مچرت ل ض ف ا ن ا ة ظ ح ا ل م ي ج ر ي . ة ص ا خ ل ا م ه ت غ ل ب  
Cisco ي ل خ ت . ف ر ت ح م مچرت م ا ه م د ق ي ي ت ل ا ة ي ف ا ر ت ح ا ل ا ة مچرت ل ا ع م ل ا ح ل ا و ه  
ي ل ا م ا ة ا د ع و ج ر ل ا ب ي ص و ت و ت ا مچرت ل ا هذه ة ق د ن ع ا ه ت ي ل و ئ س م Cisco  
Systems (ر ف و ت م ط ب ا ر ل ا) ي ل ص ا ل ا ي ز ي ل ج ن ا ل ا دن ت س م ل ا