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â¾ž9800 WLCæŽšâ¶APâ@çæ^ç«-è.ÿè¹¼

è™•æ-¼ç>£è½â™"æ"jâ¼çš,,AP Catalyst 91xx

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è-â¾MTU

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Flexconnectæ-¹æj^

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AireOS CLI

AireOS GUI

Cisco IOS® CLI

Cisco IOS® GUI

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æœ¬æ¬†æ””é†❖é»žä»ç¹¹AireOS 8.8â❖šæ' é«~ç%ø^æœ¬ä,çš,,è”±âššâšŸèf½ã€,ä»¥â❖šCisco IOS® XE 16.2.2sâ❖šæ' é«~ç%ø^æœ¬ã€,

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âœ”APâ¹™âœç¶âŸ ä,šâŸ-èjŒpcapæ~â❖èf½çš,,i¼^â¾ž8.7é-âšçi¼ŒŒ8.8ä,æ❖❖â¾ä°té❖žæç¾â™”i¼%ø

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ä½†æ¬i¼Œâ®fâf...æ❖ç❖²AP

CPUâ¹³é❖çæµ❖é†❖i¼ŒŒé™æ,,â³è'—é²â†è©²APçš,,æµ❖é†❖i¼^AP DHCPã€❖AP capwapæžšâ^¶ššé❖“â€|â€|i¼%øä,|ä,ä,éjçœ°â®çæ^¶ç«æµ❖é†❖ã€,

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â—è©|èœ†èf½æ❖é†❖â¹<â%ø❖i¼ŒŒ«â™âç...ä½ç””ã€Œno debug traffic wired ip captureã€❖æ^~ã€Œundebug

allã€❖â¾†â❖œæçæµ❖é†❖æ“·â❖-i¼^â❖|â%ø†èœ†è£½ä,❖æœfâ>ç,°â°❖âŒ...ä»❖âœ”â~â...¥è€Œ

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æŸ€©Ÿ1.â•Ÿâ<•pcapi¼>ä½ç””ã€Œdebug traffic wired ip captureã€❖é❖,æ”†æµ❖é†❖žçâ^Ÿi¼š

<#root>

```
AP70DB.98E1.3DEC#debug traffic wired ip capture
% Writing packets to "/tmp/pcap/
AP70DB.98E1.3DEC_capture.pcap0"
```

AP70DB.98E1.3DEC#reading from file /dev/click_wired_log, link-type EN10MB (Ethernet)

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captureã€♦â'½ä»æ^-â♦ª½¿ç'''ã€Eundebug allã€♦â'½ä»æ♦œæçæ♦•ç♦²i¼š

AP70DB.98E1.3DEC#no debug traffic wired ip capture

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<#root>

AP70DB.98E1.3DEC#copy pcap

AP70DB.98E1.3DEC_capture.pcap0

tftp 192.168.1.100

#####

AP70DB.98E1.3DEC#

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debug traffic wiredâ'½ä»æœœ%å¼åâ€œ♦,é ...â♦ª»¥å¹«âš©æ, ''æ♦•ç♦²ç%å¼â@šæµ♦é†♦i¼š

APC4F7.D54C.E77C#debug traffic wired
<0-3> wired debug interface number
filter filter packets with tcpdump filter string
ip Enable wired ip traffic dump
tcp Enable wired tcp traffic dump
udp Enable wired udp traffic dum

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é♦Žæ¿¾â™''æ¼å¼♦è^†tcpdumpæ♦•ç♦²é♦Žæ¿¾â™''æ¼å¼♦ç,â°♦æ†%åã€œ,

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ä,»æ©ÿ	"ä,»æ©ÿ192.168.2.5"	æªæE†â»æœœfé♦Žæ¿¾â°♦âE...æ''â♦-i¼Eä»¥ä¾¾â♦ªæ''¶é†â%œ
	"src host 192.168.2.5"	é€™ªæ''æœœfé♦Žæ¿¾â°♦âE...æ''â♦-i¼Eâ♦ªæ''¶é†â¾tèª¹92.168

	"dst host 192.168.2.5"	æðæEþä»ðæœfé Žæž¼å° åE...æ".å -i¼Eä»¥ä¼¼å° æ"¶é>†å%ø
é€ŁæŽŸåŸ	"dŸ 443"	æðæEþä»ðæœfé Žæž¼å° åE...æ".å -i¼Eä»¥åf...æ"¶é>†å...æœ%
	"srcåŸ 1055"	é€™æœfa"·å -æ° è†æ€Łç·šåŸ 1055çš,,æµ é† ä€,
	"dståŸ 443"	é€™æœfa"·å -ç®çš,,åœ°ç,°é€Łç·šåŸ 443çš,,æµ é† ä€,

ä»¥ä, <çœ°ä¼¼<ä, çš,, è¼¼, å†°é; çœ°åœ° æŽŸåŸ^¶æ-ä, Ši¼Eä½†åŸ¶¶ "é Žé Žæž¼ä»¥åf...æªçè! -CAPWAPè³†æ-™

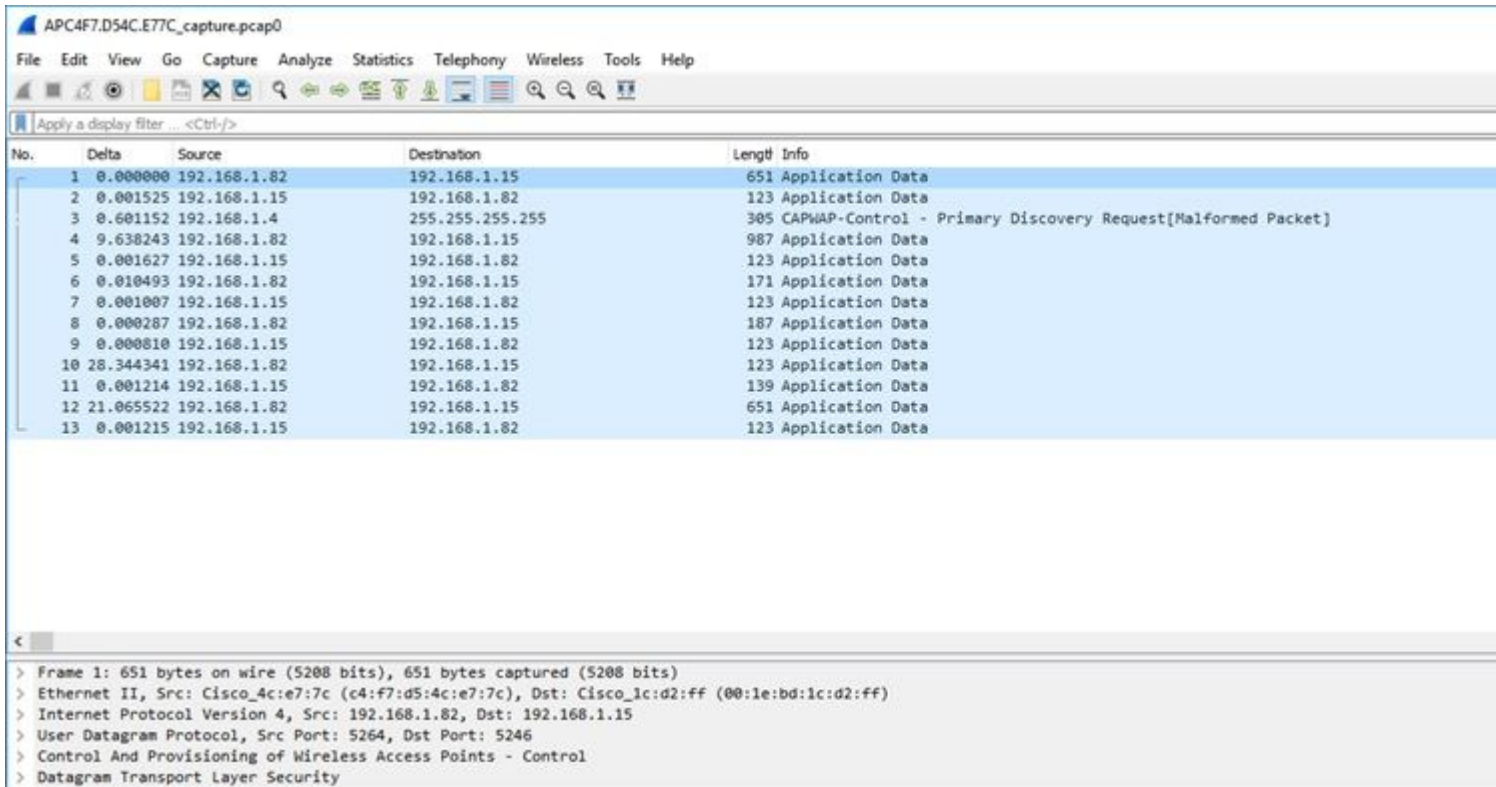
```
APC4F7.D54C.E77C#debug traffic wired filter "port 5246"
APC4F7.D54C.E77C#reading from file /dev/click_wired_log, link-type EN10MB (Ethernet)
12:20:50.483125 IP APC4F7-D54C-E77C.lan.5264 > 192.168.1.15.5246: UDP, length 81
12:20:50.484361 IP 192.168.1.15.5246 > APC4F7-D54C-E77C.lan.5264: UDP, length 97
```

```
APC4F7.D54C.E77C#no debug traffic wired filter "port 5246"
APC4F7.D54C.E77C#Killed
APC4F7.D54C.E77C#
```

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```
APC4F7.D54C.E77C#debug traffic wired filter "port 5246" capture
% Writing packets to "/tmp/pcap/APC4F7.D54C.E77C_capture.pcap0"
APC4F7.D54C.E77C#reading from file /dev/click_wired_log, link-type EN10MB (Ethernet)
APC4F7.D54C.E77C#no debug traffic wired filter "port 5246" capture
APC4F7.D54C.E77C#copy pcap APC4F7.D54C.E77C_capture.pcap0 tftp 192.168.1.100
#####
APC4F7.D54C.E77C#
```

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```
config ap client-trace address add < client-mac> --- Per client debugging. Allows multiple macs.
config ap client-trace all-clients <enable | disable> -- All clients debugging. Not recommended.
```

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```
config ap client-trace filter <all|arp|assoc|auth|dhcp|eap|icmp|ipv6|ndp|probe> <enable|disable>
```

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```
configure ap client-trace output console-log enable
```

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config ap client-trace start

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<#root>

AP0CD0.F894.46E4#show dot11 clients

Total dot11 clients: 1

Client MAC Slot ID WLAN ID AID WLAN Name RSSI Maxrate WGB

A8:DB:03:08:4C:4A

0 1 1 testewlclan -41 MCS92SS No

AP0CD0.F894.46E4#config ap client-trace address add

A8:DB:03:08:4C:4A

AP0CD0.F894.46E4#config ap client-trace filter

- all Trace ALL filters
- arp Trace arp Packets
- assoc Trace assoc Packets
- auth Trace auth Packets
- dhcp Trace dhcp Packets
- eap Trace eap Packets
- icmp Trace icmp Packets
- ipv6 Trace IPv6 Packets
- ndp Trace ndp Packets
- probe Trace probe Packets

AP0CD0.F894.46E4#config ap client-trace filter all enable

AP0CD0.F894.46E4#configure ap client-trace output console-log enable

AP0CD0.F894.46E4#configure ap client-trace start

AP0CD0.F894.46E4#term mon

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configure ap client-trace stop

configure ap client-trace clear

configure ap client-trace address clear

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<#root>

AP70DB.98E1.3DEC#

show ap client-trace status

Client Trace Status : Started
Client Trace ALL Clients : disable
Client Trace Address : a8:db:03:08:4c:4a
Remote/Dump Client Trace Address : a8:db:03:08:4c:4a
Client Trace Filter : probe
Client Trace Filter : auth
Client Trace Filter : assoc
Client Trace Filter : eap
Client Trace Filter : dhcp
Client Trace Filter : dhcpv6
Client Trace Filter : icmp
Client Trace Filter : icmpv6
Client Trace Filter : ndp
Client Trace Filter : arp
Client Trace Output : eventbuf
Client Trace Output : console-log
Client Trace Output : dump
Client Trace Output : remote
Remote trace IP : 192.168.1.100
Remote trace dest port : 5688
NOTE - Only VIP packets are seen on remote if VIP is enabled
Dump packet length : 10
Client Trace Inline Monitor : disable
Client Trace Inline Monitor pkt-attach : disable

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```

Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5351] [1586169921:535099] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_AUTHENTICATE : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5352] [1586169921:535224] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v1> [U:W] DOT11_AUTHENTICATE : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5361] [1586169921:536158] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_AUTHENTICATE : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5416] [1586169921:541598] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_ASSOC_REQUEST : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5441] [1586169921:544114] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_ASSOC_RESPONSE : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5501] [1586169921:550153] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] EAPOL_KEY.M1 : D
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5778] [1586169921:577836] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] EAPOL_KEY.M2 : D
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5784] [1586169921:578476] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] EAPOL_KEY.M3 : D
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.5955] [1586169921:595552] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] EAPOL_KEY.M4 : D
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.6003] [1586169921:600341] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_ACTION : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.6028] [1586169921:602817] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_ACTION : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.6475] [1586169921:647518] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_ACTION : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.6475] [1586169921:647594] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_ACTION : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8636] [1586169921:863610] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DHCP_DISCOVER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8636] [1586169921:863644] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:C] DHCP_DISCOVER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8637] [1586169921:863700] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:C] DHCP_DISCOVER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8637] [1586169921:863731] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:C] DHCP_DISCOVER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8637] [1586169921:863741] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [U:E] DHCP_DISCOVER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8637] [1586169921:863762] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [U:E] DHCP_DISCOVER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8676] [1586169921:867627] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:E] DHCP_OFFER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8676] [1586169921:867664] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] DHCP_OFFER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8677] [1586169921:867709] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] DHCP_OFFER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8677] [1586169921:867740] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DHCP_OFFER : Tra
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8684] [1586169921:868400] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:E] DHCP_OFFER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868464] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] DHCP_OFFER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868498] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] DHCP_OFFER : (
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868529] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DHCP_OFFER : Tra
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868564] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DHCP_REQUEST : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868598] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:C] DHCP_REQUEST : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868633] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:C] DHCP_REQUEST : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868667] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:C] DHCP_REQUEST : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868702] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [U:E] DHCP_REQUEST : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868736] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [U:E] DHCP_REQUEST : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868770] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:E] DHCP_ACK : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868804] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] DHCP_ACK : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868838] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] DHCP_ACK : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868872] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] DHCP_ACK : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868906] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] DHCP_ACK : T
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868940] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DHCP_ACK : Trans
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:868974] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] ARP_QUERY : Send
Apr 6 10:45:21 kernel: [*04/06/2020 10:45:21.8685] [1586169921:869008] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:C] ARP_QUERY : Send
Apr 6 10:45:22 kernel: [*04/06/2020 10:45:22.1611] [1586169922:161177] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:C] ARP_QUERY : Send
Apr 6 10:45:22 kernel: [*04/06/2020 10:45:22.1612] [1586169922:161213] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [U:E] ARP_QUERY : (
Apr 6 10:45:22 kernel: [*04/06/2020 10:45:22.1646] [1586169922:164673] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:E] ARP_REPLY : (
Apr 6 10:45:22 kernel: [*04/06/2020 10:45:22.1647] [1586169922:164699] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] ARP_REPLY : (
Apr 6 10:45:22 kernel: [*04/06/2020 10:45:22.1647] [1586169922:164722] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <nsscscapwap0> [D:C] ARP_REPLY : (
Apr 6 10:45:22 kernel: [*04/06/2020 10:45:22.1647] [1586169922:164751] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] ARP_REPLY : Send

```

U - Uplink packet (from client)
D - Downlink packet (to client)
W - module Wireless driver
E - module Ethernet driver
C - module Click

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çç,¶¾¼CEä-½ç¨¨-â»¥ä,«â¼»ªªçèè|-æ—¥èªCEi¼šãCEshow ap client-trace events mac

xx:xx:xx:xx:xx:xx:xxâ€i¼^æ^-â°†macæ;çç,ªâCEallâ€i¼%o

```

<#root>
AP0CD0.F894.46E4#
show ap client-trace events mac a8:db:03:08:4c:4a

```



```

[*04/06/2020 10:11:54.287675] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v1> [U:W] DOT11_AUTHENTICATIO
[*04/06/2020 10:11:54.288144] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] DOT11_AUTHENTICATIO
[*04/06/2020 10:11:54.289870] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [U:W] DOT11_ASSOC_REQUEST
[*04/06/2020 10:11:54.317341] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] DOT11_ASSOC_RESPONSE
[*04/06/2020 10:11:54.341370] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] EAPOL_KEY.M1 : Descr
[*04/06/2020 10:11:54.374500] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [U:W] EAPOL_KEY.M2 : Descr
[*04/06/2020 10:11:54.377237] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] EAPOL_KEY.M3 : Descr
[*04/06/2020 10:11:54.390255] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [U:W] EAPOL_KEY.M4 : Descr
[*04/06/2020 10:11:54.396855] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [U:W] DOT11_ACTION : (.)
[*04/06/2020 10:11:54.416650] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] DOT11_ACTION : (.)
[*04/06/2020 10:11:54.469089] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [U:W] DOT11_ACTION : (.)
[*04/06/2020 10:11:54.469157] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] DOT11_ACTION : (.)
[*04/06/2020 10:11:57.921877] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [U:W] DOT11_ACTION : (.)
[*04/06/2020 10:11:57.921942] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] DOT11_ACTION : (.)
[*04/06/2020 10:15:36.123119] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] DOT11_DEAUTHENTICATI
[*04/06/2020 10:15:36.127731] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr1v0> [D:W] DOT11_DISASSOC : (.)
[*04/06/2020 10:17:24.128751] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_AUTHENTICATIO
[*04/06/2020 10:17:24.128870] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v1> [U:W] DOT11_AUTHENTICATIO
[*04/06/2020 10:17:24.129303] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_AUTHENTICATIO
[*04/06/2020 10:17:24.133026] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_ASSOC_REQUEST
[*04/06/2020 10:17:24.136095] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_ASSOC_RESPONSE
[*04/06/2020 10:17:24.138732] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] EAPOL_KEY.M1 : Descr
[*04/06/2020 10:17:24.257295] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] EAPOL_KEY.M2 : Descr
[*04/06/2020 10:17:24.258105] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] EAPOL_KEY.M3 : Descr
[*04/06/2020 10:17:24.278937] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] EAPOL_KEY.M4 : Descr
[*04/06/2020 10:17:24.287459] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_ACTION : (.)
[*04/06/2020 10:17:24.301344] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_ACTION : (.)
[*04/06/2020 10:17:24.327482] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_ACTION : (.)
[*04/06/2020 10:17:24.327517] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_ACTION : (.)
[*04/06/2020 10:17:24.430136] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_ACTION : (.)
[*04/06/2020 10:17:24.430202] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_ACTION : (.)
[*04/06/2020 10:19:08.075326] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [U:W] DOT11_PROBE_REQUEST
[*04/06/2020 10:19:08.075392] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v0> [D:W] DOT11_PROBE_RESPONSE
[*04/06/2020 10:19:08.075437] [AP0CD0.F894.46E4] [a8:db:03:08:4c:4a] <apr0v1> [U:W] DOT11_PROBE_REQUEST

```

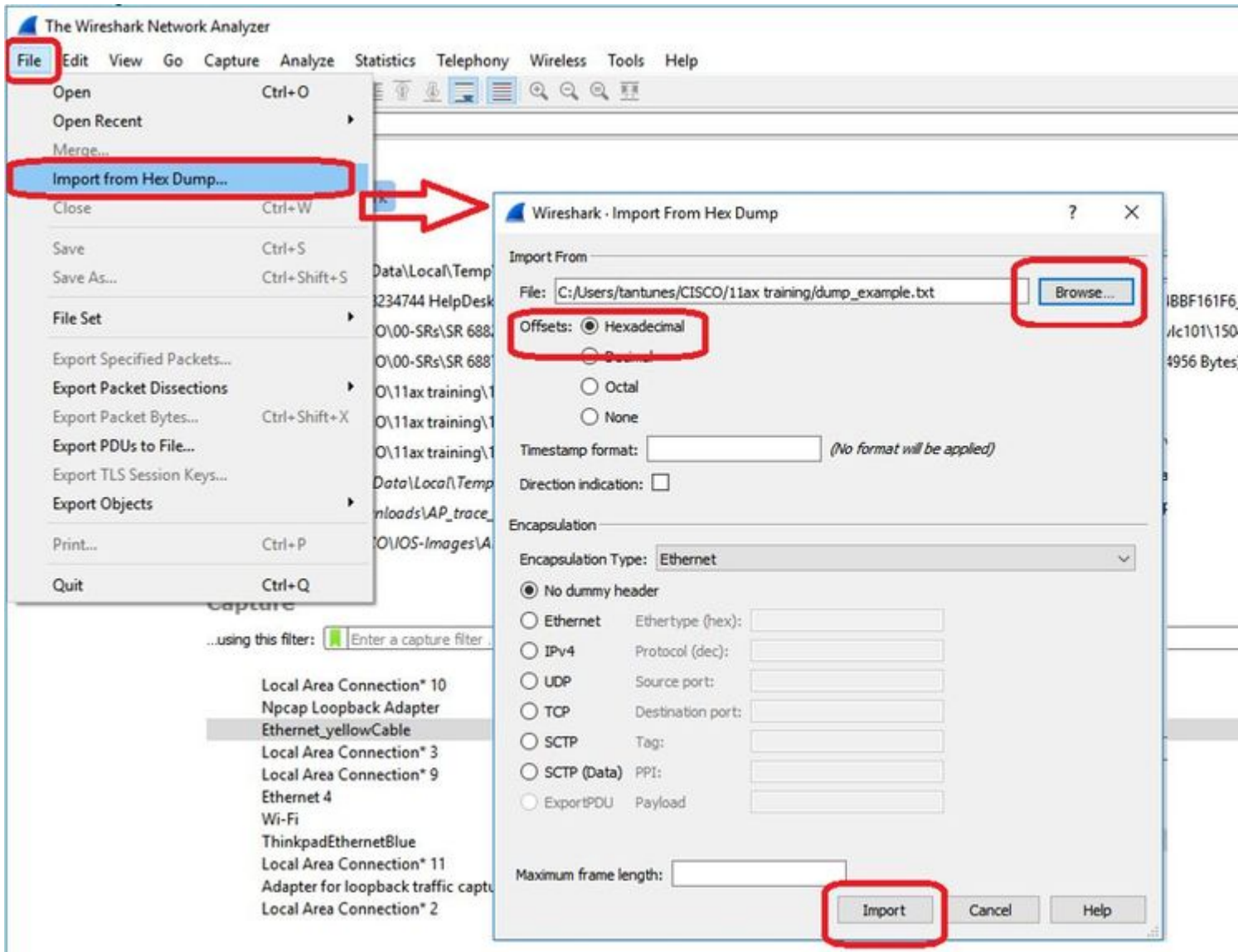
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configure ap client-trace output dump address add xx:xx:xx:xx:xx:xx
configure ap client-trace output dump enable x -> Enter the packet dump length value

```

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 â•Yç””é❖ ç«-æ❖•ç❖²âšYèf1/2i1/4CEä»¥ä¾¼ä½ç”” wiresharkâ°±è³±æ-™âCE...â,³é❖❖â°âº-éf” èE❖ç½®i1/4

config ap client-trace output remote enable

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 filteræ❖•ç❖²çš,,æ-❖â€<â¹€è½º%çº™¼â°âºæ°â❖€ç,º192.168.68.68çš,,è†❖ä,šâž<é»»è...|i1/4CEä,|âºæ”âY 5
 ä,€â€€é™❖â^¶æ~i1/4CEç®æ”™ç†è”~âž<é»»è...|â¿...é ^è^†æ,,âºæ”â...¶ä,šé❖<è;CEæºâ¹/2ä»ºçš,,APâ½❖â
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 5000â ±é i1/4CEé❖,æ”†decode asä,|é❖,æ”†PEEKREMOTEi1/4CEâ |,ä,âºæ-æ%º€çºººi1/4š

filter all no filter probe output console-log

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ap profile < ap join profile name>
trace

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ap trace client start ap

client all/

ap trace client stop ap

client all/

ap trace client start site

client all/

ap trace client stop site

client all/

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show wireless profile ap trace summary
show wireless profile ap trace detailed PROF_NAME detail
sh ap trace client summary
show ap trace unsupported-ap summary

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Search Menu Items

- Dashboard
- Monitoring
- Configuration
- Administration
- Troubleshooting

Configuration > Wireless > Access Points

All Access Points

Number of AP(s): 4

AP Name	AP Model	Slots	Admin Status	IP Address
AP70D9.98E1.3DEC	AIR-AP3802I-I-K9	2		192.168.1.83
AP0C00.F894.46E4	C9117AXI-B	2		192.168.1.95
APb4de.318b.fee0	AIR-CAP3702I-I-K9	2		192.168.1.79
APC4F7.D54C.E77C	C9120AXI-B	2		192.168.1.82

- 5 GHz Radios
- 2.4 GHz Radios
- Dual-Band Radios
- Country
- LSC Provision

Edit AP

General Interfaces High Availability Inventory

General

AP Name* APC4F7.D54C.E77C
Location* default location
Base Radio MAC c064.e422.1780
Ethernet MAC c4f7.d54c.e77c
Admin Status **ENABLED**

AP Mode Sniffer

Operation Status Registered
Fabric Status Disabled
LED State **ENABLED**
LED Brightness Level 8
CleanAir [NSLKey](#)

Tags

Policy FlexPolicy
Site TiagoOfficeSite

Cancel

Search Menu Items

- Dashboard
- Monitoring
- Configuration
- Administration
- Troubleshooting

Configuration > Wireless > Access Points

All Access Points

Number of AP(s): 4

AP Name	AP Model	Slots	Admin Status	IP Address
AP70DB.98E1.3DEC	AIR-AP3802I-I-K9	2	<input checked="" type="checkbox"/>	192.168.1.83
AP0CD0.F894.46E4	C9117AXI-B	2	<input checked="" type="checkbox"/>	192.168.1.95
APb4de.318b.fee0	AIR-CAP3702I-I-K9	2	<input checked="" type="checkbox"/>	192.168.1.79
APC4F7.D54C.E77C	C9120AXI-B	2	<input checked="" type="checkbox"/>	192.168.1.82

5 GHz Radios

2.4 GHz Radios

Number of AP(s): 4

AP Name	Slot No	Base Radio MAC	Admin St
AP70DB.98E1.3DEC	0	0027.e336.4da0	<input checked="" type="checkbox"/>
AP0CD0.F894.46E4	0	dcd0.f897.03e0	<input checked="" type="checkbox"/>
APb4de.318b.fee0	0	b4de.31a4.e030	<input checked="" type="checkbox"/>
APC4F7.D54C.E77C	0	c064.e422.1780	<input checked="" type="checkbox"/>

Edit Radios 2.4 GHz Band

Configure Detail

Admin Status ENABLED

CleanAir Admin Status ENABLED

Antenna Parameters

Antenna Type Internal

Antenna A

Antenna B

Antenna C

Antenna D

Antenna Gain 10

Sniffer Channel Assignment

Enable Sniffing

Sniff Channel 6

Sniffer IP* 192.168.1.100

Sniffer IP Status Valid

Download Core Dump to bootflash

Cancel

udp.port == 5000

No.	Delta	Source	Destination	Length	Info
2..	0.032866	SamsungE_08:4c:4a	Cisco_97:03:ef	107	Authentication, SN=37, FN=0, Flags=.....C
2..	0.000001	192.168.1.15	192.168.1.100	76	Acknowledgement[Malformed Packet]
2..	0.001720	Cisco_97:03:ef	SamsungE_08:4c:4a	107	Authentication, SN=0, FN=0, Flags=.....C
2..	0.000301	192.168.1.15	192.168.1.100	76	Acknowledgement[Malformed Packet]
2..	0.000791	SamsungE_08:4c:4a	Cisco_97:03:ef	360	Association Request, SN=38, FN=0, Flags=.....C, SSI
2..	0.000230	192.168.1.15	192.168.1.100	76	Acknowledgement[Malformed Packet]
2..	0.004269	Cisco_97:03:ef	SamsungE_08:4c:4a	398	Association Response, SN=1, FN=0, Flags=.....C
2..	0.000750	192.168.1.15	192.168.1.100	76	Acknowledgement[Malformed Packet]
2..	0.010966	Cisco_97:03:ef	SamsungE_08:4c:4a	221	Key (Message 1 of 4)
2..	0.000001	192.168.1.15	192.168.1.100	76	Acknowledgement[Malformed Packet]
2..	0.021911	SamsungE_08:4c:4a	Cisco_97:03:ef	342	Key (Message 2 of 4)
2..	0.000002	192.168.1.15	192.168.1.100	76	Acknowledgement[Malformed Packet]
2..	0.002186	Cisco_97:03:ef	SamsungE_08:4c:4a	391	Key (Message 3 of 4)
2..	0.000935	192.168.1.15	192.168.1.100	76	Acknowledgement[Malformed Packet]
2..	0.013829	SamsungE_08:4c:4a	Cisco_97:03:ef	199	Key (Message 4 of 4)
2..	0.000174	192.168.1.15	192.168.1.100	76	Acknowledgement[Malformed Packet]

```

> Tag: Supported Rates 6(8), 9, 12(8), 18, 24(8), 36, 48, 54, [Mbit/sec]
> Tag: Vendor Specific: Microsoft Corp.: WMM/WME: Parameter Element
> Tag: Vendor Specific: Cisco Systems, Inc.: Aironet Unknown (44)
> Tag: HT Capabilities (802.11n D1.10)
> Tag: HT Information (802.11n D1.10)
> Tag: Extended Capabilities (8 octets)
> Tag: VHT Capabilities
> Tag: VHT Operation
> Tag: Mobility Domain
> Tag: Fast BSS Transition
> Tag: RM Enabled Capabilities (5 octets)
> Tag: BSS Max Idle Period
< Ext Tag: HE Capabilities (IEEE Std 802.11ax/D3.0)
  Tag Number: Element ID Extension (255)
  Ext Tag length: 46
  Ext Tag Number: HE Capabilities (IEEE Std 802.11ax/D3.0) (35)
  > HE MAC Capabilities Information: 0x800002100009
  > HE Phy Capabilities Information
  < Supported HE-MCS and NSS Set
    < Rx and Tx MCS Maps <= 80 MHz
      < Rx HEX-MCS Map <= 80 MHz: 0xaaaa
        .... ..10 = Max HE-MCS for 1 SS: Support for HE-MCS 0-11 (0x2)
        .... ..10.. = Max HE-MCS for 2 SS: Support for HE-MCS 0-11 (0x2)
        .... ..10... = Max HE-MCS for 3 SS: Support for HE-MCS 0-11 (0x2)
        .... ..10.... = Max HE-MCS for 4 SS: Support for HE-MCS 0-11 (0x2)
        .... ..10..... = Max HE-MCS for 5 SS: Support for HE-MCS 0-11 (0x2)
        .... ..10..... = Max HE-MCS for 6 SS: Support for HE-MCS 0-11 (0x2)
        ..10..... = Max HE-MCS for 7 SS: Support for HE-MCS 0-11 (0x2)
        10..... = Max HE-MCS for 8 SS: Support for HE-MCS 0-11 (0x2)
      > Tx HEX-MCS Map <= 80 MHz: 0xaaaa
    > PPE Thresholds
  < Ext Tag: HE Operation (IEEE Std 802.11ax/D3.0)
    Tag Number: Element ID Extension (255)
    Ext Tag length: 9
    Ext Tag Number: HE Operation (IEEE Std 802.11ax/D3.0) (36)
    > HE Operation Parameters: 0x003ff4
    > BSS Color Information: 0x01
    > Basic HE-MCS and NSS Set: 0xffff
  
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âœ”AireOS 8.10.130 WLCä,Ši¼Œä½ä»¤config ap pmtu disable

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æ,“â◆-ä»¥âœ”ä,<æ-jâ¼•â°Žæ™,é◆è;Œconfig boot debug

capwapä»¥â•ÿç””capwapã€◆DTLSâ’ŒDHCPèª:è©|i¼Œâ◆¾â½œœ”ä½œæ¥ç³»çµ±â²â¼•â°Žä,”éjç¤°

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æ,“â◆-ä»¥ä½ç””ã€Œshow

bootã€◆æªçè|-ä,<æ-jé†◆æ-°âÿâ<æ™,æ~â◆|â•ÿç””â°tâ¼•â°Žèª:è©|ã€

æ,“â◆-ä»¥éšé◆Žâœ”çµ◆â¾è™•æ-°âçždisableé—œé◆µâ—i¼^â¾â|,ã€Œconfig boot

debug capwap disableã€◆i¼%¾¾tç|◆ç””â®fâ€ã€

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â◆-ä»¥éšé◆Žé◆è;Œä»¥ä,<â½ä»¤¾¾tè”°æ-çµ|â®šâ®çæ^¶ç«-çš,,ç-€èf½â•é;Œ

debug client trace <mac address>

â®çæ^¶ç«-QoS

è¥è|◆é©—è%¾æ~â◆|æ†%¾ç””â°tQoSæ”™ç±¤i¼Œä◆-ä»¥é◆è;Œã€Œdebug capwap client qosã€◆ã€

â®féjç¤°ç,,jç·šâ®çæ^¶ç«-çš,,è³†æ-™âŒ...çš,,UPâ€¼ã€

è†ª8.8èµ¼Œä@fä,◆èf½é€²è;ŒMACé◆Žæj¾(âçžâ¼·è«æ±,CiscoéŒèª¤IDCSCvm08899)ã€

labAP#debug capwap client qos

[*08/20/2018 09:43:36.3171] chatter: set_qos_up :: SetQosPriority: bridged packet dst: 00:AE:FA:78:36:89
[*08/20/2018 09:43:45.0051] chatter: set_qos_up :: SetQosPriority: bridged packet dst: 00:AE:FA:78:36:89
[*08/20/2018 09:43:45.5463] chatter: set_qos_up :: SetQosPriority: bridged packet dst: 00:AE:FA:78:36:89
[*08/20/2018 09:43:46.5687] chatter: set_qos_up :: SetQosPriority: bridged packet dst: AC:81:12:C7:CD:35
[*08/20/2018 09:43:47.0982] chatter: set_qos_up :: SetQosPriority: bridged packet dst: AC:81:12:C7:CD:35

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UPâ^°DSCPèj”ä»¥â◆ŠQoSæ”™ç±¤ã€◆æ·â½çâ’Œä,ÿæ£,,çš,,è³†æ-™âŒ...ç,½æ,j¼š

LabAP#show dot11 qos
Qos Policy Maps (UPSTREAM)

no policymap
Qos Stats (UPSTREAM)

total packets: 0
dropped packets: 0
marked packets: 0
shaped packets: 0
policed packets: 0
copied packets: 0

DSCP TO DOT1P (UPSTREAM)

Default dscp2dot1p Table Value:
[0]->0 [1]->2 [2]->10 [3]->18 [4]->26 [5]->34 [6]->46 [7]->48
Active dscp2dot1p Table Value:
[0]->0 [1]->2 [2]->10 [3]->18 [4]->26 [5]->34 [6]->46 [7]->48

Qos Policy Maps (DOWNSTREAM)

no policymap
Qos Stats (DOWNSTREAM)

total packets: 0
dropped packets: 0
marked packets: 0
shaped packets: 0
policed packets: 0
copied packets: 0

DSCP TO DOT1P (DOWNSTREAM)

Default dscp2dot1p Table Value:
[0]->0 [1]->-1 [2]->1 [3]->-1 [4]->1 [5]->-1 [6]->1 [7]->-1
[8]->-1 [9]->-1 [10]->2 [11]->-1 [12]->2 [13]->-1 [14]->2 [15]->-1
[16]->-1 [17]->-1 [18]->3 [19]->-1 [20]->3 [21]->-1 [22]->3 [23]->-1
[24]->-1 [25]->-1 [26]->4 [27]->-1 [28]->-1 [29]->-1 [30]->-1 [31]->-1
[32]->-1 [33]->-1 [34]->5 [35]->-1 [36]->-1 [37]->-1 [38]->-1 [39]->-1
[40]->-1 [41]->-1 [42]->-1 [43]->-1 [44]->-1 [45]->-1 [46]->6 [47]->-1
[48]->7 [49]->-1 [50]->-1 [51]->-1 [52]->-1 [53]->-1 [54]->-1 [55]->-1
[56]->7 [57]->-1 [58]->-1 [59]->-1 [60]->-1 [61]->-1 [62]->-1 [63]->-1
Active dscp2dot1p Table Value:
[0]->0 [1]->-1 [2]->1 [3]->-1 [4]->1 [5]->-1 [6]->1 [7]->-1
[8]->-1 [9]->-1 [10]->2 [11]->-1 [12]->2 [13]->-1 [14]->2 [15]->-1
[16]->-1 [17]->-1 [18]->3 [19]->-1 [20]->3 [21]->-1 [22]->3 [23]->-1
[24]->-1 [25]->-1 [26]->4 [27]->-1 [28]->-1 [29]->-1 [30]->-1 [31]->-1
[32]->-1 [33]->-1 [34]->5 [35]->-1 [36]->-1 [37]->-1 [38]->-1 [39]->-1
[40]->-1 [41]->-1 [42]->-1 [43]->-1 [44]->-1 [45]->-1 [46]->6 [47]->-1
[48]->7 [49]->-1 [50]->-1 [51]->-1 [52]->-1 [53]->-1 [54]->-1 [55]->-1
[56]->7 [57]->-1 [58]->-1 [59]->-1 [60]->-1 [61]->-1 [62]->-1 [63]->-1
LabAP#

åæ`WLCä,Šå@šç¾©Qosç-ç•Yä,läæ`Flexconnect
APä,Šä,è¼%ooæ™,¼ÇEä◆-ä»Yä½çç'' é€²è;ÇEé©—è%oi¼š

```

AP780C-F085-49E6#show policy-map
2 policymaps
Policy Map BWLimitAAAClients          type:qos client:default
  Class BWLimitAAAClients_AVC_UI_CLASS
    drop

  Class BWLimitAAAClients_ADV_UI_CLASS
    set dscp af41 (34)

  Class class-default
    police rate 5000000 bps (625000Bytes/s)
    conform-action
    exceed-action

```

```

Policy Map platinum-up                type:qos client:default
  Class cm-dscp-set1-for-up-4
    set dscp af41 (34)

  Class cm-dscp-set2-for-up-4
    set dscp af41 (34)

  Class cm-dscp-for-up-5
    set dscp af41 (34)

  Class cm-dscp-for-up-6
    set dscp ef (46)

  Class cm-dscp-for-up-7
    set dscp ef (46)

  Class class-default
    no actions

```

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```

AP780C-F085-49E6#show rate-limit client
Config:
          mac vap rt_rate_out rt_rate_in rt_burst_out rt_burst_in nrt_rate_out nrt_rate_in nrt_burst
A8:DB:03:6F:7A:46  2          0          0          0          0          0          0
Statistics:
          name      up    down
          Unshaped  0     0
          Client RT pass  0     0
          Client NRT pass  0     0
          Client RT drops  0     0
          Client NRT drops  0 38621
          9 54922      0

```

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```
debug rrm off-channel defer
debug rrm off-channel dbg (starting 17.8.1)
debug rrm off-channel schedule
debug rrm off-channel voice (starting 17.8.1)
debug rrm schedule (starting 17.8.1, debug NDP packet tx)
show trace dot_11 channel enable
```

```
[*06/11/2020 09:45:38.9530] wcp/rrm_userspace_0/rrm_schedule :: RRMSchedule process_int_duration_timer_1
[*06/11/2020 09:45:39.0550] noise measurement channel 5 noise 89
[*06/11/2020 09:45:43.5490] wcp/rrm_userspace_1/rrm_schedule :: RRMSchedule process_int_duration_timer_1
[*06/11/2020 09:45:43.6570] noise measurement channel 140 noise 97
```

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```
LabAP#show dot11 clients deauth
      timestamp          mac vap reason_code
Mon Aug 20 09:50:59 2018 AC:BC:32:A4:2C:D3 9 4
Mon Aug 20 09:52:14 2018 00:AE:FA:78:36:89 9 4
Mon Aug 20 10:31:54 2018 00:AE:FA:78:36:89 9 4
```

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<https://community.cisco.com:443/t5/wireless-mobility-knowledge-base/802-11-association-status-802-11-deauth-reason-codes/ta-p/3148055>

Vapæ~æE‡APä,WLANçš,,è~âŸçç¼(è‡WLCè¬ç”±â™”ä,šçš,,WLAN IDä,!!!)ã€,

æ,“â®-â»Ÿâ°‡â...¶è^‡éš”â¾Æèè³ç°æèèèèçš,,â...¶ä»-è¼,â‡°â°â°â°æ%œ—œèè-èµ.ä¾t¼Æé€™ä°è

æ,“â®-â»Ÿçœ<â°â...æœ%oã€Æshow controllers Dot11Radio 0/1 wlanã€çš,,VAP IDæ,...â-®ã€,

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```
LabAP#show dot11 clients
```

```
Total dot11 clients: 1
      Client MAC Slot ID WLAN ID AID WLAN Name RSSI Maxrate WGB
00:AE:FA:78:36:89      1      10      1      TestSSID -25 MCS82SS No
```

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LabAP#show client summ

Radio Driver client Summary:

=====

wifi0

[*08/20/2018 11:54:59.5340]
[*08/20/2018 11:54:59.5340] Total STA List Count 0
[*08/20/2018 11:54:59.5340] | NO| MAC|STATE|
[*08/20/2018 11:54:59.5340] -----

wifi1

[*08/20/2018 11:54:59.5357]
[*08/20/2018 11:54:59.5357] Total STA List Count 1
[*08/20/2018 11:54:59.5357] | NO| MAC|STATE|
[*08/20/2018 11:54:59.5357] -----
[*08/20/2018 11:54:59.5357] | 1| 0:ffffffae:fffffffa:78:36:ffffff89| 8|

Radio Driver Client AID List:

=====

wifi0

[*08/20/2018 11:54:59.5415]
[*08/20/2018 11:54:59.5415] Total STA-ID List Count 0
[*08/20/2018 11:54:59.5415] | NO| MAC|STA-ID|
[*08/20/2018 11:54:59.5415] -----

wifi1

[*08/20/2018 11:54:59.5431]
[*08/20/2018 11:54:59.5431] Total STA-ID List Count 1
[*08/20/2018 11:54:59.5431] | NO| MAC|STA-ID|
[*08/20/2018 11:54:59.5432] -----
[*08/20/2018 11:54:59.5432] | 1| 0:ffffffae:fffffffa:78:36:ffffff89| 6|

WCP client Summary:

=====

mac radio vap aid state encr Maxrate is_wgb_wired wgb_mac_addr
00:AE:FA:78:36:89 1 9 1 FWD AES_CCM128 MCS82SS false 00:00:00:00:00:00

NSS client Summary:

=====

Current Count: 3

Table with columns: MAC, OPAQUE, PRI, POL, VLAN, BR, TN, QCF, BSS, RADID, MYMAC. Rows show MAC addresses like F8:0B:CB:E4:7F:41 and 00:AE:FA:78:36:89 with their corresponding values.

Datapath IPv4 client Summary:

=====

id vap port node tunnel mac seen_ip hashed_ip sniff_ac
00:AE:FA:78:36:89 9 apr1v9 192.0.2.13 - 00:AE:FA:78:36:89 192.168.68.209 10.228.153.45 5.990000

Datapath IPv6 client Summary:

=====

client mac seen_ip6 age scope port
1 00:AE:FA:78:36:89 fe80::2ae:faff:fe78:3689 61 link-local apr1v9

Wired client Summary:

=====

mac port state local_client detect_ago associated_ago tx_pkts tx_bytes rx_pkts rx_bytes

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test dot11 client deauthenticate

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```
LabAP#show client statistics wireless 00:AE:FA:78:36:89
Client MAC address: 00:AE:FA:78:36:89
Tx Packets           : 621
Tx Management Packets : 6
Tx Control Packets   : 153
Tx Data Packets      : 462
Tx Data Bytes        : 145899
Tx Unicast Data Packets : 600
Rx Packets           : 2910
Rx Management Packets : 13
Rx Control Packets   : 943
Rx Data Packets      : 1954
Rx Data Bytes        : 145699
LabAP#
```

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controllersã€ü,ç²¾¾—ã€,æ-°âç¿â@çæ^¶ç« ¯macå ¯â€æ™,ĩ¼çæ°†éj ¯ç°æ" ¯æ ¯çš,,è³†æ-™é€ç¿ž†ã€

<#root>

```
LabAP#show controllers dot11Radio 0 client 00:AE:FA:78:36:89
      mac radio vap aid state      encr Maxrate is_wgb_wired      wgb_mac_addr
00:AE:FA:78:36:89   0  9  1  FWD AES_CCM128   M15          false 00:00:00:00:00:00
Configured rates for client 00:AE:FA:78:36:89
Legacy Rates(Mbps): 11
HT Rates(MCS):M0 M1 M2 M3 M4 M5 M6 M7 M8 M9 M10 M11 M12 M13 M14 M15
VHT Rates: 1SS:M0-7 2SS:M0-7
```

```
HT:yes      VHT:yes      HE:no      40MHz:no      80MHz:no      80+80MHz:no      160MHz:no
11w:no      MFP:no      11h:no      encrypt_polocy: 4
_wmm_enabled:yes  qos_capable:yes  WME(11e):no  WMM_MIXED_MODE:no
short_preamble:yes  short_slot_time:no  short_hdr:yes  SM_dyn:yes
short_GI_20M:yes  short_GI_40M:no  short_GI_80M:yes  LDPC:yes  AMSDU:yes  AMSDU_long:no
su_mimo_capable:yes  mu_mimo_capable:no  is_wgb_wired:no  is_wgb:no
```

Additional info for client 00:AE:FA:78:36:89

```
RSSI: -90
PS : Legacy (Sleeping)
Tx Rate: 0 Kbps
Rx Rate: 117000 Kbps
VHT_TXMAP: 0
CCX Ver: 4
```

```
Statistics for client 00:AE:FA:78:36:89
      mac      intf TxData TxMgmt TxUC TxBytes
```

TxFail

TxDcrd TxCumRetries RxData RxMgmt RxBytes RxErr TxRt RxRt idle_counter stats_ago expiration
00:AE:FA:78:36:89 apr0v9 8 1 6 1038 1 0 0 31 1 1599

Per TID packet statistics for client 00:AE:FA:78:36:89

Table with 12 columns: Priority, Rx Pkts, Tx Pkts, Rx(last 5 s), Tx (last 5 s), QID, Tx Drops, Tx Cur, Qlimit. Rows 0-7 showing packet statistics for different priorities.

Legacy Rate Statistics:

(Mbps : Rx, Tx, Tx-Retries)
11 Mbps : 2, 0, 0
6 Mbps : 0, 9, 0

HT/VHT Rate Statistics:

(Rate/SS/Width : Rx, Rx-Ampdu, Tx, Tx-Ampdu, Tx-Retries)
0/1/20 : 4, 4, 0, 0, 0
6/2/20 : 4, 4, 0, 0, 0
7/2/20 : 5, 5, 0, 0, 0

webauth done:
false

dot11 client rate address <mac> 00:AE:FA:78:36:89

Table with 10 columns: Time, MAC, Tx-Pkts, Rx-Pkts, Tx-Rate, Rx-Rate, RSSI, SNR, Tx-Retries. Contains multiple rows of client rate statistics for MAC 00:AE:FA:78:36:89.

[*08/20/2018 14:17:51.1035]	00:AE:FA:78:36:89	1	7	12	a8.2-2s	-46	52
[*08/20/2018 14:17:52.1037]	00:AE:FA:78:36:89	0	17	12	a8.2-2s	-46	52
[*08/20/2018 14:17:53.1040]	00:AE:FA:78:36:89	1	19	12	a8.2-2s	-46	52
[*08/20/2018 14:17:54.1043]	00:AE:FA:78:36:89	2	17	12	a8.2-2s	-46	52
[*08/20/2018 14:17:55.1046]	00:AE:FA:78:36:89	2	22	12	a8.2-2s	-45	53
[*08/20/2018 14:17:56.1048]	00:AE:FA:78:36:89	1	18	12	a8.2-2s	-45	53
[*08/20/2018 14:17:57.1053]	00:AE:FA:78:36:89	2	18	12	a8.2-2s	-45	53
[*08/20/2018 14:17:58.1055]	00:AE:FA:78:36:89	12	37	12	a8.2-2s	-45	53

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Flexconnectæ-¹æ;^

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```
AP#show client access-lists pre-auth all f48c.507a.b9ad
Pre-Auth URL ACLs for Client: F4:8C:50:7A:B9:AD
IPv4 ACL: IPv6 ACL:
ACTION URL-LIST
```

```
Resolved IPs for Client: F4:8C:50:7A:B9:AD
HIT-COUNT URL ACTION IP-LIST
```

```
REDIRECT
rule 0: allow true and ip proto 17 and src port 53
rule 1: allow true and ip proto 17 and dst port 53
rule 2: allow true and src 10.48.39.161mask 255.255.255.255
rule 3: allow true and dst 10.48.39.161mask 255.255.255.255
rule 4: deny true
No IPv6 ACL found
```

```
AP#show client access-lists post-auth all f48c.507a.b9ad
Post-Auth URL ACLs for Client: F4:8C:50:7A:B9:AD
IPv4 ACL: IPv6 ACL:
ACTION URL-LIST
```

```
Resolved IPs for Client: F4:8C:50:7A:B9:AD
HIT-COUNT URL ACTION IP-LIST
```

```
post-auth
rule 0: deny true and dst 192.0.0.0mask 255.0.0.0
rule 1: deny true and src 192.0.0.0mask 255.0.0.0
rule 2: allow true
No IPv6 ACL found
```

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COS APä,åœ...è¨±åœ¨unixå¹³åœ°ä,šå^—åªªæªªæ;^ç³»çµ±çš,,æ%œæœ%œå...šå®¹ã€,

å¹½ä»ª»œŒshow

filesystemsãœœœä¾Œç•¶å%œå^tå%²æš½ä,šç©°é—"å½ç"¨æf...æ³ªåœæå^tå½^çš,,è³ç°è³ªè¨šï¼š

```

2802#show filesystems
Filesystem      Size      Used Available Use% Mounted on
/dev/ubivol/storage 57.5M    364.0K    54.1M    1% /storage
2802#

```

ap_2802#show

flash

```

ap_2802#show flash
Directory of /storage/
total 84

```

```

-rw-r--r--    1 root    root                0 May 21  2018 1111
-rw-r--r--    1 root    root                6 Apr 15 11:09 BOOT_COUNT
-rw-r--r--    1 root    root                6 Apr 15 11:09 BOOT_COUNT.reserve
-rw-r--r--    1 root    root                29 Apr 15 11:09 RELOADED_AT_UTC
drwxr-xr-x    2 root    root                160 Mar 27 13:53 ap-images
drwxr-xr-x    4 5      root                2016 Apr 15 11:10 application
-rw-r--r--    1 root    root               6383 Apr 26 09:32 base_capwap_cfg_info
-rw-r--r--    1 root    root                20 Apr 26 10:31 bigacl
-rw-r--r--    1 root    root               1230 Mar 27 13:53 bootloader.log
-rw-r--r--    1 root    root                5 Apr 26 09:29 bootloader_verify.shadow
-rw-r--r--    1 root    root                18 Jun 30  2017 config
-rw-r--r--    1 root    root               8116 Apr 26 09:32 config.flex
-rw-r--r--    1 root    root                21 Apr 26 09:32 config.flex.mgroup
-rw-r--r--    1 root    root                0 Apr 15 11:09 config.local
-rw-r--r--    1 root    root                0 Jul 26  2018 config.mesh.dhcp
-rw-r--r--    1 root    root                180 Apr 15 11:10 config.mobexp
-rw-r--r--    1 root    root                0 Jun 5  2018 config.oep
-rw-r--r--    1 root    root               2253 Apr 26 09:43 config.wireless
drwxr-xr-x    2 root    root                160 Jun 30  2017 cores
drwxr-xr-x    2 root    root                320 Jun 30  2017 dropbear
drwxr-xr-x    2 root    root                160 Jun 30  2017 images
-rw-r--r--    1 root    root                222 Jan 2  2000 last_good_uplink_config
drwxr-xr-x    2 root    root                160 Jun 30  2017 lists
-rw-r--r--    1 root    root                215 Apr 16 11:01 part1_info.ver
-rw-r--r--    1 root    root                215 Apr 26 09:29 part2_info.ver
-rw-r--r--    1 root    root               4096 Apr 26 09:36 random_seed
-rw-r--r--    1 root    root                3 Jun 30  2017 rxtx_mode
-rw-r--r--    1 root    root                64 Apr 15 11:11 sensord_CSPRNG0
-rw-r--r--    1 root    root                64 Apr 15 11:11 sensord_CSPRNG1
drwxr-xr-x    3 support  root                224 Jun 30  2017 support
drwxr-xr-x    2 root    root               2176 Apr 15 11:10 syslogs

```

```

-----
Filesystem      Size      Used Available Use% Mounted on
flash           57.5M    372.0K    54.1M    1% /storage

```

ap_2802#show

flash

ap_2802#show

Edit AP Join Profile

General Client CAPWAP AP **Management** Security ICap QoS

Device User Credentials CDP Interface

TFTP Downgrade

IPv4/IPv6 Address

Image File Name

System Log

Facility Value

Host IPv4/IPv6 Address

Log Trap Value

Secured

Telnet/SSH Configuration

Telnet

SSH

AP Core Dump

Enable Core Dump

Log Trap Value

AP CLI

CLI

Cisco ID [CSCvu75017](#)

AP syslog KERN

AP WGB

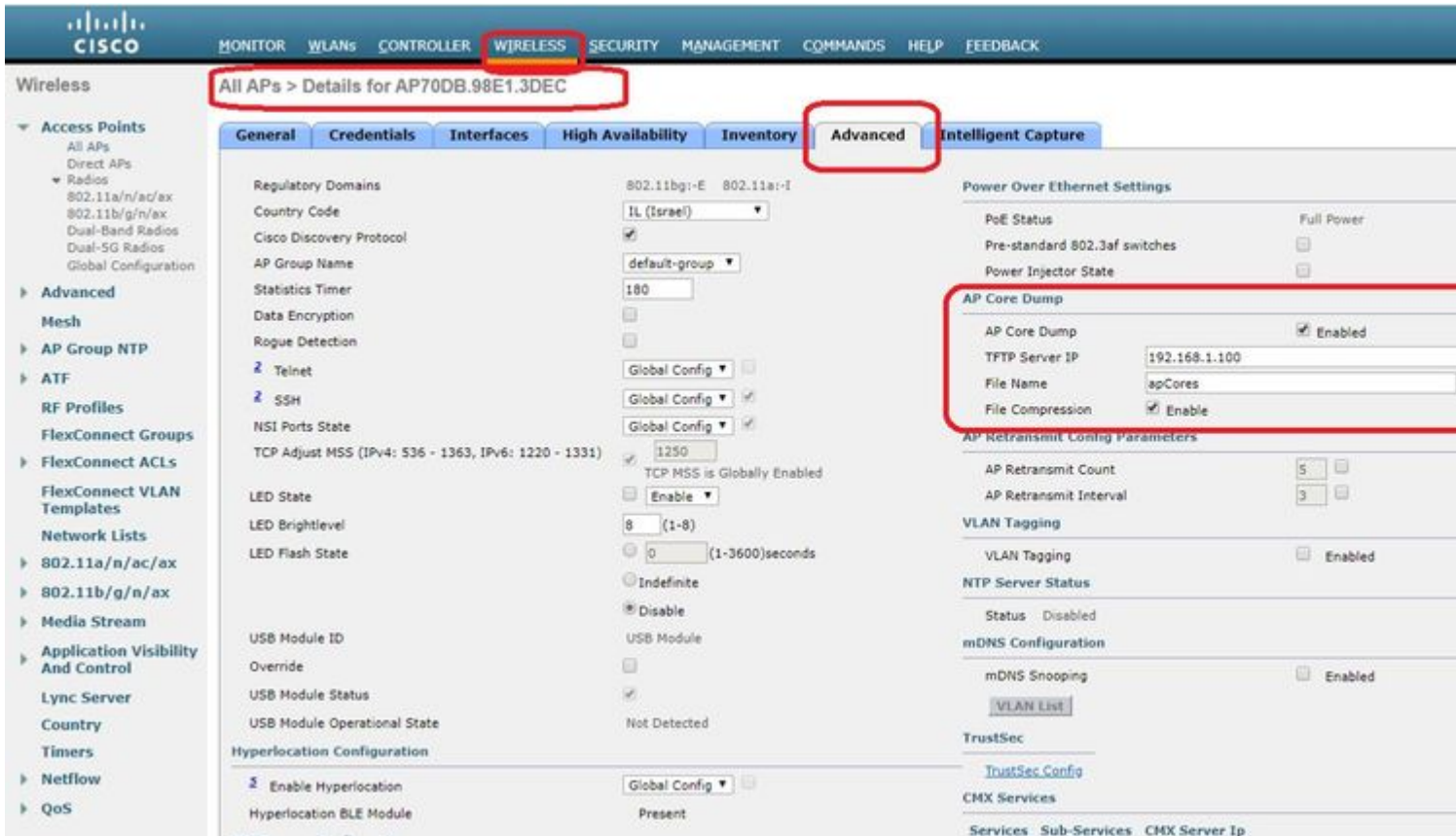
AP

AP

AP

AP

- AP show tech
- AP
- AP Capwapd
- AP



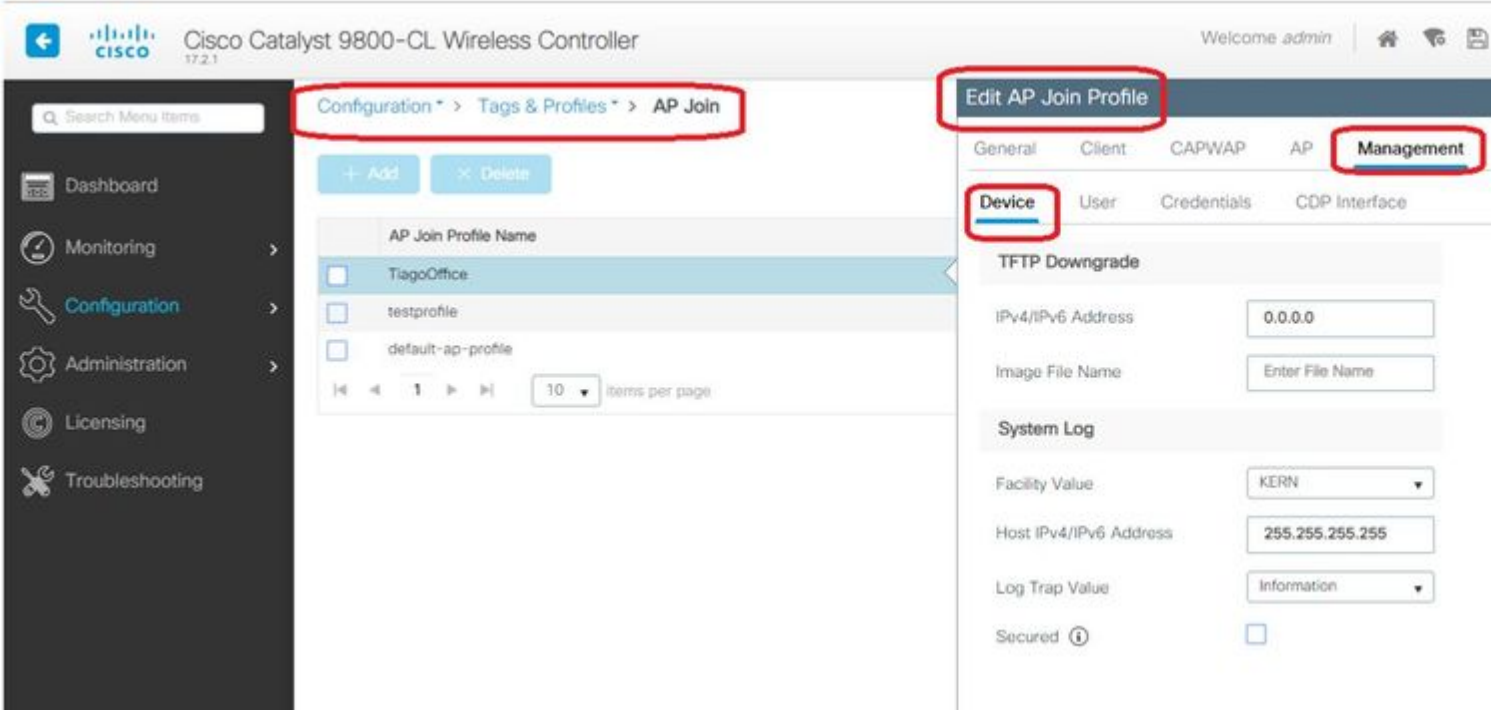
Cisco IOS® CLI

```

<#root>
eWLC-9800-01(
config
)#ap profile TiagoOffice
eWLC-9800-01(
config-
ap
-profile
)#core-dump tftp-server 192.168.1.100 file apCores uncompress

```

Cisco IOS® GUI

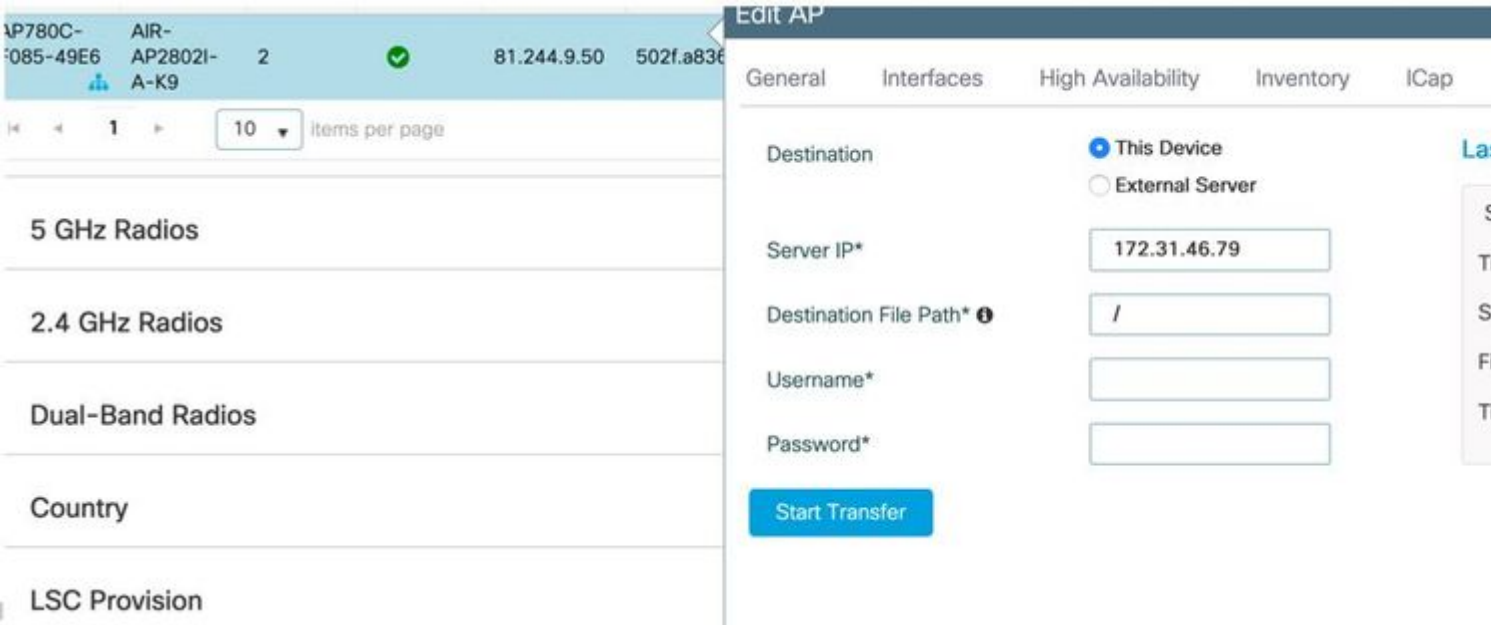


Cisco IOS® XE

17.3.1 é-
GUIä, cè¼%oAP SBã€

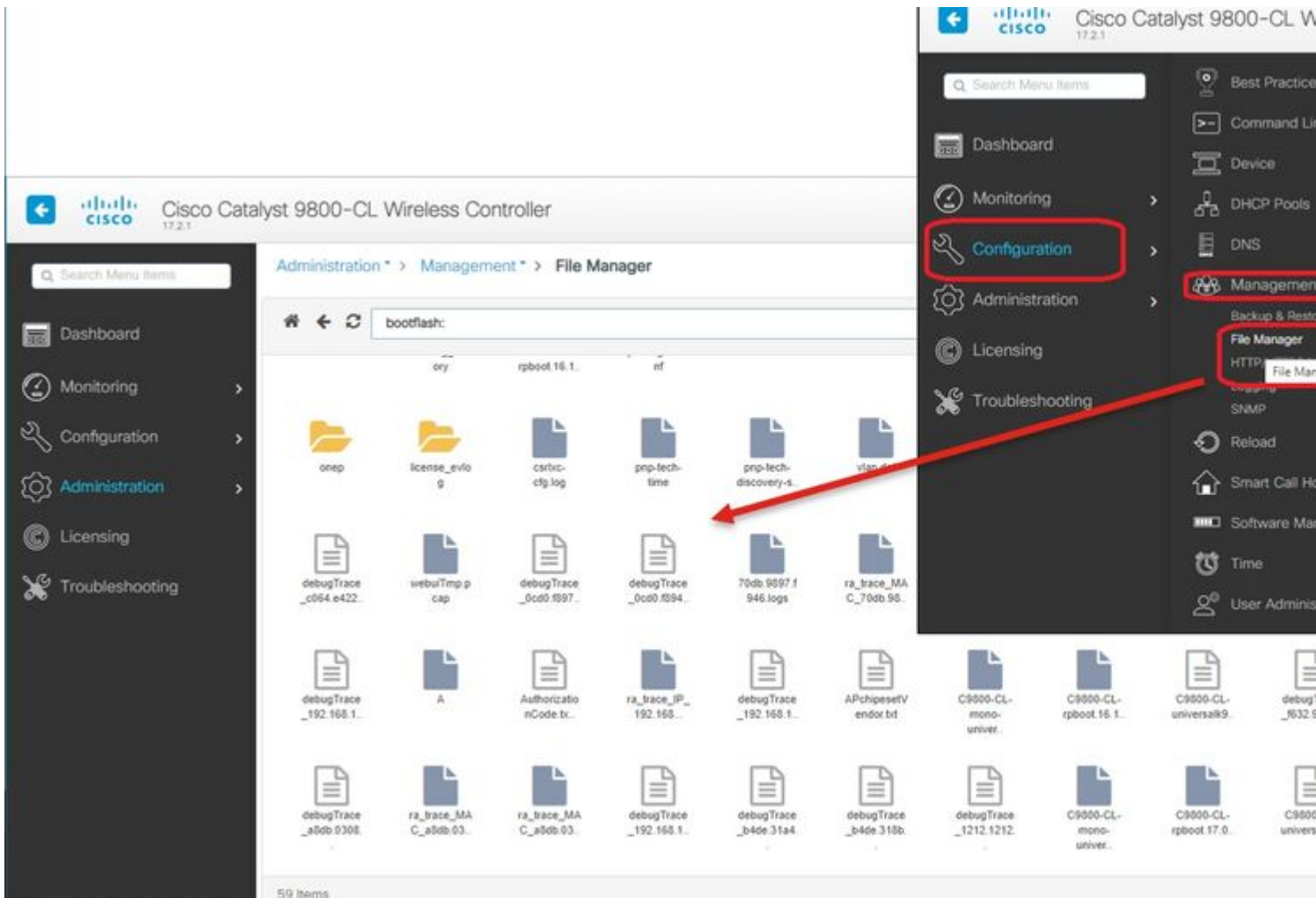
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â❖̄-ä»¥åœ̄ APä,šä½ç''' æªçæÿ¶gRPCä¼°æœ❖̄â™'' æ—¥èªEi¼š

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AP# show grpc server log
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] spaces conn url 10.22.243.33:8000"
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] entering stopDNAspacesTmpTokenRoutine"
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] exiting stopDNAspacesTmpTokenRoutine"
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] entering startDNAspacesTmpTokenRoutine"
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] launching token request cycle"
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] exiting startDNAspacesTmpTokenRoutine"
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] spaces token expiration time 2020-04-02 01:36:52 +0000"
time="2020-04-01T01:36:52Z" level=info msg="Calling startDNAspacesConn routine "
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] Receive Success status"
time="2020-04-01T01:36:52Z" level=info msg="[DNAS] Connection not in ready state sleeping for 10 seconds"
time="2020-04-01T01:37:02Z" level=info msg="[DNAS] Setup Stream for the gRPC connection"
time="2020-04-01T01:37:02Z" level=info msg="[DNAS] Connect RPC Succeeded."
time="2020-04-01T01:37:02Z" level=info msg="[DNAS] RX routine got enabled "
time="2020-04-01T01:37:02Z" level=info msg="[DNAS] TX routine got enabled "

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DNA Spacesè❖̄ çµ❖̄â™'' çš,,é€£ç:šæ€šâ❖̄-é€šé❖̄žé©—è%oi¼š

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AP# show controllers ioTRadio ble 0 scan brief

Profile	MAC	RSSI(-dBm)	RSSI@1meter(-dBm)	Last-heard
Unknown	3C:1D:AF:62:EC:EC	88	0	0000D:00H:00M:01S
iBeacon	18:04:ED:04:1C:5F	86	65	0000D:00H:00M:01S
Unknown	18:04:ED:04:1C:5F	78	65	0000D:00H:00M:01S
Unknown	04:45:E5:28:8E:E7	85	65	0000D:00H:00M:01S
Unknown	2D:97:FA:0F:92:9A	91	65	0000D:00H:00M:01S
iBeacon	E0:7D:EA:16:35:35	68	65	0000D:00H:00M:01S
Unknown	E0:7D:EA:16:35:35	68	65	0000D:00H:00M:01S
iBeacon	04:EE:03:53:74:22	45	256	0000D:00H:00M:01S
Unknown	04:EE:03:53:74:22	45	256	0000D:00H:00M:01S
	04:EE:03:53:6A:3A	72	N/A	0000D:00H:00M:01S
Unknown	04:EE:03:53:6A:3A	72	65	0000D:00H:00M:01S
iBeacon	E0:7D:EA:16:35:35	68	65	0000D:00H:00M:01S
Unknown	E0:7D:EA:16:35:35	67	65	0000D:00H:00M:01S
iBeacon	04:EE:03:53:74:22	60	256	0000D:00H:00M:01S
Unknown	04:EE:03:53:74:22	60	256	0000D:00H:00M:01S
Eddystone URL	04:EE:03:53:6A:3A	72	N/A	0000D:00H:00M:01S

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AP#show iox applications

Total Number of Apps : 1

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App Name           : cisco_dnas_ble_iox_app
App Ip             : 192.168.11.2
App State          : RUNNING
App Token          : 02fb3e98-ac02-4356-95ba-c43e8a1f4217
App Protocol       : ble
App Grpc Connection : Up
Rx Pkts From App   : 3878345
Tx Pkts To App     : 6460
Tx Pkts To Wlc     : 0
Tx Data Pkts To DNSSpaces : 3866864
Tx Cfg Resp To DNSSpaces : 1
Rx KeepAlive from App : 11480
Dropped Pkts       : 0
App keepAlive Received On : Mar 24 05:56:49

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AP#connect iox application

/ #

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/# tail -F /tmp/dnas_ble.log
Tue Mar 24 06:55:21 2020 [INFO]: Starting DNA Spaces BLE IOx Application
Tue Mar 24 06:55:21 2020 [INFO]: Auth token file contents: db26a8ab-e800-4fe9-a128-80683ea17b12
Tue Mar 24 06:55:21 2020 [INFO]: Setting gRPC endpoint to: 1.1.7.101:57777
Tue Mar 24 06:55:21 2020 [INFO]: Auth with token: db26a8ab-e800-4fe9-a128-80683ea17b12

```

Tue Mar 24 06:55:21 2020 [INFO]: Attempt to connect to DNAS Channel
Tue Mar 24 06:55:21 2020 [INFO]: Starting to run metrics
Tue Mar 24 06:55:21 2020 [INFO]: Starting to run Channel Keepalive
Tue Mar 24 06:55:21 2020 [INFO]: Initialize DNAS Reader Channel
Tue Mar 24 06:55:21 2020 [INFO]: Start listener for messages
Tue Mar 24 06:55:21 2020 [INFO]: Running BLE scan thread

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關於此翻譯

思科已使用電腦和人工技術翻譯本文件，讓全世界的使用者能夠以自己的語言理解支援內容。請注意，即使是最佳機器翻譯，也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準確度概不負責，並建議一律查看原始英文文件（提供連結）。