



debug Commands

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debug arp

To enable debugging of ARP, use the **debug arp** command.

debug arp {**errors** | **events** | **packets**}

Syntax Description

| | |
|----------------|---|
| errors | Enable debugging of ARP errors |
| events | Enable debugging of ARP events |
| packets | Enable debugging of ARP Tx and Rx packets |

Command Modes

Privileged EXEC (#)

Command History

| Release | Modification |
|-----------|------------------------------|
| 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of ARP errors:

```
cisco-ap# debug arp errors
```

debug ble

To enable debugging of Bluetooth Low Energy (BLE), use the **debug ble** command.

debug ble {**critical** | **error** | **events** | **fastpath** {**rss** | **scan** | **sync**} | **receive** | **transmit**}

Syntax Description

| | |
|--|--|
| critical | Enables debugging of BLE critical events |
| error | Enables debugging of BLE error events |
| events | Enables debugging of BLE events |
| fastpath { rss scan sync } | Shows data exported to CMX. The following options are available: <ul style="list-style-type: none"> • RSSI data • Scan data • Sync data |

| | |
|-----------------|--|
| receive | Enables debugging of BLE packet received from BLE radio |
| transmit | Enables debugging of BLE packet transmitted to BLE radio |

Command Modes

Privileged EXEC (#)

Command History

| Release | Modification |
|---------|------------------------------|
| 8.7 | This command was introduced. |

Examples

The following example shows how to enable debugging of BLE critical events:

```
cisco-ap# debug ble critical
```

debug capwap client

To enable debugging of CAPWAP clients, use the **debug capwap client** command.

debug capwap client { **ble** | **detail** | **efficient-upgrade** | **error** | **events** | **flexconnect** | **info** | **keepalive** | **payload** | **pmtu** | **qos** | **reassemble** | **security** }

Syntax Description

| | |
|--------------------------|--|
| ble | Enables debugging of CAPWAP BLE detail |
| detail | Enables debugging of CAPWAP detail |
| efficient-upgrade | Enables debugging of image predownload |
| error | Enables debugging of CAPWAP error |
| events | Enables debugging of CAPWAP events |
| flexconnect | Enables debugging of CAPWAP FlexConnect mode event |
| info | Enables debugging of CAPWAP information |
| keepalive | Enables debugging of CAPWAP keepalive |
| payload | Enables debugging of CAPWAP payload |
| pmtu | Enables debugging of CAPWAP path MTU |
| qos | Enables debugging of CAPWAP QoS |
| reassemble | Enables debugging of CAPWAP reassembly |
| security | Enables debugging of CAPWAP security |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of CAPWAP client detail:

```
cisco-ap# debug capwap client detail
```

debug capwap client avc

To enable debugging of CAPWAP client AVC, use the **debug capwap client avc** command.

debug capwap client avc {**all** | **detail** | **error** | **event** | **info** | **netflow** {**all** | **detail** | **error** | **event** | **packet**} | **numflows**}

| Syntax Description | | |
|-----------------------|---|--|
| all | Enables debugging of all CAPWAP client AVC | |
| detail | Enables debugging of CAPWAP AVC detail | |
| error | Enables debugging of CAPWAP AVC error | |
| event | Enables debugging of CAPWAP AVC event | |
| info | Enables debugging of CAPWAP AVC information | |
| netflow | Enables debugging of CAPWAP client AVC NetFlow | |
| netflow all | Enables debugging of all CAPWAP client AVC NetFlow | |
| netflow detail | Enables debugging of CAPWAP client AVC NetFlow detail | |
| netflow error | Enables debugging of CAPWAP client AVC NetFlow error | |
| netflow event | Enables debugging of CAPWAP client AVC NetFlow event | |
| netflow packet | Enables debugging of CAPWAP client AVC NetFlow packet | |
| numflows | Enables debugging of CAPWAP client AVC numflows | |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of all CAPWAP client AVC:

```
cisco-ap# debug capwap client avc all
```

debug cdp

To enable debugging of controller discovery protocol (CDP), use the **debug cdp** command.

```
debug cdp {adjacency | events | ilp | packets}
```

| Syntax Description | |
|--------------------|------------------------------------|
| adjacency | Enables debugging of CDP neighbors |
| events | Enables debugging of CDP events |
| ilp | Enables debugging of inline power |
| packets | Enables debugging of CDP packets |

Command Modes Privileged EXEC (#)

Command History **Release** **Modification**

8.1.111.0 This command was introduced.

Examples

The following example shows how to enable debugging of CDP events:

```
cisco-ap# debug cdp events
```

debug cleanair

To configure debugging of CleanAir, use the **debug cleanair** command.

```
debug cleanair {bringup | event | logdebuglow | major | nsi | offchan {0 | 1}}
```

| Syntax Description | |
|--------------------|--|
| bringup | Enables debugging of CleanAir port or bringups |
| events | Enables debugging of normal CleanAir events |
| logdebug | Logs CleanAir debug output to a logfile |
| low | Enables debugging of hex dump of some messages |

| | |
|----------------------|--|
| major | Enables debugging of major CleanAir events |
| nsi | Enables debugging of NSI messages |
| offchan 0 1 | Enables debugging of CleanAir MSMT requests. You have to specify the radio slot as either 0 or 1 |

Command Modes Privileged EXEC (#)

Command History **Release Modification**

8.1.111.0 This command was introduced.

Examples

The following example shows how to enable debugging of major CleanAir events:

```
cisco-ap# debug cleanair major
```

debug dhcp

To configure debugging of DHCP, use the **debug dhcp** command.

debug dhcp {errors | events | packets}

| | |
|---------------------------|--|
| Syntax Description | errors Enables debugging of DHCP errors |
| | events Enables debugging of DHCP events |
| | packets Enables debugging of DHCP packets |

Command Modes Privileged EXEC (#)

Command History **Release Modification**

8.1.111.0 This command was introduced.

Examples

The following example shows how to enable debugging of DHCP errors:

```
cisco-ap# debug dhcp errors
```

debug dot11 driver level

To enable debugging of 802.11, use the **debug dot11 driver level** command.

```
debug dot11 driver level { critical | errors | events | info }
```

| Syntax Description | |
|--------------------|--|
| critical | Enables 802.11 critical level debugging |
| errors | Enables 802.11 error level debugging |
| events | Enables 802.11 event level debugging |
| info | Enables 802.11 information level debugging |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of 802.11 error level:

```
cisco-ap# debug dot11 driver level errors
```

debug dot11 client data-path

To enable debugging of 802.11 client data-path, use the **debug dot11 client data-path** command.

```
debug dot11 client data-path {{ all-types | arp | dhcp | eapol | ipv6-ra |.opendns  
| dns-acl } { addr { mac-addr1 | mac-addr2 | mac-addr3 | mac-addr4 } }
```

| Syntax Description | |
|---------------------------|--|
| arp | Enables client datapath ARP debugging |
| dhcp | Enables client datapath DHCP debugging |
| eapol | Enables client datapath EAPOL debugging |
| dns-acl | Enables client datapath DNS-ACL debugging |
| ipv6-ra | Enables client data-path IPv6 RA-MC2UC debugging |
| opendns | Enables client data-path openDNS debugging |
| {addr all-types} | Option to specify MAC address of specific clients or all clients |

{*mac-addr1* | *mac-addr2* | *mac-addr3* | *mac-addr4*} MAC addresses of clients that you have to enter
| *mac-addr4*}

Command Modes

Privileged EXEC (#)

Command History**Release Modification**

8.1.111.0 This command was introduced.

Examples

The following example shows how to enable debugging of client data-path ARP:

```
cisco-ap# debug dot11 client data-path arp
```

debug dot11 client management

To enable 802.11 client debugging level, use the **debug dot11 client management** command.

```
debug dot11 client management { critical | errors | events | info } { addr { mac-addr1 | mac-addr2 | mac-addr3 | mac-addr4 } }
```

Syntax Description

| | |
|---|---|
| critical | Enables client critical level debugging |
| errors | Enables client error level debugging |
| events | Enables client event level debugging |
| info | Enables client information level debugging |
| { <i>mac-addr1</i> <i>mac-addr2</i> <i>mac-addr3</i> <i>mac-addr4</i> } | MAC addresses of clients that you have to enter |

Command Modes

Privileged EXEC (#)

Command History**Release Modification**

8.1.111.0 This command was introduced.

Examples

The following example shows how to enable debugging of a client at the event level:

```
cisco-ap# debug dot11 client management events e1:90:6f:7e:e6:29
```


debug dot11 client probe

To enable 802.11 client debugging probe, use the **debug dot11 client probe** command.

```
debug dot11 client probe { { address mac-addr1 | mac-addr2 | mac-addr3 | mac-addr4 } | all }
```

Syntax Description

| | |
|-----------------|--|
| address | Probe specific clients using their MAC addresses. |
| <i>mac-addr</i> | MAC addresses of the clients. You can enter upto four MAC addresses. |
| all | Probe all the clients associated with the AP. |

Command Modes

Privileged EXEC (#)

Command History

| Release | Modification |
|---------|------------------------------|
| 8.10 | This command was introduced. |

Example

The following example shows how to enable debugging of all clients:

```
cisco-wave2-ap# debug dot11 client probe all
```

debug dot11 driver slot

To enable debugging of 802.11 drivers, use the **debug dot11 driver slot** command.

```
debug dot11 driver slot { 0 | 1 } { all-types | { cac { info | metrics } } | chd | save-accounting-data | save-on-failure [ extended ] | stop-on-failure | metrics traffic | metrics video | type { all | association | authentication | dhcp | eap | icmp | probe } mac-addr1 | mac-addr2 | mac-addr3 | mac-addr4
```

Syntax Description

| | |
|-------------------------------------|---|
| slot { <i>0</i> <i>1</i> } | Enables 802.11 driver debugs per radio |
| all-types | Enables all 802.11 driver debugs |
| cac | Enables 802.11 CAC debugs |
| cac info | Enables 802.11 CAC info level debugs |
| cac metrics | Enables debugging of 802.11 CAC metrics |
| chd | Enables 802.11 CHD debugs |
| save-accounting-data | Saves the radio accounting data |

| | |
|---------------------------------|--|
| save-on-failure | Saves the radio crash information upon radio failure |
| save-on-failure extended | Saves extended information on radio failure |
| stop-on-failure | Stops the AP from reboot on radio failure |
| metrics traffic | Enables 802.11 traffic stream metric debugs |
| metrics video | Enables 802.11 video metric debugs |
| type | Enables the debug types. |
| all | Enables the all type debugging. |
| association | Enables the association debugging. |
| authentication | Enables the authentication debugging. |
| dhcp | Enables the dhcp debugging. |
| eap | Enables the eap debugging. |
| icmp | Enables the icmp debugging. |
| probe | Enables the probe debugging. |
| <i>mac-addr</i> | MAC addresses of the clients. You can enter upto four MAC addresses. |

Command Modes

Privileged EXEC (#)

Command History

| Release | Modification |
|-------------------|--|
| 8.1.111.0 | This command was introduced. |
| 8.5.140.0 and 8.8 | This command was enhanced by adding the type parameter. |

Examples

The following example shows how to enable debugging of CAC at the information level:

```
cisco-ap# debug dot11 driver slot cac info
```

debug dot11 firmware

To debug the 802.11 firmware, use the **debug dot11 firmware** command.

```
debug dot11 firmware slot slot_ID level { all-level | critical | emergency | error | info }
address { mac-addr1 | mac-addr2 | mac-addr3 | mac-addr4 }
```

Syntax Description

| | |
|----------------|--|
| <i>slot_ID</i> | Enables 802.11 driver debugs per radio |
|----------------|--|

| | |
|------------------|--|
| all-level | Enables all the debug levels. |
| critical | Enables critical level debugs. |
| emergency | Enables emergency level debugs. |
| error | Enables error level debugs. |
| info | Enables info level debugs. |
| address | To add client address for driver/firmware debugging. |
| mac-addr | MAC addresses of the clients. You can enter upto four MAC addresses. |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|------------------------|-------------------|------------------------------|
| | 8.5.140.0 and 8.8 | This command was introduced. |

Example

The following example shows how to enable debugging of 802.11 emergency level:

```
cisco-wave2-ap# debug dot11 firmware slot 1 emergency address 92:FB:D6:B3:7A:6C
```

debug dot11 sensor

To enable debugging of 802.11 sensors, use the **debug dot11 sensor** command.

```
debug dot11 sensor {dns | file-transfer | mail-server | ping | radius | ssh | telnet | web-server}
```

| Syntax Description | |
|---------------------------|--|
| dns | Enables debugging of 802.11 sensor DNS |
| file-transfer | Enables debugging of 802.11 sensor file transfer |
| mail-server | Enables debugging of 802.11 sensor mail server |
| ping | Enables debugging of 802.11 sensor ping |
| radius | Enables debugging of 802.11 sensor radius |
| ssh | Enables debugging of 802.11 sensor SSH |
| telnet | Enables debugging of 802.11 sensor Telnet. |
| web-server | Enables debugging of 802.11 sensor web server |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of 802.11 sensor file transfer:

```
cisco-ap# debug dot11 sensor file-transfer
```

debug dtls client

To configure DTLS client error and event debugging, use the **debug dtls client** command.

debug dtls client { **error** | **event** [**detail**] }

| Syntax Description | error | event [detail] |
|--------------------|--|--|
| | Configures debugging of DTLS client errors | Configures debugging of DTLS client events |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of DTLS client events:

```
cisco-ap# debug dtls client event
```

debug ethernet

To configure Ethernet debugging, use the **debug ethernet** command.

debug ethernet *interface-number* { **both** | **rcv** | **xmt** }

| Syntax Description | <i>interface-number</i> | both |
|--------------------|--|--|
| | Interface number that you have to enter as either 0 or 1 | Enables debugging of both transmission and reception |

| | |
|------------|-----------------------------------|
| rcv | Enables debugging of reception |
| xmt | Enables debugging of transmission |

Command Modes Privileged EXEC (#)

Command History

| Release | Modification |
|-----------|------------------------------|
| 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of transmission for interface 0:

```
cisco-ap# debug ethernet 0 xmt
```

debug flexconnect

To debug FlexConnect features, use the **debug flexconnect** command.

debug flexconnect {acl | cckm | dot11r | event | multicast {igmp | traffic} | pmk | proxy-arp | vsa | wlan-vlan | wsastats}

| Syntax Description | |
|--------------------------|--|
| acl | Configures debugging of FlexConnect ACL |
| cckm | Configures debugging of CCKM |
| dot11r | Configures debugging of 802.11r |
| event | Configures debugging of wireless control protocol (WCP) events |
| multicast igmp | Configures debugging of Multicast IGMP |
| multicast traffic | Configures debugging of Multicast traffic |
| pmk | Configures debugging of opportunistic key caching (OKC) or pairwise master key caching |
| vsa | Configures debugging of AAA vendor specific attributes (VSA) |
| wlan-vlan | Configures debugging of WLAN-VLAN mapping |
| wsastats | Configures debugging of RADIUS or DHCP wireless service assurance statistics |

Command Modes Privileged EXEC (#)

Command History

| Release | Modification |
|-----------|------------------------------|
| 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of FlexConnect ACL:

```
cisco-ap# debug flexconnect acl
```

debug lldp

To debug LLDP, use the **debug lldp** command.

```
debug lldp {errors | events | packet}
```

| Syntax Description | |
|--------------------|---------------------|
| errors | Debugs LLDP errors |
| events | Debugs LLDP events |
| packet | Debugs LLDP packets |

| Command Modes | |
|---------------|---------------------|
| | Privileged EXEC (#) |

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of LLDP errors:

```
cisco-ap# debug lldp errors
```

debug memory

To debug memory, use the **debug memory** command.

```
debug memory {clear | save}
```

| Syntax Description | |
|--------------------|---|
| clear | Removes memory debug upon boot-up |
| save | Saves current debug level and applies it upon following boots |

| Command Modes | |
|---------------|---------------------|
| | Privileged EXEC (#) |

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to remove memory debug upon boot-up:

```
cisco-ap# debug memory clear
```

debug memory pool

To debug memory pool, use the **debug memory pool** command.

```
debug memory pool {diff | realtime interval 1-1000000-seconds | start}
```

| Syntax Description | diff | Shows memory pool debug difference in detail |
|--------------------|---|--|
| | realtime interval <i>1-1000000-seconds</i> | Configures realtime interval for the memory pool |
| | start | Starts the debug for the memory pool |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to configure realtime interval of 180 seconds for the memory pool:

```
cisco-ap# debug memory pool realtime interval 180
```

debug memory pool alloc

To debug memory pool allocation calls, use the **debug memory pool alloc** command.

```
debug memory pool alloc {all | name pool-name} {diff | realtime interval 1-1000000-seconds | start}
```

| Syntax Description | all | Configures debug for all memory pool allocation calls |
|--------------------|------------------------------|---|
| | name <i>pool-name</i> | Configures debug for a specific memory pool's allocation call |

| | |
|---|---|
| diff | Shows memory pool debug allocation call difference in detail |
| realtime interval <i>1-1000000-seconds</i> | Configures realtime interval for the memory pool allocation calls |
| start | Starts the debug for the memory pool allocation calls |

Command Modes

Privileged EXEC (#)

Command History**Release Modification**

8.1.111.0 This command was introduced.

Examples

The following example shows how to configure the start of the debug for all memory pool allocation calls:

```
cisco-ap# debug memory pool alloc all start
```

debug memory pool free

To debug memory pool free calls, use the **debug memory pool free** command.

```
debug memory pool free {all | name pool-name} {diff | realtime interval 1-1000000-seconds | start}
```

Syntax Description

| | |
|---|---|
| all | Configures debug for all memory pool free calls |
| name <i>pool-name</i> | Configures debug for a specific memory pool's free call |
| diff | Shows memory pool debug free call difference in detail |
| realtime interval <i>1-1000000-seconds</i> | Configures realtime interval for the memory pool free calls |
| start | Starts the debug for the memory pool free calls |

Command Modes

Privileged EXEC (#)

Command History**Release Modification**

8.1.111.0 This command was introduced.

Examples

The following example shows how to configure the start of the debugging of all memory pool free calls:


```
cisco-ap# debug memory pool free all start
```

debug mesh

To configure debugging of mesh networks, use the **debug mesh** command.

```
debug mesh {channel | clear | convergence | events | forward-mcast | forward-packet | forward-table | linktest | path-control | port-control | security | trace}
```

Syntax Description

| | |
|-----------------------|---|
| channel | Configures debugging of mesh channel |
| clear | Resets all mesh debugs |
| convergence | Configures debugging of mesh convergence |
| events | Configures debugging of mesh events |
| forward-mcast | Configures debugging of mesh forwarding Multicast |
| forward-packet | Configures debugging of mesh forwarding packets |
| forward-table | Configures debugging of mesh forwarding table |
| linktest | Configures debugging of mesh linktest |
| port-control | Configures debugging of mesh port control |
| security | Configures debugging of mesh security |
| trace | Configures debugging of mesh trace |

Command Modes

Privileged EXEC (#)

Command History

| Release | Modification |
|-----------|------------------------------|
| 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of mesh channel:

```
cisco-ap# debug mesh channel
```

debug mesh adjacency

To debug mesh adjacency, use the **debug mesh adjacency** command.

```
debug mesh adjacency {child | clear | dfs | message | packet | parent}
```

| Syntax Description | |
|--------------------|-------------------------------|
| adjacency | Debug mesh adjacency |
| child | Debug mesh adjacency child |
| clear | Debug clear mesh adjacency |
| dfs | Debug mesh DFS |
| message | Debug mesh adjacency messages |
| packet | Debug mesh adjacency packet |
| parent | Debug mesh adjacency parent |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of mesh adjacency parent:

```
cisco-ap# debug mesh adjacency parent
```

debug mesh path-control

To configure debugging of mesh path control, use the **debug mesh path-control** command.

```
debug mesh path-control {error | events | packets }
```

| Syntax Description | |
|--------------------|---|
| error | Configures debugging of mesh path control errors |
| events | Configures debugging of mesh path control events |
| packets | Configures debugging of mesh path control packets |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of mesh path control errors:

```
cisco-ap# debug mesh path-control error
```

debug rrm neighbor

To enable RRM neighbor debugging, use the **debug rrm neighbor** command.

```
debug rrm neighbor {tx | rx | detail }
```

| Syntax Description | tx | Enable RRM neighbor Tx debugging |
|--------------------|--------|--------------------------------------|
| | rx | Enable RRM neighbor Rx debugging |
| | detail | Enable RRM neighbor detail debugging |

| Command Modes | Privileged EXEC (#) |
|---------------|---------------------|
|---------------|---------------------|

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of RRM neighbor transmissions:

```
cisco-ap# debug rrm neighbor tx
```

debug rrm reports

To enable RRM reports debugging, use the **debug rrm reports** command.

```
debug rrm reports
```

| Syntax Description | reports | Enables RRM report debugging |
|--------------------|---------|------------------------------|
|--------------------|---------|------------------------------|

| Command Modes | Privileged EXEC (#) |
|---------------|---------------------|
|---------------|---------------------|

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of RRM reports:

```
cisco-ap# debug rrm reports
```

debug sip

To enable session initiation protocol (SIP) debugging, use the **debug sip** command.

```
debug sip {all | tx | rx}
```

| Syntax Description | |
|--------------------|---|
| all | Enabling SIP transmission and reception debugging |
| tx | Enabling SIP transmission debugging |
| rx | Enabling SIP reception debugging |

| Command Modes | |
|---------------|---------------------|
| | Privileged EXEC (#) |

| Command History | Release Modification |
|-----------------|--|
| | 8.1.111.0 This command was introduced. |

Examples

The following example shows how to enable debugging of SIP transmissions and reception:

```
cisco-ap# debug sip all
```

debug wips

To enable wIPS debugging, use the **debug wips** command.

```
debug wips {errors | events | critical}
```

| Syntax Description | |
|--------------------|--------------------------------------|
| errors | Enable wIPS error level debugging |
| events | Enable wIPS event level debugging |
| critical | Enable wIPS critical level debugging |

| Command Modes | |
|---------------|---------------------|
| | Privileged EXEC (#) |

| Command History | Release Modification |
|-----------------|--|
| | 8.1.111.0 This command was introduced. |

Examples

The following example shows how to enable wIPS error level debugging:

```
cisco-ap# debug wips errors
```

debug process memory

To process memory debugging, use the **debug process memory** command.

```
debug process memory {diff | realtime [interval interval-in-seconds ] | start}
```

| Syntax Description | diff | Process memory debug show diff |
|--------------------|----------|---|
| | realtime | Process memory real time debug |
| | interval | Update interval; valid range 1 to 1000000 seconds |
| | start | Process memory debug start |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable the start of debugging of process memory:

```
cisco-ap# debug process memory start
```

debug traffic

To enable traffic debugging, use the **debug traffic** command.

```
debug traffic {host {icmpv6 | ip | ipv6 | tcp | udp { verbose}}} | wired {ip | tcp | udp { verbose}}
```

| Syntax Description | host | Enabling host traffic debugging |
|--------------------|---------|-----------------------------------|
| | wired | Enabling wired traffic debugging |
| | verbose | Display verbose output |
| | icmpv6 | Enabling host ICMPv6 traffic dump |

| | |
|-------------|---------------------------------|
| ip | Enabling host IP traffic dump |
| ipv6 | Enabling host IPv6 traffic dump |
| tcp | Enabling TCP traffic dump |
| udp | Enabling UDP traffic dump |

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of host IP traffic dump:

```
cisco-ap# debug traffic host ip
```

debug tunnel

To configure debugging of tunnel, use the **debug tunnel** command.

debug tunnel eogre

| Syntax Description | eogre | Configures debugging of EoGRE tunnel |
|--------------------|-------|--------------------------------------|
|--------------------|-------|--------------------------------------|

Command Modes Privileged EXEC (#)

| Command History | Release | Modification |
|-----------------|-----------|------------------------------|
| | 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable debugging of EoGRE tunnel:

```
cisco-ap# debug tunnel eogre
```

debug client trace

To enable client trace debugging, use the **debug client trace** command.

debug client trace {**all** | **address** *mac-address* | **enable** | **filter** {**assoc** | **auth** | **dhcp** | **eap** | **icmp** | **mgmt** | **probe** | **proto**}}

| Syntax Description | all | Configure all clients tracing |
|--------------------|--------------------|---------------------------------------|
| | address | Configure address(es) to trace |
| | <i>mac-address</i> | MAC address to trace |
| | enable | Enable tracing |
| | filter | Configure trace filter |
| | assoc | Trace Association packets |
| | auth | Trace Authentication packets |
| | dhcp | Trace DHCP packets |
| | eap | Trace EAP packets |
| | icmp | Trace ICMP packets |
| | mgmt | Trace probe, assoc, auth, EAP packets |
| | probe | Trace probe packets |
| | proto | Trace DHCP, ICMP packets |

Command Modes Privileged EXEC (#)

Command History

| Release | Modification |
|-----------|------------------------------|
| 8.1.111.0 | This command was introduced. |

Examples

The following example shows how to enable tracing of all clients:

```
cisco-ap# debug client trace all
```

no

To negate a command or set to its defaults, use the **no** command.

no

Command Modes Privileged EXEC (#)

| Command History | Release Modification |
|-----------------|--|
| | 8.1.111.0 This command was introduced. |

To negate a command or set to its defaults, use this command:

```
cisco-ap# no debug
```

tracert

To view the routes followed by packets traveling in the network, use the **tracert** command.

tracert *destination-address*

| Syntax Description | |
|--------------------|---|
| | <i>destination-address</i> IP address of the destination of the packets |

| Command Modes | |
|---------------|---------------------|
| | Privileged EXEC (#) |

| Command History | Release Modification |
|-----------------|--|
| | 8.1.111.0 This command was introduced. |

Examples

The following example shows how to view the routes followed by packets traveling in the network, with a destination IP address specified:

```
cisco-ap# tracert 209.165.200.224
```

undeb

To disable debugging on the access point, use the **undeb** command.

undeb [**all**]

| Syntax Description | |
|--------------------|---|
| | a Disables all debugging messages. |

| Command Modes | |
|---------------|---------------------|
| | Privileged EXEC (#) |

| Command History | Release Modification |
|-----------------|--|
| | 8.1.111.0 This command was introduced. |

Examples

The following example shows how to disable all debugging messages:

```
cisco-ap# undebug all
```

