

Configure Packet Capture on a WAP125 or WAP581 Access Point

Objective

The Packet Capture feature enables capturing and storing packets received and transmitted by the Wireless Access Point (WAP). The captured packets can then be analyzed by a network protocol analyzer for troubleshooting or performance optimization. There are two methods of packet capture:

- **Save File on this Device** - Captured packets are stored in a file on the WAP. The WAP can also send the file to a Trivial File Transport Protocol (TFTP) server. The file Administration Packet Capture is formatted in pcap format and can be examined using tools such as Wireshark and OmniPeek.
- **Stream to a Remote Host** - Captured packets are redirected in real time to an external computer running the Wireshark tool.

This article aims to explain and guide you on configuring Packet Capture on a WAP and receive these packet captures locally or remotely.

Applicable Devices

- WAP125
- WAP581

Software Version

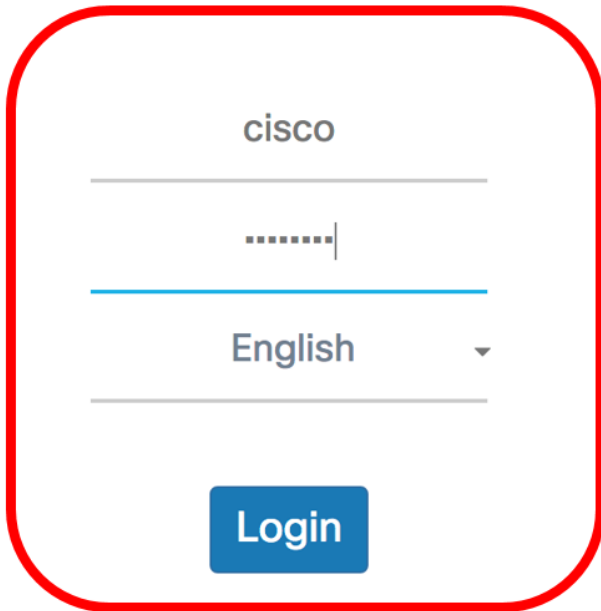
- 1.0.0.4 - WAP581
- 1.0.0.5 - WAP125

Configure Packet Capture Settings

Step 1. Log in to the web-based utility of your WAP. The default username and password is cisco/cisco.



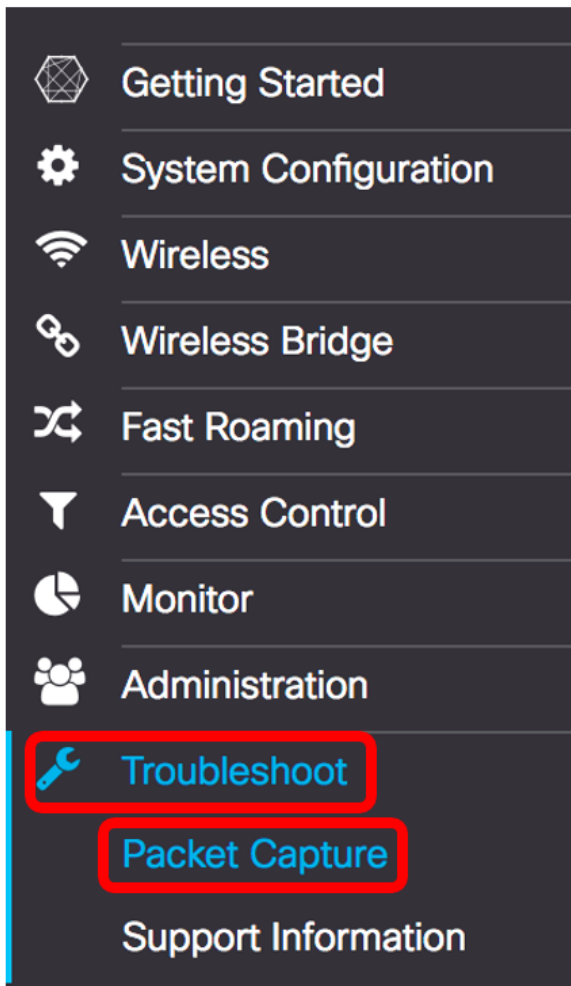
Wireless Access Point

A login form for a Wireless Access Point, enclosed in a red rounded rectangle. The form contains a text input field with "cisco" entered, a password input field with "....." and a cursor, a language selection dropdown menu currently set to "English", and a blue "Login" button at the bottom.

Note: If you already have changed the password or created a new account, enter your new credentials instead.

Step 2. Choose **Troubleshoot > Packet Capture**.

Note: The available options may vary depending on the exact model of your device. In this example, WAP125 is used.



Step 3. Choose one of the following Packet Capture Method radio buttons:

- Save File on this Device - Stores the captured packets as a file on the WAP. Configure the Interface, duration, and maximum file size to be saved locally.
- Stream to a Remote Host - Redirects the captured packets in real time to an external computer that runs the network protocol analyzer tools. If this is chosen, skip to Step 7.

Note: In this example, Save File on this Device is chosen.

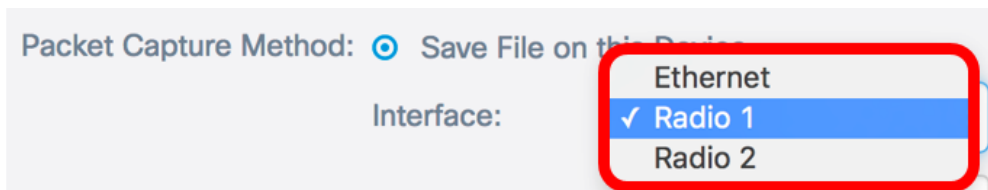
A configuration form for packet capture. At the top, it says 'Packet Capture Method:' followed by a selected radio button and the text 'Save File on this Device'. Below this are several fields: 'Interface:' with a dropdown menu showing 'Radio 1'; 'Duration:' with a text input '60' and 'Sec.' to its right; 'Max File Size:' with a text input '1024' and 'KB' to its right; an unselected radio button for 'Stream to a Remote Host'; and 'Remote Capture Port:' with a text input '2002'. Each field has a small blue question mark icon to its left.

Step 4. From the Interface drop-down list, choose the interface for which the packets are to be captured from the Capture Interface drop-down list. The options are:

- Ethernet - 802.3 traffic on the Ethernet port.
- Radio 1 - 802.11 traffic on the radio interface 1.

- Radio 2 - 802.11 traffic on the radio interface 2.

Note: In this example, Radio 1 is chosen.

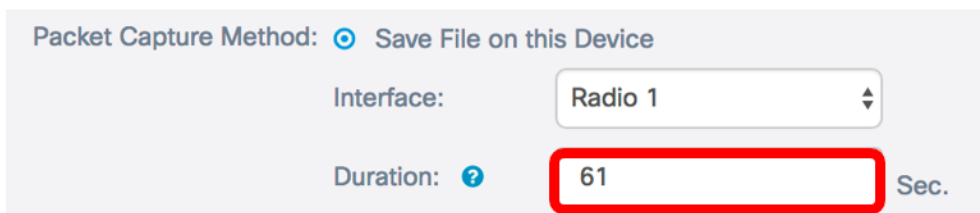


Packet Capture Method: Save File on this Device

Interface: Ethernet
✓ Radio 1
Radio 2

Step 5. Enter the capture duration in the *Duration* field ranging from 10 to 3600 seconds. The default is 60 seconds.

Note: In this example, 61 is used.

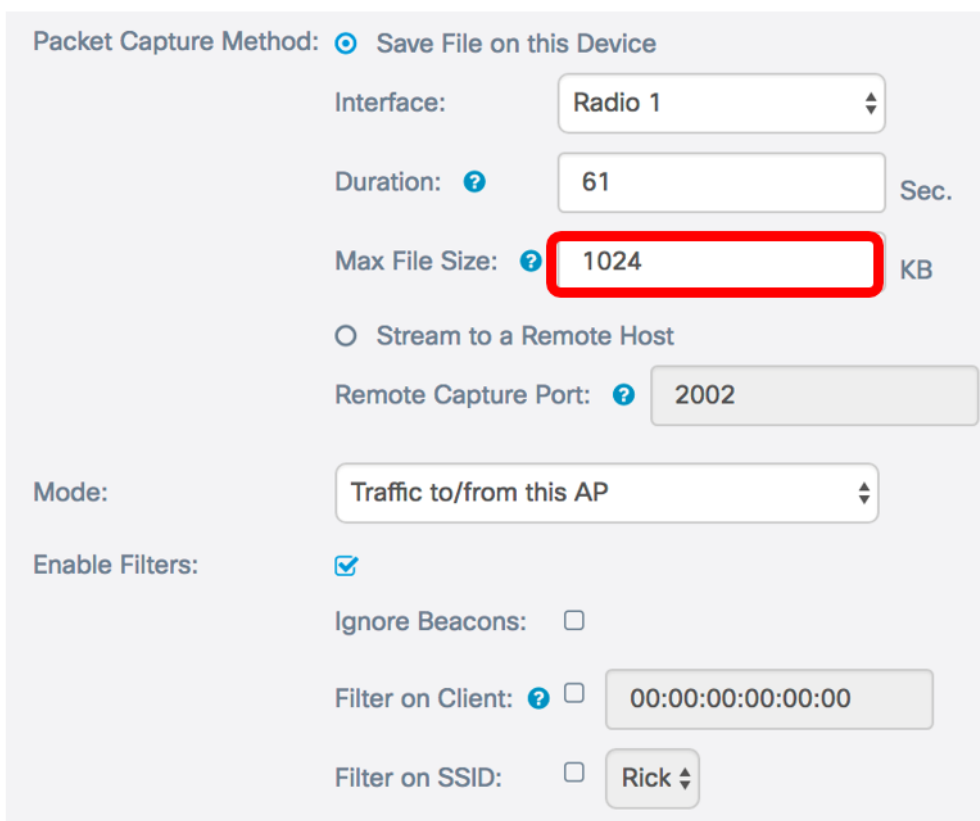


Packet Capture Method: Save File on this Device

Interface:

Duration: Sec.

Step 6. In the *Max File Size* field, enter the maximum capture file size ranging from 64 to 4096 KB then skip to Step 8. The default is 1024 KB.



Packet Capture Method: Save File on this Device

Interface:

Duration: Sec.

Max File Size: KB

Stream to a Remote Host

Remote Capture Port:

Mode:

Enable Filters:

Ignore Beacons:

Filter on Client:

Filter on SSID:

Note: In this example, the default value is used.

Step 7. If remote packet capture method is chosen, enter the port number ranging from 1 to 65530 in the *Remote Capture Port* field. The default is 2002.

Packet Capture Method: Save File on this Device

Interface:

Duration: Sec.

Max File Size: KB

Stream to a Remote Host

Remote Capture Port:

Note: In this example, the default port is used.

Step 8. From the Mode drop-down list, choose which packets will be captured. The options are:

- All Wireless Traffic - Captures all the wireless packets, including those sent on other networks.
- Traffic to/from this AP Capture packets that are sent between the WAP and the clients. In this example, this option is chosen.

Packet Capture Method: Save File on this Device

Interface:

Duration: Sec.

Max File Size: KB

Stream to a Remote Host

Remote Capture Port:

Mode:

Step 9. Check the **Enable Filters** check box to allow specific filters on packet capture.

Mode:

Enable Filters:

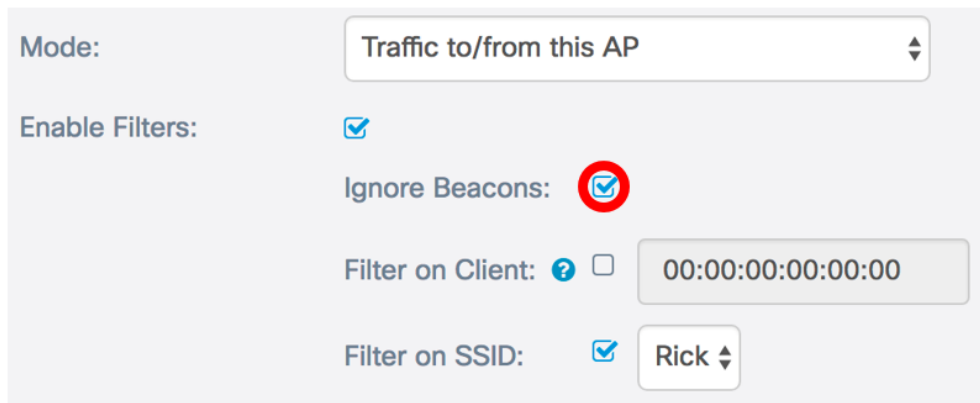
Ignore Beacons:

Filter on Client:

Filter on SSID:

Step 10. (Optional) Check the **Ignore Beacons** check box to disable the capturing of 802.11 beacons detected or transmitted by the radio. Beacon frames are transmitted periodically to announce the presence of a Wireless Local Area Network (WLAN).

Note: In this example, Ignore Beacons is enabled.



Mode: Traffic to/from this AP

Enable Filters:

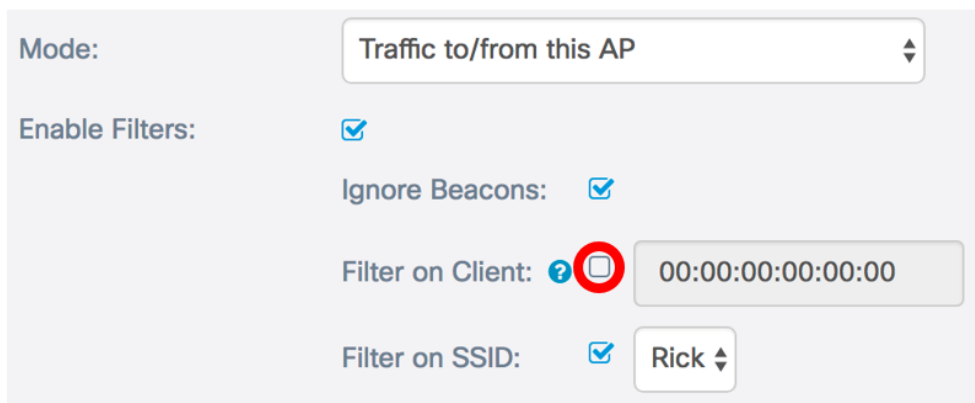
Ignore Beacons:

Filter on Client: 00:00:00:00:00:00

Filter on SSID: Rick

Step 11. (Optional) Check the **Filter on Client** check box to specify a MAC address of a wireless client.

Note: In this example, the Filter on Client is unchecked.



Mode: Traffic to/from this AP

Enable Filters:

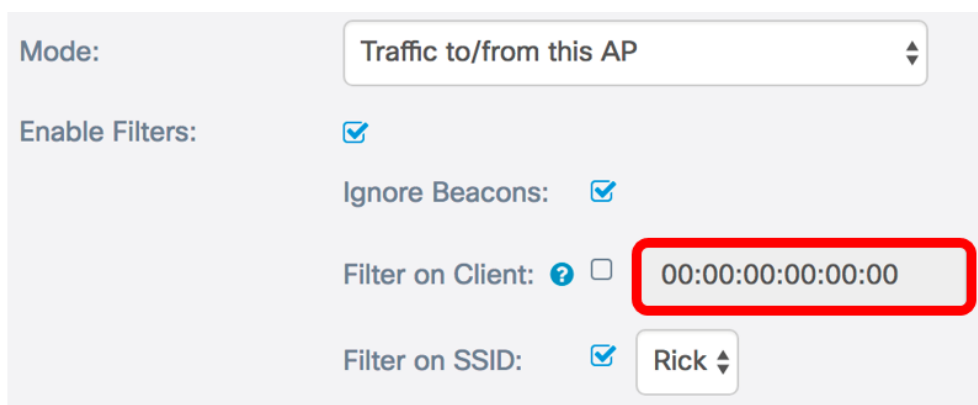
Ignore Beacons:

Filter on Client: 00:00:00:00:00:00

Filter on SSID: Rick

Step 12. (Optional) Enter the MAC address of the client in the *Filter on Client* field. This is only active if Packet Capture is performed on a radio interface.

Note: In this example, Filter on Client is disabled.



Mode: Traffic to/from this AP

Enable Filters:

Ignore Beacons:

Filter on Client: 00:00:00:00:00:00

Filter on SSID: Rick

Step 13. Check the **Filter on SSID** check box to capture packets on a specific SSID.

Mode: Traffic to/from this AP

Enable Filters:

Ignore Beacons:

Filter on Client: 00:00:00:00:00:00

Filter on SSID: Rick

Step 14. From the SSID drop-down list, choose an SSID to capture packets.

Note: The SSIDs that appear in the drop-down list depend on what interface was chosen and how many SSIDs have been configured. In this example, Rick is chosen.

Mode: Traffic to/from this AP

Enable Filters:

Ignore Beacons:

Filter on Client: 00:00:00:00:00:00

Filter on SSID: Rick

Step 15. Click the **Save** button to save the configured settings.

Packet Capture Save

Packet Capture Method: Save File on this Device

Interface:

Duration: Sec.

Max File Size: KB

Stream to a Remote Host

Remote Capture Port:

Mode:

Enable Filters:

Ignore Beacons:

Filter on Client:

Filter on SSID:

You should now have successfully configured the Packet Capture settings.

Packet Capture

Step 16. The Packet Capture Status area contains the following information. Click **Refresh** to view the current status.

Packet Capture Status

Current Capture Status: Stopped due to administrative action

Packet Capture Time: 00:00:17

Packet Capture File Size: 1024 KB

Refresh

▶⏸⬇⬇

- Current Capture Status - Displays the current packet capture status. **In this example, - Stopped due to administrative action -** is the current status.
- Packet Capture Time - Displays the duration for which the packets are captured. In this example, 00:00:17 seconds was recorded.
- Packet Capture File Size - Displays the size of the packet captured file. In this example, 1024kb is the capture size.

Step 17. Click the **Start Capture** button to start the packet capture process.





Packet Capture Status

Current Capture Status: Not started

Packet Capture Time: 00:00:00

Packet Capture File Size: 0 KB

Refresh

Step 18. A window will pop up to inform you that the Packet Capture will now commence. Click **OK** to continue.



Do you want to start file capture now?

OK

cancel

Step 19. Click the **Stop Capture** button to stop the packet capture process.

Packet Capture Status

Current Capture Status: Not started

Packet Capture Time: 00:00:00

Packet Capture File Size: 0 KB

Refresh



Step 20. A window will pop up to inform you to confirm to end the packet capture. Click **OK** to continue.

Alert

×



Stop packet capture.

OK

You should now have successfully captured packets on your access point.

Packet Capture File Download

Download to this Device

Step 1. Click the **Download to this Device** button.





Packet Capture Status

Current Capture Status: Not started

Packet Capture Time: 00:00:00


Packet Capture File Size: 0 KB

Refresh

Step 2. A window will pop up to commence the download. Click **OK** continue.



Confirm x

 The file is downloading now.

OK

Once the download is complete, the downloaded file will appear in your browser download history. The file is downloaded with HTTP/HTTPS and the file format is .pcap.

Note: In this example, apcapture.pcap is the downloaded file.

 apcapture.pcap 

You have successfully downloaded the packet capture file of your WAP to your computer.

Download to TFTP Server

Step 1. (Optional) If the captured file has to be downloaded through a TFTP server, click the **Download to TFTP Server** button.

Packet Capture Status

Current Capture Status: Not started

Packet Capture Time: 00:00:00

Packet Capture File Size: 0 KB

Refresh



Once clicked, a window will appear with the Server IPv4 Address and Destination File Name fields.

Download File Using TFTP

Server IPv4 Address 

Destination File Name 

Download

cancel

Step 2. Enter the IPv4 address of the TFTP server in the Server IPv4 Address field. The port number entered in the *Remote Capture Port* field in Step 6 is then attached to the TFTP server address.

Note: In this example, 128.12.8.128 is used.

Download File Using TFTP

Server IPv4 Address 

Destination File Name 


Download


cancel

Step 3. Enter the file name in pcap format in the *Destination File Name* field.

Note: In this example, apcapture.pcap is used.


Download File Using TFTP


Server IPv4 Address 

Destination File Name 

Step 4. Click **Download**.


Download File Using TFTP


Server IPv4 Address 

Destination File Name 

A progress bar appears below the *Destination File Name* field.

Download File Using TFTP

Server IPv4 Address 

Destination File Name 



You should now have downloaded your Packet Capture file through a TFTP server.