Packets

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A network packet is a small amount of data sent over Transmission Control Protocol/Internet Protocol (TCP/IP) networks. The ExtraHop system enables you to continuously collect, search, and download these packets with a Trace appliance, which can be useful to detect network intrusions and other suspicious activity.

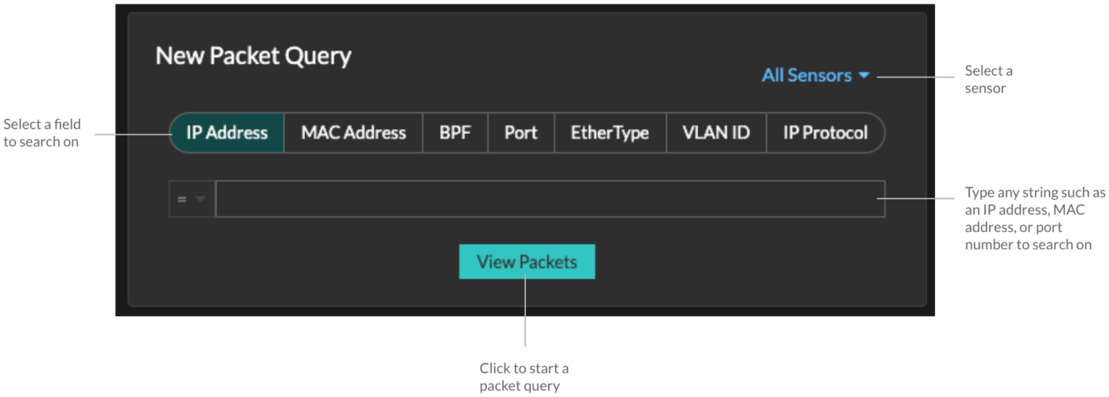
You can search for and download packets from the Packets page in the ExtraHop system and through the Packet Search resource in the ExtraHop REST API. Downloaded packets can then be analyzed through a third-party tool, such as Wireshark.

Note: If you do not have a Trace appliance, you can still collect packets through triggers. See Initiate precision packet captures to analyze zero window conditions for an example.

Video: See the related training: Packets

Navigating packets

Click **Packets** from the top menu to create a new packet query. From the New Packet Query page, you can specify a filter.



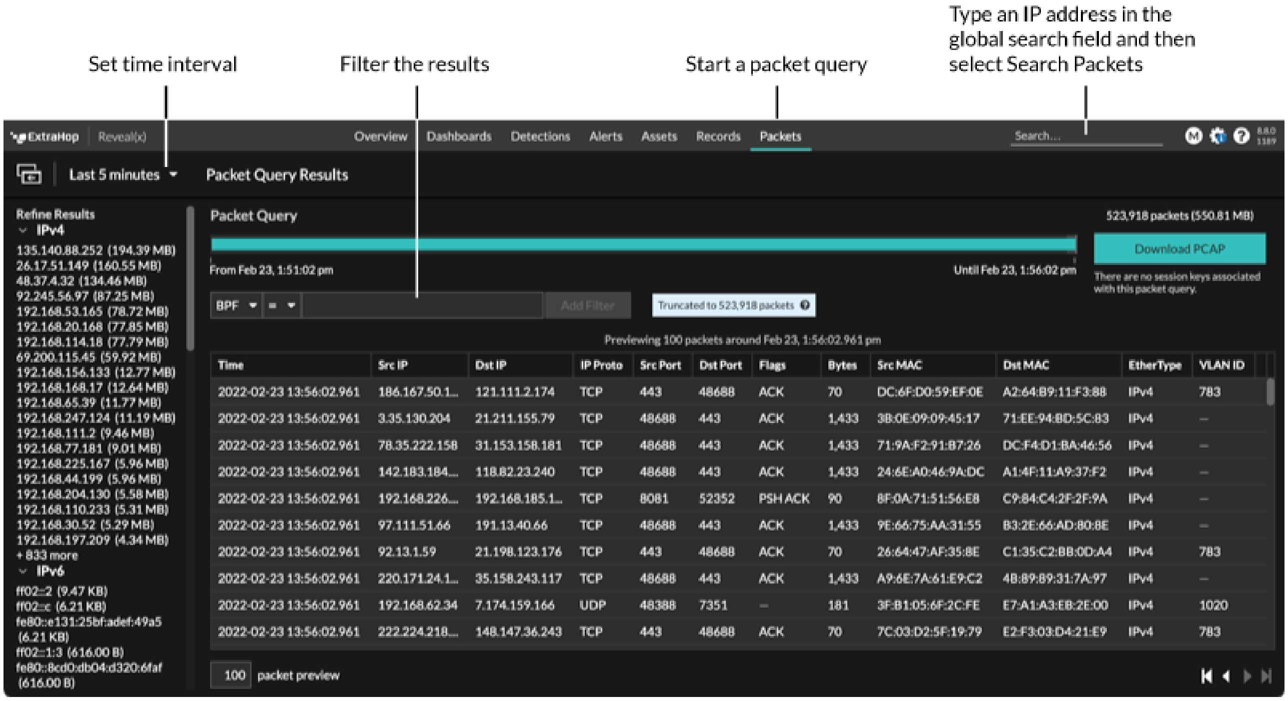
Select a sensor

Select a field to search on

Type any string such as an IP address, MAC address, or port number to search on

Click to start a packet query

The results appear on the main Packets page. Launch another packet query by clicking **Packets** again from the top menu.



Set time interval

Filter the results

Start a packet query

Type an IP address in the global search field and then select Search Packets

Refine Results

IPv4

135.140.88.252 (194.39 MB)
26.17.51.149 (160.55 MB)
48.37.4.32 (134.46 MB)
92.245.56.97 (87.25 MB)
192.168.53.165 (78.72 MB)
192.168.20.168 (77.85 MB)
192.168.114.18 (77.79 MB)
69.200.115.45 (59.92 MB)
192.168.156.133 (12.77 MB)
192.168.168.17 (12.64 MB)
192.168.65.39 (11.77 MB)
192.168.247.124 (11.19 MB)
192.168.111.2 (9.46 MB)
192.168.77.181 (9.01 MB)
192.168.225.167 (5.96 MB)
192.168.44.199 (5.96 MB)
192.168.204.130 (5.58 MB)
192.168.110.233 (5.31 MB)
192.168.30.52 (5.29 MB)
192.168.197.209 (4.34 MB)
+ 833 more

IPv6

ff02::2 (9.47 KB)
ff02::c (6.21 KB)
fe80::e131:25bf:adef:49a5 (6.21 KB)
ff02::1:3 (616.00 B)
fe80::8cd0:db04:d320:6faf (616.00 B)

Packet Query

523,918 packets (550.81 MB)

From Feb 23, 1:51:02 pm

Until Feb 23, 1:56:02 pm

There are no session keys associated with this packet query.

Truncated to 523,918 packets

Previewing 100 packets around Feb 23, 1:56:02.961 pm

Time	Src IP	Dst IP	IP Proto	Src Port	Dst Port	Flags	Bytes	Src MAC	Dst MAC	EtherType	VLAN ID
2022-02-23 13:56:02.961	186.167.50.1...	121.111.2.174	TCP	443	48688	ACK	70	DC:6F:D0:59:EF:0E	A2:64:B9:11:F3:88	IPv4	783
2022-02-23 13:56:02.961	3.35.130.204	21.211.155.79	TCP	48688	443	ACK	1,433	3B:0E:09:09:45:17	71:EE:94:8D:5C:83	IPv4	—
2022-02-23 13:56:02.961	78.35.222.158	31.153.158.181	TCP	48688	443	ACK	1,433	71:9A:F2:91:87:26	DC:F4:D1:BA:46:56	IPv4	—
2022-02-23 13:56:02.961	142.183.184...	118.82.23.240	TCP	48688	443	ACK	1,433	24:6E:A0:46:9A:DC	A1:4F:11:A9:37:F2	IPv4	—
2022-02-23 13:56:02.961	192.168.226...	192.168.185.1...	TCP	8081	52352	PSH ACK	90	8F:0A:71:51:56:E8	C9:84:C4:2F:2F:9A	IPv4	—
2022-02-23 13:56:02.961	97.111.51.66	191.13.40.66	TCP	48688	443	ACK	1,433	9E:66:75:AA:31:55	B3:2E:66:AD:80:8E	IPv4	—
2022-02-23 13:56:02.961	92.13.1.59	21.198.123.176	TCP	443	48688	ACK	70	26:64:47:AF:35:8E	C1:35:C2:BB:0D:A4	IPv4	783
2022-02-23 13:56:02.961	220.171.24.1...	35.158.243.117	TCP	48688	443	ACK	1,433	A9:6E:7A:61:E9:C2	4B:89:89:31:7A:97	IPv4	—
2022-02-23 13:56:02.961	192.168.62.34	7.174.159.166	UDP	48388	7351	—	181	3F:B1:05:6F:2C:FE	E7:A1:A3:EB:2E:00	IPv4	1020
2022-02-23 13:56:02.961	222.224.218...	148.147.36.243	TCP	443	48688	ACK	70	7C:03:D2:5F:19:79	E2:F3:03:D4:21:E9	IPv4	783

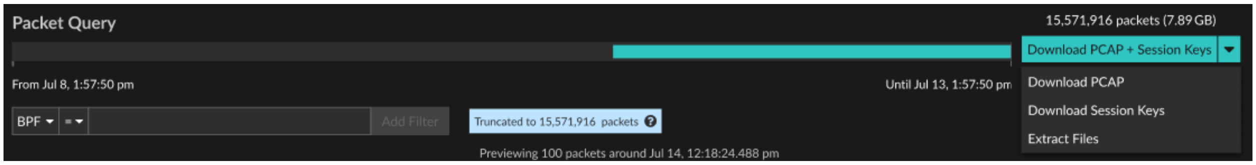
If you change the time interval, the query starts again. Either end of the gray bar displays a timestamp, which is determined by the current time interval. The time on the right displays the starting point of the query and the time on the left displays the endpoint of the query. The blue bar indicates the time range during which the system found packets. You can drag to zoom on a period of time in the blue bar to run a query again for that selected time interval.

Tip: Filter packets with Berkeley Packet Filter syntax.

Downloading packets

You can download query results into a packet capture (PCAP) file for analysis, along with SSL session keys and files associated with the packets.

Download options are available in the top-right drop-down menu. Click an option to enable your browser to download the file to your local machine.



Packet Query

15,571,916 packets (7.89 GB)

From Jul 8, 1:57:50 pm

Until Jul 13, 1:57:50 pm

Truncated to 15,571,916 packets

Previewing 100 packets around Jul 14, 12:18:24.488 pm

Here are some considerations about downloading packets and extracting files:

- The download options displayed from the drop-down menu depend on your query results. For example, if there are no session keys associated with the packets, you might only see options to Download PCAP and Extract Files.
- If you download session keys, you can open the packet capture file in a tool such as Wireshark, which can apply the session keys and display the decrypted packets.
- File extraction (also known as file carving) is available if files are observed on packets with HTTP or CIFS records.

Tip: From the Records page, you can search for HTTP or CIFS record types and filter by File Observed. Click the packets icon next to the record that contains files you want to extract.

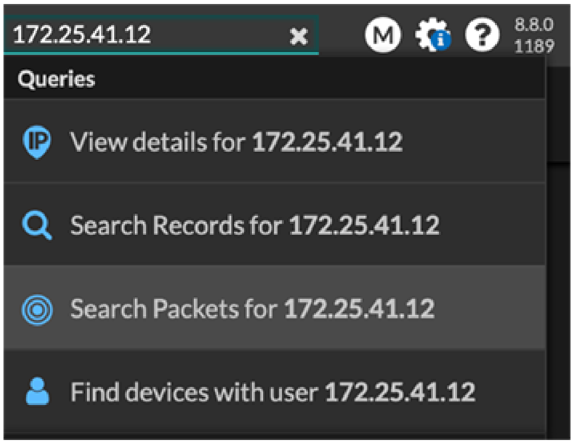
- Extracted files are downloaded in a .zip file and contain original, unencrypted content that might include malicious data.
- The module access required for each download option is described in the following table:

Download Option	Module Required	Packet Forensics Required
Download PCAP + Session Keys	NDR or NPM	Packets and session keys
Download PCAP	NDR or NPM	Packets only
Download Session Keys	NDR or NPM	Packets and session keys
Extract Files	NDR	Packets only or Packets and session keys

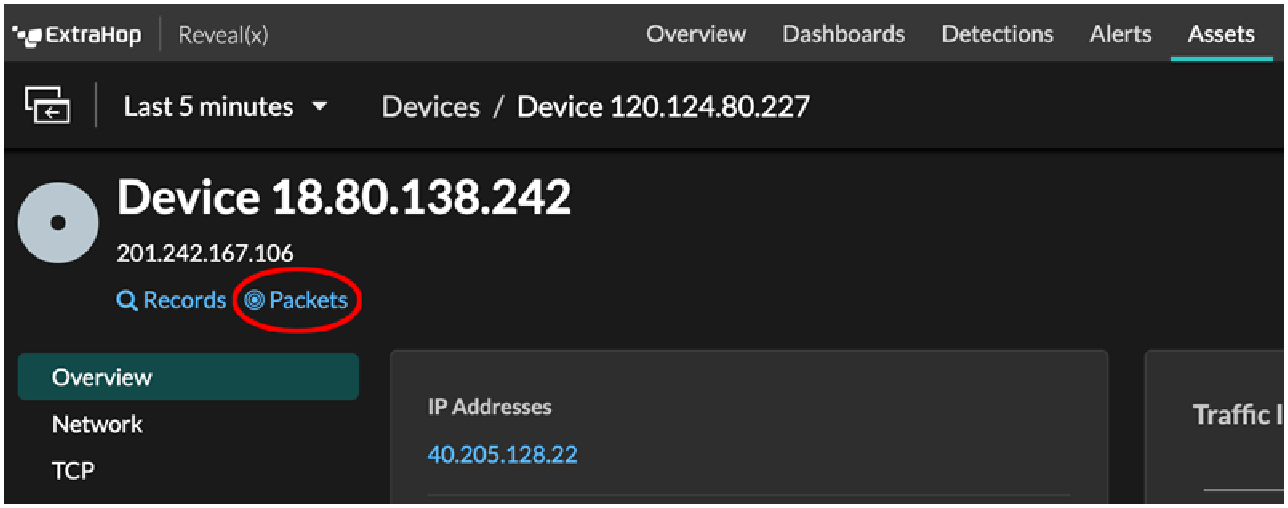
Query packets in the ExtraHop system

While the Packets page provides quick access to query all packets, there are indicators and links from which you can initiate a packet query throughout the ExtraHop system.

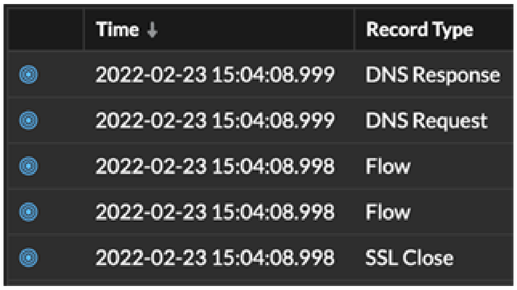
- Type an IP address in the global search field and then select the Search Packets icon ◎ .


172.25.41.12
8.8.0
1189
Queries
View details for 172.25.41.12
Search Records for 172.25.41.12
Search Packets for 172.25.41.12
Find devices with user 172.25.41.12

- Click **Packets** on a device page.

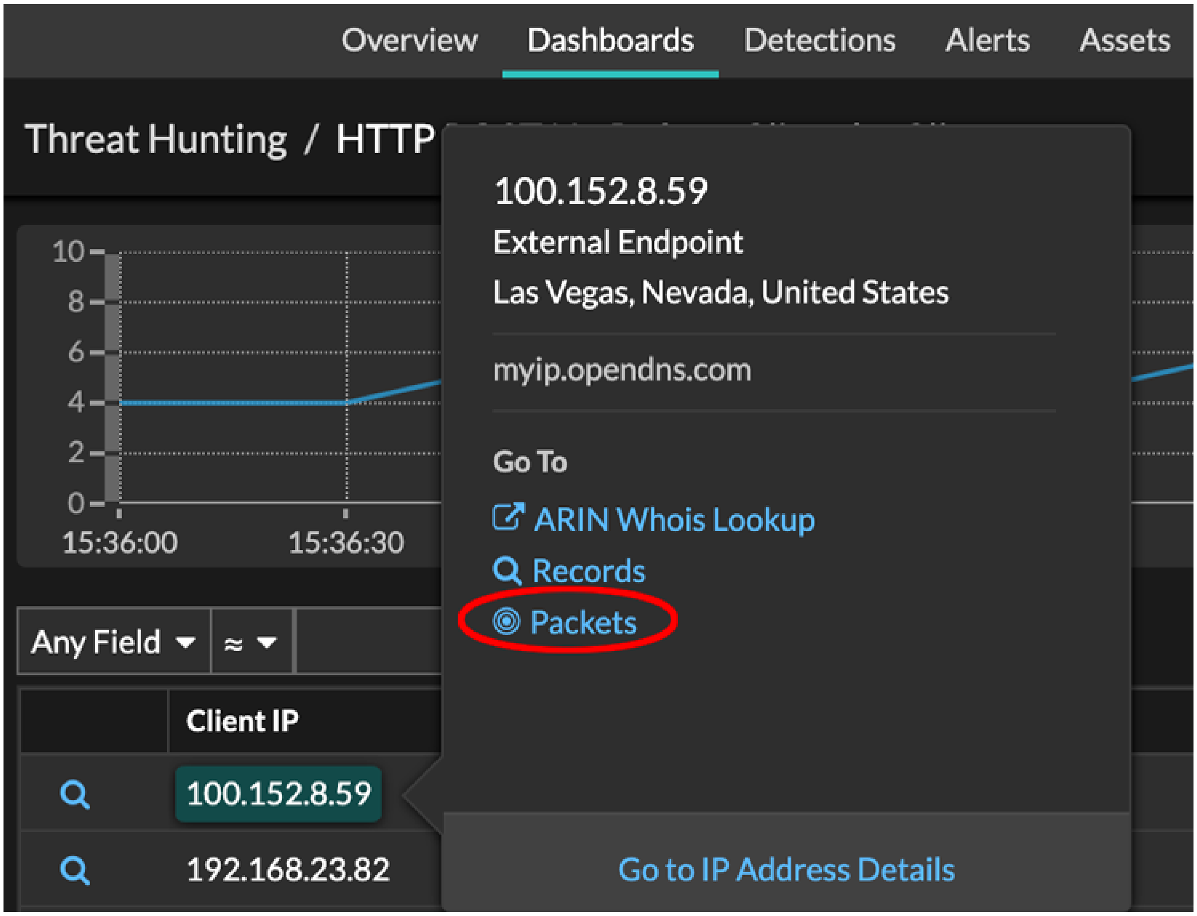


- Click the Packets icon ◉ next to any record on a record query results page.



	Time ↓	Record Type
◉	2022-02-23 15:04:08.999	DNS Response
◉	2022-02-23 15:04:08.999	DNS Request
◉	2022-02-23 15:04:08.998	Flow
◉	2022-02-23 15:04:08.998	Flow
◉	2022-02-23 15:04:08.998	SSL Close

- Click on an IP address or hostname in any chart with metrics for network bytes or packets by IP address to see a context menu. Then, click the Packets icon ◉ to query for the device and time interval.



100.152.8.59
External Endpoint
Las Vegas, Nevada, United States

myip.opendns.com