

# Records

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Records are structured information about transaction, message, and network flows that are generated and sent from the ExtraHop system to a recordstore. After your records are collected and stored, you can query for them throughout the ExtraHop system.

Records are collected at two protocol levels: L3 and L7. L3 (or flow) records show network-layer transactions between two devices over the IP protocol. L7 records show transactions that are message-based (such as ActiveMQ, DNS, and DHCP), transactional (such as HTTP, SMB, and NFS), and session-based (such as TLS and ICA).

For example, if you had fifty HTTP 503 errors, the related HTTP transactions would contain details about the URL, the web server, the client that sent the request, and so on. These details can help you identify the underlying problem.

 [View the related training: Records](#)

## Before you begin

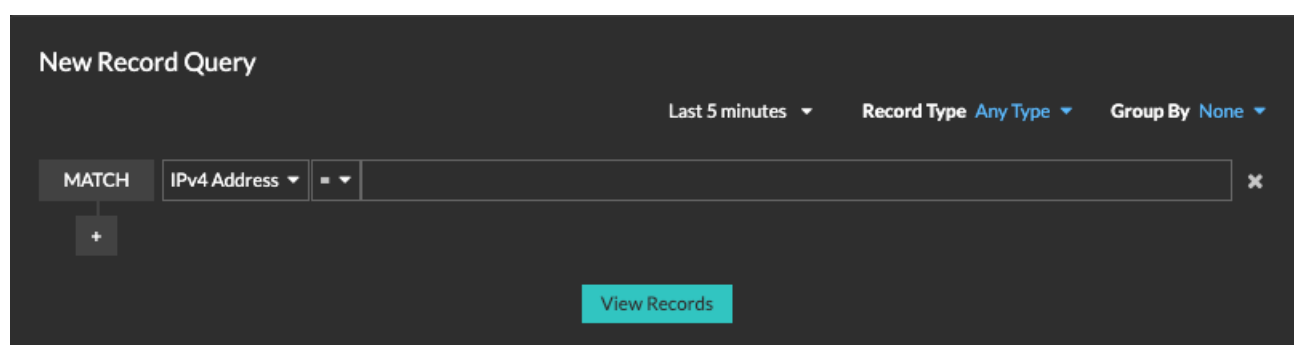
- You must have a configured recordstore, such as an [ExtraHop recordstore](#), [Splunk](#), [Google BigQuery](#), or [CrowdStrike Falcon LogScale](#).
- You can only configure one recordstore for the ExtraHop system.
- Your ExtraHop system must be configured to collect and store [flow records](#) or [L7 records](#).

## Navigating records

The main Records page displays several ways to query for stored records. Click **Records** from the top menu to get started.

### Standard search

Query for records with a standard search to build a complex filter by combining 'AND' and 'OR' operators with additional filter options such as record type and time interval. [Learn more about querying records with a standard search.](#)



### AI Search Assistant

AI Search Assistant helps you search for records with questions written in natural, everyday language to quickly build complex queries as compared to building a standard search query with the same criteria. AI Search Assistant must be enabled by your ExtraHop Administrator. [Learn more about querying for records with AI Search Assistant.](#)

AI SEARCH ASSISTANT   STANDARD SEARCH

✦ Type a question about the records you want to find... →

## Search suggestions


The ExtraHop system provides several suggested searches with pre-built filters that help you perform common record searches more efficiently. Click a search suggested to apply the query and immediately view records or click **More Suggestions** for more options.

**Search Suggestions**

- ✦ Show me all URIs that contain 'login' or 'logon' or 'auth'.
- ✦ Show me traffic with Potential SQLi in the last 7 days.
- ✦ List the top 25 DNS Requests that resulted in an error in the last 24 hours.


[More Suggestions](#)

## Saved queries

You can also select a previously-saved query from the list on the Records page and immediately view records or you can click the folder icon  in the top-right corner of the page to view all saved queries.

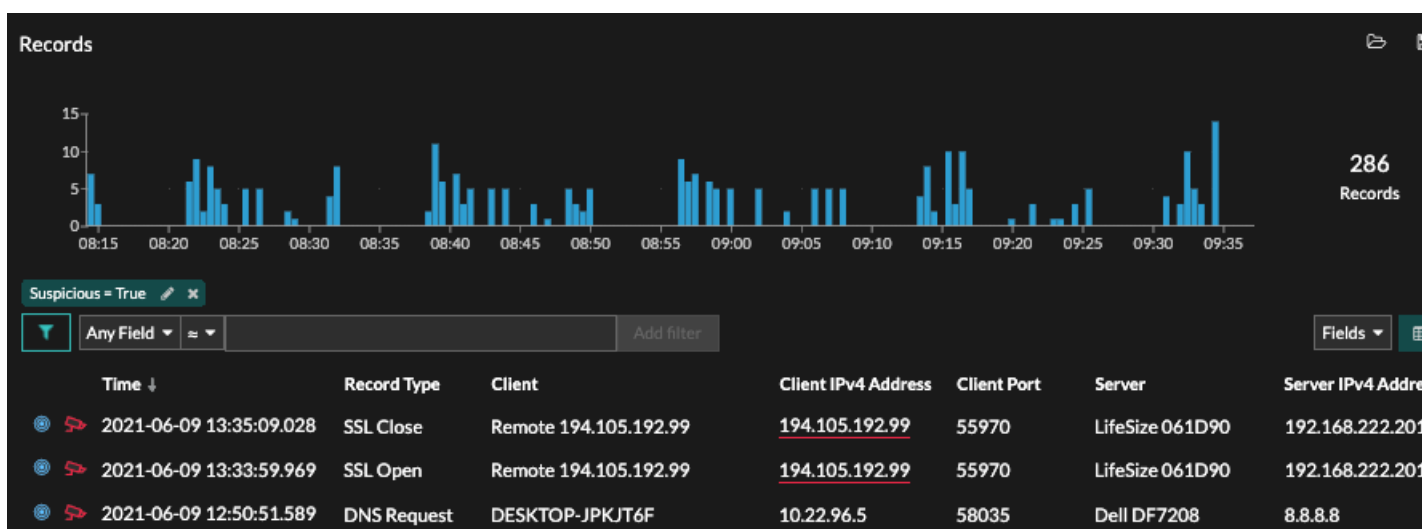
**View Saved Query**

- DNS Servers
- AD Error Records
- .TXT Filenames sent from PCs
- AD Time Skew Records
- AD Time Skew Records 43543534
- AD User Lockout Records

 **Note:** To create a record query for a custom metric, you must first define the record relationship by [linking the custom metric to a record type](#).

## Viewing record query results

After you submit the query, results appear on the main Records page.



**Note:** A query can return millions of records based on the time interval and filter criteria. If a query exceeds the maximum number of query results, a truncated number of records appear (ExtraHop recordstore only). For example, queries from the default Any Field filter often result in a very large number of results and might impact performance.

Here are some ways you can drill down on record query results:

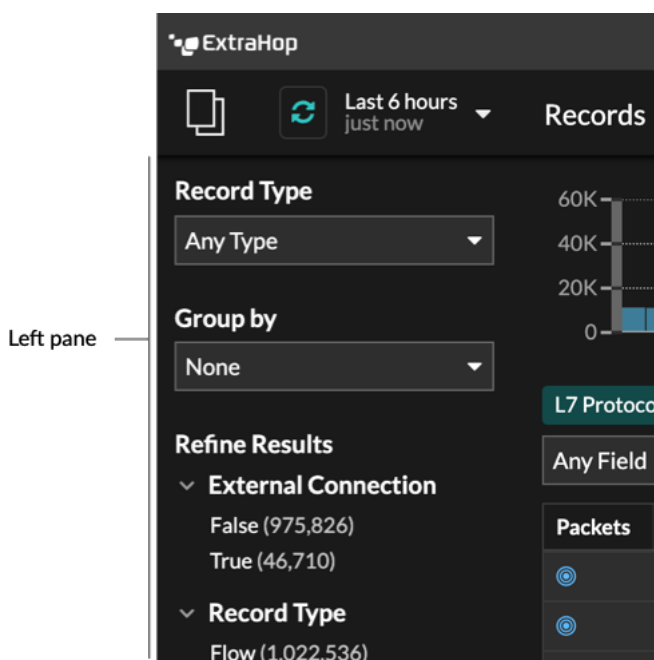
- From the records chart, hover over a time interval to view the number of records, or click-and-drag across the chart to narrow the record query results to a specific time interval.
- Click a hostname or IP address to view device or external endpoint details.
- Records that contain suspicious IP addresses, hostnames, and URIs appear with a red camera icon. Click the camera icon to view threat intelligence for the record. Learn more about [threat intelligence in records](#).
- Click a packet icon to start a [packet query](#) that is filtered by this record.
- Record results appear in a table by default. Click the Table View or Verbose View icons to toggle the display.
- A query automatically pauses if the number of record bytes scanned or returned is extremely large. If paused, the query displays the most recent records. Click **Continue Query** to resume searching.
- Click the **Fields** drop-down menu to add additional record information to the record view.
- In table view, click-and-drag column headers to arrange the record information.
- Apply [simple](#) or [advanced filters](#) to find potential issues, such as overly-long processing times or unusual response sizes.

## Refine your record query filter


There are a number of ways you can refine your record query filter to find the exact records you are looking for. The sections below describe each method and show examples you can start with to familiarize yourself.

### Filtering record results from the left pane

After all of the available records for your selected time interval appear on the Records page, you can then filter from the left pane to refine your results.




The **Record Type** drop-down menu displays a list of all of the record types that your ExtraHop system is configured to collect and store. A record type determines what data is collected and stored in the recordstore.

 **Note:** Because you must write a trigger to collect records, you need a way to identify the type of data you will collect. There are built-in record types, which collect all of the available known fields for a protocol. You can start with a built-in record type (such as HTTP) and write a trigger to collect only the fields for that protocol that matter to you (such as URI and status code). Or, advanced users can create a custom record type if they need to collect proprietary information that is not available through a built-in record type.

The **Group By** drop-down menu gives you a list of fields to further filter the record type by.

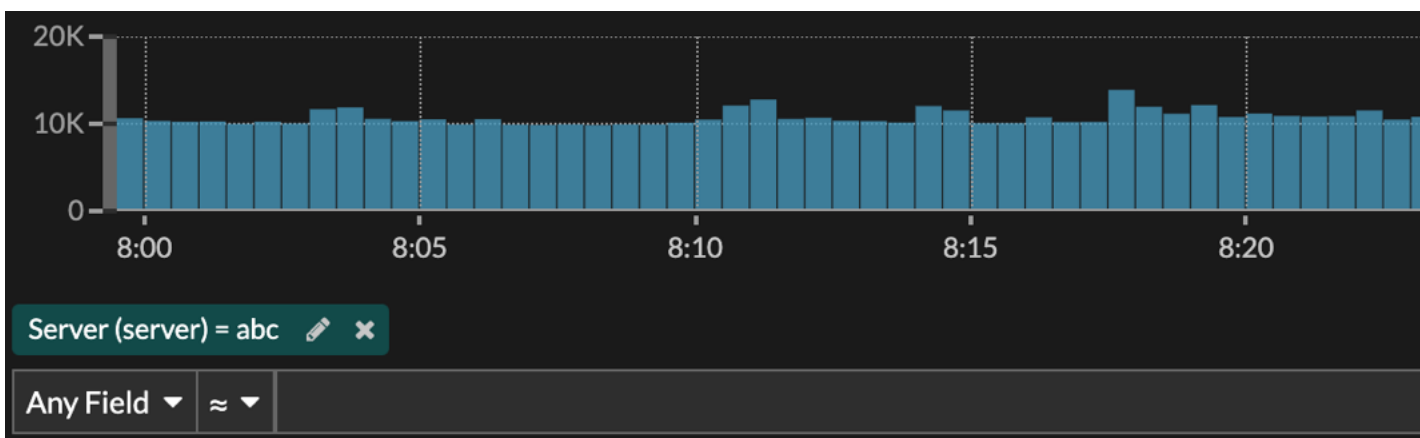
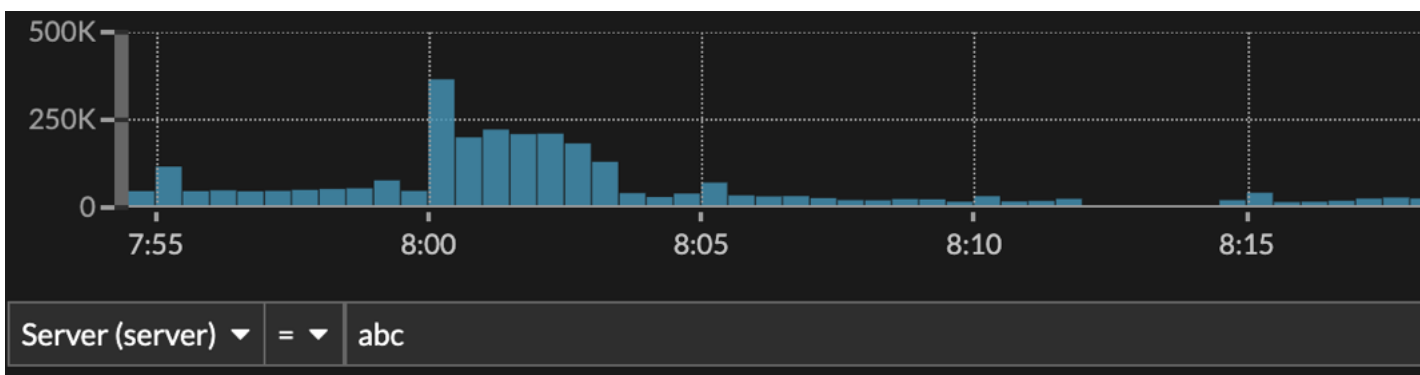
The **Refine Results** section shows you a list of common record filters for the selected record type with the number of records that match the filter in parenthesis.

### Filtering record results through the trifield

Click the pencil icon  to edit an existing filter or click the Add Advance Filter button  to add a new filter.

In the **Filter Display Name** field, you can specify a descriptive name to identify the general purpose of the query.

Select a criteria option from the drop-down menu (the default option is IPv4 Address), select an operator (such as the equal sign (=)), and then type the search value. Click **Add filter**, and the filter is added above the filter bar.



Your results only show records that match the filter.

The following operators can be selected, based on the selected field name:

Operator	Description
=	Equals
≠	Does not equal
≈	Includes <p>If records are stored on an ExtraHop recordstore, the includes operator matches whole words delineated by spaces and punctuation. For example, a search for "www.extra" would match "www.extra.com" but not "www.extrahop.com".</p> <p>For all other recordstores, the includes operator matches substrings, including spaces and punctuation. For example, a search for "www.extra" would match "www.extrahop.com", but a search for "www extra" would not match "www.extrahop.com".</p> <p>Regex and wildcard characters are not supported.</p>
≈/	Excludes <p>If records are stored on an ExtraHop recordstore, the excludes operator matches whole words</p>

Operator	Description
	delineated by spaces and punctuation. For example, a search for "extra" would exclude "www.extra.com" but not "www.extrahop.com".  For all other recordstores, the excludes operator matches substrings, including spaces and punctuation. For example, a search for "www.extra" would exclude "www.extrahop.com", but a search for "www extra" would not exclude "www.extrahop.com".  Regex and wildcard characters are not supported.
<	Less than
≤	Less than or equal to
>	Greater than
≥	Greater than or equal to
starts with	Starts with
exists	Exists
does not exist	Does not exist


### Filtering directly from record results

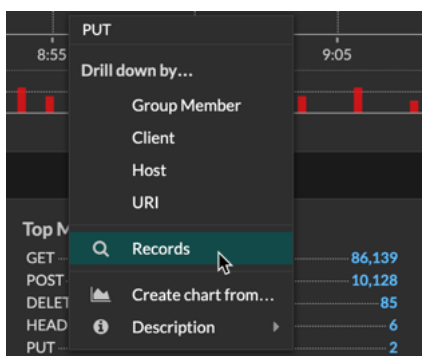
You can select any field entry displayed in either table view or verbose view in your record results and then click the pop-up operator to add the filter. Filters are displayed below the chart summary (except for the record type field, which is changed in the left pane).


The screenshot shows a table of records with columns for timestamp, protocol, and IP address. A filter menu is open over the IP address field of the last two records, showing options for 'Add filter', '=', and '≠'.

2020-05-27 08:44:59.772	HTTP	192.168.64.133
2020-05-27 08:44:59.661	HTTP	192.168.38.216
2020-05-27 08:44:59.613	HTTP	192.168.200.51
2020-05-27 08:		68.30.119
2020-05-27 08:		68.67.79

## Finding records in the ExtraHop system

- Type a search term in the global search field at the top of the screen and click Search Records to start a query across all stored records.
- From a device overview page, click **Records** to start a query filtered by that device.
- From a device group overview page, click **View Records** to start a query filtered by that device group.
- From a detection card, click View records to start a query filtered with the transactions associated with the detection.
- Click the Records icon  from a chart widget, as shown in the following figure.



- Click the Records icon  next to a detail metric after drilling down on a top-level metric. For example, after drilling down on HTTP Responses by Server, click the Records icon to create a query for records that contain a specific server IP address.