

# Working with custom pages

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Custom pages are user-defined pages that contain charts with custom metrics or built-in metrics that you specify. Custom pages are associated with a source and are accessible from the left pane of protocol pages, so you can view custom charts within the context of other protocol metrics for an application, device, or device group.



**Note:** Custom pages can only be viewed on Application, Device, and Device Group protocol pages by selecting **Switch to legacy layout** at the bottom left of the page. As an alternative to building a custom page, you can build a dashboard, which also contains customized charts of metrics that are important to you. For more information, see [Create a dashboard](#).

The following information shows you how to create custom pages and add charts to them.

## Create a page

**Important:** Assigning a custom page with [trends](#) to more than 1,000 devices might affect system performance.

1. Log into the Web UI on the Discover or Command appliance and then click the System Settings icon  at the top of the page.
2. Click **Pages** and then click **New**. The Page Configuration window opens.
3. On the Page Settings tab, complete the following steps:

### Name

In the Name field, type a page title.

### Author

Your ExtraHop username is displayed. You can change the username to another name.

### Page Type

In the Page type field, select a source from the drop-down list. This selection determines whether you can add an application, device, or network to your page.

### Description

In the description field, type information about your custom page.

4. Click the **Assignments** tab and complete one of the following steps:
  - Click **Assign to All**. Your custom page will be accessible from protocol pages for every application, device, or network discovered on the ExtraHop system, depending on the source you selected in the Page Type field on the Page settings tab.
  - Skip the Assignments field for now. You will manually add sources to your page in step 6 that will automatically populate this field.
5. Click **OK**. Your new page appears in the list of pages in the Pages window in System Settings.
6. Close the Pages window in System Settings and click **Metrics** at the top of the page to manually assign sources to your page. For example, to assign the All Activity application to your page, complete the following steps:
  - a) Click **Application**.
  - b) Select **All Activity** and then select **All Activity** at the top of the left pane to access properties for this application.
  - c) Click the **Pages** tab and then click the green plus icon. From the drop-down list, select your page name. Your page is now accessible from the All Activity protocol page.



**Note:** If the source specified in the Page type field does not match the source of the object you are viewing, your page will not appear in the drop-down list. For example, the device page type will not appear in the drop-down list for an application such as All Activity.

7. Your new page is empty. To add data to your page, complete the following steps:
  - [Add charts to a page](#)
  - [Add a trend chart to a page](#)

## Add charts to a page

1. Log into the Web UI on the Discover or Command appliance, and then click **Metrics** at the top of the page.
2. Select the protocol page that is assigned to a page you created. For example, if you assigned the All Activity application to your page, click **Applications**, select **All Activity**, and then select the name of your page in the left pane.
3. In the upper right corner of the page, click **Edit Page**.  
The custom page toolbar appears below.
4. Click **Add Chart**.
5. In the **Title** field, type a name for the chart.
6. In the Metric Source field, complete one of the following steps:
  - Select **Built-in** to display any of the 4,000+ metrics available in the ExtraHop system.
  - Select **Trigger** to display a custom metric that was manually created to collect specific information about your environment.
7. In the **Metric Type**, select one of the following metric types from the drop-down list:

Metric Type	Definition	Sample Metrics
Count	Integer datatype	<ul style="list-style-type: none"> <li>• Number of packets in the network capture</li> <li>• Number of requests to the HTTP server</li> <li>• Number of errors on the database server</li> </ul>
Dataset	A frequency table. For each entry, the frequency is the number of times a value has been seen.	<ul style="list-style-type: none"> <li>• HTTP server request transfer time</li> <li>• HTTP server processing time</li> <li>• HTTP server response transfer time</li> </ul>
Sampleset	Mean and standard deviation	<ul style="list-style-type: none"> <li>• HTTP server processing time detail (timing shown when clicking on HTTP server "Responses")</li> <li>• Database server processing time detail (timing shown when clicking on DB server "Methods")</li> <li>• CIFS server access time detail (timing shown when clicking on CIFS "Files")</li> </ul>

Metric Type	Definition	Sample Metrics
		<ul style="list-style-type: none"> <li>TCP round trip times (timing shown when clicking on TCP "Accepted" or "Connected")</li> </ul>
Snapshot	Integer datatype, which represents a snapshot in time	TCP established connections
Maximum	The final value produced from all of the recorded values	Top slowest database statements

8. In the Chart Type field, select one of the following charts from the drop-down list depending on the metric type you selected:

Metric Types	Chart Description
Count, snapshot, or maximum	<p><b>Title</b> Displays the total value for a metric.</p> <p><b>Area</b> Displays metric values as a line that connects data points over time, with the area between the line and axis filled in with color.</p> <p><b>Rate</b> Displays metric values as data points in a line over time.</p> <p><b>Column</b> Displays metric data as vertical columns over a selected time interval.</p>
Dataset or sampleset	<p><b>Line</b> Displays metric values as data points in a line over time.</p> <p><b>Box</b> Displays variability for a distribution of metric data. Each horizontal line in the box plot includes three or five data points.</p> <p><b>Bar</b> Displays the total value of metric data as horizontal bars.</p> <p><b>Heatmap</b> Displays a distribution of metric data as vertical bars or bins. The heatmap displays only one dataset metric.</p>

9. Complete one of the following steps depending on the chart type you selected:
- For line, boxplot, bar, and heatmap charts, type a label for the Y-axis in the **Units Label** field.
  - For line, box, and bar charts, click the **Use logarithmic scale** checkbox to view the values in non-linear intervals.
  - For line, box, heatmap, and bar charts, click the **Percentiles** drop-down list and select which percentiles you want to display.

- For line charts, select the icon with the type of line chart you want to view.
    - Broken line segments from a list of percentiles
    - Dashed bar series from a pair of percentiles
10. In the Metrics field, complete one of the following steps to add metrics to your chart:
    - Click **Find** and complete one of the following steps:
      - If **Built-in** was selected as the Metric Source, then the Available Metrics list displays all the built-in metrics available in the ExtraHop system. Select the protocol metric from the list. Or type the metric name in the Metric Name or Detail Metric Name fields and then select the protocol metric that matches that substring. Click **OK**.
      - If **Trigger** was selected as the Metric Source, then the Available Metrics list displays all the custom metrics available in the ExtraHop system. Select the metric name from the list. Or type the metric name in the Metric Name or Detail Metric Name fields and then select the protocol metric that matches that substring. Click **OK**.
    - To add a new line to the table, click **New** to add a new line to the table, and complete the following steps. Click the **Display Name**, **Metric Name**, or **Detail Metric Name** to type a metric name.
    - To display a detail metric as a top-level metric in a chart, apply the following syntax:
      - For built-in detail metrics, click **New** and type the metric name, the ? character, then a substring to match a key. For example: `http_server_detail:req?10.10.6.79` or `uri_http_server_detail:req?uri_substring`
      - For custom detail metrics, type the prefix `custom_detail:`, the metric name, the ? character, and then a substring to match the key. For example: `custom_detail:custom_detail_metric_name?substring`
-  **Note:** The substring must match one key exactly. If multiple keys are matched, results will be incorrect. You cannot plot sets of sets of detail metrics (for example, HTTP status codes and DB methods) as top-level metrics.
11. Click **OK**.
  12. Click **Done Editing** above the custom page toolbar.

## Add a trend chart to a page

1. Log into the Web UI on the Discover or Command appliance. and then click **Metrics** at the top of the page.
2. Select the protocol page that is assigned to a page you created. For example, if you assigned the All Activity application to your page, click **Applications**, select **All Activity**, and then select the name of your page in the left pane.
3. In the upper right corner of the page, click **Edit Page**.  
The custom page toolbar appears below.
4. Click **Add Trend Chart**.
5. In the Add Trend Chart window, complete the following steps:in the **Title** field, type a name for the chart.
  - a) In the Title field, type a chart name.
  - b) In the Units Label field, type a label for the units in your chart.
  - c) To show a logarithmic measurement in your chart, click the **Use logarithmic scale** checkbox. If you do not click the checkbox, the chart will show a linear measurement by default.
6. Click **Add Trend Line**. For new charts, click **Yes** at the prompt to save the chart.
7. Select your [trend configurations](#) and the select **OK**. You can add more trend lines to your chart.
8. Click **OK**.
9. Click **Done Editing** above the custom page toolbar.

## Delete, disable, enable, or copy custom pages

1. Click the **System Settings** icon at the top of the page.
2. Click **Pages**.
3. Search for the custom page that you want to manage. The Filter text box above the table supports substring matching and regular expressions.
4. Select the checkbox next to the page(s) and then complete one of the following steps:
  - Click **Copy**. The name of the copied page is generated automatically by appending the word "(copy)" to the original name.
  - Click **Delete** to permanently remove the custom page from the ExtraHop system.
  - Click **Enable**. Custom pages that were previously disabled will become active and appear in the left panel.
  - Click **Disable**. The selected custom pages will become inactive and not be accessible from the left pane of protocol pages.

## Trend configuration

You can add trend lines to your custom page. From the Trend Configuration window, you can specify the following information:

- Configure the [Trend Lines](#)
- Determine the [Weighting Model](#)
- Add an optional [Multiplier](#)
- Configure [Exclusion Intervals](#)
- Enter an optional [Description](#)
- View the trend [History](#)

### Trend Line

The **Trend Line** tab provides the following configuration settings to define the trend line:

#### Name

In the Name field, type a name for the trend.

#### Author

In the Author field, type a custom name. The author is set by the Discover appliance based or set manually by the user.

#### Disable Trend

Select **Disable Trend** to stop calculating data for the trend line.

#### Metric

In the Metric field, select a metric to calculate data for your trend. Click the gear icon to the right of this field. Trends with dataset and sampleset metrics have the following additional options:

#### Merge

Merges all the datasets and applies the trending function to one big dataset.

#### Mean

Takes the mean of each dataset.

#### Percentile

Allows you to set a percentile value of datasets.

## Standard Deviation

Calculates the normal deviation compared to the current trend with the same standard deviation parameters as the trend. These parameters can be absolute or relative, and population or sample. Normalization displays the standard deviation relative to mean. Click the **Normalization** drop-down list and select one of the following options.

### Absolute

Displays the standard deviation as a constant.

### Relative to Mean

Displays the standard deviation relative to the mean.



**Note:** If the trend is not a standard deviation, it is calculated as an absolute sample.

## Ratio

Click the **Ratio** checkbox if the data will be measured as a ratio.

## Window

In the Window field, select one of the following calculations from a drop-down list:

### Same Hour of Week

Calculates the trend within a specified 1-hour window each week.

### Same Hour of Day

Calculates the trend within a specified 1-hour window each day.

### Minute Rolling Average

Calculates the trend based on the average of the data gathered each minute within a specified amount of time from the present time.

### Hour Rolling Average

Calculates the trend based on the average of the data gathered each hour within a specified amount of time from the present time.

## Lookback

In the Lookback field, type the number of minutes of lookback to begin the trend calculation.

## Weighting Model

Click the **Weighting Model** tab to select options for how to weigh the trend line. For more information about weighting models, see the ExtraHop blog post, [Using Math Adds up to Better Alerts](#).

## Mean

In the Mean field, select one of the following options from the drop-down list to calculate the average:

### Linear Average

Calculates the average with all data points weighted equally.

### Single Exponential

Calculates the average with the most recent data points weighted more heavily.

### Double Exponential

Calculates the average with the most recent data points weighted the most heavily.

For linear averages, the most recent value is weighted at 1 times the oldest value by default. For single and double exponential means, enter a number to weight the most recent value.

## Percentile

In the Percentile field, select one of the following options from the drop-down list to specify the percentile value that will be the basis for creating the trend:

### Percentile

Records the trend with data points from a user-specified percentile.

### Min Value

Records the lowest data point gathered during the time interval.

### Max Value

Records the highest data point gathered during the time interval.

### Regression

In the Regression field, select one of the following options from the drop-down list:

#### Linear

Calculates steadily increasing trends based on previous trends that are equally incremental.

#### 2nd Degree Polynomial

Calculates exponentially accelerating trends by projecting a curve with the following equation:

$$y = ax^2 + bx + c$$

### Standard Deviation

In the Standard Deviation field, select one of the following options from the drop-down list to calculate the normal deviation compared to the current trend:

#### Type

Applies a sample-based or population-based standard deviation.

#### Normalization

Displays the standard deviation relative to mean.



**Note:** If a trend is a standard deviation, its associated alerts apply the same parameters as the trend. If the trend is not a standard deviation, then the alert is calculated as "sample" and "absolute".

### Static Value

In the Static Value field, type a number that will be the basis for calculating a static value. A static value is useful for monitoring constant lines for service level agreements (SLAs) in a chart.

### Time Delta

Select the Time Delta option to display the oldest trend, resulting in a time delta option based on the lookback window.

### Trimean

Calculates the weighted average of the 25th, 50th, and 75th percentile values.

### Winsorized Mean

In the Winsorized Mean field, select one of the following options from the drop-down list to replaces the most outlying values with the highest and lowest remaining values. Values above the 90th percentile become the same value as the 90th and values below the 10th percentile become the same value as 10th.

### Multiplier

The Multiplier tab allows you to specify a multiple of the trend to appear in your chart, which can be useful for banding.

#### Multiplier

In the Multiplier field, type a number by which to multiply the trend line.

### Offset

In the Offset field, type a number to display an offset line along the x-axis. Positive numbers offset forward and negative numbers offset backward. Click the drop-down list and select one of the following:

**(absolute)**

Displays the offset as a constant.

**per minute**

Calculates the offset per minute.

**per hour**

Calculates the offset per hour.

**Exclusion Intervals**

The Exclusion Intervals tab displays all the defined exclusion intervals that can be applied to trends. From this page, you can configure exclusion intervals. The Exclusion Intervals table contains the following information:

**Name**

Specifies the name of the exclusion interval.

**Description**

Provides a space for an optional, user-defined description.

**Type**

Specifies the type of exclusion interval, which includes the following options:

**One-time**

Specifies an exclusion period that occurs only once from a designated start time (date and time) to a designated end time (date and time).

**Daily**

Specifies an exclusion period that occurs every day from a designated starting hour to a designated ending hour.

**Weekly**

Specifies an exclusion period that occurs every week from a designated start time (day and time) to a designated end time (day and time).

**Description**

The Description tab provides a space for an optional, user-defined description of the trend.

**History**

The History tab displays changes that have been made to the trend. The table contains the following columns:

**Change**

Displays the change that was made to the trend.

**Author**

Displays the author of the change.

**Timestamp**

Displays when the change was made.