Splunk4Rookies - Dashboard Studio

Lab Guide

Overview

The purpose of this workshop is to introduce users to Dashboard Studio.

Prerequisites

To complete these exercises, you need your own Splunk instance. Splunk's hands-on workshops are delivered via the Splunk Show portal, which you need a Splunk.com account to access.

If you don't have a Splunk.com account, create one here before proceeding with the workshop.

⚠ Troubleshooting Connectivity

If you experience connectivity issues with accessing your workshop environment or the event page, try the following troubleshooting steps. If you still experience issues, reach out to the team running your workshop.

- **Use Google Chrome** (if you're not already).
- If the event page (the link provided by your workshop host) didn't load when you clicked on the link, try **refreshing the page.**
- **Disconnect from VPN** (if you're using one).
- **Clear your browser cache and restart your browser** (if using Google Chrome, go to: Settings > Privacy and security > Clear browsing data).
- **Try using private browsing mode** (e.g. incognito in Google Chrome) to rule out any cache issues.
- **Try using another computer** such as your personal computer. All you need is a web browser! Corporate laptops often block cloud platforms like AWS.

splunk>

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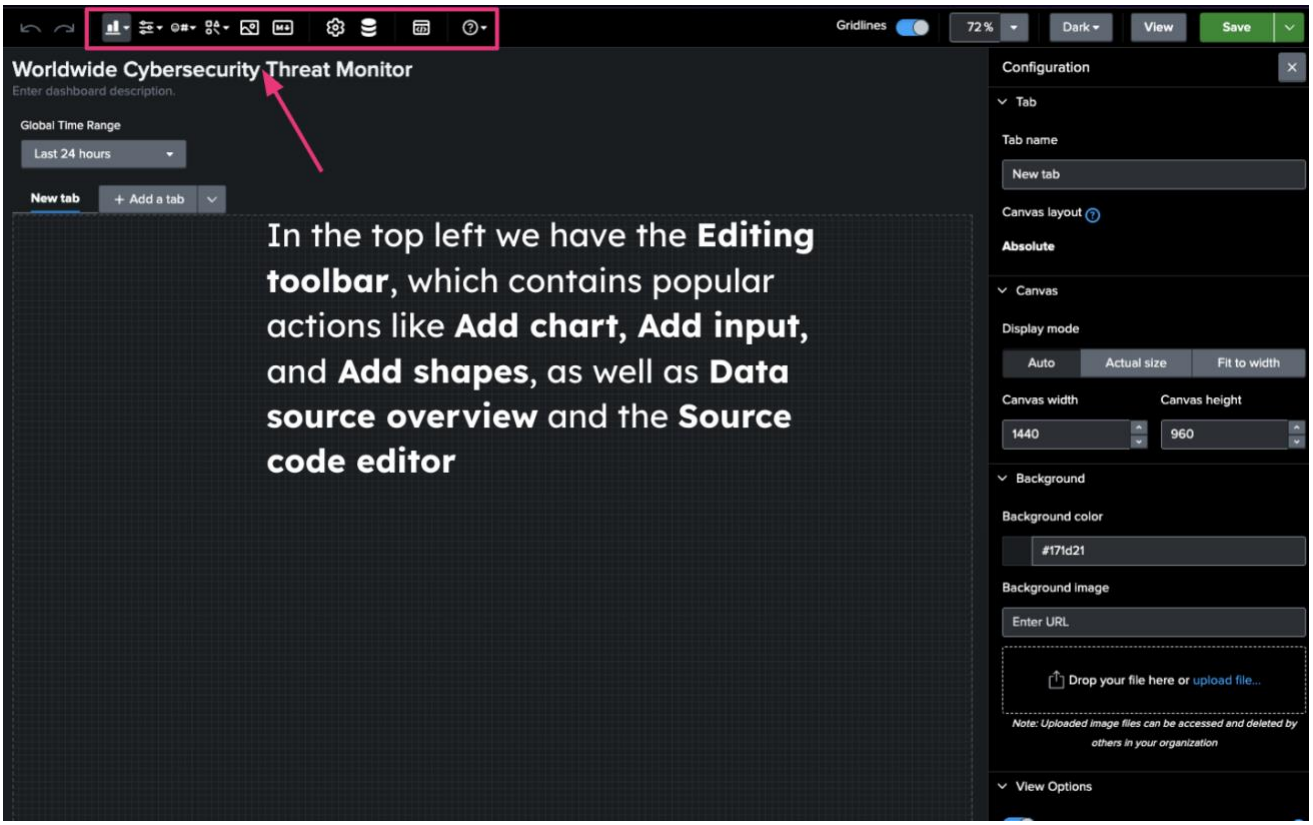
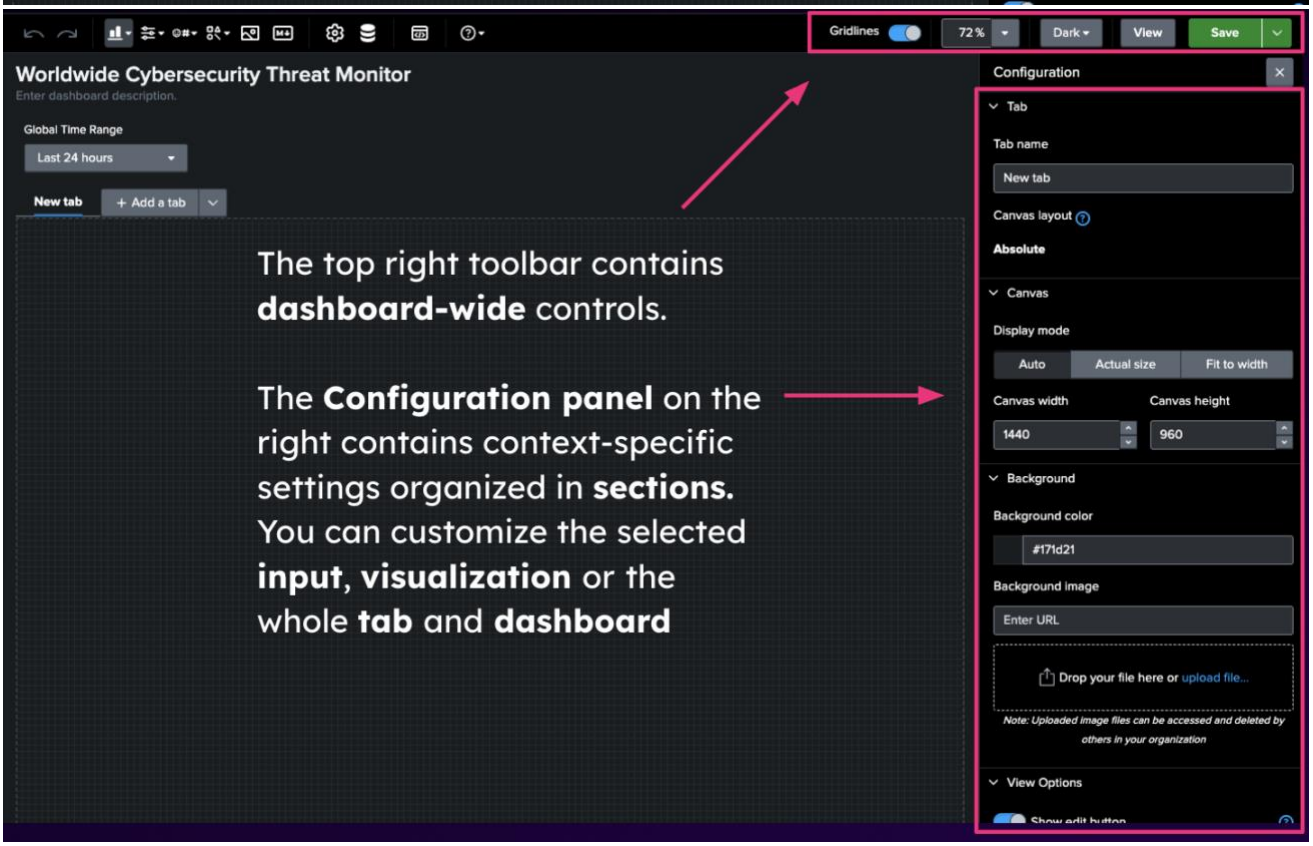
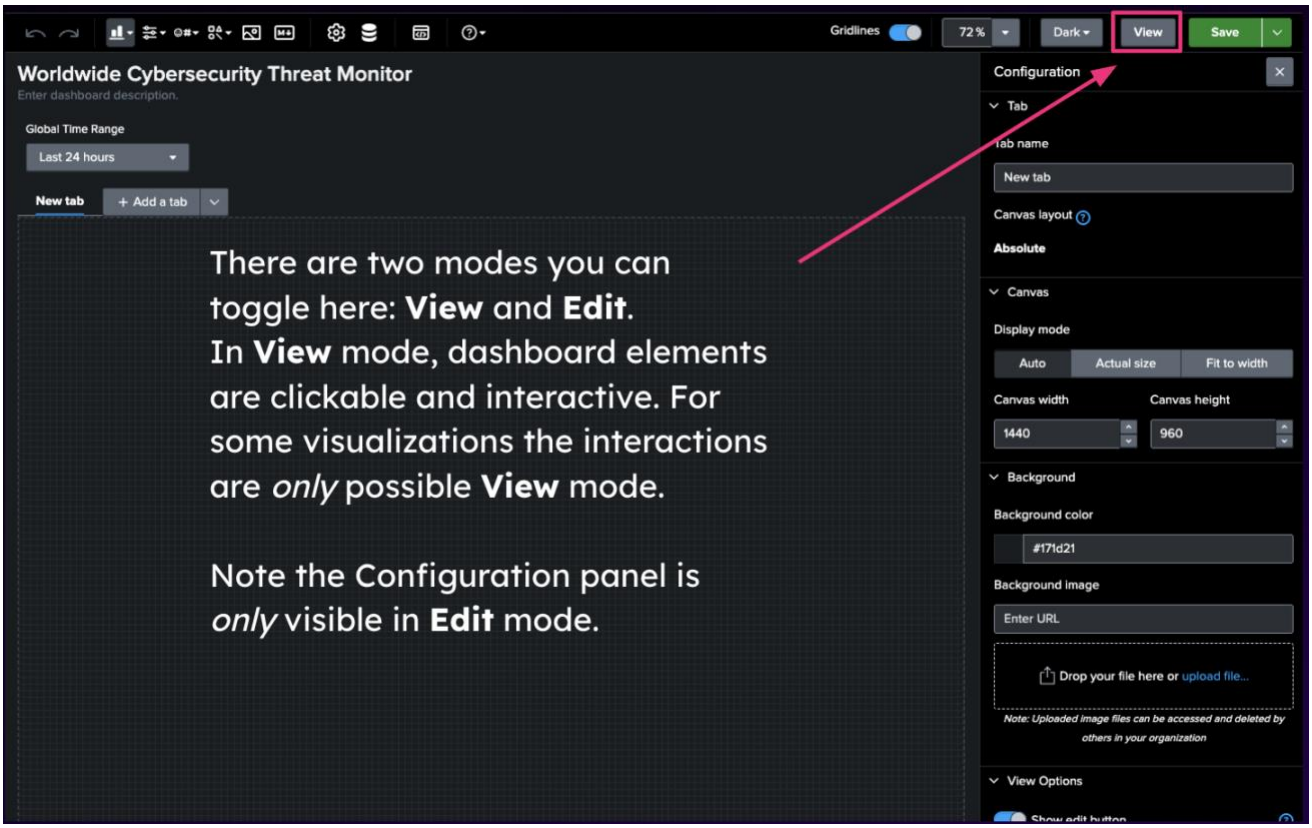
Editor Tour

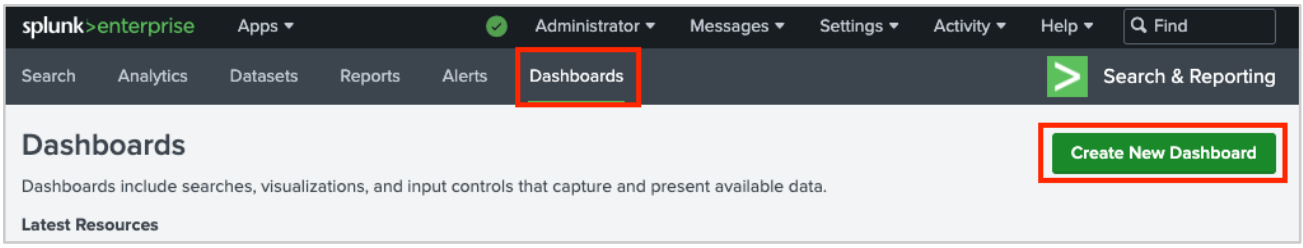






Exercise 1 – Create a New Dashboard

1. Navigate to the **Search & Reporting** app and click on the **Dashboards** tab in the menu bar. Click on the **Create New Dashboard** button.

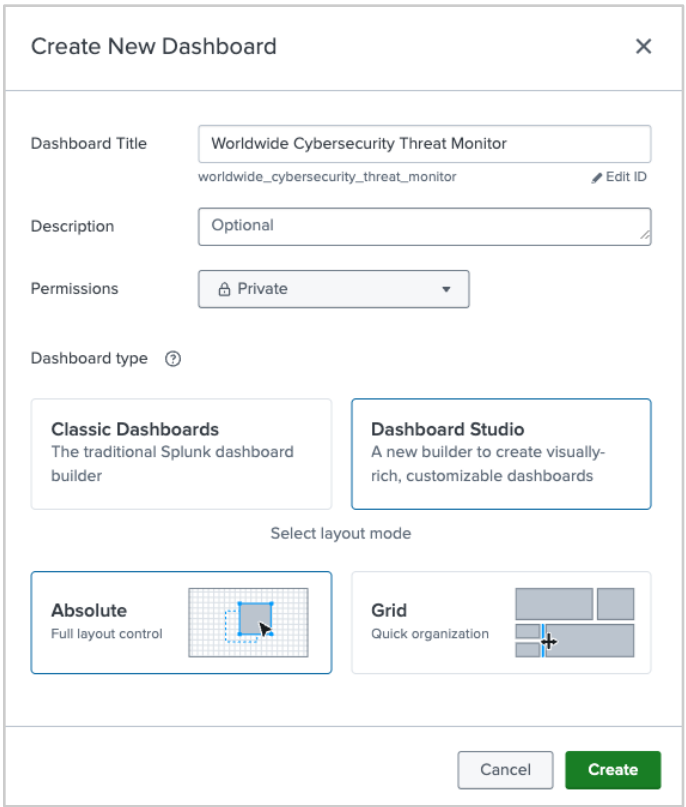


2. Title your dashboard ***Worldwide Cybersecurity Threat Monitor <your name>***

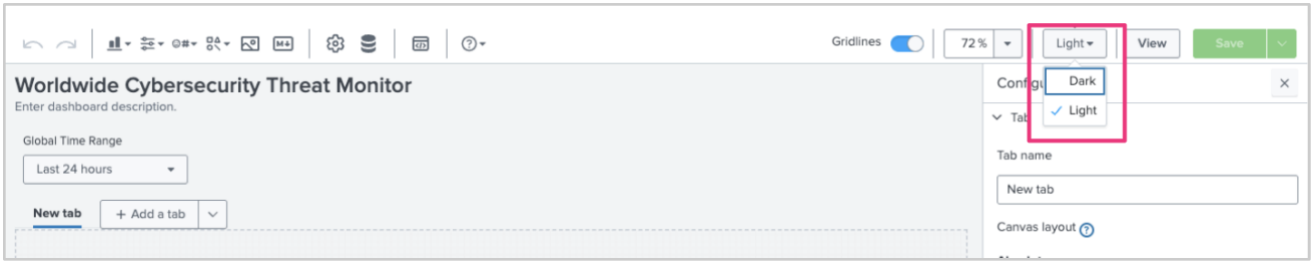
3. Select the **Dashboard Studio** option to build your dashboard.

4. Select the **Absolute layout.**

5. Click on **Create.**



6. Using the dropdown on the right side of the editor toolbar, it should be set to **Light** by default, change the mode to **Dark**.



Exercise 2 – Add a Table

Add the visualization

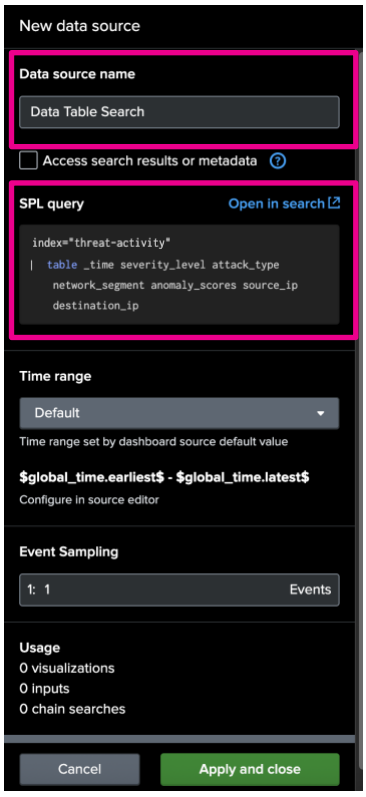
1. Select Table from the Visualization dropdown in the menu bar.

In the **Select data source** panel, select **Search > + Create search.**

2. Set the **Data source name** to “Data Table Search” and input the following search into the **SPL query** input field:

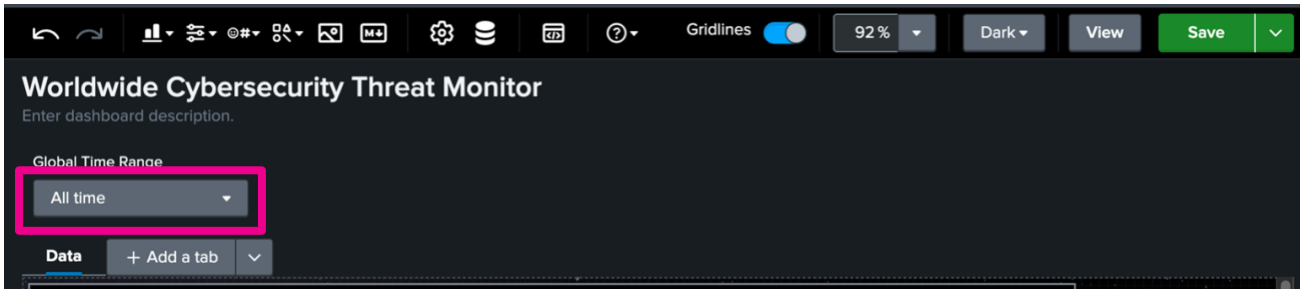
```
index="threat-activity"
| table _time severity_level attack_type network_segment anomaly_scores
source_ip destination_ip
```

3. Click on **Apply and close** at the bottom of the panel.



Adjust the Global time range picker

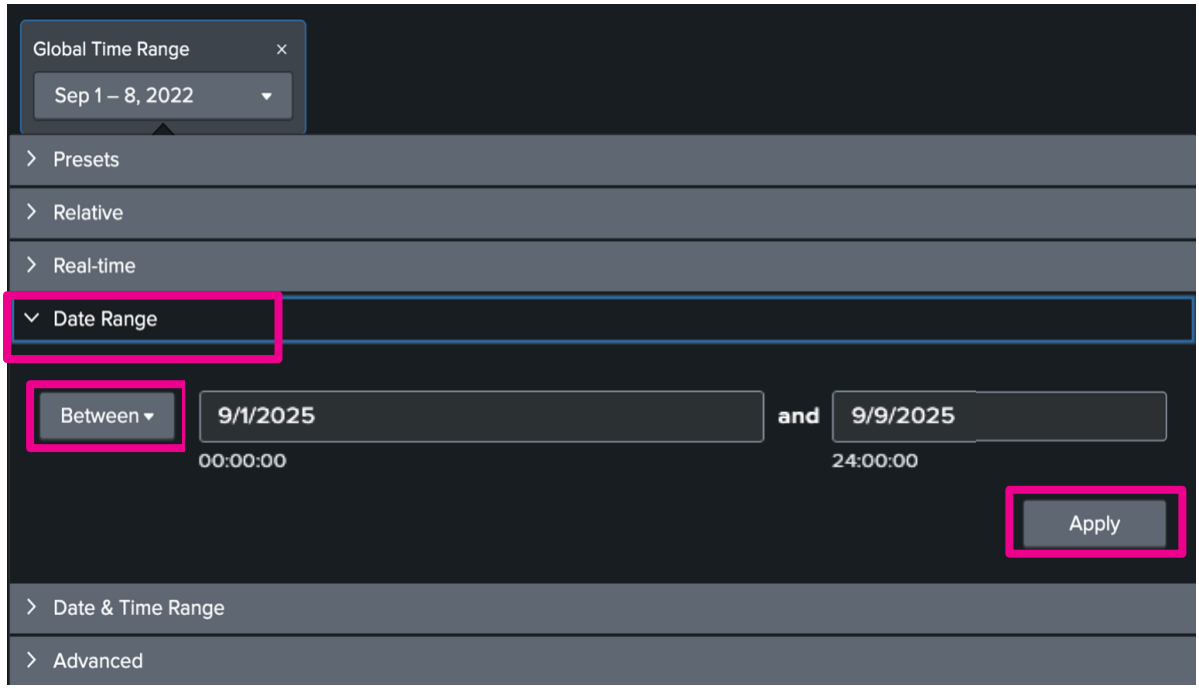
4. Click on the Global Time Range picker dropdown.



5. In the popup, select **Date Range** and then set the range option to **Between.**

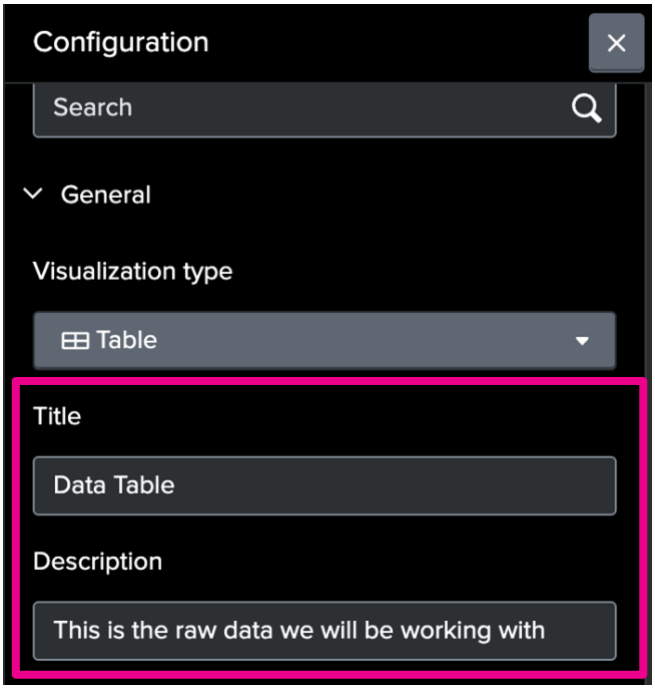
6. Enter **9/1/2025** and **9/9/2025** as our date range.

7. Make sure to click **Apply** to confirm your changes to the **Global Time Range.**



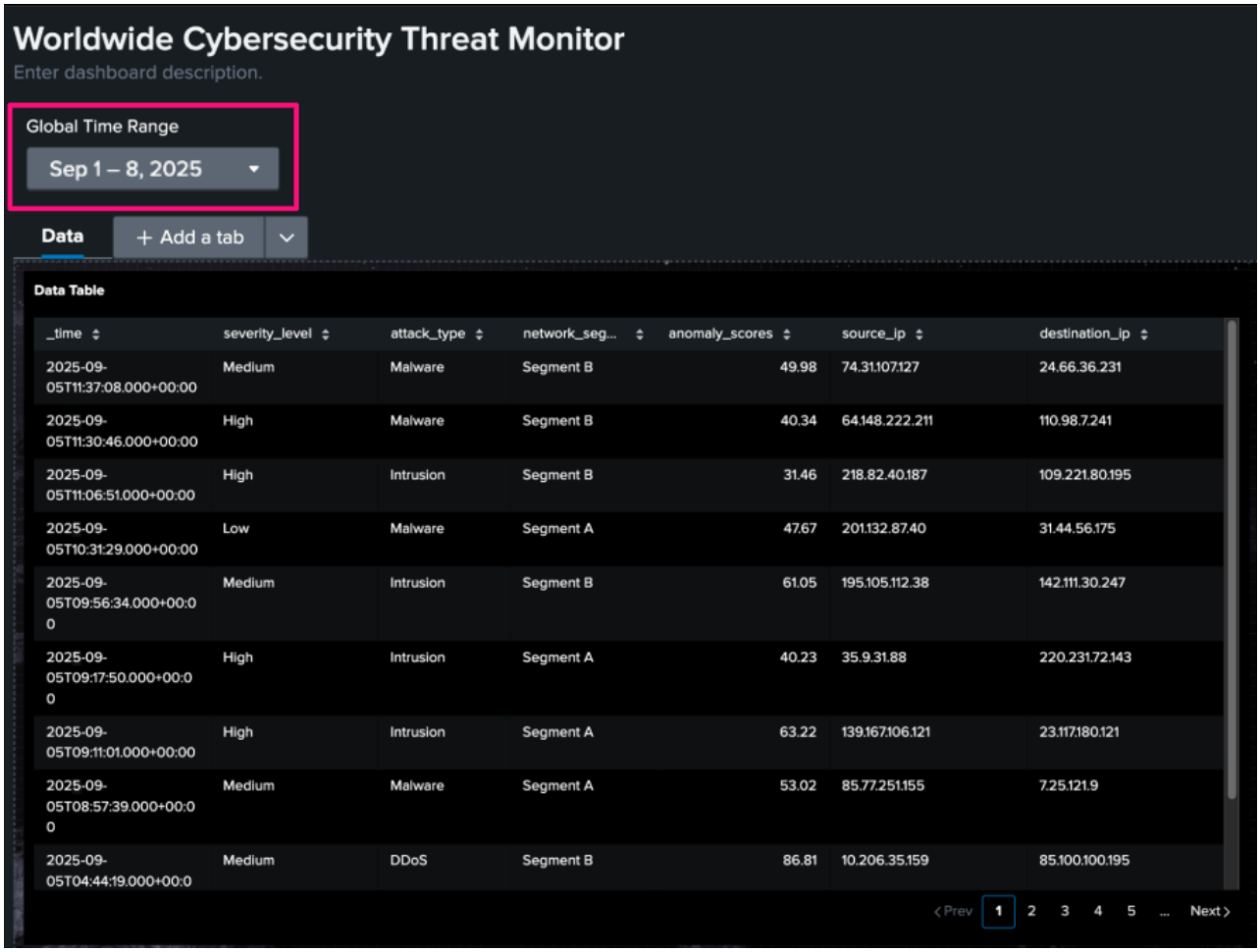
Configure the visualization

8. Click on the table you just added and in the **Configuration** panel, under **General > Title**, input “Data Table”, and under **General > Description**, input “This is the raw data”



9. Move and resize your table to fill the canvas.

At this point in the workshop, the dashboard looks like this:

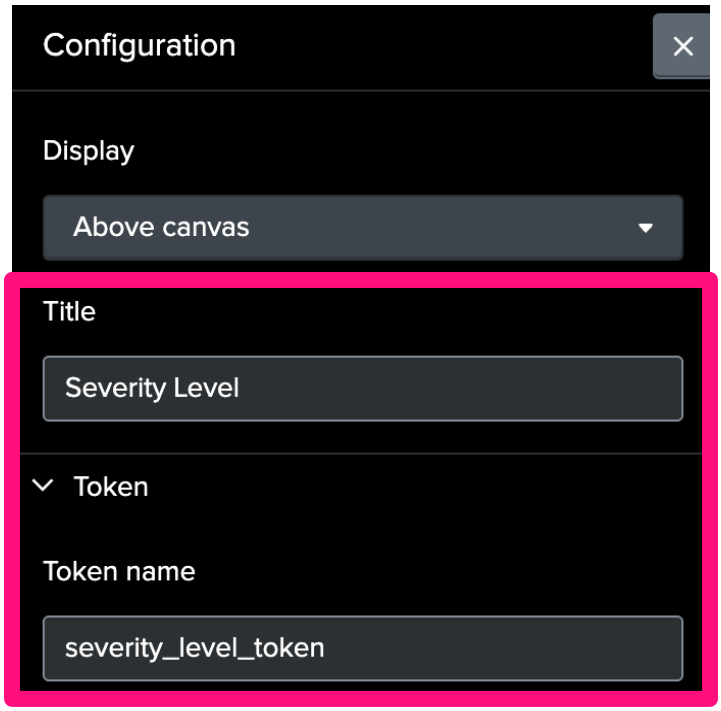


Exercise 3 - Filtering with Tokens

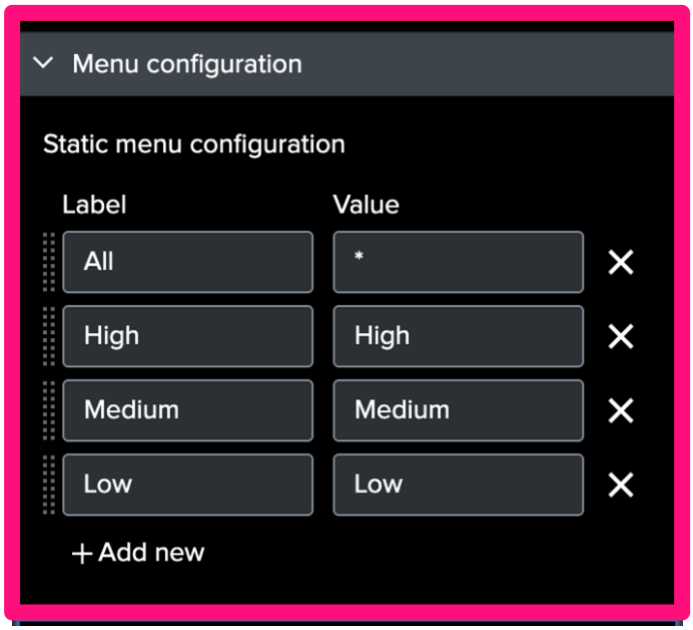
Add the input

1. Click on the Inputs icon ( ) in the editing toolbar, and then select **Dropdown.**

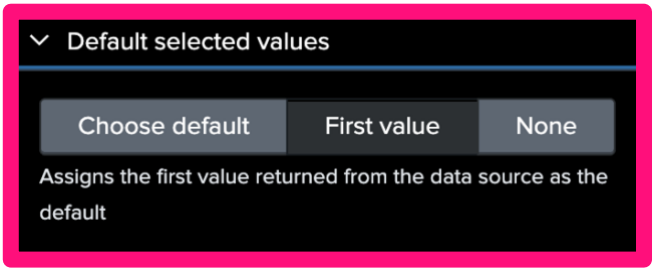
2. In the **Configuration** panel, set the **Title** to *Severity Level*, and the **Token name** to *severity_level_token.*



3. Go to the **Static menu configuration** section and enter the following options (click on **+ Add new** to add another row):



4. In the **Default selected values** section, select **First value**.



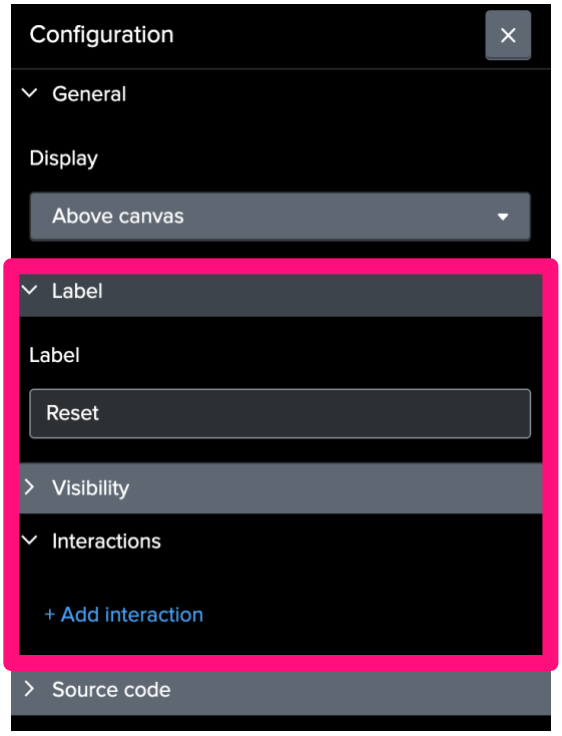
Use the token

5. From the editor toolbar, click ( ) to open the **Data source overview** panel.
6. Click the pencil icon ( ), next to "Data Table", to open its associated **Edit data source** panel. Change the **SPL query** to make sure there are quotes " " around **$severity_level_token$** :

```
index="threat-activity" severity_level = "$severity_level_token$"
| table _time severity_level attack_type network_segment anomaly_scores
source_ip destination_ip
```

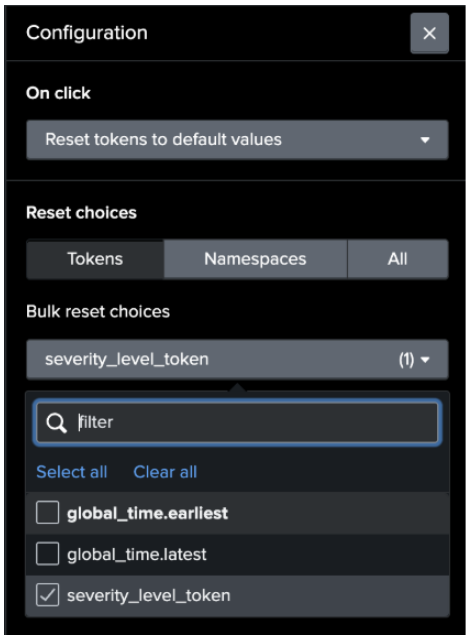
[OPTIONAL] Add a reset button

7. In the editor toolbar, select the Inputs dropdown ( ), then select the **Button** element.
8. In the button's **Configuration** panel, set the **Label** to "Reset".
9. Under Interactions, click on **+ Add interaction**.

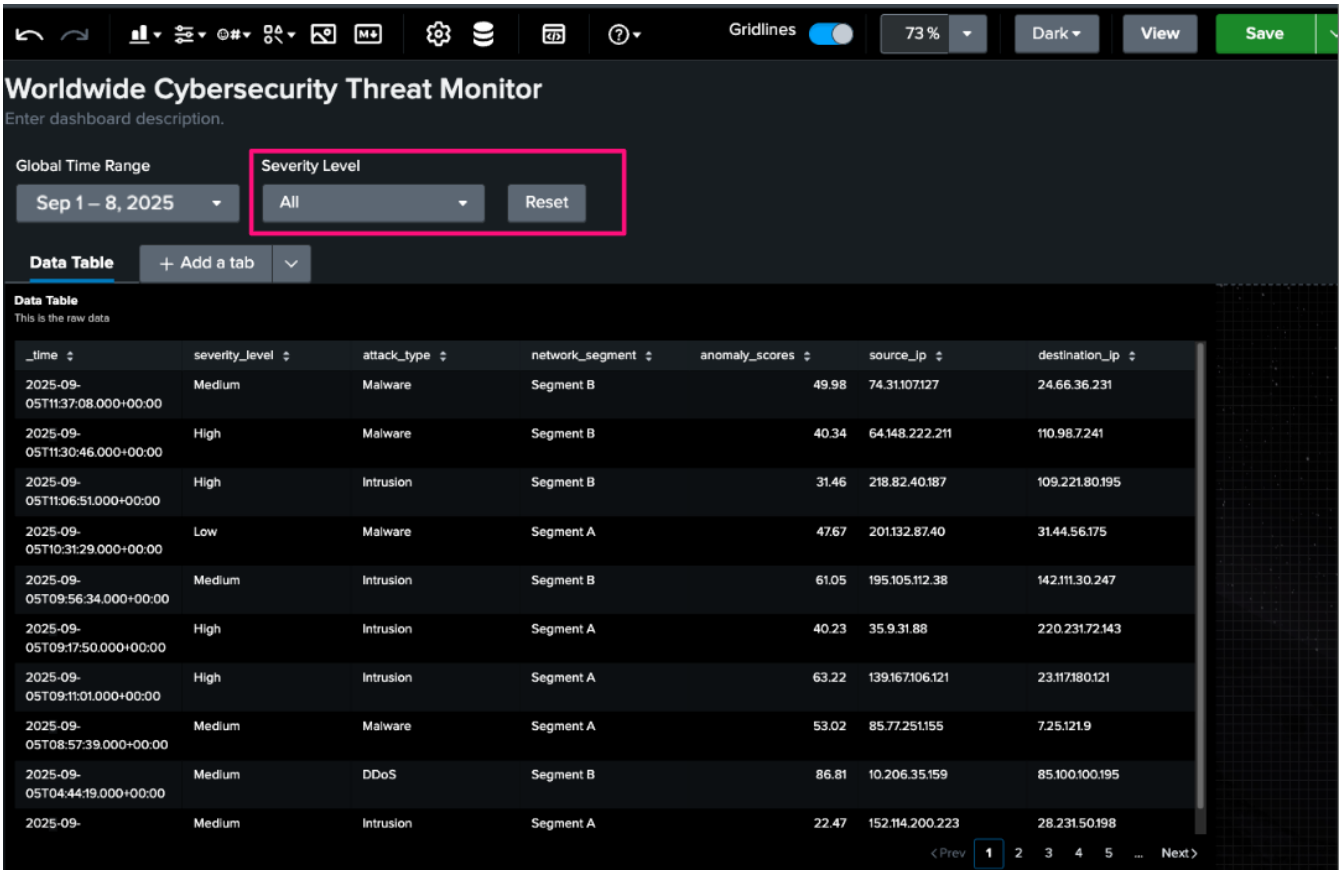


10. In the interaction's **Configuration** panel, under **On click** select **Reset tokens to default values.**

11. Under **Reset choices**, select **Tokens**, and under **Bulk reset choices**, select **severity_level_token.**



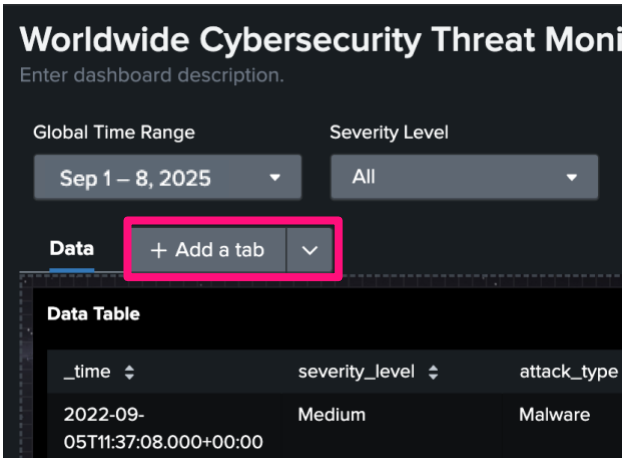
Your dashboard should now have a dropdown to set a filter by severity level and maybe a Reset button.



Exercise 4 - Add a New tab

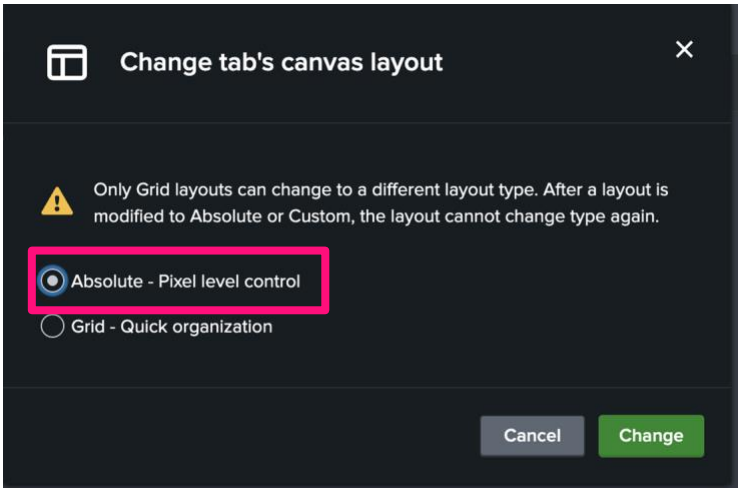
Set up the canvas

1. In the tab menu, just above the canvas, select **+ Add a tab**.



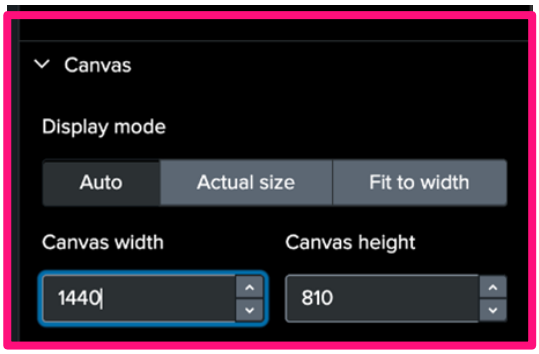
2. In the **Configuration** panel, set the **Tab name** to “Dashboard”.

3. Under **Canvas layout**, click **Change**. In the pop-up that opens, change the selection to **Absolute** and click **Change** to lock in your changes.



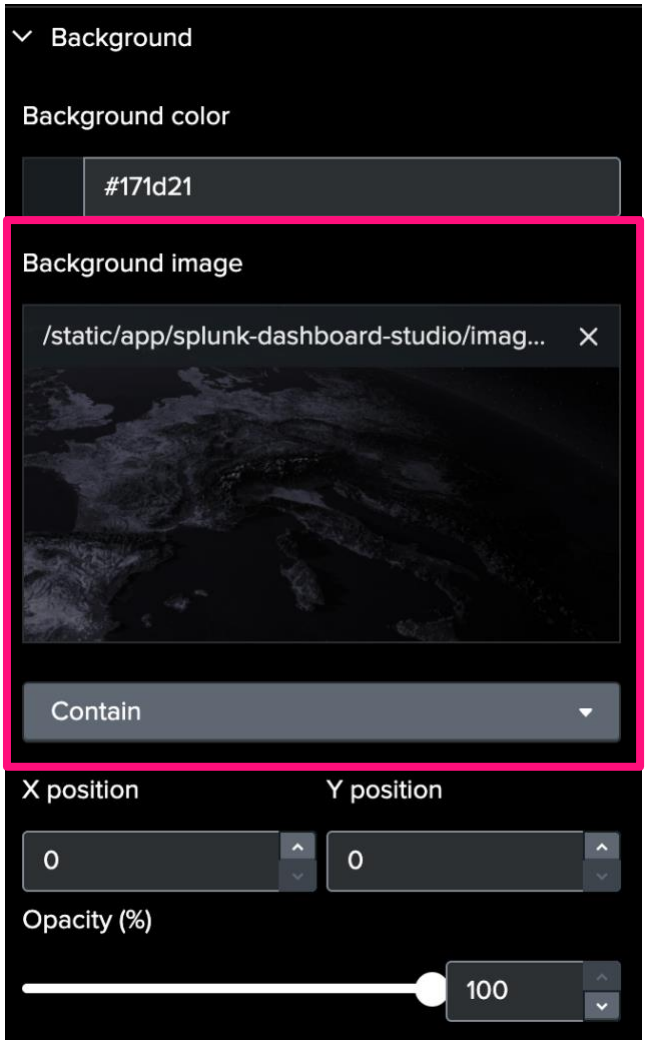
4. With the new tab’s **Configuration** panel still open, if it isn’t click on ( ), make sure the **Display mode** is set to **Auto**.

5. Change **Canvas Width** to “1440” and **Canvas Height** to “810”.

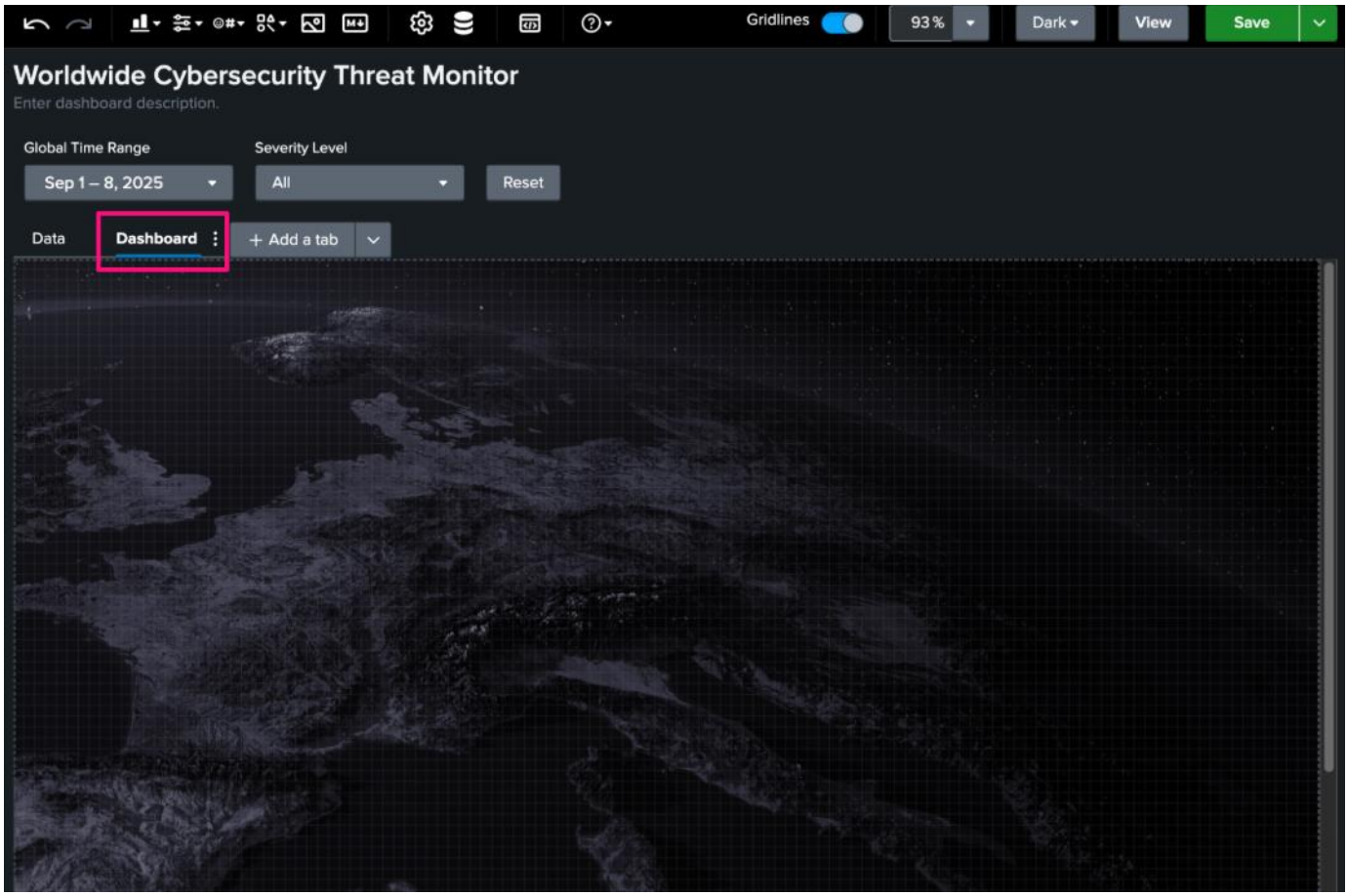


Add the background

6. In the **Configuration** panel, find the **Background Image** section and paste the following image URL into the **Enter URL** input: `/static/app/splunk-dashboard-studio/images/examples-hub/europe_network_hub/europe_network_hub_background_image.jpg`
7. In the dropdown below the preview image, it will default to **Contain**, select **Cover.**



Your dashboard should now have a new tab with the background image.



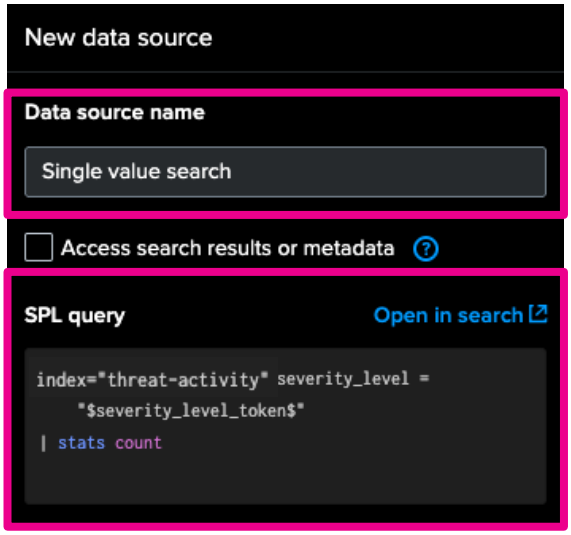
Exercise 5 – Create a Single Value Visualization

Add the visualization

1. Select **Single value** from the **Visualization** dropdown in the toolbar

2. In the **Select data source** panel, select **Search > + Create search.**
3. Set the **Data source name** to “Single value search” and input the following search into the **SPL query** input field:

```
index="threat-activity"
severity_level = "$severity_level_token$"
| stats count
```



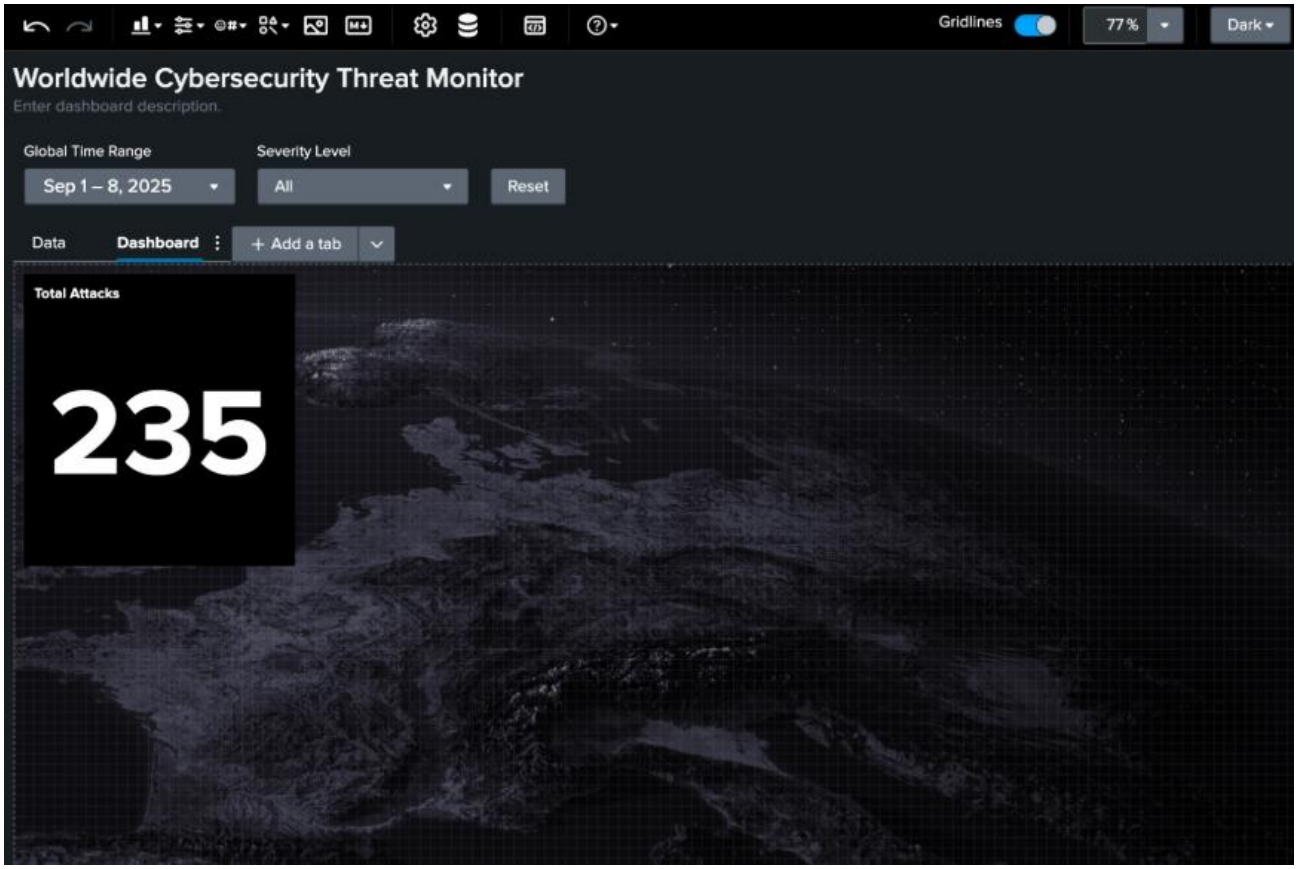
4. Click on **Apply and close** at the bottom of the panel.

Configure the visualization

5. In the single value visualization's **Configuration** panel, input "Total Attacks" as the **Title.**

6. Move and resize the visualization so it is in the top, left corner and covers about ¼ of the width of the dashboard.

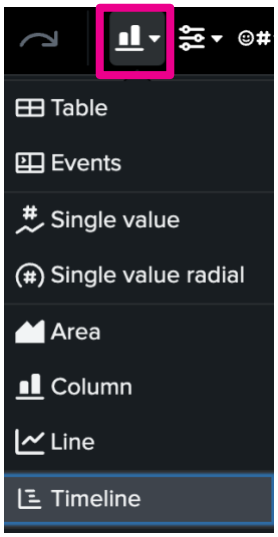
Your dashboard should now have a single value visualization! Make sure you save the dashboard.



Exercise 6 - Add a Timeline

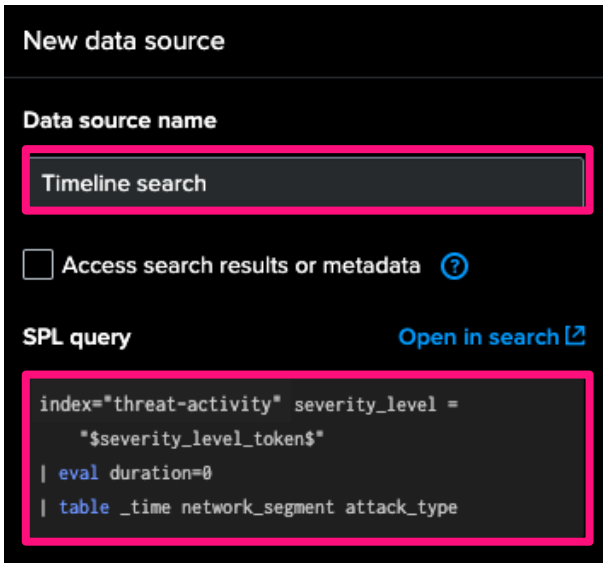
Add the visualization

1. Select **Timeline** from the **Visualization** dropdown in the toolbar.



2. In the **Select data source** panel, select **Search > + Create search.**
3. Set the **Data source name** to “Timeline search” and input the following search into the **SPL query** input field:

```
index="threat-activity" severity_level = "$severity_level_token$"
| eval duration=0
| table _time network_segment attack_type
```



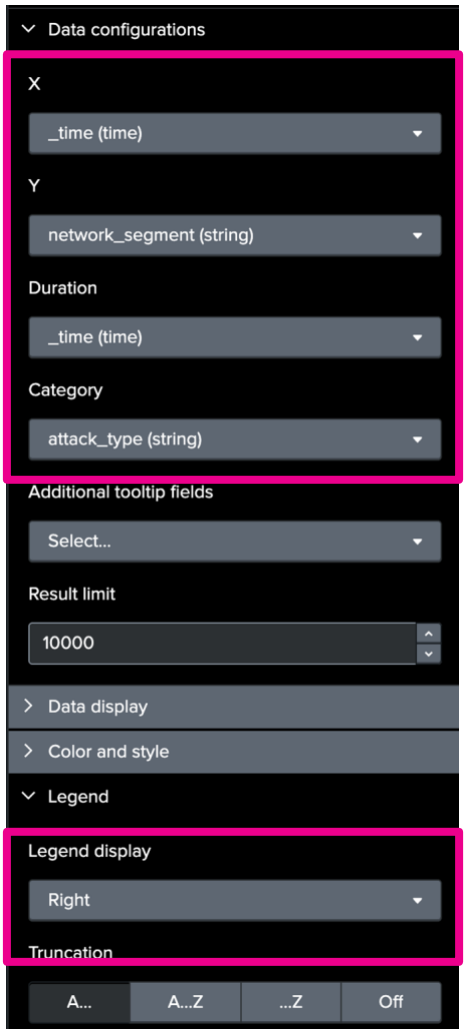
4. Click on **Apply and close** at the bottom of the panel.

Configure the visualization

5. In the Timeline's **Configuration** panel, input "Attack Types by Network Segment Over Time" as the **Title.**

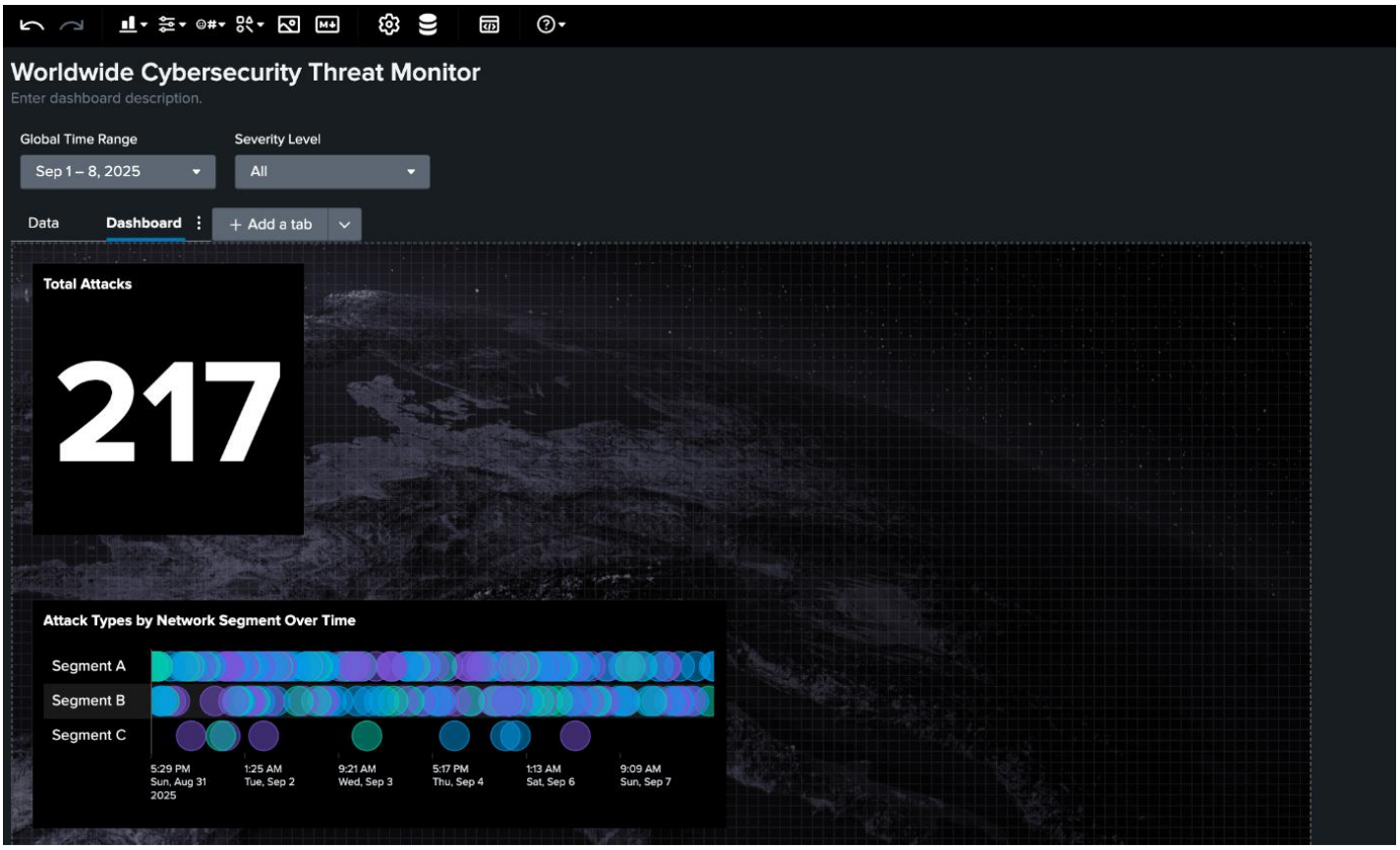
6. Under **Data configurations**, set the following settings:
    a. Under **X** select **_time.**
    b. Under **Y** select **network_segment.**
    c. Under **Duration** select **_time.**
    d. Under **Category** select **attack_type.**

7. Under **Legend display** select **Right.**



8. Move and resize the visualization. It should be below the single value visualization and fill about half of the dashboard.

Your dashboard should now have a timeline visualization! Make sure you save the dashboard.

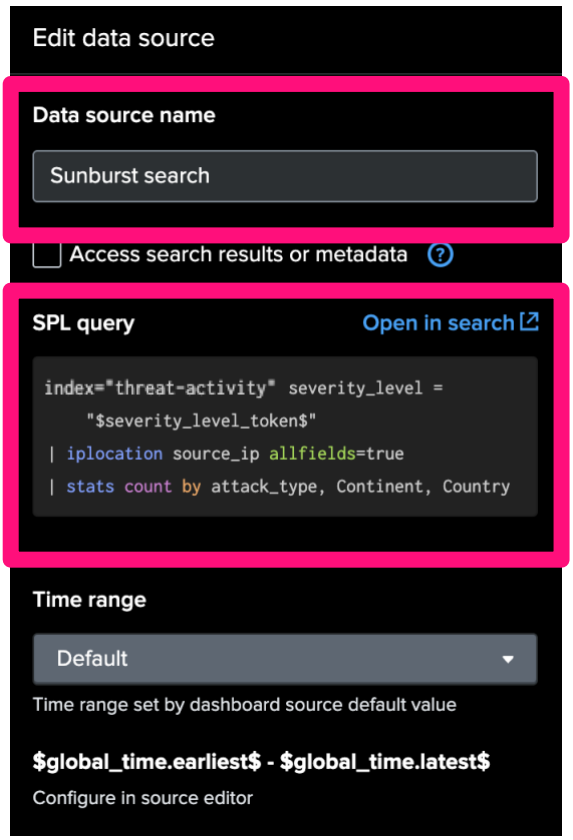


Exercise 7 - Add a Sunburst Visualization

Add the visualization

1. Select **Sunburst** from the **Visualization** dropdown in the toolbar. It should be at the bottom.
2. In the **Select data source** panel, select **Search > + Create search.**
3. Set the **Data source name** to “Sunburst search” and input the following search into the **SPL query** input field:

```
index="threat-activity"
severity_level = "$severity_level_token$"
| iplocation source_ip allfields=true
| stats count by attack_type, Continent, Country
```



4. Click on **Apply and close** at the bottom of the panel.

Configure the visualization

5. In the Sunburst's **Configuration** panel, input "Global Attack Distribution" as the **Title.**

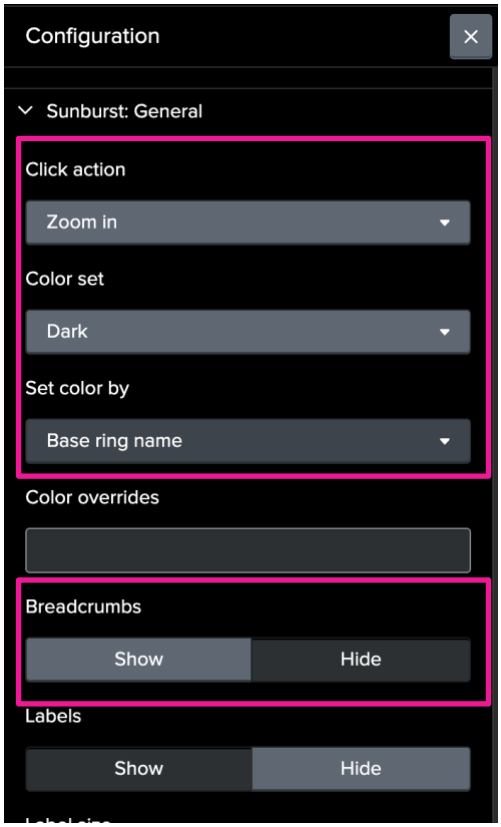
6. Still in the **Configuration** panel, find the **Sunburst: General** section. In that section, set the following settings:

    a. Under **Click action** select **Zoom in.**

    b. Under **Color set** select **Dark.**

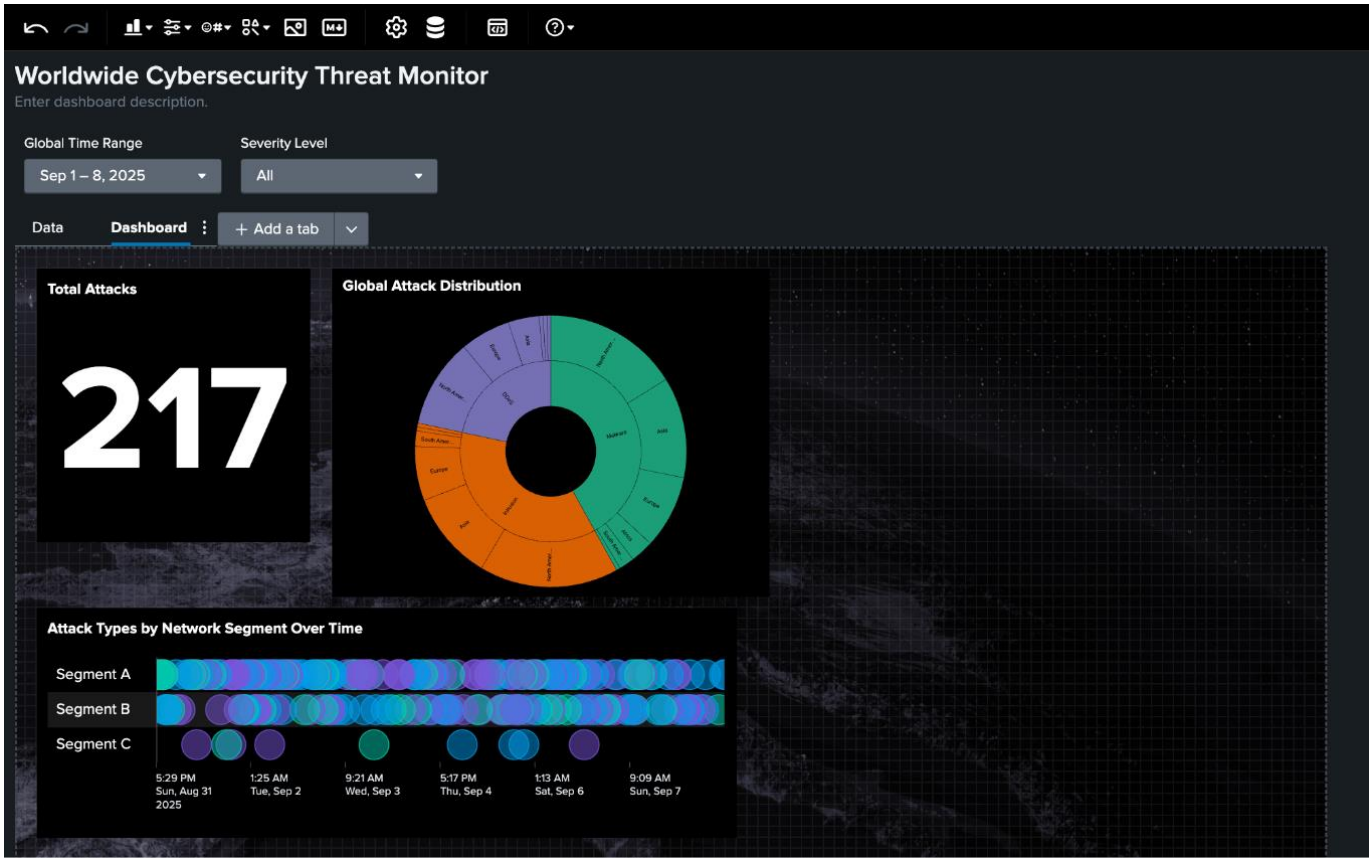
    c. Under **Set color by** select **Base ring name.**

    d. Under **Breadcrumbs** select **Hide.**



7. Move and resize the visualization. It should be next to the single value visualization and leave about half of the dashboard on its right side.

Your dashboard now has an interactive sunburst chart!



Exercise 8 - Map + Dynamic Coloring

Add the visualization

1. Select **Map** from the **Visualization** dropdown in the toolbar.
2. In the **Select data source** panel, select **Search > + Create search.**

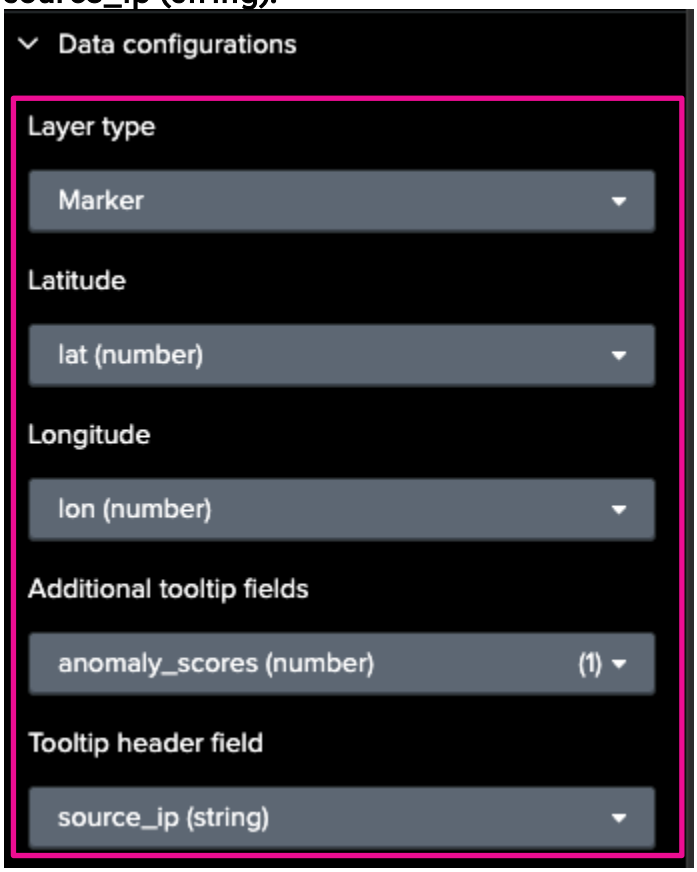
3. Set the **Data source name** to “Map search” and input the following search into the **SPL query** input field:

```
index="threat-activity" severity_level = "$severity_level_token$"
| iplocation source_ip
| table count device_ip lat lon severity_level anomaly_scores source_ip
```

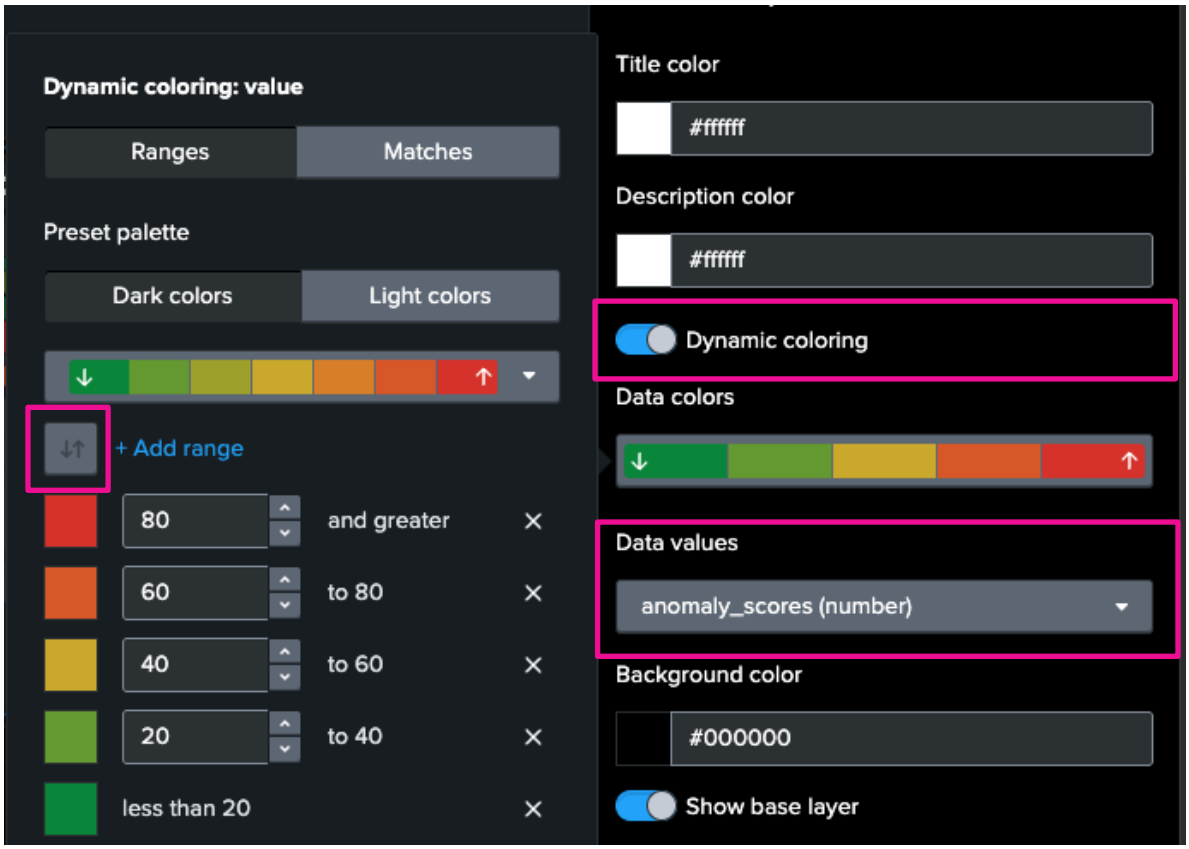
4. Click on **Apply and close** at the bottom of the panel.

Configure the visualization

5. In the Map's **Configuration** panel, find the **Data configurations** section and set the following:
    a. For **Layer type** select **Marker.**
    b. For **Latitude** select **lat (number).**
    c. For **Longitude** select **lon (number).**
    d. For **Additional tooltip fields** select **anomaly_scores (number).**
    e. For **Tooltip header field** select **source_ip (string).**



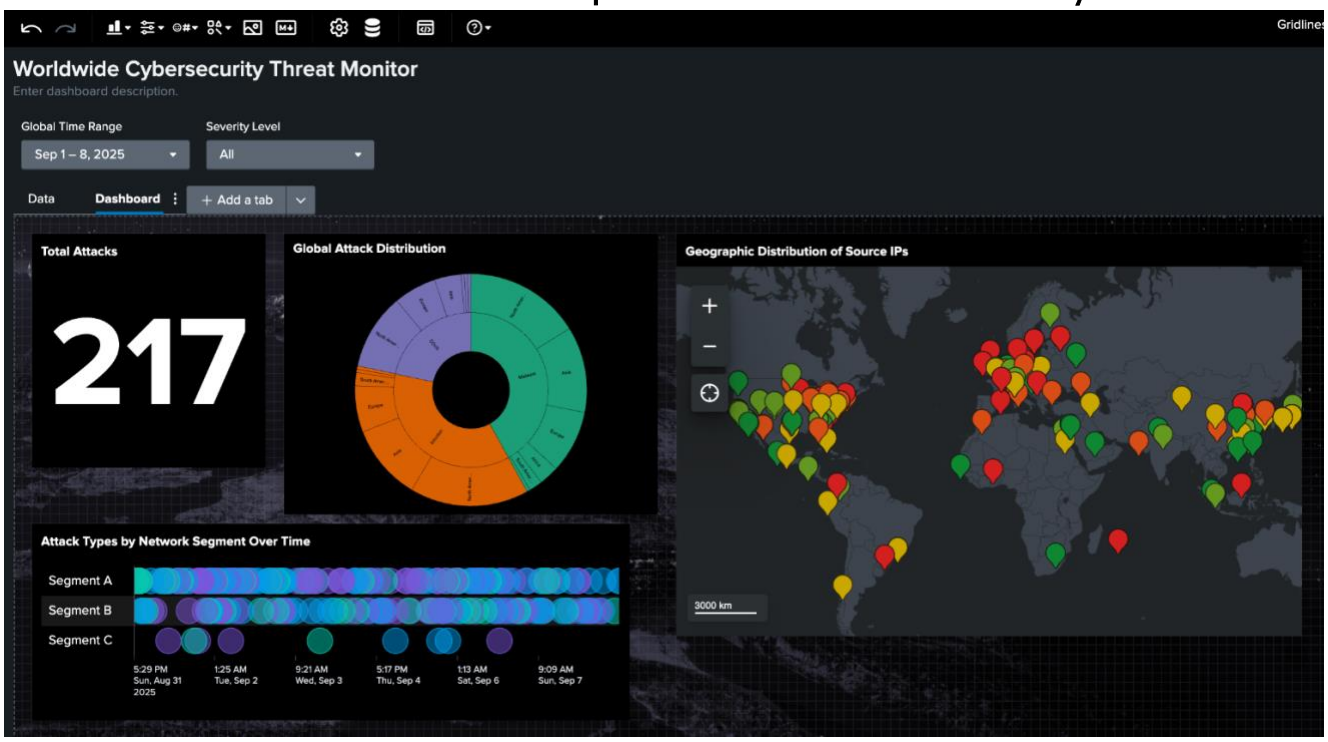
6. Still in the Map's **Configuration** panel, find the **Color and style** section and set the following:
    a. Toggle on **Dynamic coloring.**
    b. Click on **Data colors**, and switch the direction of the color palette by clicking on this icon ( ).
    c. Under **Data values**, select **anomaly_scores (number).**



7. In the **General** section, set the **Title** to "Geographic Distribution of Source IPs".

8. Move and resize the visualization. It should be in the top right of the dashboard and cover about half of the width of the dashboard.

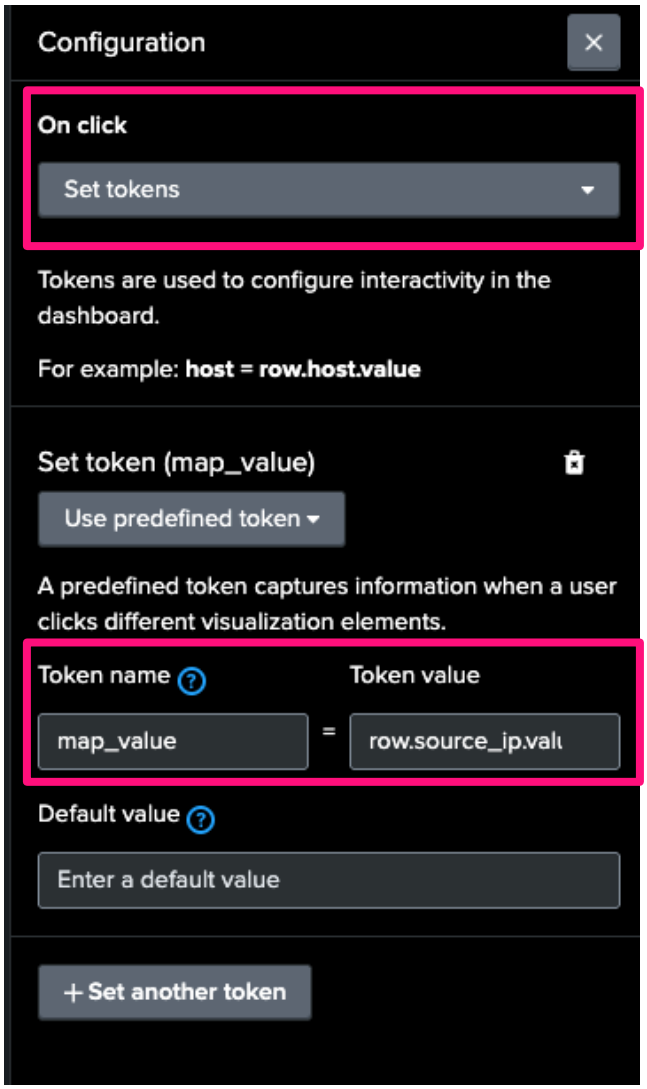
Your dashboard should now have a map visualization with a marker layer.



Exercise 9 - Interact with Tokens

Map interactivity

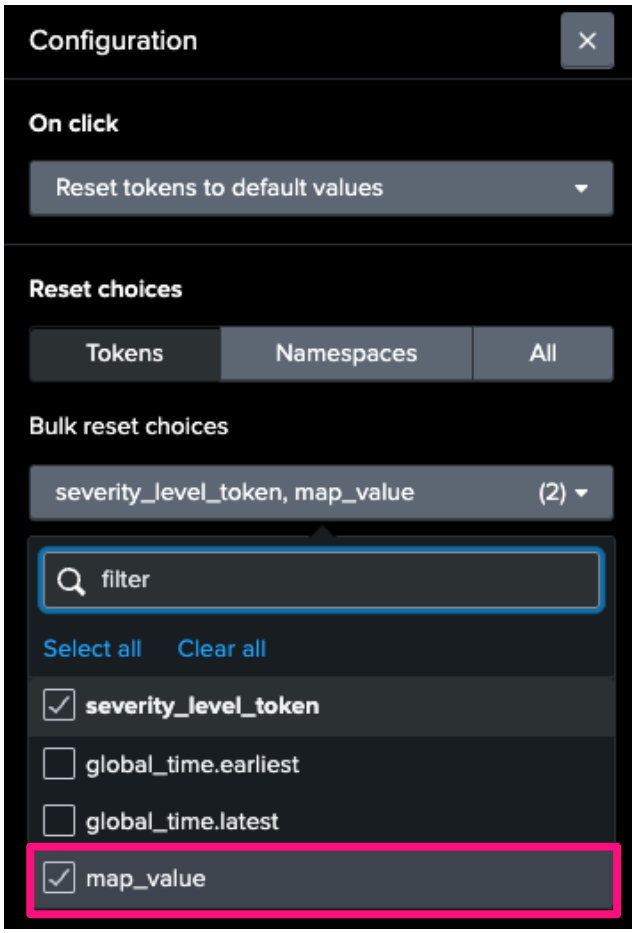
1. Click the Map visualization to open its **Configuration** panel.
2. Find the **Interactions** section and click **+ Add interaction.**
3. Under **On click**, select **Set tokens.**
4. Select **+ Set another token**, then ensure that under **Set token**, **Use predefined token** is selected.
5. For **Token name**, enter “map_value” and for **Token source**, input “row.source_ip.value”



6. Click **Apply** at the bottom of the panel.

[OPTIONAL] Token reset

1. Click the **Reset** button to open its **Configuration** panel.
2. In the **Interactions** section, click the pencil icon ( ) to edit the existing **Reset tokens to default values** interaction.
3. Under **Bulk reset choices**, click to add **map_value** to the selections.

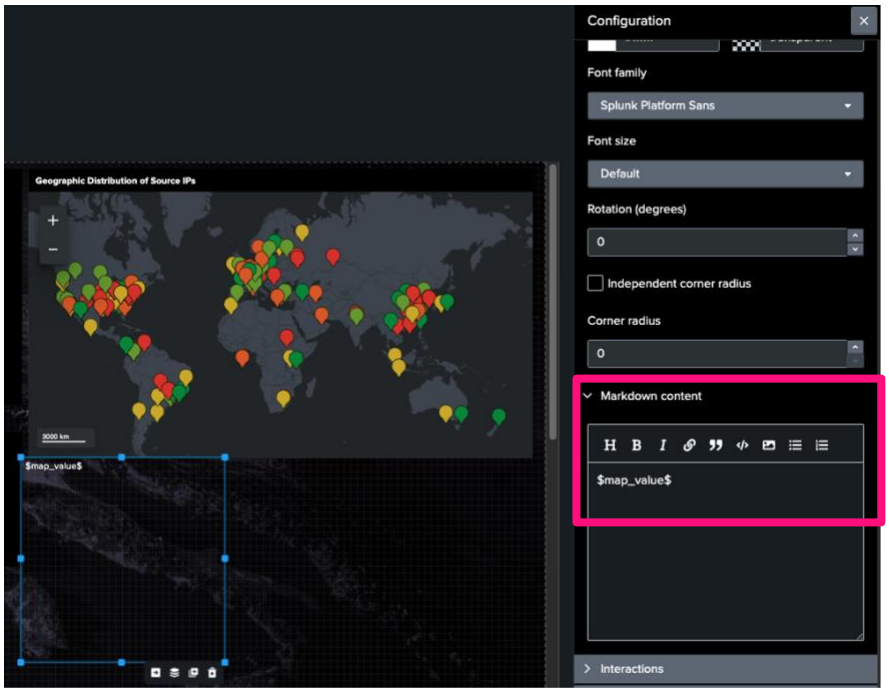


4. Click **Apply** at the bottom of the panel.

[OPTIONAL] Interaction verification

1. From the editor toolbar, add a **Markdown component** by clicking on this button ( ).

2. In the component's **Configuration** panel, find the **Markdown content** section and enter "`$map_value$`".



3. In the top right of the page, click the **View** button to switch to view mode.

4. Click any marker on the map. The value in the Markdown component changes to display the selected marker's IP address.

5. Click the reset button (if implemented) and the Markdown component goes back to displaying "`$map_value$`".

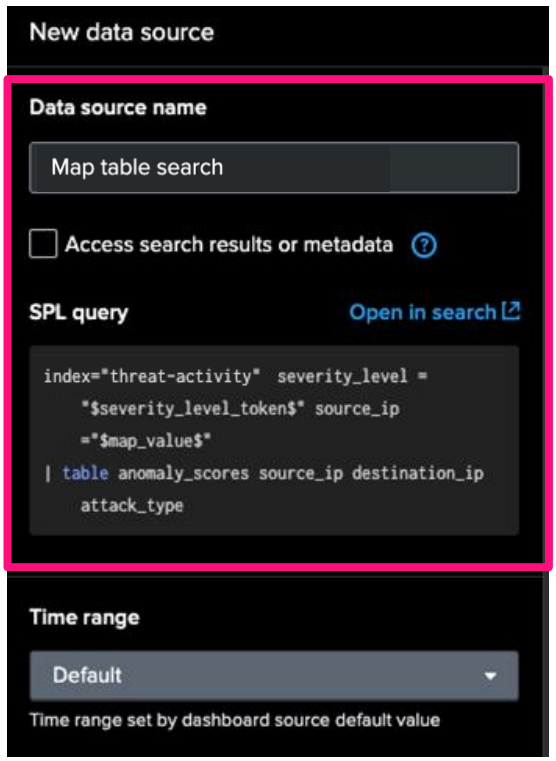
6. You can delete the Markdown component by clicking it and then the trash can icon ( ) in the bottom right corner.

Exercise 10 - Conditional Visible Tables

Add the visualization

1. Select **Table** from the **Visualization** dropdown, in the editor toolbar.
2. In the **Select data source** panel, select **Search > + Create search.**
3. Set the **Data source name** to “Map Table Search” and input the following search into the **SPL query** input field:

```
index="threat-activity" severity_level = "$severity_level_token$"
source_ip ="$map_value$"
| table anomaly_scores source_ip destination_ip attack_type
```

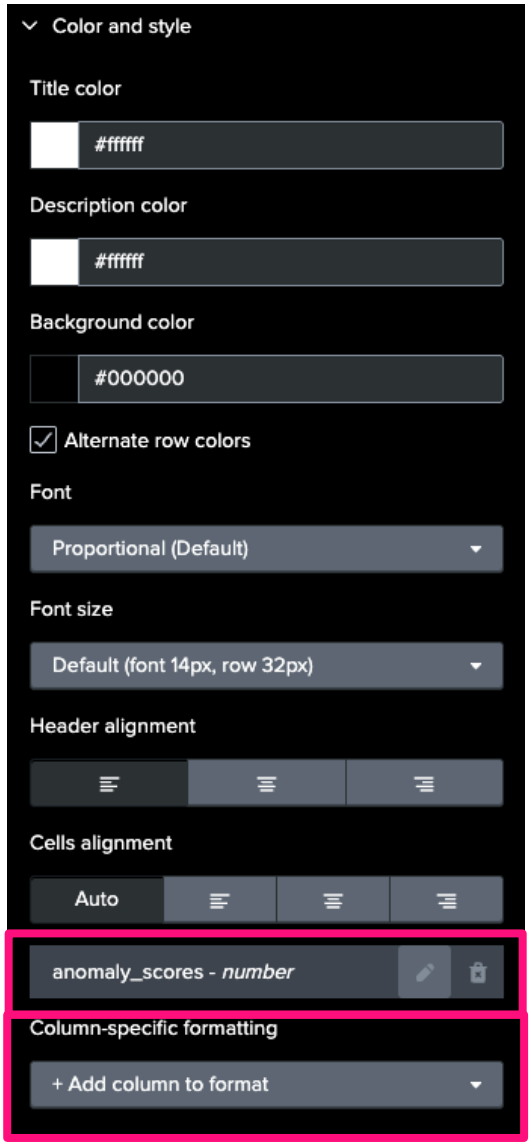


4. Click on **Apply and close** at the bottom of the panel.

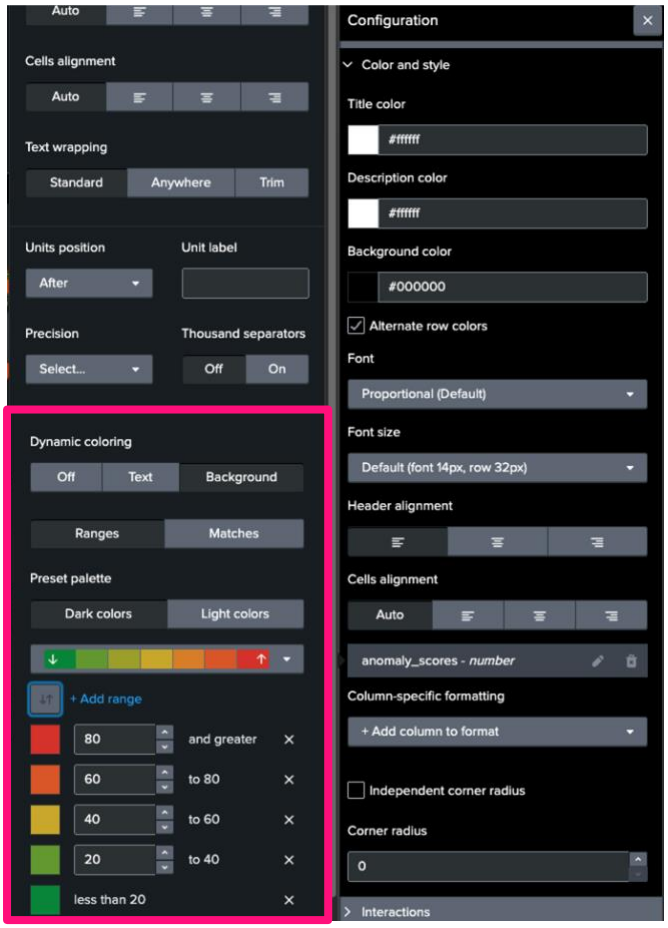
Configure the visualization

1. In the new table's **Configuration** panel, find the **Color and style** section. Under **Column-specific formatting** click on **+ Add column to format**, and then, from the dropdown, select **anomaly_scores - number**.
    a. You may not be able to select **Column-specific formatting** without a token set. To do so, switch to **View mode** and click on any map marker, then switch back to **Edit mode**.

2. You will see a new element, just above the **+ Add column to format** dropdown, which displays **anomaly_scores - number.** Select the pencil icon to the right of that element, to open the **Column formatting** pop-up.



3. In the **Column formatting** pop-up, find the **Dynamic coloring** option and set it to **Background**.



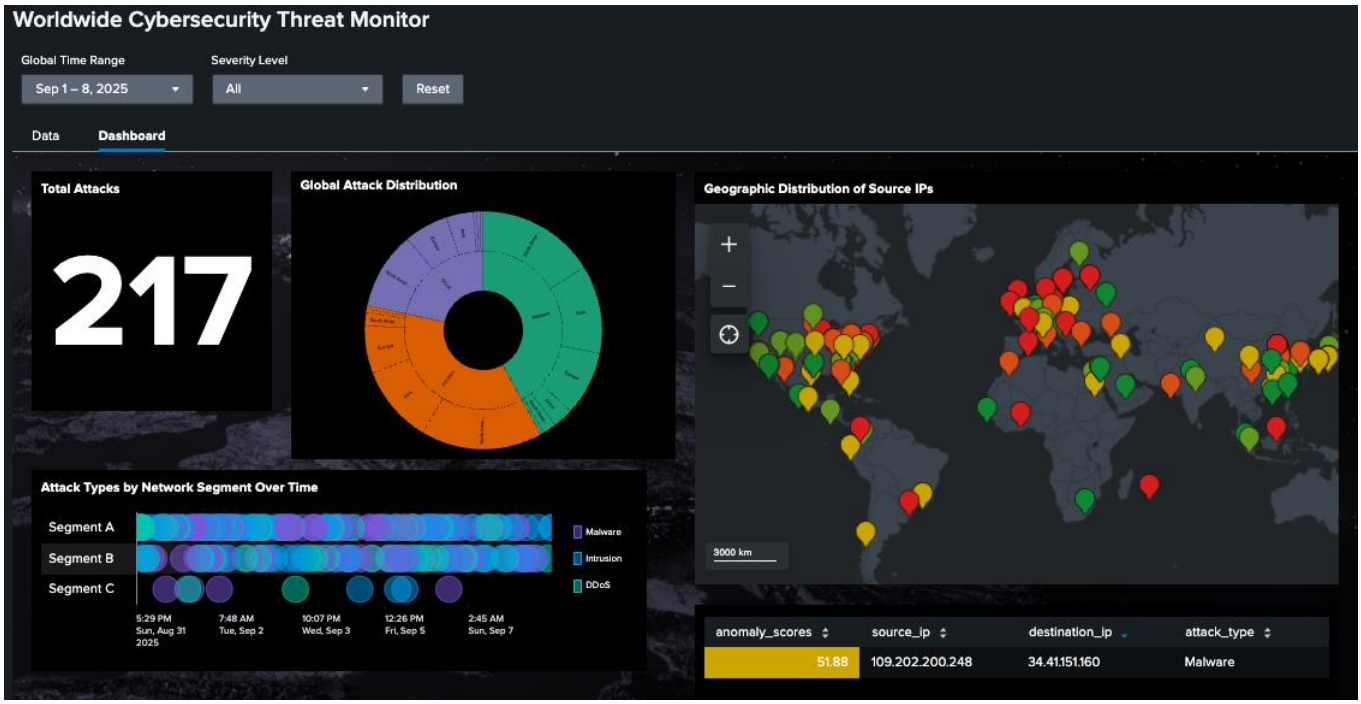
4. Under the **Preset palette**, switch the direction of the colors by clicking on this icon ( ).

5. Click on the table to open its **Configuration** panel and find the **Visibility** section. Check the box beside **When data is unavailable, hide element.**

6. Move and resize the visualization. It should be in the bottom right of the dashboard and about the same width as the map visualization.

Your dashboard should now look like this.

You can try going to View mode and interacting with the Severity Level, Map markers, and the Reset button, if you implemented it.

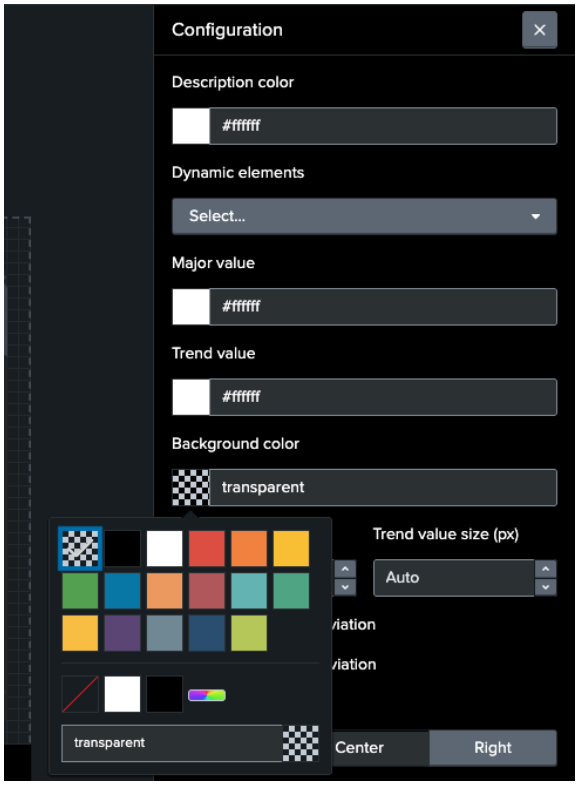


Exercise 11 - (OPTIONAL) Improve Dashboard Styling

Panel transparency

For each visualization:

1. Select the visualization to open its **Configuration** panel.
2. Find the **Color and style** section.
3. Under **Background color**, select or enter transparent. You can do this by selecting the checkerboard icon, from the color palette, or by typing “transparent” into the color input field.



Completed Dashboard

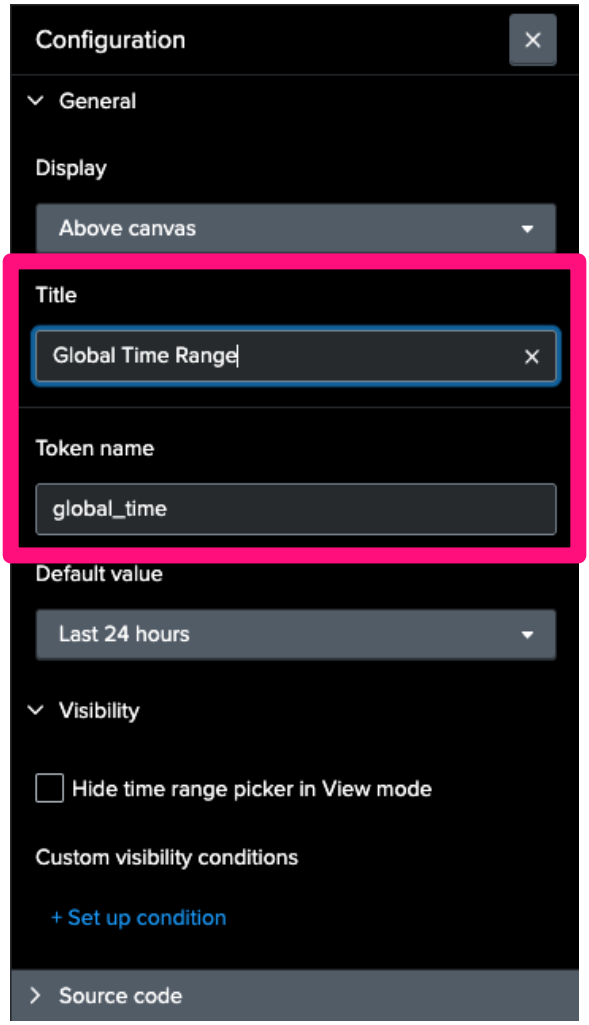
Note: Check out our resources on Dashboard Design Best Practices and Visualization Choices and Configurations.

Appendix

Adding a global time range picker

The entire dashboard uses the global time range picker by default! For more granular customization, you can set up additional time range pickers, which any number of data sources can use.

1. [OPTIONAL] If you already have a global time range picker, select it and click the **x** in the top right corner to remove it.
2. From the **Inputs dropdown (** **)**, select **Time range**.
3. In the input's **Configuration** panel:
   a. Under **General > Title** put "Global Time Range".
   b. Under **Token > Token name** put "global_time". This is the key to make it global!



4. Press enter or click outside the **Configuration** panel to update.

Searches used

Data table:

Initial iteration:

```
index="threat-activity"
| table _time severity_level attack_type network_segment anomaly_scores source_ip
destination_ip
```

Final iteration:

```
index="threat-activity"
severity_level = "$severity_level_token$"
| table _time severity_level attack_type network_segment anomaly_scores source_ip
destination_ip
```

Single value visualization:

```
index="threat-activity"
severity_level = "$severity_level_token$"
| stats count
```

Timeline:

```
index="threat-activity"
severity_level = "$severity_level_token$"
| eval duration=0
| table _time network_segment attack_type
```

Sunburst:

```
index="threat-activity"
severity_level = "$severity_level_token$"
| iplocation source_ip allfields=true
| stats count by attack_type, Continent, Country
```

Map:

```
index="threat-activity"
severity_level = "$severity_level_token$"
| iplocation source_ip
| table count device_ip lat lon severity_level anomaly_scores source_ip
```

Conditionally visible table:

```
index="threat-activity"
severity_level = "$severity_level_token$"
source_ip ="$map_value$"
| table anomaly_scores source_ip destination_ip attack_type
```