Creating Maps Lab Exercises

Overview

Welcome to the Splunk Education lab environment. These exercises will guide you through the process of creating a set of dashboards with cluster and choropleth map visualizations. You will also customize maps and make them interactive. Perform all searches and create all dashboards in the Creating Maps course app.

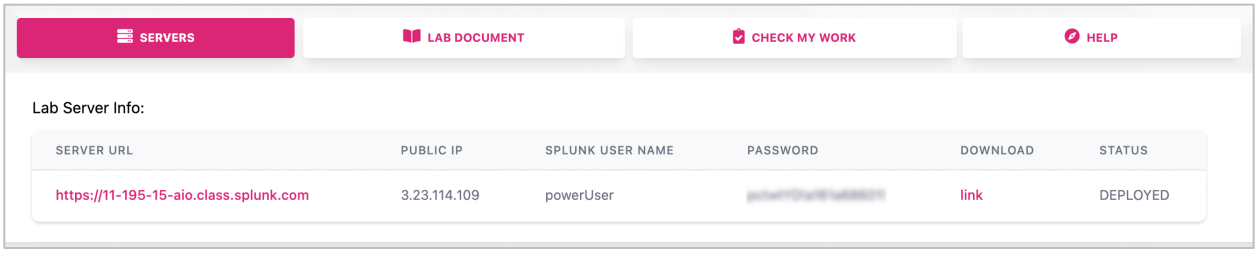
IMPORTANT: If you copy text from this document, please note that character formatting and artifacts created by the PDF generation process can cause errors in the dashboard source code. Consider using a text editor as an interim step.

Typographical Conventions

- **Blue** text indicates **add** text
- **Red** text indicates **remove** text
- **Grey** text provides **placement** information

Lab Connection Info

Access labs using the server URL, user name, and password shown in your lab environment.



Source Types

Source types used in these exercises are referred to by the type of data they represent.

Type	Index	Source Type	Interesting Fields
Server access data	`security`	`linux_secure`	`action, app, dest, process, src_ip, src_port, user, vendor_action`
Retail sales	`sales`	`vendor_sales`	`AcctID, categoryId, price, product_name, productId, sale_price, Vendor, VendorCity, VendorCountry, VendorID, VendorLatitude, VendorLongitude, VendorStateProvince`
Cafe Food	`cafefood`	`access_combined_cf`	`action, bytes, categoryId, clientip, itemId, JSESSIONID, price_large, price_med, product_name, productId, referer, referer_domain, roast, status, user, useragent`
Cafe Games	`cafegames`	`access_combined_cg`	`action, bytes, cafeLoc, categoryId, clientip, gamePlay, gameTime, JSESSIONID, player1name, player1score, player2name, player2score, price, product_name, productId, referer_domain, sale_price, status, table, user, useragent`

Lab Exercise 1 – Create a Cluster Map

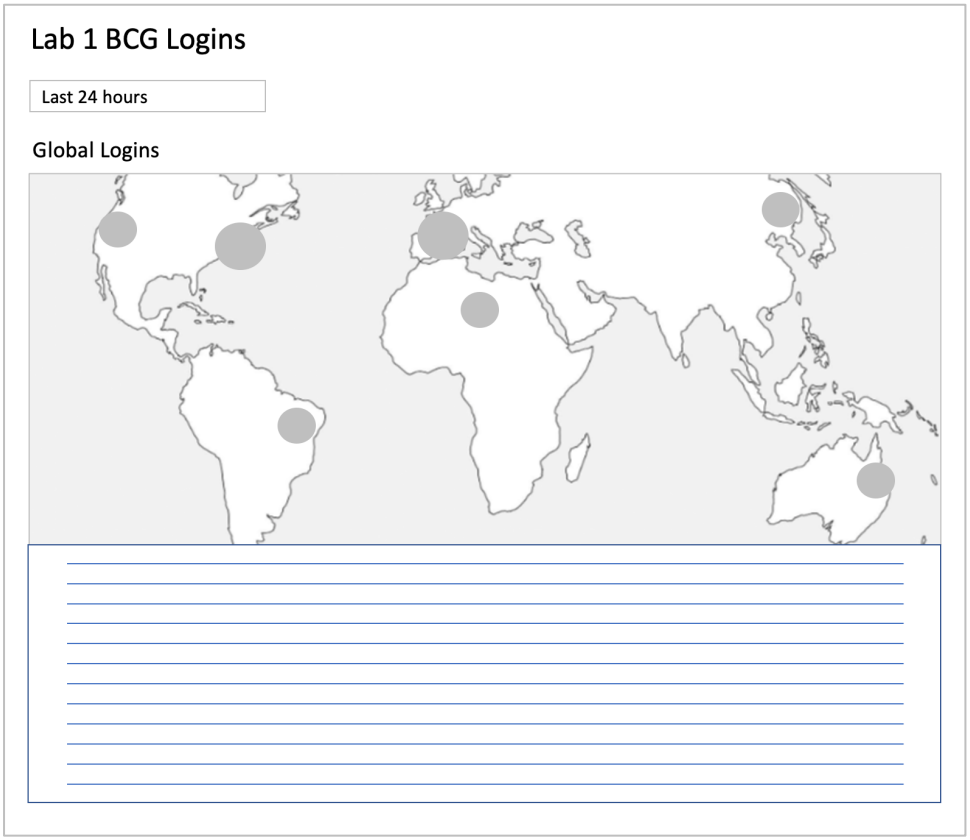
Description

Create a dashboard with a cluster map and a table displaying the same data in tabular form. Perform all searches and save the dashboard in the Creating Maps course app.

Scenario: The security team needs a simple dashboard with a map that displays user logins globally. They supplied a wireframe to use as a guide. The dashboard should include the following:

- Cluster map displaying logins by location
- Table displaying logins by location

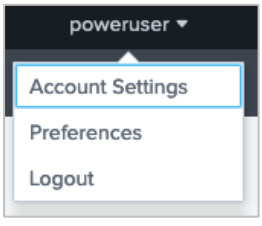
Wireframe:



Steps

Task 1: Change the account name and time zone.

Set up your lab environment to fit your time zone and the app you will be working in.



- [ ] 1. Navigate to **User Menu** > **Account Settings**.
- [ ] 2. In the Full name box, enter your name: `<Firstname Lastname>`
  For example: Mitch Fleischman
- [ ] 3. Click **Save**.

- [ ] 4. Navigate to **User Menu** > **Preferences**.
- [ ] 5. Enter the following settings:
    - Time zone: `<your local time zone>`
    - Default application: Creating Maps
- [ ] 6. Click **Apply** and reload your browser.
- [ ] 7. Navigate to **Apps** > **Creating Maps**.

TIP: Since your default application is now Creating Maps, clicking the Splunk logo in the upper left is the same as navigating to Apps > Creating Maps.

Task 2: Perform a search.

- [ ] 8. Navigate to **Apps** > **Creating Maps**.
- [ ] 9. Enter a stem search for all password events over the last 24 hours.

```
index=security sourcetype=linux_secure src_ip="*" action=*
```

- [ ] 10. Pipe to the iplocation command to extract location information from IP addresses.

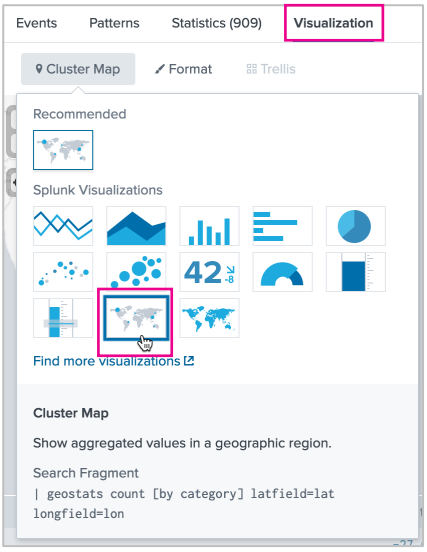
```
index=security sourcetype=linux_secure src_ip="*" action="*"
 | iplocation src_ip
```

- [ ] 11. Pipe to the geostats command to generate statistics based on IP location. The latfield matches to lat and longfield to lon by default (lat and lon fields are generated by iplocation). Then, count events by action.

```
index=security sourcetype=linux_secure src_ip="*" action="*"
| iplocation src_ip
| geostats count by action
```

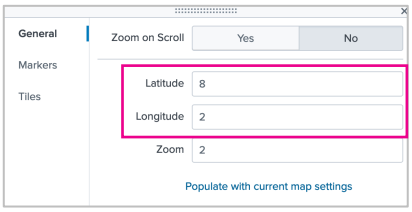
Task 3: Select a cluster map visualization.

- [ ] 12. Click **Visualization > Cluster Map**.

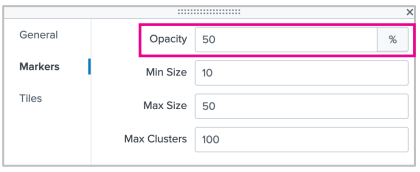


Task 4: Format the map.

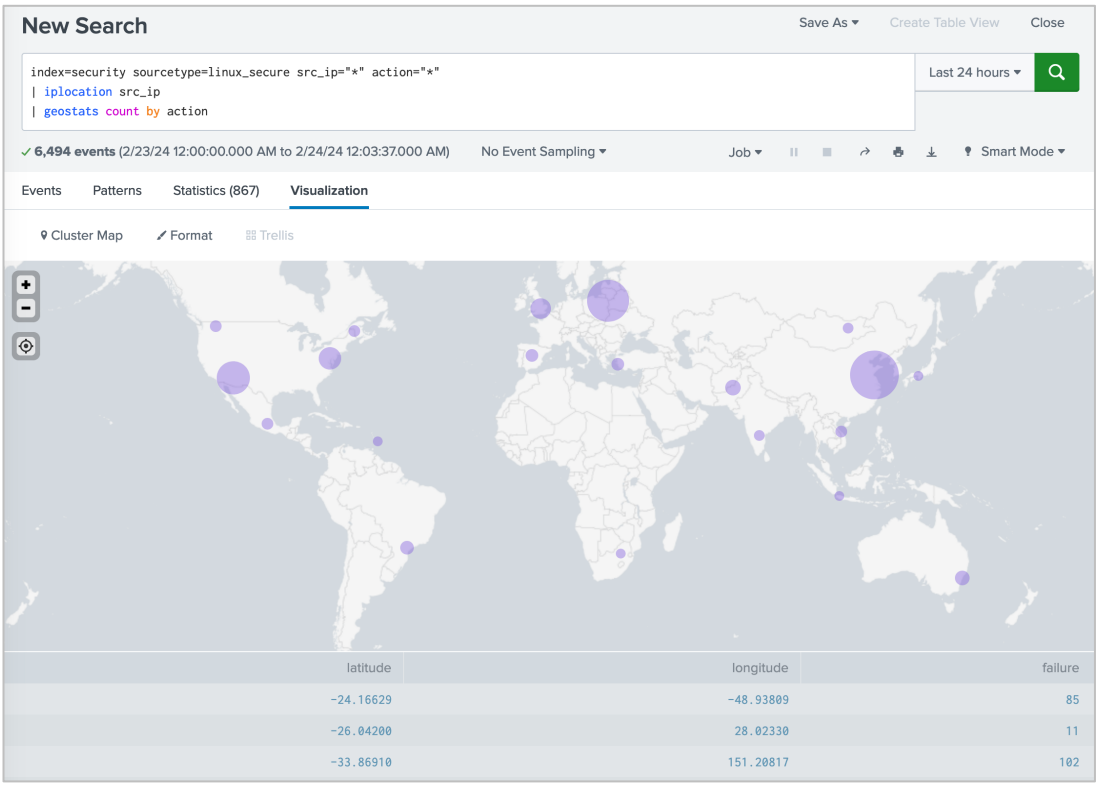
- [ ] 13. Click **Format > General**.
- [ ] 14. Set the map center latitude to: 8
- [ ] 15. Set the map center longitude to: 2



- [ ] 16. Click **Markers**.
- [ ] 17. Set the opacity to: 50%



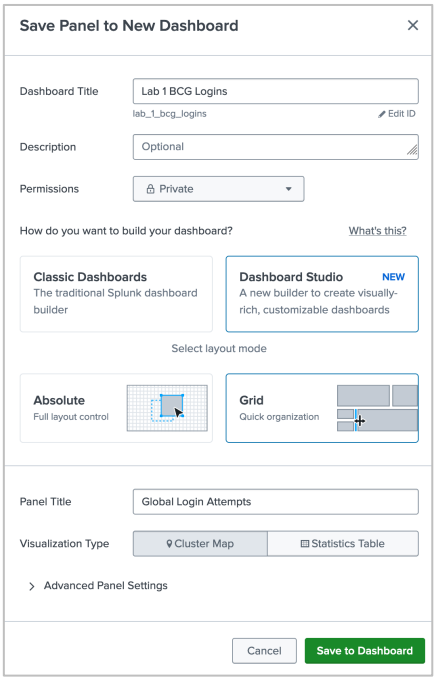
Example:



Task 5: Save a visualization to a dashboard.

☐ 18. Select **Save As** > **New Dashboard**.

Dashboard Title:	`Lab 1 BCG Logins`
Permissions:	Private
Dashboard Type:	Dashboard Studio
Layout Mode:	Grid
Panel Title:	`Global Login Attempts`
Visualization Type:	Cluster Map



☐ 19. Click **Save to Dashboard**.

☐ 20. Click **View Dashboard**.

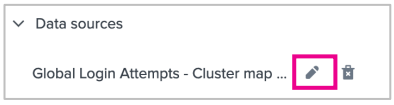
Task 6: Format the map.

☐ 21. Click **Edit**.

☐ 22. Click on the **map**.

☐ 23. In the Configuration side panel.

☐ 24. Locate the *Data sources* section.



☐ 25. Click the **pencil** icon beside the data source.

☐ 26. Under Time Range, select **Input**.

☐ 27. Click **Apply and close**.

☐ 28. Locate the *Data display* section.

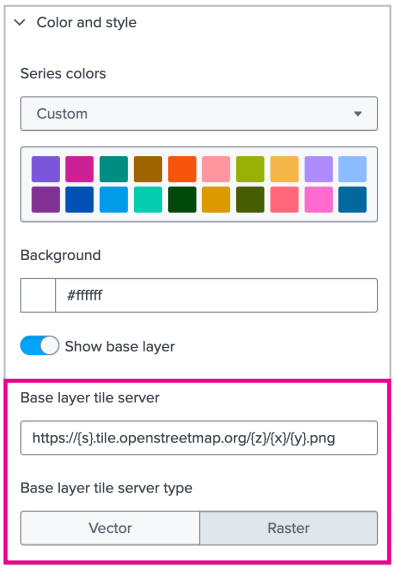
☐ 29. Adjust the map zoom to: `1.2`

> **NOTE:** In the current release of Splunk, the Search page Format menu only allows whole numbers for the zoom setting.

☐ 30. Locate the *Color and style* section.

☐ 31. In the Base layer tile server box enter:

`https://{s}.tile.openstreetmap.org/{z}/{x}/{y}.png`



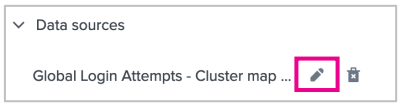
☐ 32. Select **Raster** for Base layer tile server tile type.

☐ 33. Click **Save**.

Task 7: Clone the map.

- [ ] 34. Click on the **map**.
- [ ] 35. On the Action panel, click the **Clone** button.

- [ ] 36. On the Configuration side panel, locate the General section.
- [ ] 37. In the Visualization type menu, select **Table**.
- [ ] 38. In the Title box, delete the title and leave it empty.
- [ ] 39. Locate the *Data sources* section
- [ ] 40. Click the **pencil** icon beside the data source.



- [ ] 41. In the Title box, replace the existing title with:

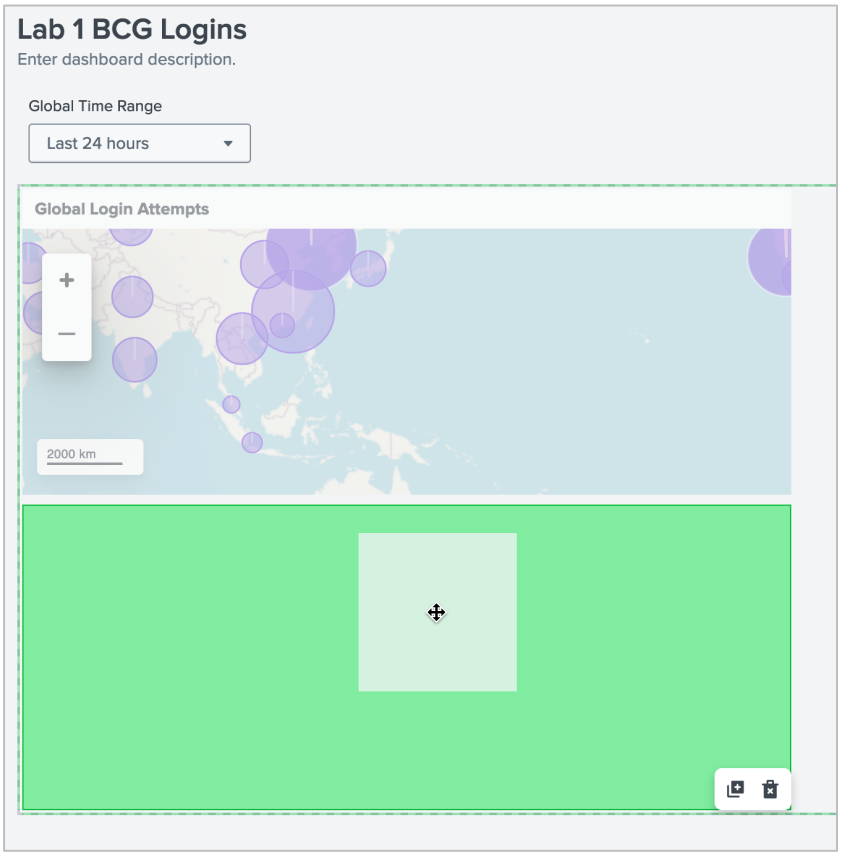
```
Global Login Attempts - table search
```

- [ ] 42. In the SPL query box, revise the search to be:

```
index=security sourcetype=linux_secure src_ip="*" action="*"
| iplocation src_ip
| stats count by Country, City, action
```

- [ ] 43. Click **Apply and close**.
- [ ] 44. Click on the table and drag onto the bottom half of the map.

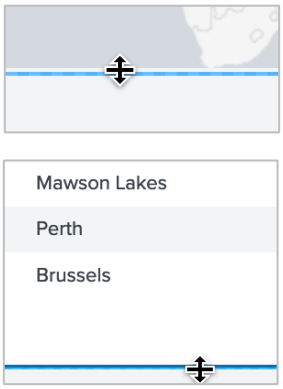
Example:



- [ ] 45. On the Configuration side panel, locate the *Data display* section.
- [ ] 46. Set Rows displayed to: 5
- [ ] 47. Click **Save**.

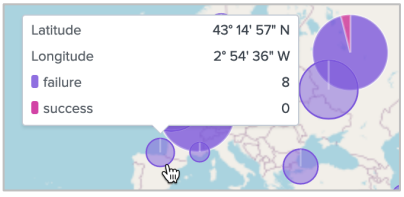
Task 8: Increase visualization size.

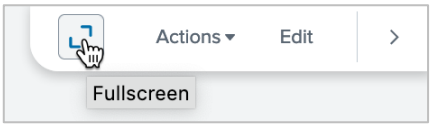
- [ ] 48. Click on the **map**.
- [ ] 49. Click the **bottom edge of the table** and drag it down until all five rows and the pages link are visible.
- [ ] 50. Click the **bottom edge of the map** and drag it down until all the map bubbles from top to bottom are visible.
- [ ] 51. Click **Save**.



Task 9: Test the dashboard.

- [ ] 52. Click **View**.
- [ ] 53. Move your cursor over a bubble marker.
- [ ] 54. Try different time ranges.
- [ ] 55. Adjust the zoom level.
- [ ] 56. Expand the dashboard to Fullscreen.





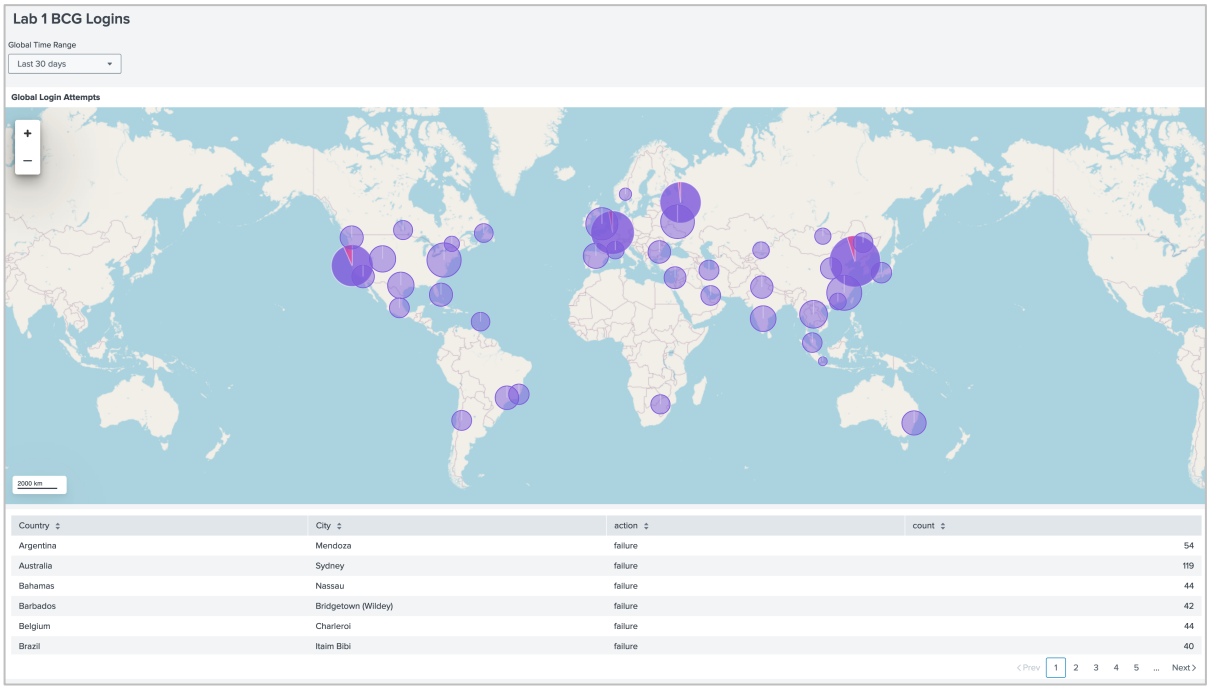
Congratulations

You completed Lab Exercise 1!

Highlights

- Created a cluster map using the geostats command on the Search page.
- Saved the map to a Dashboard Studio dashboard with a grid layout.
- Formatted the map to use custom map tiles.
- Cloned a visualization.
- Changed a visualization type.
- Revised a visualization data source.
- Formatted a table

Example:



Lab Exercise 2 – Create a Choropleth Map

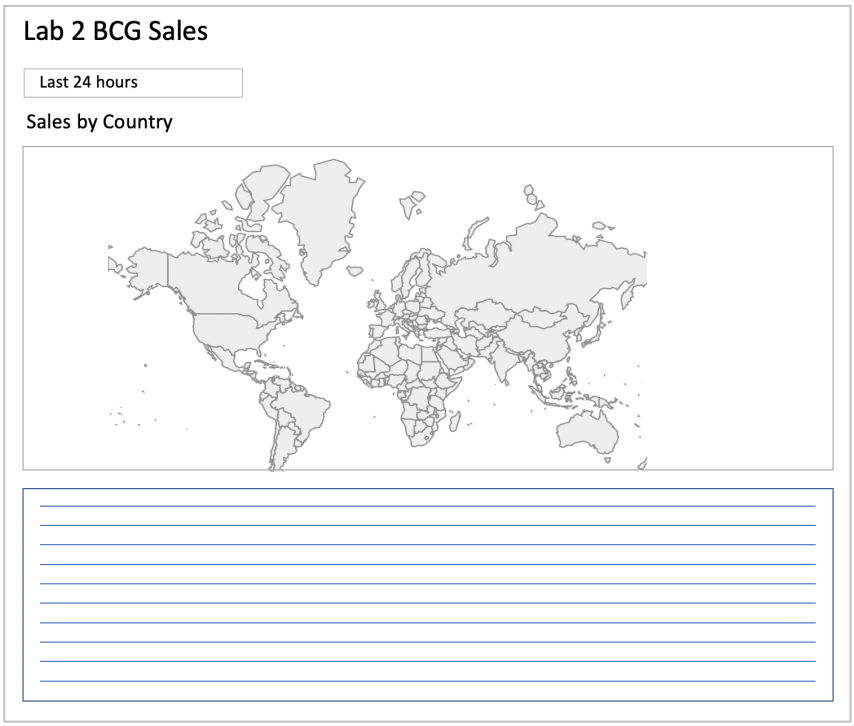
Description

Create a choropleth map. Add a table to display the same data in tabular form. Perform all searches and create all knowledge objects in the Creating Maps course app.

Scenario: The sales team wants a choropleth map that shows sales by country. The dashboard includes the following:

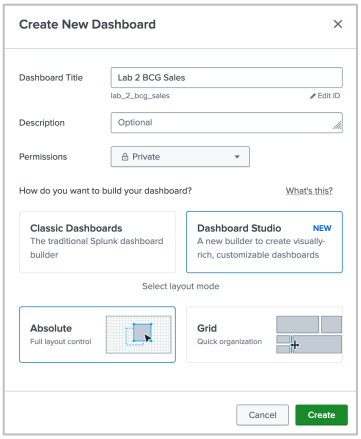
- Choropleth map of sales by country
- Table of sales by country

Wireframe:



Task 1: Create a dashboard.

- [ ] 1. Click **Dashboards**.
- [ ] 2. Click **Create New Dashboard**.
  - Dashboard Title: `Lab 2 BCG Sales`
  - Permissions: Private
  - Type: Dashboard Studio
  - Layout Mode: Absolute Layout
- [ ] 6. Click **Create**.
- [ ] 7. On the side panel, set Display Mode to **Actual Size**.
- [ ] 8. Set Canvas Width to `1100` and Canvas Height to `1200`.
- [ ] 9. Select the time range input.

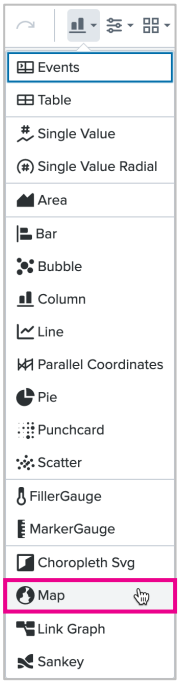


- [ ] 10. Revise the title to: `Select a time range:`
- [ ] 11. Set the Default Value to: **Last 7 days** and close the side panel.
- [ ] 12. Click **Save**.

Task 2: Add a Choropleth map.

- [ ] 13. Click the +**Add Chart** > **Map**.
- [ ] 14. On the Configuration side panel, click **Create search**.
- [ ] 15. In the Data source name box enter: `Sales by Country - map search`
- [ ] 16. In the Search with SPL box enter:

```
index=sales sourcetype=vendor_sales categoryId IN (STRATEGY,
ARCADE, SHOOTER,  SIMULATION, SPORT)
  | stats sum(price) as Sales by VendorCountry
  | geom geo_countries featureIdField=VendorCountry
```



- [ ] 17. Under Time range, select **Input**.
- [ ] 18. Click **Apply and close**.

> **NOTE:** The choropleth shading will not display until the layer type is selected in the following steps. This is expected.

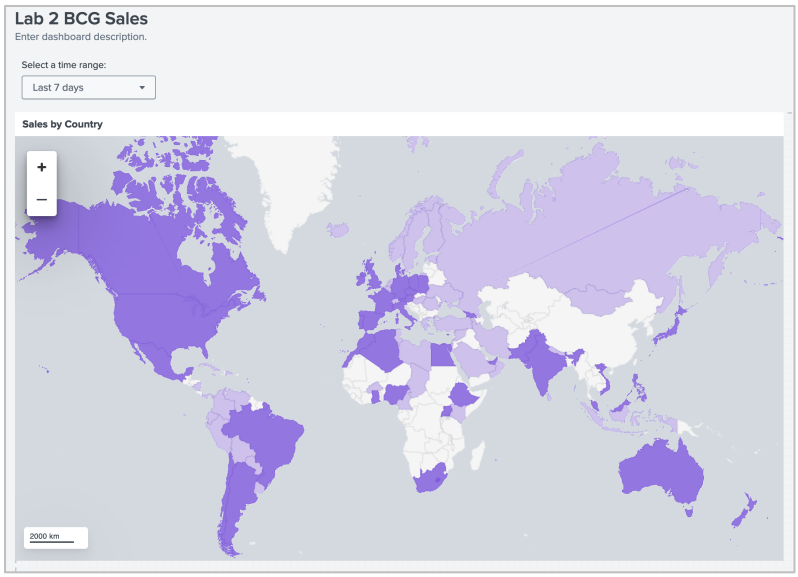
- [ ] 19. On the Configuration side panel, in the Title box enter: `Sales by Country`
- [ ] 20. Locate Position & Size and make sure the X and Y positions are set to: `0`
- [ ] 21. Set the map width to `1030` and height to `600`.
- [ ] 22. Locate the *Data display* section and set Zoom to: `1.1`
- [ ] 23. Set Latitude to: `30` and Longitude to: `10`

> **NOTE:** The latitude and longitude may not accept these exact numbers and instead adjust automatically to a number close to it. This is expected.

- [ ] 24. Locate the Data configurations section and in the Layer type menu select **Choropleth**.
- [ ] 25. Make sure the Area IDs menu shows VendorCountry (string).
- [ ] 26. Make sure the Area values menu shows Sales (number).
- [ ] 27. Click **Save** and reload your browser.

Example on next page.

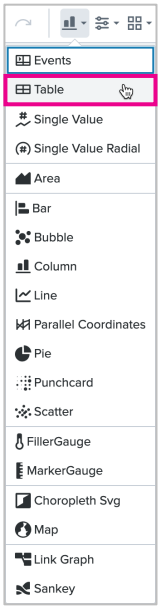
Example:



Task 3: Add a table.

- [ ] 28. Click **+Add Chart** > **Table**.
- [ ] 29. In the Select data source side panel click **Create search**.
- [ ] 30. In the New Data Source side panel, in the Data Source Name box enter: `Sales by Country - table search`
- [ ] 31. In the Search with SPL box enter:

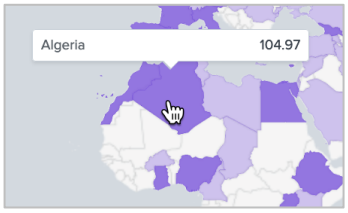
```
index=sales sourcetype=vendor_sales VendorCountry=*
| top limit=100 Vendor VendorCountry price
| dedup Vendor
| stats list(Vendor) as Vendor, sum(price) as TotalSales by VendorCountry
| eval TotalSales = "$" + tostring(round(TotalSales, 2))
```



- [ ] 32. Under Time range, select **Input**.
- [ ] 33. Click **Apply and close**.
- [ ] 34. Locate the Position & Size section and make sure the X position is set to: `0` and the Y position is set to: `600`
- [ ] 35. Set the visualization width to `1030` and height to `600`.
- [ ] 36. Click **Save**.
- [ ] 37. Click **View** and reload your browser.

Task 4: Test the dashboard.

- [ ] 38. Expand the dashboard to Fullscreen.
- [ ] 39. Move your cursor over a region.
  A pop-up window should display total sales.
- [ ] 40. Try different time ranges.
- [ ] 41. Adjust the zoom level.



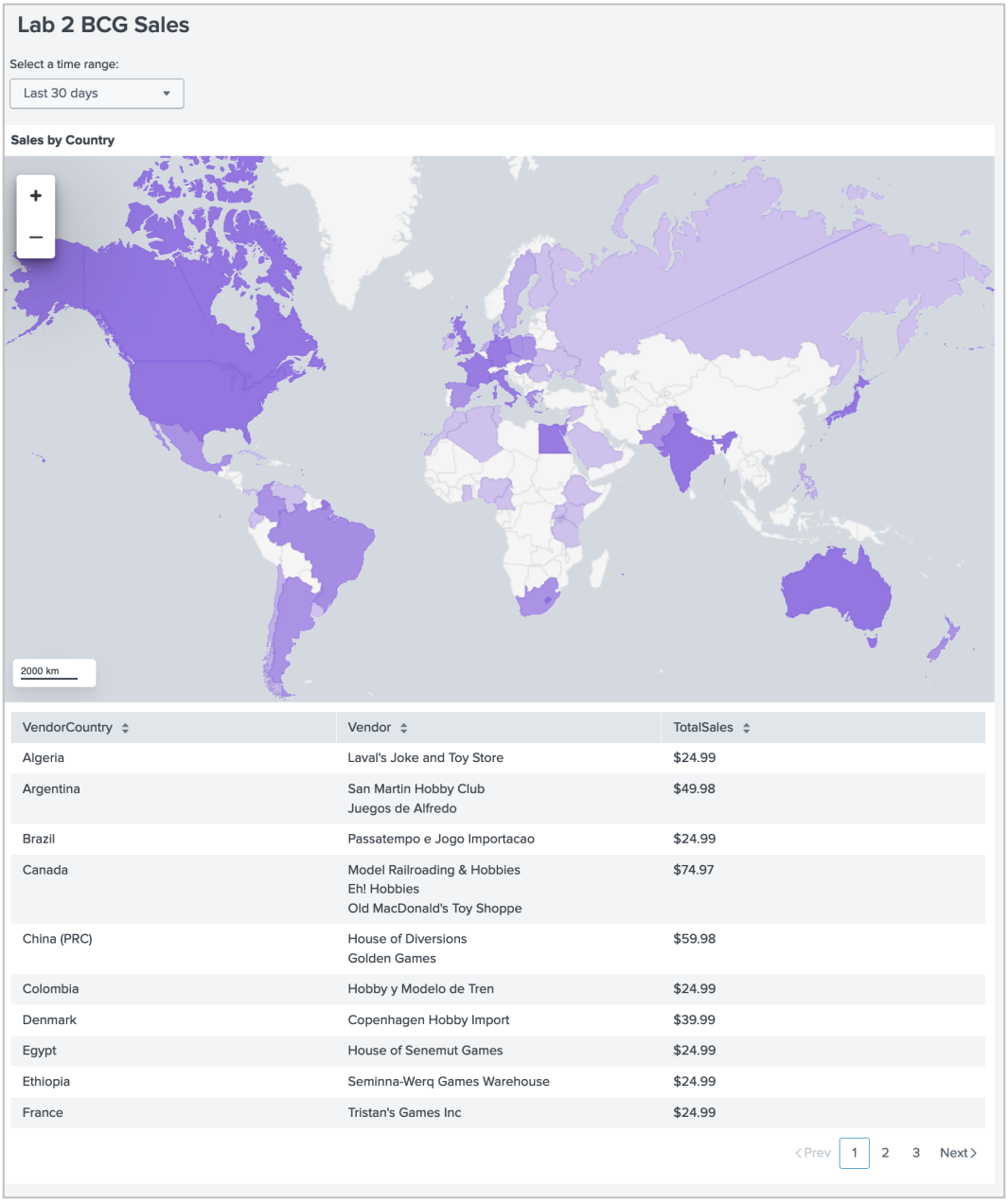
Congratulations

You completed Lab Exercise 2!

Highlights

- Created a Dashboard Studio dashboard with an Absolute layout
- Added a map and formatted it to be a choropleth map.
- Added a table to display the same data in tabular form.

Example:



VendorCountry	Vendor	TotalSales
Algeria	Laval's Joke and Toy Store	$24.99
Argentina	San Martin Hobby Club Juegos de Alfredo	$49.98
Brazil	Passatempo e Jogo Importacao	$24.99
Canada	Model Railroading & Hobbies Eh! Hobbies Old MacDonald's Toy Shoppe	$74.97
China (PRC)	House of Diversions Golden Games	$59.98
Colombia	Hobby y Modelo de Tren	$24.99
Denmark	Copenhagen Hobby Import	$39.99
Egypt	House of Senemut Games	$24.99
Ethiopia	Seminna-Werq Games Warehouse	$24.99
France	Tristan's Games Inc	$24.99

Prev 1 2 3 Next

Lab Exercise 3 – Customize Maps

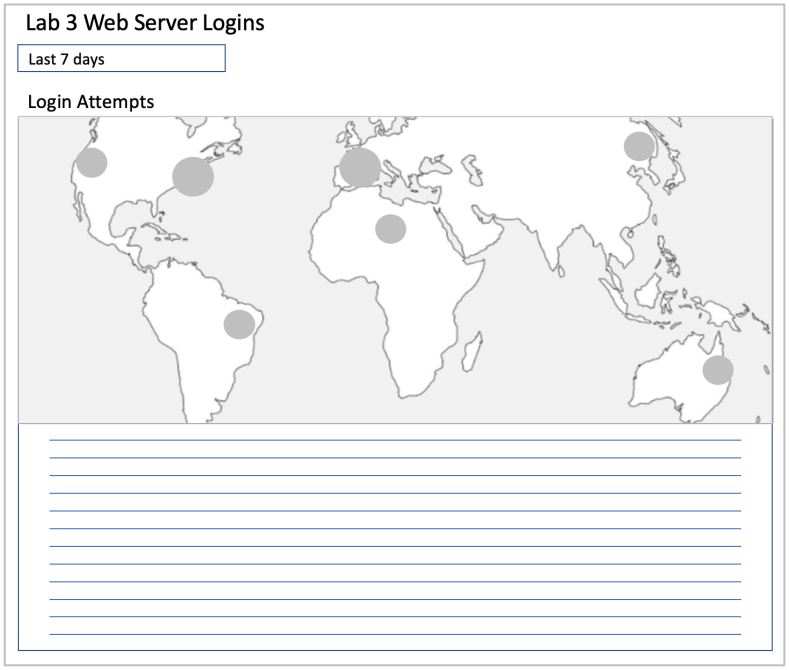
Description

Create a cluster map with bubble markers. Add a drilldown that captures the latitude and longitude from a user click and uses it to customize a search.

Scenario: The security team wants a global map of accepted and failed web server login attempts. The dashboard should have a table below the map to display more information for any marker that is clicked on. The dashboard includes the following:

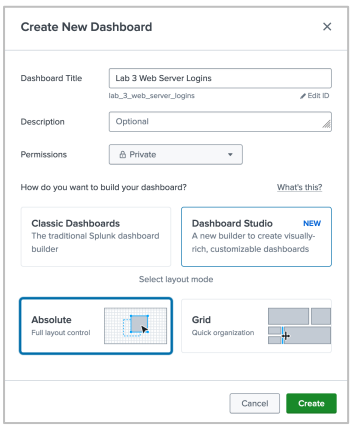
- Bubble map of global login attempts
- Table listing attempts

Wireframe:



Task 1: Create a dashboard.

- [ ] 1. Click **Dashboards**.
- [ ] 2. Click **Create New Dashboard**.
  - Dashboard Title: `Lab 3 Web Server Logins`
  - Permissions: Private
  - Type: Dashboard Studio
  - Layout Mode: Absolute Layout
- [ ] 3. Click **Create**.



Task 2: Configure the dashboard.

- [ ] 4. On the side panel, set Display Mode to Actual Size.
- [ ] 5. Set Canvas Width to `1100` and Canvas Height to `1200`.
- [ ] 6. Click on the time range input.
- [ ] 8. On the side panel, revise the title to: `Select a time range:`
- [ ] 9. Set the Default Value to: **Last 7 days**.
- [ ] 10. Click **Save** and reload your browser.

Task 3: Add a map visualization.

- [ ] 11. Click the **Add Chart** button and select **Map**.

- [ ] 12. In the Select Data side panel click **Create Search.**
- [ ] 13. In the Data source name box enter: `Global Logins - map search`
- [ ] 14. In the SPL query box enter:

```
index=security sourcetype=linux_secure (vendor_action=Failed OR
vendor_action=Accepted)
| iplocation src_ip
| geostats count by vendor_action
```

- [ ] 15. In the Time range section click **Input**.
- [ ] 16. Click **Apply & Close**.
- [ ] 17. Click **Save** and reload your browser.

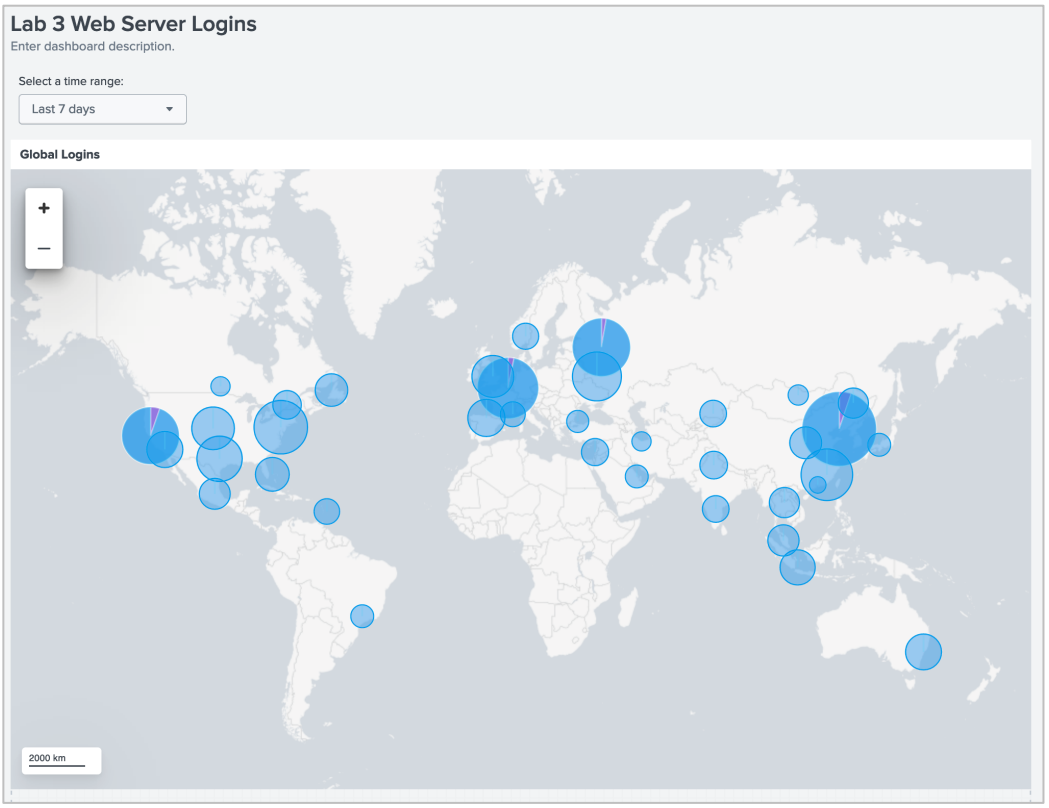
Task 4: Format the map visualization.

- [ ] 18. On the Configuration side panel, in the Title box enter: `Global Logins`
- [ ] 19. Locate the *Position & size* section and make sure the X and Y positions are set to `0`.
- [ ] 20. Set the map width to `1100` and height to `700`.
- [ ] 22. Locate the *Data display* section.
- [ ] 23. Set Zoom to: `1.1`
- [ ] 24. Set the Latitude to: `25` and Longitude to: `10`

> **NOTE:** The latitude and longitude are dependent on the map visualization dimensions and the zoom. It may require entering both numbers, then repeating this to get a number close if not exact. This is expected.

- [ ] 25. Locate the *Data configurations* section.
- [ ] 26. In the Layer type menu select **Bubble**.
- [ ] 27. Make sure the Latitude menu shows latitude (number).
- [ ] 28. Make sure the Longitude menu shows longitude (number).
- [ ] 29. Make sure the Bubble size menu has Accepted (number) and Failed (number) selected.
- [ ] 30. Click **Save** and reload your browser.

Example:



Task 5: Set tokens.

- [ ] 31. Click on the **map**.
- [ ] 32. In the Configuration side panel, locate the *Interactions section* and click **+Add Interaction**.
- [ ] 33. In the On click menu, select **Set tokens**.
- [ ] 34. In the Set token menu, select **Use predefined token**.
- [ ] 35. Create the following tokens:

Token name	Token value	Default value
`north`	`row._geo_bounds_north.value`	`20`
`south`	`row._geo_bounds_south.value`	`10`
`east`	`row._geo_bounds_east.value`	`-30`
`west`	`row._geo_bounds_west.value`	`-70`

- [ ] 36. Click **Apply**.
- [ ] 37. Click **Save** and reload your browser.

Task 6: Add a table.

- [ ] 38. Click the **Add Chart** button and select **Table**.

- [ ] 39. In the Select Data side panel, click **Create Search**.
- [ ] 40. In the Data source name box, enter: `Table search`
- [ ] 41. In the SPL query box enter:

```
index=security sourcetype=linux_secure (vendor_action=Failed OR vendor_action=Accepted)
| iplocation src_ip
| search lat>=$south$ lat<$north$ lon>=$west$ lon<$east$
| stats sparkline(count(vendor_action),24h) AS "Attempt Trend (last 24hrs)" count AS
Attempts by vendor_action, City, Country
| rename vendor_action AS Action
```

- [ ] 42. In the *Time Range* section click **Input**.
- [ ] 43. Click **Apply & Close**.

Task 7: Format the table visualization.

- [ ] 44. Locate the Visibility section and select **When data is unavailable, hide element**.
- [ ] 44. Locate the *Position & size* section and set the X position to `0` and Y position to `700`.
- [ ] 45. Set the table width to `1100` and height to `500`.
- [ ] 46. Click **Save** and reload your browser.

Task 8: Test the dashboard.

- [ ] 47. Click **View**.
- [ ] 48. Mouse over the clusters. Notice Accepted and Failed in the rollover.
- [ ] 49. Click a **bubble** on the map.

  Notice the table populates with data based on the latitude and longitude of the marker clicked.

  Troubleshooting: If the drilldown is not working, make sure the token name and value entered in the drilldown window do not have a typographical error; then, reload your browser.
- [ ] 50. Zoom in on the map. Notice more markers appear.
- [ ] 51. Change the time range.

  Example on next page.

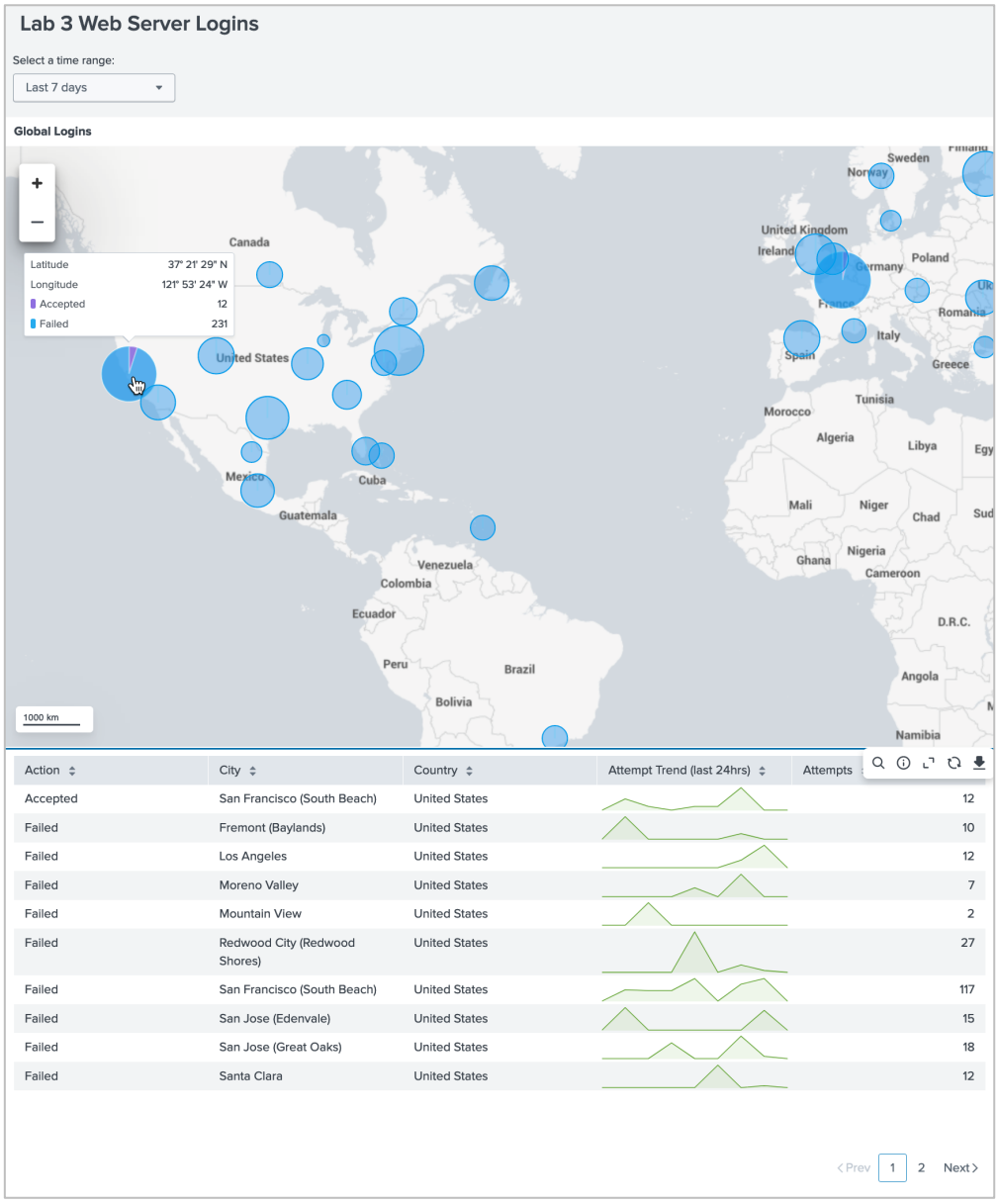
Congratulations

You completed Lab Exercise 3!

Highlights

- Added a map and formatted it to be a bubble map.
- Configured the map to be set tokens that capture location data from a mouse click.
- Added a table with a data source using the token values from the map click.
- Formatted the table to be hidden unless data was available for it.

Example:



Lab Exercise 4 – Using Custom SVG

Description

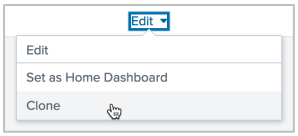
In this exercise, you will create a dashboard with custom choropleth SVGs that are dynamically colored. A template dashboard and SVG files have been provided as a starting point. You will add the SVGs to the dashboard, link them to a data source, and then format the SVGs to have dynamic color ranges.

Scenario: The BCG sales team wants a dashboard that shows game sales by table at all Buttercup Game Cafes. It should also display customers per hour, average game time, and food sales. The wireframe they supplied shows how it should display the following:

- Time range input
- Location dropdown menu
- Single values for customers per hour, average game time, and cafe sales
- Icons dynamically colored for cafe sales
- Floorplan with dynamically colored tables including game sales totals by table

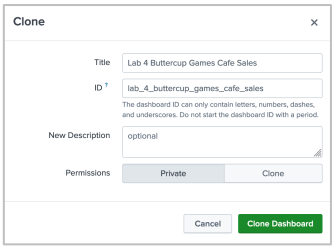
Wireframe:

Task 1: Clone a dashboard.

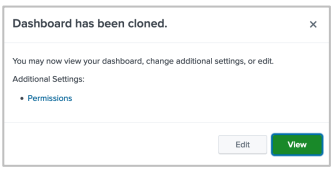


- [ ] 1. Navigate to the Dashboards page and locate Lab 4 - Template.
- [ ] 2. In the Actions menu, select **Edit** > **Clone**.
- [ ] 3. In the Create New Dashboard's Dashboard Title box enter:

```
Lab 4 Buttercup Games Cafe Sales
```

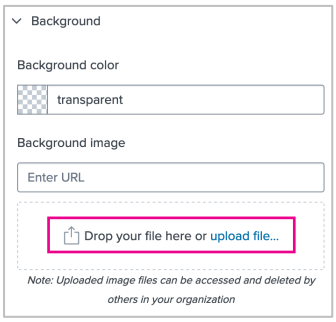


- [ ] 4. Set Permissions to **Private**.
- [ ] 5. Click **Clone Dashboard**.
- [ ] 6. In the *Dashboard has been cloned window*, click **Edit**.



Task 2: Add a background image.

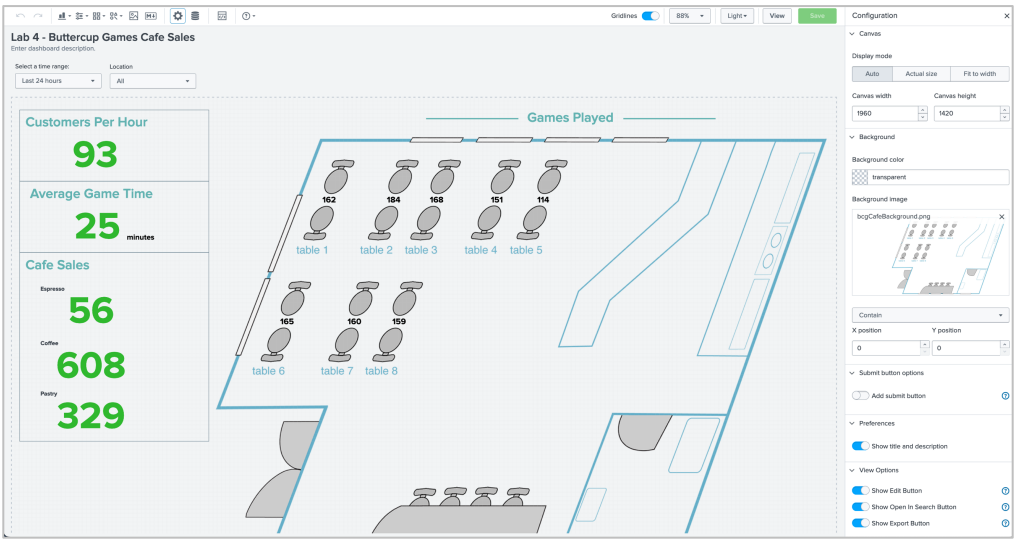
- [ ] 7. In the Configuration side panel, locate the Background section.
- [ ] 8. Under Background image, click **upload file...**.
- [ ] 9. Locate the bcgCafeBackground.png and click **Open**



> **Note:** This file is available in a collection of four files included in a zip file from the Download link in your lab environment.

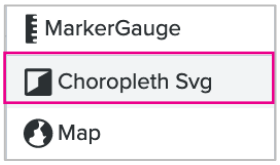
- [ ] 10. Select **bcgCafeBackground.png**.
- [ ] 11. Save the dashboard and reload your browser.

Example:

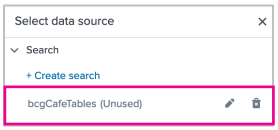


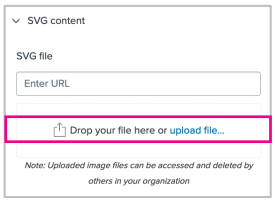
Task 3: Add a Choropleth SVG

- [ ] 12. Click the +**Add Chart** icon.
- [ ] 13. Select **Choropleth Svg**.



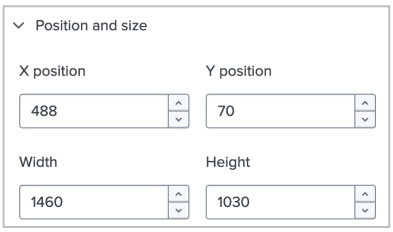
- [ ] 14. On the Select data source side panel, click **bcgCafeTables (unused)**.
- [ ] 15. On the Configuration side panel, locate the SVG content section.
- [ ] 16. Click **upload file...**.
- [ ] 17. Select the bcgCafeTables.svg file and click **Open**.

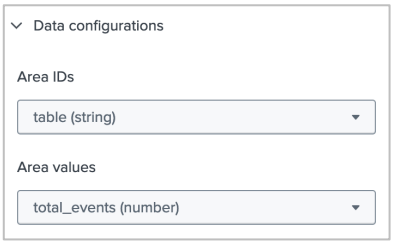




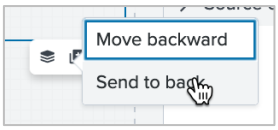
> **Note:** This file is available in a collection of four files included in a zip file from the Download link in your lab environment.

- [ ] 18. Locate the Position and Size section.
- [ ] 19. Set the X position to `488` and the Y position to `70`.
- [ ] 20. Set Width to `1460` and Height to `1030`.
- [ ] 21. Locate the *Data configurations* section.
- [ ] 22. Make sure Area IDs is set to **table (string)**.
- [ ] 23. Make sure Area values is set to **count (number)**.



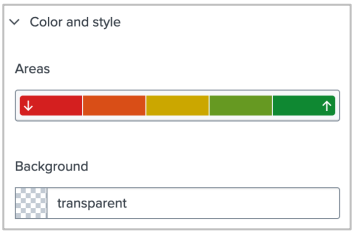


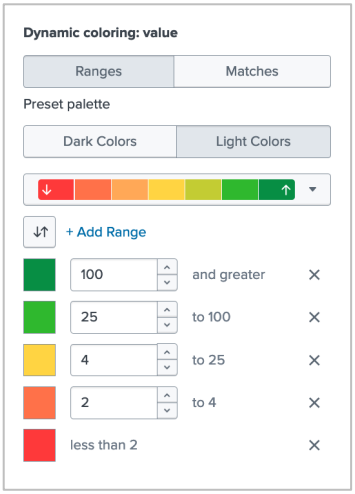
- [ ] 24. In the SVG's action panel, select **Send to back**.
- [ ] 25. Save the dashboard.



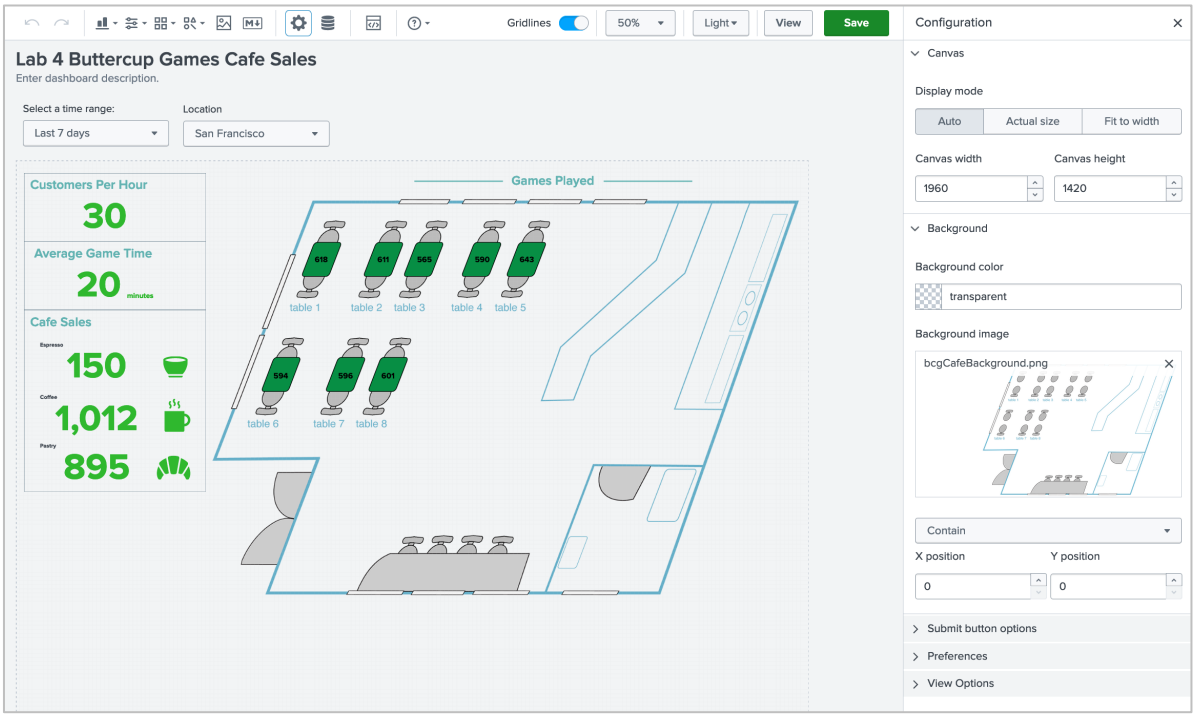
Task 4: Set Dynamic Color Ranges.

- [ ] 26. Locate the *Color and style* section.
- [ ] 27. Set the Background to transparent.
- [ ] 28. Click on the **Areas** menu.
- [ ] 29. Under Dynamic coloring value, select **Ranges**.
- [ ] 30. Under Preset palette, select **Light Colors**.
- [ ] 31. Starting at the bottom, set the color ranges as follows:
    - `100` and greater
    - `25` to 100
    - `4` to 25
    - `2` to 4
- [ ] 32. Click anywhere to close the palette window.
- [ ] 33. Save the dashboard.

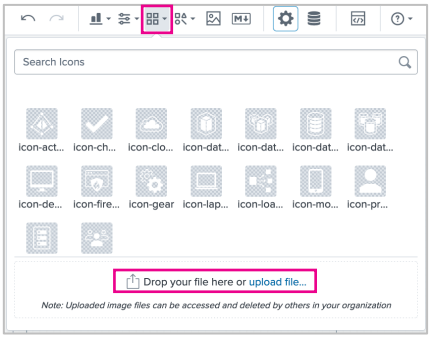




Example:



Task 5: Add icons.

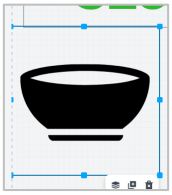


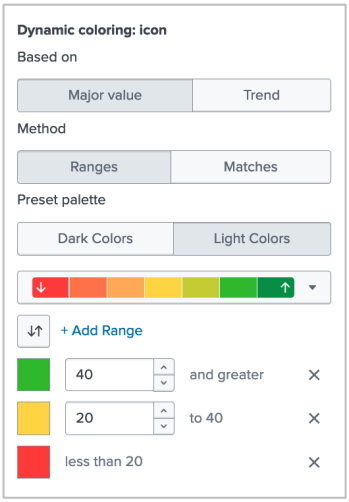
- [ ] 34. Click the **Add Icon** button.
- [ ] 35. Click **upload file...**
- [ ] 36. Select espresso.svg and click **Open**.

> **Note:** This file is available in a collection of SVG files in a zip file from the Download link in your lab environment.

- [ ] 36. Repeat the above steps to add two more icon files:
  - coffee.svg
  - croissant.svg

Task 6: Add an espresso icon.





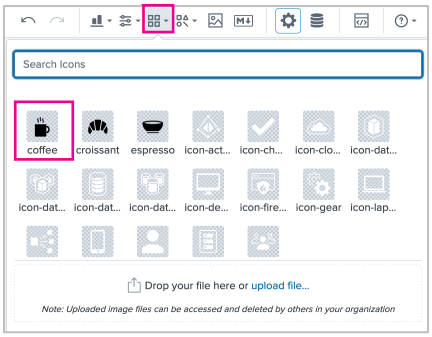
- [ ] 37. In the icons menu, click on the **espresso icon.**
- [ ] 38. In the Configuration side panel, locate the *Data Sources* section and click **Set up primary data source**.
- [ ] 39. Under Select data source, click **Espresso search**.
- [ ] 40. Locate the *Position & size* section.
- [ ] 41. Set the X Position to `360` and the Y Position to `460`.
- [ ] 42. Set the Width to `70` and the Height to `100`.
- [ ] 43. Locate the *Color and style* section.
- [ ] 44. In the Dynamic elements menu, select **Icon**.
- [ ] 45. Click the **Icon** menu.
- [ ] 46. Select Based on: **Major value**
- [ ] 47. Select Method: **Ranges**
- [ ] 48. Select Preset palette: **Light colors**
- [ ] 49. Delete the top, two color ranges by clicking the **X** on their right.
- [ ] 50. Set the remaining color ranges as follows:

Range	Color
`40` and greater	#2eb82e
`20` to 40	#ffd442

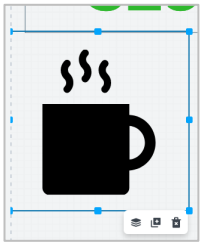
- [ ] 51. Save the dashboard.

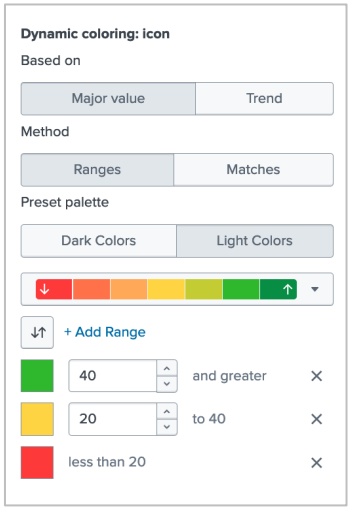
Task 7: Add a coffee icon.

- [ ] 52. Click the **Add Icon** button.
- [ ] 53. Click the **coffee icon**.
- [ ] 54. In the Configuration side panel, locate the Data sources section and click **Set up primary data source**.



- [ ] 55. Under the Select data source, click **Coffee search**.
- [ ] 56. Locate the Position & size section.
- [ ] 57. Set the X Position to `350` and the Y Position to `580`.
- [ ] 58. Set the Width to `100` and the Height to `100`.
- [ ] 59. Locate the *Color and style* section.
- [ ] 60. In the Dynamic elements menu select **Icon**.
- [ ] 61. In the Icon menu. select Based on: **Major value**
- [ ] 62. Select Method: **Ranges**
- [ ] 63. Select Preset palette: **Light colors**
- [ ] 64. Delete the top, two color ranges by clicking the **X** on their right.



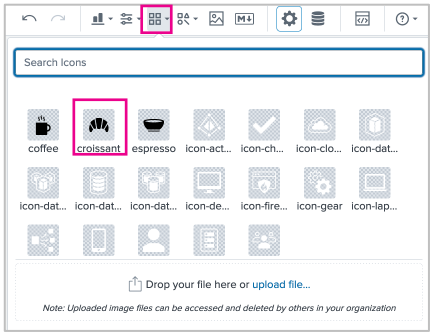


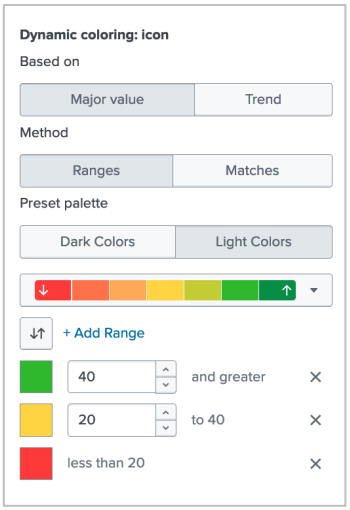
- [ ] 65. Set the remaining color ranges as follows:

Range	Color
`40` and greater	#2eb82e
`20` to 60	#ffd442

- [ ] 66. Save the dashboard.

Task 7: Add a pastry icon.



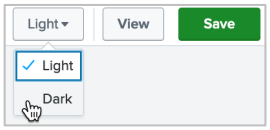


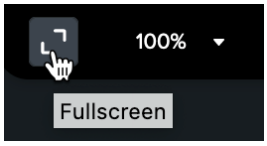
- [ ] 67. Click the **Add Icon** button.
- [ ] 68. Click on the **croissant icon**.
- [ ] 69. In the Configuration side panel, locate the Data sources section and click **Set up primary data source**.
- [ ] 70. On the Select data source side panel, click **Pastry search**.
- [ ] 71. Locate the *Position & size* section.
- [ ] 72. Set the X Position to `340` and the Y Position to `710`.
- [ ] 73. Set the Width to `100` and the Height to `100`.
- [ ] 74. Locate the *Color and style* section.
- [ ] 75. In the Dynamic elements menu select **Icon**.
- [ ] 75. Select Based on: **Major value**
- [ ] 76. Select Method: **Ranges**
- [ ] 77. Select Preset palette: **Light colors**
- [ ] 78. Remove the top, two color ranges by clicking the **X**.
- [ ] 79. Set the remaining color ranges as follows:

Range	Color
`40` and greater	#2eb82e
`20` to 12	#ffa857

- [ ] 80. Select **Dark mode**.
- [ ] 81. Click **Save** and reload your browser.
- [ ] 82. Click **View**.

Task 8: Test the dashboard.





- [ ] 83. Adjust the zoom level.
  - Zoom in to 50%
  - Select Zoom in.
  - Notice zooming in or out is in 25% increments.
- [ ] 84. Expand the dashboard to full screen.
- [ ] 85. Select a different time range
- [ ] 86. Select a different location

Troubleshooting: If the visualizations do not update, retrace your steps, and look for typos.

Congratulations

You completed Lab Exercise 4!

Highlights

- Added custom icons and formatted them to be dynamically colored based on sales
- Added a background image
- Added a choropleth SVG and formatted it to be dynamically colored based on sales

Example: