



## **Kibana Workshop**

Lab 4 - Canvas

# Canvas

## Requirements

Canvas turns your data into live infographics. From a blank workpad, you can use logos, colors, and design elements. This will allow you to render data your way.

With this Labs you will explore the feature to transform the Metrics and visualization in Pixel Perfect reports using Kibana Canvas. You have been requested by your business to visualize different metrics and aggregation for the Flight Data (kibana\_sample\_data\_flights):

- Total flights
- AVG Ticket Price
- Total Delayed flights
- Cancellations
- Flights over time
- Total Flights
- Distance traveled overtime

In the beginner lab, you will discover and change an existing Canvas workpad. Building a Canvas workpad from scratch is in the advanced track.

# Canvas - beginner

1. From the main menu, select "Canvas" (under "Analytics").
2. Select "[Flights] Overview".
3. Click on "View" in the top menu, and next select "Zoom", "Fit to window".
4. This Canvas workpad consists of images (assets) and elements.
5. Select the "311 flights" (in blue in the middle; the actual number may vary). This metric displays the "total\_flights" value with a label underneath. This value comes from the "Data" tab where you can see the SQL statement:

```
SELECT COUNT(*) as total_flights FROM kibana_sample_data_flights
```

6. Let's display delays instead of cancellations. Click the "44 cancellations" (the actual number may vary). Next, click on the "Data" tab on the right-hand side, and edit the SQL statement to change column name and condition:

```
SELECT COUNT(*) as total_delays FROM  
kibana_sample_data_flights WHERE FlightDelayMin>0
```

7. Click "Save". Next, in the Display tab, select the new "total\_delays" column name as measure. Enter DELAYS as label. You can also change the color.
8. Let's add a Timelion visualization. Click "Add element" at the top. Select an area chart and position it between the planes at the bottom center of the workpad.
9. In the Data tab, click "Demo data" to change the data source, and select "Timelion". Timelion is a powerful expression language for working with time series data.
10. Enter the following expression:

```
.es(index=kibana_sample_data_flights,timefield=timestamp)  
.mvavg(12h)  
.lines(fill=1)  
.color(#777)  
.label("Nb flights")
```

11. Click "Save".

12. In the Display tab, select "@timestamp" as x-axis and "value" as y-axis:

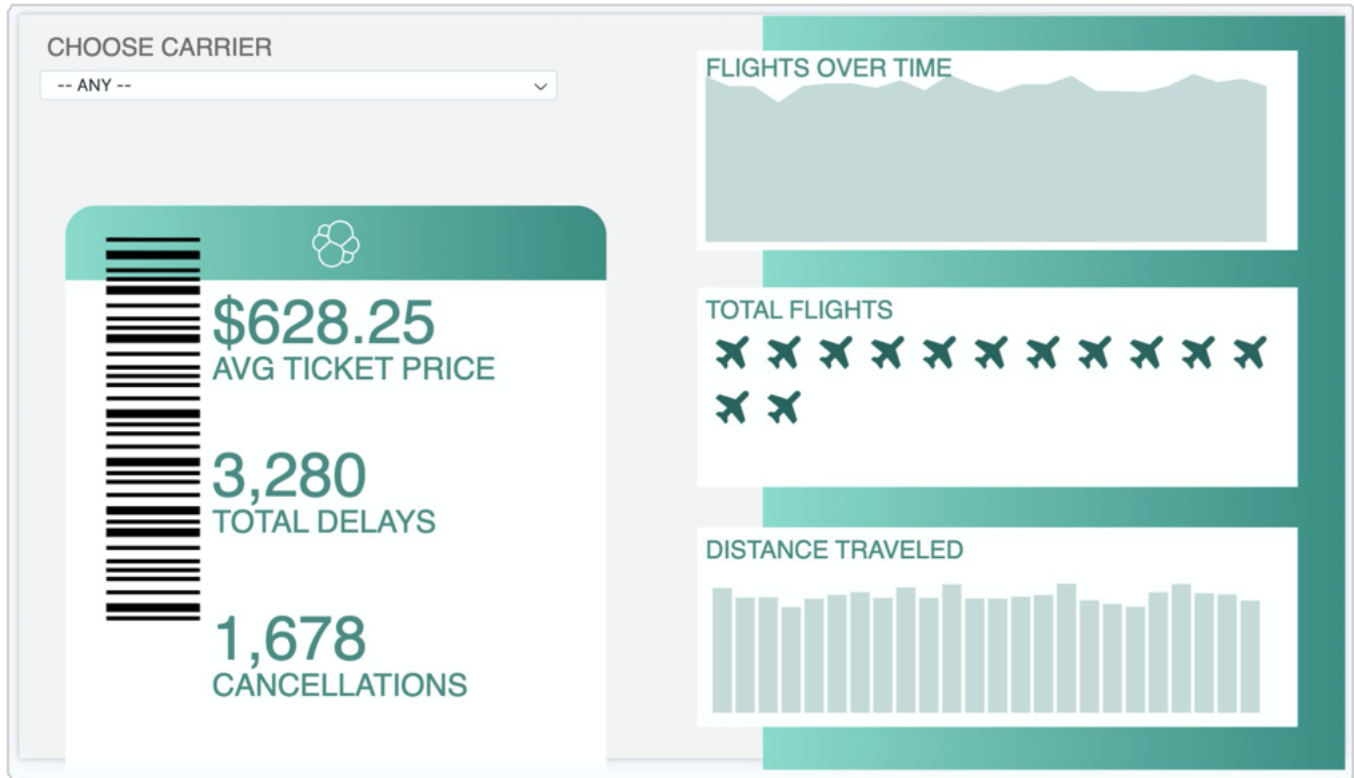
The image shows a configuration panel titled "Selected element" with navigation arrows (up, left, right, down). Below the title are two tabs: "Display" (active) and "Data". Under the "Display" tab, there is a section "Dimensions & measures" with a plus icon. This section contains two rows for axis configuration. The first row is for the "X-axis" (with an info icon), showing a dropdown menu set to "Value" and a second dropdown menu set to "@timestamp", with a close button (X) to the right. The second row is for the "Y-axis" (with an info icon), showing a dropdown menu set to "Value" and a second dropdown menu set to "value", with a close button (X) to the right.

Selected element			
Display Data			
Dimensions & measures (+)			
X-axis ⓘ	Value ▾	@timestamp ▾	×
Y-axis ⓘ	Value ▾	value ▾	×

13. To disable the axes, in the chart style click the + button to add x and y axis configuration, and disable both.

# Canvas - advanced

In this lab you will build this Canvas workpad:



1. Click on "Canvas" in the top left (just before the workpad name, "[Flights] Overview").
2. Click on "Import Workpad JSON File" and choose the JSON file shared with you during the workshop.
3. Click on "View" in the top menu, and next select "Zoom", "Fit to window". You should now see the following:

### Workpad settings

Name

Flight Analysis - Template - Copy

Width

Height

1280

720

1080p

720p

A4

US Letter

> Variables



- Global CSS overrides

> Element status

## Page settings

Background 

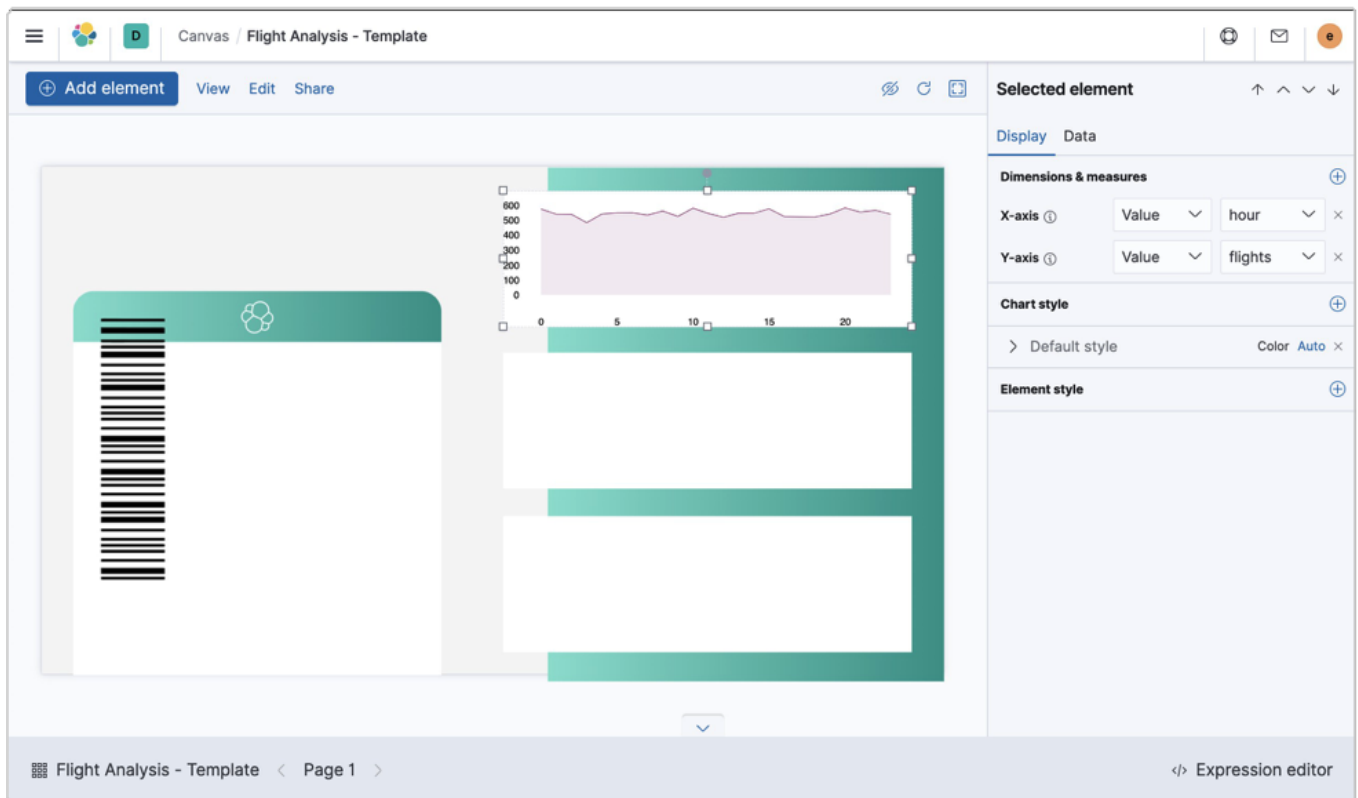
Flight Analysis - Template - Copy &lt; Page 1 &gt;

# Adding flights over time

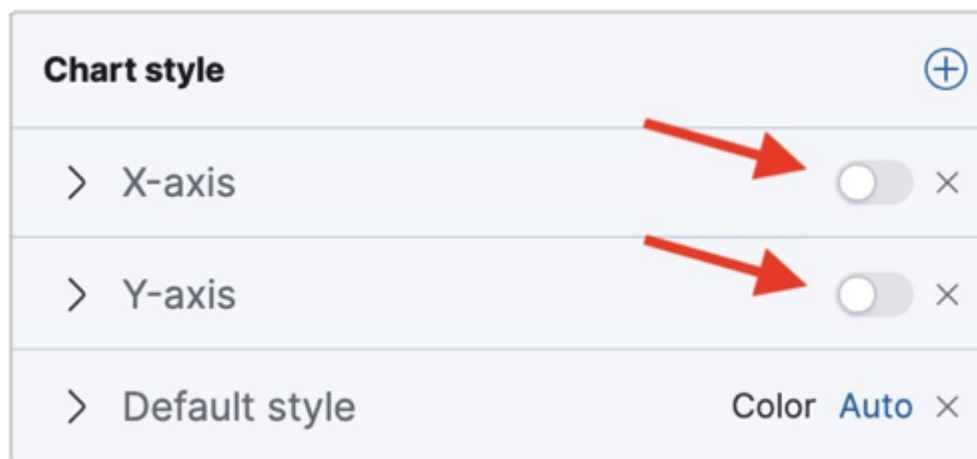
1. Click "Add element".
2. From the "Chart" menu, select "Area".
3. Click on the "Data" tab on the right-hand side.
4. Click on "Demo data" to change the data source, and select "Elasticsearch SQL". 5. Change the query into:

```
SELECT HOUR_OF_DAY(timestamp) hour, COUNT(*) flights
FROM kibana_sample_data_flights
GROUP BY hour
ORDER BY hour
```

6. You can click "Preview" to get a quick preview of the data. Next click "Save".
7. Click on the "Display" tab and change the following values:
  - for the x-axis choose value "hour"
  - for the y-axis choose value "flights"
  - Change the color from auto to green
8. Move the area chart in place and resize it so it fits in the first white box:



9. Tweak the style by adding a style for the x-axis and y-axis and disabling them:

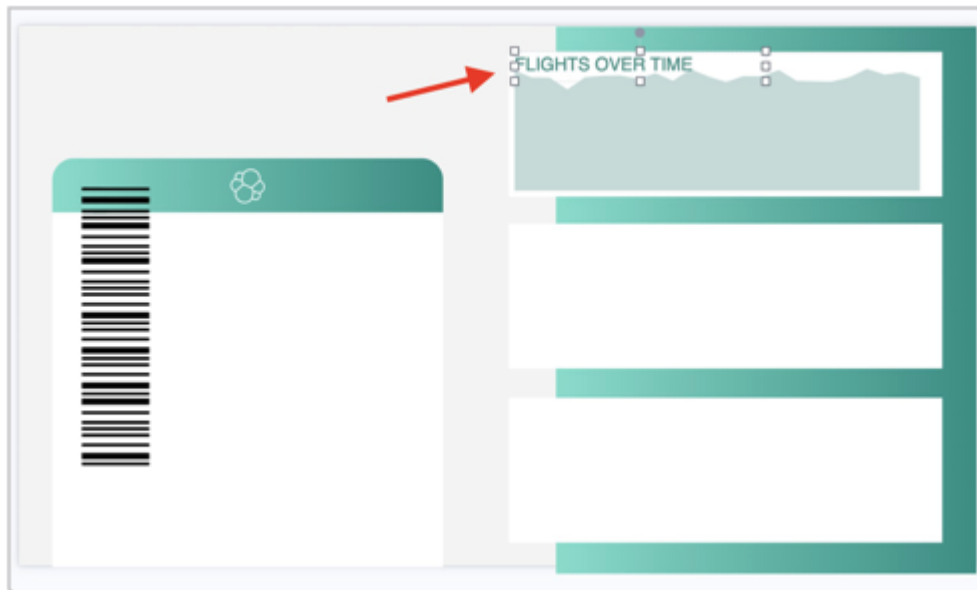


10. Click on the + for "Element style" and add a "Container style". Change the "Opacity" into 30%.

11. To give chart a title, add a new element of type "Text".



12. Change the sample text into "FLIGHTS OVER TIME" (under "Markdown content" on the right-hand side).
13. Click on the + next to "Markdown" and select "Text settings". Change the font size into 24, and the color into green.
14. Resize the text element and move it into place with the area chart:

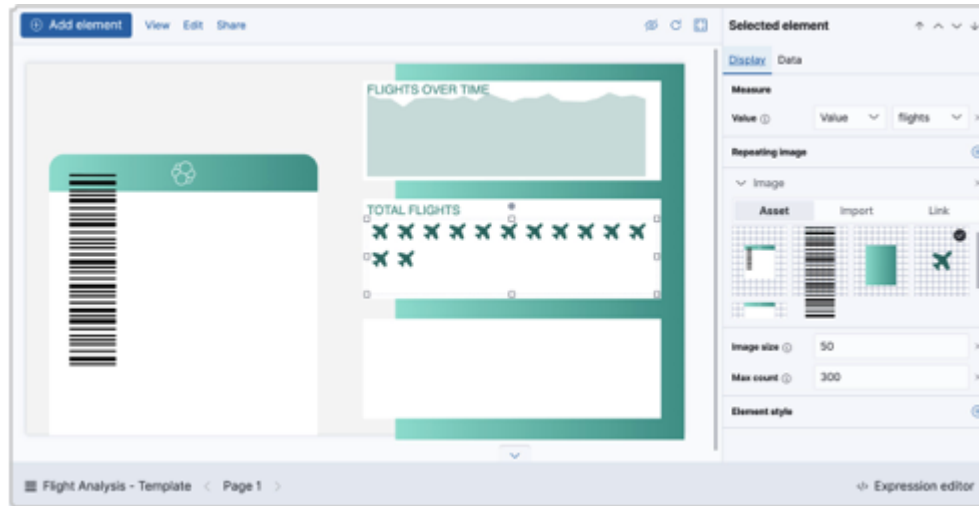


## Adding total flights

1. Clone the the "FLIGHTS OVER TIME" text element, by clicking on the element and next selecting "Clone" from the "Edit" menu.
2. Change the text into TOTAL FLIGHTS and move the element in place in the second box.
3. Click "Add element" and select "Image repeat" from the "Image" menu.
4. Resize the element and place it in the second white box, under the title.
5. On the right-hand side, under the "Display" tab select the plane image under "Asset" 6. Switch to the data tab, and change the data source into the following Elasticsearch SQL query:

```
SELECT COUNT(*)/1000 AS flights FROM kibana_sample_data_flights
```

7. Switch back to the "Display" tab and select "flights" as the "Value" under "Measure".
8. Click on the + for "Repeating image" and select "Image size" and "Max count". Set them to 50 and 300 respectively.



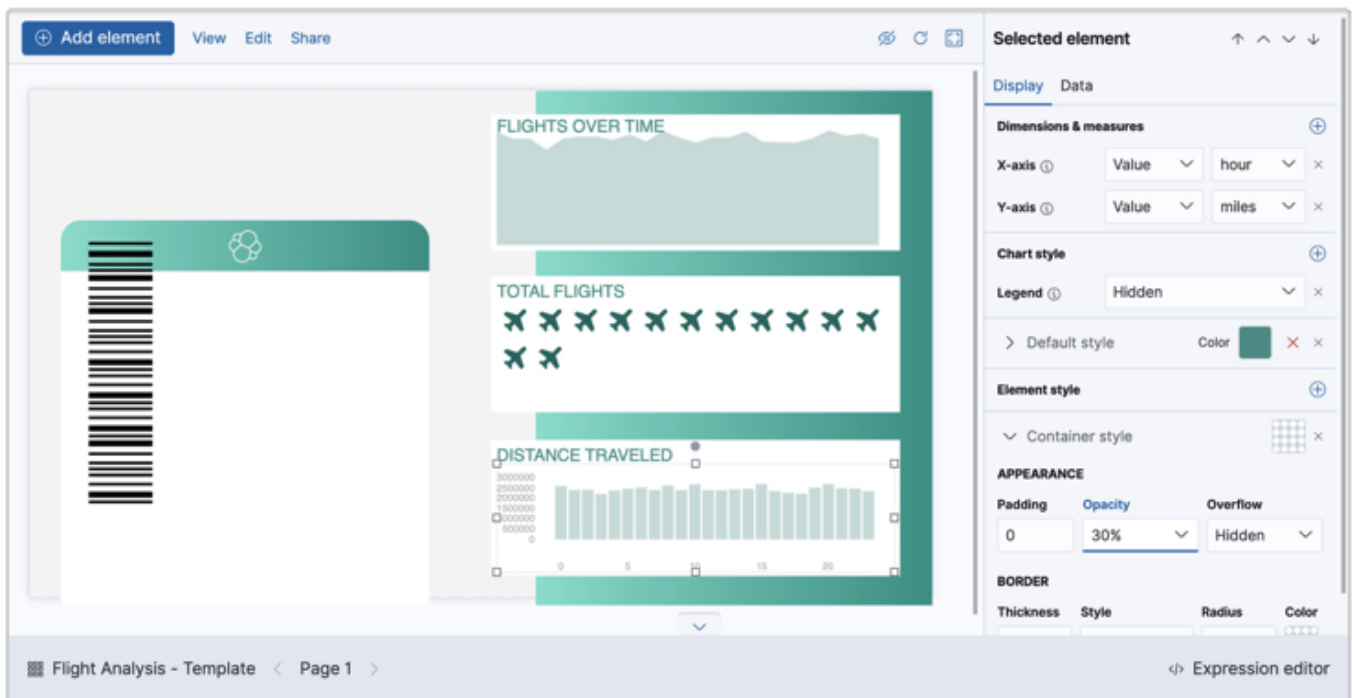
## Adding distance traveled

1. Clone the earlier text element, replace the text with DISTANCE TRAVELED. Position it in the third white box.
2. Add a new element of type "Vertical bar", from the "Chart" menu.
3. Move it in place in the third white box.
4. Change the data source into the following Elasticsearch SQL query:

```
SELECT HOUR_OF_DAY(timestamp) hour, SUM(DistanceMiles)
miles FROM kibana_sample_data_flights
GROUP BY hour
ORDER BY hour
```

5. On the "Display" tab, make the following changes:

- set the x-axis to the "hour" value
- set the y-axis to the "miles" value
- remove the color, by clicking the x
- in the "Default style" section, change the color from "auto" into the green color you used before.
- add a "Container style" to the "Element style" section and set the opacity to 30%.
- Add "X-axis" and "Y-axis" in the "Chart style" section and use the toggles to turn them off.



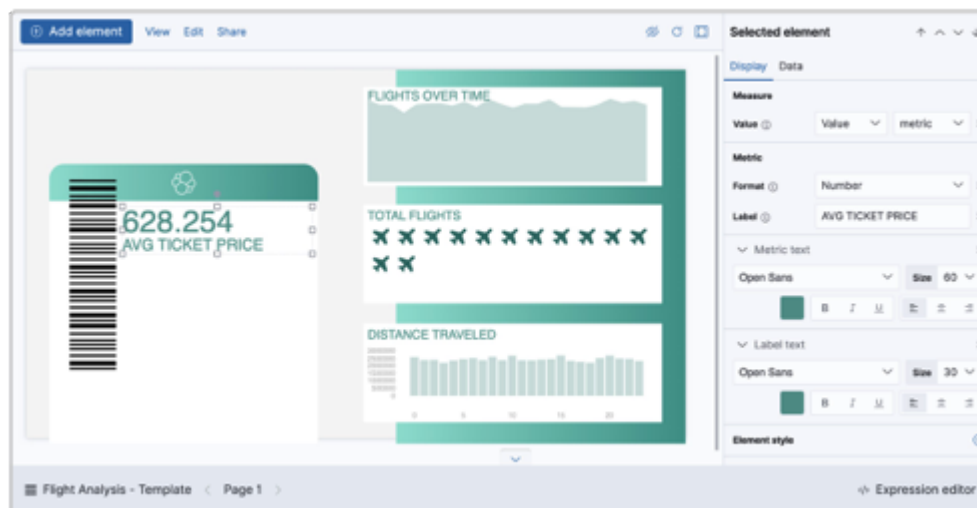
# Adding some metrics

1. Add a metric by clicking "Add element", and selecting "Metric" from the "Chart" menu.
2. Move it in place in the white box on the left
3. Change the data source into the following Elasticsearch SQL query:

```
SELECT AVG(AvgTicketPrice) metric FROM kibana_sample_data_flights
```

4. On the "Display" tab make the following changes:

- select "Value" and "metric" under "Measure"
- change the label into AVG TICKET PRICE
- change the label and metric text to be left aligned
- change the font sizes to be 60 and 30 respectively
- change the font color into the green color you used before



5. Clone the metric and place it below the first metric.

6. Change the label into TOTAL DELAYS and the SQL query into:

```
SELECT COUNT(*) as metric FROM kibana_sample_data_flights
WHERE FlightDelay = true
```

7. Clone the metric again. Position it below the others. Change the label into CANCELLATIONS and the SQL query into:

```
SELECT COUNT(*) as metric FROM kibana_sample_data_flights
WHERE Cancelled = true
```

8. Let's format the average ticket price metric so it shows a nice dollar value. Select the metric and next click "Expression editor" in the bottom right.

9. Towards the bottom you can see how the number gets formatted:  
metricFormat="0,0.[000]". Change it into: metricFormat="\$0,0.[00]". Next click "Run" and "Close".

## Add filter for carrier

1. Click on "Add element", and select "Dropdown select" from the "Filter" menu.
2. Change the data source into the following Elasticsearch SQL query:

```
SELECT Carrier
FROM kibana_sample_data_flights
```
3. On the "Display" tab, enter Carrier for "Value column" and "Filter column" (mind the capital letter C).
4. Add a text element with the text CHOOSE CARRIER as a label for the dropdown select.
5. Try it out.

