

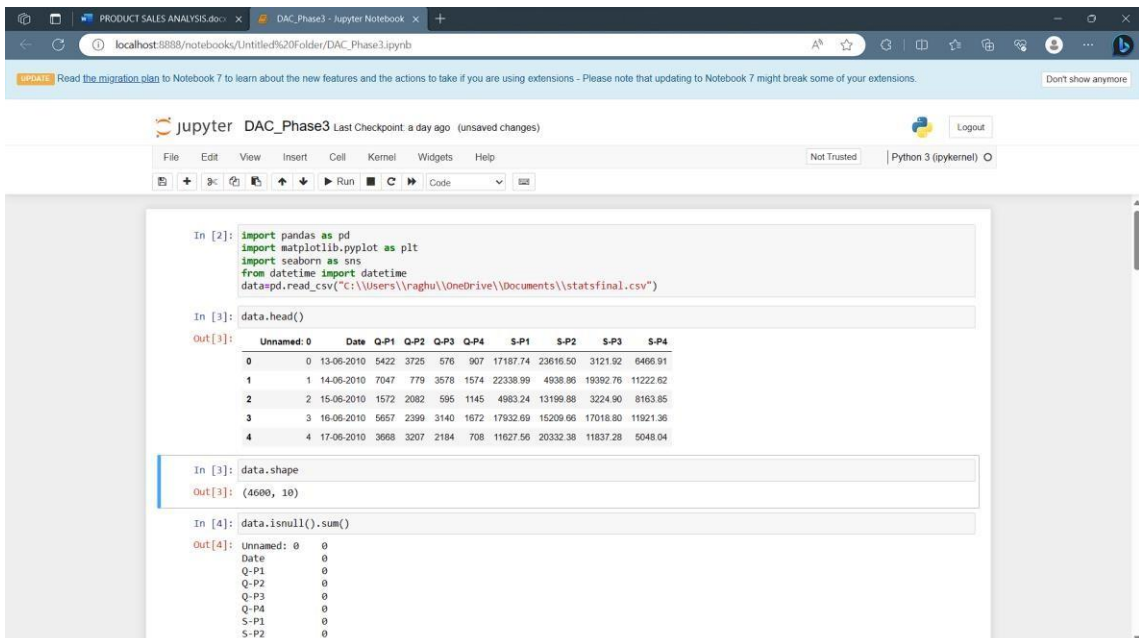
PRODUCT SALES ANALYSIS

Product sales analysis is a systematic examination and evaluation of the performance and results associated with the sales of a particular product or a group of related products. This analysis involves gathering and studying data and information to gain insights into how well a product is selling in the market. It aims to understand various aspects of product sales.

The conclusion of this project is to extract from the sale data, such as identifying top-selling products, analyzing sales trends, and understanding customer preferences.

Visualize using python

First, import the CSV file using the function “pd.read_csv()”.



```
In [2]: import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from datetime import datetime
data=pd.read_csv("C:\\Users\\raghu\\OneDrive\\Documents\\statsfinal.csv")

In [3]: data.head()
Out[3]:
```

Unnamed: 0	Date	Q-P1	Q-P2	Q-P3	Q-P4	S-P1	S-P2	S-P3	S-P4
0	13-06-2010	5422	3725	576	907	17187.74	23616.50	3121.92	6466.91
1	14-06-2010	7047	779	3578	1574	22338.99	4938.86	19392.76	11222.82
2	15-06-2010	1572	2082	595	1145	4983.24	13199.88	3224.90	8163.85
3	16-06-2010	5857	2399	3140	1672	17932.69	15209.66	17018.80	11921.36
4	17-06-2010	3668	3207	2184	708	11627.56	20332.38	11837.28	5048.04

```
In [3]: data.shape
Out[3]: (4600, 10)

In [4]: data.isnull().sum()
Out[4]:
```

Unnamed: 0	0
Date	0
Q-P1	0
Q-P2	0
Q-P3	0
Q-P4	0
S-P1	0
S-P2	0
S-P3	0
S-P4	0

By using `shape()` function, when it comes to the analysis of data and its variants, it is extremely important to realize the volume of data. That is, before we plan to analyze the data and perform synthesis on it, we need to be aware of the dimensions of the data.

This is when the Python `shape()` method comes into the picture.

With the `shape()` method, comes the flexibility to obtain the dimensions of any Python object. Yes, it returns a tuple value that indicates the dimensions of a Python object.

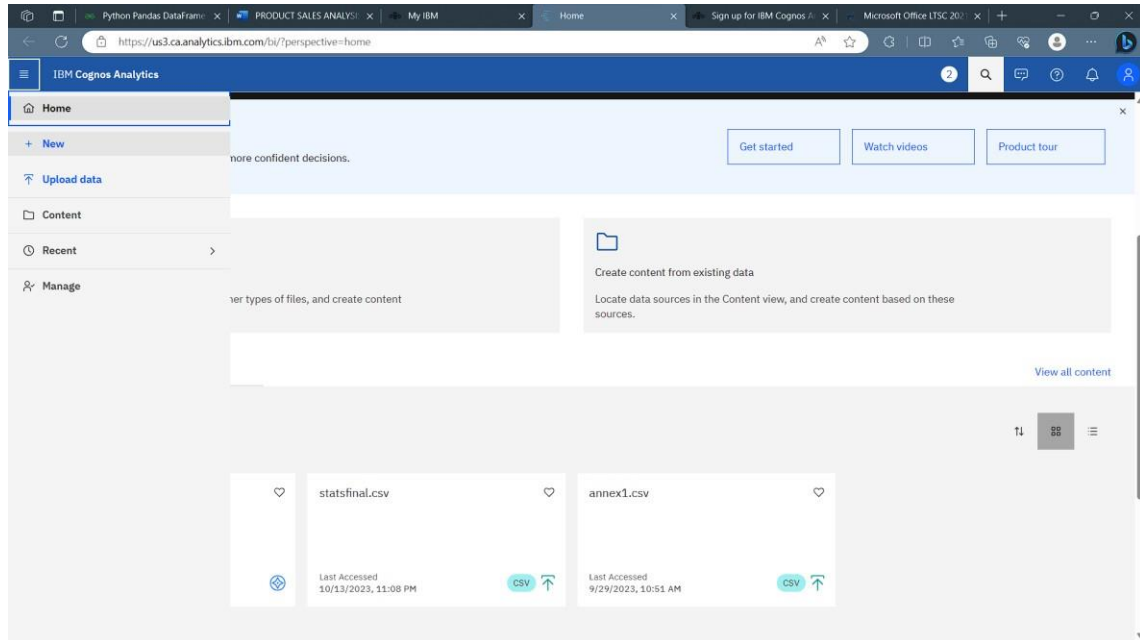
Data Frame in Pandas is two-dimensional size-mutable, potentially heterogeneous tabular data structure with labeled axes (rows and columns). A Data frame is a two-dimensional data structure, i.e., data is aligned in a tabular fashion in rows and columns. Pandas Data Frame consists of three principal components, the data, rows, and columns.

The diagram illustrates a Pandas Data Frame as a table with 7 rows and 6 columns. The columns are labeled *Name*, *Team*, *Number*, *Position*, and *Age*. The rows are indexed from 0 to 6. A blue arrow labeled "Columns" points to the column headers. A brown arrow labeled "Rows" points to the row indices. A purple arrow labeled "Data" points to the data cells, which are highlighted with purple boxes. The data cells are: Jonas Jerebko (8.0), Jordan Mickey (NaN), Terry Rozier (PG), Jared Sullinger (C), and Evan Turner (SG).

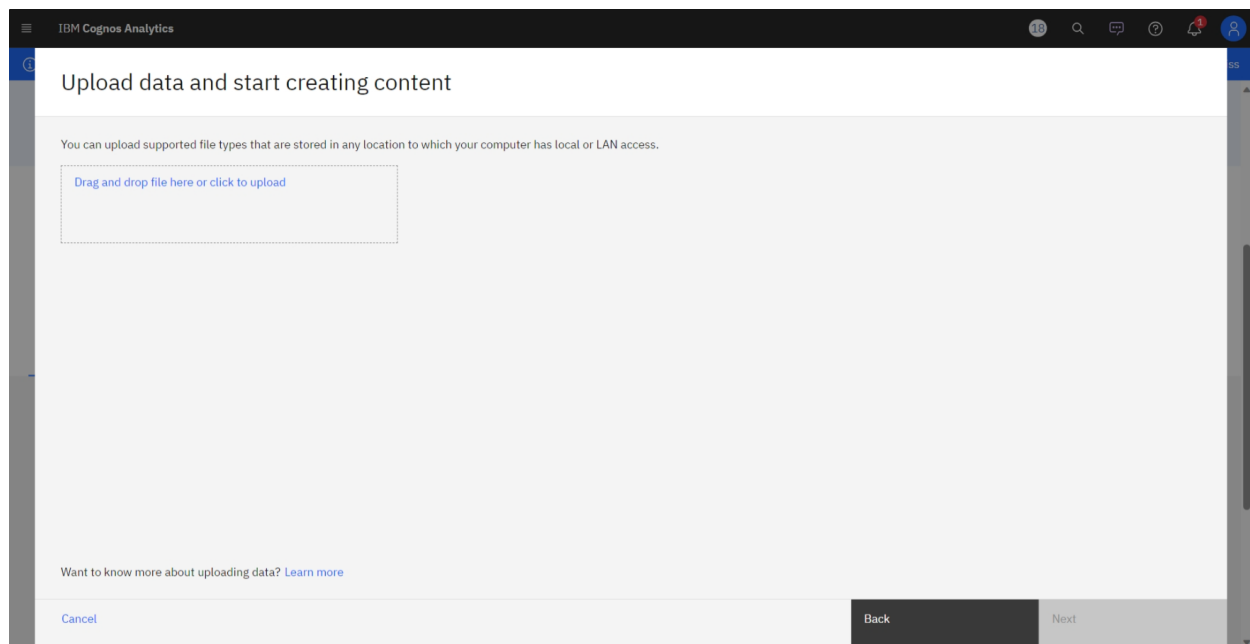
	<i>Name</i>	<i>Team</i>	<i>Number</i>	<i>Position</i>	<i>Age</i>
0	Avery Bradley	Boston Celtics	0.0	PG	25.0
1	John Holland	Boston Celtics	30.0	SG	27.0
2	Jonas Jerebko	Boston Celtics	8.0	PF	29.0
3	Jordan Mickey	Boston Celtics	NaN	PF	21.0
4	Terry Rozier	Boston Celtics	12.0	PG	22.0
5	Jared Sullinger	Boston Celtics	7.0	C	NaN
6	Evan Turner	Boston Celtics	11.0	SG	27.0

Working with IBM Cognos Analytics:

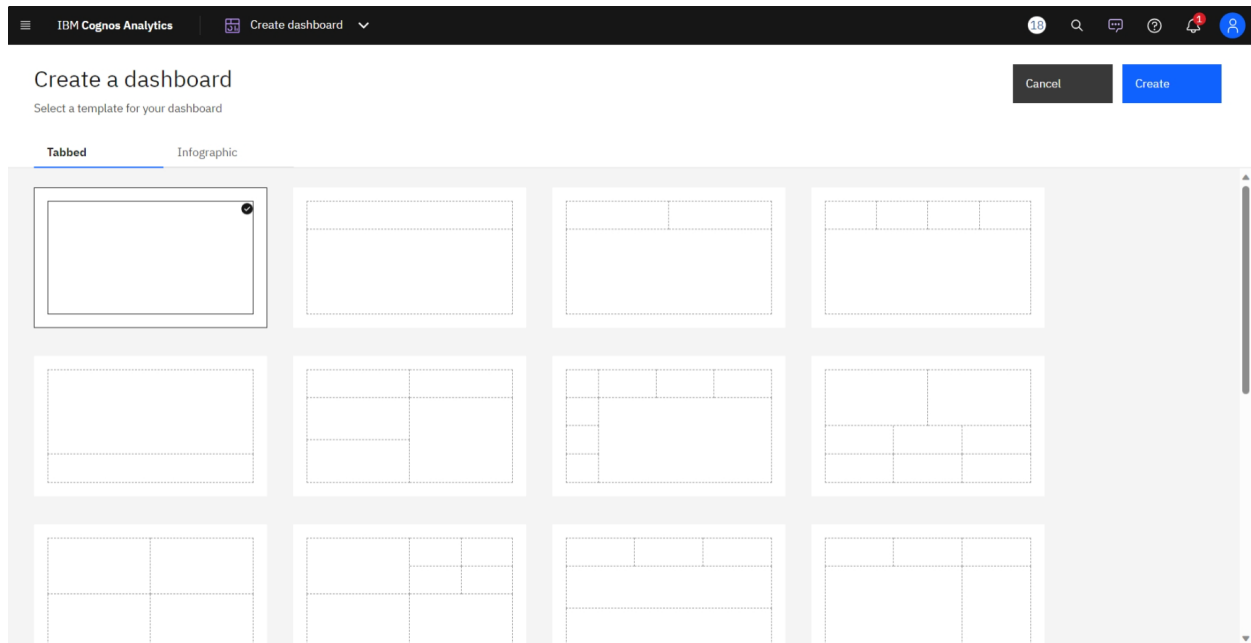
First, open IBM Cognos analytic in browser. In the top left corner, click the option button. Then select “New”.



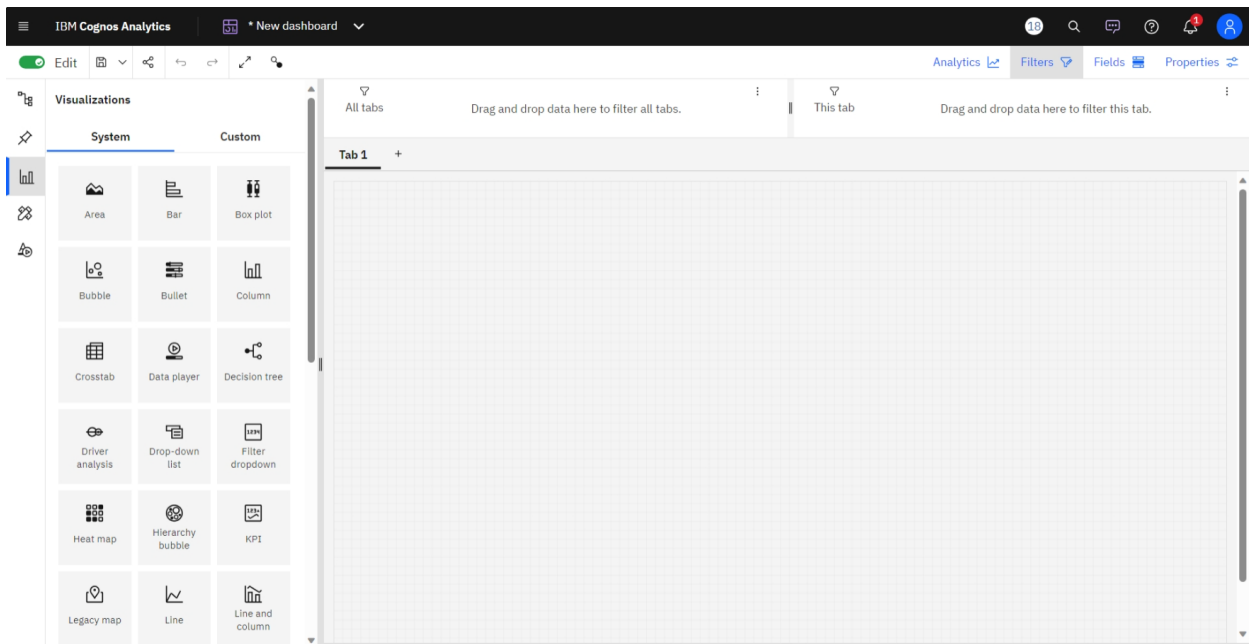
Select the dataset.



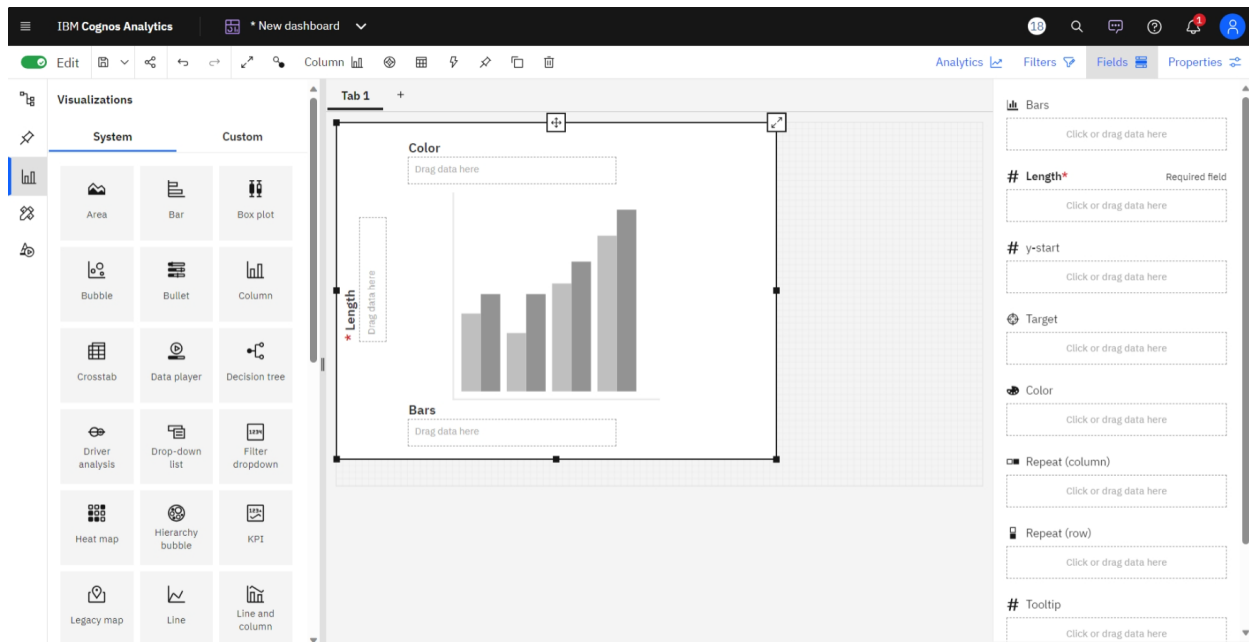
After that, choose the Visualization or Exploration techniques and method to Analyse your dataset and select template to create the dashboard for your visualization.



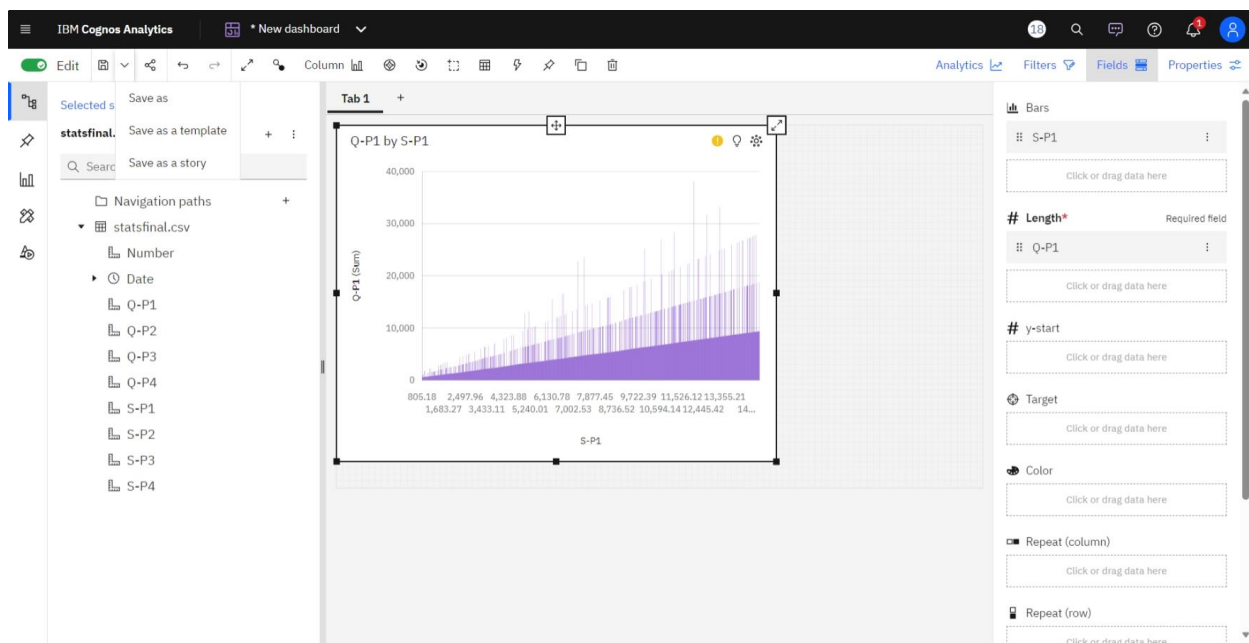
Then, after select the visualization option in the left tabular column.



Then, select any visualization you want. For example, select the column option.



Then, after that the required data for Visualization from your dataset.



You can add additional visualization options by clicking plus symbol in the tab row. Then you should select a template to create another visualization.

Conclusion

Hereby,

- Outline the project's objective, design thinking process, and development phases.
- Describe the analysis objectives, data collection process, data visualization using IBM Cognos, and derived actionable insights.

Had done.

