PROJECT OVERVIEW

Project Title: BIG DATA ANALYSIS

Domain : Cloud Application Development –Group 4

Assignment : PROJECT SUBMISSION PHASE 4

SUBMITTED BY

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Group 4 : Zone (13-16)

Phase 4 project – BIG DATA ANALYSIS

PROBLEM STATEMENT:

• Continue building the big data analysis solution by applying advanced Analysis techniques and visualizing the results.
• Apply more complex analysis techniques, such as machine learning Algorithms, time series analysis, or sentiment analysis, depending on the Dataset and objectives.
• Create visualizations to showcase the analysis results. Use tools like Matplotlib, Plotly, or IBM Watson Studio for creating graphs and charts.

SOLUTION:

Certainly, building a big data analysis solution that incorporates advanced Techniques and visualizations is essential for deriving meaningful insights from Your data. Let's continue with the process:

Step 1:

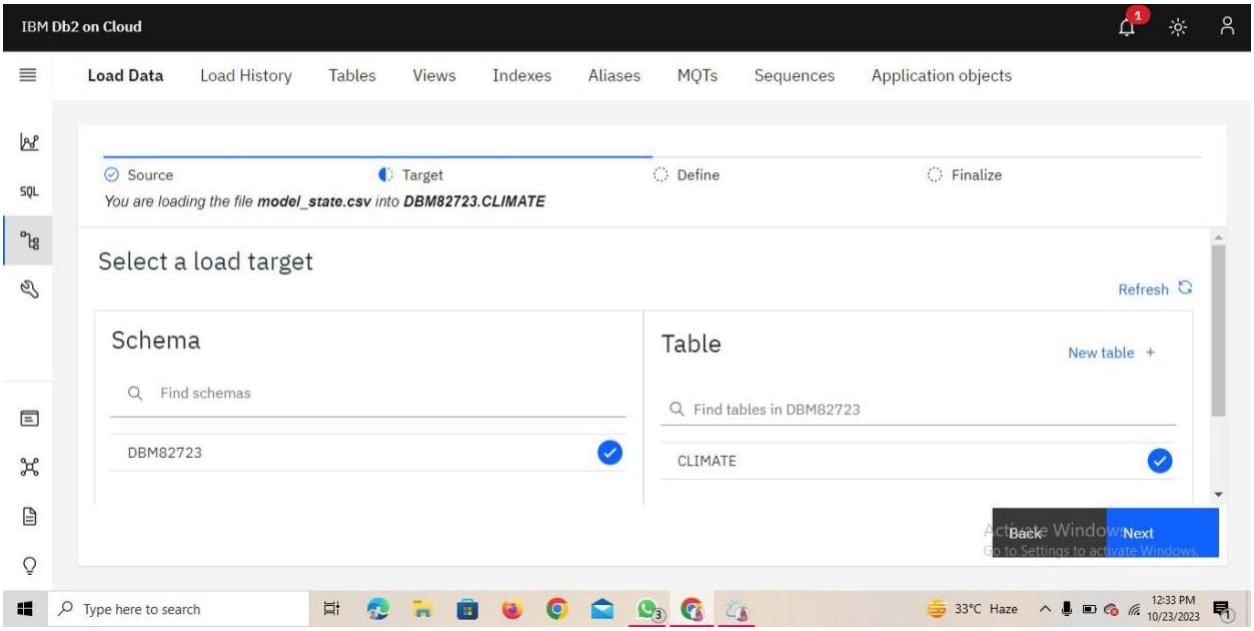
Download a CSV or xlsx file for upload in the DB2 database.

Example: open the wwb browser.

Search for the convenient topic to download database.(eg:kaggle,Data.world..)

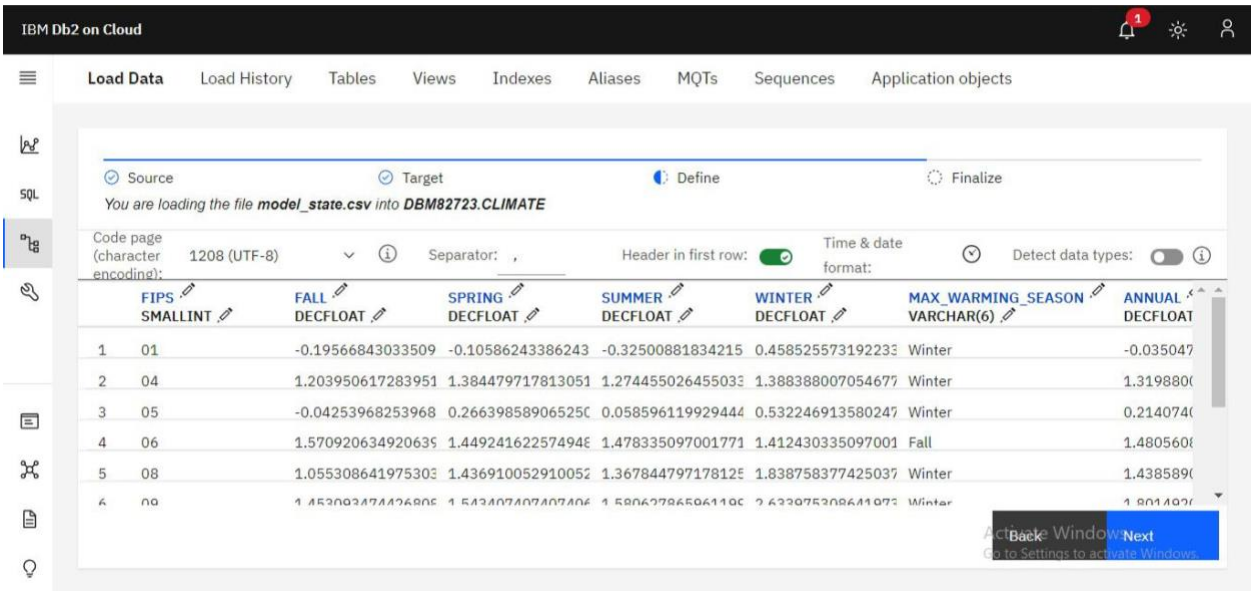
Step 2:

Create a data table in IBM Cloud DB2 Database.



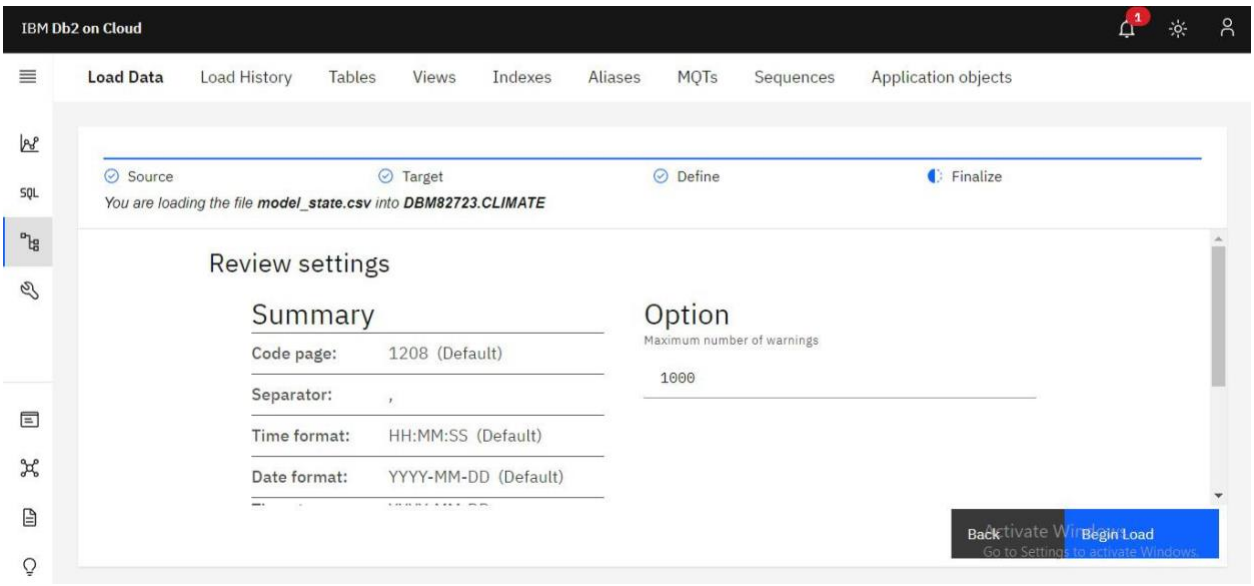
Step 3:

Upload the downloaded CSV. File in the database.



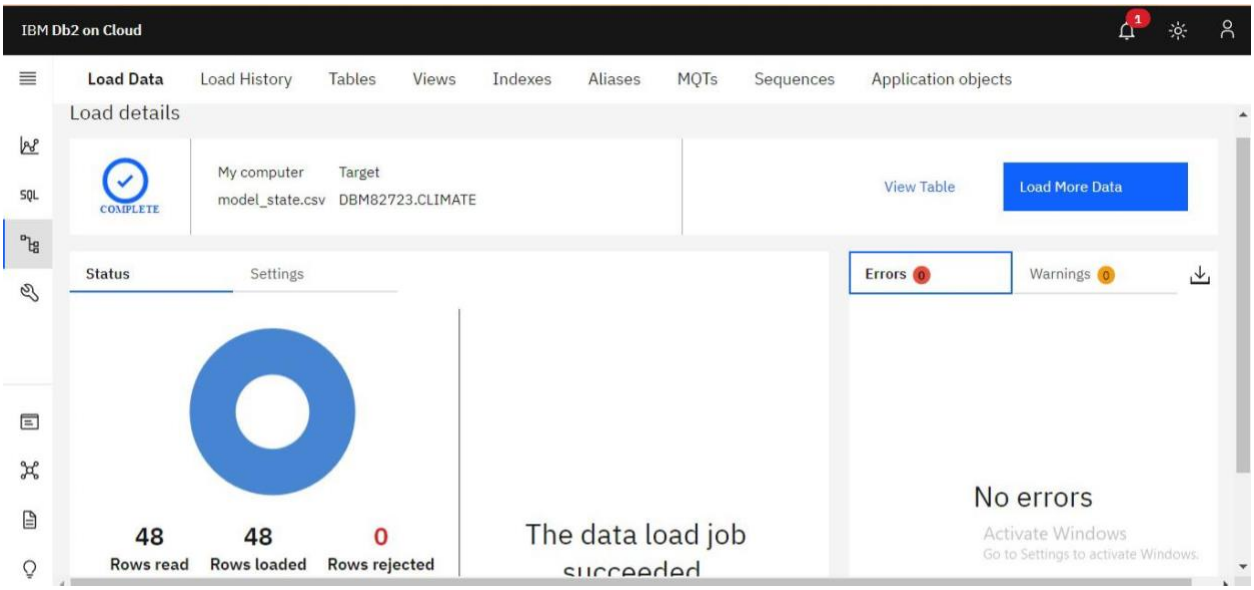
Step 4:

Finalize the uploading settings.



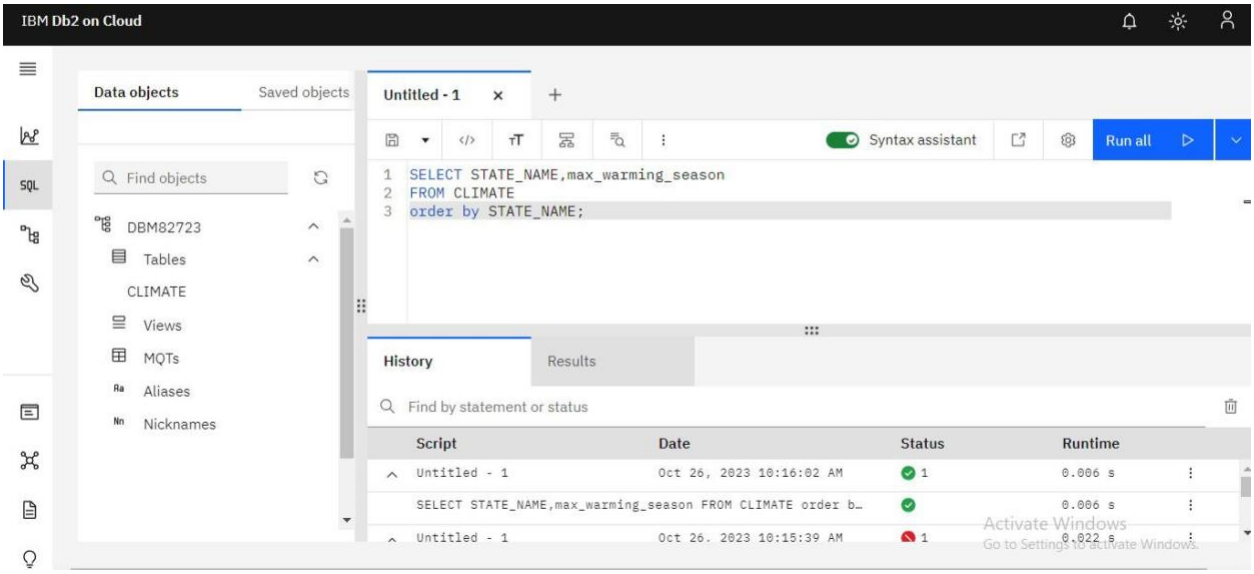
Step 5:

Run the loaded data to check it is contain error or not.



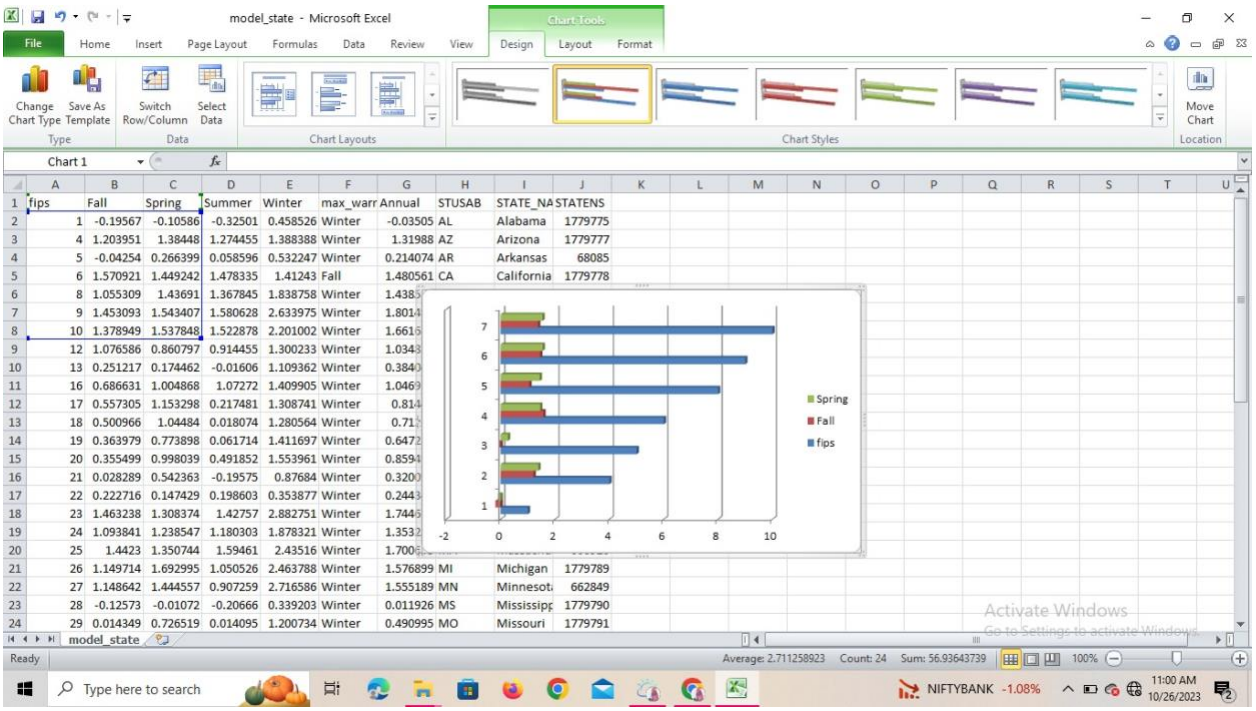
Step 6:

Create SQL queries to run the database table.



Step 7:

For development the analysis data we need to use the virtualization techniques in the datasets.

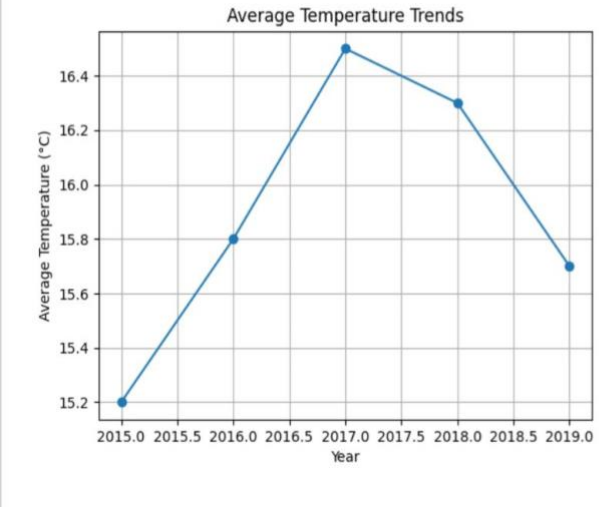


Step 8: Using python.

```python
# Example Python code for creating a line chart using Matplotlib

import matplotlib.pyplot as plt

years = [2015, 2016, 2017, 2018, 2019]
avg_temperatures = [15.2, 15.8, 16.5, 16.3, 15.7]
plt.plot(years, avg_temperatures, marker='o')
plt.title('Average Temperature Trends')
plt.xlabel('Year')
plt.ylabel('Average Temperature (°C)')
plt.grid(True)
plt.show()
```



Step 9:

Using Machine Learning techniques.

Select Appropriate Analysis Techniques:

Depending on the nature of your dataset and specific objectives, consider various

Advanced analysis techniques:

Machine Learning Algorithms: Use supervised or unsupervised machine learning

Algorithms like decision trees, random forests, support vector machines, or

Clustering algorithms for predictive modeling or pattern recognition.

Time Series Analysis: If your data involves time-based data points, use time

Series analysis techniques to identify trends, seasonality, and forecast future

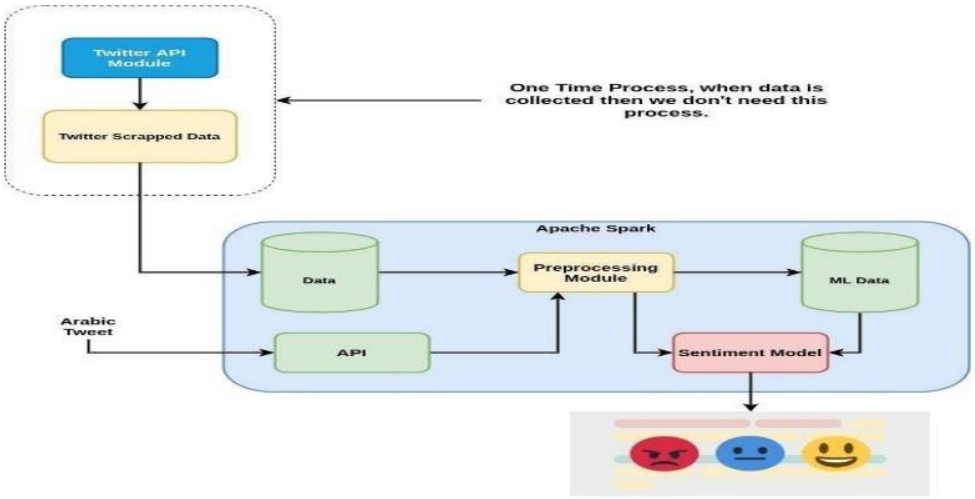
Values.

Sentiment Analysis: Apply natural language processing techniques to extract

Sentiment from text data, useful for social media or customer reviews analysis.

Example:

```
# Example Python code for sentiment analysis using NLTK
import nltk
from nltk.sentiment import SentimentIntensityAnalyzer
nltk.download('vader_lexicon')
sia = SentimentIntensityAnalyzer()
text = "The weather is wonderful and the scenery is breathtaking."
sentiment_score = sia.polarity_scores(text)
print(sentiment_score)
```



Conclusion:

Thus the ,Continue building the big data analysis solution by applying advanced analysis techniques And visualizing the results has been completed.