Airport Data Analysis

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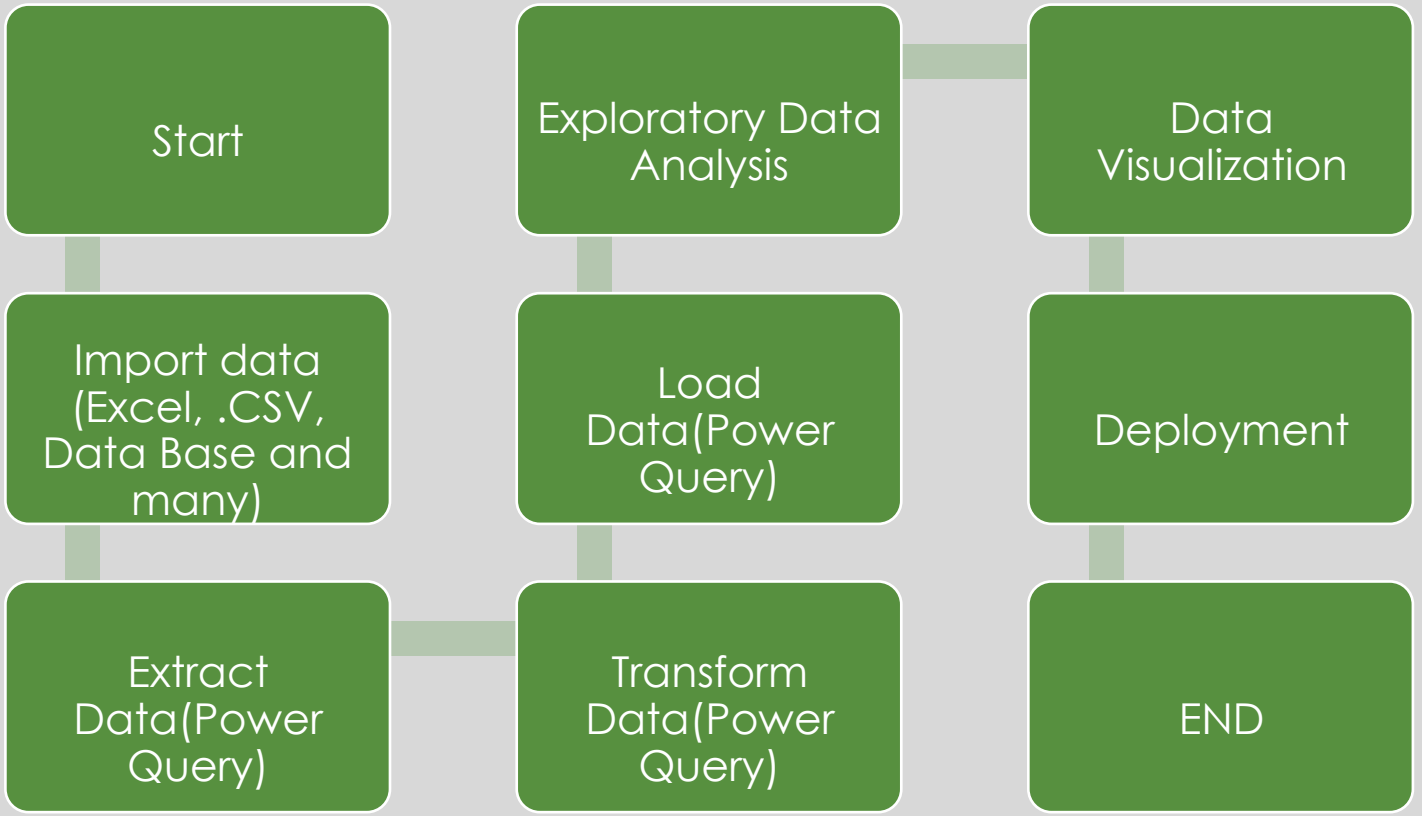
OBJECTIVE

- Extract various information such as top most active routes ,top days having maximum and minimum number of flights.
- comparing total routes ,total flights and dates with various attributes.
- Extract necessary information about flights and airports.
- Do ETL : Extract, transform and Load the data
- Use various visualization and features and make the best dashboard.
- Find key metrics and factors and show the meaningful relationships between attributes.
- Extracting the flows and achievements

Data Sharing Agreement :

- Sample file name
- Length of date stamp(8 digits)
- Length of time stamp(6 digits)
- Number of Columns
- Column names
- Column data type

Architecture



Data Validation and Data Transformation :

◦ Name Validation - Validation of files name as per the DSA. We have created a
◦ regex pattern for validation. After it checks for date format and time format if
◦ these requirements are satisfied, we move such files to "Good_Data " else
◦ "Bad_Data_."

◦ Number of Columns – Validation of number of columns present in the files, and if
◦ it doesn't match then the file is moved to "Bad_Data_."

◦ Name of Columns - The name of the columns is validated and should be the same ◦ as given in the schema file. If not, then the file is moved to "Bad_Data_ ".

◦ Data type of columns - The data type of columns is given in the schema file. It is ◦ validated when we insert the files into Database. If the datatype is wrong, then the ◦ file is moved to "Bad_Data_ ".

◦ Null values in columns - If any of the columns in a file have all the values as ◦ NULL or missing, we discard such a file and move it to "Bad_Data_".

Q & A:

◦ Q1) What's the source of data?

◦ The data for training is provided by the client in multiple batches and each batch contain multiple files

◦ Q 2) What was the type of data?

◦ The data was the combination of numerical and Categorical values.

◦ Q 3) After the File validation what you do with incompatible file or files which didn't pass the validation?

◦ Files like these are moved to the Achieve Folder and a list of these files has been shared with the client and we removed the bad data folder.

◦ Q 4) How logs are managed?

◦ We are using different logs as per the steps that we follow in validation and modeling like File validation log , Data Insertion , Data Visualization etc.

- Q 6) What techniques were you using for data pre-processing?
- Removing unwanted attributes
- Visualizing relation of independent variables with each other and output variables
- Checking and changing Distribution of continuous values
- Removing outliers
- cleaning data and imputing if null values are present.
- Converting categorical data into numeric values.
- Scaling the data
- Q 9) What are the different stages of deployment?
- When the model is ready we deploy it in Fire environment .Where SIT and UAT is performed over it . Once We get Sign off from Fire we deploy in Earth and UAT is performed over it. After getting the sign off from Earth we deploy in production