

Project Title:	Fetch Data from a live source and Build a Power BI Dashboard
Technologies	Python, Power BI

Task: Fetch Data from a live source and Build a Power BI Dashboard

Objective:

To enhance your skills in data acquisition and visualization, you will fetch data from a live source and create an interactive dashboard using Power BI.

Task Steps:

1. API Data Retrieval:

- **Choose an API:** Select a public API that provides data in JSON format. Some suggestions include:
 - OpenWeatherMap (weather data)
 - COVID-19 API (pandemic data)
 - CoinGecko (cryptocurrency data)
 - NASA API (space-related data)
- **Note :** these API are just for suggestion , you can use any API of your choice.
- If you are not able to decide which data to import then go with https://raw.githubusercontent.com/LokeshKumarChauhan/DE_with_powerBI/main/Walmart.csv

- **Fetch the Data:** Write a script in Python to fetch data from the chosen API. Ensure you retrieve a substantial amount of data to create meaningful visualizations.

2. Data Processing:

- **Data Cleaning:** Process the raw JSON data to clean and structure it. Handle missing values, data types, and any necessary transformations if required .

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3. Power BI Dashboard Creation:.

- **Visualizations:** Create at least five different types of visualizations. Suggestions include:
 - Line chart

- Bar chart
- Pie chart
- Map
- Table
- **Interactivity:** Add interactive elements to make your dashboard user-friendly.
- **Dashboard Layout:** Design a cohesive and visually appealing layout. Ensure your dashboard tells a story and highlights key insights from the data.

4. Documentation:

- **Write a Report:** Document the process you followed, including:
 - API selection and data fetching steps.
 - Data processing and cleaning steps.
 - Explanation of the visualizations created and the insights derived.
- **Publish the Dashboard:** Publish your Power BI dashboard to the Power BI service and share the link.

5. Presentation:

- **Present Your Work:** Prepare a short presentation (5-10 minutes) to showcase your dashboard, explain the insights, and demonstrate the interactivity.

Submission:

Submit the following:

- Python script used for fetching and processing the data.
- Processed CSV file.
- Power BI dashboard file (.pbix).
- Report documenting your process.
- Link to the published Power BI dashboard.
- Presentation slides.

Evaluation Criteria:

- **API Data Retrieval:** Ability to successfully fetch and process data from an API.
- **Data Cleaning and Processing:** Quality of data cleaning and preparation.
- **Dashboard Quality:** Complexity, interactivity, and visual appeal of the Power BI dashboard.
- **Documentation and Presentation:** Clarity and thoroughness of the report and presentation.

Tools and Resources:

- Python for data fetching and processing (use libraries such as `requests` and `pandas`).
- Power BI Desktop for creating the dashboard.
- Online resources and documentation for Power BI and the chosen API.