

## Chapter 2.2: Project Planning and Sourcing Data with an API

### Part 1: Make a Plan for My Dashboard

#### Step 1: List the Elements for My Dashboard

- Include elements to visualize key data insights:
  - **Bar Chart:** Shows CitiBike trips per month.
  - **Heatmap:** Shows bike usage by day and hour.
  - **Line Graph:** Compares average daily temperatures with total bike trips.
  - **Map:** Displays popular CitiBike stations.

#### Step 2: Write Questions to Guide our Analysis

- Formulate questions to focus your visualizations:
    - **Question 1:** Which months had the highest and lowest number of trips?
      - **Visualization:** Bar chart of trips per month.
    - **Question 2:** What is the busiest time of day for bike trips?
      - **Visualization:** Heatmap of trips by day and hour.
    - **Question 3:** Does weather (temperature or rainfall) affect the number of trips?
      - **Visualization:** Line graph comparing weather data with bike trips.
    - **Question 4:** What are the most and least used CitiBike stations?
      - **Visualization:** Map of station popularity.
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### Part 2: Gather and Merge the Data

#### Step 1: Download CitiBike Data for 2022

- I am sure you have the data files saved locally for processing.

#### Step 2: Set Up Your Project Repository and Environment

- I Set up our folders and installed necessary packages, such as pandas for data processing.