**RedBus Data Scraper & Visualization Project**

Welcome to the RedBus Data Scraper & Visualization Project. This project is designed to automate the extraction of bus route data from the RedBus website, store it in a MySQL database, and provide an interface for data visualization and filtering using Streamlit.

**Project Overview**

**This project is divided into two main components:**

**1. Web Scraping: Using Python's Selenium library, the project navigates through the RedBus website to extract data on government bus routes. The scraper:**

- Automates Navigation: It navigates through multiple pages on the RedBus website, identifies specific bus routes, and extracts essential details.

- Data Collection: Information such as route names, bus types, departure times, and prices are collected and stored in a CSV file.

- SQL Integration: The extracted data is inserted into a MySQL database for persistent storage and easy access.

**2. Data Visualization with Streamlit: The second part of the project focuses on visualizing the stored bus data:**

- Filter Options: Users can filter buses based on various criteria, such as bus type, route, star rating, and price range.

- Data Insights: The interface provides insights into bus availability, pricing trends, and overall ratings.

**Technologies Used**

- Selenium: For automating web navigation and data extraction.

- Pandas: For data manipulation and storage in CSV format.

- MySQL: For structured data storage and retrieval.

- Streamlit: For creating an interactive and user-friendly web interface to visualize and filter bus data.

**How to Use**

1. Run the Scraper: The Python script initializes a web driver, navigates the RedBus site, and scrapes bus route data. The data is then stored in a MySQL database.

2. Visualize Data: The Streamlit app connects to the MySQL database and displays the data. Users can apply filters to find specific bus routes and types.

**Conclusion:**

This project provides a robust solution for anyone looking to automate the process of data collection from the RedBus website and visualize it effectively.