

# User Manual: Weather Data Visualization App

## Introduction

The Weather Data Visualization App is a Java-based GUI application designed to fetch, display, and visualize weather information for any user-specified city. It integrates real-time weather data using an API and renders interactive charts for temperature, humidity, and precipitation.

## Installation Instructions

1. Clone the repository from GitHub.
2. Ensure JDK (version 11 or higher) is installed on your system.
3. Download and add JFreeChart library to the classpath.
4. Navigate to the `src` folder and compile the project:

```
javac -cp ".:/lib/*" data/*.java api/*.java graph/*.java gui/*.java WeatherApp.java
```

5. Run the application:

```
java -cp ".:/lib/*" WeatherApp
```

## Features

- Fetch weather data for any city.
- Display temperature, humidity, and precipitation values.
- Visualize data through bar charts using JFreeChart.
- Interactive and clean GUI using Swing.

## Using the Application

1. Enter a city name into the input field.
2. Click the 'Show Weather' button to fetch real-time data.
3. Use the respective buttons to view Temperature, Humidity, or Precipitation charts.

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4. Charts open in separate pop-up windows.

### **Screenshots**

Refer to the `screenshots/` folder in the GitHub repo for interface and output examples.