**WEATHER WAVE**

**DOCUMENTATION**

**Introduction:**

Welcome to the documentation for weather website built using Spring Boot and Angular! Our weather website provides users with up-to-date weather information, including current conditions and forecasts, to help them plan their activities and stay informed about weather changes in their area.

**Purpose of the Project:**

This documentation serves as a comprehensive guide for users and developers to understand the functionality, architecture, and usage of our weather website. Whether you're a first-time visitor looking to explore the features or a developer seeking to integrate with our APIs, this documentation will provide you with all the necessary information to get started and make the most out of our platform. From installation and setup instructions to detailed usage guides and API documentation, we aim to empower users and developers to effectively utilize our weather services.

**Tools Used:**

1. **IntelliJ IDEA**:
   * Integrated development environment (IDE) for Java development.
   * Used for backend development with Spring Boot.
2. **Visual Studio Code (VSCode)**:
   * Lightweight code editor with robust features.
   * Ideal for frontend development with Angular.
3. **Weather API**:
   * Third-party weather API provider for accessing weather data.
   * Obtain API credentials for integrating weather data into the backend.
4. **Web Browser**:
   * Use a modern web browser like Google Chrome or Mozilla Firefox to access and test the Weather App frontend.

**Key Features:**

1. **Current Weather**:
   * Get real-time updates on weather conditions for any city.
   * Access essential data like temperature, humidity, and wind speed instantly.
2. **Historical Data**:
   * Dive into past weather records for any date and location.
   * Review historical weather patterns to better understand climate trends.
3. **Extended Forecast**:
   * Plan with a detailed 15-day weather forecast.
   * Stay informed about upcoming weather changes and prepare accordingly.
4. **Third-Party API Integration**:
   * Utilizes a third-party API for seamless weather data retrieval.
   * Ensures accurate and reliable weather information for users.

**WEBSITE IMAGES**

**A screenshot of a computer

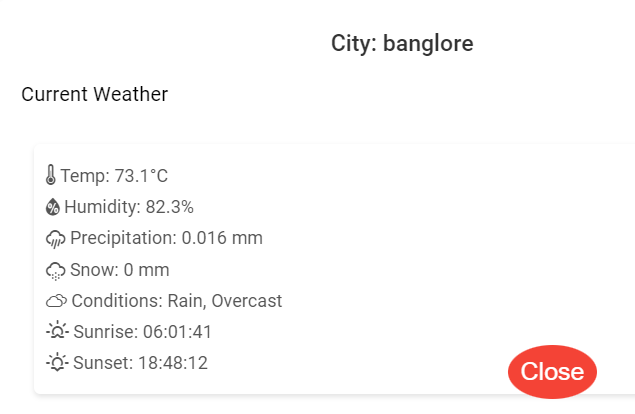
Description automatically generated**

This is the starting landing page of the application. The application is designed as a single-page application. There are two main options available: "Services" and "Contact Us." Clicking on "Services" will navigate you to the services page.

A screenshot of a computer

Description automatically generated

Once you click on "Services" in the above image, it will take you to this page, where you can view weather information such as current weather, forecasts, and historical data. This information is displayed according to the city you enter.



Once you enter the city name and click on "Search," it will display all the weather data as shown in the figure above for the current weather. The same process applies to historical and future weather information as well.

A screenshot of a computer

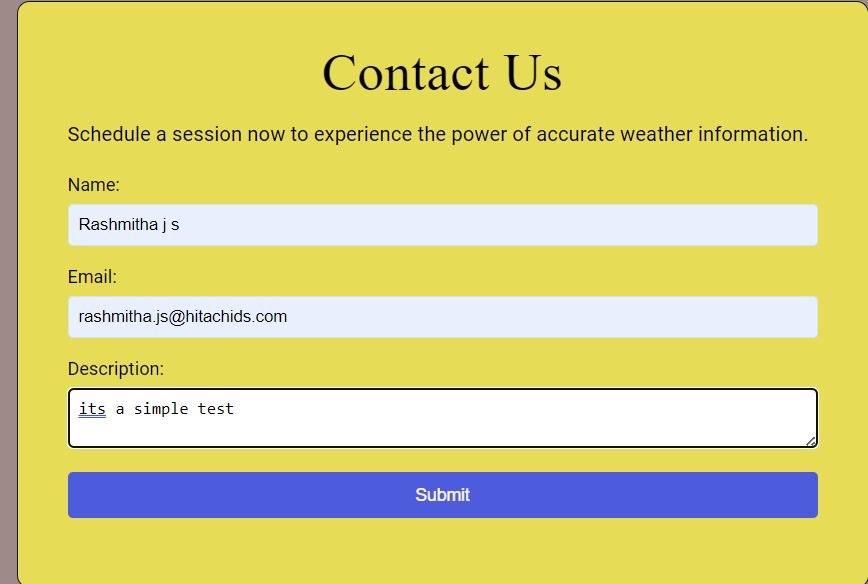
Description automatically generated

As shown in the image, this section displays forecast data, providing weather information for the next 15 days for the city you entered. In the example, the city is Mumbai.

A screenshot of a computer

Description automatically generated

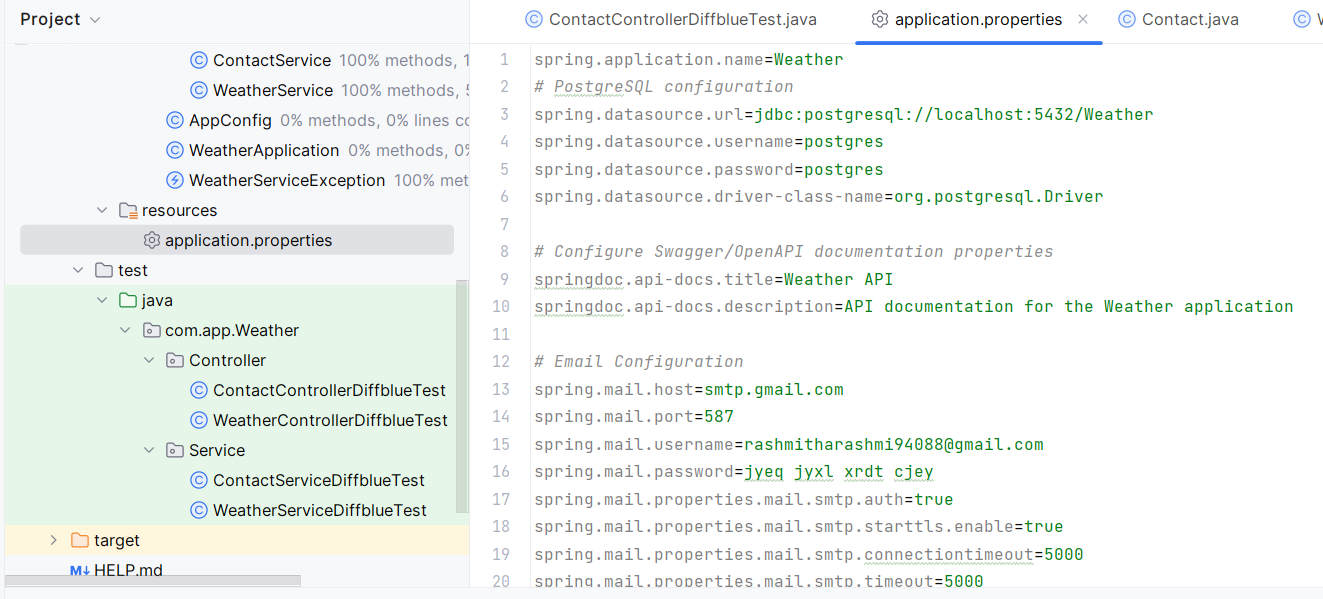
Here, you can see historical data, which displays weather information for the past 30 days.



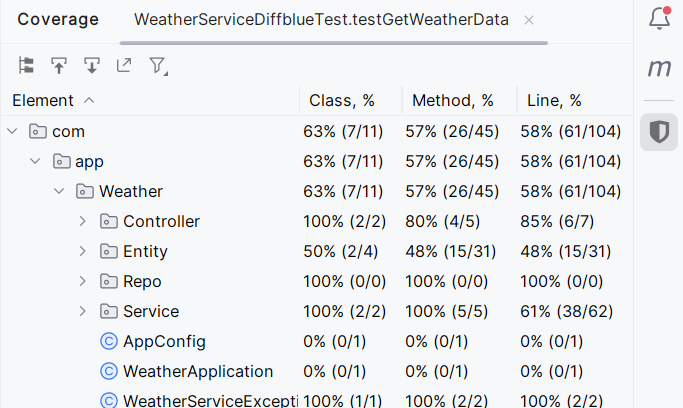
This is a simple contact form that includes fields for name, email, and a description. When the user submits this information, it will be sent to the address specified in the application.properties file in the backend application.

**BACKEND-CODE IMAGES**

A close up of a contact form

Description automatically generated

As seen in the image, the first image shows the email we receive, while the second image displays the email address specified in the application.properties file.



This is the extent of our coverage in test cases, focusing exclusively on the controller and service layers in the backend.

**USAGE**

1. **Accessing Weather Information:**
   * Open the Weather App in your preferred web browser.
2. **Selecting Weather Type:**
   * Enter the name of the city you want to check the weather for.
   * Choose the type of weather information you need: Current, Historical, or Next 15 Days Forecast.
3. **Viewing Weather Data:**
   * Click the corresponding button to retrieve and display the weather data.
   * Explore detailed weather information presented on the frontend interface.