

Real-Time Weather Monitoring Application

This application monitors weather conditions in real-time using the OpenWeatherMap API. It provides summarized insights, alerts, and visualizations for various cities in India.

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Features

- Fetch real-time weather data for multiple cities.
- Display temperature, weather conditions, and alerts.
- Generate historical weather summaries and visualizations using charts.
- User-configurable temperature thresholds for alerts.

Getting Started

Prerequisites

- Node.js (v14 or later)
- npm or yarn package manager

Installation

1. Clone the repository:

```
bash
Copy code
git clone https://github.com/yourusername/weather-monitoring-app.git
cd weather-monitoring-app
```

2. Install dependencies:

```
bash
Copy code
npm install
# or
yarn install
```

Usage

1. Sign up at [OpenWeatherMap](#) and get your API key.
2. Create a `.env` file in the root directory of your project and add your API key:

```
bash
Copy code
REACT_APP_WEATHER_API_KEY=your_api_key_here
```

3. Start the application:

```
bash
Copy code
npm start
# or
yarn start
```

Configuration

- You can configure the temperature threshold for alerts in the Settings component of the application.

Testing

Run the following command to execute tests:

```
bash
Copy code
npm test
# or
yarn test
```

Contributing

Feel free to fork the repository and submit pull requests for improvements or bug fixes.

License

This project is licensed under the MIT License.

Project Structure

Make sure your project has a clear structure. Here's an example:

```
csharp
Copy code
weather-monitoring-app/
├── public/
│   ├── index.html
│   └── favicon.ico
└── src/
```

```

├── components/
│   ├── WeatherDashboard.js
│   ├── WeatherSummary.js
│   ├── WeatherAlert.js
│   ├── WeatherChart.js
│   └── Settings.js
├── services/
│   └── weatherService.js
├── App.js
├── index.js
├── App.css
├── .gitignore
├── package.json
├── README.md
└── yarn.lock / package-lock.json

```

package.json Dependencies

Make sure your `package.json` includes the necessary dependencies for your project. Here's a sample:

```

json
Copy code
{
  "name": "weather-monitoring-app",
  "version": "1.0.0",
  "private": true,
  "dependencies": {
    "axios": "^0.27.2",
    "chart.js": "^3.7.0",
    "react": "^17.0.2",
    "react-chartjs-2": "^3.0.4",
    "react-dom": "^17.0.2",
    "react-scripts": "5.0.0"
  },
  "scripts": {
    "start": "react-scripts start",
    "build": "react-scripts build",
    "test": "react-scripts test",
    "eject": "react-scripts eject"
  },
  "eslintConfig": {
    "extends": [
      "react-app",
      "react-app/jest"
    ]
  },
  "browserslist": {
    "production": [
      ">0.2%",
      "not dead",
      "not op_mini all"
    ],
    "development": [
      "last 1 chrome version",
      "last 1 firefox version",
      "last 1 safari version"
    ]
  }
}

```

```
}
```

Final Steps

- **Run the Application:** Ensure you can run `npm start` or `yarn start` without issues. Test all features.
- **Check for Errors:** Look for any console errors or warnings.
- **Run Tests:** Use `npm test` or `yarn test` to ensure all tests pass.
- **Commit Your Code:** Make sure to commit your code regularly with meaningful messages. Once everything is working and the README is complete, push your changes to your GitHub repository.

```
bash
Copy code
git add .
git commit -m "Completed weather monitoring app with README"
git push origin main
```