# Weather App (Angular + Ionic + Capacitor)

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🌐 Overview

This is a cross-platform weather application built with Angular, Ionic, and Capacitor, using the AccuWeather API to fetch real-time weather data.

Features

- ⛺️ Geolocation-based weather

- 🌆 City-based weather search

- ⏰ 12-hour forecast display

- 🌞 5-day forecast view

- 🌡️ Temperature unit toggle (Celsius/Fahrenheit)

- 🌃 Dark/Light mode toggle

- 📂 Offline caching with Capacitor Preferences

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📁 Architecture

1. `weather.service.ts`

Handles HTTP communication with the \*\*AccuWeather API\*\*.

Key API Endpoints:

- `/geoposition/search` – Location from coordinates

- `/cities/autocomplete` – City name suggestions

- `/currentconditions/v1/{locationKey}` – Current weather

- `/daily/1day/` – One day forecast

- `/daily/5day/` – Five day forecast

- `/hourly/12hour/` – 12-hour forecast

Example Methods:

- `getLocationByCoordinates(lat, lon)`

- `getLocationKey(cityName)`

- `getCurrentConditions(locationKey)`

- `getWeatherForecastFiveDays(locationKey)`

2. `home.page.ts`

Main screen that displays weather data based on device geolocation.

Highlights:

- Auto-fetches weather on load

- Displays:

- Temperature

- Humidity

- Wind Speed

- 12-hour and 5-day forecasts

- Allows toggling temperature unit and dark mode

- Caches data locally for offline use

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3. `search-city-weather.page.ts`

Allows the user to search for a city and view weather information.

Highlights:

- Prompt for city name on load

- Fetches location key and weather data

- Renders forecast data with dynamic icon images

- Caches city name and forecast data

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📃 Capacitor Preferences (Storage)

Used for offline support and saving preferences.

Keys Stored:

- `weatherData`

- `fiveDayForecast`

- `twelveHourForecast`

- `darkMode`

- `tempValue`

- `CityName`

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🌟 UI and Interaction

- `ion-toggle` used for switching between light/dark mode and Celsius/Fahrenheit

- `ion-menu` provides a sidebar menu

- `ViewChild` + `Renderer2` used for rendering forecast divs with images dynamically

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⚡ Tech Stack

- Angular (TypeScript, RxJS)

- Ionic Framework

- Capacitor (Geolocation, Preferences)

- AccuWeather API

- HTML/CSS for layout and styling

🌐 License

This project is for educational/demo purposes.

✉️ Contact

Built by [Your Name]. Feel free to reach out for improvements or contributions.