

Web Programming



Pokeclima: Thematic Weather App

PokeClima

Hello, admin Admin Panel Logout

My Favorite Cities

Sevilla 17°C	Santiago 12°C
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Leaflet © OpenStreetMap

<https://github.com/JaimeHP05/Pokeclima.git>

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What is Pokeclima?

Pokeclima is a weather app based on OpenWeatherMap that allows users to check the weather in Spain (or more!) with a twist which includes the weather icons as Pokémons. The app uses the Leaflet library for the interactive map, which opens the possibility of expanding the project to an international view.

This idea is based on Poketiempo, a Spanish based social network account that shows an image each day with the weather in Spain with Pokémons. The idea is similar, but limited to Spain, this project expands the idea for more locations and far more specific weather updates, thanks to the OpenWeatherMap API that it uses.

This is an integrated LAMP stack using XAMPP, which let us use Apache and MySQL for making the website work, as well as PHP, with third party APIs and libraries.

A screenshot of a social media profile for "PokeTiempo". The profile picture is a blue Poké Ball with a white Poké Ball inside. The bio reads: "Estudié Geografía para dar el tiempo con Pokémon" followed by links to Instagram (@poke_tiempo), Personal (@gryllsbear), and TikTok (@poketiempo). The profile also shows 1,111 posts and 1,111 followers. At the bottom, there are links to "Entretenimiento y recreación" and "poketiempo.myshopify.com".

PokeTiempo ❄️ ✨
@poke_tiempo
Estudié Geografía para dar el tiempo con Pokémon
Instagram: [@poke_tiempo](#) - Personal: [@gryllsbear](#)
TikTok: [@poketiempo](#)

Entretenimiento y recreación [poketiempo.myshopify.com](#)
Se unió el septiembre de 2019 >

Tech Stack

Backend →

PHP for:

Session management, database connection, and API logic.

Database →

MySQL for:

Relational database management.

Frontend →

HTML

CSS for:

Responsive and thematic design.

JavaScript for:

jQuery for DOM manipulation and AJAX.

External APIs →

OpenWeatherMap for:

Real time updates on weather and temperature.

PokemonDB for:

Source for Pokémons images.

Libraries →

Leaflet.js for:

Rendering the interactive worldwide map.

Database Architecture

Relational schema created when using install.php:

Users: Usernames, hashed passwords, and roles.

Locations: Available cities, geographical coordinates (lat/lng), and API identifiers.

Weather_pokemon: Mapping weather conditions to specific Pokémon image URLs.

UserFavorites: Many-to-many relationship between users and their favorite locations.

Features

Interactive Map with weather logic:

Leaflet shows city names with their own temperature and weather condition, as well as a possibility of adding it to your favorites. PokemonDB also helps us to make the marker icons show as Pokémon icons, these icons change depending on the weather code from OpenWeatherMap.

User Authentication:

Secure registrations and logins that use hash for the protection of it, with password_hash and password_verify. The session of the user also maintain across pages.

Admin Panel:

When logged as admin, you can add or remove cities depending on the map coordinates the user clicks at.

Favorites System:

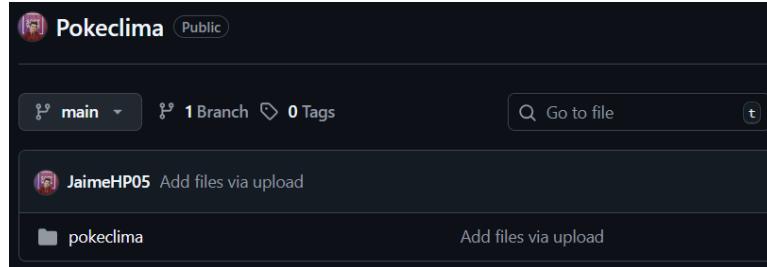
Logged users can click on the Pokémon, and when doing so, a gray heart will appear, if you click it, the heart turns red and the city gets added to the favorites list.

Making the project work

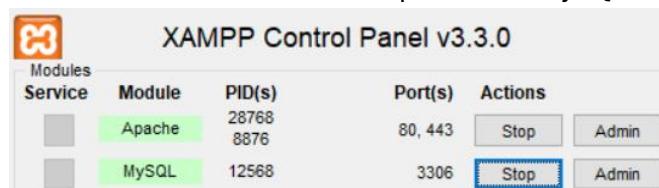
For a new user, these are the guidelines of how to make it work:

1. Download the project from GitHub in:

<https://github.com/JaimeHP05/Pokeclima.git>



2. Add it to XAMPP and start the Apache and MySQL modules.



3. Then, open localhost/pokeclima/install.php

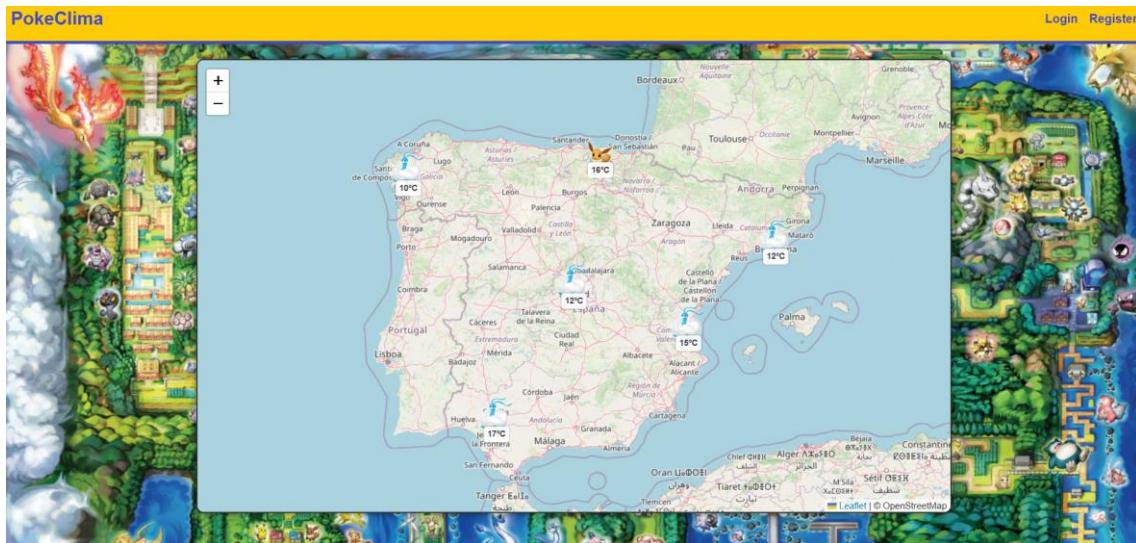
Installation Complete

[Go to Main Page](#)

4. When everything is ready, follow the instructions on the website and it should work smoothly.
5. It is not necessary to open install.php again, unless you want to restart the database, which means deleting users and newly added cities.

Guide step by step and examples

When opening the project, you will find the map of Spain (it is locked to do so), as well as two icons in the top right: Login and Register.



If you enter the Register page, you will find a simple page for entering the username and password you would like to keep for the website. If the username already exists, it will show an error message.

Register

Username:

Password:

[Already have an account? Login](#)

Register

Username:

Password:

Username already exists.

[Already have an account? Login](#)

The Login page shows a similar form as Register page, with the difference that the Login page will give an error if the password is incorrect or if the user is not found.

The three screenshots illustrate the Login process:

- Screenshot 1:** Shows a successful login attempt where the user "admin" has entered the correct password. The "Login" button is blue.
- Screenshot 2:** Shows a failed login attempt where the user "admin" has entered an incorrect password. A red message "User not found." is displayed below the "Login" button.
- Screenshot 3:** Shows a failed login attempt where the user "admin" has entered a correct username but an incorrect password. A red message "Incorrect password." is displayed below the "Login" button.

In all three cases, there is a link "Don't have an account? Register" at the bottom of the form.

When logged with any user, you get a “Hello (user)” and a “Logout” button. If you are an admin, you also get an “Admin Panel”.



After being logged, if any Pokémon is clicked, the heart button will change, adding the city it belongs to the favorite list. This also adds the table bellow the map that shows all the favorite cities weather with their specific Pokémons.

The composite screenshot illustrates the user's favorite cities and their weather information:

- Top Left:** A table titled "My Favorite Cities" showing favorite cities: Sevilla (17°C) and Bilbao (16°C). Each entry includes a small Pokémon icon and the city's current temperature.
- Bottom Left:** A map of the Iberian Peninsula with a callout bubble for "Bilbao" showing "Clear" weather and a gray heart icon.
- Bottom Right:** The same map area, but the heart icon for Bilbao has turned red, indicating it has been added to the favorite list.

If logged as an admin, you will get access to the Admin Panel, here you can add or delete cities. Adding cities is pretty simple, clicking in the map will add the coordinates of where in the map you click to the latitude and longitude options.

Add New Location

Add Location



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Click on the map to set coordinates.

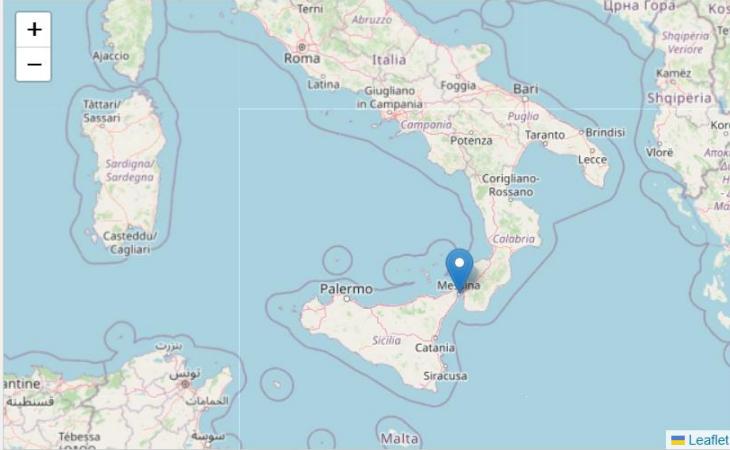
Existing Locations

ID	Name	Lat / Lng	Action
1	Madrid	40.41680000 / -3.70380000	Delete
2	Barcelona	41.38510000 / 2.17340000	Delete
3	Sevilla	37.38910000 / -5.98450000	Delete

Thanks to Leaflet, the map is open to all places in the world, so we can add cities even from outside of Spain.

Add New Location

Add Location

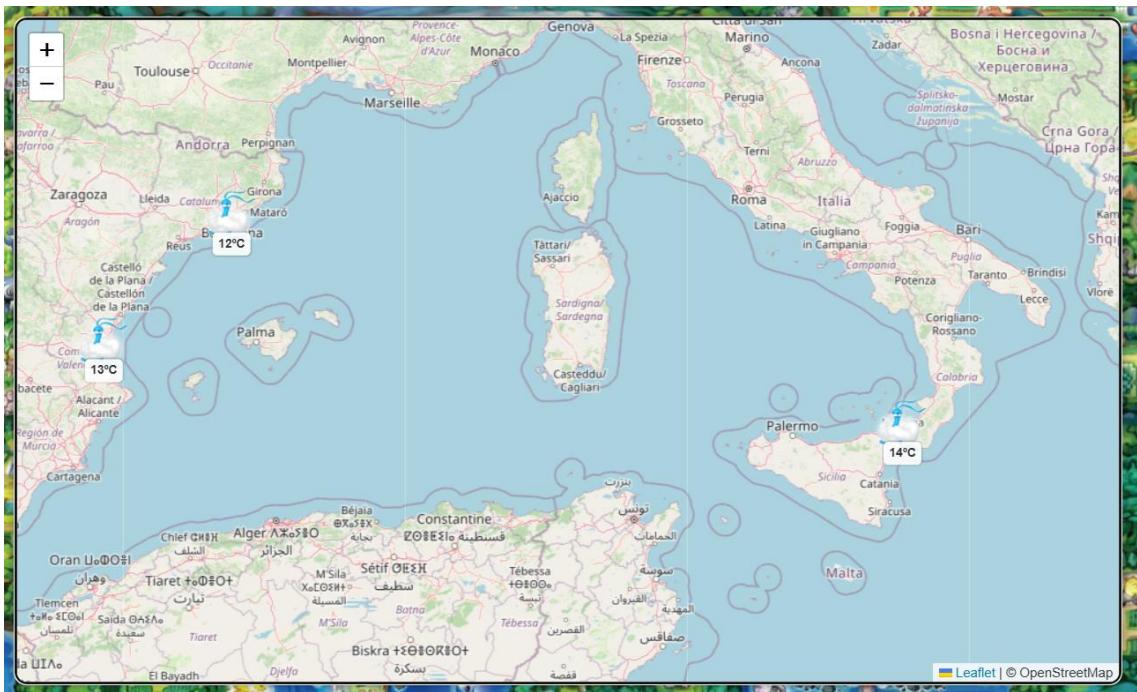


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Click on the map to set coordinates.

When coming back to the page, you will see the updated city now showing in the map.

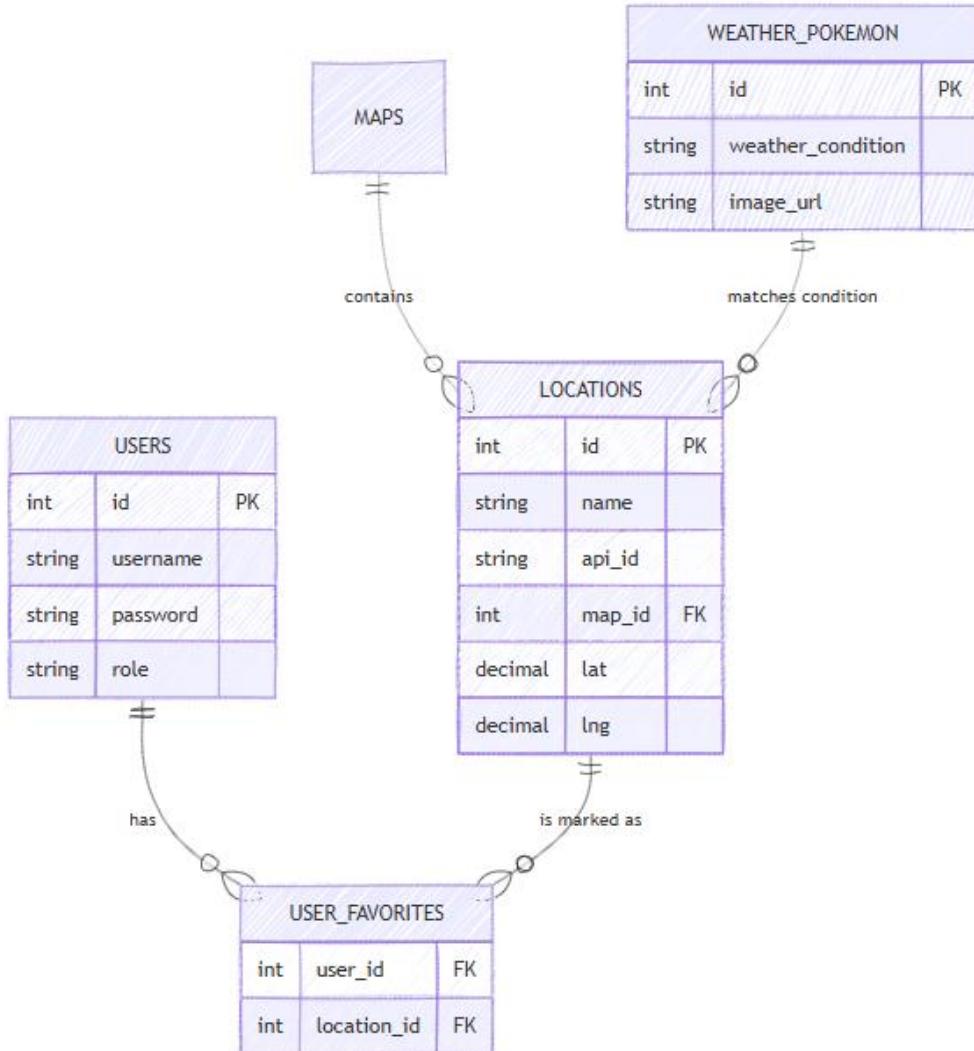


Diagrams

These diagrams will showcase how some of the features in the project work internally.

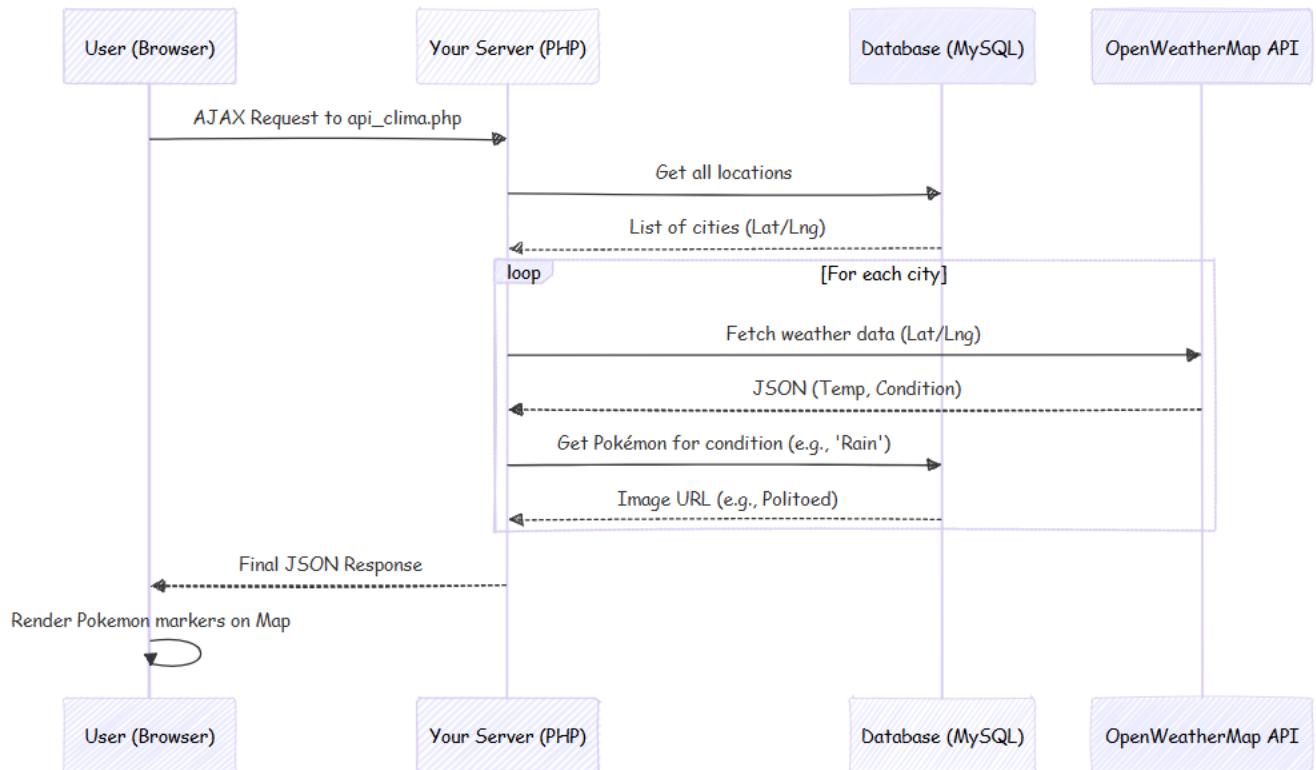
Entity Relationship Diagram:

How the database is organized.



Sequence Diagram:

Interactions between web, server and API.



Flowchart:

Showcase how the login works.

