

# Overview

**HeartGame** is a full-stack developer toolkit designed to help build the interactive, data-driven web games with real-time features. It integrates a **React frontend**, a **FastAPI backend**, and a **MySQL database**, providing a scalable and maintainable foundation for modern gaming applications.

This guide will help you to set up the **HeartGame** project, which includes of:

- **React** as the Frontend
- **Python (FastAPI)** as the Backend
- **XAMPP (MySQL)** as the Database

## Prerequisites

Ensure that you have the followings installed on your system:

- **Node.js & NPM** (for React frontend)
- **Python 3.10+** (for FastAPI backend)
- **XAMPP (MySQL)** – Version **3.3.0** recommended
- **Git** (optional, if cloning the repo)

## Step 1: Clone or Download the Project

GitHub Repository:

<https://github.com/RedReptile/HeartGame>

Or download the ZIP from the project.

## Step 2: Install XAMPP

- Download **XAMPP Control Panel v3.3.0**
- Install and open XAMPP
- Start the **MySQL** module
- Locate the database file inside the project: **HeartGame/schema.sql**
- Open **phpMyAdmin**
- Import or run the **schema.sql** file to create the required database tables.

## Step 3: Configure the Backend

### Navigate to the backend directory

- `cd HeartGame`
- `cd backend`

### Set up a Python virtual environment

- `python -m venv .venv`

### Install dependencies

- `npm install`

### Activate the virtual environment

- In PowerShell run:  
`.\venv\Scripts\Activate.ps1`

### Run the backend server

- `uvicorn main:app --reload`

After this step your **FastAPI** backend will start running.

## Step 4: Configure the Frontend

**Navigate to the frontend folder:**

- `cd HeartGame`
- `cd frontend`

**Install frontend dependencies:**

- `npm install`

**Start the frontend:**

- `npm start`

This will launch the React application.

## Step 5: Configure the Database

- Open XAMPP Control Panel
- Start **MySQL**
- Make sure your backend is connecting to the running MySQL instance
- The app will use the tables created from **schema.sql** file.

## Important Notes

- **Always start the components in this order:**
  1. **MySQL (XAMPP)**
  2. **Backend (FastAPI)**
  3. **Frontend (React)**
- If the database is not running, the backend and frontend WILL NOT work properly.