

PYTHON ACP SET UP

Markdown

Hasa Leveling App: Setup and Installation Guide

🚀 Overview

Hasa Leveling is a gamified educational application built with Python using the **Tkinter** library for the graphical user interface. It incorporates **Pillow (PIL)** for image handling, **Pygame** for background music and sound effects, and **MySQL** for user profile and skill progress tracking.

This guide will walk you through setting up the required dependencies, configuring the MySQL database, and running the application.

📄 Prerequisites

Before running the app, ensure you have the following installed:

1. **Python 3.x****
2. **MySQL Server**** (and MySQL running in the background)
3. **Required Python Packages****

1. Project Structure

Ensure your project directory is structured exactly as follows, with the `assets` folder containing all necessary images and audio files:

```
HasaLeveling/  
    └── HasaLeveling.py (The main application script)  
    └── assets/  
        ├── bgmusic.mp3 (Background music)  
        ├── clicksoundeffect.wav (Sound effect)  
        └── logoicon.png (Application icon)
```

```
└── dashboard.png (Example background images, etc.)  
└── ... (All other PNG/JPG files used in the code)
```

2. Python Dependencies

Install the necessary Python libraries using `pip`.

```
```bash  
Install the required packages
pip install tk pillow pygame mysql-connector-python

Check the installation
pip show tk (Note: tk is usually included with Python, but the others are external)
```

Package	Purpose
tk	Main GUI framework (usually built-in)
pillow	Image loading and manipulation
pygame	Audio playback (background music and sound effects)
mysql-connector-python	Database connection and interaction

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## 3. MySQL Database Setup

The application connects to a MySQL database named hasaleveling\_db.

### A. Configure Database Connection

Open HasaLeveling.py and modify the DB\_CONFIG dictionary with your local MySQL credentials:

Python

```
HasaLeveling.py (Around line 100)

--- DATABASE CONFIGURATION ---
DB_CONFIG = {
 "host": "localhost",
 "user": "root", # <-- CHANGE THIS if your user is different
 "password": "jayvee101", # <-- CHANGE THIS to your MySQL root password
 "database": "hasaleveling_db"
}
```

## B. Create the Database and Table

You need to execute the following SQL commands in your MySQL environment (using tools like MySQL Workbench, the command line, or an equivalent utility):

1. **Create the Database:**

```
SQL
CREATE DATABASE hasaleveling_db;
USE hasaleveling_db;
```

2. **Create the User Progress Table:**

```
SQL
CREATE TABLE user_progress (
 username VARCHAR(9) PRIMARY KEY,
 gender VARCHAR(10) NOT NULL,
 html_progress DECIMAL(3, 2) NOT NULL DEFAULT 0.10,
 cplusplus_progress DECIMAL(3, 2) NOT NULL DEFAULT 0.10,
 mysql_progress DECIMAL(3, 2) NOT NULL DEFAULT 0.10,
 python_progress DECIMAL(3, 2) NOT NULL DEFAULT 0.10,
 java_progress DECIMAL(3, 2) NOT NULL DEFAULT 0.10,
 -- Check constraint to ensure progress is between 0 and 1
```

```
 CHECK (html_progress BETWEEN 0.00 AND 1.00),
 CHECK (cplusplus_progress BETWEEN 0.00 AND 1.00),
 CHECK (mysql_progress BETWEEN 0.00 AND 1.00),
 CHECK (python_progress BETWEEN 0.00 AND 1.00),
 CHECK (java_progress BETWEEN 0.00 AND 1.00)
);

```

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## 4. Running the Application

Once the prerequisites, dependencies, and MySQL setup are complete, you can run the application from your terminal:

Bash

```
python HasaLeveling.py
```

## Troubleshooting

- **Database Connection Error:** If you get a connection error, verify that your MySQL server is running and that the credentials in the DB\_CONFIG dictionary (Step 3A) are correct.
- **"Warning: Asset not found:"** If you see this message in the console, it means an image or audio file listed in HasaLeveling.py (e.g., dashboard.png, revealbutton.png) is missing from the assets folder. The application will use a placeholder image, but you should source the correct asset for a proper experience.
- **Audio Issues:** If music/sound effects don't play, ensure the pygame installation was successful and that the audio files (bgmusic.mp3, clicksoundeffect.wav) are present in the assets folder.