Part 0: Before You Begin (Prerequisites)

Make sure you have these two things installed on your computer:

1. **Visual Studio Code:** Your code editor.
2. **Python:** Make sure Python is installed. You can check by opening a terminal and typing python --version.

Part 1: Setting Up Your Project in VS Code

1. **Open the Project Folder:**
   - Launch VS Code.
   - Go to File > Open Folder...
   - Find and select your AURASHIELD folder. Your file explorer in VS Code should now show all your project files (index.html, script.js, etc.).
2. **Open the VS Code Terminal:**
   - This is the most important step! We will run all our commands inside VS Code.
   - Go to the top menu and click Terminal > New Terminal.
   - A command line will appear at the bottom of your VS Code window. It should show the path to your AURASHIELD folder.

Part 2: Running the Backend (The Python Detective Agency 🕵️)

This part trains our model. You only need to do this part **once**.

1. **Install the Python Libraries:**
   - In the VS Code terminal you just opened, copy and paste the following command and press Enter. This installs all the tools your Python scripts need.

   ```
   pip install pandas "scikit-learn==1.3.2" "lightgbm==4.1.0" joblib
   ```

2. **Generate the Training Data:**
   - In the same terminal, type the following command and press Enter:

     ```
     python generate_data.py
     ```

   - You will see a success message. A new file, transactions.csv, has been created!
3. **Train the "Detective" (The ML Model):**
   - Now, type the next command in the terminal and press Enter:

     ```
     python train_and_predict.py
     ```

   - This will train the model and save its "brain" into a new file called aml_model.pkl.

You have now successfully trained the model! The hard part is done.

Part 3: Analyzing a File & Viewing the Website

This is the part you will do every time you want to investigate a new file or show a demo.

1. **Analyze Your First Case File:**
   - In the VS Code terminal, let's analyze the transaction file we just created. Type this command and press Enter:

     ```
     python process_new_file.py transactions.csv
     ```

   - This will use the model's brain to create the final report card: processed_accounts.csv.
2. **Start the Local Web Server:**
   - Now it's time to launch the website! In the same terminal, type this command and press Enter:

     ```
     python -m http.server
     ```

   - You will see a message like Serving HTTP on 0.0.0.0 port 8000...
   - **Important:** Do not close this terminal! Your website is now live as long as this is running.
3. **View Your Project!**
   - Open your web browser (like Chrome or Firefox).
   - In the address bar, type http://localhost:8000 and press Enter.
   - The AuraShield website will appear!
4. **Upload the Files:**
   - On the website, for **Box #1**, choose the transactions.csv file.
   - For **Box #2**, choose the processed_accounts.csv file.
   - Click the **"Load & Visualize"** button.

Congratulations! Your complete, ML-powered dashboard is now running. You did it! 🎉