

Code Files Explanation

Project: School Activity Booking System

Simple Map of Our Files

Think of our project folder like a house.

Here is what is in every room:

1. The Main Room: `app.py`

This is the Brain.

- It contains almost everything.
 - It decides what happens when you click buttons.
 - It talks to the database.
 - It sends emails.
 - **Size**: 1,200+ lines of code!
- **Sections of the Brain**:
- **Lines 1-50**: Imports (Getting tools)
 - **Lines 50-170**: Database Models (Defining what a "User" is)
 - **Lines 170-200**: Security (The Bouncers)
 - **Lines 200-400**: Email & PDF Logic (The Messengers)
 - **Lines 400-1200**: Routes (The Pages - Login, Dashboard, Admin, etc.)

2. The Settings: `config.py`

This is the Control Panel.

- It holds the secrets.
- It tells the app: "Use this database", "Use this email".
- It keeps secrets safe (reads from ` `.env` file).

3. The Decoration: `static/` Folder

This is the Paint and Furniture.

- **`css/style.css`**: The Styling.
- "Make buttons blue"
- "Make cards see-through"
- "Make text big"
- **`uploads/`**: The Storage.
- Where user profile pictures are kept.

4. The Blueprints: `templates/` Folder

These are the HTML Skeletons.

- They are web pages with holes in them.
- Python fills the holes with real data.

Examples:

- `base.html`: The frame (Header, Footer, Menu). Every page uses this.
 - `dashboard.html`: The parent's main screen.
 - `login.html`: The login box.
 - `invoice_template.html`: The design for the PDF.
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5. The Memory: `booking_system_v2.db`

- **This is the Filing Cabinet.**
- It is a SQLite database file.
 - It stores:
 - Every user
 - Every booking
 - Every activity
 - If you delete this, everyone is forgotten!
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6. The Builder: `populate_db.py`

- **This is the Setup Robot.**
- You run this once.
 - It builds the database.
 - It creates fake users (Demo data) so the site isn't empty.
 - It creates: 1 Admin, 1 Parent, 6 Tutors, 8 Activities.
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7. The Shopping List: `requirements.txt`

- **This is the Ingredients List.**
- Tells the computer what to download.
 - "I need Flask"
 - "I need ReportLab"
 - "I need SQLAlchemy"
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8. The Instructions: `Procfile`

- **This is the Note for the Server.**
- Tells the internet server (Render) how to start.
 - Says: "Please run `gunicorn app:app` to start the website."
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Summary

File	Analogy	Purpose
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`app.py`	The Brain	Logic & Rules
`config.py`	Control Panel	Settings
`templates/`	Skeletons	Page Layouts
`static/`	Paint	Colors & Styles
`database.db`	Memory	Storing Data
`populate.py`	Robot	Creating Sample Data
