

# Code Files Explanation

**Project:** School Activity Booking System

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## Simple Map of Our Files

**Think of our project folder like a house.**

Here is what is in every room:

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### 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.)

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### 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).

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### 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.

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### 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 `unicorn app:app` to start the website."

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## 9. Helper Scripts

**\*\*These are the Utility Tools.\*\***

- `populate_db.py`: Creates sample data (1 admin, 1 parent, 6 tutors, 8 activities)
- `convert_to_pdf.py`: Converts markdown documentation to PDF format
- `view_attendance.py`: Quick script to view all attendance records in database
- `create_sanchit_parent.py`: Creates a specific parent account with child
- `update_sarah_email.py`: Updates tutor email in database
- `upload_to_notion.py`: Automates uploading project plan to Notion workspace

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## 10. Templates

**\*\*Complete List of HTML Pages:\*\***

**\*\*Base:\*\***

- `base.html` - Main layout frame (header, footer, navigation)

**\*\*Parent Portal:\*\***

- `index.html` - Homepage

- `login.html` - Parent login

- `register.html` - Parent registration

- `dashboard.html` - Parent dashboard

- `activities.html` - Browse activities

- `payment.html` - Payment page

- `invoice\_template.html` - PDF invoice design

**\*\*Admin Portal:\*\***

- `admin/login.html` - Admin login

- `admin/dashboard.html` - Admin overview with statistics

- `admin/activities.html` - Manage activities (CRUD)

- `admin/tutors.html` - Manage tutors (CRUD)

- `admin/bookings.html` - View all bookings

**\*\*Tutor Portal:\*\***

- `tutor/login.html` - Tutor login

- `tutor/dashboard.html` - Tutor overview

- `tutor/attendance.html` - Mark attendance

- `tutor/attendance\_history.html` - View past attendance records

**\*\*Shared:\*\***

- `error.html` - Custom 404/500 error pages

- `admissions.html` - School admissions information

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## Summary

| File | Analogy | Purpose |

|-----|-----|-----|

| `app.py` | The Brain | Logic & Rules (31 routes) |

| `config.py` | Control Panel | Settings |

| `templates/` | Skeletons | Page Layouts (18 templates) |

| `static/` | Paint | Colors & Styles |

| `database.db` | Memory | Storing Data |

| `populate.py` | Robot | Creating Sample Data |

| `Helper Scripts` | Tools | Maintenance & Automation |

**\*\*Total Project Size:\*\***

- **\*\*1,300+ lines\*\*** of Python code

- **\*\*18 HTML templates\*\***

- **\*\*1 CSS file\*\*** with 500+ lines

- **\*\*7 Database models\*\***

- **\*\*31 Routes\*\*** (endpoints)

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