

# Kursi Coworking Management System

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## Index

1. Project Introduction
  2. Folder and File Structure
  3. User Authentication & Security
  4. Master Management (Spaces & Members)
  5. Booking & Financial Management
  6. Communication & Automation (Email, SMS, & FCM)
  7. Database Tables Overview
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### 1. Project Introduction

The Kursi Coworking Management System is a specialized platform designed to manage flexible workspace environments by automating space allocation, booking workflows, and financial tracking.

- **Space Management:** Organizing desks, cabins, and meeting rooms by location and floor.
- **User Lifecycle:** Managing user registration with OTP verification and profile maintenance.
- **Financial Automation:** Real-time booking processing and automated tax invoice generation (PDF) based on usage duration.
- **Omni-channel Alerts:** Integrated notifications via Email, SMS, and Firebase Cloud Messaging (FCM).

### 2. Folder and File Structure

#### 1. Root Directory

Contains the public-facing entry points and configuration files.

- **index.php:** The landing page and main entry for users.
- **.htaccess:** Configures URL rewriting for clean, extension-less routing.

#### 2. db/ (Core Logic)

The engine of the application handling data integrity and external integrations.

- **connect.php:** Establishes the mysqli connection.
- **constant.php:** Stores environment variables like database credentials and timezones.
- **operations.php:** The central DBOperations class containing methods for CRUD, AES-256 encryption, and API integrations.
- **cronjob.php:** Automates the generation of recurring monthly invoices.

# Kursi Coworking Management System

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## 3. user/ (Client Portal)

Handles member-specific interactions.

- **login.php & action.php:** Manage user authentication, OTP verification, and Google Auth.
- **view/purchase\_space.php:** The interface for selecting and booking coworking assets.
- **view/invoices.php:** Allows users to view and download generated tax invoices.

## 4. admin/ (Management Console)

The backend for staff and super-admins.

- **action.php:** Processes admin logins and internal data updates.
- **view/work-space.php:** Master dashboard for managing space availability and types.
- **view/report.php:** Analytical view of bookings and revenue.

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## 3. User Authentication & Security

The system prioritizes data privacy through multi-layered security protocols.

- **Field-Level Encryption:** Sensitive database fields (such as `id`, `user_id`, and `space_id`) are encrypted/decrypted using **AES-256-CBC** logic.
- **User Auth (Standard):** Supports traditional Email/Password login with session management.
- **Google OAuth:** Integrated Google Sign-In for streamlined user onboarding.
- **OTP Verification:** Secure signup and password recovery using a 6-digit OTP sent via SMS and Email.

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## 4. Master Management (Spaces & Members)

### Space & Location Architecture

- **Locations & Floors:** Spaces are mapped to specific cities (`locations_tbl`) and organized by levels (`floors_tbl`).
- **Space Types:** Assets are categorized into types (e.g., Desk, Private Cabin) via `types_tbl`.
- **Amenities:** Features like High-speed Wi-Fi are managed in `amenities_tbl` and linked to spaces via `space_amenities_tbl`.

# Kursi Coworking Management System

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## Member Management

- **Profile Control:** Users can update personal details, company info, and profile images through the `user_tbl`.
  - **Support Tickets:** Members can raise tickets (`ticket_tbl`) for issues, which admins can assign and track.
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## 5. Booking & Financial Management

### The Booking Workflow

- **File:** `user/action.php` (confirmbook action).
- **Logic:**
  1. Calculates the total amount based on duration and basic rate.
  2. Inserts the primary record into `bookings_tbl`.
  3. Generates corresponding entries in `invoice_tbl`.
  4. Triggers the PDF generation engine.

### Tax Invoice Generation

- **PDF Engine:** Uses the **Mpdf** library to generate professionally formatted tax invoices.
  - **GST Logic:** The system automatically calculates **CGST/SGST (9% each)** for clients in Chhattisgarh, or **IGST (18%)** for inter-state clients.
  - **Automated Naming:** Invoices are saved with a standardized format (e.g., `INV-0001-001.pdf`) and the URL is updated in the database.
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## 6. Communication & Automation

### Communication Suite

- **Email (PHPMailer):** Sends booking confirmations and OTPs via `updates@kursicowork.com`.
- **SMS Gateway:** Integrated with the API to send critical alerts and DLT-compliant messages.
- **FCM Notifications:** Real-time push notifications delivered via the Firebase V1 API.

### Automated Tasks (Cron)

- **File:** `db/cronjob.php`.
  - **Function:** Targets "Month" type bookings to identify active accounts without a current invoice, generates the PDF, and logs the activity in `invoice_log.json`.
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# Kursi Coworking Management System

## 7. Database Tables Overview

S. No.	Table Name	Description
1	admin_tbl	Stores administrative credentials and profile details. It is the primary source for 2FA validation during staff login.
2	user_tbl	The central member registry. It tracks authentication methods (manual signup vs. Google OAuth), encrypted passwords, and profile statuses.
3	locations_tbl	Defines the different coworking branches or cities where the business operates.
4	floors_tbl	Mapped to locations_tbl, this manages the various levels within a specific building.
5	types_tbl	Categorizes bookable assets into specific groups like "Hot Desk," "Dedicated Desk," or "Private Cabin".
6	spaces_tbl	The master list of individual bookable units. Each record is linked to a location, floor, and space type.
7	amenities_tbl	Catalog of facilities provided (e.g., Wi-Fi, AC, Coffee). These are linked to specific spaces to display features to users.
8	space_amenities_tbl	A junction table that maps specific amenity_id records to space_id records.
9	bookings_tbl	Logs every reservation made by a user. It stores start/end times, total duration, and the primary financial amount.
10	invoice_tbl	A detailed log of all generated tax documents. It tracks booking_id, unique invoice_no, fiscal dates, and links to the generated PDF URL.
11	ticket_tbl	Manages the customer support lifecycle. Users can raise tickets for location-specific issues which are tracked by priority and status.
12	notification_tbl	Stores internal alerts for users. Includes a "seen" flag to track if the user has read the message.
13	fcm_tbl	Specifically for mobile engagement. It stores Firebase Cloud Messaging device tokens linked to user IDs for push notifications.
14	leads_tbl	Tracks potential clients and inquiries before they convert into registered members.
15	states	A reference table used for tax calculations (GST logic) to determine if CGST/SGST or IGST should be applied.