## Database

This database is designed to manage users, meeting rooms, and booked meetings in a company. It also tracks the users who attend meetings. The database contains four primary tables: Users, MeetingRooms, BookedMeetings, and MeetingRoomMembers.

**Table 1: Users**

This table stores information about all users (employees) in the system.

**Validation and Constraints**

* Ensures UserID is unique and not null.
* Validates the number if provided, ensuring it has exactly 10 digits.
* Ensures Email follows a standard email format and is unique.
* Enforces Role values to be either ‘admin’, ‘manager’, or ‘member’.

**Table Name:** Users

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| UserID | SERIAL | Primary Key, Not Null, Unique | Unique identifier for each user. |
| Name | VARCHAR(255) | Not Null, Check (cannot be empty) | Full name of the user. |
| Phone Number | BIGINT | Optional, Check (must be 10 digits if provided) | Contact phone number of the user. |
| Email | VARCHAR(255) | Not Null, Unique, Check (valid email format) | Email address of the user. |
| Password | VARCHAR(512) | Not null, Should have 8 characters and 1 alpha, numeric character minimum | This is the Hashed password of the user. |
| Role | VARCHAR(50) | Not Null, Check (must be ‘admin’, ‘manager’, ‘member’) | Role of the user in the organization (admin, manager, member). |
| Credit | Float | Check (2000 for manager, 0 for other users) | Credit available to the user. Managers start with 2000, and other users with 0. This credit is used for booking rooms. |
| CreationTime | TIMESTAMP | Default to the current timestamp | Timestamp when the user record was created. |

**Table 2: MeetingRooms**

This table stores information about the different meeting rooms available in the organization.

**Validation and Constraints**

* Ensures RoomID is unique and not null.
* Validates RoomType against predefined values (e.g., Classroom, Online Training).
* Links AdminID to the Users table, enforcing referential integrity.

**Table Name:** MeetingRooms

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| RoomID | SERIAL | Primary Key, Not Null, Unique | Unique identifier for each meeting room. |
| RoomType | VARCHAR(255) | Not Null, Check (must be a valid room type) | Type of the meeting room (e.g., Classroom, Conference Call). |
| Address | TEXT | Optional | Physical address of the meeting room (if applicable). |
| AdminID | INT | Not Null, Foreign Key (References Users(UserID)) | The admin is responsible for managing the room. |
| OpeningTime | TIME | Not Null | Time when the room opens. |
| ClosingTime | TIME | Not Null | The time when the room closes. |
| CreationTime | TIMESTAMP | Default to the current timestamp | Timestamp when the room record was created. |

**Table 3: BookedMeetings**

This table stores information about the meetings that have been booked.

* Ensures MeetingID is unique and not null.
* Links ManagerID and RoomID to their respective tables, enforcing referential integrity.

**Table Name:** BookedMeetings

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| MeetingID | SERIAL | Primary Key, Not Null, Unique | Unique identifier for each booked meeting. |
| ManagerID | INT | Not Null, Foreign Key (References Users(UserID)) | The manager booked the meeting. |
| RoomID | INT | Not Null, Foreign Key (References MeetingRooms(RoomID)) | The room where the meeting will take place. |
| Room Credit | INT | Not Null, Greater than 0 | The credit paid for booking the room. |
| Amenities | TEXT[] | Not Null, Check (must be from the valid list of amenities) | List of amenities requested for the meeting. |
| Room Type | String | Not Null, The type of room booked | The type of room booked. |
| Starting Time | Time | Not null | The starting time of the meeting. |
| Ending Time | Time | Not Null | The ending time of the meeting. |
| CreationTime | TIMESTAMP | Default to current timestamp | Timestamp when the meeting record was created. |

**Table 4: MeetingRoomMembers**

This table stores information about the members (employees) invited to meetings.

* Ensures ID is unique and not null.
* Links MeetingID and UserID to their respective tables, enforcing referential integrity.

**Table Name:** MeetingRoomMembers

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| ID | SERIAL | Primary Key, Not Null, Unique | Unique identifier for each meeting room member record. |
| MeetingID | INT | Not Null, Check (must be a valid room type) | The meeting to which the user is invited. |
| UserID  (cascading) | INT | Foreign key referenced to User Table | The user who is invited to the meeting. |
| CreationTime | TIMESTAMP | Default to the current timestamp | Timestamp when the meeting room member record was created. |