# **Online Payment Platform - Database Design**

## **1. Users Table (Registration & Login)**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **UserID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique user identifier. |
| **Username** | VARCHAR(50) | UNIQUE, NOT NULL | User's unique name. |
| **Email** | VARCHAR(100) | UNIQUE, NOT NULL | User's email address. |
| **Password** | VARCHAR(255) | NOT NULL | Hashed password for security. |
| **PhoneNumber** | VARCHAR(15) | UNIQUE, NOT NULL | User’s contact number. |
| **Role** | ENUM('User', 'Admin') | NOT NULL | Defines access level. |
| **CreatedAt** | TIMESTAMP | DEFAULT CURRENT\_TIMESTAMP | Account creation date. |

## **2. Login Attempts Table**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **LoginID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique login ID. |
| **UserID** | INT | FOREIGN KEY (Users) NOT NULL | References Users table. |
| **LoginTime** | TIMESTAMP | DEFAULT CURRENT\_TIMESTAMP | Timestamp of login attempt. |
| **IPAddress** | VARCHAR(45) | NOT NULL | User’s IP address. |
| **Status** | ENUM('Success', 'Failed') | NOT NULL | Login status. |

## **3. Accounts Table (Add/Remove Bank Accounts)**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **AccountID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique account ID. |
| **UserID** | INT | FOREIGN KEY (Users) NOT NULL | References Users table. |
| **BankName** | VARCHAR(100) | NOT NULL | Name of the bank. |
| **AccountNumber** | VARCHAR(20) | UNIQUE, NOT NULL | User’s bank account number. |
| **IFSC\_Code** | VARCHAR(11) | NOT NULL | Bank IFSC code. |
| **Status** | ENUM('Active', 'Inactive') | NOT NULL | Account status. |

## **4. Payments Table**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **PaymentID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique payment ID. |
| **UserID** | INT | FOREIGN KEY (Users) NOT NULL | References Users table. |
| **AccountID** | INT | FOREIGN KEY (Accounts) NOT NULL | References Accounts table. |
| **Amount** | DECIMAL(10,2) | CHECK (Amount > 0) | Payment amount. |
| **PaymentDate** | TIMESTAMP | DEFAULT CURRENT\_TIMESTAMP | Date and time of payment. |
| **Status** | ENUM('Pending', 'Completed', 'Failed') | NOT NULL | Payment status. |

## **5. Profile Table (Update Profile)**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **ProfileID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique profile ID. |
| **UserID** | INT | FOREIGN KEY (Users) NOT NULL | References Users table. |
| **FullName** | VARCHAR(100) | NOT NULL | User’s full name. |
| **Address** | TEXT | NULL | User’s address. |
| **DOB** | DATE | NULL | Date of birth. |
| **ProfilePic** | VARCHAR(255) | NULL | Profile picture URL. |

## **6. Bonus Table**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **BonusID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique bonus ID. |
| **UserID** | INT | FOREIGN KEY (Users) NOT NULL | References Users table. |
| **BonusAmount** | DECIMAL(10,2) | CHECK (BonusAmount > 0) | Bonus amount. |
| **BonusDate** | TIMESTAMP | DEFAULT CURRENT\_TIMESTAMP | Date of bonus allocation. |
| **BonusType** | ENUM('Referral', 'Cashback', 'Promo') | NOT NULL | Type of bonus. |

## **7. Transaction History & Bank Balance Table**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **TransactionID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique transaction ID. |
| **UserID** | INT | FOREIGN KEY (Users) NOT NULL | References Users table. |
| **AccountID** | INT | FOREIGN KEY (Accounts) NOT NULL | References Accounts table. |
| **Type** | ENUM('Credit', 'Debit') | NOT NULL | Transaction type. |
| **Amount** | DECIMAL(10,2) | CHECK (Amount > 0) | Transaction amount. |
| **Balance** | DECIMAL(10,2) | CHECK (Balance >= 0) | Updated bank balance. |
| **TransactionDate** | TIMESTAMP | DEFAULT CURRENT\_TIMESTAMP | Date of transaction. |

## **8. Security Table**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **SecurityID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique security setting ID. |
| **UserID** | INT | FOREIGN KEY (Users) NOT NULL | References Users table. |
| **TwoFactorAuth** | BOOLEAN | DEFAULT FALSE | 2FA enabled or not. |
| **SecurityQuestion** | VARCHAR(255) | NULL | User’s security question. |
| **SecurityAnswer** | VARCHAR(255) | NULL | User’s security answer (hashed). |

## **9. Feedback & Customer Support Table**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **FeedbackID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique feedback ID. |
| **UserID** | INT | FOREIGN KEY (Users) NOT NULL | References Users table. |
| **Message** | TEXT | NOT NULL | User’s feedback or complaint. |
| **Response** | TEXT | NULL | Admin’s response. |
| **Status** | ENUM('Open', 'Closed') | DEFAULT 'Open' | Ticket status. |
| **CreatedAt** | TIMESTAMP | DEFAULT CURRENT\_TIMESTAMP | Date of submission. |

## **10. Admin Table**

| **Column Name** | **Data Type** | **Constraints** | **Description** |
| --- | --- | --- | --- |
| **AdminID** | INT (AUTO\_INCREMENT) | PRIMARY KEY | Unique admin ID. |
| **Username** | VARCHAR(50) | UNIQUE, NOT NULL | Admin’s username. |
| **Email** | VARCHAR(100) | UNIQUE, NOT NULL | Admin’s email. |
| **Password** | VARCHAR(255) | NOT NULL | Encrypted password. |
| **Role** | ENUM('SuperAdmin', 'Support') | NOT NULL | Admin role. |