# Refined MongoDB Schema Design

## 1. Users Collection (SIGN-UP/REGISTER Table)

**Purpose:** Manage all types of users (Admin, Manager, Supplier, Worker).

```
const UserSchema = {

  _id: ObjectId,

  full_name: String,

  email: String,

  password: String, // Store securely as a hashed value

  address: {

    street: String,

    city: String,

    state: String,

    province: String,

    postal_code: String,

  },

  cnic: String,

  picture: String, // URL or file path

  role: {

    type: String,

    enum: ['Admin', 'Manager', 'Supplier', 'Worker'],

  },

  created_at: Date,

  updated_at: Date,

};
```

## 2. Login Collection (LOGIN Table)

**Purpose:** Store login credentials for authentication purposes. Often merged into Users in MongoDB designs.

```
const LoginSchema = {

  _id: ObjectId,

  email: String,

  password: String, // Hashed password
```

```
  created_at: Date,

};
```

## 3. Suppliers Collection

**Purpose:** Manage supplier-specific details and operations.

```
const SupplierSchema = {

  _id: ObjectId,

  user_id: ObjectId, // Reference to User collection

  business_type: {

    type: String,

    enum: ['Wholesaler', 'Distributor'],

  },

  supply_city: String,

  delivery_time_frame: String, // e.g., "3-5 days"

  status: {

    type: String,

    enum: ['Active', 'Inactive', 'Blocked'],

  },

  notes: String,

  rate: Number, // Optional: Average rating of supplier

  bank_account: String,

  created_at: Date,

  updated_at: Date,

};
```

## 4. Managers Collection

**Purpose:** Store details about factory managers.

```
const ManagerSchema = {

  _id: ObjectId,

  user_id: ObjectId, // Reference to User collection

  position: String,

  salary: Number,

  status: {
```

```
    type: String,

    enum: ['Active', 'Inactive', 'Terminated'],

  },

  notes: String,

  rate: Number, // Optional: Performance rating

  created_at: Date,

  updated_at: Date,

};
```

## 5. Products Collection

**Purpose:** Store information about products.

```
const ProductSchema = {

  _id: ObjectId,

  name: String,

  description: String,

  price: Number,

  stock_quantity: Number,

  sku: String,

  image: String, // URL or file path

  brand: { type: String, default: 'MEFCO' },

  weight: Number, // In grams/kilograms

  dimensions: {

    length: Number,

    width: Number,

    height: Number,

  },

  in_production: Boolean,

  created_at: Date,

  updated_at: Date,

};
```

## 6. Orders Collection

**Purpose:** Track orders made by suppliers.

```
const OrderSchema = {

  _id: ObjectId,

  supplier_id: ObjectId, // Reference to Suppliers collection

  product_id: ObjectId, // Reference to Products collection

  price: Number,

  status: {

    type: String,

    enum: ['Pending', 'Completed', 'Shipped', 'Canceled'],

  },

  order_date: Date,

  order_number: String,

  payment_method: { type: String, default: 'COD' },

  payment_status: {

    type: String,

    enum: ['Paid', 'Unpaid'],

  },

  total_amount: Number,

  tax_amount: Number,

  shipping_details: {

    address: String,

    method: String,

    cost: Number,

  },

  created_at: Date,

  updated_at: Date,

};
```

## 7. Employees Collection

**Purpose:** Manage employee details.

```
const EmployeeSchema = {

  _id: ObjectId,

  user_id: ObjectId, // Reference to User collection

  position: String,
```

```
  employee_code: String, // Unique identifier

  date_of_joining: Date,

  employment_type: {

    type: String,

    enum: ['Full-Time', 'Part-Time'],

  },

  salary: Number,

  status: {

    type: String,

    enum: ['Active', 'Inactive', 'Resigned', 'Terminated'],

  },

  performance_score: Number,

  created_at: Date,

  updated_at: Date,

};
```

## 8. Inventory Collection

**Purpose:** Manage inventory-related data.

```
const InventorySchema = {

  _id: ObjectId,

  product_id: ObjectId, // Reference to Products collection

  total_produced: Number,

  total_sold: Number,

  current_stock: Number,

  created_at: Date,

  updated_at: Date,

};
```

## 9. Profit-Loss Collection

**Purpose:** Record monthly profit/loss statistics.

```
const ProfitLossSchema = {

  _id: ObjectId,

  total_revenue: Number, // Revenue for the month
```

```
  total_expense: Number, // Expense for the month

  net_profit: Number, // Profit = Revenue - Expense

  month: Number, // 1 to 12 for January to December

  year: Number, // e.g., 2024

  created_at: Date,

};
```

## 10. Rewards Collection

**Purpose:** Store rewards issued to employees.

```
const RewardSchema = {

  _id: ObjectId,

  employee_id: ObjectId, // Reference to Employees collection

  attendance_per_week: Number,

  previous_complaints: Number,

  reward_date: Date,

  reward_value: Number,

  issued_by: String,

  remarks: String,

  created_at: Date,

};
```

## 11. Overtime Collection

**Purpose:** Track employee overtime details.

```
const OvertimeSchema = {

  _id: ObjectId,

  employee_id: ObjectId, // Reference to Employees collection

  overtime_date: Date,

  hours: Number,

  amount_per_hour: Number,

  created_at: Date,

};
```

## 12. Attendance Collection
```

**Purpose:** Track attendance records for employees.

```
const AttendanceSchema = {

  _id: ObjectId,

  employee_id: ObjectId, // Reference to Employees collection

  date: Date,

  time_in: Date,

  time_out: Date,

  status: {

    type: String,

    enum: ['Present', 'Absent'],

  },

  hours_worked: Number,

  remarks: String,

  created_at: Date,

};
```