**Objective**:

Create relational database schema with tables and relationships, and visualize it using an ER diagram.

**Tools used:**

SSMS ( SQL Server Management Studio )

### **Step 1: Define Tables and Relationships**

Entities:

1. Customers
2. Restaurants
3. Menu\_Items
4. Orders
5. Order\_Items

### **Relationships:**

* A customer can place many orders.
* An order can have many items.
* A restaurant can offer many menu items.
* Each menu item belongs to one restaurant.

## **Deliverable 1: SQL Script to Create Schema**

**sql**

**-- Table: Customers**

**CREATE TABLE Customers (**

**customer\_id INT PRIMARY KEY IDENTITY(1,1),**

**name VARCHAR(100),**

**email VARCHAR(100) UNIQUE,**

**phone VARCHAR(15),**

**address TEXT**

**);**

**-- Table: Restaurants**

**CREATE TABLE Restaurants (**

**restaurant\_id INT PRIMARY KEY IDENTITY(1,1),**

**name VARCHAR(100),**

**location VARCHAR(100)**

**);**

**-- Table: Menu\_Items**

**CREATE TABLE Menu\_Items (**

**item\_id INT PRIMARY KEY IDENTITY(1,1),**

**restaurant\_id INT,**

**name VARCHAR(100),**

**price DECIMAL(6,2),**

**FOREIGN KEY (restaurant\_id) REFERENCES Restaurants(restaurant\_id)**

**);**

**-- Table: Orders**

**CREATE TABLE Orders (**

**order\_id INT PRIMARY KEY IDENTITY(1,1),**

**customer\_id INT,**

**order\_date DATETIME DEFAULT GETDATE(),**

**total\_amount DECIMAL(10,2),**

**FOREIGN KEY (customer\_id) REFERENCES Customers(customer\_id)**

**);**

**-- Table: Order\_Items**

**CREATE TABLE Order\_Items (**

**order\_item\_id INT PRIMARY KEY IDENTITY(1,1),**

**order\_id INT,**

**item\_id INT,**

**quantity INT,**

**FOREIGN KEY (order\_id) REFERENCES Orders(order\_id),**

**FOREIGN KEY (item\_id) REFERENCES Menu\_Items(item\_id)**

**);**

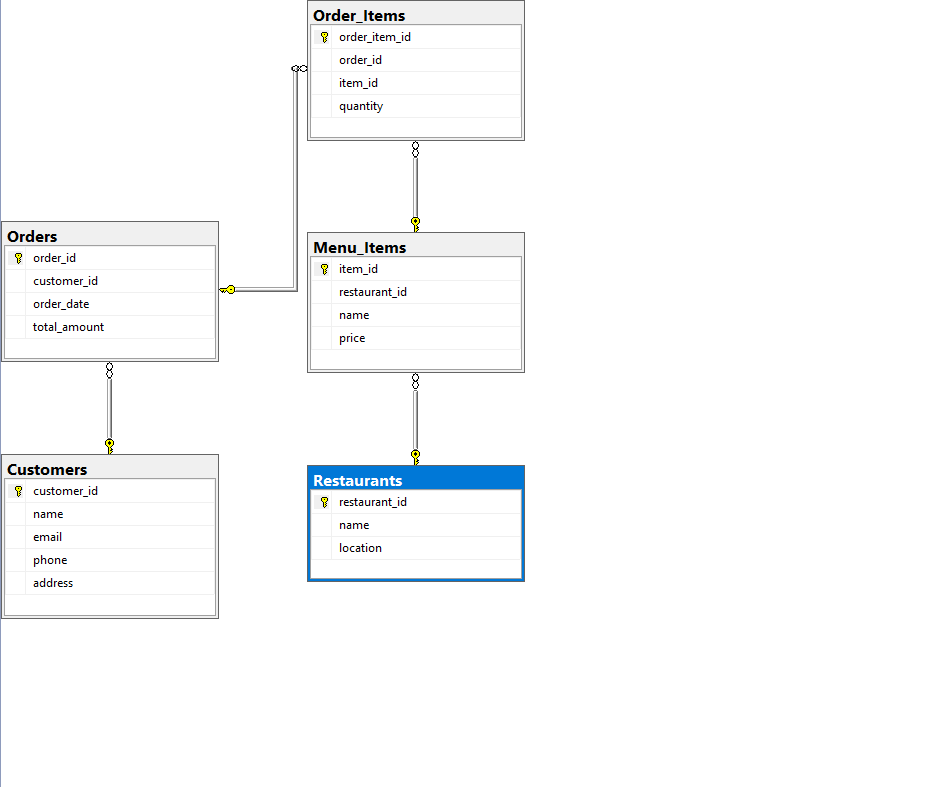
## **Deliverable 2: ER Diagram**

### **Generate ER Diagram**

**I am using SSMS for this task, to Generate an ER Diagram in SSMS we follow below steps**

### **🔹 Step-by-Step:**

1. **Create and Save All Tables using the script above.**
2. **In SSMS Object Explorer, expand the database.**
3. **Right-click on the "Database Diagrams" folder.**
4. **Choose "New Database Diagram".**
5. **If prompted, install required diagram support objects — click Yes.**
6. **Select the tables just created (Customers, Restaurants, etc.).**
7. **Click Add, then Close.**
8. **ER diagrams will be generated automatically!**

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