-- Create Database

CREATE DATABASE RestaurantManagementSystem;

USE RestaurantManagementSystem;

-- Table: Admin

CREATE TABLE Admin (

admin\_id INT PRIMARY KEY IDENTITY(1,1),

name VARCHAR(255) NOT NULL, email VARCHAR(255) UNIQUE NOT NULL, password VARCHAR(255) NOT NULL, role VARCHAR(50) NOT NULL CHECK (role IN ('super\_admin', 'restaurant manager')), created\_at DATETIME DEFAULT CURRENT\_TIMESTAMP, updated\_at DATETIME DEFAULT CURRENT\_TIMESTAMP, created\_by INT, updated\_by INT ); -- Table: User (Customer) CREATE TABLE Customer ( user\_id INT PRIMARY KEY IDENTITY(1,1), name VARCHAR(255) NOT NULL, email VARCHAR(255) UNIQUE NOT NULL, password VARCHAR(255) NOT NULL, phone\_number VARCHAR(15), created\_at DATETIME DEFAULT CURRENT\_TIMESTAMP, updated\_at DATETIME DEFAULT CURRENT\_TIMESTAMP );

-- Table: DeliveryPerson CREATE TABLE DeliveryPerson ( delivery\_person\_id INT PRIMARY KEY IDENTITY(1,1), name VARCHAR(255) NOT NULL, email VARCHAR(255) UNIQUE NOT NULL, password VARCHAR(255) NOT NULL, phone\_number VARCHAR(15), image VARCHAR(255), car\_info\_id INT, availability\_status VARCHAR(50) CHECK (availability\_status IN ('available', 'busy')), current\_location GEOGRAPHY, created\_at DATETIME DEFAULT CURRENT\_TIMESTAMP, updated\_at DATETIME DEFAULT CURRENT\_TIMESTAMP ); -- Table: Restaurant CREATE TABLE Restaurant ( restaurant\_id INT PRIMARY KEY identity, name VARCHAR(255) NOT NULL, address VARCHAR(255) NOT NULL, phone\_number VARCHAR(15), email VARCHAR(255) UNIQUE NOT NULL, created\_at DateTime DEFAULT CURRENT\_TIMESTAMP, updated\_at DateTime DEFAULT CURRENT\_TIMESTAMP );

-- Table: Branch CREATE TABLE Branch ( branch\_id INT PRIMARY KEY IDENTITY, restaurant\_id INT, name VARCHAR(255) NOT NULL, address VARCHAR(255) NOT NULL, phone\_number VARCHAR(15), email VARCHAR(255) UNIQUE NOT NULL, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, updated\_at Datetime DEFAULT CURRENT\_TIMESTAMP FOREIGN KEY (restaurant\_id) REFERENCES Restaurant(restaurant\_id) ON DELETE CASCADE );

-- Table: Category CREATE TABLE Category ( category\_id INT IDENTITY PRIMARY KEY, name VARCHAR(255) NOT NULL, description TEXT, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, updated\_at Datetime DEFAULT CURRENT\_TIMESTAMP );

-- Table: Items (Menu Items) CREATE TABLE Items ( item\_id INT IDENTITY PRIMARY KEY, name VARCHAR(255) NOT NULL, description TEXT, price DECIMAL(10, 2) NOT NULL, image VARCHAR(255), category\_id INT, branch\_id INT, is\_available binary DEFAULT 1, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, updated\_at Datetime DEFAULT CURRENT\_TIMESTAMP FOREIGN KEY (category\_id) REFERENCES Category(category\_id) ON DELETE SET NULL, FOREIGN KEY (branch\_id) REFERENCES Branch(branch\_id) ON DELETE CASCADE );

-- Table: Rate CREATE TABLE Rate ( rate\_id INT IDENTITY PRIMARY KEY, user\_id INT, item\_id INT, restaurant\_id INT, rating INT CHECK (rating >= 1 AND rating <= 5), comment TEXT, created\_at DATETIME DEFAULT CURRENT\_TIMESTAMP, FOREIGN KEY (user\_id) REFERENCES Customer(user\_id) ON DELETE CASCADE, FOREIGN KEY (item\_id) REFERENCES Items(item\_id) ON DELETE NO ACTION, -- Removed CASCADE FOREIGN KEY (restaurant\_id) REFERENCES Restaurant(restaurant\_id) ON DELETE NO ACTION -- Removed CASCADE );

-- Table: Discount CREATE TABLE Discount ( discount\_id INT IDENTITY PRIMARY KEY, code VARCHAR(50) UNIQUE NOT NULL, discount\_type varchar(50) check (discount\_type in ('percentage', 'fixed amount')) NOT NULL, value DECIMAL(10, 2) NOT NULL, valid\_from DATE, valid\_to DATE, max\_uses INT, used\_count INT DEFAULT 0, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, updated\_at Datetime DEFAULT CURRENT\_TIMESTAMP );

-- Table: Order CREATE TABLE [Order] ( order\_id INT IDENTITY(1,1) PRIMARY KEY, user\_id INT, delivery\_person\_id INT, total\_amount DECIMAL(10, 2) NOT NULL, status varchar(50) check(status in ('pending', 'preparing', 'out for delivery', 'delivered')) DEFAULT 'pending', delivery\_address VARCHAR(255) NOT NULL, discount\_id INT, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, updated\_at Datetime DEFAULT CURRENT\_TIMESTAMP , FOREIGN KEY (user\_id) REFERENCES Customer(user\_id) ON DELETE CASCADE, FOREIGN KEY (delivery\_person\_id) REFERENCES DeliveryPerson(delivery\_person\_id) ON DELETE SET NULL, FOREIGN KEY (discount\_id) REFERENCES Discount(discount\_id) ON DELETE SET NULL );

-- Table: OrderItems CREATE TABLE OrderItems ( order\_item\_id INT IDENTITY(1,1) PRIMARY KEY, order\_id INT, item\_id INT, quantity INT NOT NULL, price\_at\_time\_of\_order DECIMAL(10, 2) NOT NULL, FOREIGN KEY (order\_id) REFERENCES [Order](https://euc-word-edit.officeapps.live.com/we/order_id) ON DELETE CASCADE, FOREIGN KEY (item\_id) REFERENCES Items(item\_id) ON DELETE CASCADE );

-- Table: OrderHistory CREATE TABLE OrderHistory ( order\_history\_id INT IDENTITY PRIMARY KEY, order\_id INT, status varchar(50) check(status in('completed', 'canceled')) NOT NULL, updated\_at Datetime DEFAULT CURRENT\_TIMESTAMP , FOREIGN KEY (order\_id) REFERENCES [Order](https://euc-word-edit.officeapps.live.com/we/order_id) ON DELETE CASCADE );

-- Table: Notification CREATE TABLE Notification ( notification\_id INT IDENTITY PRIMARY KEY, user\_id INT, message TEXT NOT NULL, type varchar(50) check(type in ('order update', 'promotional')) NOT NULL, is\_read binary DEFAULT 0, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, FOREIGN KEY (user\_id) REFERENCES Customer(user\_id) ON DELETE CASCADE );

-- Table: Favorite CREATE TABLE Favorite ( favorite\_id INT IDENTITY PRIMARY KEY, user\_id INT, item\_id INT, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, FOREIGN KEY (user\_id) REFERENCES Customer(user\_id) ON DELETE CASCADE, FOREIGN KEY (item\_id) REFERENCES Items(item\_id) ON DELETE CASCADE );

-- Table: Cart CREATE TABLE Cart ( cart\_id INT IDENTITY PRIMARY KEY, user\_id INT, item\_id INT, quantity INT NOT NULL, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, updated\_at Datetime DEFAULT CURRENT\_TIMESTAMP , FOREIGN KEY (user\_id) REFERENCES Customer(user\_id) ON DELETE CASCADE, FOREIGN KEY (item\_id) REFERENCES Items(item\_id) ON DELETE CASCADE );

-- Table: Chat CREATE TABLE Chat ( chat\_id INT IDENTITY PRIMARY KEY, user\_id INT, delivery\_person\_id INT, branch\_id INT, message TEXT NOT NULL, sender\_type varchar(50) check(sender\_type in ('user', 'delivery person') )NOT NULL, created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, FOREIGN KEY (user\_id) REFERENCES Customer(user\_id) ON DELETE CASCADE, FOREIGN KEY (delivery\_person\_id) REFERENCES DeliveryPerson(delivery\_person\_id) ON DELETE CASCADE, FOREIGN KEY (branch\_id) REFERENCES Branch(branch\_id) ON DELETE SET NULL );

-- Table: Track of Order CREATE TABLE TrackOfOrder ( track\_id INT IDENTITY PRIMARY KEY, order\_id INT, delivery\_person\_id INT, current\_location GEOGRAPHY, status varchar(50) Check(status in('picked up', 'on the way', 'delivered')) NOT NULL, updated\_at Datetime DEFAULT CURRENT\_TIMESTAMP , FOREIGN KEY (order\_id) REFERENCES [Order](https://euc-word-edit.officeapps.live.com/we/order_id) ON DELETE CASCADE, FOREIGN KEY (delivery\_person\_id) REFERENCES DeliveryPerson(delivery\_person\_id) ON DELETE SET NULL );

-- Table: Payment CREATE TABLE Payment ( payment\_id INT IDENTITY PRIMARY KEY, order\_id INT, payment\_method varchar(50) check(payment\_method in ('credit card', 'cash on delivery')) NOT NULL, amount DECIMAL(10, 2) NOT NULL, status varchar(50) Check(status in('pending', 'completed', 'failed')) DEFAULT 'pending', created\_at Datetime DEFAULT CURRENT\_TIMESTAMP, FOREIGN KEY (order\_id) REFERENCES [Order](https://euc-word-edit.officeapps.live.com/we/order_id) ON DELETE CASCADE );

--address: CREATE TABLE Address (

AddressID INT PRIMARY KEY IDENTITY(1,1),

CustomerID INT NULL,

BranchID INT NULL,

DeliveryPersonID INT NULL,

StreetAddress NVARCHAR(255),

City NVARCHAR(100),

State NVARCHAR(100),

PostalCode NVARCHAR(20),

Country NVARCHAR(100),

)