

-- Create Database

CREATE DATABASE PharmaDB;

GO

-- Use the newly created database

USE PharmaDB;

GO

-- Create Clients Table

CREATE TABLE Clients (

ClientID INT IDENTITY(1,1) PRIMARY KEY,

ClientName NVARCHAR(100) NOT NULL,

ContactInfo NVARCHAR(100),

**ClientType NVARCHAR(50) CHECK (ClientType IN ('Doctor',
'Pharmacy')),**

CreatedAt DATETIME DEFAULT GETDATE()

);

GO

-- Create Users Table

CREATE TABLE Users (

UserID INT IDENTITY(1,1) PRIMARY KEY,

UserName NVARCHAR(100) NOT NULL,

Email NVARCHAR(100) UNIQUE NOT NULL,

PasswordHash VARBINARY(MAX) NOT NULL,

CreatedAt DATETIME DEFAULT GETDATE()

);

GO

-- Create Roles Table

CREATE TABLE Roles (

RoleID INT IDENTITY(1,1) PRIMARY KEY,

RoleName NVARCHAR(50) UNIQUE NOT NULL

);

GO

-- Create UserRoles Table

CREATE TABLE UserRoles (

UserID INT,

RoleID INT,

AssignedAt DATETIME DEFAULT GETDATE(),

PRIMARY KEY (UserID, RoleID),

FOREIGN KEY (UserID) REFERENCES Users(UserID),

FOREIGN KEY (RoleID) REFERENCES Roles(RoleID)

);

GO

-- Create Orders Table

CREATE TABLE Orders (

OrderID INT IDENTITY(1,1) PRIMARY KEY,

ClientID INT,

OrderDate DATETIME DEFAULT GETDATE(),

OrderAmount DECIMAL(10, 2) CHECK (OrderAmount > 0),

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FOREIGN KEY (ClientID) REFERENCES Clients(ClientID)
);
GO

CREATE PROCEDURE AddNewClient
    @ClientName NVARCHAR(100),
    @ContactInfo NVARCHAR(100),
    @ClientType NVARCHAR(50)
AS
BEGIN
    BEGIN TRY
        BEGIN TRANSACTION;

        INSERT INTO Clients (ClientName, ContactInfo, ClientType)
        VALUES (@ClientName, @ContactInfo, @ClientType);

        COMMIT TRANSACTION;
    END TRY
    BEGIN CATCH
        ROLLBACK TRANSACTION;
        THROW;
    END CATCH
END;
GO

-- Create ClientAudit Table
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CREATE TABLE ClientAudit (  
    AuditID INT IDENTITY(1,1) PRIMARY KEY,  
    ClientID INT,  
    Action NVARCHAR(50),  
    ActionDate DATETIME DEFAULT GETDATE(),  
    FOREIGN KEY (ClientID) REFERENCES Clients(ClientID)  
);  
GO
```

-- Create Trigger

```
CREATE TRIGGER trgAfterClientInsert  
ON Clients  
AFTER INSERT  
AS  
BEGIN  
    INSERT INTO ClientAudit (ClientID, Action)  
    SELECT ClientID, 'INSERT'  
    FROM Inserted;  
END;  
GO
```

```
WITH ClientCounts AS (  
    SELECT ClientType, COUNT(*) AS TotalClients  
    FROM Clients  
    GROUP BY ClientType  
)
```

SELECT ClientType, TotalClients

FROM ClientCounts

WHERE TotalClients > 10;

GO

SELECT ClientID, OrderDate,

**SUM(OrderAmount) OVER (PARTITION BY ClientID ORDER BY
OrderDate) AS RunningTotal**

FROM Orders;

GO

DECLARE @TableName NVARCHAR(50) = 'Clients';

DECLARE @SQL NVARCHAR(MAX);

**SET @SQL = N'SELECT * FROM ' + QUOTENAME(@TableName) + '
WHERE ClientType = @ClientType';**

EXEC sp_executesql @SQL, N'@ClientType NVARCHAR(50)',

@ClientType = 'Pharmacy';

GO