By Baskar Natarajan

1. ER Diagram

2. Create Database:

CREATE DATABASE Hospital;

3. Use Hospital Database:

USE Hospital;

4. Create tables:

```
-- Patient table
CREATE TABLE Patient (
    PatientID INT PRIMARY KEY,
    EName VARCHAR(255),
    LName VARCHAR(255),
    Age INT,
    Gender VARCHAR(10),
    Address VARCHAR(255),
    Phone VARCHAR(20),
    Disease VARCHAR(255)
);
-- Receptionist table
```

```
CREATE TABLE Receptionist (
    ReceptionistID INT PRIMARY KEY,
    Name VARCHAR(255),
    Contact VARCHAR(20),
    Gender VARCHAR(10)
);
```

```
-- Doctor table
CREATE TABLE Doctor (
    DoctorID INT PRIMARY KEY,
    Name VARCHAR(255),
    Specialization VARCHAR(255),
    Contact VARCHAR(20),
    EmploymentType VARCHAR(20)
);
```

```
-- Room table
CREATE TABLE Room (
    RoomID INT PRIMARY KEY,
    RoomType VARCHAR(255),
    Availability VARCHAR(20)
);
```

```
-- Nurse table
CREATE TABLE Nurse (
    NurseID INT PRIMARY KEY,
    Name VARCHAR(255),
    Contact VARCHAR(20),
    Gender VARCHAR(10),
    RoomID INT REFERENCES Room(RoomID)
);
```

```
-- Inpatient table
CREATE TABLE Inpatient (
    InpatientID INT PRIMARY KEY,
    AdmissionDate TIMESTAMP,
    DischargeDate TIMESTAMP,
    RoomID INT REFERENCES Room(RoomID),
    PatientID INT REFERENCES Patient(PatientID),
    DoctorID INT REFERENCES Doctor(DoctorID),
    NurseID INT REFERENCES Nurse(NurseID)
);
```

```
-- Outpatient table
CREATE TABLE Outpatient (
    OutpatientID INT PRIMARY KEY,
    VisitDate TIMESTAMP,
    PatientID INT REFERENCES Patient(PatientID),
```

```
    DoctorID INT REFERENCES Doctor(DoctorID),
    ReceptionistID INT REFERENCES Receptionist(ReceptionistID)
);
```

```
-- Appointment table
CREATE TABLE Appointment (
    AppointmentID INT PRIMARY KEY,
    PatientID INT REFERENCES Patient(PatientID),
    DoctorID INT REFERENCES Doctor(DoctorID),
    ReceptionistID INT REFERENCES Receptionist(ReceptionistID),
    AppointmentDate TIMESTAMP,
    CreatedTime TIMESTAMP
);
```

```
-- LabReport table
CREATE TABLE LabReport (
    ReportID INT PRIMARY KEY,
    ReportDate DATE,
    Details TEXT,
    PatientID INT REFERENCES Patient(PatientID),
    DoctorID INT REFERENCES Doctor(DoctorID)
);
```

```
-- Bill table
CREATE TABLE Bill (
    BillID INT PRIMARY KEY,
    Amount DECIMAL(10, 2),
    Date TIMESTAMP,
    ReceptionistID INT REFERENCES Receptionist(ReceptionistID),
    InpatientID INT REFERENCES Inpatient(InpatientID),
    OutpatientID INT REFERENCES Outpatient(OutpatientID)
);
```

5. Insert Scripts:

```
INSERT INTO Patient (PatientID, EName, LName, Age, Gender, Address, Phone, Disease)
VALUES
(1, 'Ramesh', 'Kumar', 42, 'Male', '123, Gandhi Nagar, New Delhi, India', '+91 98765
43210', 'Hypertension'),
(2, 'Priya', 'Sharma', 35, 'Female', '456, Kaveri Street, Bangalore, India', '+91 98765
43211', 'Diabetes'),
(3, 'Amit', 'Patel', 50, 'Male', '789, Shivaji Marg, Mumbai, India', '+91 98765 43212',
'Arthritis');
```

```
INSERT INTO Receptionist (ReceptionistID, Name, Contact, Gender) VALUES
(1, 'Sunita Devi', '+91 98765 43213', 'Female'),
(2, 'Rajesh Singh', '+91 98765 43214', 'Male'),
```

(3, 'Anjali Gupta', '+91 98765 43215', 'Female');

INSERT INTO Doctor (DoctorID, Name, Specialization, Contact, EmploymentType) VALUES
(1, 'Dr. Gupta', 'Cardiology', '+91 98765 43216', 'Permanent'),
(2, 'Dr. Reddy', 'Endocrinology', '+91 98765 43217', 'Visiting'),
(3, 'Dr. Shah', 'Rheumatology', '+91 98765 43218', 'Training');

INSERT INTO Room (RoomID, RoomType, Availability) VALUES
(1, 'Single', 'Available'),
(2, 'Double', 'Occupied'),
(3, 'Suite', 'Available');

INSERT INTO Nurse (NurseID, Name, Contact, Gender, RoomID) VALUES
(1, 'Pooja Sharma', '+91 98765 43219', 'Female', 2),
(2, 'Suresh Menon', '+91 98765 43220', 'Male', 3),
(3, 'Lata Desai', '+91 98765 43221', 'Female', 1);

INSERT INTO Inpatient (InpatientID, AdmissionDate, DischargeDate, RoomID, PatientID, DoctorID, NurseID) VALUES
(1, '2024-04-10 08:00:00', '2024-04-15 10:00:00', 1, 1, 1, 1),
(2, '2024-04-11 09:00:00', '2024-04-13 12:00:00', 2, 2, 2, 2),
(3, '2024-04-12 10:00:00', '2024-04-14 11:00:00', 3, 3, 3, 3);

INSERT INTO Outpatient (OutpatientID, VisitDate, PatientID, DoctorID, ReceptionistID) VALUES
(1, '2024-04-10 10:00:00', 1, 1, 1),
(2, '2024-04-11 11:00:00', 2, 2, 2),
(3, '2024-04-12 12:00:00', 3, 3, 3);

INSERT INTO Appointment (AppointmentID, PatientID, DoctorID, ReceptionistID, AppointmentDate, CreatedTime) VALUES
(1, 1, 1, 1, '2024-04-10 10:00:00', '2024-04-07 09:30:00'),
(2, 2, 2, 2, '2024-04-11 14:30:00', '2024-04-07 10:45:00'),
(3, 3, 3, 3, '2024-04-12 11:00:00', '2024-04-07 11:20:00');

INSERT INTO LabReport (ReportID, ReportDate, Details, PatientID, DoctorID) VALUES
(1, '2024-04-10', 'Blood test results normal.', 1, 1),
(2, '2024-04-11', 'Elevated blood sugar levels.', 2, 2),
(3, '2024-04-12', 'Inflammation markers elevated.', 3, 3);

INSERT INTO Bill (BillID, Amount, Date, ReceptionistID, InpatientID, OutpatientID) VALUES
(1, 15000.00, '2024-04-15 14:00:00', 1, 1, NULL),
(2, 10000.00, '2024-04-13 12:00:00', 2, NULL, 2),
(3, 20000.00, '2024-04-14 11:00:00', 3, 3, NULL);

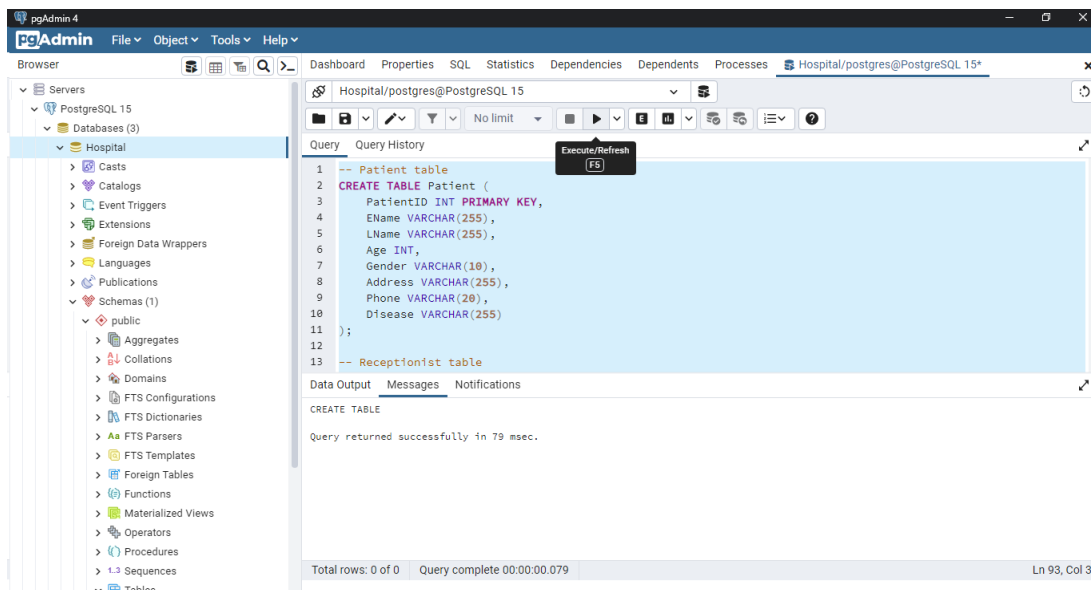**
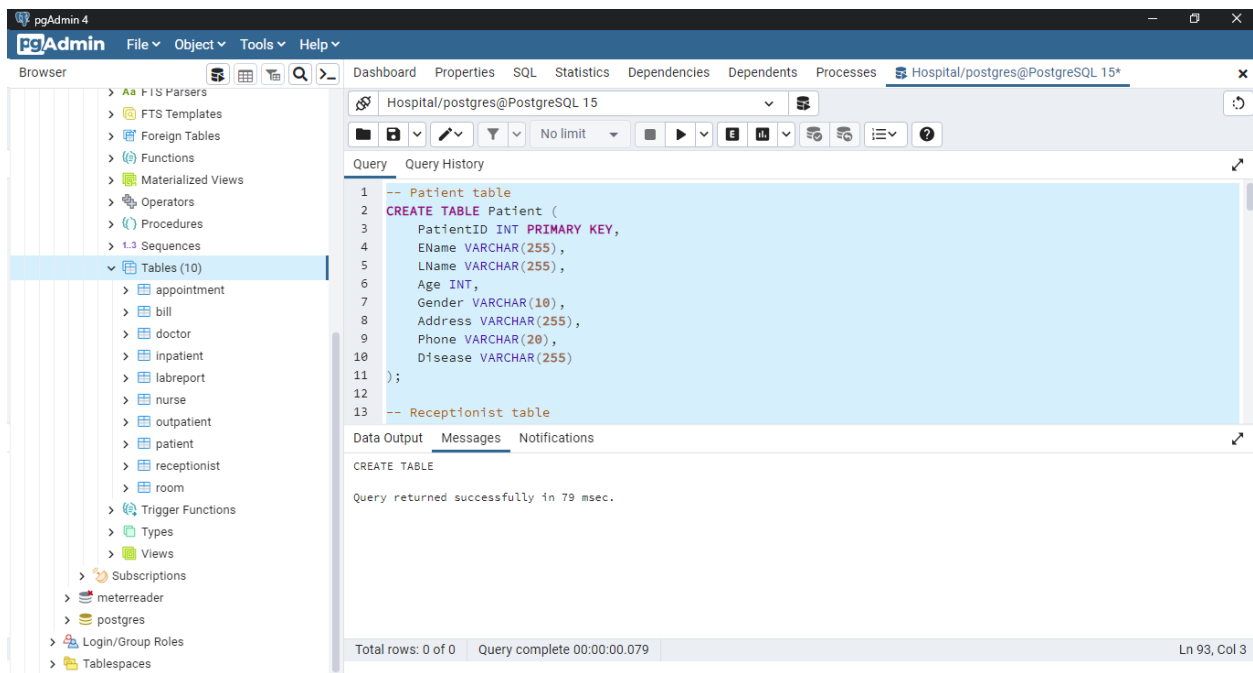
6. Screenshots:

1. Create Database
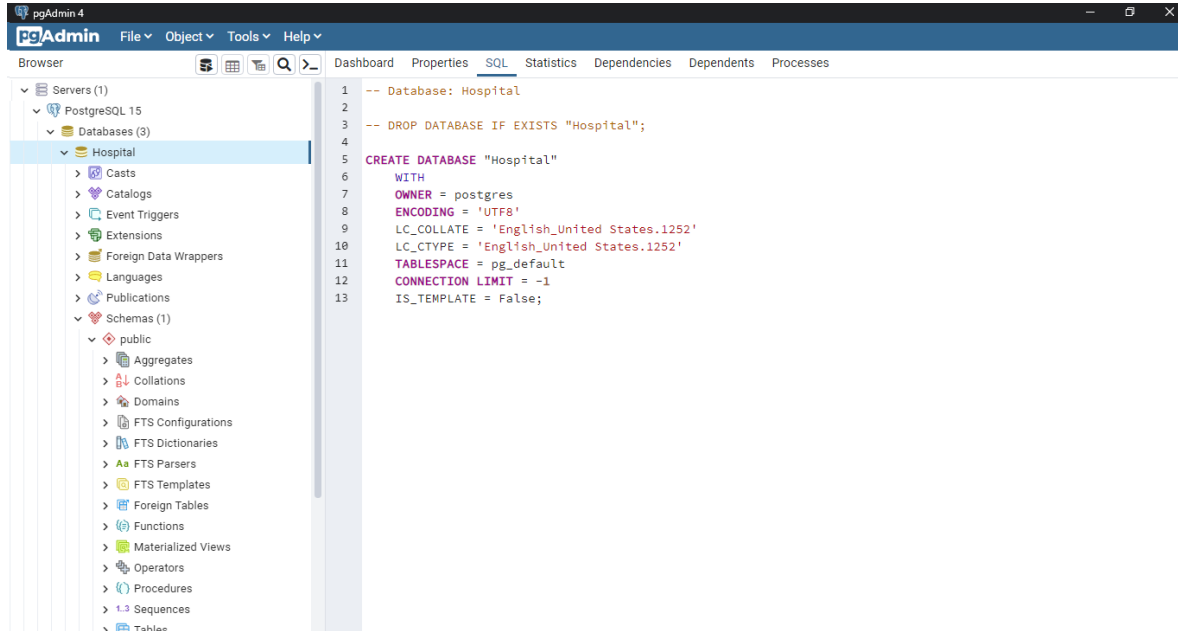
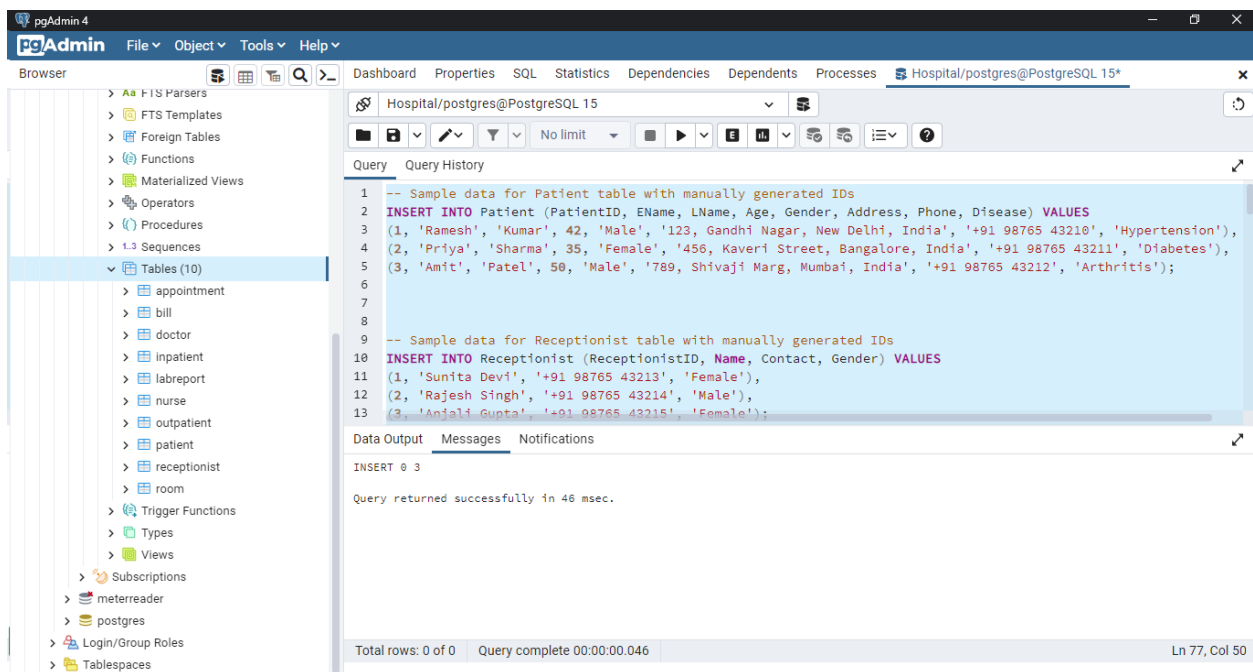## 2. Table Created

3. Tables shown in left pane

4. Insert Scripts executed

5. Select Scripts for the above created table.

```
select * from appointment;
select * from bill;
```

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```
select * from doctor;
select * from inpatient;
select * from labreport;
select * from nurse;
select * from outpatient;
select * from patient;
select * from receptionist;
select * from room;
```

6. Select Query Results

Query   Query History

```
1    select * from appointment;
```

Data Output   Messages   Notifications

	appointmentid [PK] integer	patientid integer	doctorid integer	receptionistid integer	appointmentdate timestamp without time zone	createdtime timestamp without time zone
1	1	1	1	1	2024-04-10 10:00:00	2024-04-07 09:30:00
2	2	2	2	2	2024-04-11 14:30:00	2024-04-07 10:45:00
3	3	3	3	3	2024-04-12 11:00:00	2024-04-07 11:20:00

No limit

Query   Query History

```
1    select * from bill;
```

Data Output   Messages   Notifications

	billid [PK] integer	amount numeric (10,2)	date timestamp without time zone	receptionistid integer	inpatientid integer	outpatientid integer
1	1	15000.00	2024-04-15 14:00:00	1	1	[null]
2	2	10000.00	2024-04-13 12:00:00	2	[null]	2
3	3	20000.00	2024-04-14 11:00:00	3	3	[null]

Query   Query History

```
1    select * from doctor;
```

Data Output   Messages   Notifications

	doctorid [PK] integer	name character varying (255)	specialization character varying (255)	contact character varying (20)	employmenttype character varying (20)
1	1	Dr. Gupta	Cardiology	+91 98765 43216	Permanent
2	2	Dr. Reddy	Endocrinology	+91 98765 43217	Visiting
3	3	Dr. Shah	Rheumatology	+91 98765 43218	Training

Query   Query History

```
1    select * from inpatient;
```

Data Output   Messages   Notifications

	inpatientid [PK] integer	admissiondate timestamp without time zone	dischargedate timestamp without time zone	roomid integer	patientid integer	doctorid integer	nurseid integer
1	1	2024-04-10 08:00:00	2024-04-15 10:00:00	1	1	1	1
2	2	2024-04-11 09:00:00	2024-04-13 12:00:00	2	2	2	2
3	3	2024-04-12 10:00:00	2024-04-14 11:00:00	3	3	3	3

Query   Query History

```
1    select * from labreport;
```

Data Output   Messages   Notifications

	reportid [PK] integer	reportdate date	details text	patientid integer	doctorid integer
1	1	2024-04-10	Blood test results normal.	1	1
2	2	2024-04-11	Elevated blood sugar levels.	2	2
3	3	2024-04-12	Inflammation markers elevated.	3	3

```
1   select * from nurse;
```

Data Output   Messages   Notifications

	nurseid [PK] integer	name character varying (255)	contact character varying (20)	gender character varying (10)	roomid integer
1	1	Pooja Sharma	+91 98765 43219	Female	2
2	2	Suresh Menon	+91 98765 43220	Male	3
3	3	Lata Desai	+91 98765 43221	Female	1

Query   Query History

```
1   select * from outpatient;
```

Data Output   Messages   Notifications

	outpatientid [PK] integer	visitdate timestamp without time zone	patientid integer	doctorid integer	receptionistid integer
1	1	2024-04-10 10:00:00	1	1	1
2	2	2024-04-11 11:00:00	2	2	2
3	3	2024-04-12 12:00:00	3	3	3

Query   Query History

```
1  select * from patient;
```

Data Output   Messages   Notifications

	patientid [PK] integer	ename character varying (255)	lname character varying (255)	age integer	gender character varying (10)	address character varying (255)	phone character varying (20)	disease character varying (255)
1	1	Ramesh	Kumar	42	Male	123, Gandhi Nagar, New Delhi, In...	+91 98765 43210	Hypertension
2	2	Priya	Sharma	35	Female	456, Kaveri Street, Bangalore, India	+91 98765 43211	Diabetes
3	3	Amit	Patel	50	Male	789, Shivaji Marg, Mumbai, India	+91 98765 43212	Arthritis

Query   Query History

```
1  select * from receptionist;
```

Data Output   Messages   Notifications

	receptionistid [PK] integer	name character varying (255)	contact character varying (20)	gender character varying (10)
1	1	Sunita Devi	+91 98765 43213	Female
2	2	Rajesh Singh	+91 98765 43214	Male
3	3	Anjali Gupta	+91 98765 43215	Female

Query   Query History

```
1  select * from room;
```

Data Output   Messages   Notifications

	roomid [PK] integer	roomtype character varying (255)	availability character varying (20)
1	1	Single	Available
2	2	Double	Occupied
3	3	Suite	Available

7. Useful Join Details

1. Joining Patient with Inpatient to get patient details

```
SELECT Patient.*, Inpatient.*
FROM Patient
INNER JOIN Inpatient ON Patient.PatientID = Inpatient.PatientID;
```

2. Joining Outpatient with Doctor to get outpatient details

```
SELECT Outpatient.*, Doctor.*
```

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```
FROM Outpatient INNER JOIN Doctor ON Outpatient.DoctorID = Doctor.DoctorID;
```

3. *Appointment with Patient, Doctor, and Receptionist to get appointment*

```
SELECT Appointment.*, Patient.*, Doctor.*, Receptionist.*
FROM Appointment
INNER JOIN Patient ON Appointment.PatientID = Patient.PatientID
INNER JOIN Doctor ON Appointment.DoctorID = Doctor.DoctorID
INNER JOIN Receptionist ON Appointment.ReceptionistID =
Receptionist.ReceptionistID;
```

4. *Joining LabReport with Patient and Doctor to get lab report details*

```
SELECT LabReport.*, Patient.*, Doctor.*
FROM LabReport
INNER JOIN Patient ON LabReport.PatientID = Patient.PatientID
INNER JOIN Doctor ON LabReport.DoctorID = Doctor.DoctorID;
```

5. *Joining Bill with Inpatient, Outpatient, and Receptionist to get bill details*

```
SELECT Bill.*, Inpatient.*, Outpatient.*, Receptionist.*
FROM Bill
LEFT JOIN Inpatient ON Bill.InpatientID = Inpatient.InpatientID
LEFT JOIN Outpatient ON Bill.OutpatientID = Outpatient.OutpatientID
LEFT JOIN Receptionist ON Bill.ReceptionistID = Receptionist.ReceptionistID;
```

By Baskar Natarajan