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56614

BS – DS 4-1

Cockroach DB Manual

Hospital

Database

Step 1 :

Creating and using database

```
root@localhost:26257/defaultdb> CREATE DATABASE HospitalDB;
CREATE DATABASE

Time: 14ms total (execution 12ms / network 2ms)

root@localhost:26257/defaultdb> USE HospitalDB;
SET

Time: 6ms total (execution 4ms / network 2ms)
```

Step 2 :

Creating a tables

Part 1:

```
root@localhost:26257/hospital_db> create table departments (
    ->     department_id int primary key,
    ->     name varchar(100),
    ->     floor int
    -> );
CREATE TABLE

Time: 8ms total (execution 6ms / network 3ms)

root@localhost:26257/hospital_db> create table doctors (
    ->     doctor_id int primary key,
    ->     name varchar(100),
    ->     specialty varchar(100),
    ->     department_id int references departments(department_id)
    -> );
CREATE TABLE

Time: 83ms total (execution 82ms / network 2ms)

root@localhost:26257/hospital_db> create table patients (
    ->     patient_id int primary key,
    ->     name varchar(100),
    ->     gender varchar(10),
    ->     dob date,
    ->     contact varchar(15)
    -> );
CREATE TABLE

Time: 6ms total (execution 5ms / network 1ms)
```

Part 2:

```
root@localhost:26257/hospital_db> create table appointments (
->     appointment_id int primary key,
->     doctor_id int references doctors(doctor_id),
->     patient_id int references patients(patient_id),
->     appointment_date date,
->     diagnosis varchar(200)
-> );

CREATE TABLE

Time: 83ms total (execution 82ms / network 1ms)

root@localhost:26257/hospital_db> create table treatments (
->     treatment_id int primary key,
->     appointment_id int references appointments(appointment_id),
->     treatment_details varchar(200),
->     medication varchar(100),
->     cost int
-> );

CREATE TABLE

Time: 78ms total (execution 77ms / network 1ms)
```

Step 3:

Inserting values in the tables

Part 1:

```
root@localhost:26257/hospital_db> insert into appointments (appointment_id, doctor_id, patient_id, appointment_date, diagnosis)
-> values
-> (1, 1, 1, '2023-01-01', 'hypertension'),
-> (2, 2, 2, '2023-01-02', 'migraine'),
-> (3, 3, 3, '2023-01-03', 'fracture'),
-> (4, 4, 4, '2023-01-04', 'flu'),
-> (5, 5, 5, '2023-01-05', 'lung scan'),
-> (6, 6, 6, '2023-01-06', 'breast cancer'),
-> (7, 7, 7, '2023-01-07', 'eczema'),
-> (8, 8, 8, '2023-01-08', 'accident injuries'),
-> (9, 9, 9, '2023-01-09', 'kidney stone'),
-> (10, 10, 10, '2023-01-10', 'pregnancy checkup');

INSERT 0 10

Time: 6ms total (execution 6ms / network 0ms)

root@localhost:26257/hospital_db> insert into treatments (treatment_id, appointment_id, treatment_details, medication, cost)
-> values
-> (1, 1, 'bp monitoring & diet plan', 'amlodipine', 500),
-> (2, 2, 'head scan and rest', 'ibuprofen', 600),
-> (3, 3, 'cast & physiotherapy', 'painkillers', 1000),
-> (4, 4, 'flu medication & hydration', 'paracetamol', 300),
-> (5, 5, 'x-ray and CT scan', 'none', 1200),
-> (6, 6, 'chemotherapy session', 'paclitaxel', 5000),
-> (7, 7, 'skin ointment prescribed', 'hydrocortisone', 400),
-> (8, 8, 'wound dressing and injection', 'ceftriaxone', 900),
-> (9, 9, 'ultrasound & pain relief', 'diclofenac', 750),
-> (10, 10, 'ultrasound, vitamins', 'folic acid', 350);

INSERT 0 10

Time: 6ms total (execution 6ms / network 6ms)
```

Part 2:

```
root@localhost:26257/hospital_db> insert into departments (department_id, name, floor) values
-> (1, 'cardiology', 2),
-> (2, 'neurology', 3),
-> (3, 'orthopedics', 1),
-> (4, 'pediatrics', 4),
-> (5, 'radiology', 2),
-> (6, 'oncology', 3),
-> (7, 'dermatology', 1),
-> (8, 'emergency', 0),
-> (9, 'urology', 2),
-> (10, 'gynecology', 4);

INSERT 0 10
Time: 3ms total (execution 3ms / network 1ms)

root@localhost:26257/hospital_db> insert into doctors (doctor_id, name, specialty, department_id) values
-> (1, 'dr. ahmed khan', 'cardiologist', 1),
-> (2, 'dr. sana malik', 'neurologist', 2),
-> (3, 'dr. imran ali', 'orthopedic surgeon', 3),
-> (4, 'dr. sara javed', 'pediatrician', 4),
-> (5, 'dr. omar farooq', 'radiologist', 5),
-> (6, 'dr. nadia qureshi', 'oncologist', 6),
-> (7, 'dr. faisal ahmad', 'dermatologist', 7),
-> (8, 'dr. hira saeed', 'emergency physician', 8),
-> (9, 'dr. hamid zafar', 'urologist', 9),
-> (10, 'dr. ayesha tariq', 'gynecologist', 10);

INSERT 0 10
Time: 9ms total (execution 8ms / network 1ms)

root@localhost:26257/hospital_db> insert into patients (patient_id, name, gender, dob, contact) values
-> (1, 'ali raza', 'male', '1990-01-15', '03001234567'),
-> (2, 'fatima ali', 'female', '1985-06-23', '03111234567'),
-> (3, 'muhammad usman', 'male', '1978-11-30', '03221234567'),
-> (4, 'ayesha khan', 'female', '1995-04-10', '03331234567'),
-> (5, 'hassan mehmoood', 'male', '2000-08-25', '03441234567'),
-> (6, 'zainab akhtar', 'female', '1992-12-17', '03551234567'),
-> (7, 'kashif iqbal', 'male', '1980-03-05', '03661234567'),
-> (8, 'amna riaz', 'female', '1989-09-19', '03771234567'),
-> (9, 'salman yousaf', 'male', '1998-07-22', '03881234567'),
-> (10, 'mehwish butt', 'female', '1993-10-01', '03991234567');

INSERT 0 10
Time: 7ms total (execution 7ms / network 0ms)
```

Step 4:

Applying DML queries .

Part 1:

```
root@localhost:26257/hospital_db> select
->     t.treatment_id,
->     p.name as patient_name,
->     t.treatment_details,
->     t.cost
-> from
->     treatments t
-> join appointments a on t.appointment_id = a.appointment_id
-> join patients p on a.patient_id = p.patient_id
-> where t.cost > 1000;
->
 treatment_id | patient_name | treatment_details | cost
-----+-----+-----+-----
          5 | hassan mehmoood | x-ray and CT scan | 1200
          6 | zainab akhtar | chemotherapy session | 5000
(2 rows)

Time: 3ms total (execution 3ms / network 1ms)
```

Part 2:

```
root@localhost:26257/hospital_db> select
      ->     p.name as patient_name,
      ->     d.name as doctor_name,
      ->     a.diagnosis,
      ->     a.appointment_date
      -> from
      ->     appointments a
      -> join patients p on a.patient_id = p.patient_id
      -> join doctors d on a.doctor_id = d.doctor_id;
      ->
```

| patient_name | doctor_name | diagnosis | appointment_date |
|-----------------|-------------------|-------------------|------------------|
| ali raza | dr. ahmed khan | hypertension | 2023-01-01 |
| fatima ali | dr. sana malik | migraine | 2023-01-02 |
| muhammad usman | dr. imran ali | fracture | 2023-01-03 |
| ayesha khan | dr. sara javed | flu | 2023-01-04 |
| hassan mehmoood | dr. omar farooq | lung scan | 2023-01-05 |
| zainab akhtar | dr. nadia qureshi | breast cancer | 2023-01-06 |
| kashif iqbal | dr. faisal ahmad | eczema | 2023-01-07 |
| amna riaz | dr. hira saeed | accident injuries | 2023-01-08 |
| salman yousaf | dr. hamid zafar | kidney stone | 2023-01-09 |
| mehwish butt | dr. ayesha tariq | pregnancy checkup | 2023-01-10 |

(10 rows)

Time: 4ms total (execution 3ms / network 1ms)

Part 3:

```
root@localhost:26257/hospital_db> update patients
      -> set contact = '03007654321'
      -> where name = 'ali raza';
      ->
```

UPDATE 1

Time: 8ms total (execution 7ms / network 1ms)

Part 4:

```
root@localhost:26257/hospital_db> update doctors
      -> set specialty = 'cardiothoracic surgeon'
      -> where name = 'dr. ahmed khan';
      ->
```

UPDATE 1

Time: 5ms total (execution 5ms / network 5ms)

```

root@localhost:26257/hospital_db> delete from treatments
                                -> where cost < 400;
                                ->

DELETE 2

Time: 2ms total (execution 2ms / network 0ms)

```

Part 6:

```

root@localhost:26257/hospital_db> delete from patients
                                -> where patient_id not in (select patient_id from appointments);
                                ->

DELETE 0

Time: 2ms total (execution 2ms / network 0ms)

```

ER – Diagram:

