

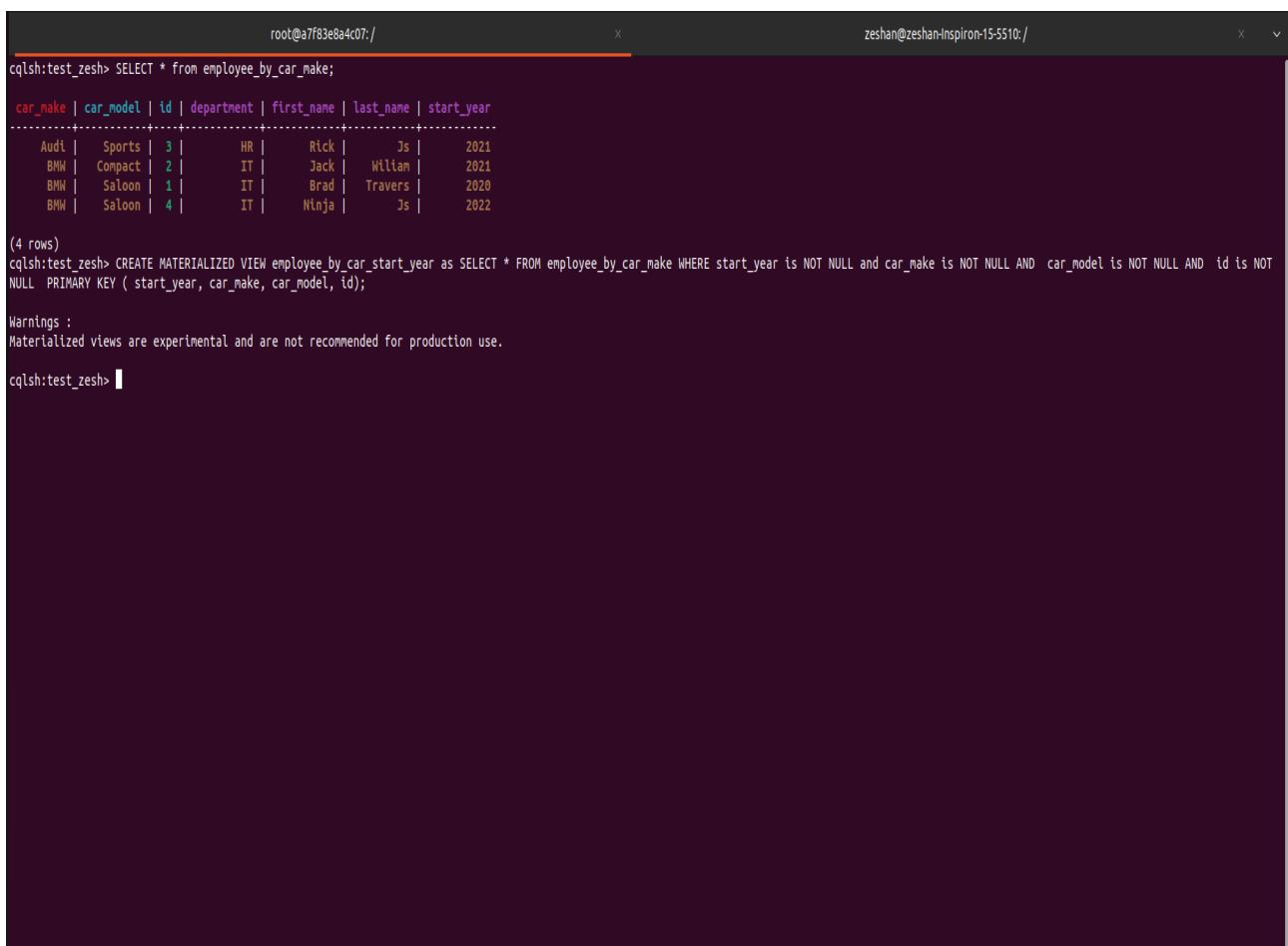
Materialized Views:

- Materialized views in Cassandra are precomputed views of your data that help improve read performance.
- They allow you to store data in a different structure than the original table, tailored for specific query patterns.
- Materialized views enable you to optimize queries without complex application-level denormalization.
- The data between base table and it's views remain synced automatically, so you just need to focus on base table only.

Pre Step Creating View/s:

- First of all make sure either this flag is true for **materialized_views_enabled: false** inside your cassandra.yaml file.

Creating a Materialized View:



```
root@a7f83e8a4c07:/ x zeshan@zeshan-Inspiron-15-5510:/ x v
cqlsh:test_zesh> SELECT * from employee_by_car_make;

car_make | car_model | id | department | first_name | last_name | start_year
-----|-----|-----|-----|-----|-----|-----
Audi | Sports | 3 | HR | Rick | Js | 2021
BMW | Compact | 2 | IT | Jack | Willan | 2021
BMW | Saloon | 1 | IT | Brad | Travers | 2020
BMW | Saloon | 4 | IT | Ninja | Js | 2022

(4 rows)
cqlsh:test_zesh> CREATE MATERIALIZED VIEW employee_by_car_start_year as SELECT * FROM employee_by_car_make WHERE start_year is NOT NULL and car_make is NOT NULL AND car_model is NOT NULL AND id is NOT NULL PRIMARY KEY ( start_year, car_make, car_model, id);

Warnings :
Materialized views are experimental and are not recommended for production use.

cqlsh:test_zesh> |
```

```
CREATE MATERIALIZED VIEW monkeySpecies_by_population AS
  SELECT * FROM monkeySpecies
  WHERE population IS NOT NULL AND species IS NOT NULL
  PRIMARY KEY (population, species)
  WITH comment='Allow query by population instead of species';
```

Limitations:

- It must contain all the primary key columns of the base table.
- It can only contain a single column that is not a primary key column in the base table.
- It is when you are creating primary key for your view it should include one non primary key column from base table along with all other defined primary keys.

```
CREATE TABLE t (
  k int,
  c1 int,
  c2 int,
  v1 int,
  v2 int,
  PRIMARY KEY (k, c1, c2)
);
```

CQL

then the following view definitions are allowed:

```
CREATE MATERIALIZED VIEW mv1 AS
  SELECT * FROM t
  WHERE k IS NOT NULL AND c1 IS NOT NULL AND c2 IS NOT NULL
  PRIMARY KEY (c1, k, c2);

CREATE MATERIALIZED VIEW mv1 AS
  SELECT * FROM t
  WHERE k IS NOT NULL AND c1 IS NOT NULL AND c2 IS NOT NULL
  PRIMARY KEY (v1, k, c1, c2);
```

but the following ones are **not** allowed:

```
// Error: cannot include both v1 and v2 in the primary key as both are not in the base table primary key

CREATE MATERIALIZED VIEW mv1 AS
  SELECT * FROM t
  WHERE k IS NOT NULL AND c1 IS NOT NULL AND c2 IS NOT NULL AND v1 IS NOT NULL
  PRIMARY KEY (v1, v2, k, c1, c2);
```

Asdasd

Resources:

<https://cassandra.apache.org/doc/latest/cassandra/cql/mvs.html#mv-primary-key>