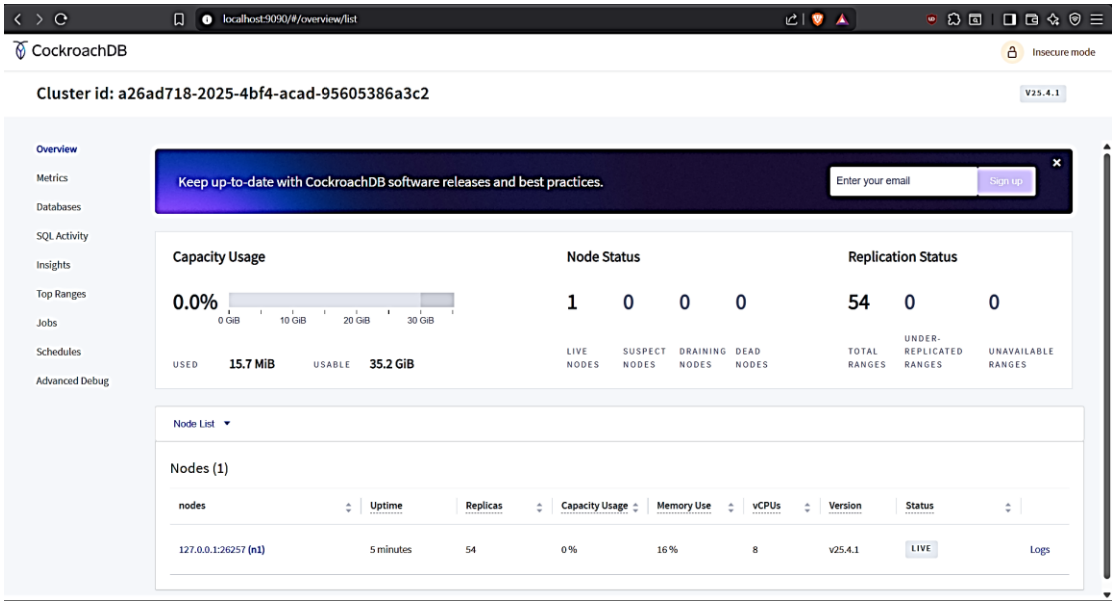
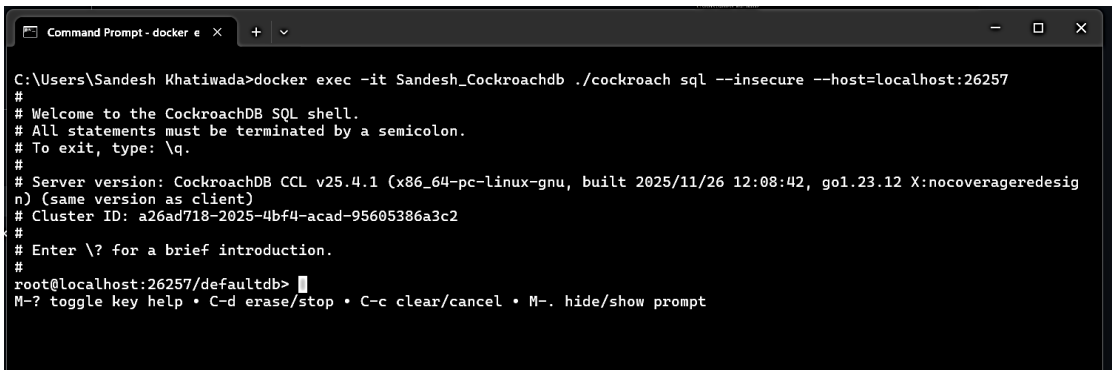
```
C:\Users\Sandesh Khatiwada>docker run -d --name Sandesh_Cockroachdb -p 26257:26257 -p 9090:8080
 -v "D:\Github\Advanced-Database:/cockroach/cockroach-data" cockroachdb/cockroach:latest start-
single-node --insecure
2b3e282aa3bf90148a26a34afa0f42e0c0d751a419b8d9159968342c0a3c7b09

C:\Users\Sandesh Khatiwada>
```

Localhost:9090



SQL Shell:



Create a database:

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

Time: 62ms total (execution 61ms / network 1ms)

root@localhost:26257/defaultdb>
M-? toggle key help • C-d erase/stop • C-c clear/cancel • C-r search hist • M-. hide/show prompt
```

Use oic :

```
root@localhost:26257/defaultdb> USE oic;
SET

Time: 20ms total (execution 19ms / network 0ms)

root@localhost:26257/oic>
M-? toggle key help • C-d erase/stop • C-c clear/cancel • C-r search hist • M-. hide/show prompt
```

Table creation:

```
root@localhost:26257/oic> CREATE TABLE oic.students (id INT PRIMARY KEY, marks DECIMAL);
CREATE TABLE

Time: 41ms total (execution 30ms / network 10ms)

root@localhost:26257/oic>
M-? toggle key help • C-d erase/stop • C-c clear/cancel • C-r search hist • M-. hide/show prompt
```

View table:

```
root@localhost:26257/oic> CREATE TABLE oic.students (id INT PRIMARY KEY, marks DECIMAL);
CREATE TABLE

Time: 41ms total (execution 30ms / network 10ms)

root@localhost:26257/oic> SHOW TABLES;
  schema_name | table_name | type  | owner | estimated_row_count | locality
--------------+------------+-------+-------+---------------------+-----------
  public      | students   | table | root  |                   0 | NULL
(1 row)

Time: 61ms total (execution 60ms / network 1ms)

root@localhost:26257/oic>
M-? toggle key help • C-d erase/stop • C-c clear/cancel • C-r search hist • M-. hide/show prompt
```

Insert and view database:

```
root@localhost:26257/oic> INSERT INTO oic. students VALUES (1, 55.45);
INSERT 0 1

Time: 16ms total (execution 15ms / network 0ms)

root@localhost:26257/oic> SELECT * FROM oic.students;
  id | marks
-----+--------
   1 | 55.45
(1 row)

Time: 3ms total (execution 2ms / network 1ms)

root@localhost:26257/oic>
M-? toggle key help • C-d erase/stop • C-c clear/cancel • C-r search hist • M-. hide/show prompt
```

PART 2: Scale to 3-Node Cluster

Exit SQL shell

Type: \q

```
root@localhost:26257/oic> \q

C:\Users\Sandesh Khatiwada>
```

Stop single node container:

```
Command Prompt

C:\Users\Sandesh Khatiwada>docker stop Sandesh_Cockroachdb
Sandesh_Cockroachdb

C:\Users\Sandesh Khatiwada>
```

Remove single-node container:

docker rm Sandesh_Cockroachdb

```
C:\Users\Sandesh Khatiwada>docker rm Sandesh_Cockroachdb
Sandesh_Cockroachdb

C:\Users\Sandesh Khatiwada>
```

Create docker network for 3-node cluster:

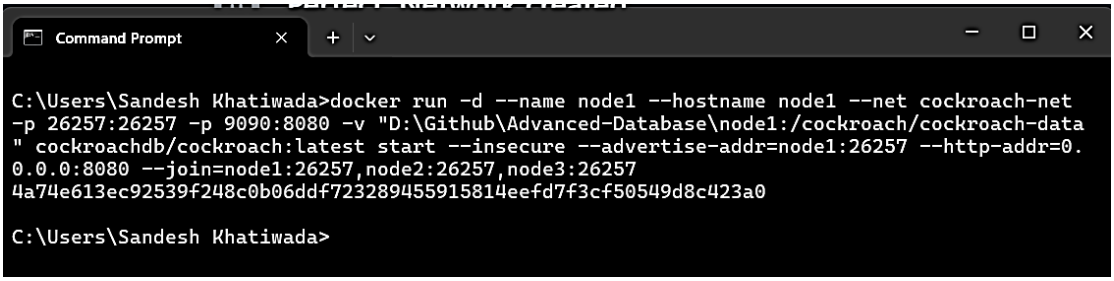
docker network create cockroach-net

```
Command Prompt

C:\Users\Sandesh Khatiwada>docker network create cockroach-net
53eb4b11a601362d7420111092a127072da97b9b0aab8c611f00151f5182e1b3

C:\Users\Sandesh Khatiwada>
```

Start node1:

docker run -d --name node1 --hostname node1 --net cockroach-net -p 26257:26257 -p 9090:8080 -v "D:\Github\Advanced-Database\node1:/cockroach/cockroach-data"

cockroachdb/cockroach:latest start --insecure --advertise-addr=node1:26257 --http-addr=0.0.0.0:8080 --join=node1:26257,node2:26257,node3:26257

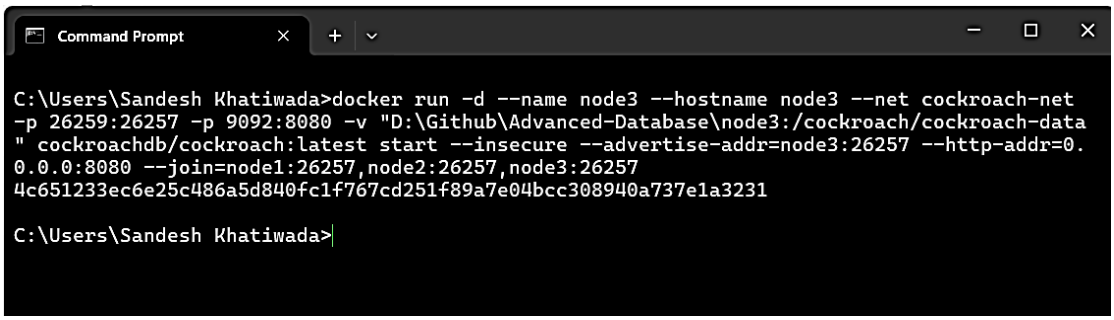


Start node 2:

docker run -d --name node2 --hostname node2 --net cockroach-net -p 26258:26257 -p 9091:8080 -v "D:\Github\Advanced-Database\node2:/cockroach/cockroach-data" cockroachdb/cockroach:latest start --insecure --advertise-addr=node2:26257 --http-addr=0.0.0.0:8080 --join=node1:26257,node2:26257,node3:26257

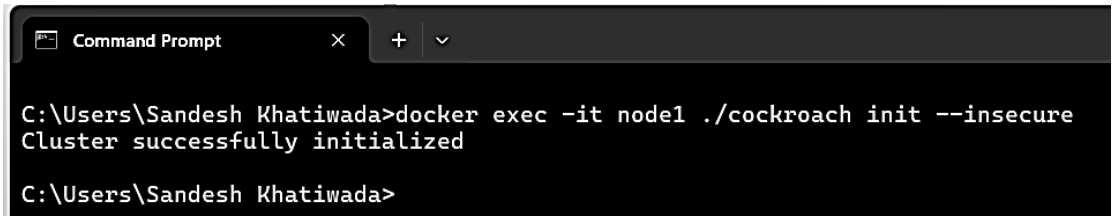
Start node3:

docker run -d --name node3 --hostname node3 --net cockroach-net -p 26259:26257 -p 9092:8080 -v "D:\Github\Advanced-Database\node3:/cockroach/cockroach-data" cockroachdb/cockroach:latest start --insecure --advertise-addr=node3:26257 --http-addr=0.0.0.0:8080 --join=node1:26257,node2:26257,node3:26257

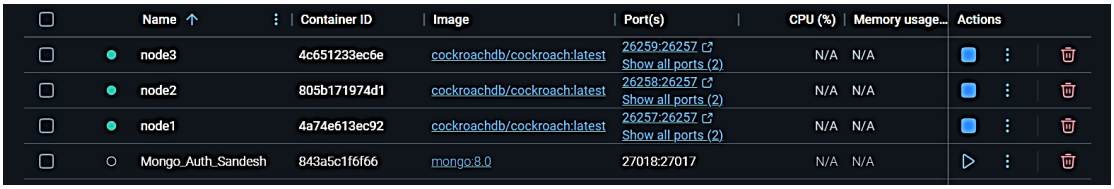


Initialize the server:

docker exec -it node1 ./cockroach init –insecure

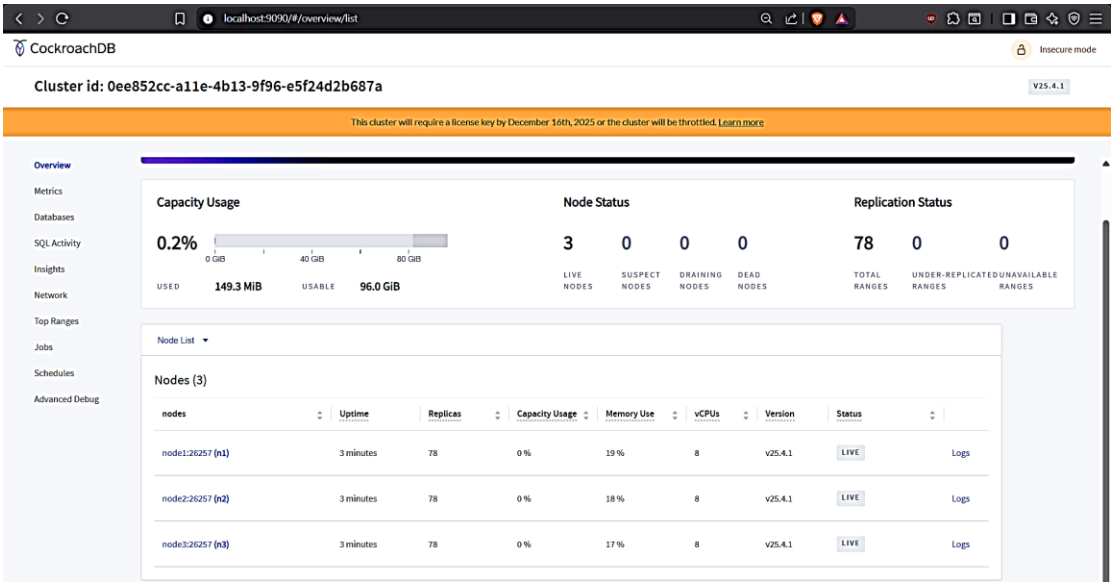


Checking if cluster is working:

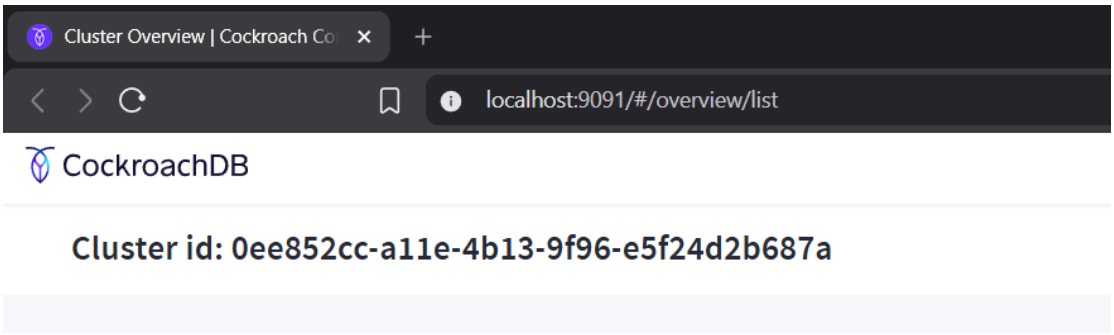


To confirm all 3 nodes are up and have same cluster:

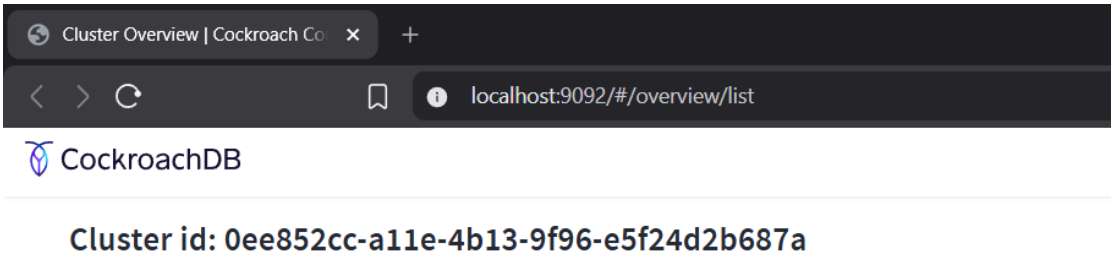
Node 1:



Node 2:


Cluster Overview | Cockroach Co
localhost:9091/#/overview/list
CockroachDB
Cluster id: 0ee852cc-a11e-4b13-9f96-e5f24d2b687a

Node 3:


Cluster Overview | Cockroach Co
localhost:9092/#/overview/list
CockroachDB
Cluster id: 0ee852cc-a11e-4b13-9f96-e5f24d2b687a