# Cassandra Keyspace Operations



Estimated time needed: **15** minutes

## Objectives

After completing this lab you will be able to:

- Create, update and remove a keyspace in Cassandra
- Identify the keyspace for the current session with the USE command
- Describe a keyspace by listing all the tables in it

# About This SN Labs Cloud IDE

This Skills Network Labs Cloud IDE provides a hands-on environment for course and project related labs. It utilizes Theia, an open-source IDE (Integrated Development Environment) platform, that can be run on desktop or on the cloud. To complete this lab, we will be using the Cloud IDE based on Theia and Cassandra running in a Docker container.

## Important Notice about this lab environment

Please be aware that sessions for this lab environment are not persisted. Every time you connect to this lab, a new environment is created for you. Any data you may have saved in the earlier session would get lost. Plan to complete these labs in a single session, to avoid losing your data.

# Exercise 1 - Getting the environment ready

1. Problem:

    *Start the cassandra server.*

▼ Click here for Hint

    Refer to the [Using the CQL Shell (cqlsh)](#) lab.

▼ Click here for Solution

Run the below command on the terminal.

1. 1

```
1. start_cassandra
```

Copied!

2. Problem:

    *Connect to the cassandra server.*

▼ Click here for Hint

Refer to the [Using the CQL Shell (cqlsh)](#) lab.

▼ Click here for Solution

Use the below command with the user name and password generated on your terminal window, when you started the cassandra server using start_cassandra command.

```
1. 1

1. cqlsh --username cassandra --password MTg3MzMtcnNhbm5h
```

Copied!

# Exercise 2 - Create a keyspace

The below command creates a keyspace called **training**, using SimpleStrategy and a replication_factor of 3.

SimpleStrategy is used when all the nodes in your cassandra cluster exist in a single data center.

On cqlsh run the below command.

```
1. 1
2. 2

1. CREATE KEYSPACE training
2. WITH replication = {'class':'SimpleStrategy', 'replication_factor' : 3};
```

Copied!

List all keyspaces.

```
1. 1

1. describe keyspaces
```

Copied!

# Exercise 3 - Describe a keyspace

In the previous exercise you have created a keyspace named **training**.
Let us print more details of it using the describe command.

Describe a keyspace.

```
1. 1

1. describe training
```

Copied!

# Exercise 4 - Alter a keyspace

In a previous exercise you created a keyspace named **training** using SimpleStrategy.
Let us change that to use NetworkTopologyStrategy.

NetworkTopologyStrategy is used when all the nodes in your cassandra cluster are spread across multiple data centers.

Alter a keyspace.

```
1. 1
2. 2

1. ALTER KEYSPACE training
2. WITH replication = {'class': 'NetworkTopologyStrategy'};
```

Copied!

Verify the changes using the describe command.

```
1. 1

1. describe training
```

Copied!

# Exercise 5 - Use a keyspace

To use a keyspace run the below command.

```
1. 1

1. use training;
```

Copied!

List all tables in this keyspace.

```
1. 1

1. describe tables
```

Copied!

You will get an empty list because we do not have any tables yet.

# Exercise 6 - Drop a keyspace

To drop a keyspace run the below command.

```
1. 1

1. drop keyspace training;
```

Copied!

Verify the changes using the describe command.

```
1. 1
2. 2

1. use system;
2. describe keyspaces
```

Copied!

# Practice exercises

1. Problem:

   *Create a keyspace named **sales** using SimpleStrategy and a replication factor of 1.*

▼ Click here for Hint

   use the 'create keyspace' command

▼ Click here for Solution
On the cqlsh run the below command.

```
1. 1
2. 2

1. CREATE KEYSPACE sales
2. WITH replication = {'class':'SimpleStrategy', 'replication_factor' : 1};
```

Copied!

2. Problem:

   *Change the replication factor to 3 for the **sales** keyspace.*

▼ Click here for Hint

   use the 'alter keyspace' command

▼ Click here for Solution

On the cqlsh run the below command.

```
1. 1
2. 2

1. ALTER KEYSPACE sales
2. WITH replication = {'class':'SimpleStrategy', 'replication_factor' : 3};
```

Copied!

3. Problem:

   *Drop the **sales** keyspace.*

▼ Click here for Hint

   use the 'drop keyspace' command

▼ Click here for Solution

On the cqlsh run the below command.

```
1. 1

1. drop keyspace sales;
```

Copied!

4. Problem:

   *Verify that the **sales** keyspace is dropped.*

▼ Click here for Hint

    use the describe command

▼ Click here for Solution

On the cqlsh run the below command.

```
1. 1
```

```
1. describe keyspaces
```

Copied!

    5. Problem:

      *Disconnect from the cassandra server.*

▼ Click here for Hint

    Refer to the [Using the CQL Shell (cqlsh)](#) lab.

▼ Click here for Solution

Run the below command on the terminal.

```
1. 1
```

```
1. exit
```

Copied!

# Authors

Ramesh Sannareddy

## Other Contributors

Rav Ahuja

# Change Log

| Date (YYYY-MM-DD) | Version | Changed By | Change Description |
| --- | --- | --- | --- |
| 2021-11-22 | 0.3 | Kathy An | Updated lab instructions |
| 2021-04-20 | 0.2 | Steve Ryan | Review pass |
| 2021-03-24 | 0.1 | Ramesh Sannareddy | Created initial version of the lab |