# Cassandra Table Operations

Estimated time needed: **10** minutes

## Objectives

After completing this lab you will be able to:

- Create a table in a keyspace by defining a column name and data type
- Extract the details of a table with the DESCRIBE command
- Alter a table by adding columns
- Drop a table by removing it from the keyspace

# 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
▼ 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
▾ 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
```

```
cqlsh --username cassandra --password MTg3MzMtcnNhbm5h
```

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3. Problem:

   *Create a keyspace named **training** using SimpleStrategy and replication factor of 3.*

▸ Click here for Hint
▾ Click here for Solution
On the cqlsh run the below command.

```
1
2
```

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

Copied!

# Exercise 2 - Create a table

The below command creates a table named **movies**, in the **training** keyspace.
The **movies** table has three columns:

- 'movie_id' is an integer and is the primary key.
- 'movie_name' is a text column.
- 'year_of_release' is an integer.

On the cassandra client run the below command.

```
1
2
3
4
5
6
```

```
use training;
CREATE TABLE movies(
movie_id int PRIMARY KEY,
movie_name text,
year_of_release int
);
```

Copied!

Verify that the table got created by listing all tables.

```
1
```

```
describe tables;
```

Copied!

# Exercise 3 - Describe a table

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

Describe the table.

```
1
```

```
describe movies
```

Copied!

# Exercise 4 - Alter a table

In a previous exercise you created a table named **movies**.
Let us modify it by adding a column named ‘genre’ which is of type ‘text’.

Alter the table.

```
1
2
```

```
ALTER TABLE movies
ADD genre text;
```

Copied!

Verify the changes using the below command

```
1
```

```
describe movies;
```

Copied!

# Exercise 5 - Drop a table

To drop the **movies** table run the below command.

```
1
```

```
drop table movies;
```

Copied!

Verify using the below command. You should get an error.

```
1
```

```
describe movies;
```

Copied!

# Practice exercises

1. Problem:

   *Create a table named **books** with 3 columns; 'book_id' which is the primary key and of integer type, 'author' which is of type text and 'title' which is of type text.*

▶ Click here for Hint
▼ Click here for Solution

On the cqlsh run the below command.

```
1
2
3
4
5
```

```
CREATE TABLE books (
book_id int PRIMARY KEY,
author text,
title text
);
```

Copied!

2. Problem:

   *Add a column 'date_of_publication' which is of date type.*

▶ Click here for Hint
▼ Click here for Solution

On the cqlsh run the below command.

```
1
2
```

```
ALTER TABLE books
add date_of_publication date;
```

Copied!

3. Problem:

*Add a 'column' price which is of type decimal.*

▸ Click here for Hint
▾ Click here for Solution

On the cqlsh run the below command.

```
1. 1
2. 2
```

```
1. ALTER TABLE books
2. add price decimal;
```

Copied!

4. Problem:

   *Drop the 'column' price from the **books** table.*

▸ Click here for Hint
▾ Click here for Solution

On the cqlsh run the below command.

```
1. 1
2. 2
```

```
1. ALTER TABLE books
2. drop price;
```

Copied!

5. Problem:

   *Drop the **books** table.*

▸ Click here for Hint
▾ Click here for Solution

On the cqlsh run the below command.

```
1. 1
```

```
1. DROP TABLE books;
```

Copied!

6. Problem:

   *Drop the **training** keyspace.*

▸ Click here for Hint
▾ Click here for Solution

On the cqlsh run the below command.

```
1. 1
```

```
1. drop keyspace training;
```

Copied!

7. Problem:

   *Disconnect from the cassandra server.*

▸ Click here for Hint
▾ Click here for Solution

Run the below command on the terminal.

```
1. 1
```

```
1. exit
```

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# Authors

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## 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 |