

## Import all Libraries

```
In [1]: 1 import os
        2 import csv
        3 import cassandra
        4 import logging as lg
        5 print(cassandra.__version__)
```

3.25.0

## Establish the Connection

```
In [2]: 1 from cassandra.cluster import Cluster
        2 from cassandra.auth import PlainTextAuthProvider
        3
        4 cloud_config= {
        5     'secure_connect_bundle': 'E:\secure-connect-amazon-employee-access.zip'
        6 }
        7 auth_provider = PlainTextAuthProvider('rINovXsuZJyDuFtjhmZoAgnk', 'iS-Zc8r+Fxr4ZaYDxEbD2R8h-Pb+jk-LZoIQajp5BXLqoZnuN
        8 cluster = Cluster(cloud=cloud_config, auth_provider=auth_provider)
        9 session = cluster.connect()
       10
       11 row = session.execute("select release_version from system.local").one()
       12 if row:
       13     print(row[0])
       14 else:
       15     print("An error occurred.")
```

4.0.0.6816

```
In [3]: 1 lg.basicConfig(filename = 'database.log', level = lg.INFO, format = '%(asctime)s%(levelname)s%(message)s')
2 console_log = lg.StreamHandler()
3 console_log.setLevel(lg.DEBUG)
4 format = lg.Formatter('%(asctime)s - %(message)s')
5 console_log.setFormatter(format)
6 lg.getLogger('').addHandler(console_log)
7 lg.info('Logging Started')
```

2022-06-20 09:23:31,928 - Logging Started



## Create Table for Train Dataset

```
In [4]: 1 try:
2     def create_table():
3         session.execute("DROP TABLE IF EXISTS amazon_employee.train;")
4         lg.info('Creating Table...\n')
5         query = """CREATE TABLE amazon_employee.train(s_no bigint, action bigint, resource bigint, mgr_id bigint,
6                 role_rollup_1 bigint, role_rollup_2 bigint, role_deptname bigint, role_title bigint,
7                 role_family_desc bigint, role_family bigint, role_code bigint, primary key(s_no));"""
8         session.execute(query)
9         lg.info('Table Created!')
10 except Exception as e:
11     lg.info(e)
12     print(str(e))
```

```
In [6]: 1 create_table()
```

2022-06-20 09:23:53,166 - Creating Table...

2022-06-20 09:23:57,353 - Table Created!

 **Dashboard** / amazon\_employee\_access 

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### Connect to your CQL Console

Interact with your database through Cassandra Query Language (CQL). Need help? Check out our [quick reference guide on CQL](#).

```
Connected as pankaj.verma2386@gmail.com.
Connected to cndb at cassandra.ingress:9042.
[cqlsh 6.8.0 | Cassandra 4.0.0.6816 | CQL spec 3.4.5 | Native protocol v4]
Use HELP for help.
token@cqlsh> select * from amazon_employee.train;
```

s_no	action	mgr_id	resource	role_code	role_deptname	role_family	role_family_desc	role_rollup_1	role_rollup_2	role_title
------	--------	--------	----------	-----------	---------------	-------------	------------------	---------------	---------------	------------

(0 rows)  
token@cqlsh>

## Insert Data into Train Table

```
In [7]: 1 def insert_data():
2         try:
3             with open("train1.csv", "r") as data:
4                 lg.info('Start record insertion.....\n')
5                 next(data)
6                 data_csv = csv.reader(data, delimiter='\n')
7                 all_value = []
8                 for i in data_csv:
9                     all_value.append(i[0].split(','))
10            train_data = []
11            for i in all_value:
12                train_data.append([int(j) for j in i])
13            for i in train_data:
14                query = """INSERT INTO amazon_employee.train (s_no, action, resource, mgr_id, role_rollup_1,
15                        role_rollup_2, role_deptname, role_title, role_family_desc,
16                        role_family, role_code) VALUES(%s,%s,%s,%s,%s,%s,%s,%s,%s,%s,%s)"""
17                session.execute(query, i)
18                lg.info(f'Record {i} Inserted!')
19            lg.info('Record Insertion Completed!!')
20        except Exception as e:
21            lg.info(e)
22            print(str(e))
```

In [8]: 1 insert\_data()

2022-06-20 09:24:01,472 - Start record insertion.....

2022-06-20 09:24:01,960 - Record [1, 1, 39353, 85475, 117961, 118300, 123472, 117905, 117906, 290919, 117908] Inserted!

2022-06-20 09:24:02,228 - Record [2, 1, 17183, 1540, 117961, 118343, 123125, 118536, 118536, 308574, 118539] Inserted!

2022-06-20 09:24:02,484 - Record [3, 1, 36724, 14457, 118219, 118220, 117884, 117879, 267952, 19721, 117880] Inserted!

2022-06-20 09:24:02,738 - Record [4, 1, 36135, 5396, 117961, 118343, 119993, 118321, 240983, 290919, 118322] Inserted!

2022-06-20 09:24:03,000 - Record [5, 1, 42680, 5905, 117929, 117930, 119569, 119323, 123932, 19793, 119325] Inserted!

2022-06-20 09:24:03,251 - Record [6, 0, 45333, 14561, 117951, 117952, 118008, 118568, 118568, 19721, 118570] Inserted!

2022-06-20 09:24:03,500 - Record [7, 1, 25993, 17227, 117961, 118343, 123476, 118980, 301534, 118295, 118982] Inserted!

2022-06-20 09:24:03,756 - Record [8, 1, 19666, 4209, 117961, 117969, 118910, 126820, 269034, 118638, 126822] Inserted!

2022-06-20 09:24:04,017 - Record [9, 1, 31246, 783, 117961, 118413, 120584, 128230, 302830, 4673, 128231] Inserted!

2022-06-20 09:24:04,017 - Record [10, 1, 30766, 56603, 118070, 118000, 117070, 117070, 301510, 10731, 117001] Inserted!

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```
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Connected to cndb at cassandra.ingress:9042.
[cqlsh 6.8.0 | Cassandra 4.0.0.6816 | CQL spec 3.4.5 | Native protocol v4]
Use HELP for help.
token@cqlsh> select * from amazon_employee.train;
```

s_no	action	mgr_id	resource	role_code	role_deptname	role_family	role_family_desc	role_rollup_1	role_rollup_2	role_title
1535	1	5158	35648	118296	118597	118295	118294	118290	118291	118293
12775	1	8243	79620	118454	118320	118453	130134	117887	118178	118451
23958	1	22370	19399	117888	117912	117887	117913	117918	117919	117885
13946	1	17451	75078	126140	126137	124136	255117	117961	118052	126138
25453	1	225257	23497	118836	119076	118424	311236	120342	120343	118834
21757	0	7651	27797	118322	118746	290919	117906	117961	118386	118321
10305	1	46476	1281	117908	117904	290919	117906	117902	117903	117905
26945	1	67326	16783	118570	117912	19721	198040	117910	117911	118568
1929	1	22952	75639	118322	119214	290919	117906	117961	118386	118321
9262	1	26229	38704	117888	117941	117887	117913	117916	118011	117885
4292	1	17394	115057	118322	122007	290919	117906	117961	118413	118321
1235	1	6982	112330	117908	118783	290919	117906	117961	118300	117905
27477	1	1398	33243	118322	120722	290919	117906	117961	118300	118321
1434	1	14867	37951	117888	117878	117887	118069	117890	118102	117885
5889	1	55805	15023	118786	118856	290919	121926	117961	118343	118784
30474	1	4663	44722	120593	122298	119095	132696	117961	118225	120591
21766	1	888	1093	118454	7646	118453	302623	117902	117903	118451

## Create Table for Test Dataset

```
In [19]: 1 try:
2         def create_table():
3             session.execute("DROP TABLE IF EXISTS amazon_employee.test;")
4             lg.info('Creating Table...\n')
5             query = """CREATE TABLE amazon_employee.test(id bigint, resource bigint, mgr_id bigint,
6                     role_rollup_1 bigint, role_rollup_2 bigint, role_deptname bigint, role_title bigint,
7                     role_family_desc bigint, role_family bigint, role_code bigint, primary key(id));"""
8             session.execute(query)
9             lg.info('Table Created!')
10        except Exception as e:
11            lg.info(e)
12            print(str(e))
```

```
In [21]: 1 create_table()
```

2022-06-20 14:22:38,462 - Creating Table...

2022-06-20 14:22:43,500 - Table Created!

## Connect to your CQL Console

Interact with your database through Cassandra Query Language (CQL). Need help? Check out our [quick reference guide on CQL](#).

```
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Connected to cndb at cassandra.ingress:9042.
[cqlsh 6.8.0 | Cassandra 4.0.0.6816 | CQL spec 3.4.5 | Native protocol v4]
Use HELP for help.
token@cqlsh> select * from amazon_employee.test;

 id | mgr_id | resource | role_code | role_deptname | role_family | role_family_desc | role_rollup_1 | role_rollup_2 | role_title
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----
(0 rows)
token@cqlsh> 
```

## Insert Data into Test Table

In [22]:

```
1 def insert_data():
2     try:
3         with open("test.csv", "r") as data:
4             lg.info('Start record insertion.....\n')
5             next(data)
6             data_csv = csv.reader(data, delimiter='\n')
7             all_value = []
8             for i in data_csv:
9                 all_value.append(i[0].split(','))
10            test_data = []
11            for i in all_value:
12                test_data.append([int(j) for j in i])
13            for i in test_data:
14                query = """INSERT INTO amazon_employee.test(id, resource, mgr_id, role_rollup_1,
15                    role_rollup_2, role_deptname, role_title, role_family_desc,
16                    role_family, role_code) VALUES(%s,%s,%s,%s,%s,%s,%s,%s,%s,%s,%s)"""
17                session.execute(query, i)
18                lg.info(f'Record {i} Inserted!')
19            lg.info('Record Insertion Completed!!')
20        except Exception as e:
21            lg.info(e)
22            print(str(e))
```



In [23]: 1 insert\_data()

2022-06-20 14:22:45,943 - Start record insertion.....

2022-06-20 14:22:46,553 - Record [1, 78766, 72734, 118079, 118080, 117878, 117879, 118177, 19721, 117880] Inserted!  
2022-06-20 14:22:46,825 - Record [2, 40644, 4378, 117961, 118327, 118507, 118863, 122008, 118398, 118865] Inserted!  
2022-06-20 14:22:47,093 - Record [3, 75443, 2395, 117961, 118300, 119488, 118172, 301534, 249618, 118175] Inserted!  
2022-06-20 14:22:47,355 - Record [4, 43219, 19986, 117961, 118225, 118403, 120773, 136187, 118960, 120774] Inserted!  
2022-06-20 14:22:47,608 - Record [5, 42093, 50015, 117961, 118343, 119598, 118422, 300136, 118424, 118425] Inserted!  
2022-06-20 14:22:47,947 - Record [6, 44722, 1755, 117961, 117962, 119223, 125793, 146749, 118643, 125795] Inserted!  
2022-06-20 14:22:48,201 - Record [7, 75834, 21135, 117961, 118343, 123494, 118054, 118054, 117887, 118055] Inserted!  
2022-06-20 14:22:48,463 - Record [8, 4675, 3077, 117961, 118300, 120312, 124194, 124195, 118363, 124196] Inserted!  
2022-06-20 14:22:48,720 - Record [9, 18072, 15575, 117902, 118041, 118623, 280788, 280788, 292795, 119082] Inserted!  
2022-06-20 14:22:48,992 - Record [10, 22680, 4474, 117961, 118446, 119064, 118321, 118448, 290919, 118322] Inserted!  
2022-06-20 14:22:49,252 - Record [11, 23150, 25293, 117961, 118386, 128823, 118321, 117906, 290919, 118322] Inserted!  
2022-06-20 14:22:49,515 - Record [12, 80179, 6222, 117961, 118052, 118746, 117905, 117906, 290919, 117908] Inserted!  
2022-06-20 14:22:49,773 - Record [13, 25993, 52925, 117980, 117981, 117920, 118568, 156279, 19721, 118570] Inserted!  
2022-06-20 14:22:50,037 - Record [14, 14570, 108550, 117929, 117930, 117912, 118568, 281735, 19721, 118570] Inserted!  
2022-06-20 14:22:50,303 - Record [15, 80452, 1600, 117961, 118327, 118507, 118890, 311441, 118398, 118892] Inserted!

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Connected to cndb at cassandra.ingress:9042.
[cqlsh 6.8.0 | Cassandra 4.0.0.6816 | CQL spec 3.4.5 | Native protocol v4]
Use HELP for help.
token@cqlsh> select * from amazon_employee.test;
```

id	mgr_id	resource	role_code	role_deptname	role_family	role_family_desc	role_rollup_1	role_rollup_2	role_title
111	71192	39262	118322	118522	290919	117906	117961	118386	118321
239	7660	34950	118322	120361	290919	117906	117961	118386	118321
19	3883	41297	118539	119987	308574	132799	117961	118343	118536
242	46754	43876	117880	117878	19721	118177	118079	118080	117879
163	55132	17308	118055	118042	117887	119008	118169	118170	118054
238	8094	22598	117908	139876	290919	117906	117961	118343	117905
271	4519	6977	117908	118783	290919	117906	117961	118300	117905
219	2014	33147	120774	118910	118960	127525	117961	117962	120773
86	50213	43876	117880	117878	19721	117913	118079	118080	117879
148	15504	39327	118322	123656	290919	240983	117961	118386	118321
235	7434	28344	118322	118514	290919	117906	117961	118343	118321
197	34927	34924	137970	120299	118612	217580	117961	118327	137969
58	4914	23921	118836	120026	118424	127160	117961	118300	118834
2	4378	40644	118865	118507	118398	122008	117961	118327	118863
24	5464	15798	118322	118403	290919	117906	117916	119623	118321
3	2395	75443	118175	119488	249618	301534	117961	118300	118172
102	15956	20897	131851	121617	121620	148158	117961	117969	131849

In [ ]:

1