

Subject : Software Laboratory VI

Class: BE IT

Experiment No: 2

Aim : Study of NoSQL Database - *Cassandra*.

Cassandra installation

The following instructions are applicable to Ubuntu 14.04, Ubuntu 15.04 & Ubuntu 15.10.

Steps:

Download Cassandra from following url (the most stable release)

<http://www.eu.apache.org/dist/cassandra/2.2.4/apache-cassandra-2.2.4-bin.tar.gz>

Copy and extract apache-cassandra-2.2.4-bin.tar.gz in home folder

Rename the extracted folder name from apache-cassandra-2.2.4 to cassandra

```
sudo apt-get update
```

```
sudo apt-get install openjdk-7-jre-headless
```

```
sudo apt-get install openjdk-7-jdk
```

```
java -version
```

```
mkdir ~/cassandra/lib/data
```

```
mkdir ~/cassandra/lib/commitlog
```

```
mkdir ~/cassandra/lib/saved_caches
```

```
mkdir ~/cassandra/log
```

remember your user name

```
whoami
```

```
gedit ~/cassandra/conf/cassandra.yaml
```

Go to the end of file and add following lines

```
data_file_directories:
```

```
- /home/your_user_name/cassandra/lib/data
```

```
commitlog_directory: /home/your_user_name/cassandra/lib/commitlog
```

```
saved_caches_directory: /home/your_user_name/cassandra/lib/saved_caches
```

save and exit the file

```
gedit ~/cassandra/conf/logback.xml
```

replace line 35 by

```
<file>/home/your_user_name/cassandra/log/system.log</file>
```

save and exit the file

```
~/cassandra/bin/cassandra -f
```

The cassandra daemon should start in the foreground (**don't press ctrl + c**; as it'll terminate the daemon)

open a new terminal

```
~/cassandra/bin/cqlsh
```

It'll have output like this

```
cqlsh>
```

First, create a keyspace

```
CREATE KEYSPACE mykeyspace  
WITH REPLICATION = { 'class' : 'SimpleStrategy', 'replication_factor' : 1 };
```

use the new keyspace:

```
USE mykeyspace;
```

create a student table:

```
CREATE TABLE student (  
  roll int PRIMARY KEY,  
  fname text,  
  lname text  
);
```

store data into student table:

```
INSERT INTO student (roll, fname, lname)  
VALUES (1, 'jack', 'castle');  
INSERT INTO student (roll, fname, lname)  
VALUES (2, 'james', 'doe');  
INSERT INTO student (roll, fname, lname)  
VALUES (3, 'john', 'smith');
```

fetch the data from table:

```
SELECT * FROM student;
```

output :

```
roll | fname | lname  
-----+-----+-----  
1 | jack | castle  
2 | james | doe  
3 | john | smith
```

retrieve data about students whose last name is smith by creating an index

```
CREATE INDEX ON student (lname);
```

```
SELECT * FROM student WHERE lname = 'smith';
```

```
roll | fname | lname  
-----+-----+-----  
3 | john | smith
```

```
cqlsh> exit
```

for more CQL queries please refer

http://docs.datastax.com/en/latest-cql/cql/cql_using/useAboutCQL.html

stop cassandra

Just press ctrl + c in the terminal where the cassandra daemon is running.

Reference : <http://wiki.apache.org/cassandra/GettingStarted>

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