

Install java

Check wheter java is installed or not using the following command below

```
$ java -version
```

if not follow the steps below

For running Spark in Ubuntu machine should install Java. Using following commands easily install Java in Ubuntu machine.

```
$ sudo apt-add-repository ppa:webupd8team/java
```

```
$ sudo apt-get update
```

```
$ sudo apt-get install oracle-java7-installer (else go for java 1.8.0)
```



```
cvip@cvip-OptiPlex-380: ~$ sudo apt-get update
Ign http://extras.ubuntu.com trusty InRelease
Get:1 http://security.ubuntu.com trusty-security InRelease [65.9 kB]
Ign http://in.archive.ubuntu.com trusty InRelease
Get:2 http://extras.ubuntu.com trusty Release.gpg [72 B]
Get:3 http://in.archive.ubuntu.com trusty-updates InRelease [65.9 kB]
Ign http://repo.mongodb.org trusty/mongodb-org/3.2 InRelease
Get:4 http://archive.cloudera.com trusty-cdh5 InRelease [1,931 B]
Hit http://extras.ubuntu.com trusty Release
Hit http://repo.mongodb.org trusty/mongodb-org/3.2 Release.gpg
Hit http://repo.mongodb.org trusty/mongodb-org/3.2 Release
Get:5 http://archive.cloudera.com trusty-cdh5/contrib Sources [11.2 kB]
Hit http://extras.ubuntu.com trusty/main Sources
Hit http://repo.mongodb.org trusty/mongodb-org/3.2/multiverse amd64 Packages
Get:6 http://security.ubuntu.com trusty-security/main Sources [129 kB]
Hit http://extras.ubuntu.com trusty/main amd64 Packages
Get:7 http://archive.cloudera.com trusty-cdh5/contrib amd64 Packages [26.7 kB]
Hit http://repo.mongodb.org trusty/mongodb-org/3.2/multiverse i386 Packages
Hit http://ppa.launchpad.net trusty InRelease
Hit http://extras.ubuntu.com trusty/main i386 Packages
Hit http://ppa.launchpad.net trusty InRelease
Hit http://ppa.launchpad.net trusty/main amd64 Packages
Hit http://ppa.launchpad.net trusty/main i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports InRelease
Hit http://ppa.launchpad.net trusty/main Translation-en
Hit http://in.archive.ubuntu.com trusty Release.gpg
Ign http://repo.mongodb.org trusty/mongodb-org/3.2/multiverse Translation-en_IN
Hit http://ppa.launchpad.net trusty/main amd64 Packages
Ign http://repo.mongodb.org trusty/mongodb-org/3.2/multiverse Translation-en
Get:8 http://in.archive.ubuntu.com trusty-updates/main Sources [395 kB]
Get:9 http://security.ubuntu.com trusty-security/restricted Sources [4,941 B]
Hit http://ppa.launchpad.net trusty/main i386 Packages
Get:10 http://security.ubuntu.com trusty-security/universe Sources [51.2 kB]
Hit http://ppa.launchpad.net trusty/main Translation-en
Ign http://extras.ubuntu.com trusty/main Translation-en_IN
Get:11 http://security.ubuntu.com trusty-security/multiverse Sources [3,196 B]
Ign http://extras.ubuntu.com trusty/main Translation-en
Get:12 http://security.ubuntu.com trusty-security/main amd64 Packages [606 kB]
Ign http://archive.cloudera.com trusty-cdh5/contrib Translation-en_IN
Ign http://archive.cloudera.com trusty-cdh5/contrib Translation-en
Get:13 http://security.ubuntu.com trusty-security/restricted amd64 Packages [14.0 kB]
Get:14 http://in.archive.ubuntu.com trusty-updates/restricted Sources [6,327 B]
Get:15 http://security.ubuntu.com trusty-security/universe amd64 Packages [155 kB]
Get:16 http://in.archive.ubuntu.com trusty-updates/universe Sources [177 kB]
Get:17 http://security.ubuntu.com trusty-security/multiverse amd64 Packages [4,135 B]
Get:18 http://security.ubuntu.com trusty-security/main i386 Packages [565 kB]
Get:19 http://in.archive.ubuntu.com trusty-updates/multiverse Sources [7,759 B]
80% [Waiting for headers] 18 Packages 49.7 kB/565 kB 9% 117 kB/s 4s
```

```
cvip@cvip-OptiPlex-380: ~$ sudo apt-add-repository ppa:webupd8team/java
[sudo] password for cvip:
Oracle Java (JDK) Installer (automatically downloads and installs Oracle JDK7 /
JDK8 / JDK9). There are no actual Java files in this PPA.

More info (and Ubuntu installation instructions):
- For Oracle Java 7: http://www.webupd8.org/2012/01/install-oracle-java-jdk-7-in-
ubuntu-via.html
- For Oracle Java 8: http://www.webupd8.org/2012/09/install-oracle-java-8-in-ubu
ntu-via-ppa.html

Debian installation instructions:
- Oracle Java 7: http://www.webupd8.org/2012/06/how-to-install-oracle-java-7-in-
debian.html
- Oracle Java 8: http://www.webupd8.org/2014/03/how-to-install-oracle-java-8-in-
debian.html

Oracle Java 9 (for both Ubuntu and Debian): http://www.webupd8.org/2015/02/insta
ll-oracle-java-9-in-ubuntu-linux.html

For JDK9, the PPA uses standard builds from: https://jdk9.java.net/download/ (an
d not the Jigsaw builds!).

Important!!! For now, you should continue to use Java 8 because Oracle Java 9 is
available as an early access release! You should only use Oracle Java 9 if you
explicitly need it, because it may contain bugs and it might not include the lat
est security patches! Also, some Java options were removed in JDK9, so you may e
ncounter issues with various Java apps. More information and installation instru
ctions (Ubuntu / Linux Mint / Debian): http://www.webupd8.org/2015/02/install-or
acle-java-9-in-ubuntu-linux.html
More info: https://launchpad.net/~webupd8team/+archive/ubuntu/java
Press [ENTER] to continue or ctrl-c to cancel adding it

gpg: keyring '/tmp/tmpgg7lafwq/secring.gpg' created
gpg: keyring '/tmp/tmpgg7lafwq/pubring.gpg' created
gpg: requesting key EEA14886 from hkp server keyserver.ubuntu.com
gpg: /tmp/tmpgg7lafwq/trustdb.gpg: trustdb created
gpg: key EEA14886: public key "Launchpad VLC" imported
gpg: no ultimately trusted keys found
gpg: Total number processed: 1
gpg:      imported: 1 (RSA: 1)
OK
cvip@cvip-OptiPlex-380: ~$
```

```
cvjp@cvjp-OptiPlex-380:~$ sudo apt-add-repository ppa:webupd8team/java
[sudo] password for cvjp:
Oracle Java (JDK) Installer (automatically downloads and installs Oracle JDK7 /
JDK8 / JDK9). There are no actual Java files in this PPA.

More info (and Ubuntu installation instructions):
- for Oracle Java 7: http://www.webupd8.org/2012/01/install-oracle-java-jdk-7-in-ubuntu-via.html
- for Oracle Java 8: http://www.webupd8.org/2012/09/install-oracle-java-8-in-ubuntu-via-ppa.html

Debian installation instructions:
- Oracle Java 7: http://www.webupd8.org/2012/06/how-to-install-oracle-java-7-in-debian.html
- Oracle Java 8: http://www.webupd8.org/2014/03/how-to-install-oracle-java-8-in-debian.html

Oracle Java 9 (for both Ubuntu and Debian): http://www.webupd8.org/2015/02/install-oracle-java-9-in-ubuntu-linux.html

For JDK9, the PPA uses standard builds from: https://jdk9.java.net/download/ (and not the Jigsaw builds!).

Important!!! For now, you should continue to use Java 8 because Oracle Java 9 is available as an early access release! You should only use Oracle Java 9 if you explicitly need it, because it may contain bugs and it might not include the latest security patches! Also, some Java options were removed in JDK9, so you may encounter issues with various Java apps. More information and installation instructions (Ubuntu / Linux Mint / Debian): http://www.webupd8.org/2015/02/install-oracle-java-9-in-ubuntu-linux.html
More info: https://launchpad.net/~webupd8team/+archive/ubuntu/java
Press [ENTER] to continue or ctrl-c to cancel adding it

```

```
cvjp@cvjp-OptiPlex-380:~$ sudo apt-add-repository ppa:webupd8team/java
[sudo] password for cvjp:
Oracle Java (JDK) Installer (automatically downloads and installs Oracle JDK7 /
JDK8 / JDK9). There are no actual Java files in this PPA.

More info (and Ubuntu installation instructions):
- for Oracle Java 7: http://www.webupd8.org/2012/01/install-oracle-java-jdk-7-in-ubuntu-via.html
- for Oracle Java 8: http://www.webupd8.org/2012/09/install-oracle-java-8-in-ubuntu-via-ppa.html

Debian installation instructions:
- Oracle Java 7: http://www.webupd8.org/2012/06/how-to-install-oracle-java-7-in-debian.html
- Oracle Java 8: http://www.webupd8.org/2014/03/how-to-install-oracle-java-8-in-debian.html

Oracle Java 9 (for both Ubuntu and Debian): http://www.webupd8.org/2015/02/install-oracle-java-9-in-ubuntu-linux.html

For JDK9, the PPA uses standard builds from: https://jdk9.java.net/download/ (and not the Jigsaw builds!).

Important!!! For now, you should continue to use Java 8 because Oracle Java 9 is available as an early access release! You should only use Oracle Java 9 if you explicitly need it, because it may contain bugs and it might not include the latest security patches! Also, some Java options were removed in JDK9, so you may encounter issues with various Java apps. More information and installation instructions (Ubuntu / Linux Mint / Debian): http://www.webupd8.org/2015/02/install-oracle-java-9-in-ubuntu-linux.html
More info: https://launchpad.net/~webupd8team/+archive/ubuntu/java
Press [ENTER] to continue or ctrl-c to cancel adding it

gpg: keyring '/tmp/tmpgg7lafwq/secring.gpg' created
gpg: keyring '/tmp/tmpgg7lafwq/pubring.gpg' created
gpg: requesting key EEA14886 from hkp server keyserver.ubuntu.com
gpg: /tmp/tmpgg7lafwq/trustdb.gpg: trustdb created
gpg: key EEA14886: public key "Launchpad VLC" imported
gpg: no ultimately trusted keys found
gpg: Total number processed: 1
gpg:      imported: 1 (RSA: 1)
OK
cvjp@cvjp-OptiPlex-380:~$
```

```
cvip@cvip-OptiPlex-380:~$ sudo apt-get update
Ign http://extras.ubuntu.com trusty InRelease
Get:1 http://security.ubuntu.com trusty-security InRelease [65.9 kB]
Ign http://in.archive.ubuntu.com trusty InRelease
Get:2 http://extras.ubuntu.com trusty Release.gpg [72 B]
Get:3 http://in.archive.ubuntu.com trusty-updates InRelease [65.9 kB]
Ign http://repo.mongodb.org trusty/mongodb-org/3.2 InRelease
Get:4 http://archive.cloudera.com trusty-cdh5 InRelease [1,931 B]
Hit http://extras.ubuntu.com trusty Release
Hit http://repo.mongodb.org trusty/mongodb-org/3.2 Release.gpg
Hit http://repo.mongodb.org trusty/mongodb-org/3.2 Release
Get:5 http://archive.cloudera.com trusty-cdh5/contrib Sources [11.2 kB]
Hit http://extras.ubuntu.com trusty/main Sources
Hit http://repo.mongodb.org trusty/mongodb-org/3.2/multiverse amd64 Packages
Get:6 http://security.ubuntu.com trusty-security/main Sources [129 kB]
Hit http://extras.ubuntu.com trusty/main amd64 Packages
Get:7 http://archive.cloudera.com trusty-cdh5/contrib amd64 Packages [26.7 kB]
Hit http://repo.mongodb.org trusty/mongodb-org/3.2/multiverse i386 Packages
Hit http://ppa.launchpad.net trusty InRelease
Hit http://extras.ubuntu.com trusty/main i386 Packages
Hit http://ppa.launchpad.net trusty InRelease
Hit http://ppa.launchpad.net trusty/main amd64 Packages
Hit http://ppa.launchpad.net trusty/main i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports InRelease
Hit http://ppa.launchpad.net trusty/main Translation-en
Hit http://in.archive.ubuntu.com trusty Release.gpg
Ign http://repo.mongodb.org trusty/mongodb-org/3.2/multiverse Translation-en_IN
Hit http://ppa.launchpad.net trusty/main amd64 Packages
Ign http://repo.mongodb.org trusty/mongodb-org/3.2/multiverse Translation-en
Get:8 http://in.archive.ubuntu.com trusty-updates/main Sources [395 kB]
Get:9 http://security.ubuntu.com trusty-security/restricted Sources [4,941 B]
Hit http://ppa.launchpad.net trusty/main i386 Packages
Get:10 http://security.ubuntu.com trusty-security/universe Sources [51.2 kB]
Hit http://ppa.launchpad.net trusty/main Translation-en
Ign http://extras.ubuntu.com trusty/main Translation-en_IN
Get:11 http://security.ubuntu.com trusty-security/multiverse Sources [3,196 B]
Ign http://extras.ubuntu.com trusty/main Translation-en
Get:12 http://security.ubuntu.com trusty-security/main amd64 Packages [606 kB]
Ign http://archive.cloudera.com trusty-cdh5/contrib Translation-en_IN
Ign http://archive.cloudera.com trusty-cdh5/contrib Translation-en
Get:13 http://security.ubuntu.com trusty-security/restricted amd64 Packages [14.0 kB]
Get:14 http://in.archive.ubuntu.com trusty-updates/restricted Sources [6,327 B]
Get:15 http://security.ubuntu.com trusty-security/universe amd64 Packages [155 kB]
Get:16 http://in.archive.ubuntu.com trusty-updates/universe Sources [177 kB]
Get:17 http://security.ubuntu.com trusty-security/multiverse amd64 Packages [4,135 B]
Get:18 http://security.ubuntu.com trusty-security/main i386 Packages [565 kB]
Get:19 http://in.archive.ubuntu.com trusty-updates/multiverse Sources [7,759 B]
80% [Waiting for headers] [18 Packages 49.7 kB/565 kB 9%] 117 kB/s 4s
cvip@cvip-OptiPlex-380:~$
Get:21 http://in.archive.ubuntu.com trusty-updates/main i386 Packages [932 kB]
Get:22 http://in.archive.ubuntu.com trusty-updates/restricted i386 Packages [16.9 kB]
Get:23 http://in.archive.ubuntu.com trusty-updates/universe i386 Packages [405 kB]
Get:24 http://in.archive.ubuntu.com trusty-updates/multiverse i386 Packages [14.6 kB]
Get:25 http://in.archive.ubuntu.com trusty-updates/main Translation-en [482 kB]
Get:26 http://in.archive.ubuntu.com trusty-updates/multiverse Translation-en [7,430 B]
Get:27 http://in.archive.ubuntu.com trusty-updates/restricted Translation-en [3,975 B]
Get:28 http://in.archive.ubuntu.com trusty-updates/universe Translation-en [214 kB]
Hit http://in.archive.ubuntu.com trusty-backports/main Sources
Hit http://in.archive.ubuntu.com trusty-backports/restricted Sources
Hit http://in.archive.ubuntu.com trusty-backports/universe Sources
Hit http://in.archive.ubuntu.com trusty-backports/multiverse Sources
Hit http://in.archive.ubuntu.com trusty-backports/main amd64 Packages
Hit http://in.archive.ubuntu.com trusty-backports/restricted amd64 Packages
Hit http://in.archive.ubuntu.com trusty-backports/universe amd64 Packages
Hit http://in.archive.ubuntu.com trusty-backports/multiverse amd64 Packages
Hit http://in.archive.ubuntu.com trusty-backports/main i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports/restricted i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports/universe i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports/multiverse i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports/main Translation-en
Hit http://in.archive.ubuntu.com trusty-backports/multiverse Translation-en
Hit http://in.archive.ubuntu.com trusty-backports/restricted Translation-en
Hit http://in.archive.ubuntu.com trusty-backports/universe Translation-en
Hit http://in.archive.ubuntu.com trusty Release
Hit http://in.archive.ubuntu.com trusty/main Sources
Hit http://in.archive.ubuntu.com trusty/restricted Sources
Hit http://in.archive.ubuntu.com trusty/universe Sources
Hit http://in.archive.ubuntu.com trusty/multiverse Sources
Hit http://in.archive.ubuntu.com trusty/main amd64 Packages
Hit http://in.archive.ubuntu.com trusty/restricted amd64 Packages
Hit http://in.archive.ubuntu.com trusty/universe amd64 Packages
Hit http://in.archive.ubuntu.com trusty/multiverse amd64 Packages
Hit http://in.archive.ubuntu.com trusty/main i386 Packages
Hit http://in.archive.ubuntu.com trusty/restricted i386 Packages
Hit http://in.archive.ubuntu.com trusty/universe i386 Packages
Hit http://in.archive.ubuntu.com trusty/multiverse i386 Packages
Hit http://in.archive.ubuntu.com trusty/main Translation-en
Hit http://in.archive.ubuntu.com trusty/multiverse Translation-en
Hit http://in.archive.ubuntu.com trusty/restricted Translation-en
Hit http://in.archive.ubuntu.com trusty/universe Translation-en
Ign http://in.archive.ubuntu.com trusty/main Translation-en_IN
Ign http://in.archive.ubuntu.com trusty/multiverse Translation-en_IN
Ign http://in.archive.ubuntu.com trusty/restricted Translation-en_IN
Ign http://in.archive.ubuntu.com trusty/universe Translation-en_IN
Fetched 6,375 kB in 1min 5s (97.6 kB/s)
E: dpkg was interrupted, you must manually run 'sudo dpkg --configure -a' to correct the problem.
cvip@cvip-OptiPlex-380:~$ sudo apt-get install oracle-java7-installer
```

```
cvlp@cvlp-OptiPlex-380: ~$ sudo apt-get install oracle-java7-installer
Get:33 http://in.archive.ubuntu.com trusty-updates/universe i386 Packages [405 kB]
Get:34 http://in.archive.ubuntu.com trusty-updates/multiverse i386 Packages [14.6 kB]
Get:35 http://in.archive.ubuntu.com trusty-updates/main Translation-en [482 kB]
Get:36 http://in.archive.ubuntu.com trusty-updates/multiverse Translation-en [7,430 B]
Get:37 http://in.archive.ubuntu.com trusty-updates/restricted Translation-en [3,975 B]
Get:38 http://in.archive.ubuntu.com trusty-updates/universe Translation-en [214 kB]
Hit http://in.archive.ubuntu.com trusty-backports/main Sources
Hit http://in.archive.ubuntu.com trusty-backports/restricted Sources
Hit http://in.archive.ubuntu.com trusty-backports/universe Sources
Hit http://in.archive.ubuntu.com trusty-backports/multiverse Sources
Hit http://in.archive.ubuntu.com trusty-backports/main amd64 Packages
Hit http://in.archive.ubuntu.com trusty-backports/restricted amd64 Packages
Hit http://in.archive.ubuntu.com trusty-backports/universe amd64 Packages
Hit http://in.archive.ubuntu.com trusty-backports/multiverse amd64 Packages
Hit http://in.archive.ubuntu.com trusty-backports/main i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports/restricted i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports/universe i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports/multiverse i386 Packages
Hit http://in.archive.ubuntu.com trusty-backports/main Translation-en
Hit http://in.archive.ubuntu.com trusty-backports/multiverse Translation-en
Hit http://in.archive.ubuntu.com trusty-backports/restricted Translation-en
Hit http://in.archive.ubuntu.com trusty-backports/universe Translation-en
Hit http://in.archive.ubuntu.com trusty Release
Hit http://in.archive.ubuntu.com trusty/main Sources
Hit http://in.archive.ubuntu.com trusty/restricted Sources
Hit http://in.archive.ubuntu.com trusty/universe Sources
Hit http://in.archive.ubuntu.com trusty/multiverse Sources
Hit http://in.archive.ubuntu.com trusty/main amd64 Packages
Hit http://in.archive.ubuntu.com trusty/restricted amd64 Packages
Hit http://in.archive.ubuntu.com trusty/universe amd64 Packages
Hit http://in.archive.ubuntu.com trusty/multiverse amd64 Packages
Hit http://in.archive.ubuntu.com trusty/main i386 Packages
Hit http://in.archive.ubuntu.com trusty/restricted i386 Packages
Hit http://in.archive.ubuntu.com trusty/universe i386 Packages
Hit http://in.archive.ubuntu.com trusty/multiverse i386 Packages
Hit http://in.archive.ubuntu.com trusty/main Translation-en
Hit http://in.archive.ubuntu.com trusty/multiverse Translation-en
Hit http://in.archive.ubuntu.com trusty/restricted Translation-en
Hit http://in.archive.ubuntu.com trusty/universe Translation-en
Ign http://in.archive.ubuntu.com trusty/main Translation-en_IN
Ign http://in.archive.ubuntu.com trusty/multiverse Translation-en_IN
Ign http://in.archive.ubuntu.com trusty/restricted Translation-en_IN
Ign http://in.archive.ubuntu.com trusty/universe Translation-en_IN
Fetched 6,375 kB in 1m1s (97.6 kB/s)
E: dpkg was interrupted, you must manually run 'sudo dpkg --configure -a' to correct the problem.
cvlp@cvlp-OptiPlex-380: ~$ sudo apt-get install oracle-java7-installer
E: dpkg was interrupted, you must manually run 'sudo dpkg --configure -a' to correct the problem.
cvlp@cvlp-OptiPlex-380: ~$ sudo dpkg --configure -a
```

To check the Java installation is successful
\$ java -version

Install Spark and R

2.Download zip file spark-2.1.0-bin-hadoop2.7 from internet else i have placed that file in the folder spark installtion complete reference.

3.Place those files(a. spark-2.1.0-bin-hadoop2.7, b. scala-2.12.1) in Documents the above two files are placed in the folder named spark installtion complete reference

4.Then go to the directory in that file

```
$ cd Documents
$ cd spark-2.1.0-bin-hadoop2.7/
$ cd bin
$ ls
$ chmod 755 spark-class
```

\$./spark-shell (if there is an error that **bash: ./spark-shell: Permission denied**)

then flow the three commands below

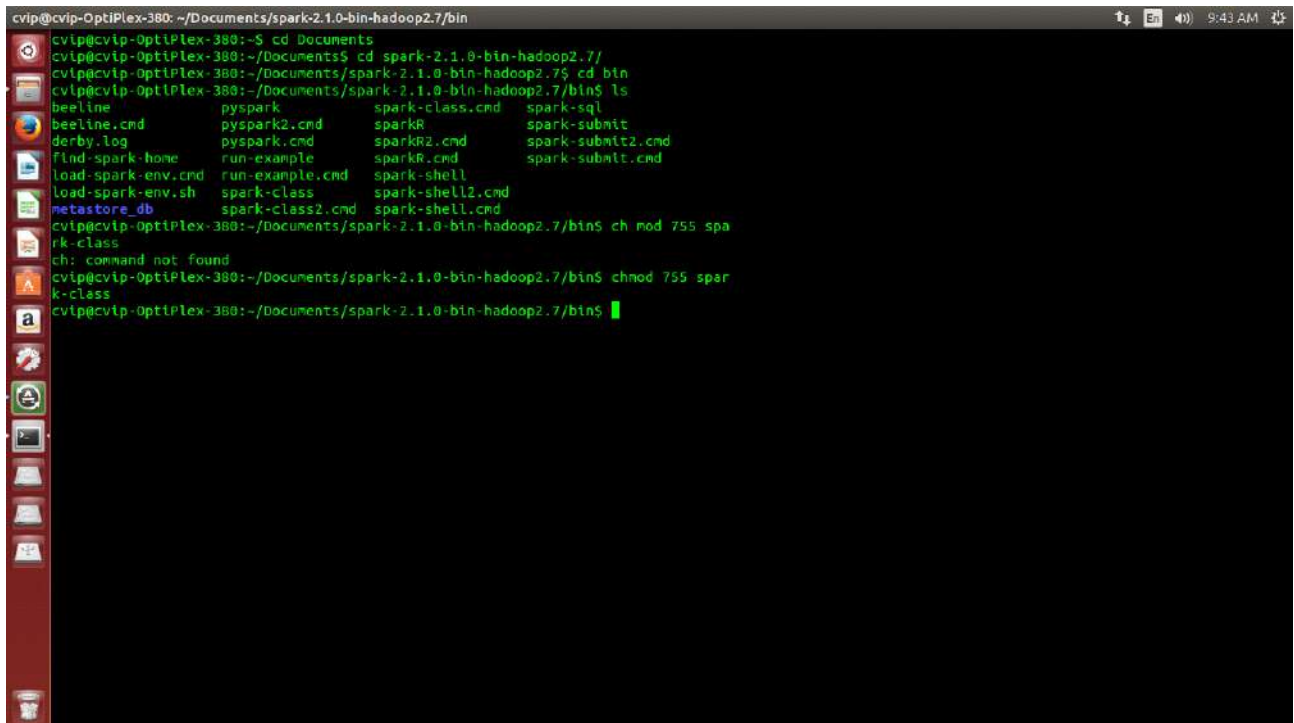
```
$ chmod 755 spark-class
$ chmod 755 spark-shell
$ chmod 755 spark-submit
```

now type the command

```
$ ./spark-shell
```

it will take few minutes for installation

For pictorial reference refer the following screenshots below



```
cvip@cvip-OptiPlex-380: ~/Documents/spark-2.1.0-bin-hadoop2.7/bin
cvip@cvip-OptiPlex-380:~$ cd Documents
cvip@cvip-OptiPlex-380:~/Documents$ cd spark-2.1.0-bin-hadoop2.7/
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7$ cd bin
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ls
beeline                pyspark                spark-class.cmd       spark-sql
beeline.cmd           pyspark2.cmd          sparkR                 spark-submit
derby.log             pyspark.cmd           sparkR2.cmd           spark-submit2.cmd
find-spark-home       run-example           sparkR.cmd            spark-submit.cmd
load-spark-env.cmd    run-example.cmd      spark-shell
load-spark-env.sh     spark-class           spark-shell2.cmd
metastore_db         spark-class2.cmd     spark-shell.cmd
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ch mod 755 spark-class
ch: command not found
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spark-class
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$
```

.....

```
cvip@cvip-OptiPlex-380: ~/Documents/spark-2.1.0-bin-hadoop2.7/bin
cvip@cvip-OptiPlex-380:~$ cd Documents
cvip@cvip-OptiPlex-380:~/Documents$ cd spark-2.1.0-bin-hadoop2.7/
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7$ cd bin
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ls
beeline                pyspark                spark-class.cmd       spark-sql
beeline.cmd           pyspark2.cmd          sparkR                 spark-submit
derby.log              pyspark.cmd           sparkR2.cmd           spark-submit2.cmd
find-spark-home       run-example           sparkR.cmd            spark-submit.cmd
load-spark-env.cmd    run-example.cmd       spark-shell
load-spark-env.sh     spark-class           spark-shell2.cmd
metastore_db          spark-class2.cmd      spark-shell.cmd
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ch mod 755 spa
rk-class
ch: command not found
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spar
k-class
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ./spark-shell
bash: ./spark-shell: Permission denied
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spark-class
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spark-shell
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spark-submit
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ./spark-shell
Using Spark's default log4j profile: org/apache/spark/log4j-defaults.properties
Setting default log level to "WARN".
To adjust logging level use sc.setLogLevel(newLevel). For SparkR, use setLogLevel(newLevel).
```

```
cvip@cvip-OptiPlex-380: ~/Documents/spark-2.1.0-bin-hadoop2.7/bin
beeline                pyspark                spark-class.cmd       spark-sql
beeline.cmd           pyspark2.cmd          sparkR                 spark-submit
derby.log              pyspark.cmd           sparkR2.cmd           spark-submit2.cmd
find-spark-home       run-example           sparkR.cmd            spark-submit.cmd
load-spark-env.cmd    run-example.cmd       spark-shell
load-spark-env.sh     spark-class           spark-shell2.cmd
metastore_db          spark-class2.cmd      spark-shell.cmd
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ch mod 755 spa
rk-class
ch: command not found
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spar
k-class
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ./spark-shell
bash: ./spark-shell: Permission denied
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spark-class
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spark-shell
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spark-submit
cvip@cvip-OptiPlex-380:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ./spark-shell
Using Spark's default log4j profile: org/apache/spark/log4j-defaults.properties
Setting default log level to "WARN".
To adjust logging level use sc.setLogLevel(newLevel). For SparkR, use setLogLevel(newLevel).
17/04/20 09:45:23 WARN NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
17/04/20 09:45:24 WARN Utils: Your hostname, cvip-OptiPlex-380 resolves to a loopback address: 127.0.1.1; using 172.17.162.145 instead (on interface eth0)
17/04/20 09:45:24 WARN Utils: Set SPARK_LOCAL_IP if you need to bind to another address
17/04/20 09:45:34 WARN ObjectStore: Failed to get database global_temp, returning NoSuchObjectException
Spark context Web UI available at http://172.17.162.145:4040
Spark context available as 'sc' (master = local[*], app id = local-1492661726115).
Spark session available as 'spark'.
Welcome to
      ____
     / ___/
    / /   /
   / ___/
  / /   /
 / /___/
/_____/
version 2.1.0

Using Scala version 2.11.8 (Java HotSpot(TM) 64-Bit Server VM, Java 1.8.0_111)
Type in expressions to have them evaluated.
Type :help for more information.
scala>
```

Thus the spark has been installed successfully

Install R

sudo apt-get install r-base r-base-dev

```
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT: ~/Documents/spark-2.1.0-bin-hadoop2.7/bin
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT:~$ cd Documents
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT:~/Documents$ cd spark-2.1.0-bin-hadoop2.7
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT:~/Documents/spark-2.1.0-bin-hadoop2.7$ cd bin
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ls
beeline      pyspark      spark-class.cmd  spark-sql
beeline.cmd  pyspark2.cmd  sparkR           spark-submit
derby.log    pyspark.cmd   sparkR2.cmd     spark-submit2.cmd
find-spark-home  run-example  sparkR.cmd      spark-submit2.cmd
load-spark-env.cmd  run-example.cmd  spark-shell
load-spark-env.sh  spark-class   spark-shell2.cmd
              spark-class2.cmd  spark-shell.cmd
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ chmod 755 spark-class
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ ./spark-shell
Using Spark's default log4j profile: org/apache/spark/log4j-defaults.properties
Setting default log level to "WARN".
To adjust logging level use sc.setLogLevel(newLevel). For SparkR, use setLogLevel(newLevel).
17/05/02 16:51:18 WARN NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
17/05/02 16:51:24 WARN ObjectStore: Failed to get database global_temp, returning NoSuchObjectException
Spark context Web UI available at http://172.17.137.32:4040
Spark context available as 'sc' (master = local[*], app id = local-1493724079482).
Spark session available as 'spark'.
Welcome to

  _/  |  _/
 /_  | /_
/_  |/_

version 2.1.0

Using Scala version 2.11.8 (OpenJDK 64-Bit Server VM, Java 1.8.0_121)
Type in expressions to have them evaluated.
Type :help for more information.

scala>
[1]* Stopped ./spark-shell
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$ sudo apt-get install r-base r-base-dev
[sudo] password for computing:
Reading package lists... Done
Building dependency tree
Reading state information... Done
r-base is already the newest version (3.2.3-4).
r-base-dev is already the newest version (3.2.3-4).
0 upgraded, 0 newly installed, 0 to remove and 156 not upgraded.
computing@ibm-slavecomputing-HP-ProDesk-400-G2-MT:~/Documents/spark-2.1.0-bin-hadoop2.7/bin$
```