# Map Reduce
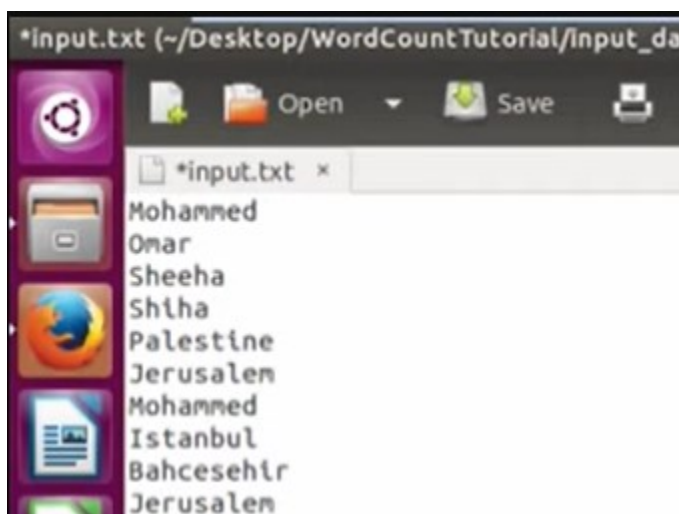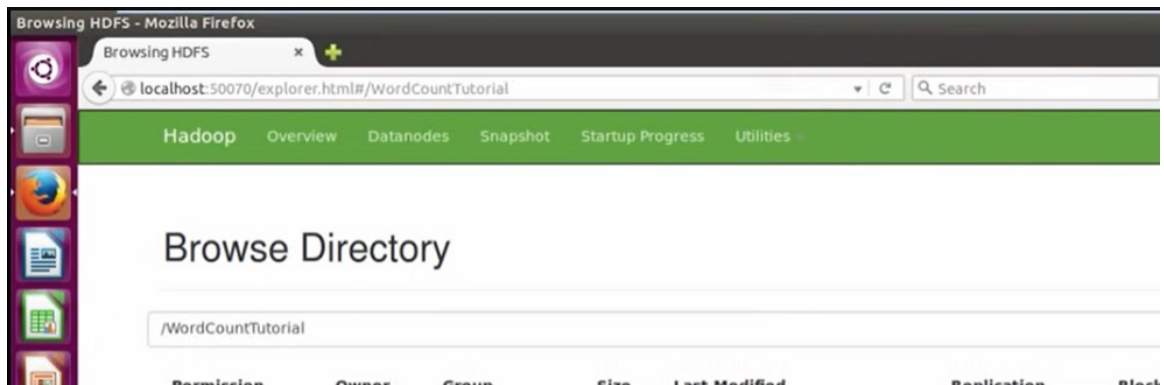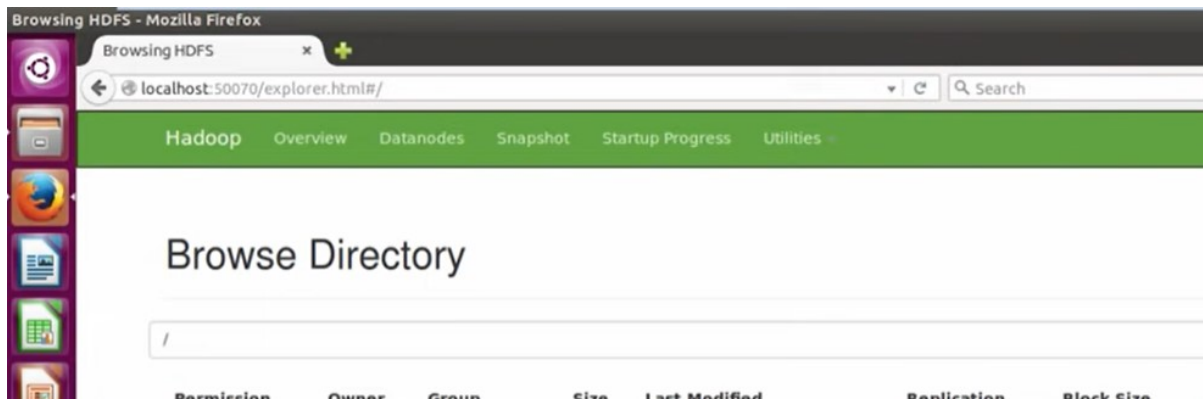
1. Check the Environmental Setup to run Map Reduce on Hadoop
    a. Check Hadoop Version
    b. Chech Java Version
    c. Set hadoop Classpath
    d. Make Directory to Run the Code

```
sheeha@ubuntu: ~
sheeha@ubuntu:~$ hadoop version
Hadoop 2.7.2
Subversion https://git-wip-us.apache.org/repos/asf/hadoop.git -r
c792ce23f546c64604acf0e41
Compiled by jenkins on 2016-01-26T00:08Z
Compiled with protoc 2.5.0
From source with checksum d0fda26633fa762bff87ec759ebe689c
This command was run using /home/sheeha/hadoop-2.7.2/share/hadoop
common-2.7.2.jar
sheeha@ubuntu:~$ javac -version
javac 1.8.0_66-internal
sheeha@ubuntu:~$ export HADOOP_CLASSPATH=$(hadoop classpath)
sheeha@ubuntu:~$ echo $HADOOP_CLASSPATH
/home/sheeha/hadoop-2.7.2/etc/hadoop:/home/sheeha/hadoop-2.7.2/sh
on/lib/*:/home/sheeha/hadoop-2.7.2/share/hadoop/common/*:/home/sh
.2/share/hadoop/[K]fs:/home/sheeha/hadoop-2.7.2/share/hadoop/hdfs/
eha/hadoop-2.7.2/share/hadoop/hdfs/*:/home/sheeha/hadoop-2.7.2/sh
/lib/*:/home/sheeha/hadoop-2.7.2/share/hadoop/yarn/*:/home/sheeha
```

2. Make the Input Director and Store text Input File in it

```
sheeha@ubuntu:~$ hadoop fs -mkdir /WordCountTutorial/Input
16/04/30 16:20:35 WARN util.NativeCodeLoader: Unable to load nati
ry for your platform... using builtin-java classes where applicab
```

```
*input.txt (~/Desktop/WordCountTutorial/input_da
Open        Save
*input.txt ×
Mohammed
Omar
Sheeha
Shiha
Palestine
Jerusalem
Mohammed
Istanbul
Bahcesehir
Jerusalem
```

3. Upload input File to the HDFS input Directory

```
sheeha@ubuntu:~$ hadoop fs -put '/home/sheeha/Desktop/WordCountT
ta/input.txt' /WordCountTutorial/Input
16/04/30 16:21:36 WARN util.NativeCodeLoader: Unable to load nat
ry for your platform... using builtin-java classes where applica
```

4. Run the Java Code

```
sheeha@ubuntu: ~/Desktop/WordCountTutorial
sheeha@ubuntu:~/Desktop/WordCountTutorial$ javac -classpath ${HAD
-d '/home/sheeha/Desktop/WordCountTutorial/tutorial_classes' '/ho
```

5. Store the Output in Jar file

```
sheeha@ubuntu:~/Desktop/WordCountTutorial$ jar -cvf firstTutorial
l_classes/ .
added manifest
adding: WordCount$TokenizerMapper.class(in = 1736) (out= 754)(def
adding: WordCount$IntSumReducer.class(in = 1739) (out= 739)(defla
```

6. Run the Java Code

```
sheeha@ubuntu:~/Desktop/WordCountTutorial$ hadoop jar '/home/shee
CountTutorial/firstTutorial.jar' WordCount /WordCountTutorial/Inp
torial/Output
16/04/30 16:28:09 WARN util.NativeCodeLoader: Unable to load nati
ry for your platform... using builtin-java classes where applicab
16/04/30 16:28:10 INFO Configuration.deprecation: session.id is d
ead, use dfs.metrics.session-id
16/04/30 16:28:10 INFO jvm.JvmMetrics: Initializing JVM Metrics w
=JobTracker, sessionId=
16/04/30 16:28:10 WARN mapreduce.JobResourceUploader: Hadoop comm
 parsing not performed. Implement the Tool interface and execute
n with ToolRunner to remedy this.
```

```
sheeha@ubuntu: ~/Desktop/WordCountTutorial
16/04/30 16:28:12 INFO mapred.LocalJobRunner: 1 / 1 copied.
16/04/30 16:28:12 INFO mapred.Task: Task attempt_local563605557_0
is allowed to commit now
16/04/30 16:28:12 INFO output.FileOutputCommitter: Saved output o
_local563605557_0001_r_000000_0' to hdfs://localhost:54310/WordCo
put/_temporary/0/task_local563605557_0001_r_000000
16/04/30 16:28:12 INFO mapred.LocalJobRunner: reduce > reduce
16/04/30 16:28:12 INFO mapred.Task: Task 'attempt_local563605557_
' done.
16/04/30 16:28:12 INFO mapred.LocalJobRunner: Finishing task: att
5557_0001_r_000000_0
16/04/30 16:28:12 INFO mapred.LocalJobRunner: reduce task executo
16/04/30 16:28:13 INFO mapreduce.Job:  map 100% reduce 100%
16/04/30 16:28:13 INFO mapreduce.Job: Job job_local563605557_0001
esefully
16/04/30 16:28:13 INFO mapreduce.Job: Counters: 35
        File System Counters
                FILE: Number of bytes read=6786
                FILE: Number of bytes written=583025
```

7. Check the Output

```
sheeha@ubuntu:~/Desktop/WordCountTutorial$ hadoop dfs -cat /WordC
tput/*
DEPRECATED: Use of this script to execute hdfs command is depreca
Instead use the hdfs command for it.

16/04/30 16:29:02 WARN util.NativeCodeLoader: Unable to load nati
ry for your platform... using builtin-java classes where applicab
Bahcesehir      1
Istanbul        2
Jerusalem       2
Mohammed        4
Omar    1
Palestine       4
```