



Experiment - 3.1

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Branch: BE-CSE

Semester: 6th

Subject Name: Cloud Computing

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Aim: Install Hadoop single node cluster and run applications like word count.

Objective: Running application on Hadoop

Script and Output:

1. Download the Java 8 Package. Save this file in your home directory.
2. Extract the Java Tar File. (*Command: tar -xvf jdk-8u101-linux-i586.tar.gz*)
3. Download the Hadoop 2.7.3 Package.
4. Extract the Hadoop tar File.
5. Add the Hadoop and Java paths in the bash file (.bashrc). Open. Bashrc file.
Now, add Hadoop and Java Path
6. Edit the Hadoop Configuration files.
7. Open *core-site.xml* and edit the property.
8. Edit *hdfs-site.xml* and edit the property inside configuration tag
9. Edit the *mapred-site.xml* file and edit the property inside configuration tag
10. Edit *yarn-site.xml* and edit the property inside configuration tag
11. Edit *hadoop-env.sh* and add the Java Path
12. Go to Hadoop home directory and format the NameNode.
13. Once the NameNode is formatted, go to *hadoop-2.7.3/sbin* directory and start all the daemons.
14. To check that all the Hadoop services are up and running, run the below command.
15. Now open the Mozilla browser and go to *localhost:50070/dfshealth.html* to check the NameNode interface.

Start Name Node:

```
edureka@localhost:~/hadoop-2.7.3/sbin
File Edit View Search Terminal Help
[edureka@localhost hadoop-2.7.3]$ cd sbin/
[edureka@localhost sbin]$ ./hadoop-daemon.sh start namenode
starting namenode, logging to /home/edureka/hadoop-2.7.3/logs/hadoop-edureka-namenode-localhost.localdomain.out
[edureka@localhost sbin]$ jps
22113 NameNode
22182 Jps
[edureka@localhost sbin]$
```

Start Data Node:

```
edureka@localhost:~/hadoop-2.7.3/sbin
File Edit View Search Terminal Help
[edureka@localhost sbin]$ ./hadoop-daemon.sh start datanode
starting datanode, logging to /home/edureka/hadoop-2.7.3/logs/hadoop-edureka-datanode-localhost.localdomain.out
[edureka@localhost sbin]$ jps
22113 NameNode
22278 Jps
22286 DataNode
[edureka@localhost sbin]$
```

Start Resource Manager:

```
edureka@localhost:~/hadoop-2.7.3/sbin
File Edit View Search Terminal Help
[edureka@localhost sbin]$ ./yarn-daemon.sh start resourcemanager
starting resourcemanager, logging to /home/edureka/hadoop-2.7.3/logs/yarn-edureka-resourcemanager-localhost.localdomain.out
[edureka@localhost sbin]$ jps
22113 NameNode
22310 ResourceManager
22345 Jps
22206 DataNode
[edureka@localhost sbin]$
```

Start Node Manager:

```
edureka@localhost:~/hadoop-2.7.3/sbin
File Edit View Search Terminal Help
[edureka@localhost sbin]$ ./yarn-daemon.sh start nodemanager
starting nodemanager, logging to /home/edureka/hadoop-2.7.3/logs/yarn-edureka-nodemanager-localhost.localdomain.out
[edureka@localhost sbin]$ jps
22592 Jps
22113 NameNode
22310 ResourceManager
22206 DataNode
22559 NodeManager
[edureka@localhost sbin]$
```

Start Job History Server:

```
edureka@localhost:~/hadoop-2.7.3/sbin
File Edit View Search Terminal Help
[edureka@localhost sbin]$ ./mr-jobhistory-daemon.sh start historyserver
starting historyserver, logging to /home/edureka/hadoop-2.7.3/logs/mapred-edureka-h
istoryserver-localhost.localdomain.out
[edureka@localhost sbin]$ jps
22113 NameNode
22310 ResourceManager
22694 JobHistoryServer
22727 Jps
22206 DataNode
22559 NodeManager
[edureka@localhost sbin]$
```

Namenode Information - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://localhost:50070/dfshealth.html#tab-overview

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Namenode Information

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Hadoop Overview Datanodes Datanode Volume Failures Snapshot Startup Progress Utilities

Overview 'localhost:9000' (active)

Started:	Wed Nov 02 08:32:45 CET 2016
Version:	2.7.3, rbaa91f7c6bc9cb92be5982de4719c1c8a791ccff
Compiled:	2016-08-18T01:41Z by root from branch-2.7.3
Cluster ID:	CID-617e6b4f-a7e8-45ee-abae-e59744b38d06
Block Pool ID:	BP-1874109370-127.0.0.1-1477077288629