Apache Storm - Installation

Let us now see how to install Apache Storm framework on your machine. There are three majo steps here –

- Install Java on your system, if you don't have it already.
- Install ZooKeeper framework.
- Install Apache Storm framework.

Step 1 – Verifying Java Installation

Use the following command to check whether you have Java already installed on your system.

```
$ java -version
```

If Java is already there, then you would see its version number. Else, download the latest version of JDK.

Step 1.1 – Download JDK

Download the latest version of JDK by using the following link – www.oracle.com

The latest version is JDK 8u 60 and the file is **"jdk-8u60-linux-x64.tar.gz"**. Download the file on your machine.

Step 1.2 – Extract files

Generally files are being downloaded onto the **downloads** folder. Extract the tar setup using the following commands.

```
$ cd /go/to/download/path
$ tar -zxf jdk-8u60-linux-x64.gz
```

Step 1.3 − Move to opt directory

To make Java available to all users, move the extracted java content to "/usr/local/java" folder.

```
$ su
password: (type password of root user)
$ mkdir /opt/jdk
$ mv jdk-1.8.0_60 /opt/jdk/
```

Step 1.4 − Set path

To set path and JAVA_HOME variables, add the following commands to ~/.bashrc file.

```
export JAVA_HOME =/usr/jdk/jdk-1.8.0_60
export PATH=$PATH:$JAVA_HOME/bin
```

Now apply all the changes in to the current running system.

```
$ source ~/.bashrc
```

Step 1.5 − Java Alternatives

Use the following command to change Java alternatives.

```
update-alternatives --install /usr/bin/java java /opt/jdk/jdk1.8.0_60/bin/java 100
```

Step 1.6

Now verify the Java installation using the verification command **(java -version)** explained in Step 1.

Step 2 – ZooKeeper Framework Installation

Step 2.1 − Download ZooKeeper

To install ZooKeeper framework on your machine, visit the following link and download the latest version of ZooKeeper http://zookeeper.apache.org/releases.html

As of now, the latest version of ZooKeeper is 3.4.6 (ZooKeeper-3.4.6.tar.gz).

Step 2.2 − Extract tar file

Extract the tar file using the following commands −

```
$ cd opt/
$ tar -zxf zookeeper-3.4.6.tar.gz
$ cd zookeeper-3.4.6
$ mkdir data
```

Step 2.3 − Create configuration file

Open configuration file named "conf/zoo.cfg" using the command "vi conf/zoo.cfg" and setting all the following parameters as starting point.

```
$ vi conf/zoo.cfg
tickTime=2000
dataDir=/path/to/zookeeper/data
clientPort=2181
initLimit=5
syncLimit=2
```

Once the configuration file has been saved successfully, you can start the ZooKeeper server.

Step 2.4 − Start ZooKeeper Server

Use the following command to start the ZooKeeper server.

```
$ bin/zkServer.sh start
```

After executing this command, you will get a response as follows −

```
$ JMX enabled by default
$ Using config: /Users/../zookeeper-3.4.6/bin/../conf/zoo.cfg
```
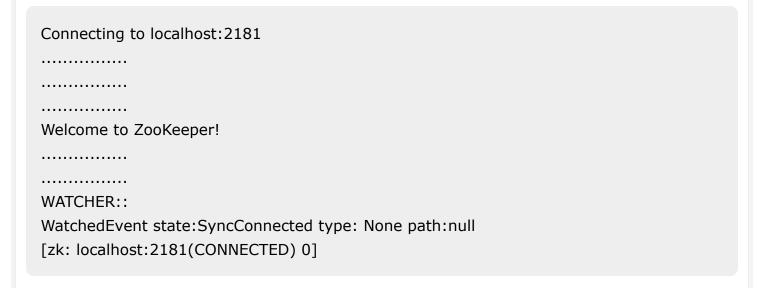
```
$ Starting zookeeper ... STARTED
```

Step 2.5 − Start CLI

Use the following command to start the CLI.

```
$ bin/zkCli.sh
```

After executing the above command, you will be connected to the ZooKeeper server and get the following response.

```
Connecting to localhost:2181
...............
...............
...............
Welcome to ZooKeeper!
...............
...............
WATCHER::
WatchedEvent state:SyncConnected type: None path:null
[zk: localhost:2181(CONNECTED) 0]
```

Step 2.6 − Stop ZooKeeper Server

After connecting the server and performing all the operations, you can stop the ZooKeeper server by using the following command.

```
bin/zkServer.sh stop
```

You have successfully installed Java and ZooKeeper on your machine. Let us now see the steps to install Apache Storm framework.

Step 3 – Apache Storm Framework Installation

Step 3.1 Download Storm

To install Storm framework on your machine, visit the following link and download the latest version of Storm http://storm.apache.org/downloads.html

As of now, the latest version of Storm is "apache-storm-0.9.5.tar.gz".

Step 3.2 − Extract tar file

Extract the tar file using the following commands −

```
$ cd opt/
$ tar -zxf apache-storm-0.9.5.tar.gz
$ cd apache-storm-0.9.5
$ mkdir data
```

Step 3.3 − Open configuration file

The current release of Storm contains a file at "conf/storm.yaml" that configures Storm daemons. Add the following information to that file.

```
$ vi conf/storm.yaml
storm.zookeeper.servers:
 - "localhost"
storm.local.dir: "/path/to/storm/data(any path)"
nimbus.host: "localhost"
supervisor.slots.ports:
 - 6700
 - 6701
 - 6702
 - 6703
```

After applying all the changes, save and return to terminal.

Step 3.4 − Start the Nimbus

```
$ bin/storm nimbus
```

Step 3.5 − Start the Supervisor

```
$ bin/storm supervisor
```

Step 3.6 Start the UI

```
$ bin/storm ui
```

After starting Storm user interface application, type the URL **http://localhost:8080** in your favorite browser and you could see Storm cluster information and its running topology. The page should look similar to the following screenshot.