Off Hadoop CLI Installation (Dev Env Setup)

Off-Hadoop-CLI installation is usually for **development use**.

Developers want to run kylin test cases or applications at their development machine. The scenario is depicted at https://github.com/KylinOLAP/Kylin#off-hadoop-cli-installation.

By following this tutorial, you will be able to build kylin test cubes by running a specific test case, and you can further run other test cases against the cubes having been built.

Environment on the Hadoop CLI

Off-Hadoop-CLI installation requires you having a hadoop CLI machine (or a hadoop sandbox) as well as your local develop machine. To make things easier we strongly recommend you starting with running Kylin on a hadoop sandbox, like http://hortonworks.com/products/hortonworks-sandbox/. In the following tutorial we'll go with **Hortonworks Sandbox 2.1**.

Start Hadoop

In Hortonworks sandbox, ambari helps to launch hadoop:

```
ambari-agent start
ambari-server start
```

With both command successfully run you can go to ambari home page at http://yoursandboxip:8080 (user:admin,password:admin) to check everything's status. By default ambari disables Hbase, you'll need manually start the `Hbase` service.

For other hadoop distribution, basically start the hadoop cluster, make sure HDFS, YARN, Hive, HBase are running.

Environment on the dev machine

Install maven

The latest maven can be found at http://maven.apache.org/download.cgi, we create a symbolic so that `mvn` can be run anywhere.

```
cd ~
wget http://apache.proserve.nl/maven/maven-3/3.2.3/binaries/apache-maven-3.2.3-
bin.tar.gz
tar -xzvf apache-maven-3.2.3-bin.tar.gz
ln -s /root/apache-maven-3.2.3/bin/mvn /usr/bin/mvn
```

Compile

First clone the Kylin project to your local:

```
git clone https://github.com/KylinOLAP/Kylin.git
```

Install Kylin artifacts to the maven repo

```
mvn clean install -DskipTests
```

Modify local configuration

Local configuration must be modified to point to your hadoop sandbox (or CLI) machine. If you are using a Hortonworks sandbox, this section may be skipped.

- In **examples/test_case_data/sandbox/kylin.properties**
  - Find `sandbox` and replace with your hadoop hosts
  - Find `kylin.job.remote.cli.username` and `kylin.job.remote.cli.password`, fill in the user name and password used to login hadoop cluster for hadoop command execution
- In **examples/test_case_data/sandbox**
  - For each configuration xml file, find all occurrence of `sandbox` and replace with your hadoop hosts

An alternative to the host replacement is updating your `hosts` file to resolve `sandbox` and `sandbox.hortonworks.com` to the IP of your sandbox machine.

Run unit tests

Run a end-to-end cube building test

```
mvn test -Dtest=com.kylinolap.job.BuildCubeWithEngineTest -DfailIfNoTests=false
```

Run other tests, the end-to-end cube building test is exclueded

```
mvn test
```

Launch Kylin Web Server

In your Eclipse IDE, launch `com.kylinolap.rest.DebugTomcat` with specifying VM arguments "-Dspring.profiles.active=sandbox". (By default Kylin server will listen on 7070 port; If you want to use another port, please specify it as a parameter when run `DebugTomcat)

Check Kylin Web available at http://localhost:7070 (user:ADMIN,password:KYLIN)