Lab: Validate Lab Environment

Ensuring the Student Lab Environment is Available for Use

About this Lab

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Objective:	To validate the HDP software is ready for use and all lab files are available
File locations:	`/root`
Successful outcome:	Successfully started the HDP Sandbox and copied over necessary lab files to this new host
Before you begin	Obtain an IP address from the instructor
Related lesson:	n/a

Connect to Remote Desktop

On your personal workstation, open Chrome or Firefox and go to `http://`***`your_ip_address`***`:8080/guacamole.` Log in with user `remote` and password `D3skt0p.`
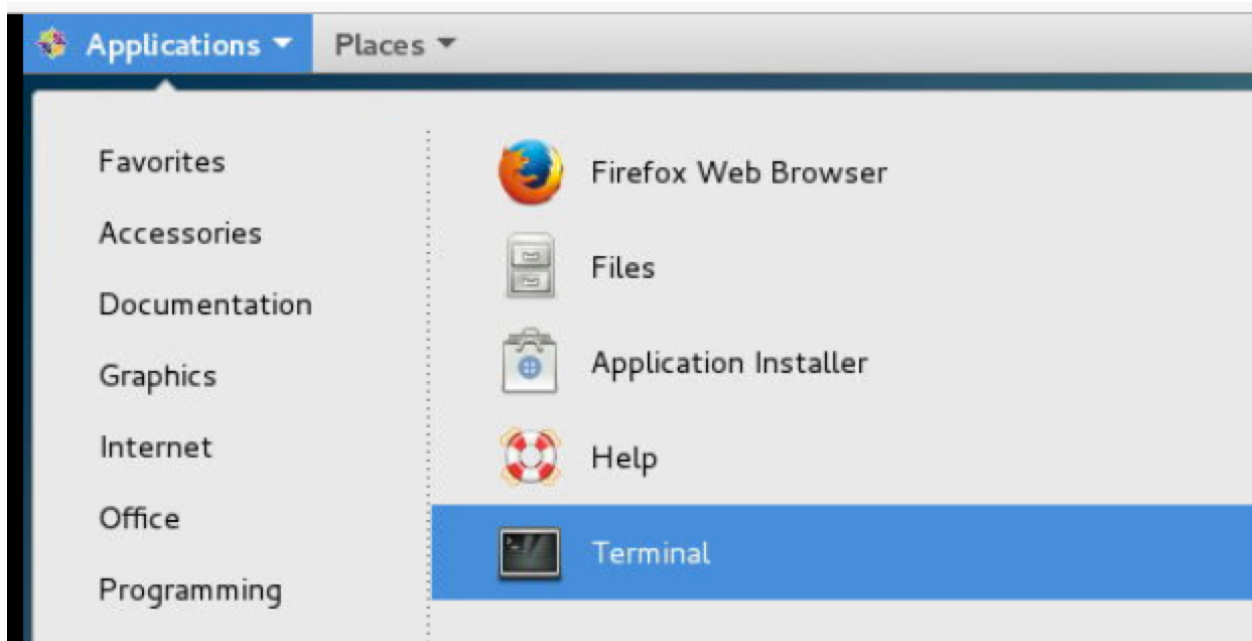

If you are not immediately logged in remotely to the server's desktop interface (shown below) then select "localhost" on the landing page.
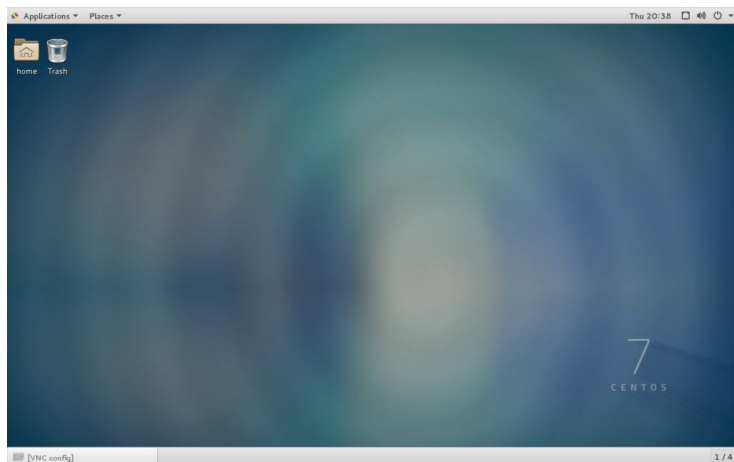
Start the HDP Cluster

Within the remote desktop, open a Terminal window.

Navigate to the `/root/sandbox` directory as the `root` user and run the start script.

NOTE: This process will take several minutes to complete. *It may also report one, or more, errors. If so, proceed on to next section to see if cluster is functional.*

```
[root@ip-172-30-0-164 ~]# cd /root/sandbox
[root@ip-172-30-0-164 sandbox]# ./start_sandbox-hdp.sh
sandbox-hdp
9270c96616f0212f26b5b31a49e2634a0ff229c87569515c65959226161d233f
Starting ... MULTIPLE "Starting" MESSAGES ...              [  OK  ]
```

```
[root@ip-172-30-0-164 sandbox]#
```

Validate Cluster via Command-Line Interface

SSH to the newly created Docker host *(referred to as the "sandbox" for the remainder of the labs)* that is running HDP and then as user `maria_dev`, load a file into HDFS and verify its contents.

NOTE: This will require the default `root` password of `hadoop` to be changed. Please make the new password `Hortonworks` *(you will be asked to enter the current/default password one more time before changing it)*.

```
[root@ip-172-30-0-164 sandbox]# ssh -p 2222 root@127.0.0.1
root@127.0.0.1's password:
You are required to change your password immediately (root enforced)
Changing password for root.
(current) UNIX password:
New password:
Retype new password:
[root@sandbox ~]# ambari-server status
Using python  /usr/bin/python
Ambari-server status
Ambari Server running
Found Ambari Server PID: 930 at: /var/run/ambari-server/ambari-server.pid
[root@sandbox ~]# su - maria_dev
[maria_dev@sandbox ~]$ hdfs dfs -put /etc/hosts hosts.txt
[maria_dev@sandbox ~]$ hdfs dfs -cat hosts.txt
127.0.0.1   localhost
::1   localhost ip6-localhost ip6-loopback
fe00::0     ip6-localnet
ff00::0     ip6-mcastprefix
ff02::1     ip6-allnodes
ff02::2     ip6-allrouters
172.17.0.2  sandbox.hortonworks.com
[maria_dev@sandbox ~]$
```

Validate the Cluster via Ambari

Within the remote desktop, launch the Firefox browser and go to `http://127.0.0.1:8081` and login as user `raj_ops` with password `raj_ops` to verify that the cluster is operational.

HINT: Click on Application > Favorites in the upper-left corner to find the Firefox icon
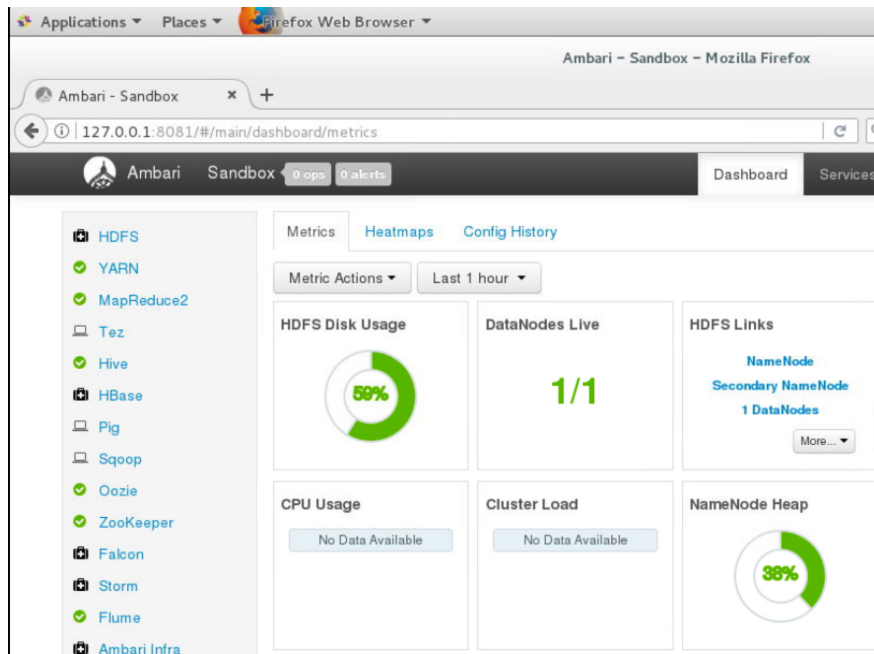
Notify instructor if any services are reporting a red status indicator on the left-nav.

NOTE: If only YARN in left-hand nav is reporting as "red" then drill into it to see if only the Application Timeline Server is reporting as "stopped". If so, you can restart it (again, notify instructor if any help is necessary to complete this action).

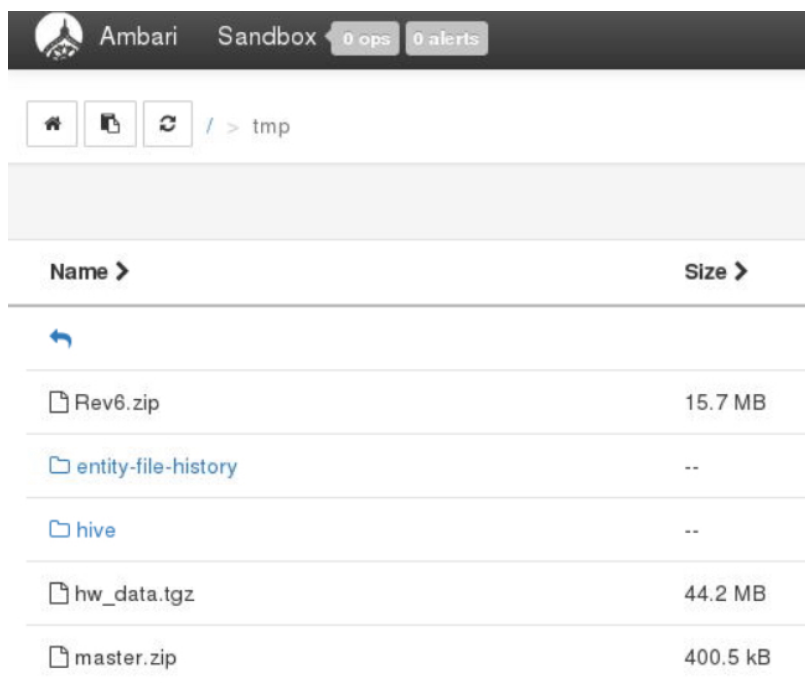## Move the Lab Files onto the Sandbox

Via the Ambari session previously opened, open the Files View by clicking on the small 3x3 grid in the upper-right of the top-nav bar and navigate to the Files View link.
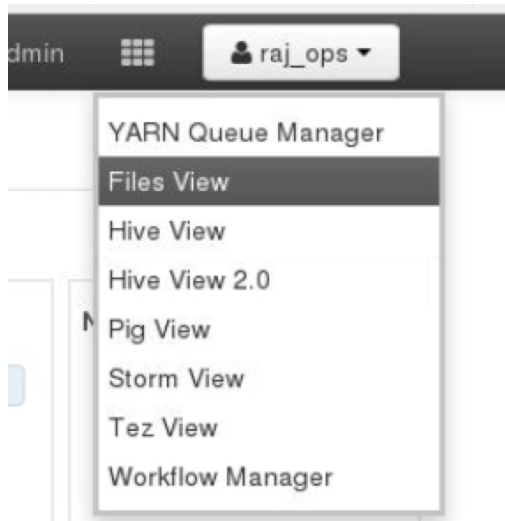
Then navigate to the `/tmp` folder and click on the blue "Upload" button on the upper-right of the screen. Select all three files (one at a time) found in the `/root/sandbox/labfiles` folder to be uploaded to this HDFS location.
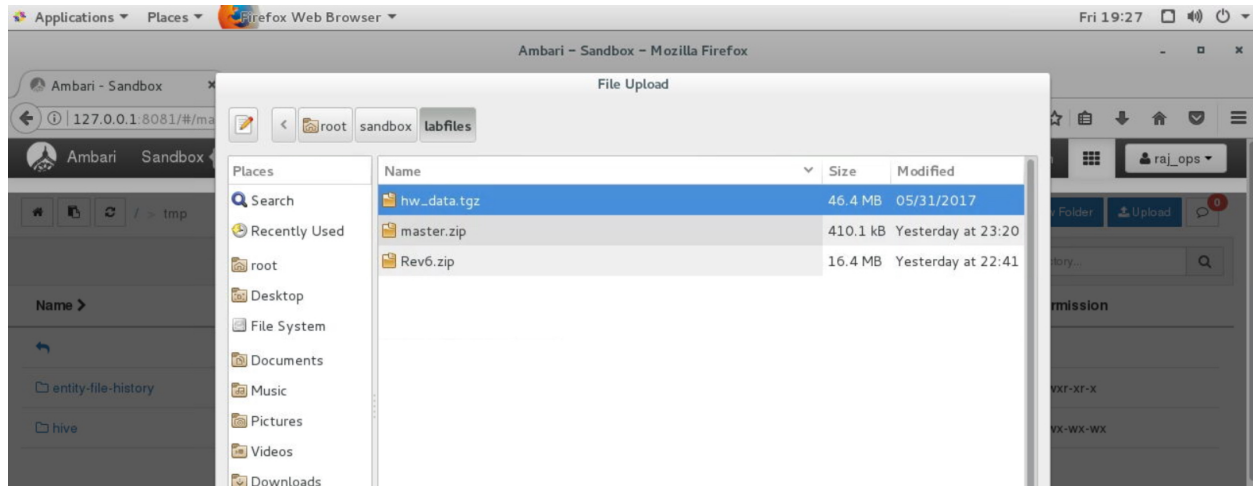
Verify all three files were uploaded.

In the previously opened Terminal window, exit out of the user `maria_dev` if necessary.

```
[maria_dev@sandbox ~]$ exit
logout
[root@sandbox ~]#
```

As the user `root` on the sandbox, retrieve the lab file bundles from HDFS.

```
[root@sandbox ~]# cd /root
[root@sandbox ~]# mkdir labfiles
[root@sandbox ~]# cd labfiles
[root@sandbox labfiles]# hdfs dfs -get /tmp/hw_data.tgz
[root@sandbox labfiles]# hdfs dfs -get /tmp/master.zip
[root@sandbox labfiles]# hdfs dfs -get /tmp/Rev6.zip
[root@sandbox labfiles]# ls
hw_data.tgz  master.zip  Rev6.zip
[root@sandbox labfiles]#
```

Unwind these files and move them to their necessary location.

```
[root@sandbox labfiles]# tar -zxf hw_data.tgz
[root@sandbox labfiles]# mkdir /home/zeppelin/spark
[root@sandbox labfiles]# mv data/ /home/zeppelin/spark/data/
[root@sandbox labfiles]# unzip -q master.zip
[root@sandbox labfiles]# mv RealTime_Labs-master/ /root/rtlabs/
[root@sandbox labfiles]# unzip -q Rev6.zip
[root@sandbox labfiles]# mv DevPH_Labs-Rev6/ /root/devph/
[root@sandbox labfiles]# chmod -R o+r+x /root
[root@sandbox labfiles]#
```

Summary

You have started the HDP cluster and move all necessary lab files into the newly create sandbox host. This enables you to complete the remaining labs for this course.