

YARN Job

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LAB Chapter 04: YARN JOB

Run a YARN Job

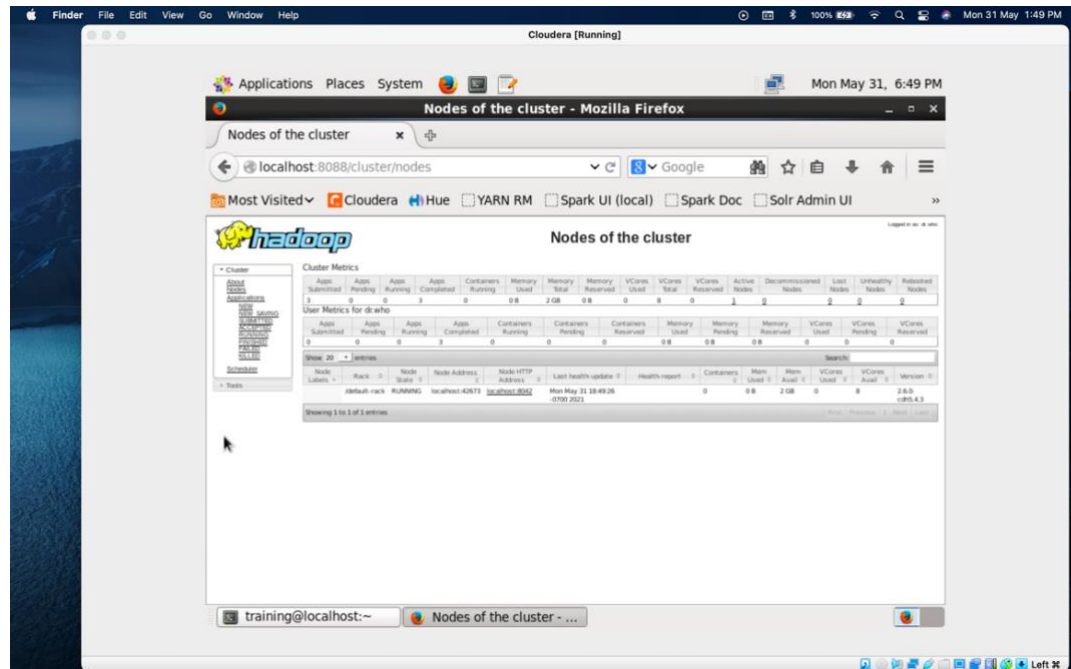
In this lab, I did a hands-on with YARN cluster, to monitor the application using HUE File Browser and YARN web UI.

1. For viewing the YARN web UI I opened the Firefox browser and open the following site: <https://localhost:8088>
Below is the screenshot of the same. There are some jobs which can be seen in the dashboard, that is because I ran the sqoop lab before doing the yarn lab.

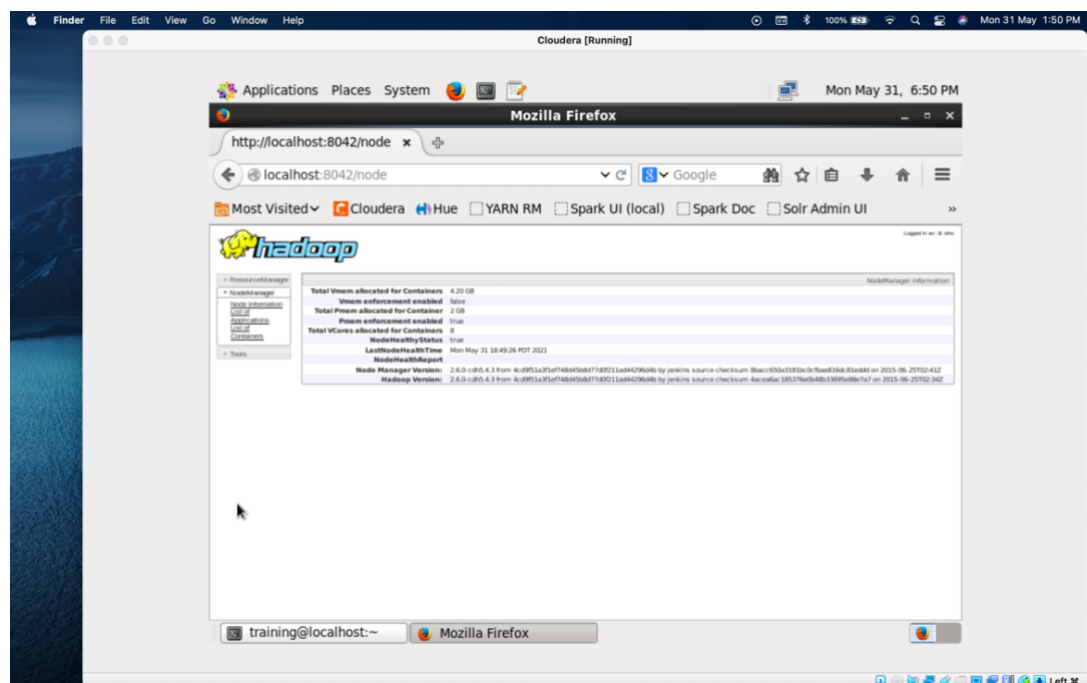
The screenshot shows a web browser window titled 'All Applications - Mozilla Firefox' displaying the Cloudera YARN web UI. The address bar shows 'localhost:8088/cluster'. The page has a navigation bar with 'Applications', 'Places', and 'System'. The main content area is titled 'All Applications' and includes a 'Cluster Metrics' section with various gauges for Applications Submitted, Pending, Running, Completed, Containers Running, Memory Used, Memory Total, Memory Reserved, V-Cores Used, V-Cores Total, V-Cores Reserved, Active Nodes, Decommissioned Nodes, Lost Nodes, Unhealthy Nodes, and Rebooted Nodes. Below this is a 'User Metrics for dr:who' section with similar gauges. The main table lists applications with columns for ID, User, Name, Application Type, Queue, Start Time, End Time, State, Final Status, Running Containers, Allocated CPU V-Cores, Allocated Memory MB, Progress, and Tracking. Three applications are listed, all with a 'FINISHED SUCCEEDED' status. The bottom of the window shows a terminal window with the prompt 'training@localhost:~' and a taskbar with icons for the browser and terminal.

ID	User	Name	Application Type	Queue	Start Time	End Time	State	Final Status	Running Containers	Allocated CPU V-Cores	Allocated Memory MB	Progress	Tracking
application_1622020112648_0001	training	webpage.jar	MAPREDUCE	root-training	Mon May 31 18:45:28 -0700 2021	Mon May 31 18:45:53 -0700 2021	FINISHED	SUCCEEDED	NA	NA	NA		History
application_1622020112648_0002	training	accounts.jar	MAPREDUCE	root-training	Mon May 31 18:38:47 -0700 2021	Mon May 31 18:39:03 -0700 2021	FINISHED	SUCCEEDED	NA	NA	NA		History
application_1622020112648_0003	training	accounts.jar	MAPREDUCE	root-training	Mon May 31 18:08:48 -0700 2021	Mon May 31 18:09:13 -0700 2021	FINISHED	SUCCEEDED	NA	NA	NA		History

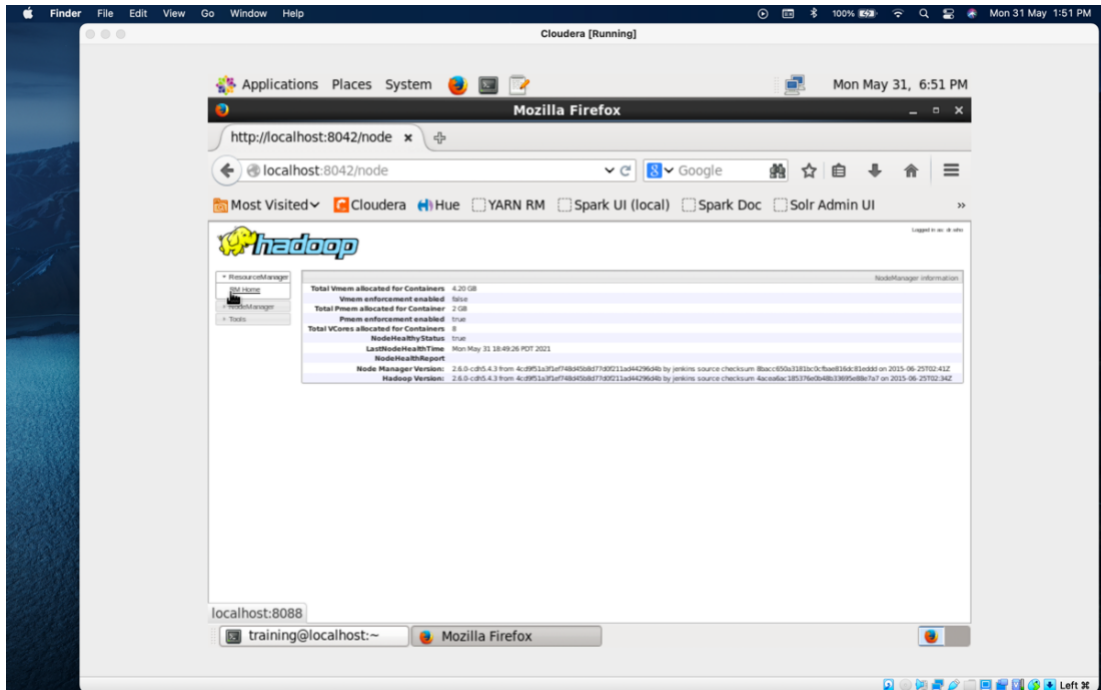
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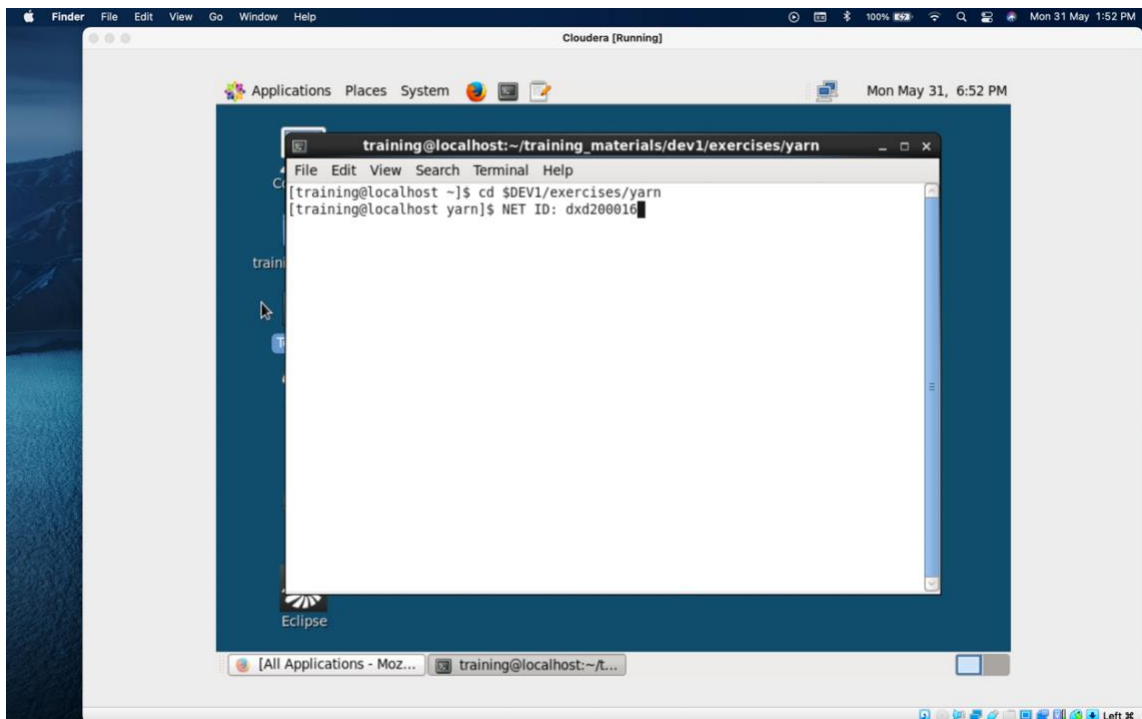
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4. Then I click on the RM HOME on the left hand of the screen to go back to the Resource Manager.

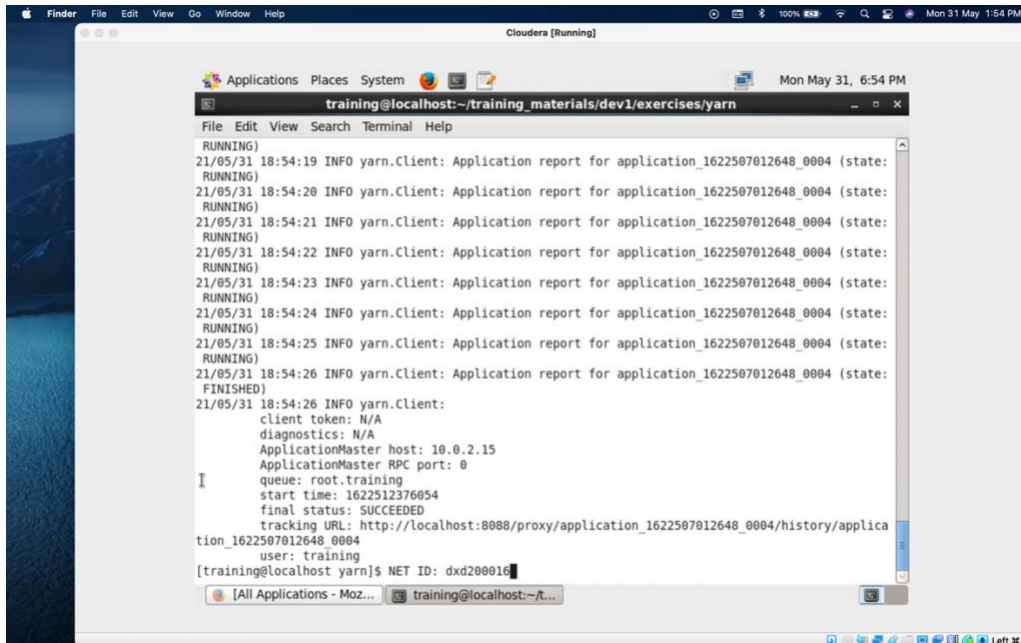


5. Then, for submitting the application to the YARN cluster I open the command line and change the directory to:
`cd $DEV1/exercises/yarn`



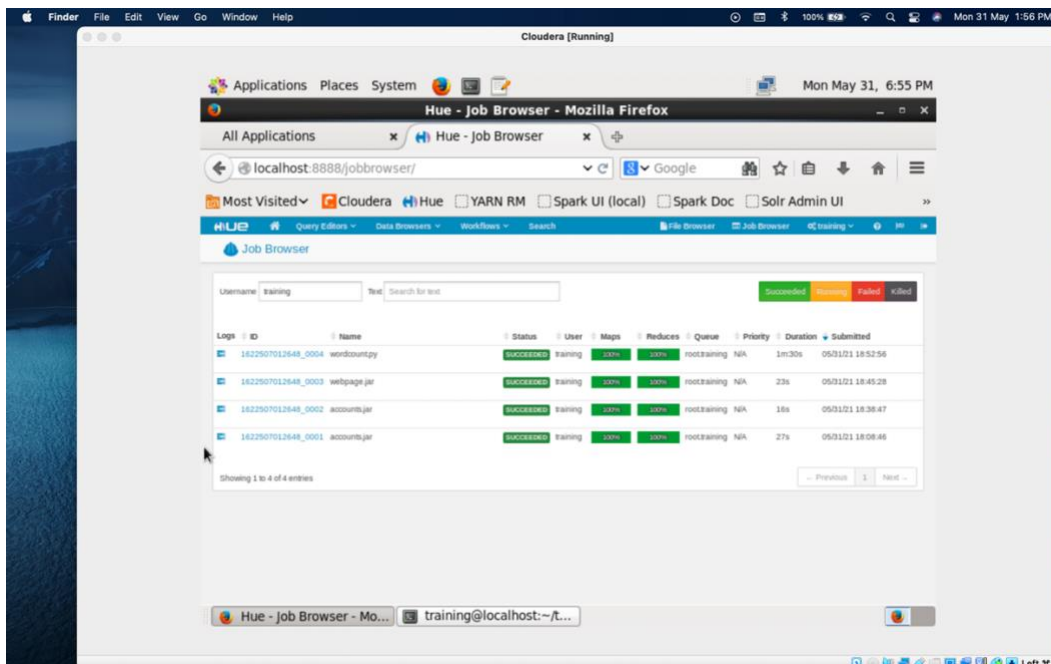
- Then I ran the wordcount.py program on the YARN cluster in order to count the frequency of the words in the knowledge dataset.

Command: `spark-submit --master yarn-cluster \ wordcount.py /loudacre/kb/*`

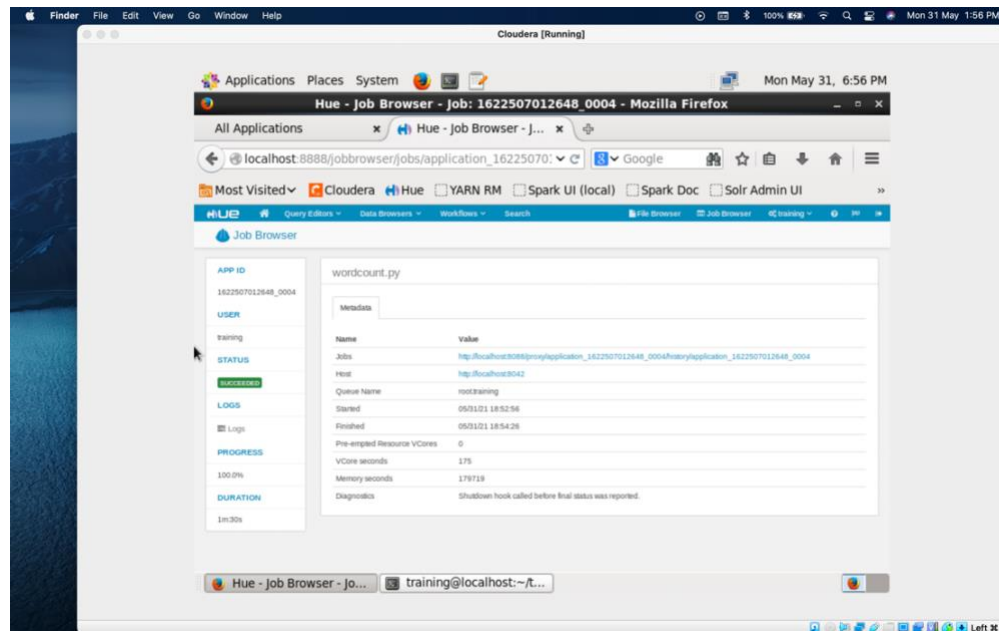


```
training@localhost:~/training_materials/dev1/exercises/yarn$ spark-submit --master yarn-cluster \ wordcount.py /loudacre/kb/*
RUNNING)
21/05/31 18:54:19 INFO yarn.Client: Application report for application_1622507012648_0004 (state:
RUNNING)
21/05/31 18:54:20 INFO yarn.Client: Application report for application_1622507012648_0004 (state:
RUNNING)
21/05/31 18:54:21 INFO yarn.Client: Application report for application_1622507012648_0004 (state:
RUNNING)
21/05/31 18:54:22 INFO yarn.Client: Application report for application_1622507012648_0004 (state:
RUNNING)
21/05/31 18:54:23 INFO yarn.Client: Application report for application_1622507012648_0004 (state:
RUNNING)
21/05/31 18:54:24 INFO yarn.Client: Application report for application_1622507012648_0004 (state:
RUNNING)
21/05/31 18:54:25 INFO yarn.Client: Application report for application_1622507012648_0004 (state:
RUNNING)
21/05/31 18:54:26 INFO yarn.Client: Application report for application_1622507012648_0004 (state:
FINISHED)
21/05/31 18:54:26 INFO yarn.Client:
client token: N/A
diagnostics: N/A
ApplicationMaster host: 10.0.2.15
ApplicationMaster RPC port: 0
queue: root.training
start time: 1622512376054
final status: SUCCEEDED
tracking URL: http://localhost:8088/proxy/application_1622507012648_0004/history/applica
tion_1622507012648_0004
user: training
[training@localhost yarn]$ NET ID: dxd200016
```

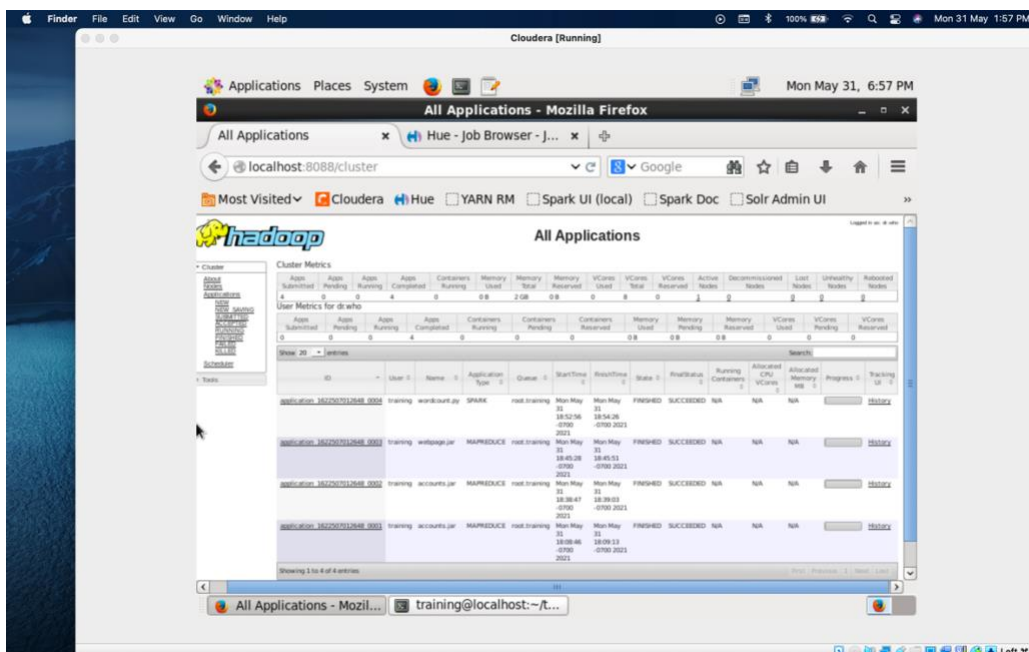
- Then I open the HUE File Browser and click on the Job Browser to view all the jobs. I was able to all the jobs that were completed successfully and shows the status as Succeeded.



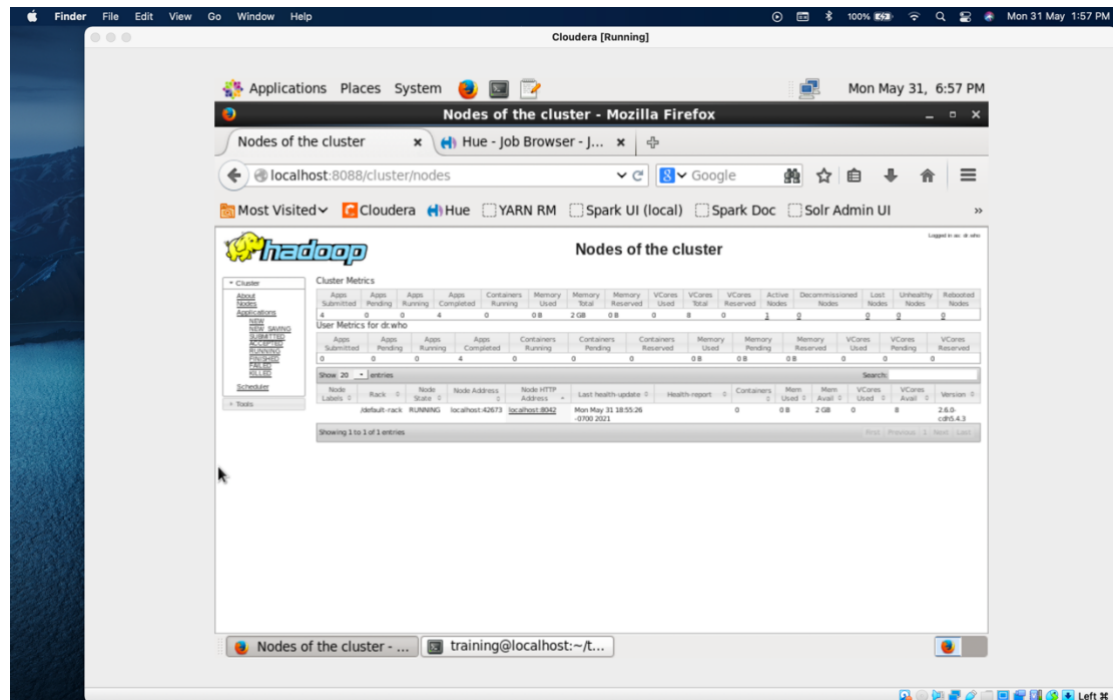
- Then I click on the application ID to view the details of the application, such as Started, Finished, Queue Name, etc.



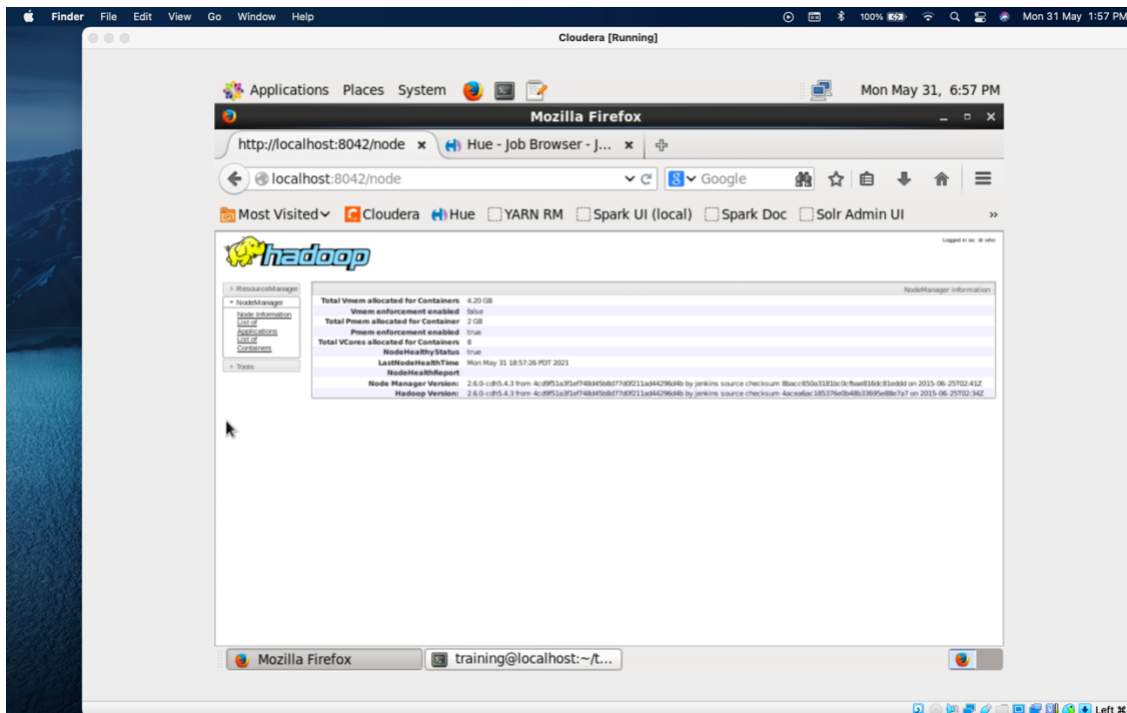
- To get a more detailed view, I again open the YARN UI and I was able to see all the applications I ran or started before that time.



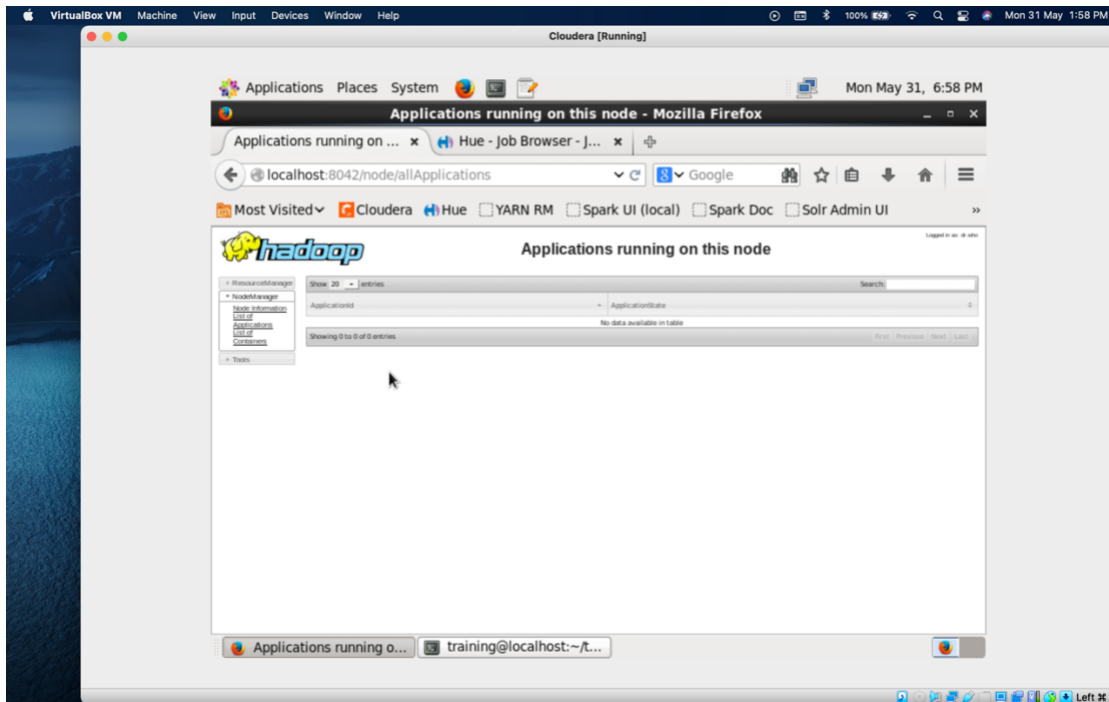
10. After that I again clicked on the nodes on the left side to view the nodes of the cluster.



11. Then I click on the Node HTTP Address to see the statistics.



12. On the left side of the screen, I click on List of Applications. As there were no active running application at the current moment, so the list was empty.



13. Again, I clicked on the list of containers to check if there are any active containers running on the node.

