Big Data Hadoop and Spark Developer

Lesson-End Project Solution

Retail Business Analysis Using Spark Streaming

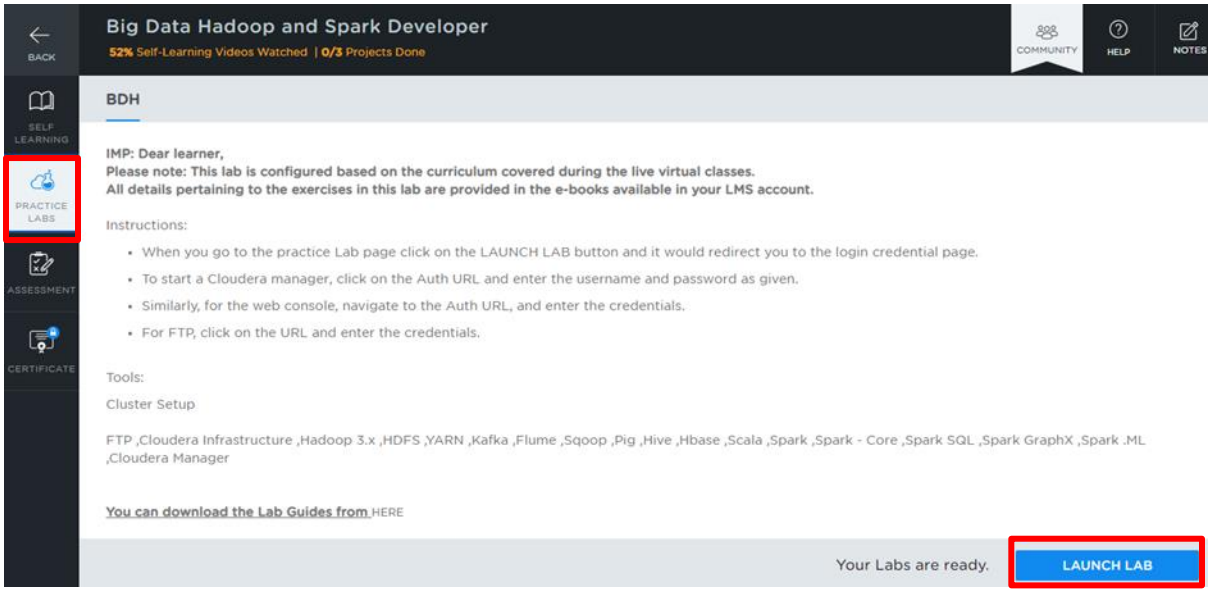
Steps to Perform:

Step 1: Log in to your LMS account

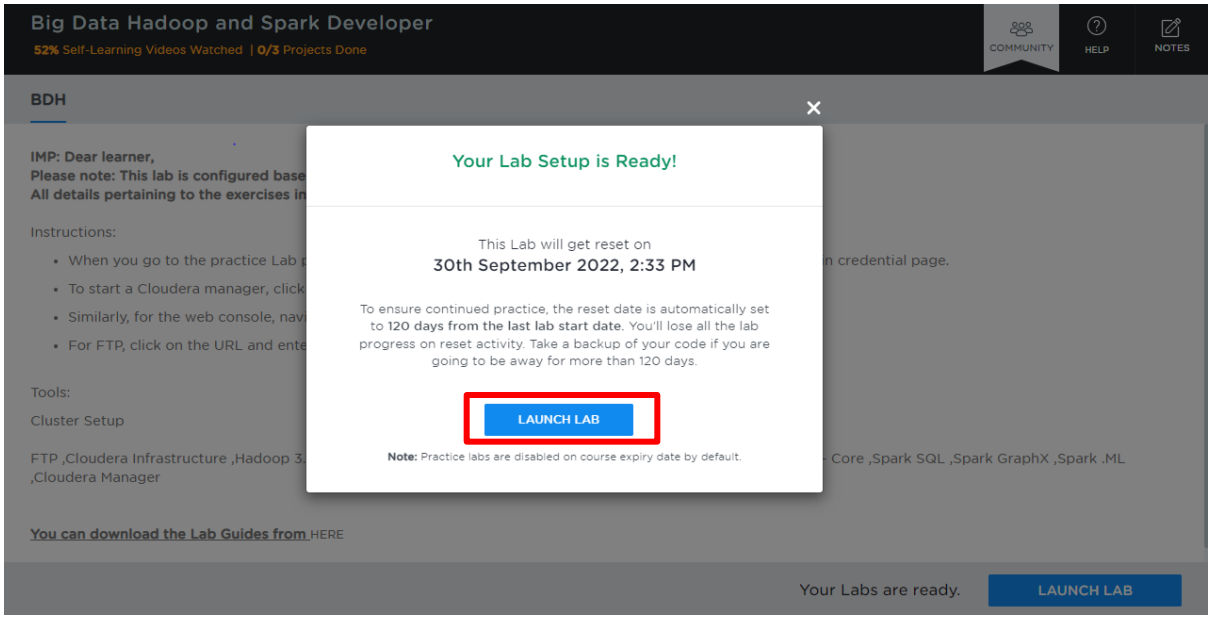
Step 2: Open the course "**Big Data Hadoop and Spark Developer**"

Step 3: Download the **"module.py"** script from the "**Course Resources**" section

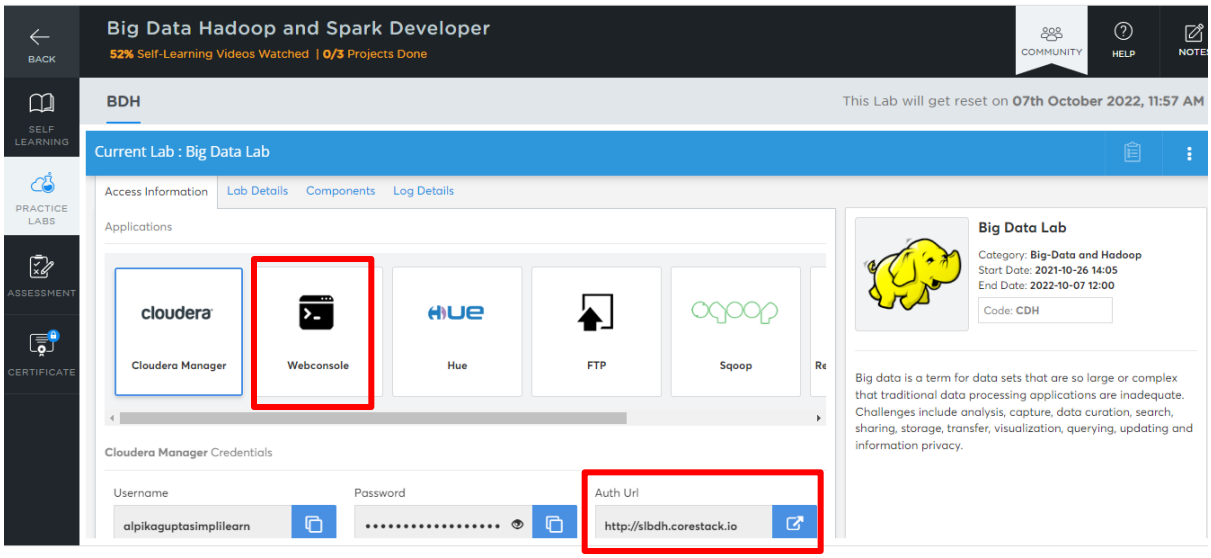
Step 4: On the left side, click on the "**PRACTICE LABS**" tab and click on the "**LAUNCH LAB**" button



Step 5: Again, click on the "**LAUNCH LAB**" button



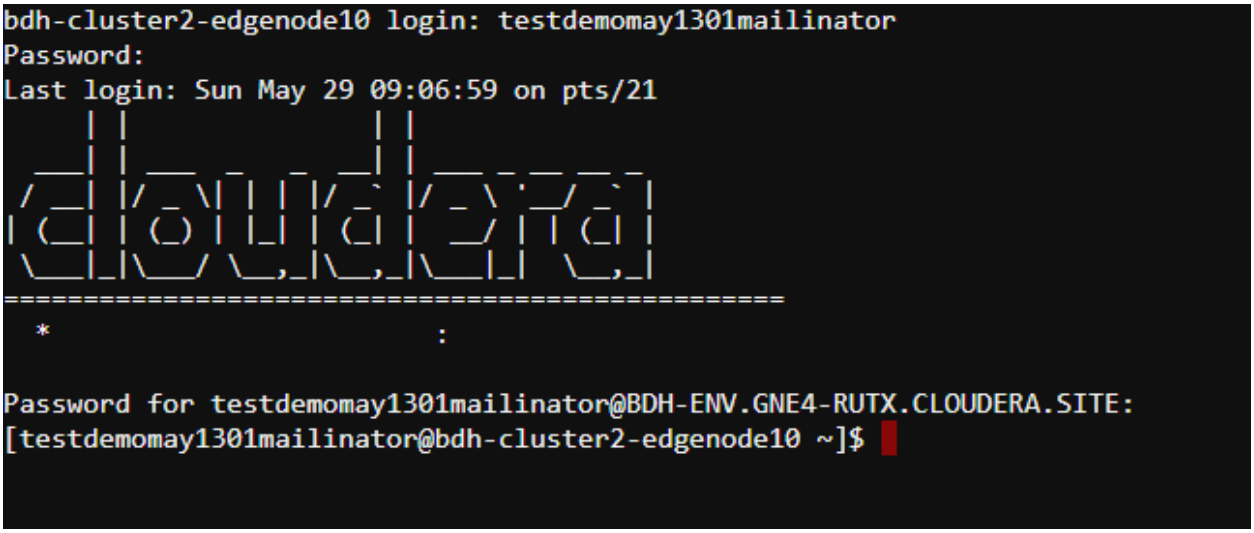
Step 6: Click on the Webconsole and click on the "**Auth Url**"



Step 7: Copy the "**Username**" and the "**Password**" provided to log in to the Web console

Step 8: Paste the "**Username**" and the "**Password**" on the console and click on Enter

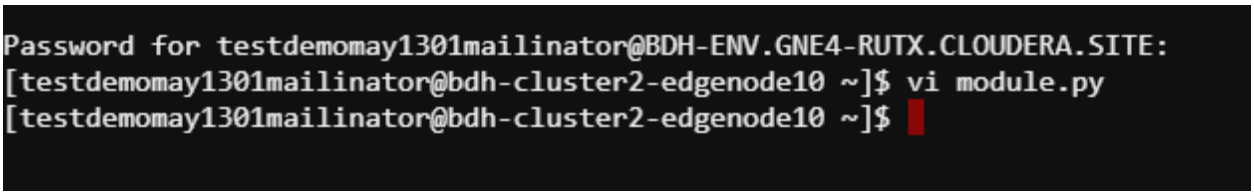
Note: The password will not be visible when pasted on the console.



Step 9: Open the vi editor to write a script using the below command:

Command:

vi module.py



Step 10: Write the script into the **"module.py"** file which is available in the Course Resources section

```
import random
import time
from socket import *
from threading import Thread

import pyspark
from pyspark.streaming import StreamingContext

# Create a SparkContext with 2 threads in local mode
sc = pyspark.SparkContext("local[2]")


# Create a thread that reads streaming data from the socket and
# performs a wordcount on the data that arrived in the last 1 second
class Streamer(Thread):
    def __init__(self, sc):
        Thread.__init__(self)
        self.sc = sc

    def run(self):
        print("starting Streaming thread...")
        batchInterval = 1

        # Using the spark context, create a streaming context with a batch interval of 1 second
        ssc = StreamingContext(self.sc, batchInterval)
        # Create a socket DStream reading from localhost at port 4444
        socketDstream = ssc.socketTextStream("localhost", 9999)

        # WordCount
        wordcounts = socketDstream.flatMap(lambda line: line.split(" ")) \
            .map(lambda word: (word, 1)) \
            .reduceByKey(lambda a, b: a + b)

        # Print first 50 words counted in the last one second
        wordcounts.pprint(50)
"module.py" 79L, 3454C
```

Step 11: To come out from the script type esc:wq

Step 12: Run the below command to execute the **"module.py"** script

```
>>>
[testdemomay1301mailinator@bdh-cluster2-edgenode10 ~]$ vi module.py
[testdemomay1301mailinator@bdh-cluster2-edgenode10 ~]$ spark-submit module.py
```

Step 13: Next, you will see the streaming output

```
-----------------------------------------
Time: 2022-05-26 12:49:02
-----------------------------------------
(u'', 2)
(u'http://almhuette-raith.at/administrator/', 1)
(u'-', 5)
(u'rv:34.0)', 2)
(u'/administrator/', 1)
(u'POST', 1)
(u'NT', 2)
(u'200', 2)
(u'6.0;', 2)
(u'GET', 1)
(u'Gecko/20100101', 2)
(u'-.', 2)
(u'+0100]', 2)
(u'83.167.113.100', 2)
(u'[12/Dec/2015:18:31:25', 2)
(u'/administrator/index.php', 1)
```