Assisted Practice 11.1: List Operations

Problem Scenario: Write a program to illustrate different ways operations handle a list

Objective: In this demonstration, you will learn how to work with lists.

Tasks to be completed:

1. **Remove empty strings from the list given below:**

   List1 = ["Mike", "", "Emma", "Kelly", "", "Brad"]

2. **Add a new item to the list after the specified item**

   Write a program to insert 7000 after 6000 in the following Python list:

   List2 = [10, 20, [300, 400, [5000, 6000], 500], 30, 40]

3. **Write a program to extend the nested list by inserting a sub list in such a way that it looks like the expected result provided**

   List3 = ["a", "b", ["c", ["d", "e", ["f", "g"], "k"], "l"], "m", "n"]

   sub_list = ["h", "i", "j"]

   Expected result: ['a', 'b', ['c', ['d', 'e', ['f', 'g', 'h', 'i', 'j'], 'k'], 'l'], 'm', 'n']

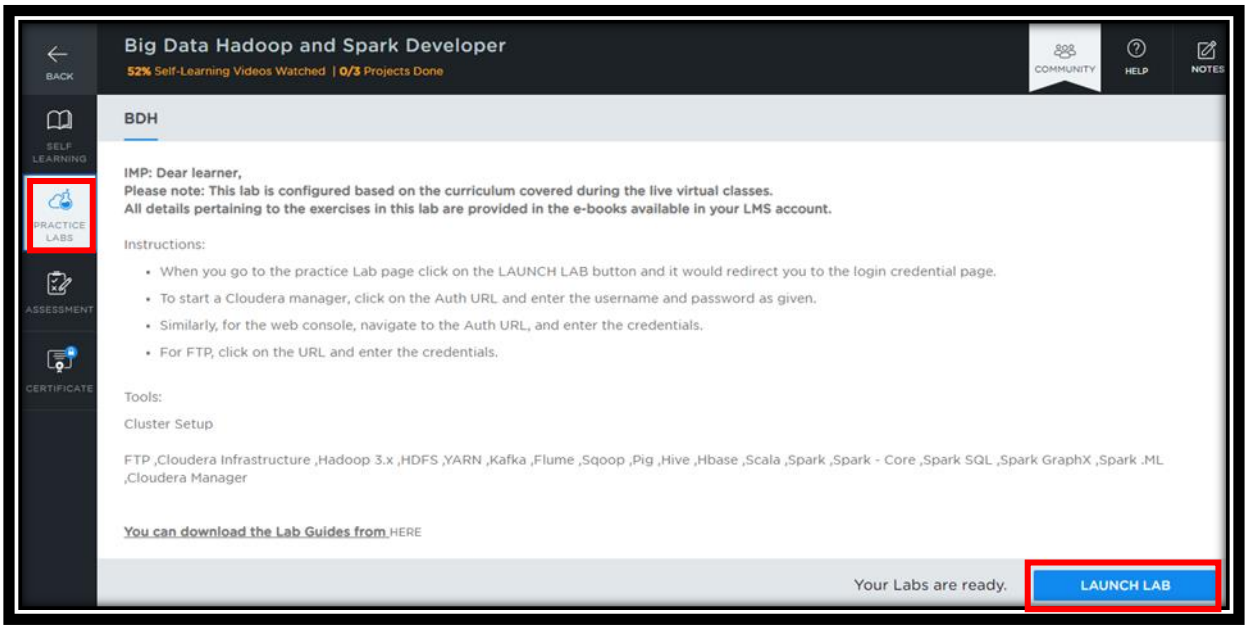
Steps to perform:

Step 1: Log in to the LMS account

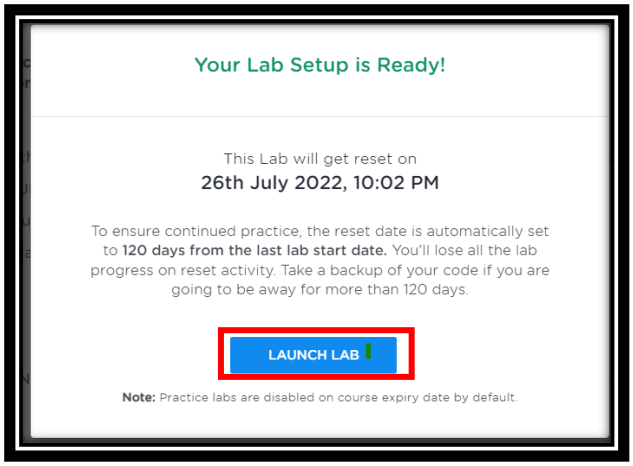
Step 2: Open the course "**Big Data Hadoop and Spark Developer**"

(Note: The course name reflects depending on the program purchased.)

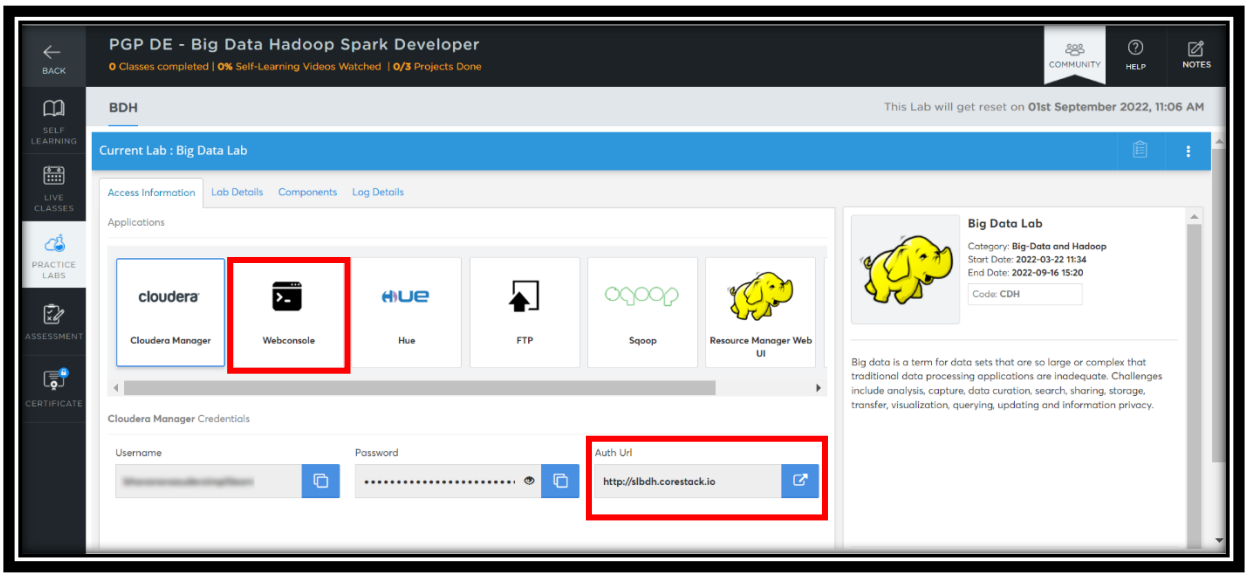
Step 3: On the left side, click on the "**PRACTICE LABS**" tab and click on the "**LAUNCH LAB**" button



Step 4: Again, click on the "**LAUNCH LAB**" button



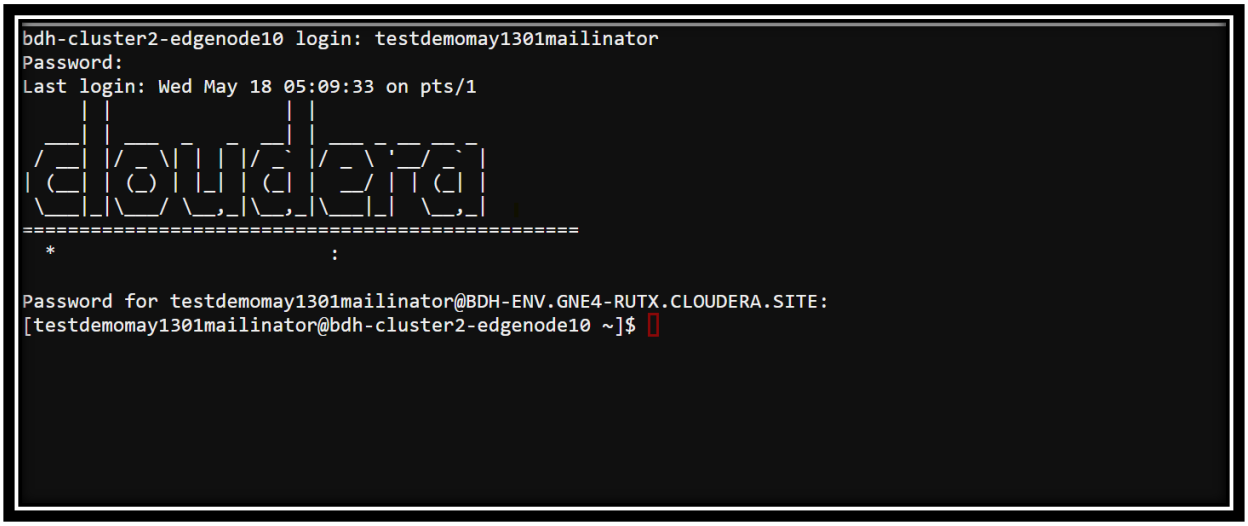
Step 5: Click on "**Webconsole**" and then click on the "**Auth Url**"



Step 6: Copy the "**Username**" and the "**Password**" provided to log in to the web console

Step 7: 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 8: Enter the python console using the following command:

Command: python3

```
[testdemomay1301mailinator@bdh-cluster2-edgenode10 ~]$ python3
Python 3.7.3 (default, Mar 27 2019, 22:11:17)
[GCC 7.3.0] :: Anaconda, Inc. on linux
Type "help", "copyright", "credits" or "license" for more information.
>>>
```

Step 9: Perform the stated tasks:

Task 9.1: Solution

Remove Null values from a list

9.1.1 Create a list

Command:

List1 = ["Mike", "", "Emma", "Kelly", "", "Brad"]

```
>>> List1 = ["Mike", "", "Emma", "Kelly", "", "Brad"]
>>> print List1
['Mike', '', 'Emma', 'Kelly', '', 'Brad']
>>>
```

9.1.2 Remove None from List1 and convert the result into a list

Command:

result = list(filter(None, List1))

print(result)

```
>>> result = list(filter(None, List1))
>>> print(result)
['Mike', 'Emma', 'Kelly', 'Brad']
>>>
```

Task 9.2: Solution

Write a program to insert 7000 after 6000 in the following Python List

9.2.1 Create a list

Command:

List2 = [10, 20, [300, 400, [5000, 6000], 500], 30, 40]

```
>>> List2 = [10, 20, [300, 400, [5000, 6000], 500], 30, 40]
>>> print List2
[10, 20, [300, 400, [5000, 6000], 500], 30, 40]
>>>
```

9.2.2 Append 7000 after 6000

Command:

List2[2][2].append(7000)

List2

```
>>> List2[2][2].append(7000)
>>> List2
[10, 20, [300, 400, [5000, 6000, 7000], 500], 30, 40]
>>>
```

Task 9.3: Solution

Write a program to extend the nested list by inserting a sub list in such a way that it looks like the expected result provided

List3 = ["a", "b", ["c", ["d", "e", ["f", "g"], "k"], "l"], "m", "n"]

sub_list = ["h", "i", "j"]

Expected result: ['a', 'b', ['c', ['d', 'e', ['f', 'g', 'h', 'i', 'j'], 'k'], 'l'], 'm', 'n']

9.3.1 Create a list and its sub list

Command:

List3 = ["a", "b", ["c", ["d", "e", ["f", "g"], "k"], "l"], "m", "n"]

sub_list = ["h", "i", "j"]

```
>>> List3 = ["a", "b", ["c", ["d", "e", ["f", "g"], "k"], "l"], "m", "n"]
>>> List3
['a', 'b', ['c', ['d', 'e', ['f', 'g'], 'k'], 'l'], 'm', 'n']
>>> sub_list = ["h", "i", "j"]
>>> sub_list
['h', 'i', 'j']
```

9.3.2 Extend the inner-most list by appending the sub_list created

List3[2][1][2].extend(sub_list)

List3

```
>>> List3[2][1][2].extend(sub_list)
>>> List3
['a', 'b', ['c', ['d', 'e', ['f', 'g', 'h', 'i', 'j'], 'k'], 'l'], 'm', 'n']
>>>
```

The tasks have been executed successfully.