DALHOUSIE UNIVERSITY

Master of Engineering in Internetworking

VIRTUAL LAB STUDIO GUIDE

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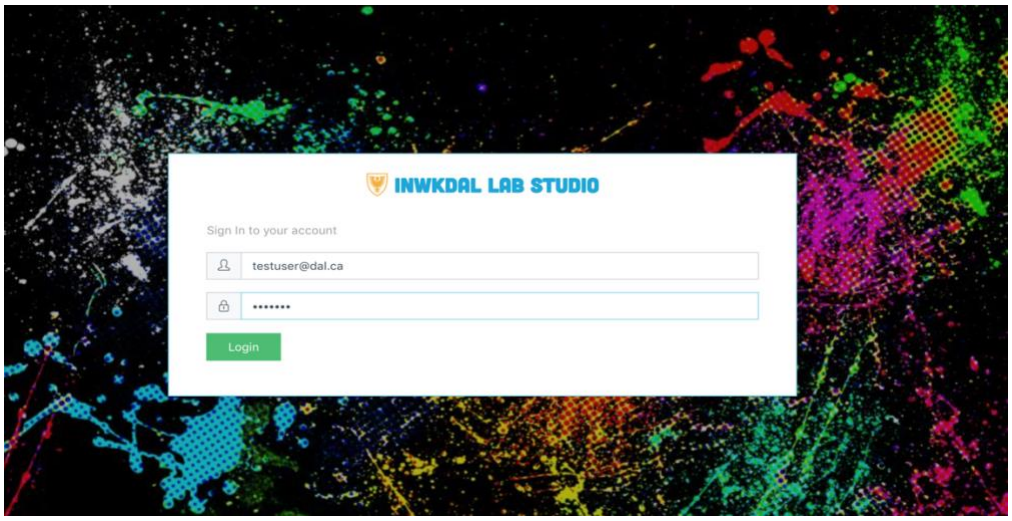
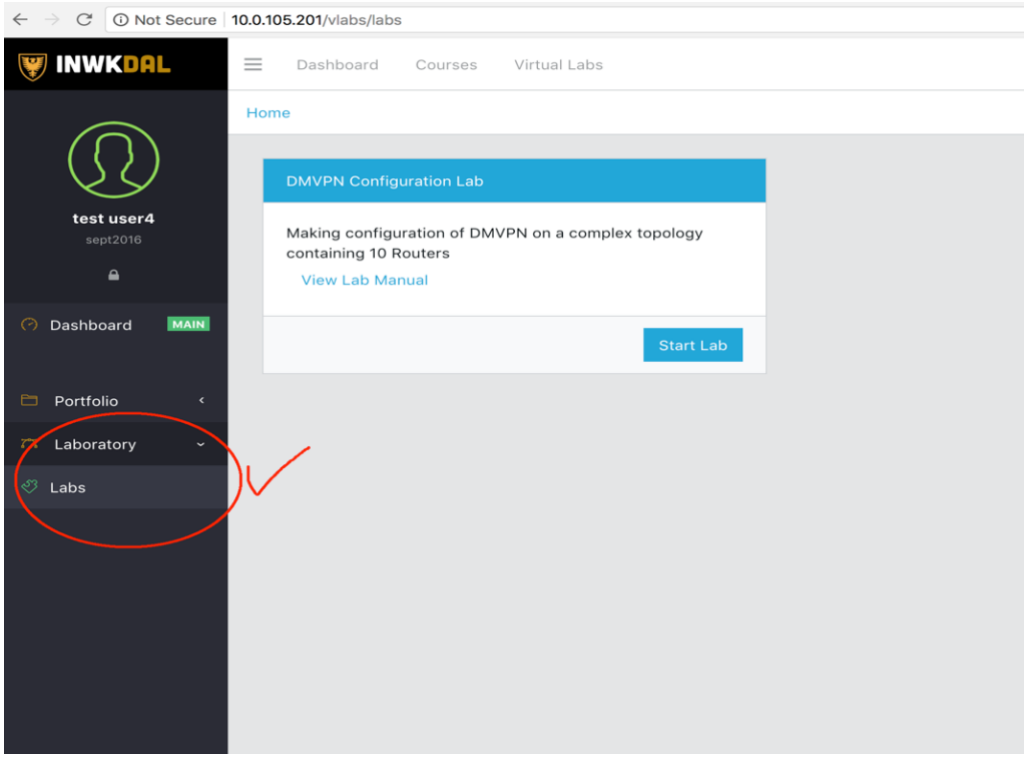
SECTION 1: STARTING UP A NEW LAB AND ACCESSING NODES

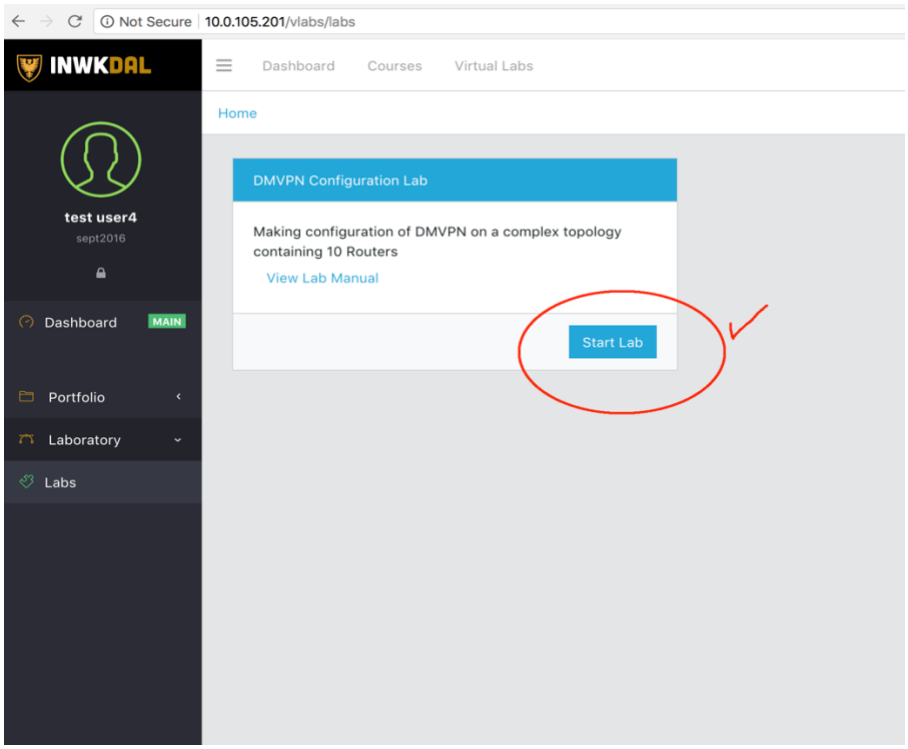
step 1. Navigate to the URL: **http://10.0.105.201** and login with your *equipment username and password.*



step 2. On the left area of the page *click* '**Laboratory'** and then '**Labs'**



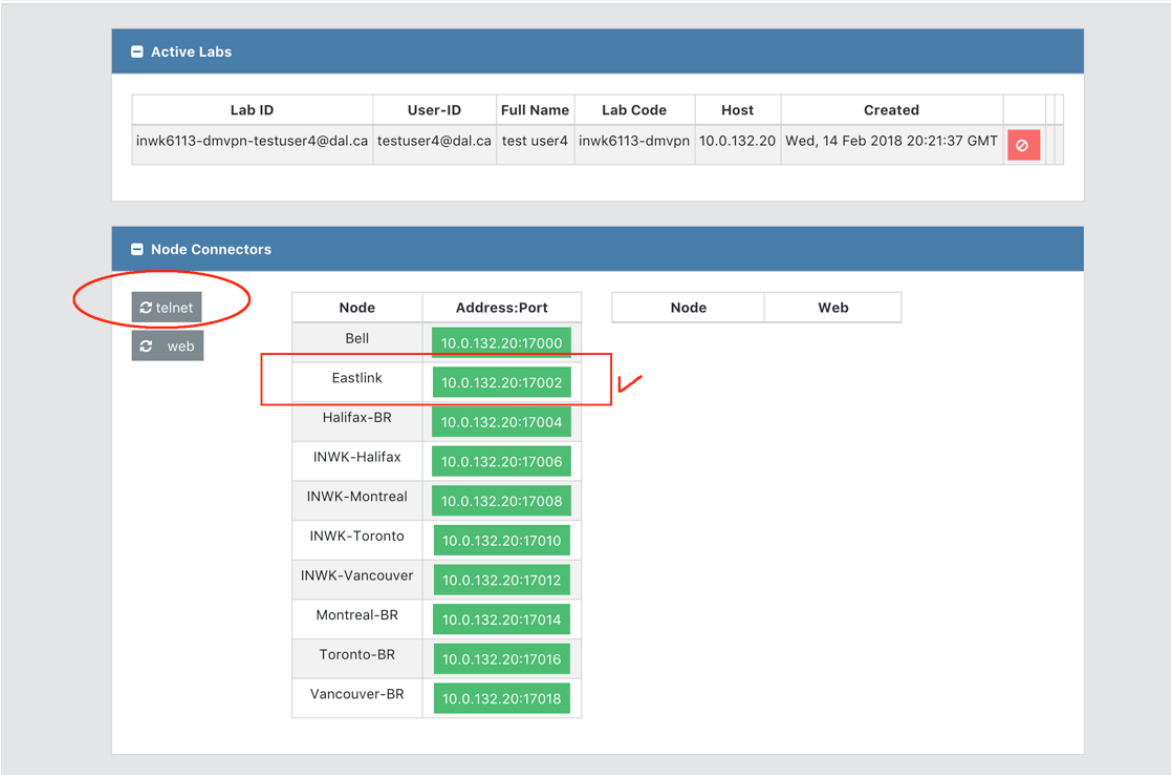
step 3. On the right area, under the *lab* you wish to start, click "**Start Lab**"



step 4. You will be redirected to the **Dashboard**, which is a view for you to access all the necessary functionalities of your lab. Please allow several minutes for all the devices to initialize. *(it might take several minutes for all devices to initialize depending on the type and number of devices in the topology).*

step 5. To access the nodes via TELNET, under the **Node Connectors** Panel, *click* on the **Telnet Refresh** Button. Click on the **Green Button** next to the node you wish to gain access. A pop-up telnet client should emerge depending on your custom telnet client for your browser.

If you see a blank Green button, it means that particular device is still ***initializing****. You will need to refresh the node links, by clicking on the* ***Telnet*** *refresh Button again*

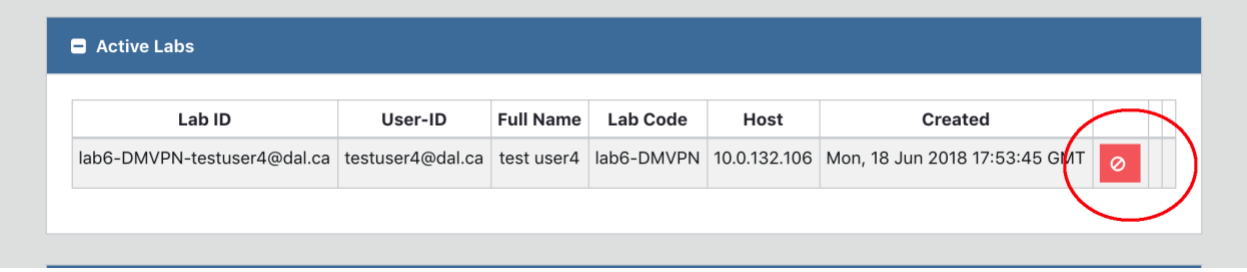


step 6. (*Optional*). You may also click the '**web'** button to gain access to the lab devices via a web link.

step 7. Once your computer's telnet client opens up the connection, if you see a blank screen, hit the ***ENTER*** key on your keyboard to **activate** the connection**.**

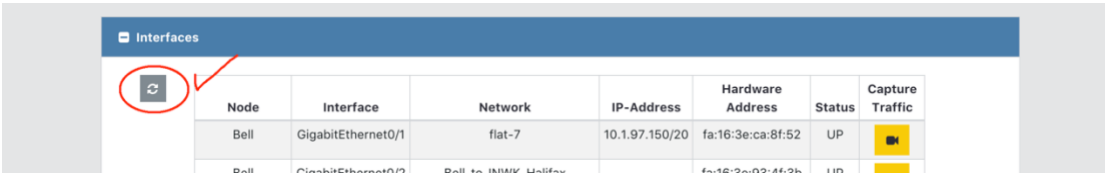
SECTION 2: SHUTTING DOWN A LAB

step 1. Navigate to the "**Dashboard**"**.** Under the *Active Labs* panel, click the *Red Stop button* next to the lab you wish to end.



SECTION 3: TRAFFIC CAPTURE

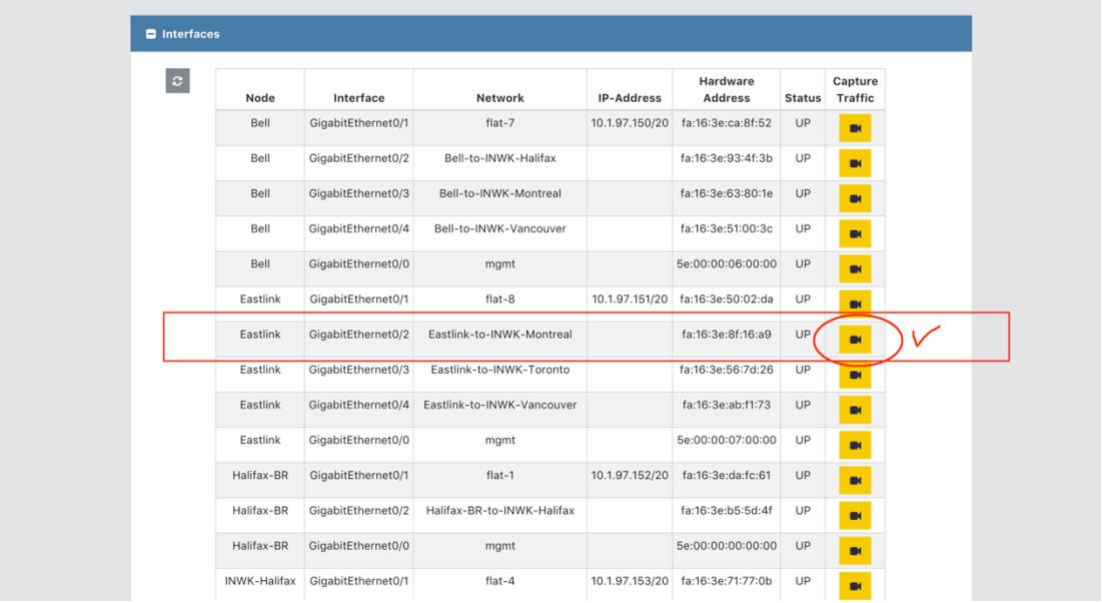
step 1. Navigate to the **Interface Panel** and click the **"+"** button to expand it. Next, click the **Refresh button** to fetch all the interfaces of all the nodes in your simulation.

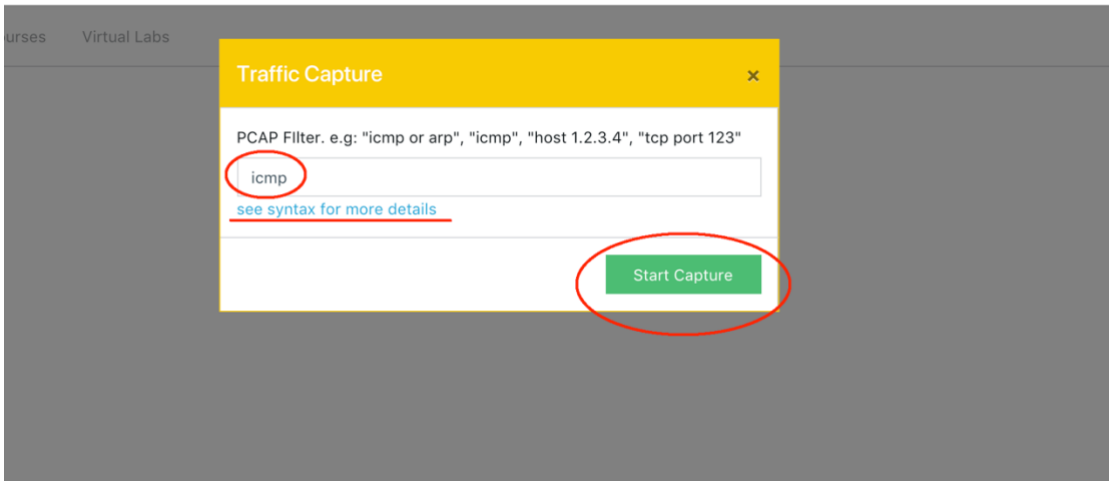


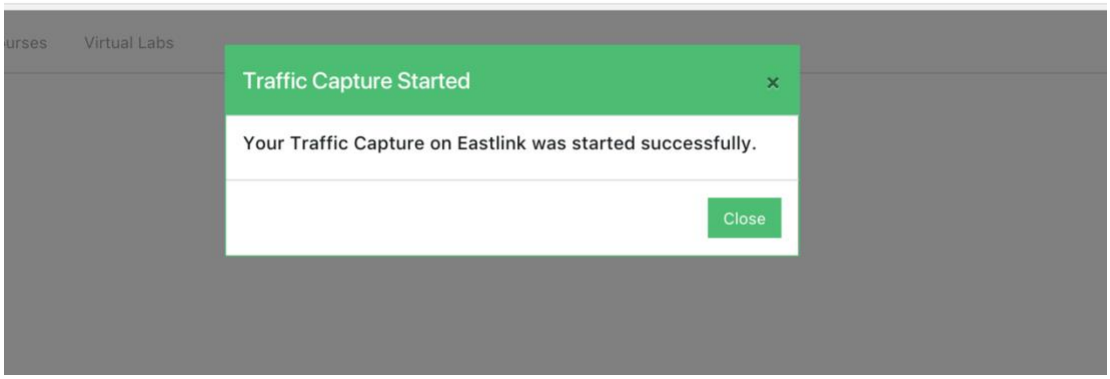
step 2. Assuming you will like to capture traffic on the **Eastlink Router** interface **G0/2:**

Click on the **yellow video button** next to Eastlink interface G0/2. A *pop-up* window should appear for you to choose the ***type of packet*** you will like to capture. Refer to the link on the window for more information about the syntax of the **PCAP** packet capture type.

For example, to capture ICMP packets, type **ICMP** in the input box and click "**Start Capture**".

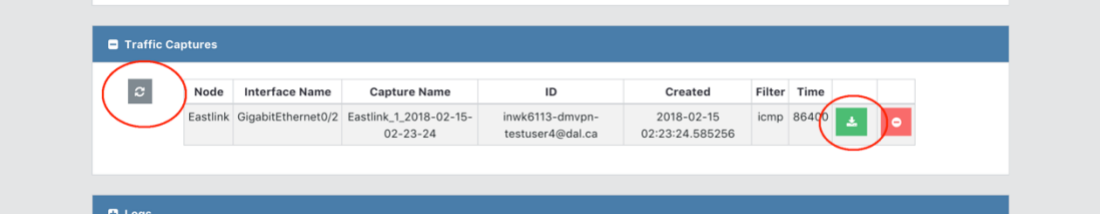






step 3. Navigate to the "**Traffic Captures**" panel and expand it with the "+" button, if it is not already expanded. Click on the refresh button to see the updated traffic captures. Right

next to the Capture you are interested in, click the "Download button" to download the PCAP capture file and use Wireshark to analyze it.



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If you type in an invalid PCAP capture, you will get a "**Traffic Capture Error**" and you might have to delete the Capture in the Traffic capture list and try again with a valid PCAP syntax.

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You need to download the updated traffic capture and analyze with Wireshark every time you capture new packets

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SECTION 4: TROUBLESHOOTING GUIDE

Occasionally, errors can occur when you start a new lab topology. This section is meant to provide guidelines to known errors.

1. If you cannot gain access to the console of a particular device, check the status of the device under the ***Nodes Panel***. If the state is ***Active***. You should **restart only that device** not the topology.

2. If you cannot gain access to the console of a particular device, but the state is ***Error***. You should **restart only that device** not the topology

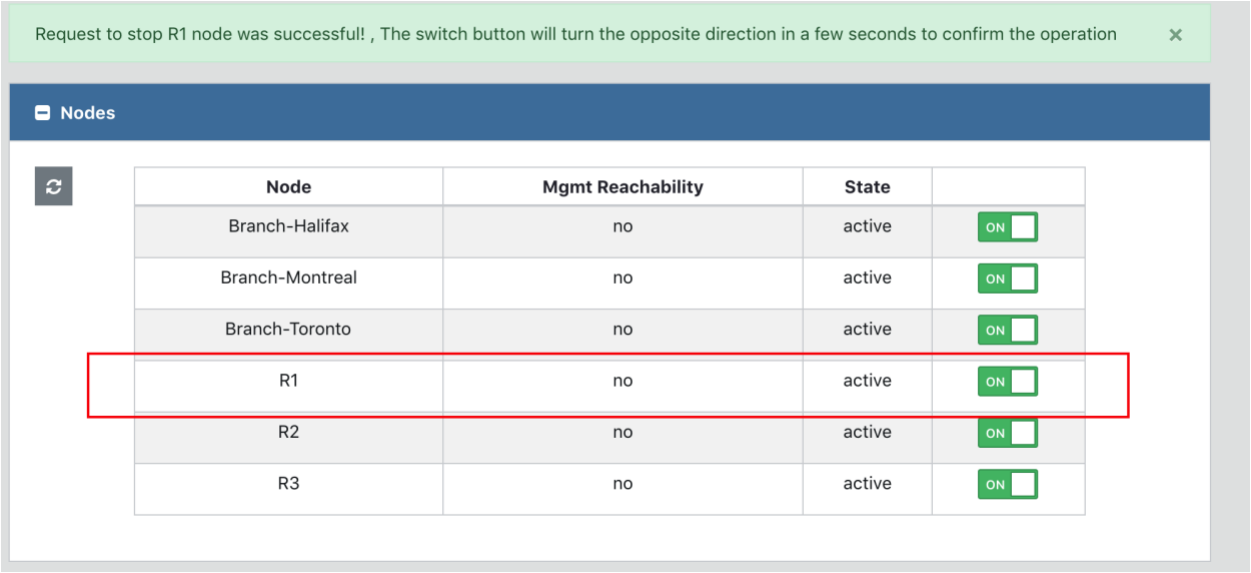
3. If status of the multiple devices shows "***Error***" after several minutes, you should **restart the topology** not the devices.

3A: RESTARTING A NODE

If you wish to restart a device. Perform the following steps:

step 1. Navigate to the "**Nodes**" panel and expand it with the "+" button, if it is not already expanded. Click on the refresh button to see the list of all the nodes in your topology.

Assuming you will like to restart device R1. Click the green switch button, next to the device, to turn it off. You will see a success message, if the request was successful.



Please wait for several seconds to see the updated status of the device until you notice the switch button has changed to an *off* status and the state of the device is '**ABSENT'**. Click the button again to turn the device back on.