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cyber-security - lab-2

Topic: Hands on with ssh commands

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how to connect to iitj remote server using ssh from terminal

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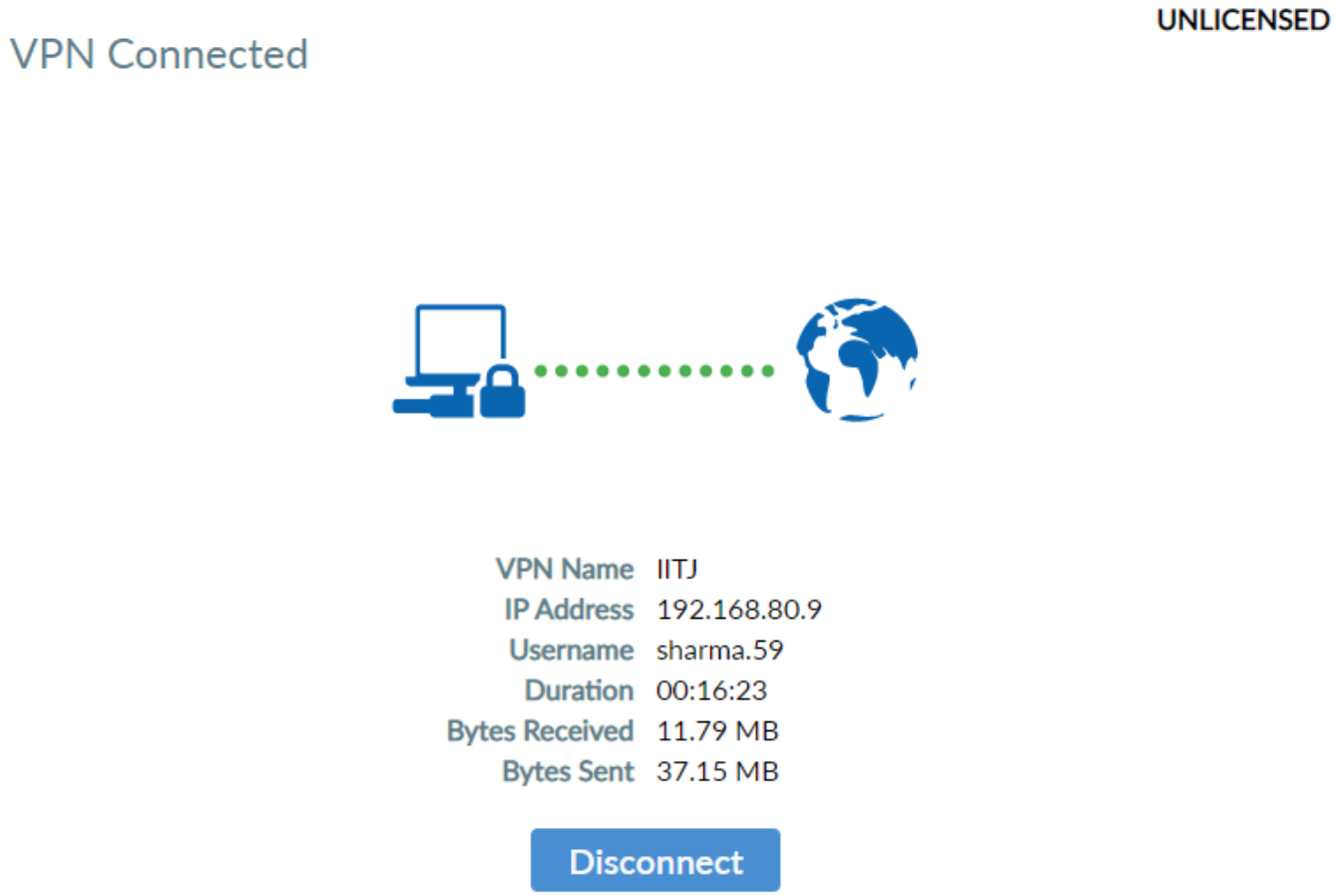
1. first connect to the iitj forticlient vpn (if outside campus)



2. then connect to the server using the following command: *ssh u108@172.25.0.42* then enter password as shown below

```
┌──[zsh@LINUX]-[~]
└─── ❯❯❯ ssh u108@172.25.0.42
u108@172.25.0.42's password:
Activate the web console with: systemctl enable --now cockpit.socket

Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
Last login: Fri Jan 28 14:04:24 2022 from 192.168.80.9
[u108@gpu2 ~]$ ls
Pytorch_CV_Lab  Untitled.ipynb  file1.txt  testfiel.ipynb
[u108@gpu2 ~]$
```

how to transfer files from your local system to remote server using scp command

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1. first select a file to transfer as shown below

```
┌──[zsh@LINUX]-[/mnt/…/cyber-assn/assn2]
└─── ❯❯❯ ls
Capture1.PNG  Capture2.PNG  Report.md  nirbhay.txt

┌──[zsh@LINUX]-[/mnt/…/cyber-assn/assn2]
└─── ❯❯❯
```

2. then send the file to remote server using scp command shown below

```
┌──[zsh@LINUX]-[/mnt/…/cyber-assn/assn2]
└─── ❯❯❯ ls
Capture1.PNG  Capture2.PNG  Report.md  nirbhay.txt

┌──[zsh@LINUX]-[/mnt/…/cyber-assn/assn2]
└─── ❯❯❯ scp nirbhay.txt u108@172.25.0.42:
u108@172.25.0.42's password:
nirbhay.txt                                   100%   22     0.4KB/s   00:00

┌──[zsh@LINUX]-[/mnt/…/cyber-assn/assn2]
└─── ❯❯❯
```

3. you can see the file on remote server as shown below

```
[u108@gpu2 ~]$ ls
Pytorch_CV_Lab  Untitled.ipynb  file1.txt  nirbhay.txt  testfiel.ipynb
[u108@gpu2 ~]$
```

how to transfer files from remote server to local system using scp

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1. type the following command to transfer from remote to local server

   we can see that file is transferred 100% from remote to local system

```
┌──[/mnt/…/cyber-assn/assn2]
└─❯❯❯ scp u108@172.25.0.42:file1.txt file1.txt
u108@172.25.0.42's password:
file1.txt                                     100%   88     1.4KB/s   00:00

┌──[zsh@LINUX]-[/mnt/…/cyber-assn/assn2]
└─────❯❯❯
```

how to connect to jupyter notebook using ssh tunneling

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1. first launch jupyter command on remote server as shown below

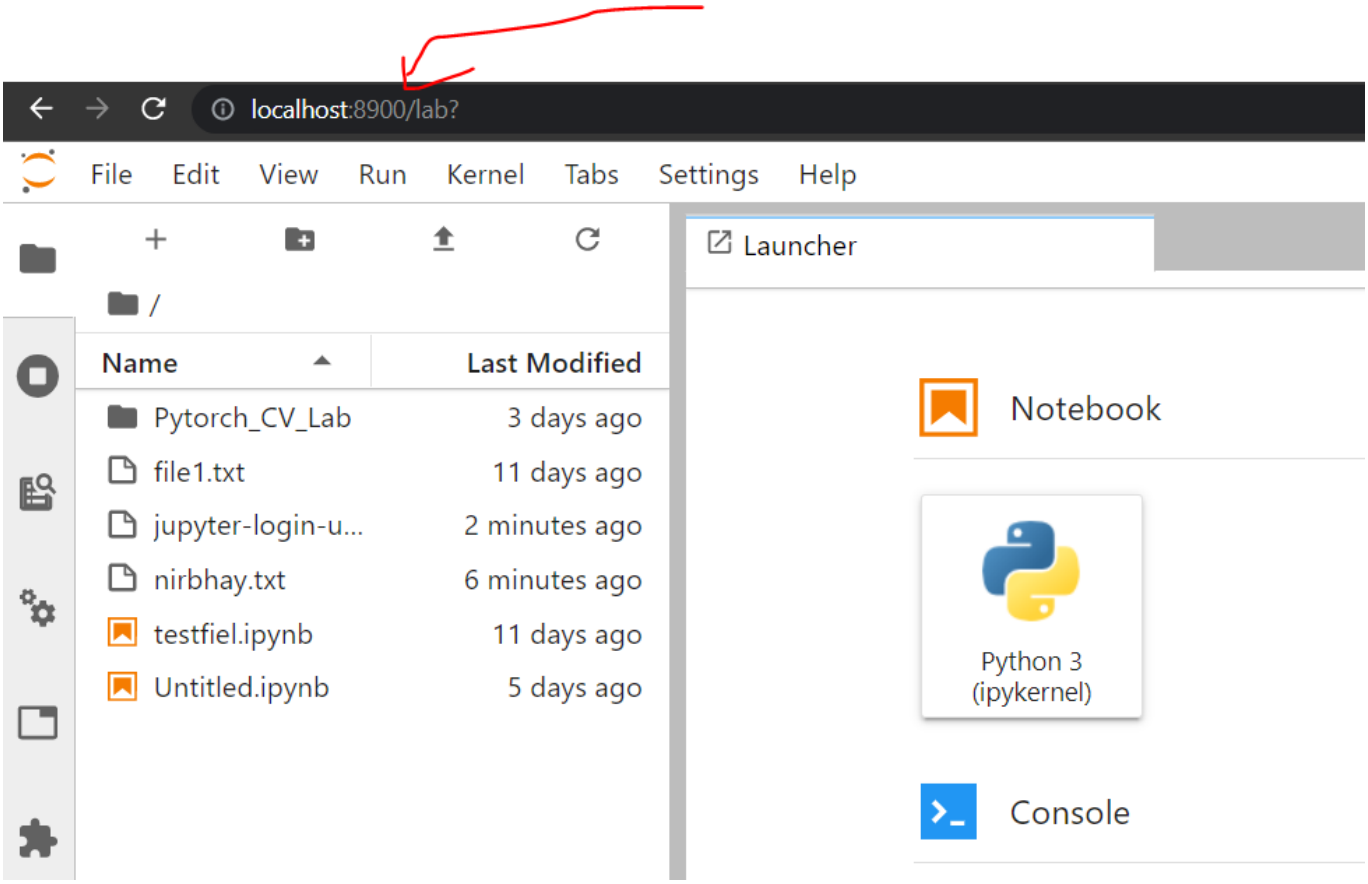
```
[u108@gpu2 ~]$ launch-jupyter
Enter container image
dlops/labs:nvidia01
Enter the number of GPUs
1
deployment.apps/u108 created
service/u108 created
Welcome to NVIDIA DGX A100 Cluster. Kindly paste the given URL onto your browser
 http://172.25.0.42:30359
[u108@gpu2 ~]$
```

2. then we get the link *http://172.25.0.42:30359* but it is not working in the local machine so use ssh tunneling to run it on a localhost with some localhost using the following command

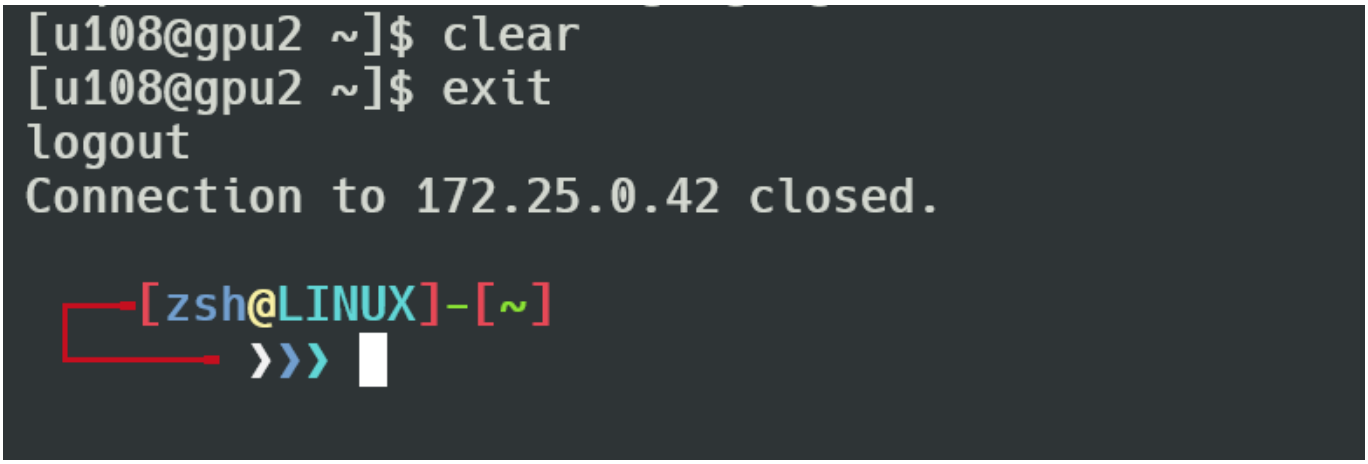
```
┌──[zsh@LINUX]-[/mnt/…/cyber-assn/assn2]
└─────❯❯❯ ssh -N -f -L localhost:8900:localhost:30359 u108@172.25.0.42
u108@172.25.0.42's password:

┌──[zsh@LINUX]-[/mnt/…/cyber-assn/assn2]
└─────❯❯❯
```

3. see the jupyter notebook on localhost as shown below



4. after the work is over close the remote server as shown in the following figure



learnings from the above hands-on

1. how to use ssh to connect to any remote server
2. transfer files using scp from remote to localhost and from localhost to remote server
3. launch jupyter notebook using the concept of ssh tunneling