Auton Lab Welcome Documentation

<insert lab photo>

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Note: Auton Lab Usage ONLY

Topics List (In Progress)

Legend for the documentation:

- **Topics completed**
- **Topic in progress**
- **To be done in the near future …**

Note:

- **Feel free to add new topics/ comment existing topics. Please use the color code so it makes it easier to keep track**
- **All the shell commands are in *bold italics***

Onboarding & Benefits (primarily for Staff)

Environment Setup

- Login without typing password – mapping password using Config file
- Installing miniconda and creating virutal environment
- Installing Jupyter Notebook and running python hello world program
- Accessing jupyter notebook from outside the CMU wifi

ZFS and Scratch

- What is the difference and why should you care?

GitLab Setup

- Get Gitlab setup on your desktop

Environment Setup

- ## Login without typing password – mapping password using Config file

 # Step 1: create a ".ssh folder" and config file inside it

mkdir -p ~/.ssh/config

 # Step2: add the following in config file

```
#comment: open file to edit – can use vim, emacs ...
```

gedit config

```
Host lop1
    #Hostname bash.autonlab.org
    Hostname lop2.autonlab.org
    User sarveshj

Host lov1 lov2 lov3 lov4 lov5 lov6 low1 gpu1 gpu2 gpu3 gpu4 gpu5 gpu6 gpu7 gpu8 gpu9 gpu10
    ProxyCommand ssh -q lop1 nc %h %p

Host git_auton git.int.autonlab.org
    Hostname git.int.autonlab.org
    IdentityFile /home/sarveshj/.ssh/
    ProxyCommand ssh lop1 exec nc %h %p
```

TODO: replace sarveshj with your Andrew ID, save and exit

 # Step3: change permissions for config file

chmod 644 ~/.ssh/config

 # Step4: create RSA Key Pair and push keys to the remove server

#comment: generate RSA key Pair
ssh-keygen -t rsa

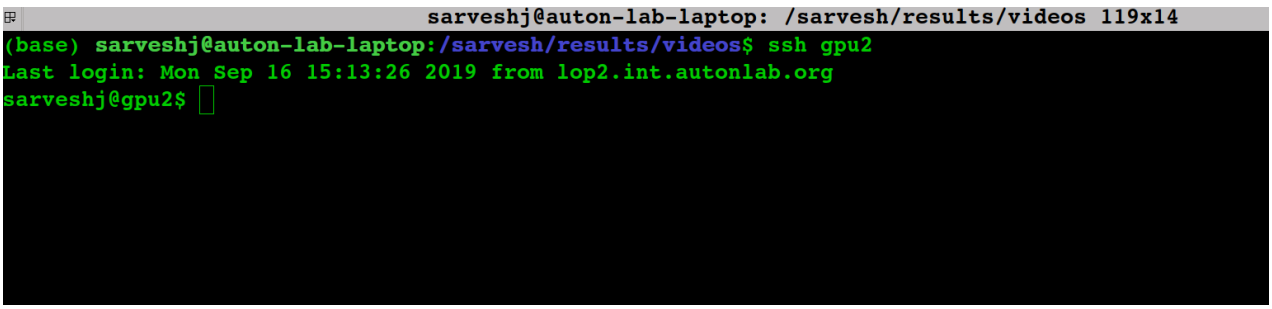
#comment: push keys to the server
cat ~/.ssh/id_rsa.pub | ssh sarveshj@bash.autonlab.org "mkdir -p ~/.ssh && chmod 700 ~/.ssh && cat >> ~/.ssh/authorized_keys && chmod 600 ~/.ssh/authorized_keys"

TODO: replace sarveshj with your AndrewID

 # Step5: Sanity Check Does it work?

#comment: ssh into gpu2
ssh –X gpu2

#comment: should display the following image



Miniconda Installation

Step1: Get Miniconda link and install it as follows

```
#comment: follow the prompts and choose the installation
directory – I generally use /home/<andrew_id>/scratch to install
it
```

bash –x <paste_link_here>

```
#comment:activate miniconda
```

conda activate <path_to_minconda/bin/activate>

```
#comment: create virtual environment
```

conda create -n <your-virtual environment-name-here> -c conda-forge python=3

Installing Jupyter Notebook

Following steps show to install and run jupyter notebook, which is the steps for installing any software

```
#comment: activate virtual environment
```

source <path_to_virtual_env>/bin/activate

```
#comment: install jupyter notebook
conda install jupyter
```

Access jupyter notebook from desktop using port forwarding

#comment: login with port forwarding

ssh gpu2 -L 8888:localhost:8889

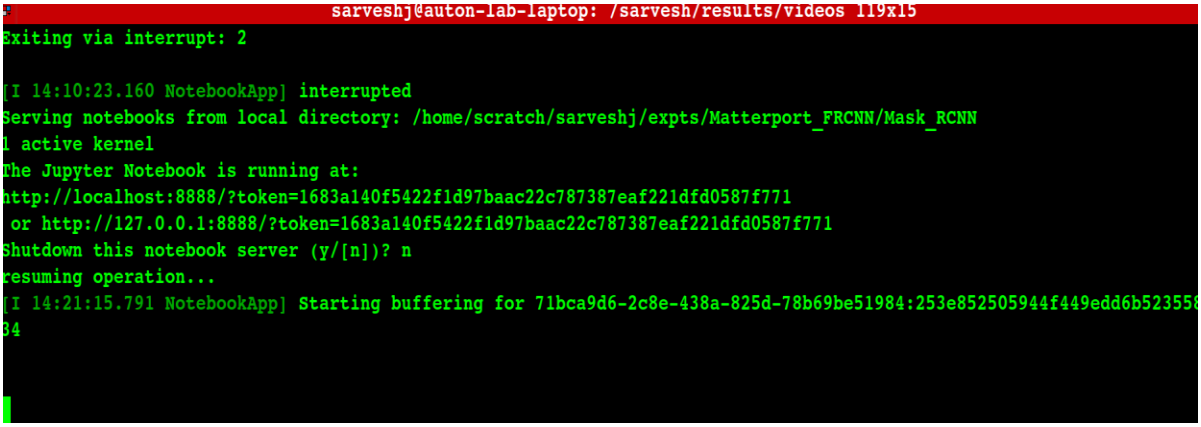
#comment: activate virtual environment

source <path_to_virtual_env>/bin/activate

#comment: run jupyter notebook command

jupyter-notebook

comment: copy the link, and paste in firefox/chrome browser



Access jupyter notebook outside CMU network