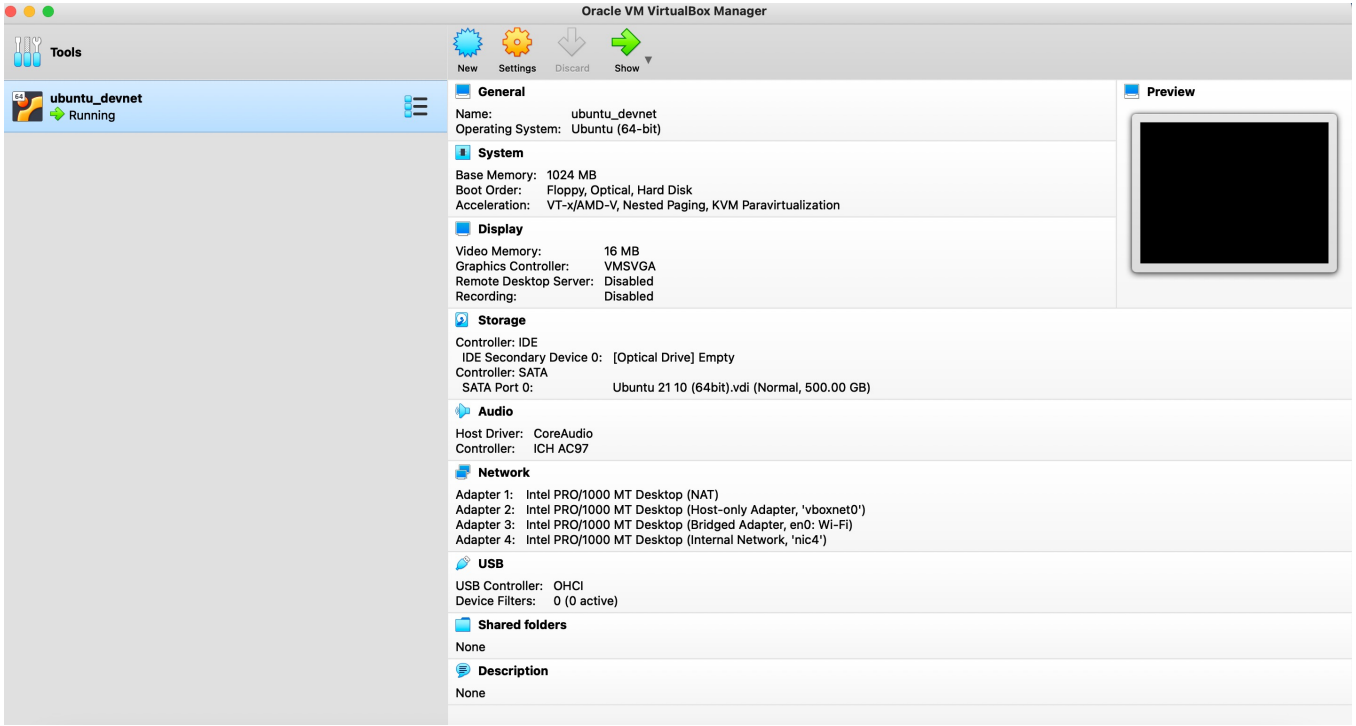
# SETUP YOUR OWN COMPUTER AS A DEVELOPMENT ENVIRONMENT

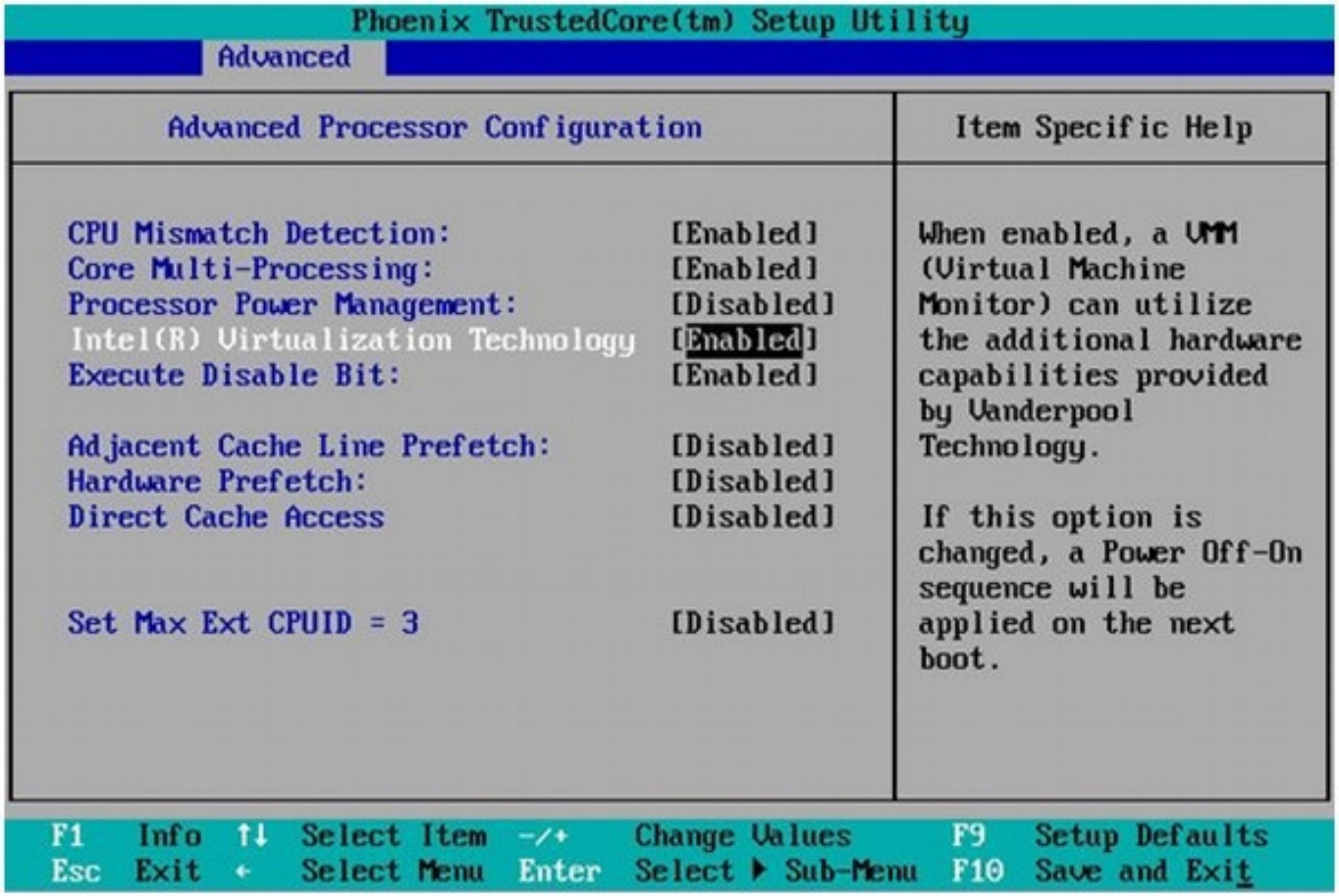
# Installing virtual box

https://www.virtualbox.org/wiki/Downloads



# Installing virtualbox

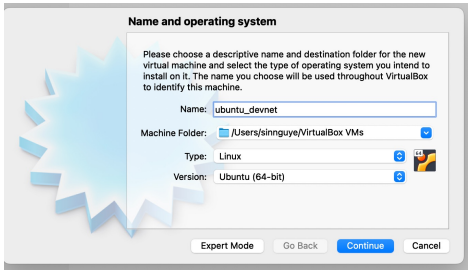
- Note: Enabling virtualization technology in bios

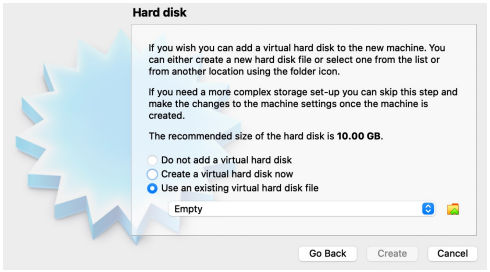


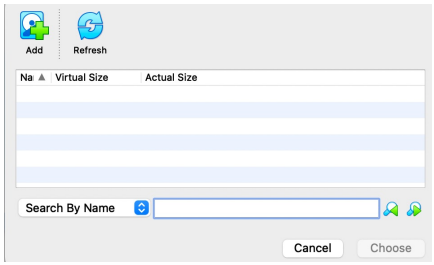
# Installing Ubuntu

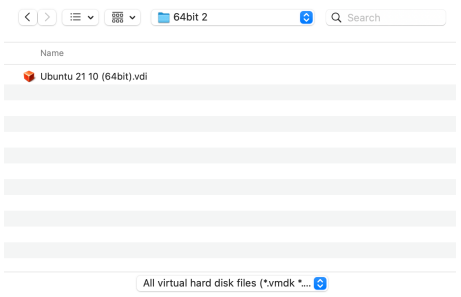
Link dowwload: https://www.osboxes.org/ubuntu

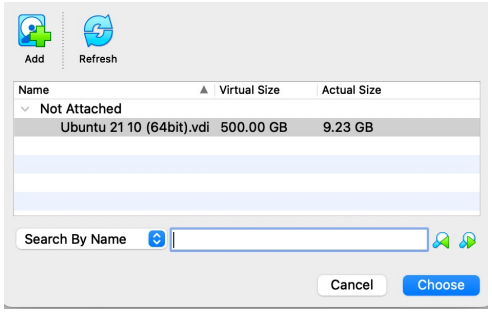
Username/password: osboxes/osboxes.org

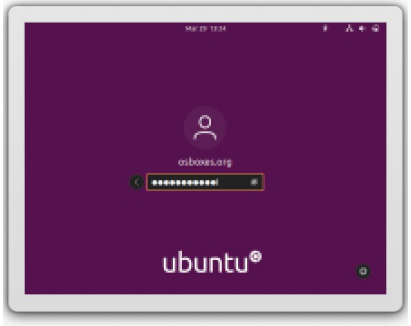


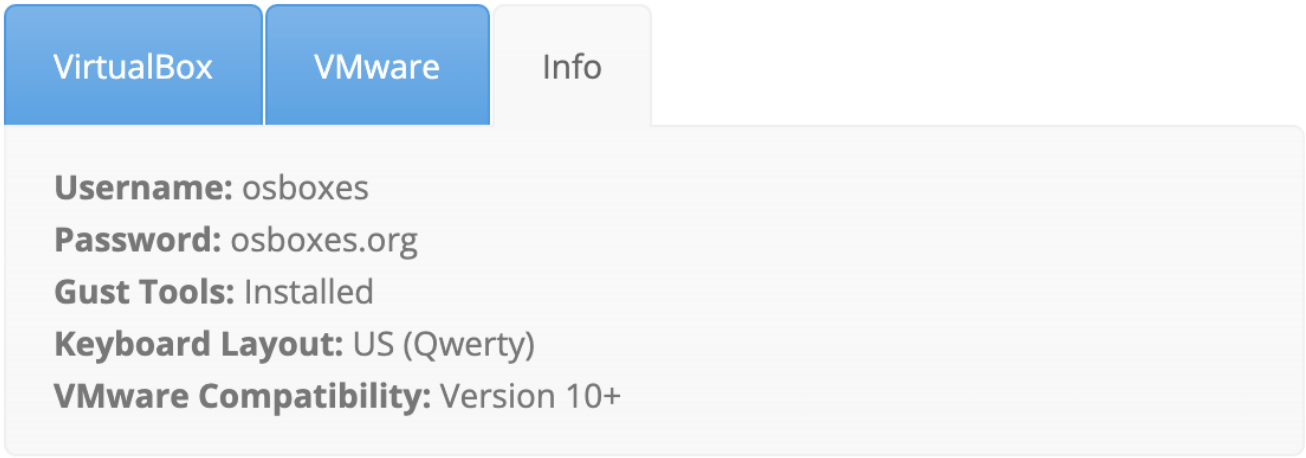



# Changing user password




$ sudo passwd osboxes

# Connecting to Linux virtual machine over the network

## Installing openSSH server on Ubuntu

```
$ sudo apt update
$ sudo apt install openssh-server
$ sudo service ssh start (optional)
$ sudo systemctl status ssh (optional)
```

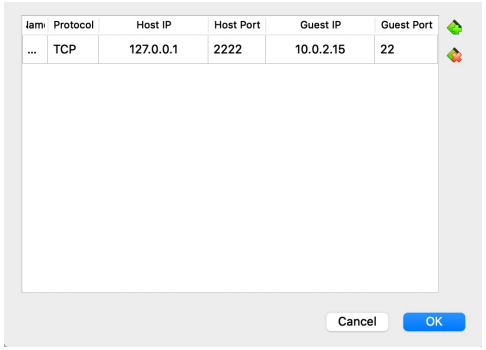
# Connecting to Linux virtual machine over the network

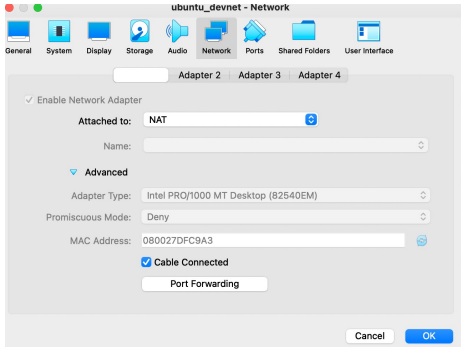
sudo apt install net-tools

## SSH to VM virtual box to check IP address

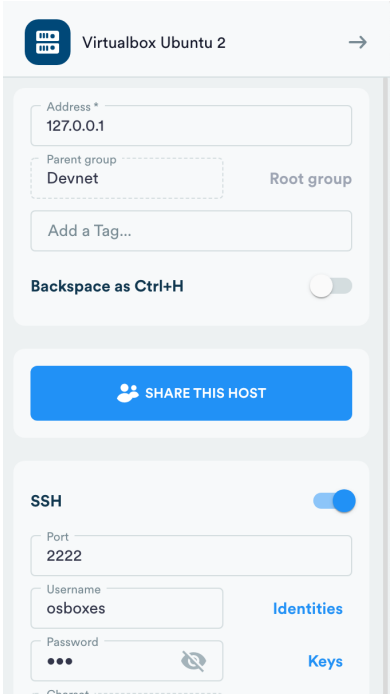
```
$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.2.15  netmask 255.255.255.0  broadcast 10.0.2.255
        inet6 fe80::6fe1:39df:f212:19d1  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:df:c9:a3  txqueuelen 1000  (Ethernet)
        RX packets 5414  bytes 1998395 (1.9 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 3774  bytes 423148 (423.1 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

## Enable port forwarding



# Connecting to Linux virtual machine over the network




```
Welcome to Ubuntu 21.10 (GNU/Linux 5.13.0-39-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

20 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

New release '22.04 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

*** System restart required ***
Last login: Tue May  3 04:30:57 2022 from 10.0.2.2
osboxes@osboxes:~$
```

# Installing Python 3

- Most of the Linux OS has Python pre-installed To check if your device is pre-installed with Python or not, just go to terminal and run the following command:

  $ python3 --version

  Python 3.9.7

  Installing latest version of python (optional)

  https://www.python.org/downloads/

  $ sudo apt-get install python3.10

  $ python3.10

- Installing PIP

  $ sudo apt install python3-pip

# Installing git

https://git-scm.com/book/en/v2/Getting-Started-Installing-Git

```
$ sudo apt install git-all
```

```
$ git --version
git version 2.32.0
```

# Installing docker

https://docs.docker.com/engine/install/ubuntu/

$ sudo apt-get update

$ sudo apt-get install ca-certificates curl gnupg lsb-release

$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg

$ echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/docker-archive-keyring.gpg] https://download.docker.com/linux/ubuntu  $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

$ sudo apt-get update

$ sudo apt-get install docker-ce docker-ce-cli containerd.io

$ docker --version

$ sudo docker run hello-world

# Installing ansible

```
$ sudo apt update
$ sudo apt install software-properties-common
$ sudo add-apt-repository --yes --update
ppa:ansible/ansible
$ sudo apt install ansible
```

https://docs.ansible.com/ansible/latest/installation_guide/intro_installation.html#installing-ansible-on-specific-operating-systems

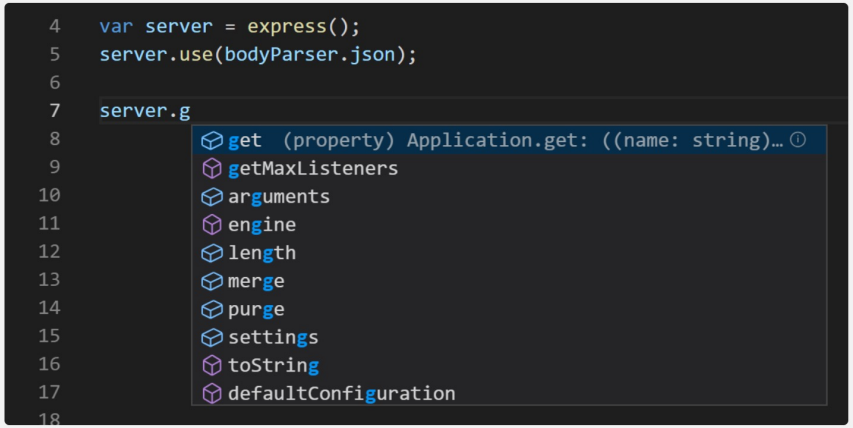
# Installing Postman

https://learning.postman.com/docs/getting-started/installation-and-updates/

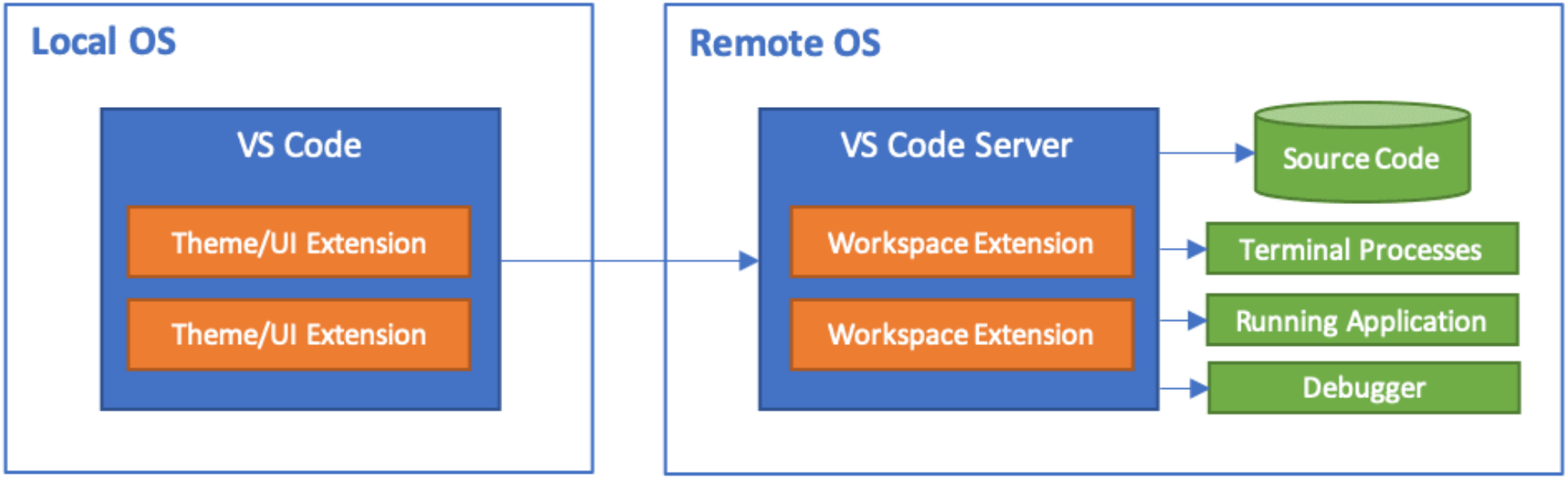
$ sudo snap install postman

# Installing visual studio code

https://code.visualstudio.com/download

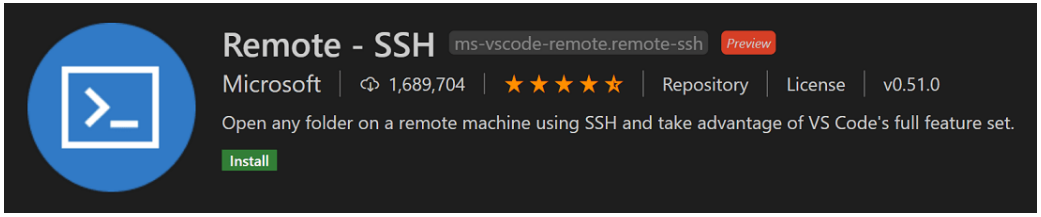


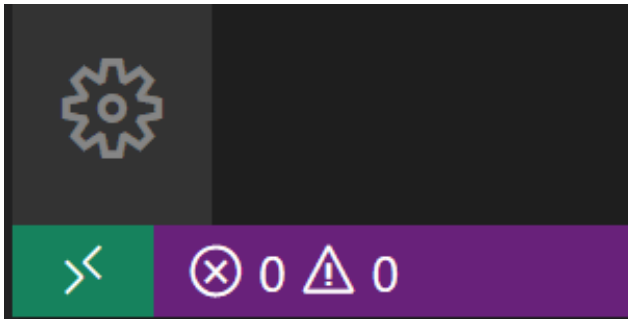

# VS Code Remote Development

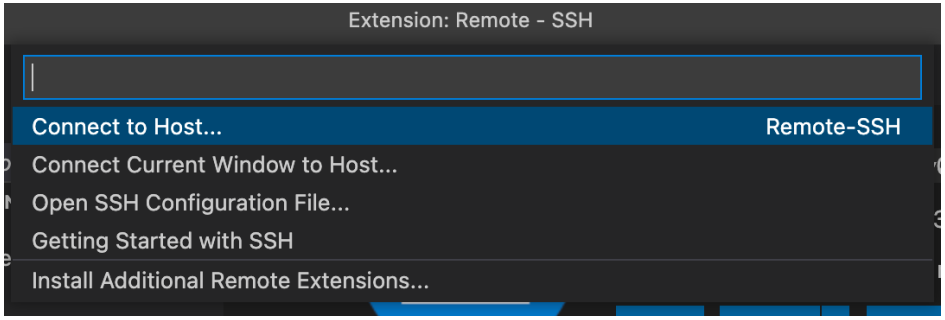


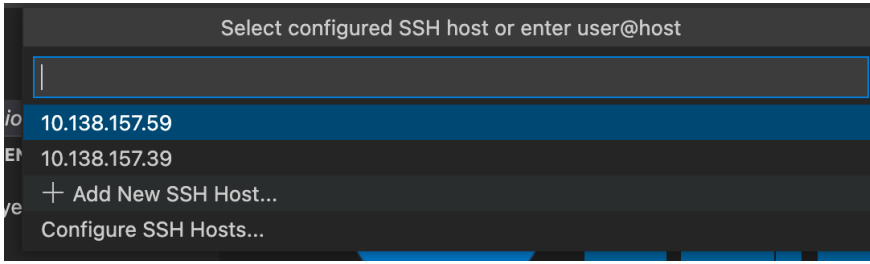

https://code.visualstudio.com/docs/remote/ssh-tutorial

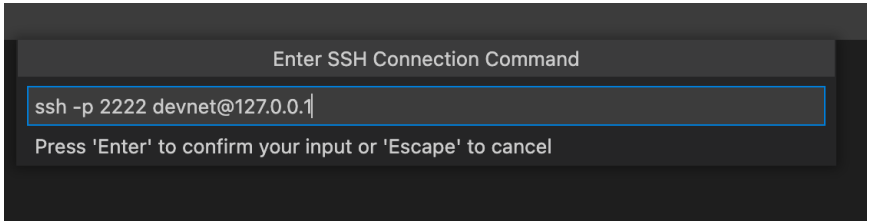
# VS Code Remote Development



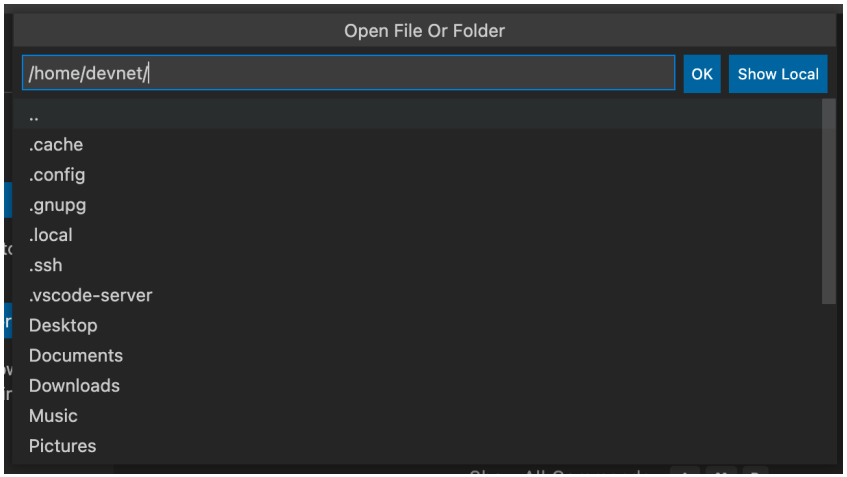



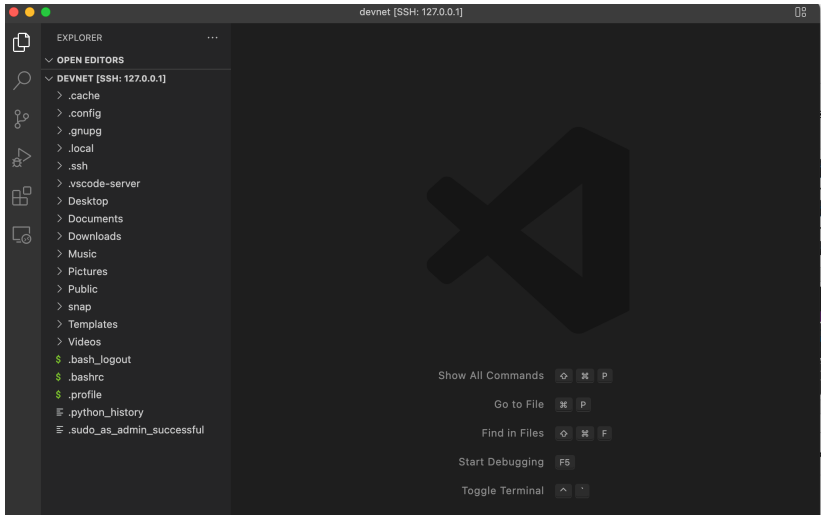



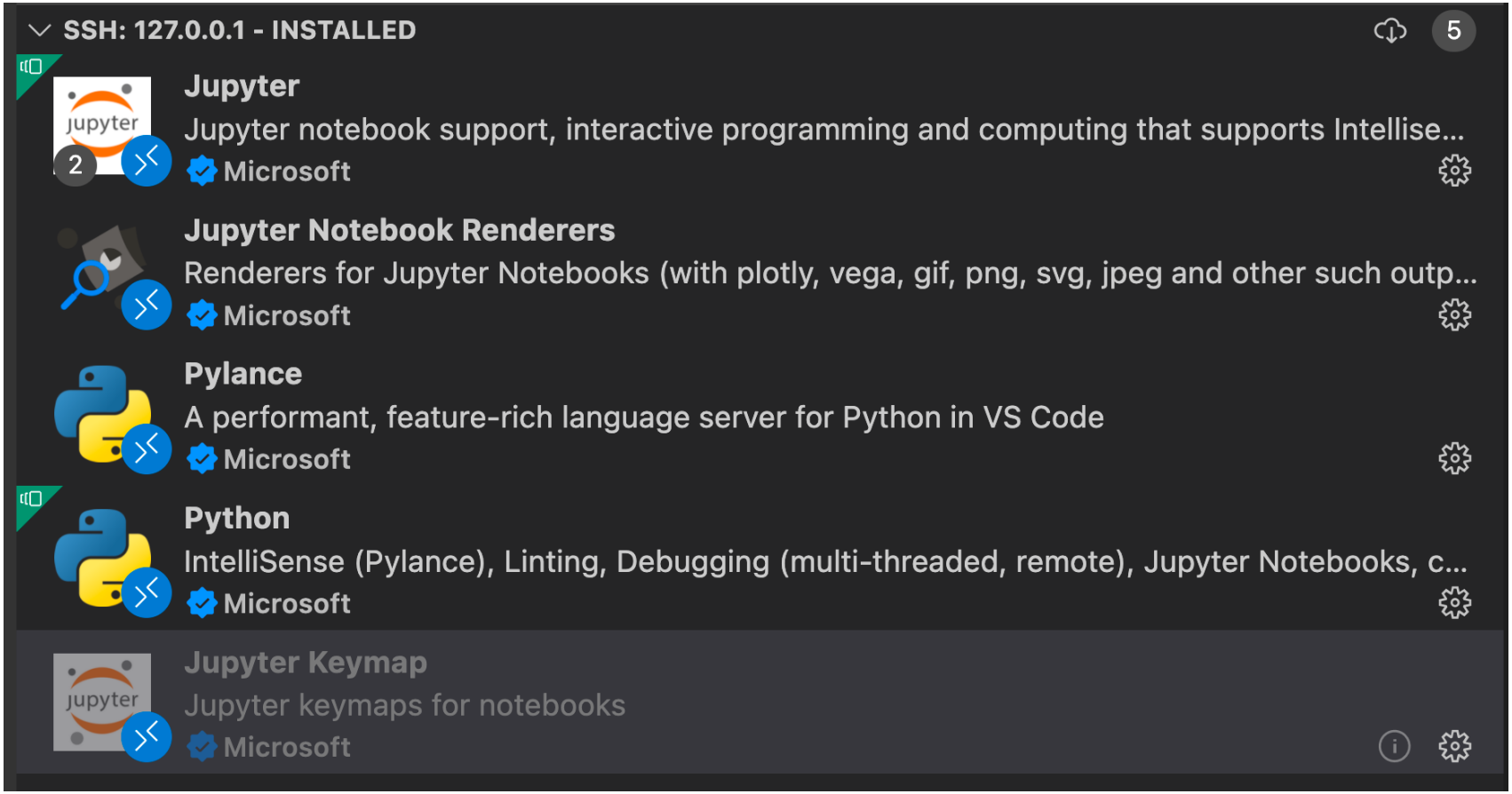



# VS Code Remote Development



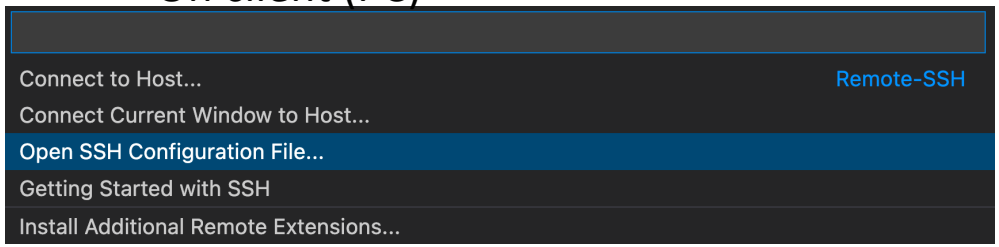



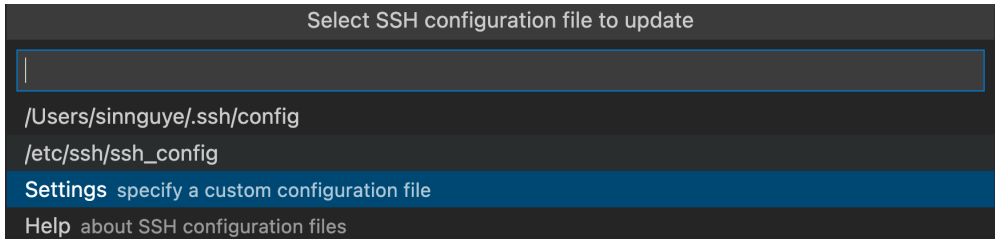
# Installing Jupyter notebook and Python extensions

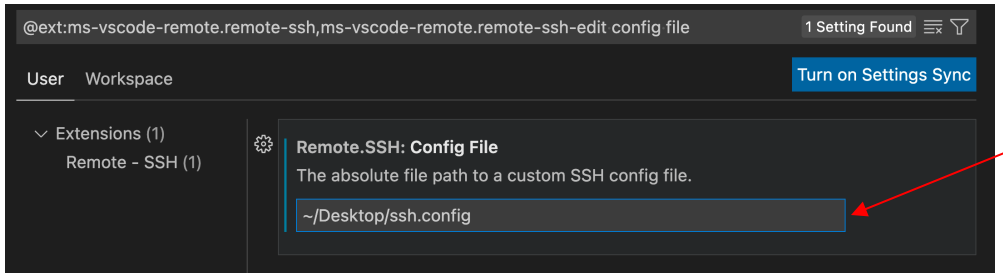


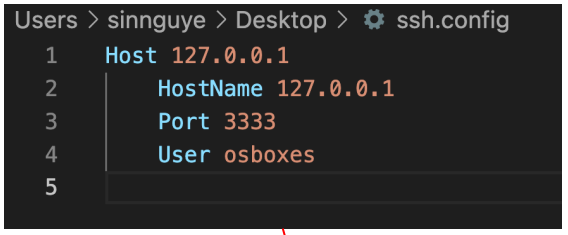
# SSH permission deny issue

On client (PC)




Create a new SSH config file and add the absolute file path

On Server (ubuntu)

```
$ chmod 700 ~/.ssh
$ chmod 600 ~/.ssh/authorized_keys
```