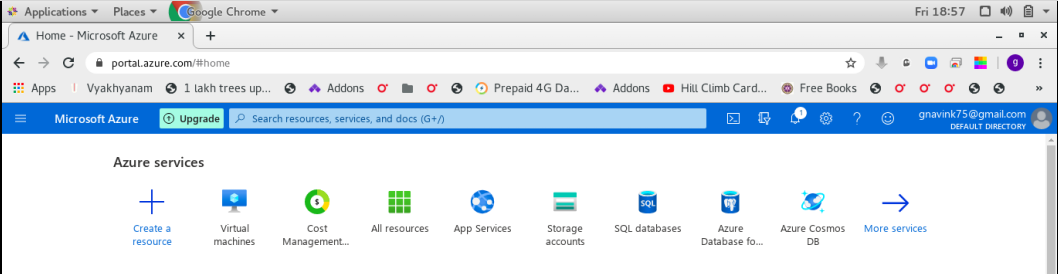
**LINUX VM SETUP IN MICROSOFT AZURE**

This document serves a guide to practice to spawn Linux Virtual Machines (VM) using Microsoft Azure. The document serves a guided tour to make use of Linux VM. By default, in Microsoft Azure Linux Vms are not provided GUI login interface. The document also provides methods to install GUI software on the base Azure Linux VM images.

The GUI is just an add on feature on top of the base VM image so that the learning done in the training session is easier. Technically, the base VM image is just enough to do all the training session on the cmd-line interface provided by Azure. Just in case, the participant feels more comfortable with the non-GUI interface as provided by default, they can safely skip reading this document.

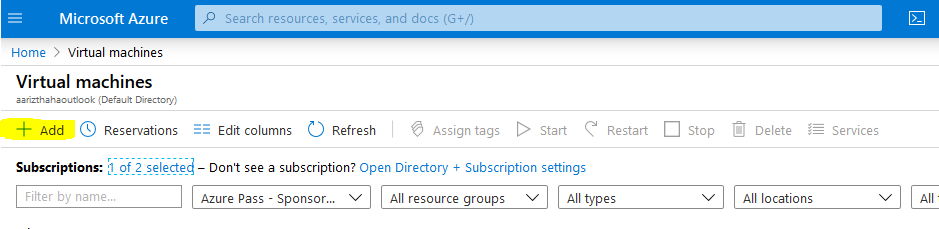
**Creating Linux VM :**

Login into Microsoft Azure account . You shall be welcomed into the below page.

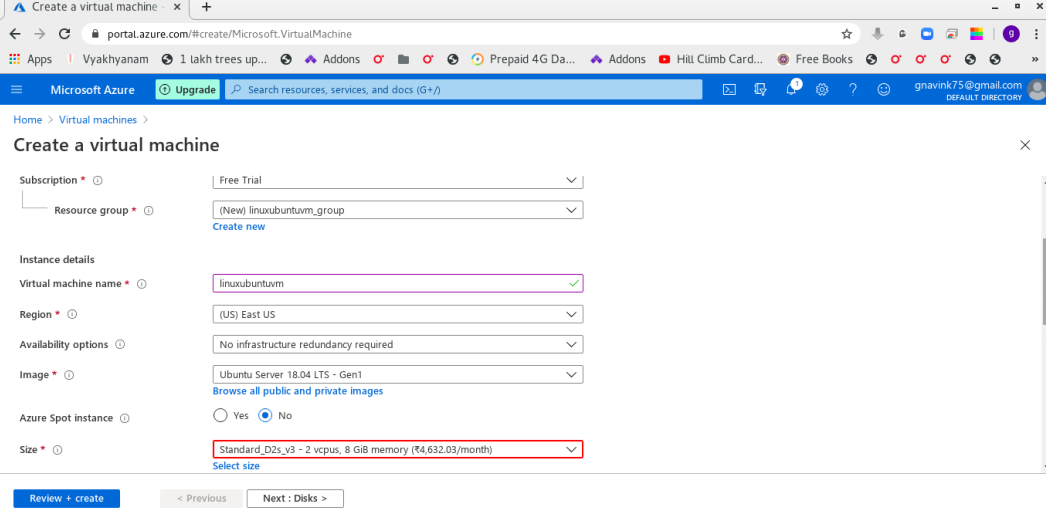


Click the button Virual Machine 2nd from left.. You shall come to the below page. Click

Add → Virtual Machine as shown.



You shall see the below page:

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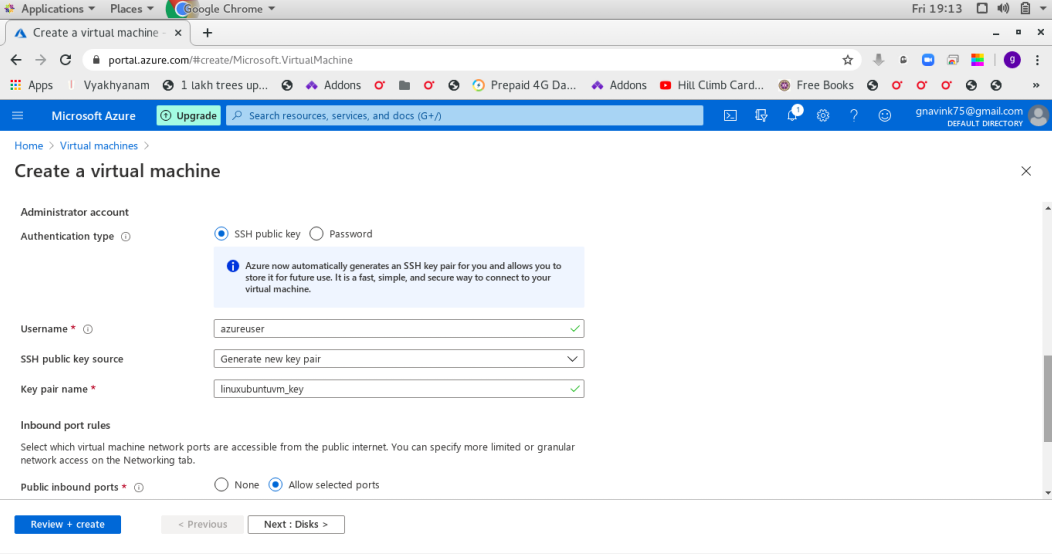
Choose in the fields as below:

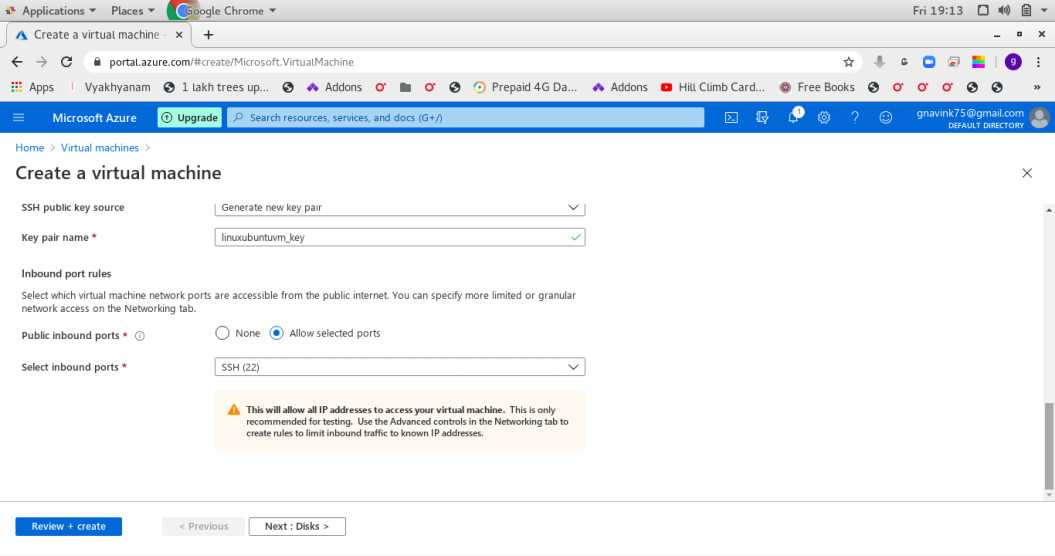
Virtual machine name: **linuxubuntuvm**

Image : **Ubuntu Server 18.04 LTS**

Size : **Standard\_D2s\_v3 – 2 vcpus, 8GiB memory**

**The other options are filled in automatically. Please leave the default options as it is for other fields.**



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**Click the button Review+Create** to spawn your Linux VM. During the VM creation process, you shall be asked to download the SSH private key generated. Download it and store in your local computer eg. AzureNavin\_key.pem . Give this a read-only permission. Safely , store this file . You might need it later when connecting to the VM using SSH.

After its ready you need to connect to the VM.

**Connecting to Linux VM:**

Connecting to the Linux VM depends on your local machine, namely Windows / Linux local machines. Kindly follow the instructions as applicable.

**Windows Local Machine:**

If you have Windows SSH client installed in your windows machine by default, you can skip downloading the PuTTY client as suggested here.

Download the PuTTY SSH client for Windows from the URL:

<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>

Launch PuTTYgen application and follow the URL:

[https://devops.ionos.com/tutorials/use-ssh-keys-with-putty-on-windows/#use-existing-public-and-private-keys](https://devops.ionos.com/tutorials/use-ssh-keys-with-putty-on-windows/" \l "use-existing-public-and-private-keys)

to convert the downloaded SSH private key to the .ppk format to be usable by PuTTY.

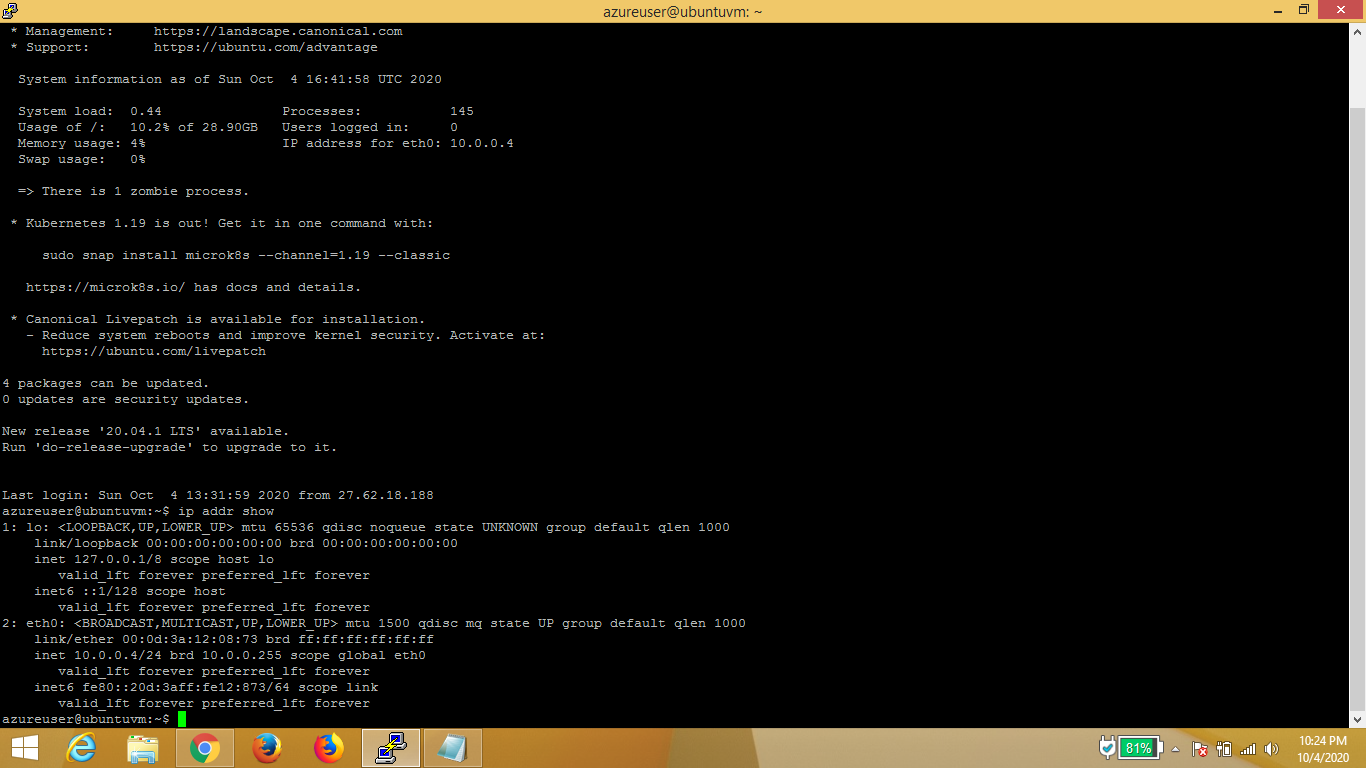
Once done exit the PuTTygen application.

Now launch the PuTTY application to connect to the Linux VM & follow the URL to connect to the VM.

[https://devops.ionos.com/tutorials/use-ssh-keys-with-putty-on-windows/#connect-to-server-with-private-key](https://devops.ionos.com/tutorials/use-ssh-keys-with-putty-on-windows/" \l "connect-to-server-with-private-key)

Use the IP address of your Linux VM: (You can get this info from the Overview button of your Linux VM Azure portal ) and the .ppk file to connect to your Linux VM.

You should be able see the terminal of your Linux VM as below.



Please skip to the section **Setting password for the root user azureuser**

**Linux Local Machine:**

Store your PEM file in ~/.ssh directory. Execute the below commands to get the terminal of your Linux VM.

$ cd ~/.ssh

$ chmod 400 <.pem>

$ ssh -i <.pem> azureuser@<IP address>

The Linux VM terminal should be seen.

**Setting password for the root user azureuser:**

$ sudo su

$ passwd (Type in root123 as the password)

# exit

That's all is the basic set up needed for the training session.

You can go to the section **Stopping / Deleting the Linux VM.**

In case you need a GUI environment scroll down.

**Installing GUI Environment on Linux VM:**

**Installing RDP service:**

$ sudo apt-get update

$ sudo apt-get -y install xfce4

$ sudo apt-get -y install xrdp

$ sudo systemctl enable xrdp

$ echo xfce4-session >~/.xsession

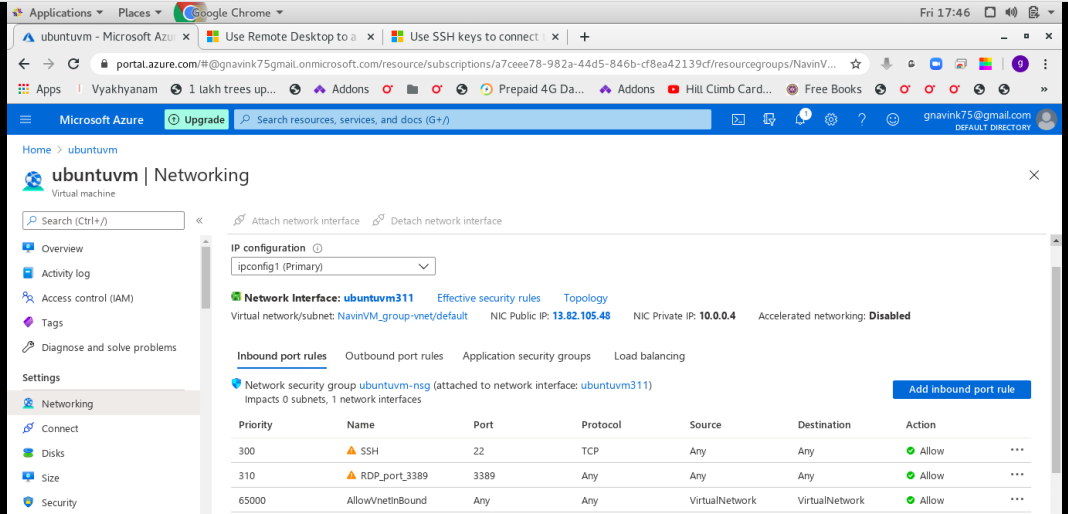
$ sudo service xrdp restart

**Setting password for the user azureuser:**

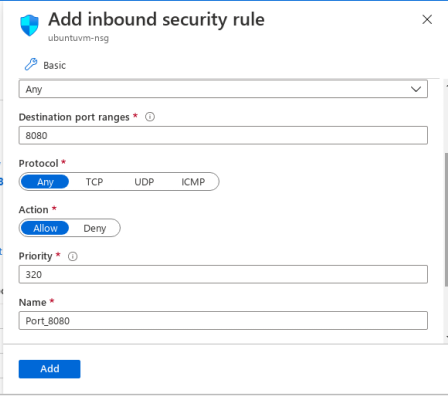
$ sudo passwd azureuser (Type in the password as azureuser123)

**Create a Network Security Group rule for Remote Desktop traffic:**

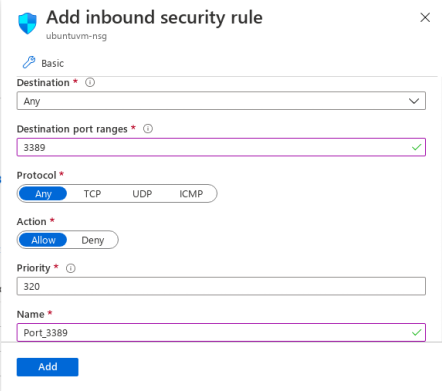
Click the tab Networking under the Settings section found on the left side of your screen. You shall see a page like below:



Click the button **Add Inbound rule.** You shall see a page as below:

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Change the **Destination Port ranges & Name fields** as follows:

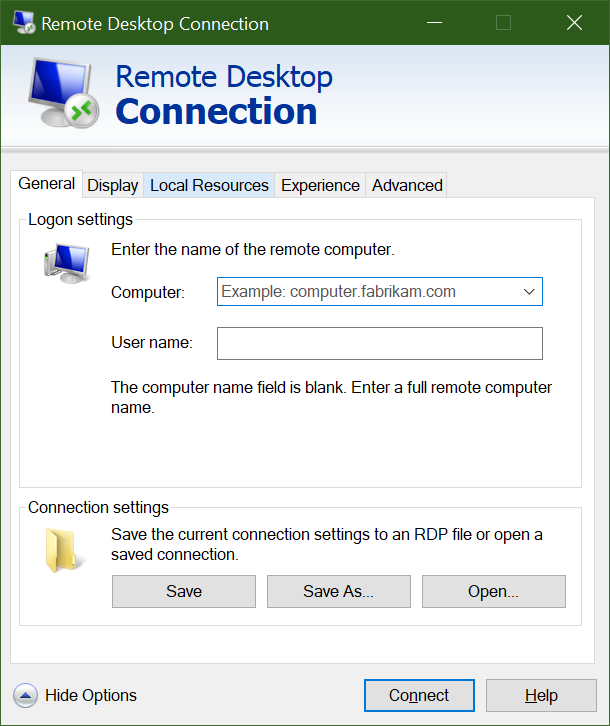
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**Login graphically using your RDP client:**

If using Windows , open Remote Desktop Connection Manager and login as:

user: azureuser

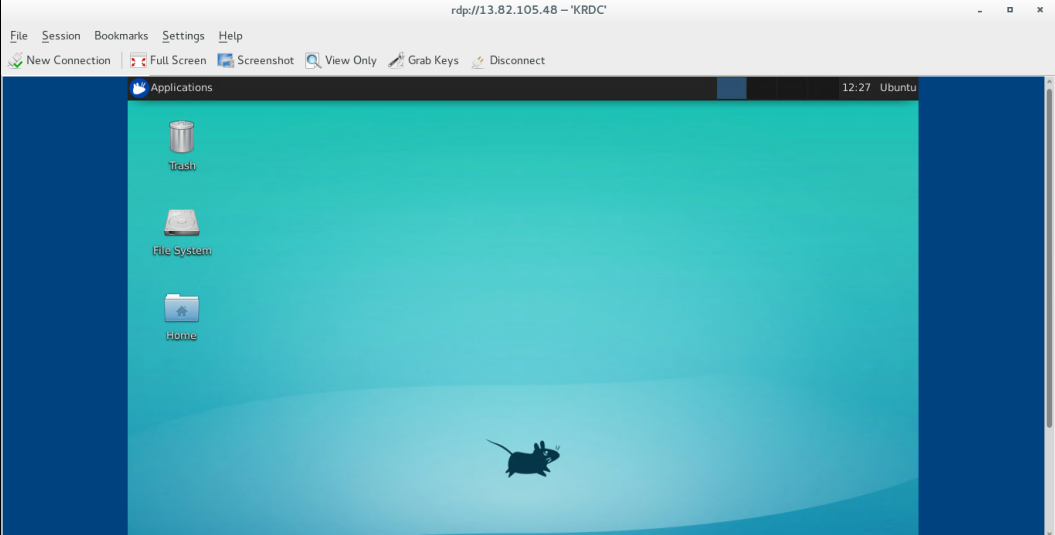
passwd: azureuser123



If using Linux as your local computer, use your Remote desktop client and login with the above credentials. Select the protocol as rdp in the remote desktop client. You can find the RDP client under:

Applications->Internet (OR) Applications->Utilities

You should be able to see the below image:



This completes the necessary software required for starting Day 1.

The below can be done during the Day 1 training session.

**Installing Google Chrome:**

Open the terminal by clicking the 2nd button : Terminal Emulator to get the terminal window. Type the below in the terminal.

$ cd ~/Downloads

$ wget <https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb>

$ sudo apt install ./google-chrome-stable\_current\_amd64.deb

Launch Google Chrome by clicking Applications.

### **Installing VS Code:**

Goto <https://code.visualstudio.com/docs/setup/linux> using Google Chrome and download the code.deb file under the section **Debian and Ubuntu based distributions .**

$ sudo apt install ./code\_1.49.2-1600965325\_amd64.deb

Launch VS Code by clicking Applications.

**Stopping / Deleting the Linux VM:**

The Linux VM created can be used throughout the training duration. You can stop the Linux VM at the end of the day. This helps in Azure not billing you for the duration the VM doesn't run. All the data remain intact and the VM can be started when its required. Deleting destroys the VM.

So use this option when you no longer need the VM. May be after the training, you can delete the VM so that you are not billed.

**Stopping VM:**

Press the Stop button in your Virtual Machine Page. Ensure the status of your VM says:

Stopped (Deallocated). It takes a few minutes , so patience is required.

**Starting VM:**

Press the Start button in your Virtual Machine Page. Ensure the status of your VM says:

Running. It takes a few minutes , so patience is required.

Wish you a good experience in using your Linux VM.

**Reference:**

<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>

[https://devops.ionos.com/tutorials/use-ssh-keys-with-putty-on-windows/#use-existing-public-and-private-keys](https://devops.ionos.com/tutorials/use-ssh-keys-with-putty-on-windows/" \l "use-existing-public-and-private-keys)

[https://devops.ionos.com/tutorials/use-ssh-keys-with-putty-on-windows/#connect-to-server-with-private-key](https://devops.ionos.com/tutorials/use-ssh-keys-with-putty-on-windows/" \l "connect-to-server-with-private-key)

<https://azure.microsoft.com/en-in/services/virtual-machines/linux/>

<https://docs.microsoft.com/en-us/azure/virtual-machines/linux/use-remote-desktop>

<https://code.visualstudio.com/docs/setup/linux>