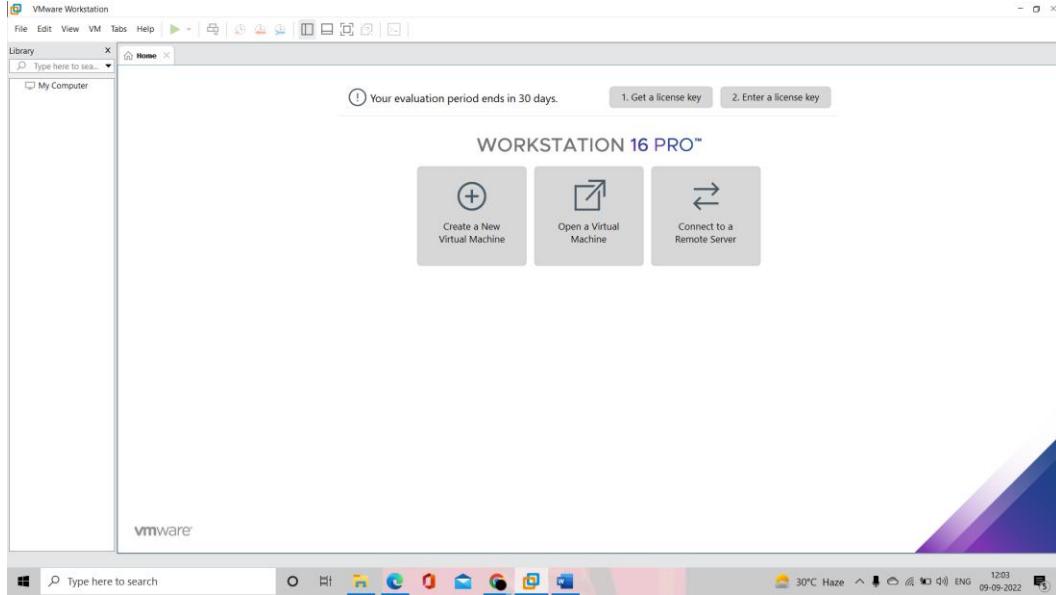


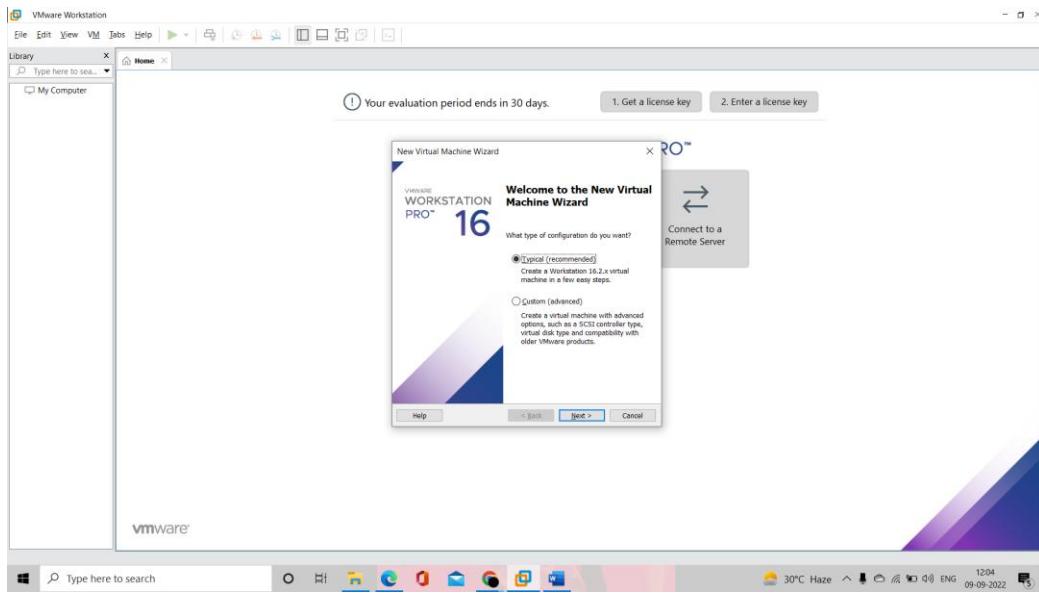
Practical 1

Steps :

1. Open VM Ware Workstation.



2. Create a new virtual machine and click next.

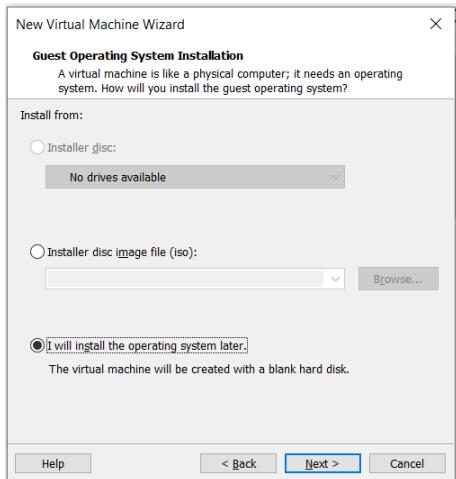


Name: Kiran Mansukh Kidecha

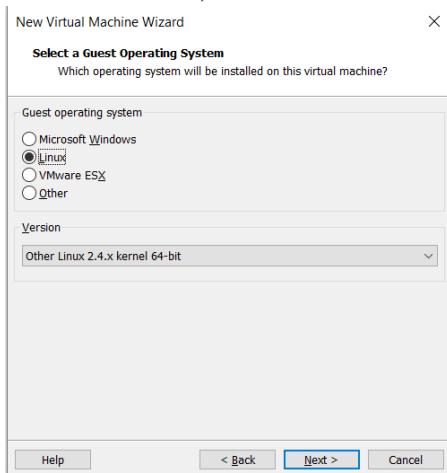
Roll no.: 518

Class: TYIT

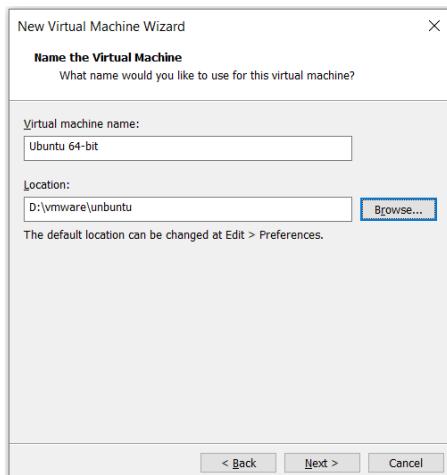
3. Click 3rd Option and next.



4. Click on Linux, select Ubuntu 64-bit and next.



5. Name your virtual machine and create a new folder for it and next.

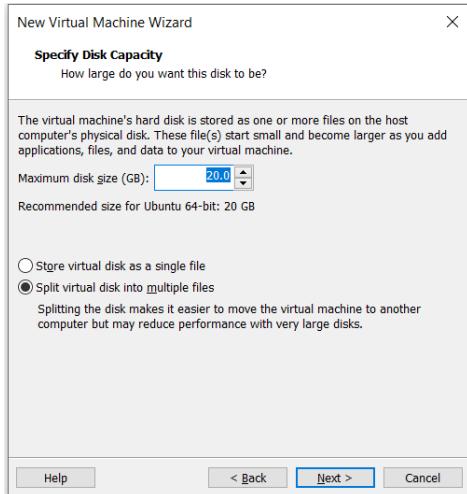


Name: Kiran Mansukh Kidecha

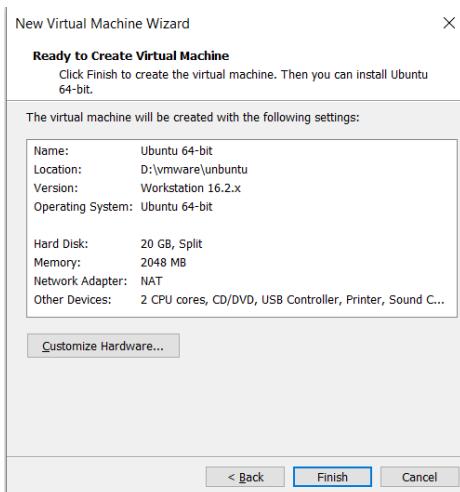
Roll no.: 518

Class: TYIT

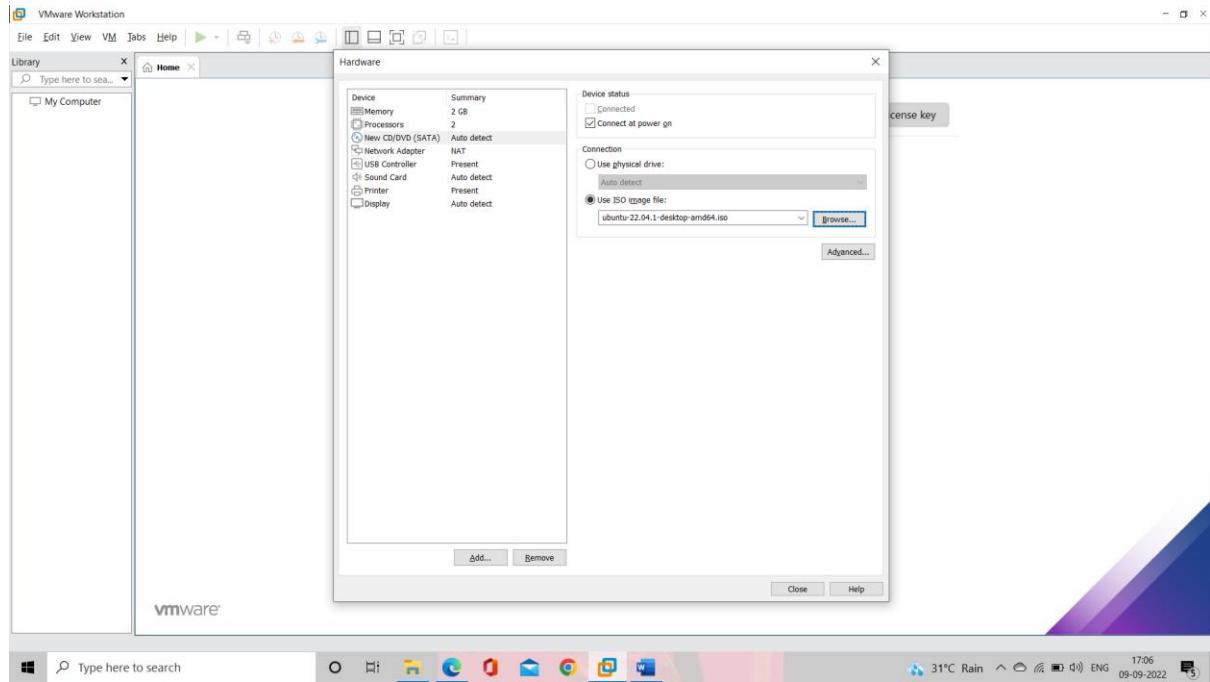
6. Disk Size 20GB and select split option



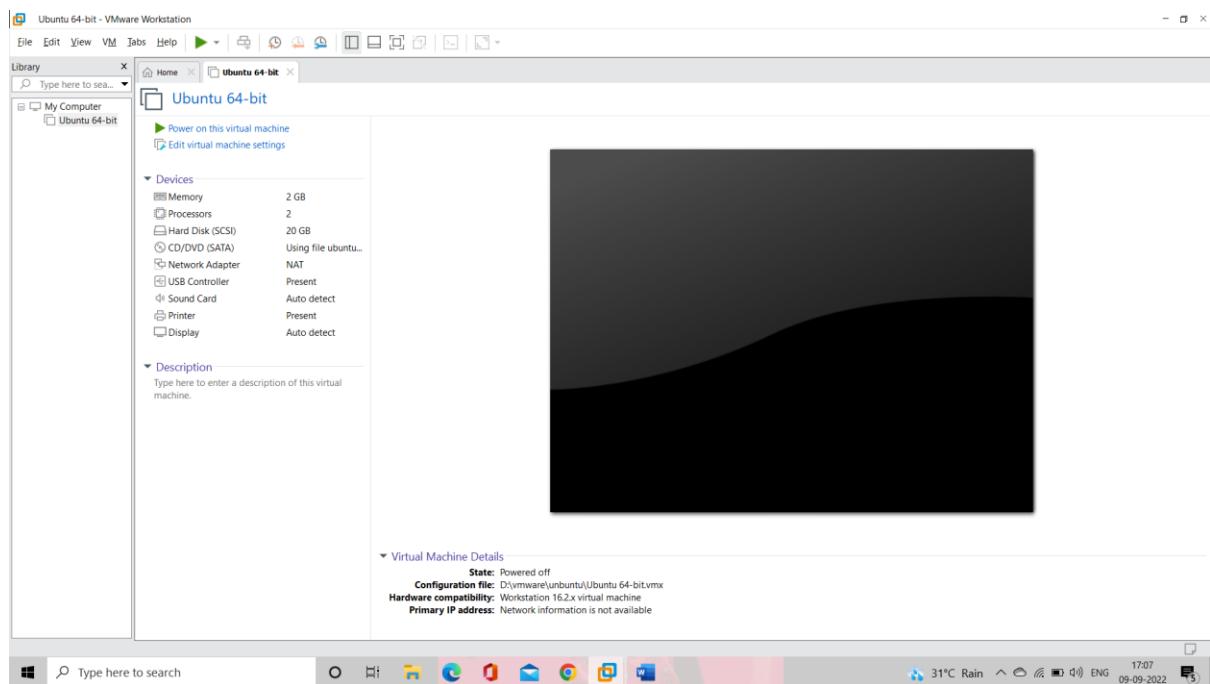
7. Click on customize.



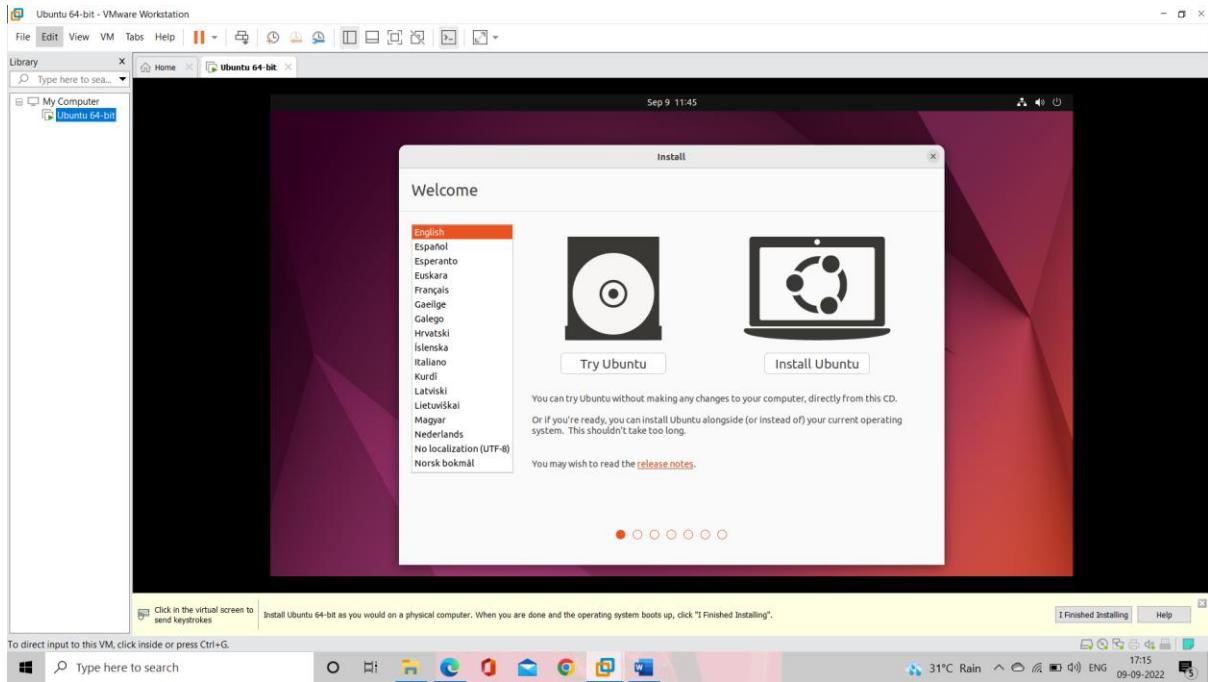
8. Click on New CD/DVD and click on Use ISO image file and select 22LTS Ubuntu iso file and close.



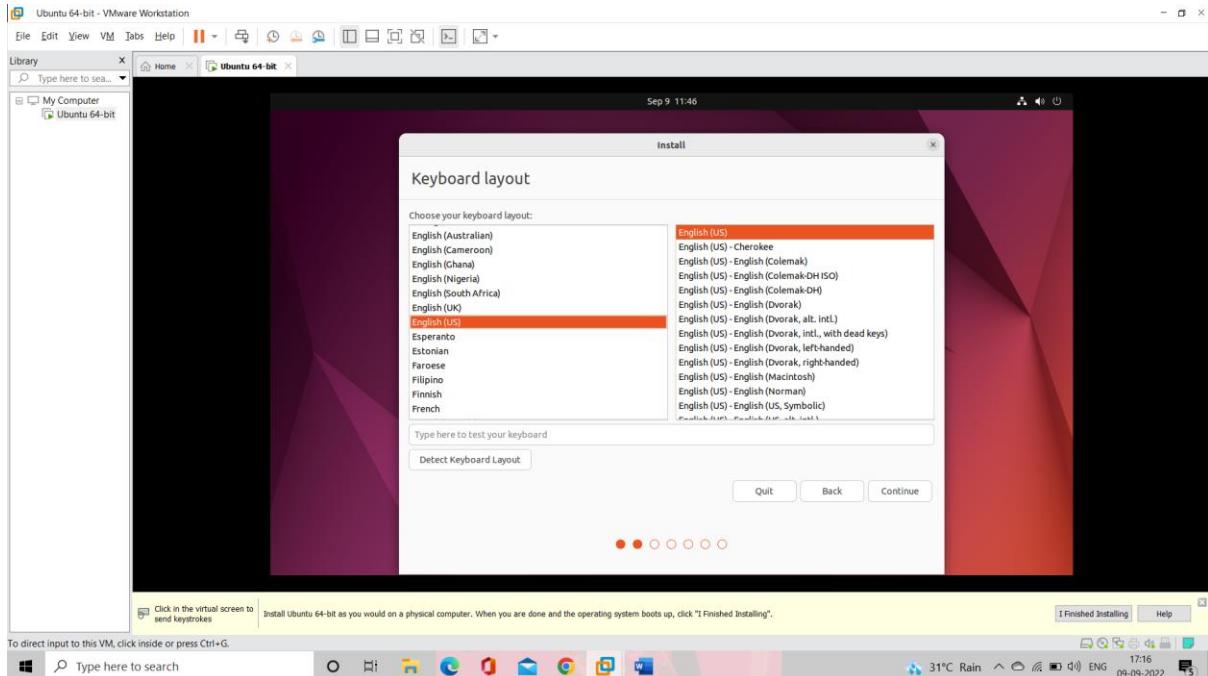
9. After Customization click on finish and this screen will appear click on Power on this vm.



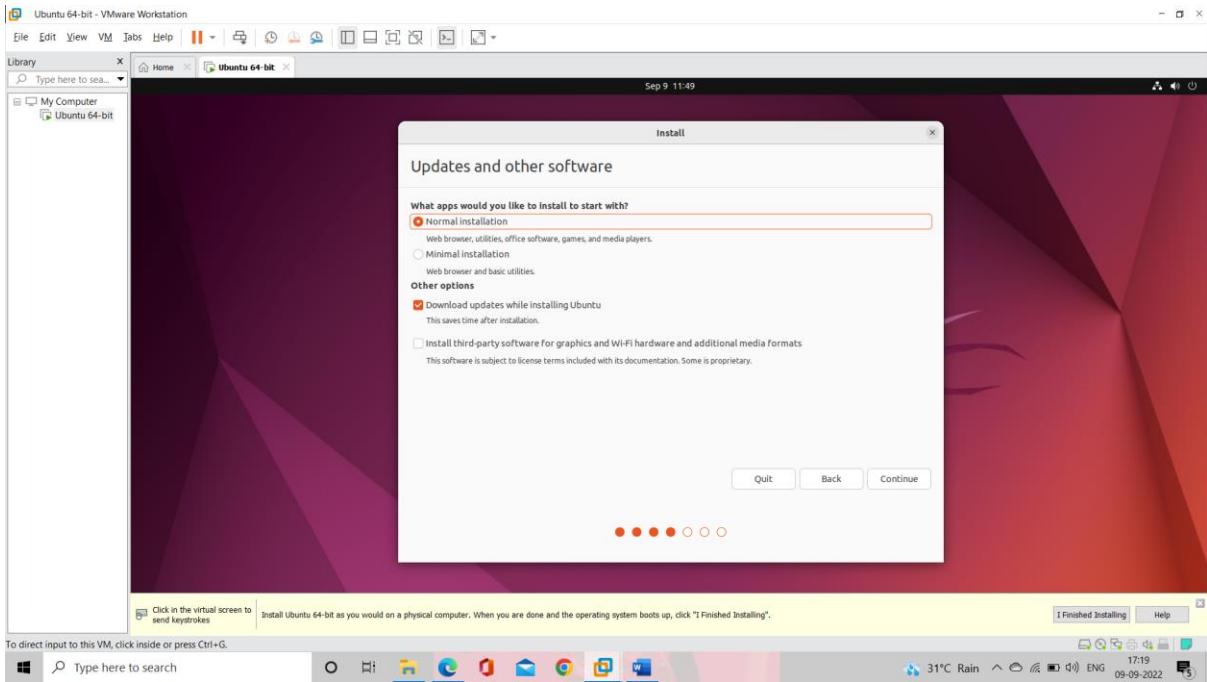
10. Install Ubuntu.



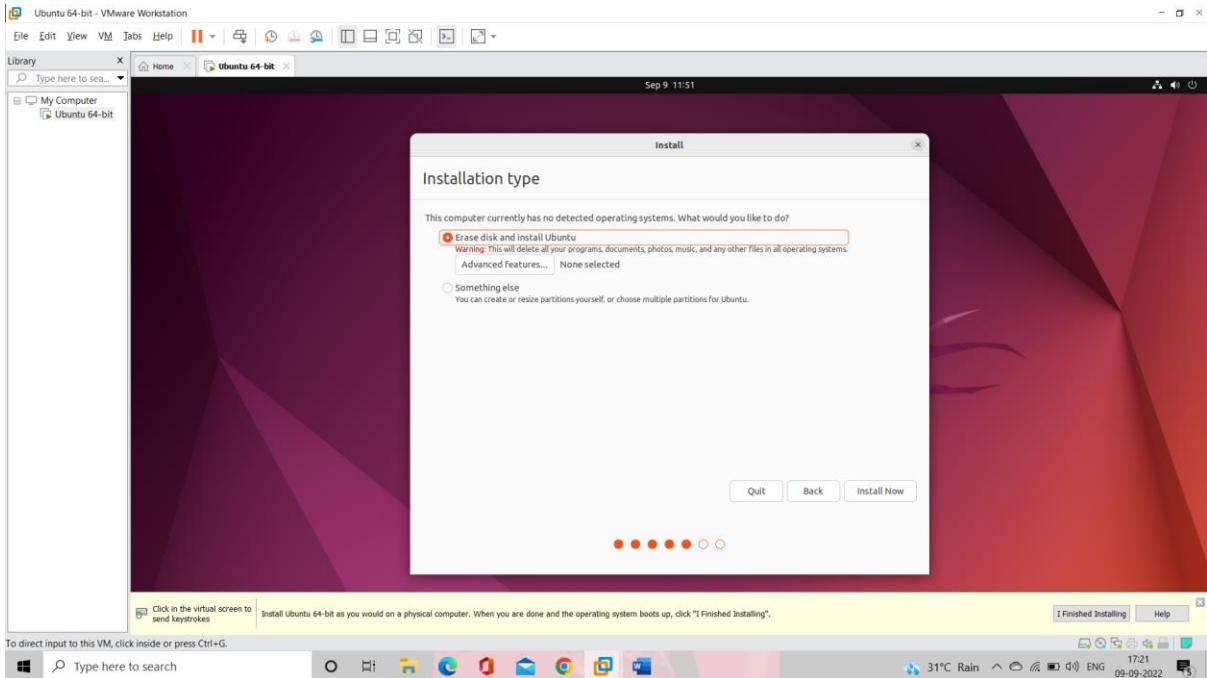
11. Select Language.



12. Click Normal Installation and Download Updates.



13. Erase Disk.

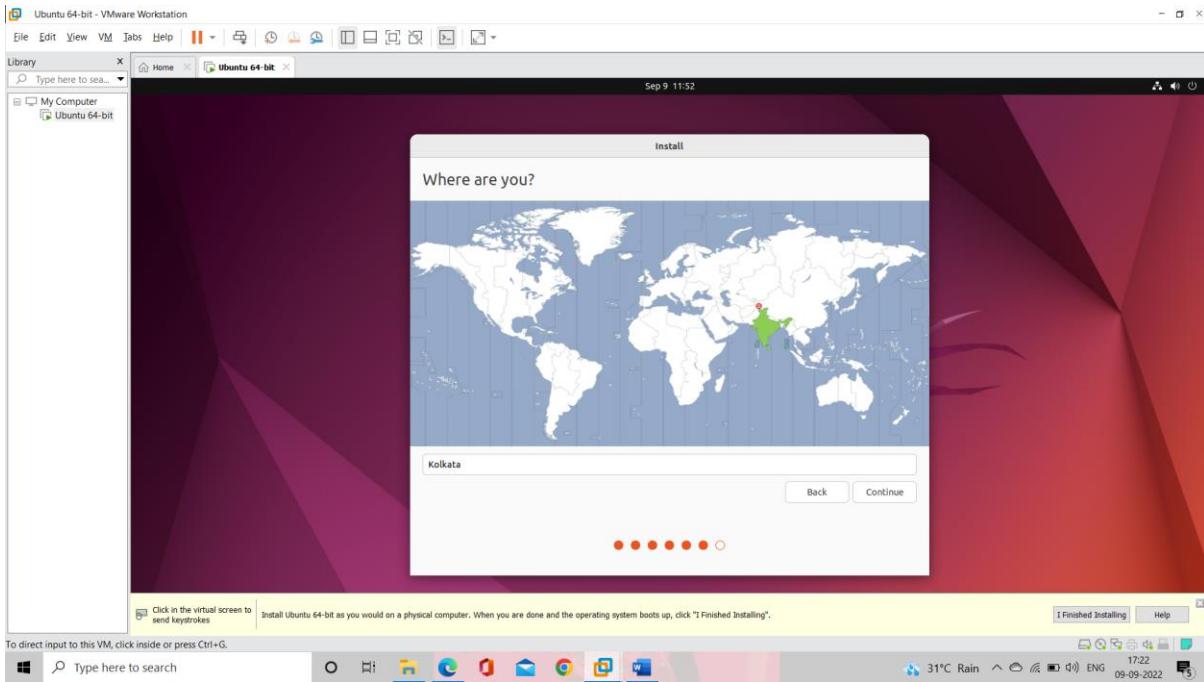


Name: Kiran Mansukh Kidecha

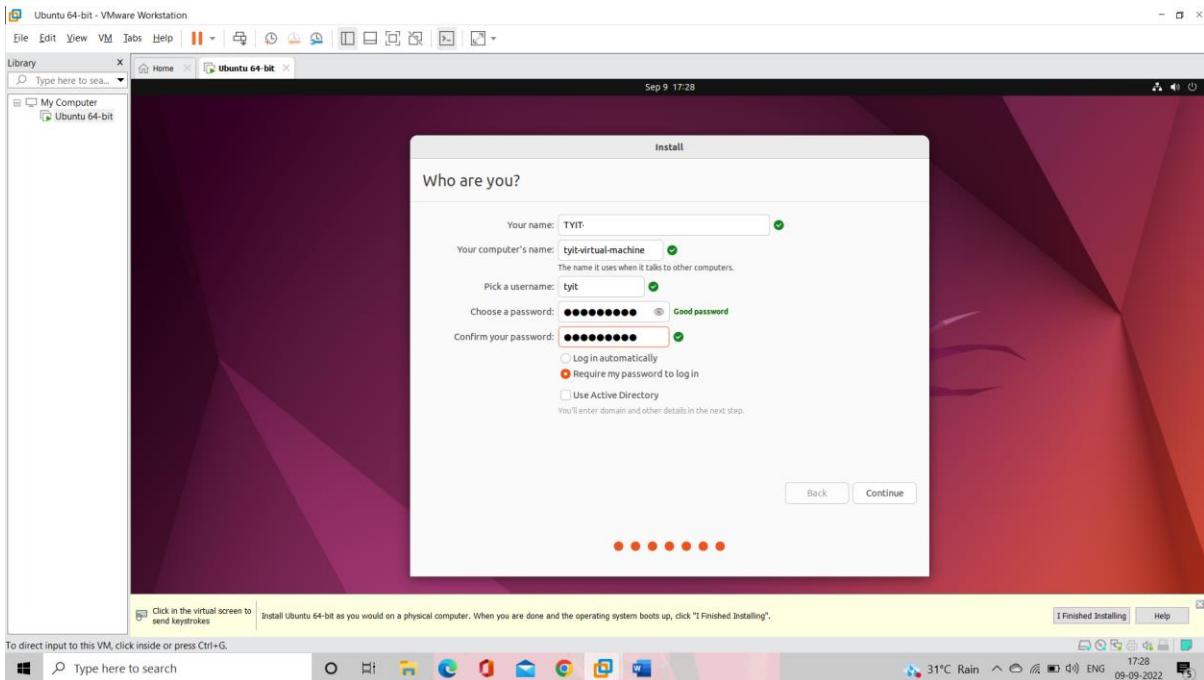
Roll no.: 518

Class: TYIT

14. Select Timezone.



15. Set the details.

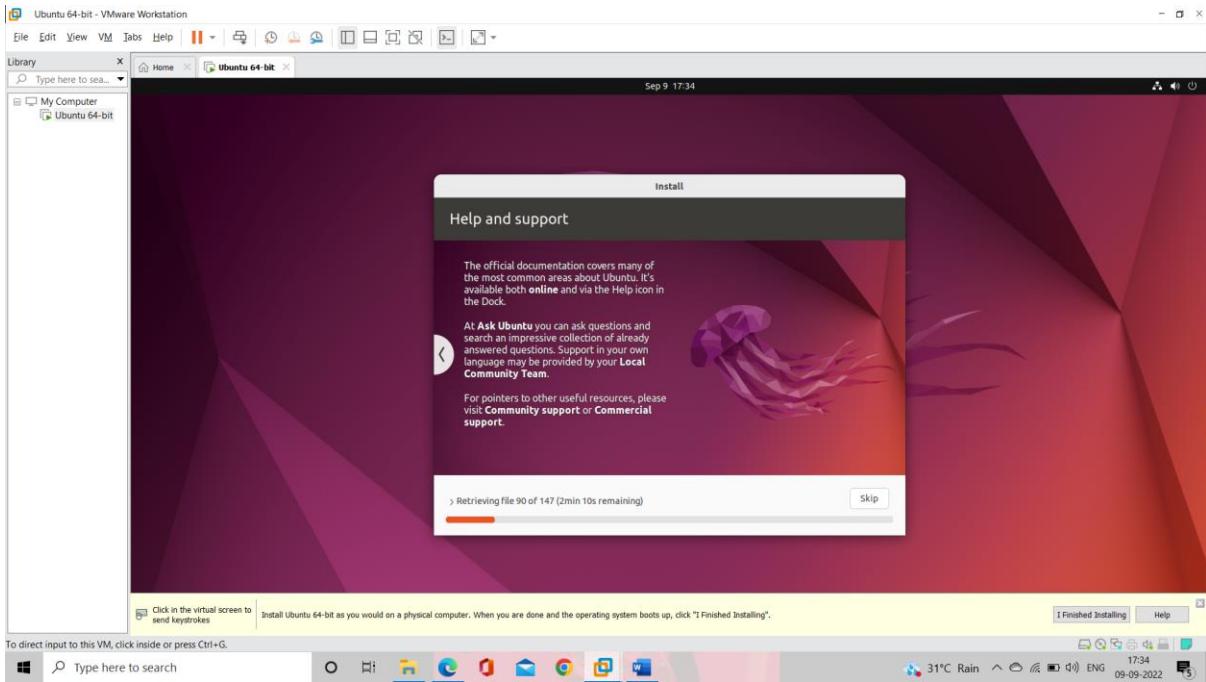


Name: Kiran Mansukh Kidecha

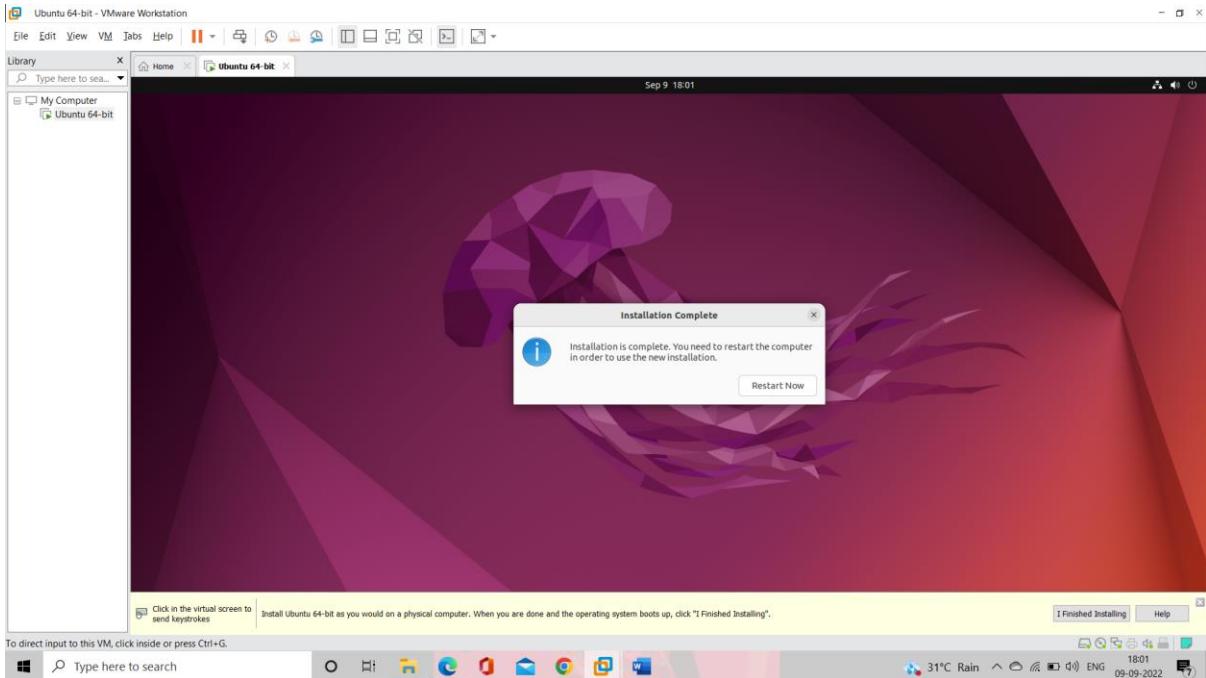
Roll no.: 518

Class: TYIT

16. Wait for it to install.



17. Restart.

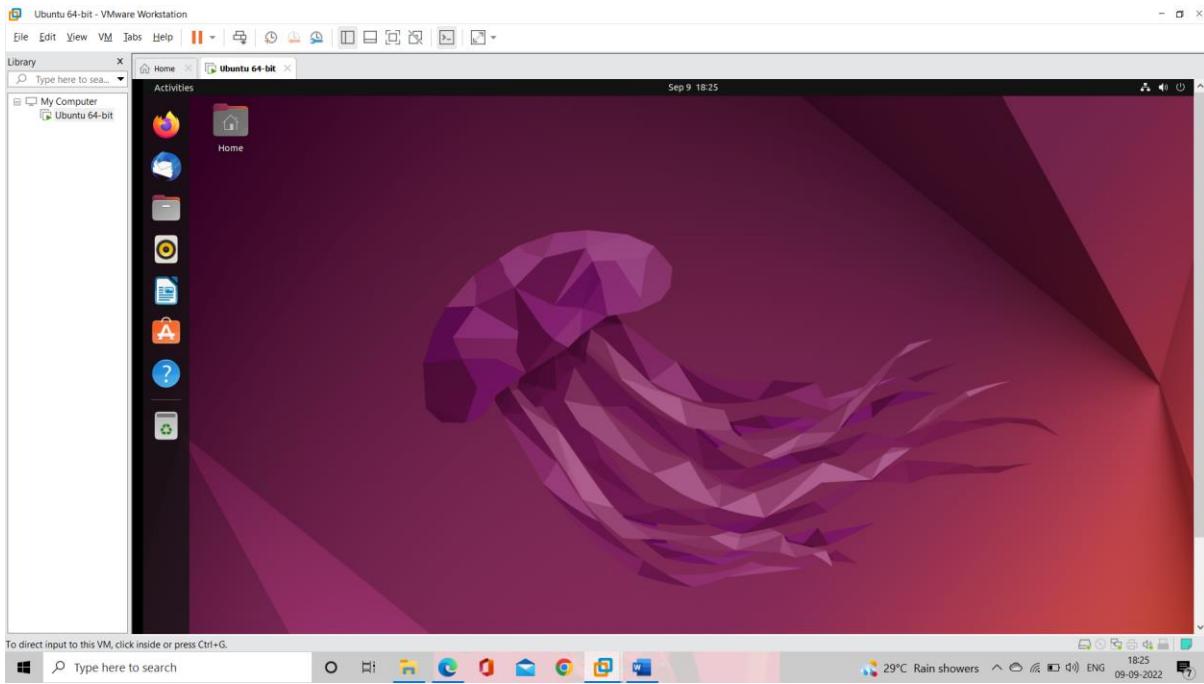


Name: Kiran Mansukh Kidecha

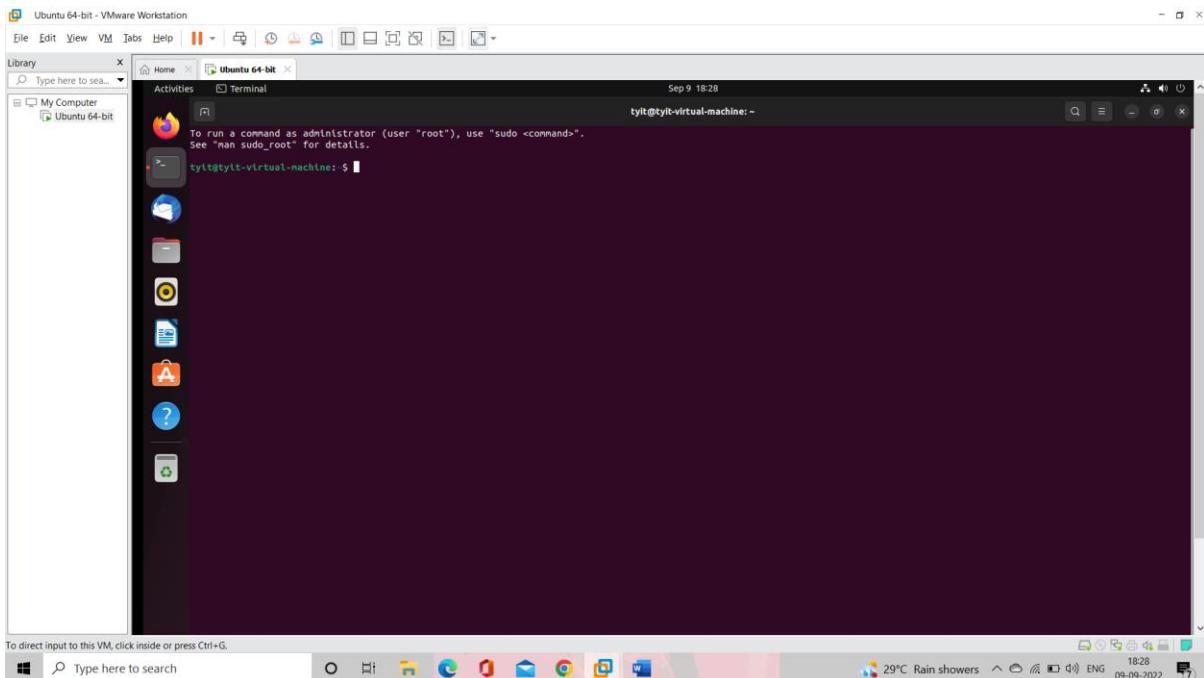
Roll no.: 518

Class: TYIT

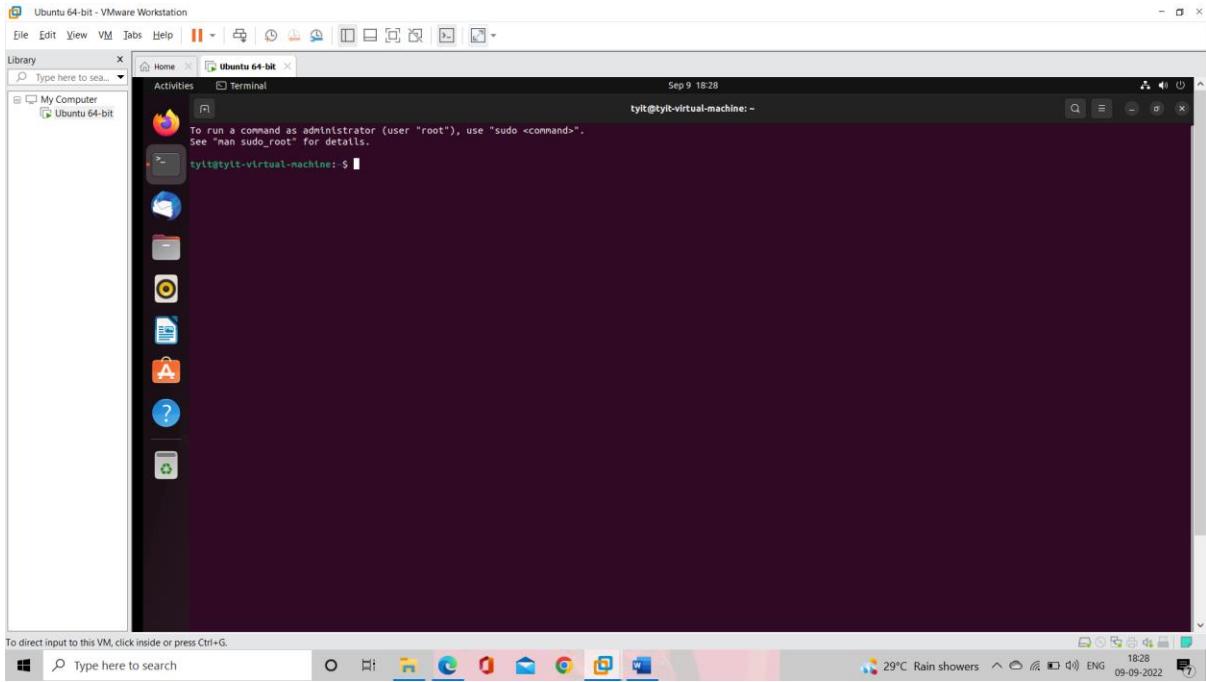
18. Your screen will appear like this.



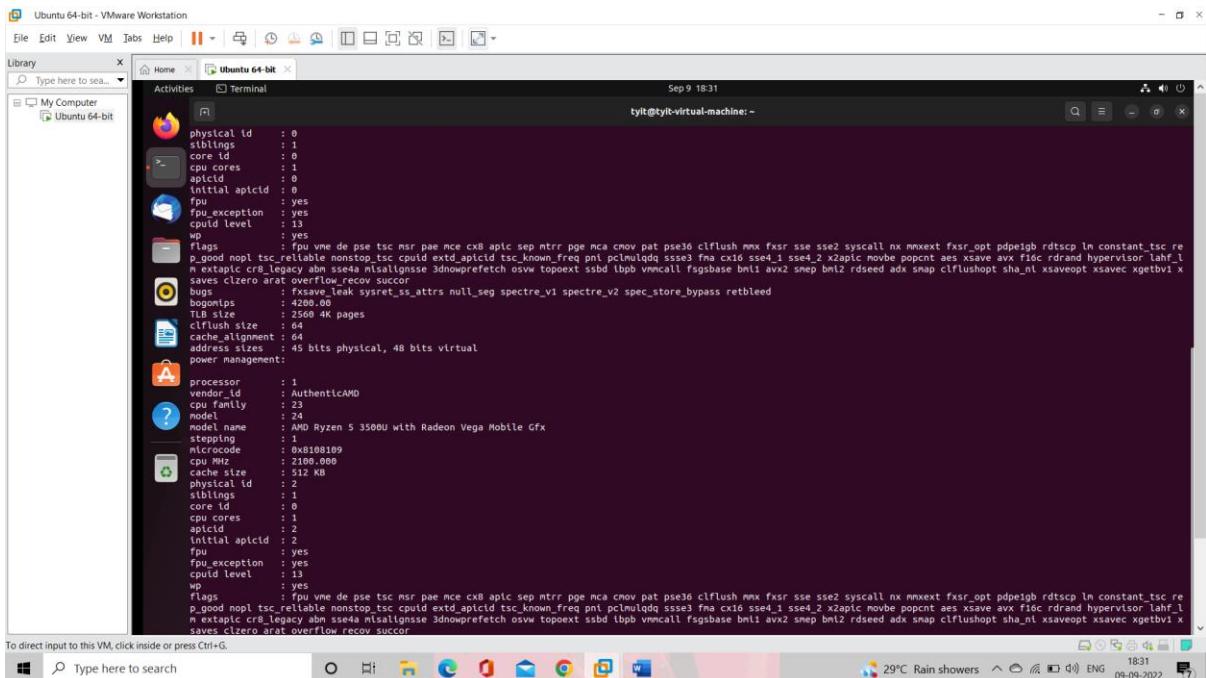
19. Open Terminal.



20. sudo apt update



21. Cat /proc/cpuinfo



22. sudo grep -c "svm\vmx" /proc/cpuinfo

```

Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Back Forward Stop Refresh Minimize Close
Library Type here to search
Ubuntu 64-bit
Home Ubuntu 64-bit
processor exception : yes
cpu id level : 13
wp : yes
flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm constant_tsc re
p_gdod nopl tsc rdseed nonstop_tsc cpuid extd_apcid tsc_known freq pmt pclmulqdq sse3 fma cx16 sse4_1 sse4_2 x2apic movebe popcnt aes xsave avx f16c rdrand hypervisor lahf_l
m extapic cr8_legacy abm sse4a misalignsse 3dnopprefetch osvw topoext ssbd lmbp vmmcall fsgsbase bm1i avx2 smp bm1z rdseed adx snap clflushopt sha_ni xsaveopt xsavenc xgetbv1 x
saves clzero arat overflow_recover succor
bugs : fxsave_leak sysret_ss_attrs null_seg spectre_v1 spectre_v2 spec_store_bypass retbleed
bogomips : 4260.00
TSC size : 1660 4K pages
clflush size : 64
cache_alignment : 64
address sizes : 45 bits physical, 48 bits virtual
power management:

processor : 1
vendor_id : AuthenticAMD
cpu family : 23
model : 24
model name : AMD Ryzen 5 3500U with Radeon Vega Mobile GFX
stepping : 1
microcode : 0x8108109
cpu MHz : 2100.000
cache size : 512 KB
physical id : 2
siblings : 1
core id : 0
cpu cores : 1
apicid : 2
initial_apicid : 2
fpu : yes
fpu_exception : yes
cpuid level : 13
wp : yes
flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm constant_tsc re
p_gdod nopl tsc rdseed nonstop_tsc cpuid extd_apcid tsc_known freq pmt pclmulqdq sse3 fma cx16 sse4_1 sse4_2 x2apic movebe popcnt aes xsave avx f16c rdrand hypervisor lahf_l
m extapic cr8_legacy abm sse4a misalignsse 3dnopprefetch osvw topoext ssbd lmbp vmmcall fsgsbase bm1i avx2 smp bm1z rdseed adx snap clflushopt sha_ni xsaveopt xsavenc xgetbv1 x
saves clzero arat overflow_recover succor
bugs : fxsave_leak sysret_ss_attrs null_seg spectre_v1 spectre_v2 spec_store_bypass retbleed
bogomips : 4260.00
TSC size : 1660 4K pages
clflush size : 64
cache_alignment : 64
address sizes : 45 bits physical, 48 bits virtual
power management:
tyit@tyit-virtual-machine: $ sudo grep -c "svm\vmx" /proc/cpuinfo
0
tyit@tyit-virtual-machine: $
```

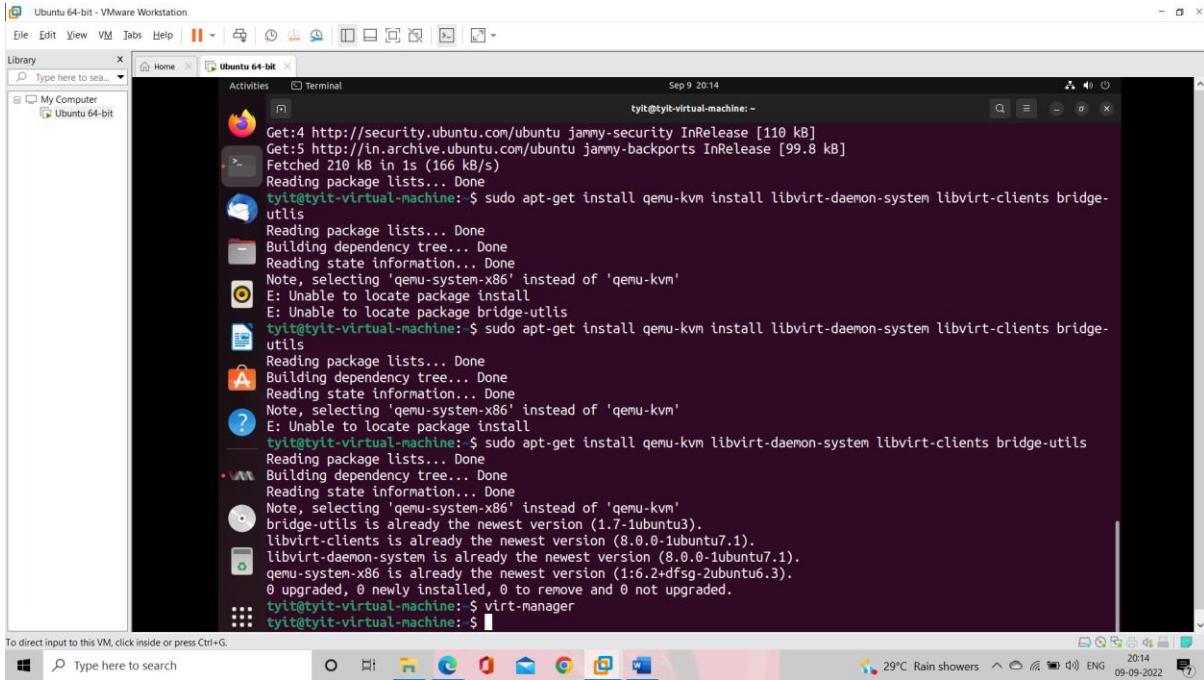
To direct input to this VM, click inside or press Ctrl+G.

23. sudo apt-get update

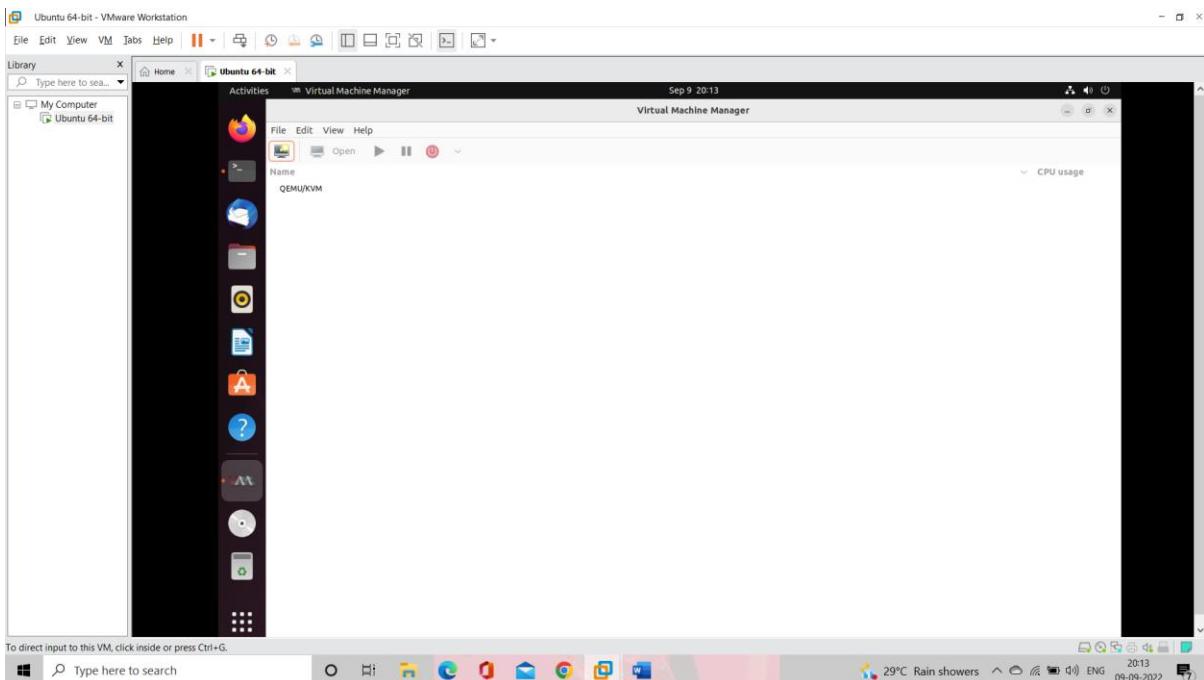
```

Ubuntu 64-bit - VMware Workstation
File Edit View VM Tabs Help || Back Forward Stop Refresh Minimize Close
Library Type here to search
Ubuntu 64-bit
Home Ubuntu 64-bit
processor exception : yes
cpu id level : 13
wp : yes
flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm constant_tsc re
p_gdod nopl tsc rdseed nonstop_tsc cpuid extd_apcid tsc_known freq pmt pclmulqdq sse3 fma cx16 sse4_1 sse4_2 x2apic movebe popcnt aes xsave avx f16c rdrand hypervisor lahf_l
m extapic cr8_legacy abm sse4a misalignsse 3dnopprefetch osvw topoext ssbd lmbp vmmcall fsgsbase bm1i avx2 smp bm1z rdseed adx snap clflushopt sha_ni xsaveopt xsavenc xgetbv1 x
saves clzero arat overflow_recover succor
bugs : fxsave_leak sysret_ss_attrs null_seg spectre_v1 spectre_v2 spec_store_bypass retbleed
bogomips : 4260.00
TSC size : 1660 4K pages
clflush size : 64
cache_alignment : 64
address sizes : 45 bits physical, 48 bits virtual
power management:
processor : 1
vendor_id : AuthenticAMD
cpu family : 23
model : 24
model name : AMD Ryzen 5 3500U with Radeon Vega Mobile GFX
stepping : 1
microcode : 0x8108109
cpu MHz : 2100.000
cache size : 512 KB
physical id : 2
siblings : 1
core id : 0
cpu cores : 1
apicid : 2
initial_apicid : 2
fpu : yes
fpu_exception : yes
cpuid level : 13
wp : yes
flags : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm constant_tsc re
p_gdod nopl tsc rdseed nonstop_tsc cpuid extd_apcid tsc_known freq pmt pclmulqdq sse3 fma cx16 sse4_1 sse4_2 x2apic movebe popcnt aes xsave avx f16c rdrand hypervisor lahf_l
m extapic cr8_legacy abm sse4a misalignsse 3dnopprefetch osvw topoext ssbd lmbp vmmcall fsgsbase bm1i avx2 smp bm1z rdseed adx snap clflushopt sha_ni xsaveopt xsavenc xgetbv1 x
saves clzero arat overflow_recover succor
bugs : fxsave_leak sysret_ss_attrs null_seg spectre_v1 spectre_v2 spec_store_bypass retbleed
bogomips : 4260.00
TSC size : 1660 4K pages
clflush size : 64
cache_alignment : 64
address sizes : 45 bits physical, 48 bits virtual
power management:
tyit@tyit-virtual-machine: $ sudo apt-get update
Reading package lists... Done
tyit@tyit-virtual-machine: $
```

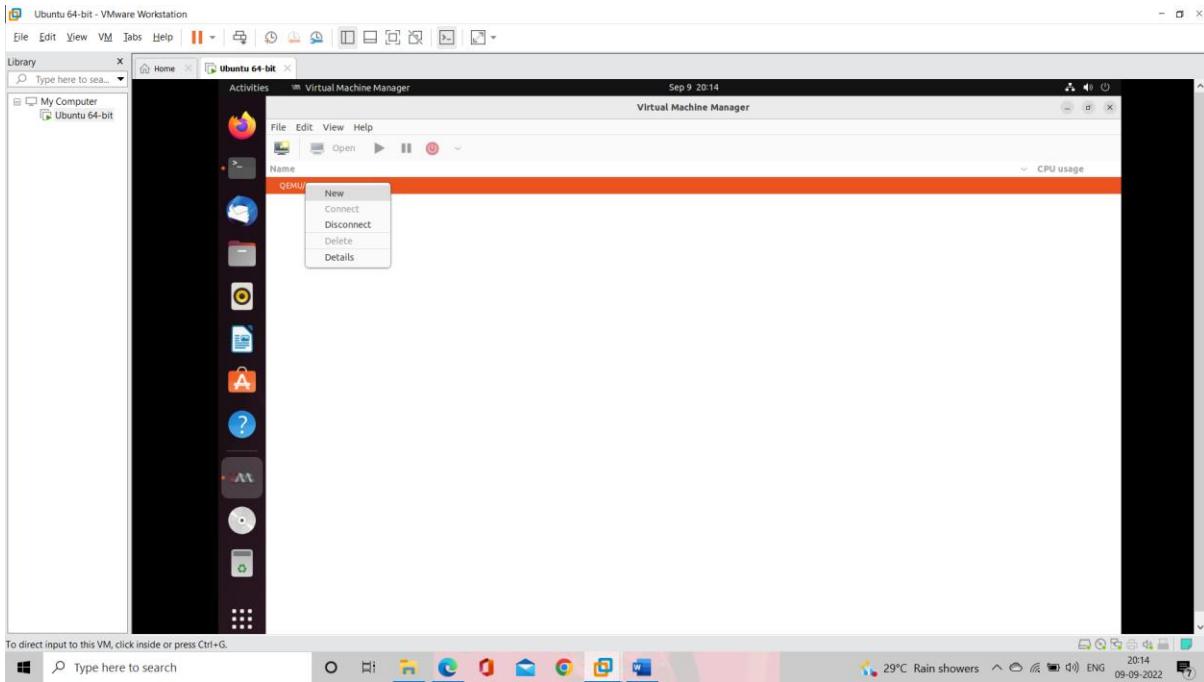
To direct input to this VM, click inside or press Ctrl+G.

24. sudo apt-get install qemu-kvm libvirt-daemon-system libvirt-clients bridge-utils

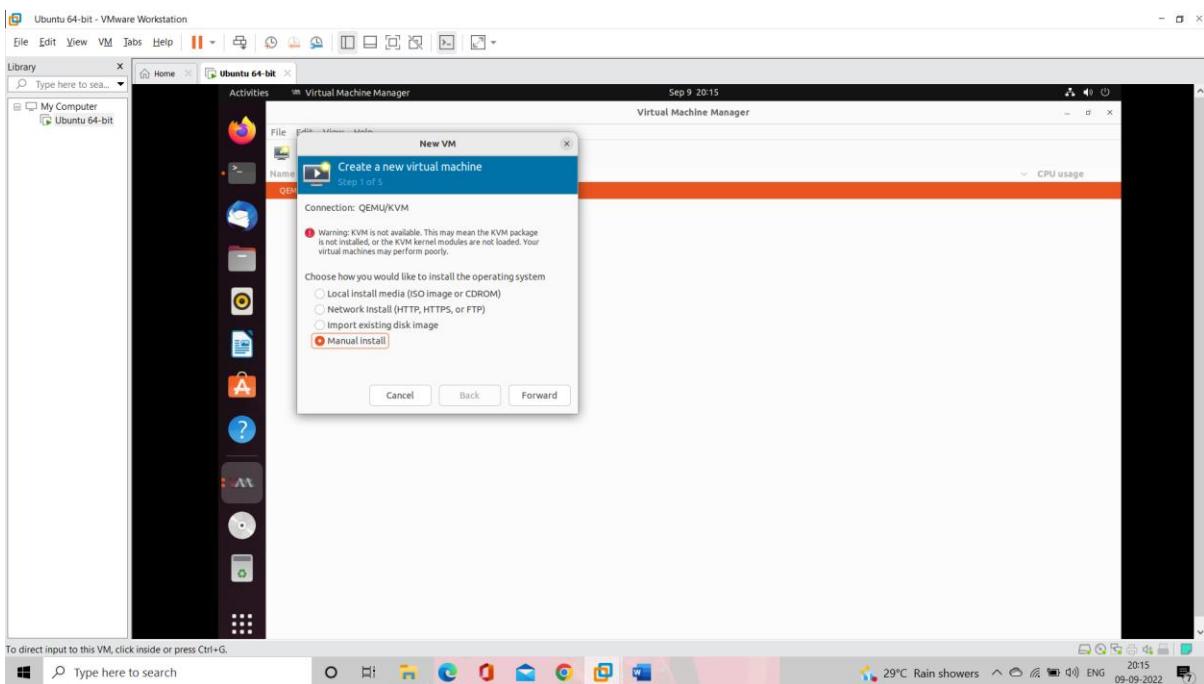
```
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease [99.8 kB]
Fetched 210 kB in 1s (166 kB/s)
Reading package lists... Done
tyit@tyit-virtual-machine: ~
tyit@tyit-virtual-machine: $ sudo apt-get install qemu-kvm libvirt-daemon-system libvirt-clients bridge-utils
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'qemu-system-x86' instead of 'qemu-kvm'
E: Unable to locate package install
E: Unable to locate package bridge-utils
tyit@tyit-virtual-machine: $ sudo apt-get install qemu-kvm libvirt-daemon-system libvirt-clients bridge-utils
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'qemu-system-x86' instead of 'qemu-kvm'
E: Unable to locate package install
tyit@tyit-virtual-machine: $ sudo apt-get install qemu-kvm libvirt-daemon-system libvirt-clients bridge-utils
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'qemu-system-x86' instead of 'qemu-kvm'
bridge-utils is already the newest version (1.7-1ubuntu3).
libvirt-clients is already the newest version (8.0.0-1ubuntu7.1).
libvirt-daemon-system is already the newest version (8.0.0-1ubuntu7.1).
qemu-system-x86 is already the newest version (1:6.2+dfsg-2ubuntu6.3).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
tyit@tyit-virtual-machine: $ virt-manager
tyit@tyit-virtual-machine: $
```

25. Virtual Machine Manager is ready.**26. Output.**

27. Right click on QEMU and select New.



28. Select Manual Install for instant Installation or else you need to download iso of windows and then open it using other options.

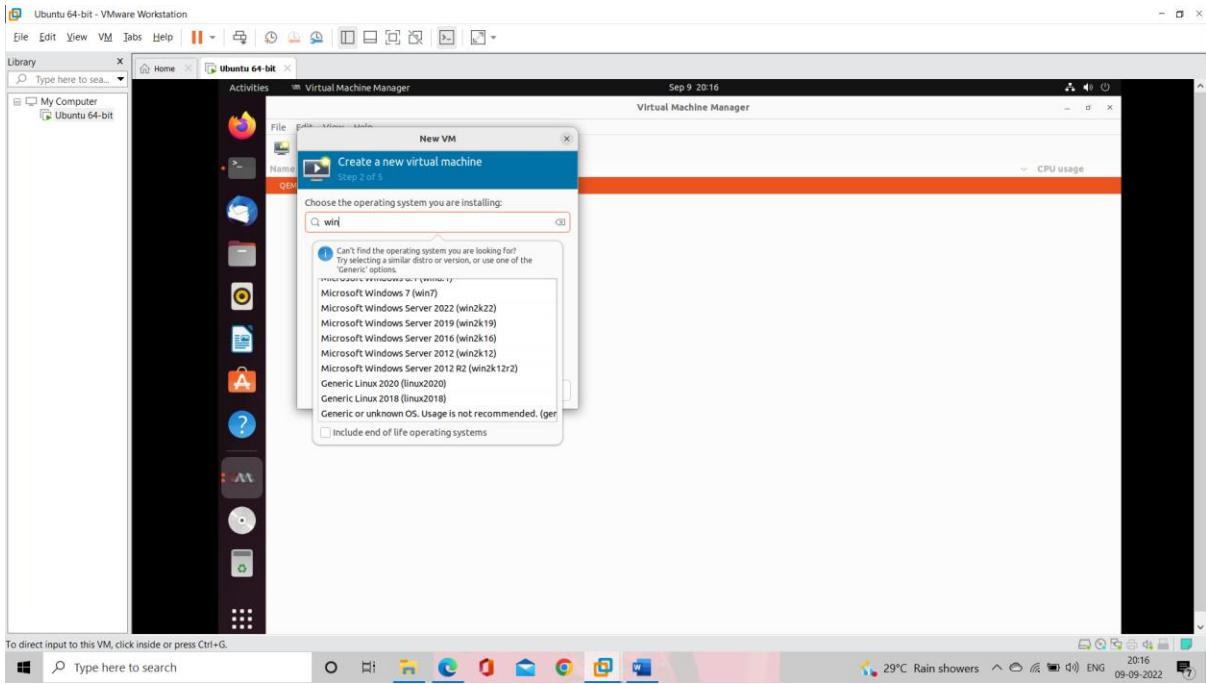


Name: Kiran Mansukh Kidecha

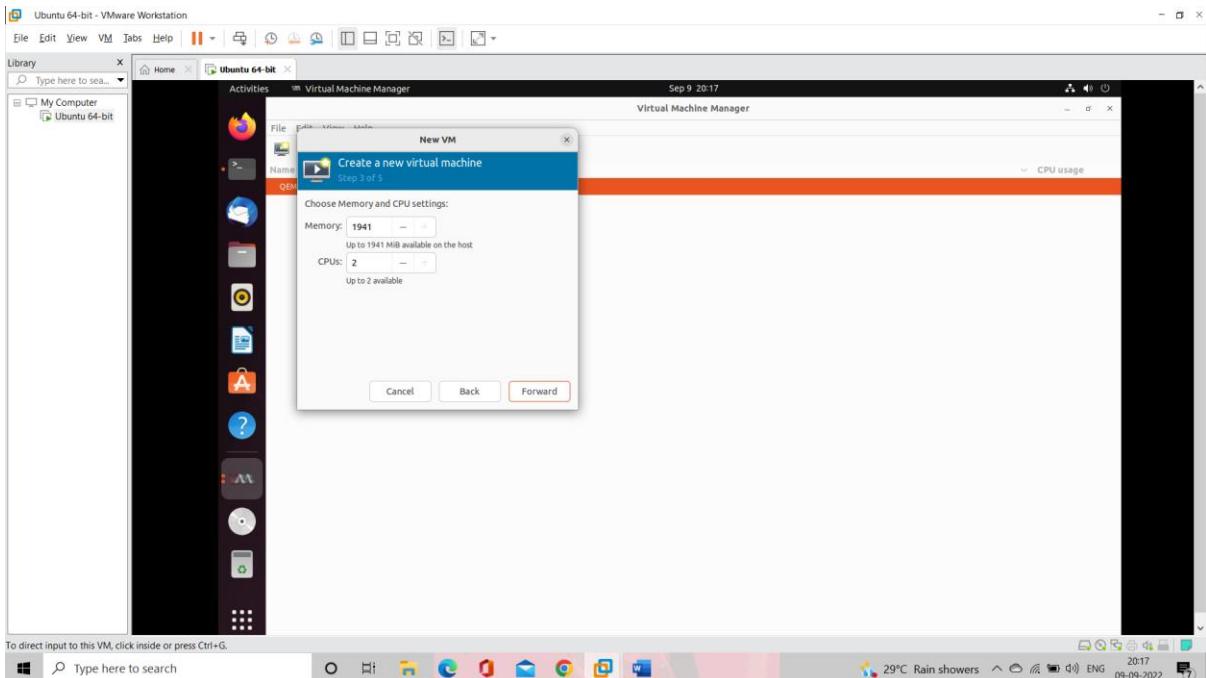
Roll no.: 518

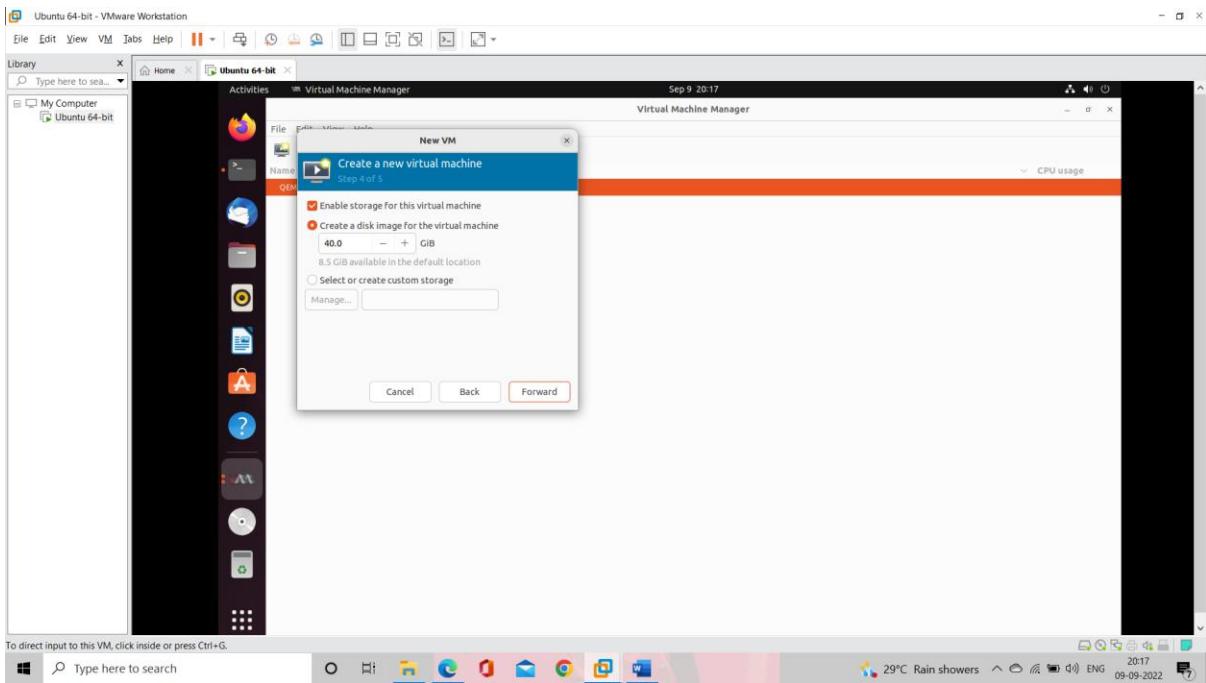
Class: TYIT

29. Install any version of windows you want to work with.

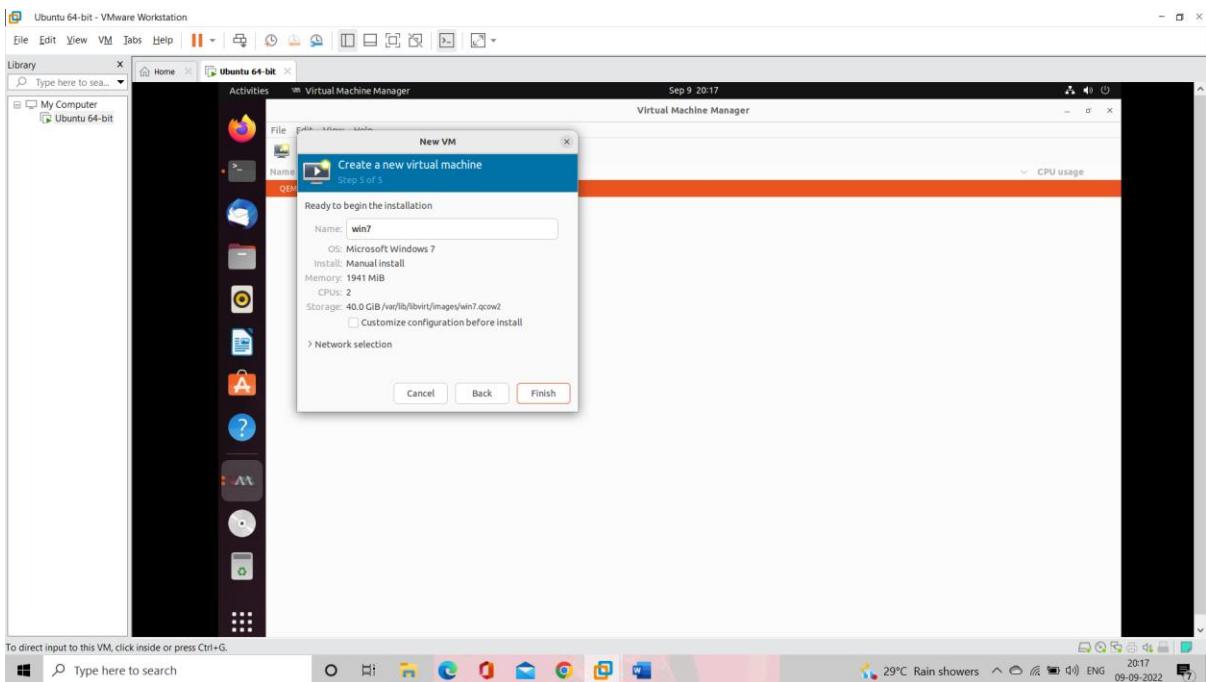


30. Default Settings.





31. You can see win7 has appeared.



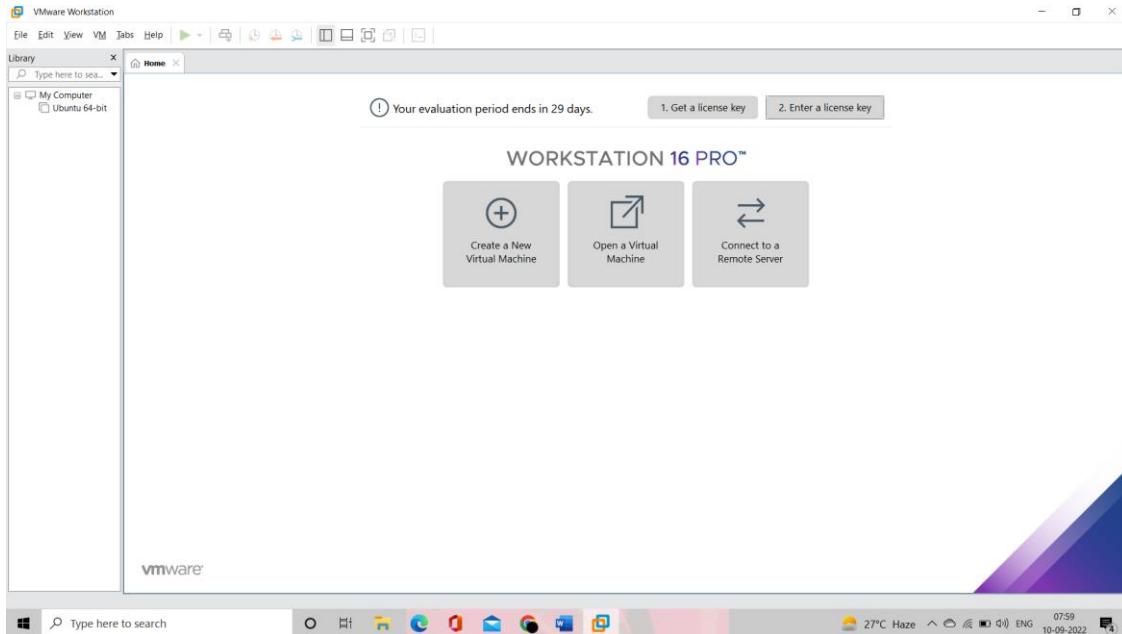
Practical 2

Steps:

step 1: Go to customerconnect.vmware.com download vsphere hypervisor 6.7

step 2: note the licence keys for activation

step 3: open VMware workstation

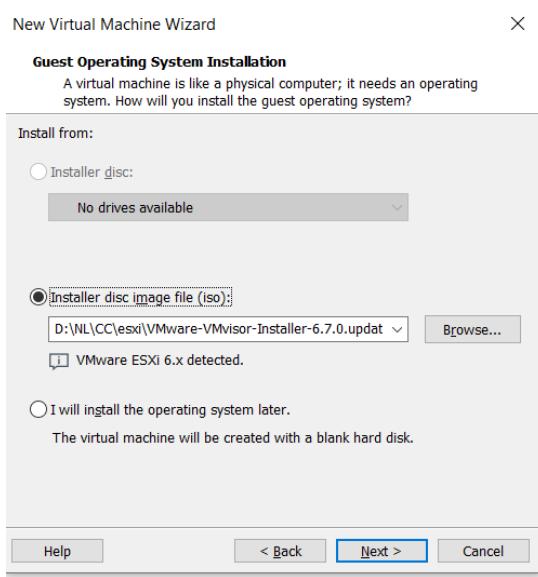


step 4: click on create new virtual machine

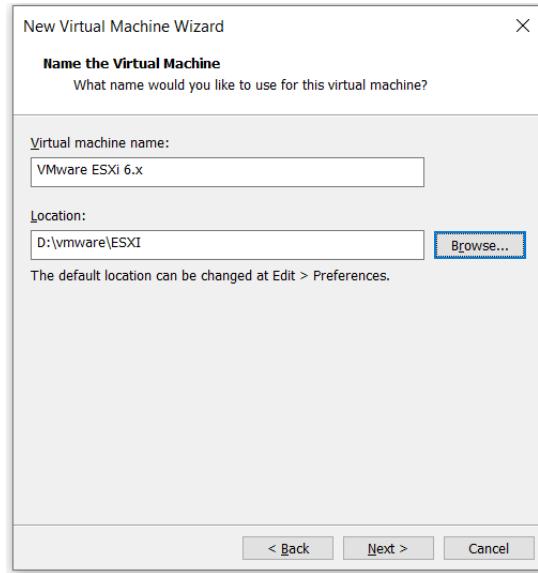
step 5: select virtual machine configuration as typical



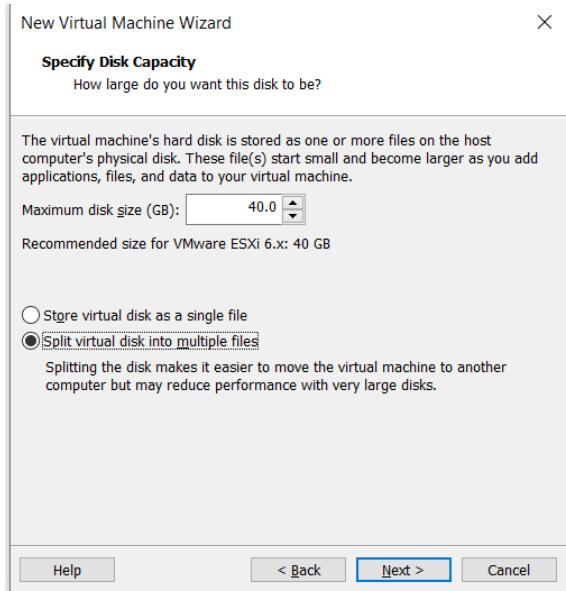
step 6: now in vmware click on use iso file and browse the extracted file and click on next.



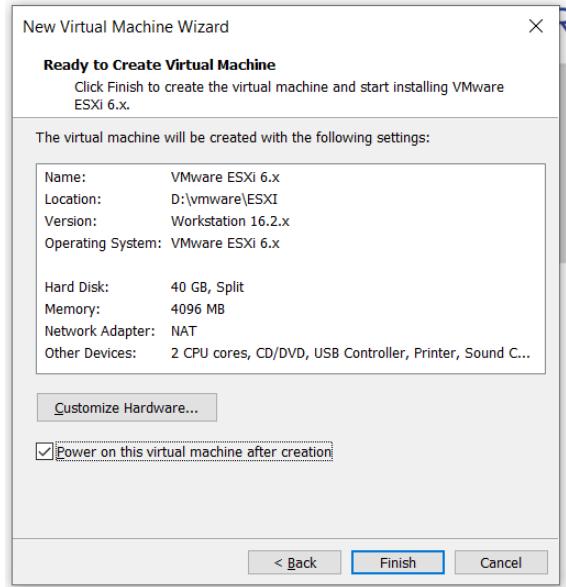
step 7: provide the name for the virtual machine (can be changed ESXI)



step 8: Allocate maximum disk size, I will keep the default



step 9: These are the virtual machine details, click on finish

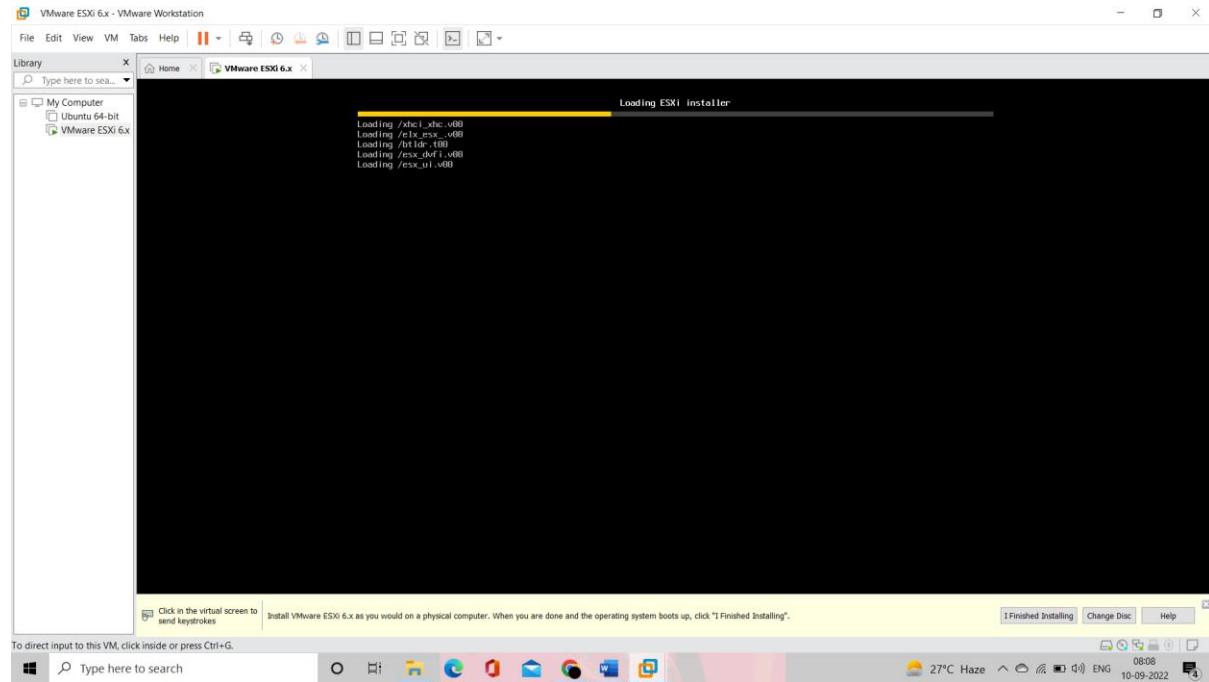


Name: Kiran Mansukh Kidecha

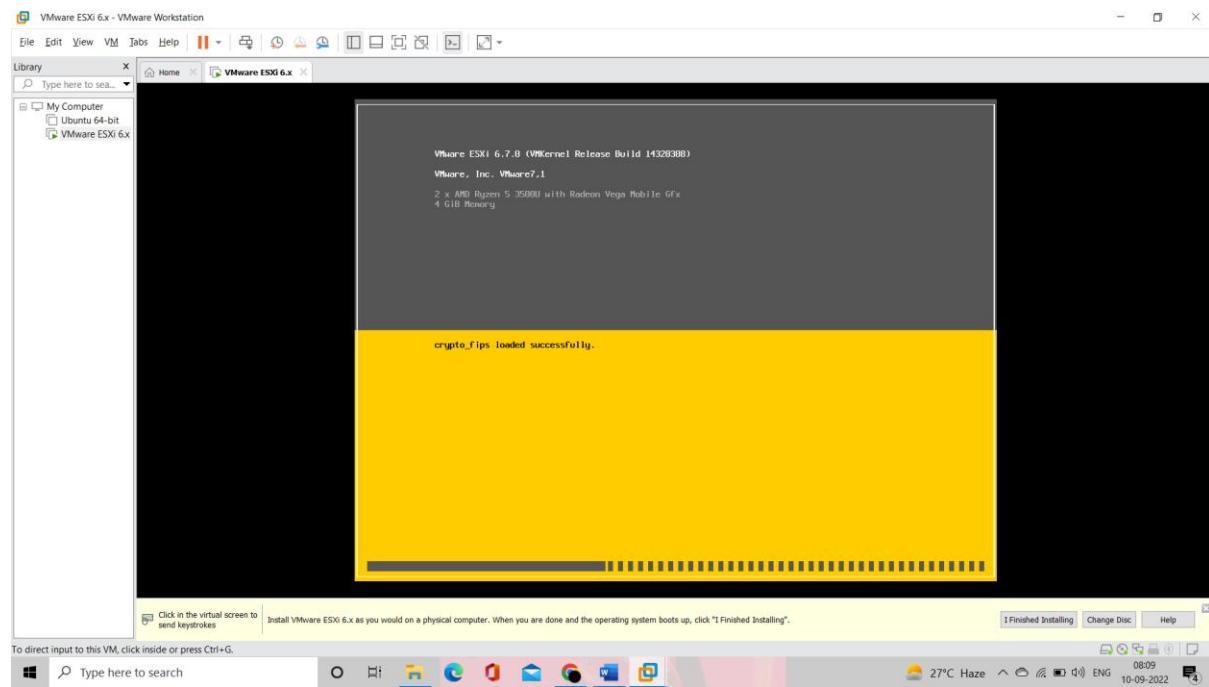
Roll no.: 518

Class: TYIT

step 10: VMware esxi is being loaded



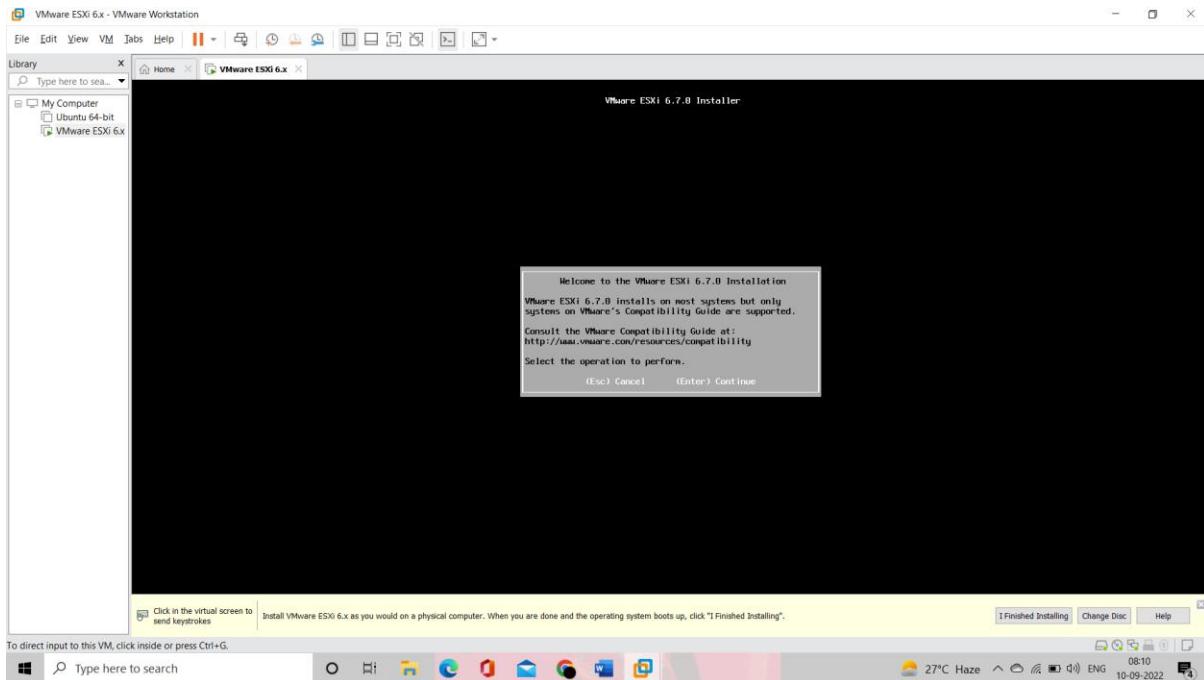
step 11: click on enter after installation



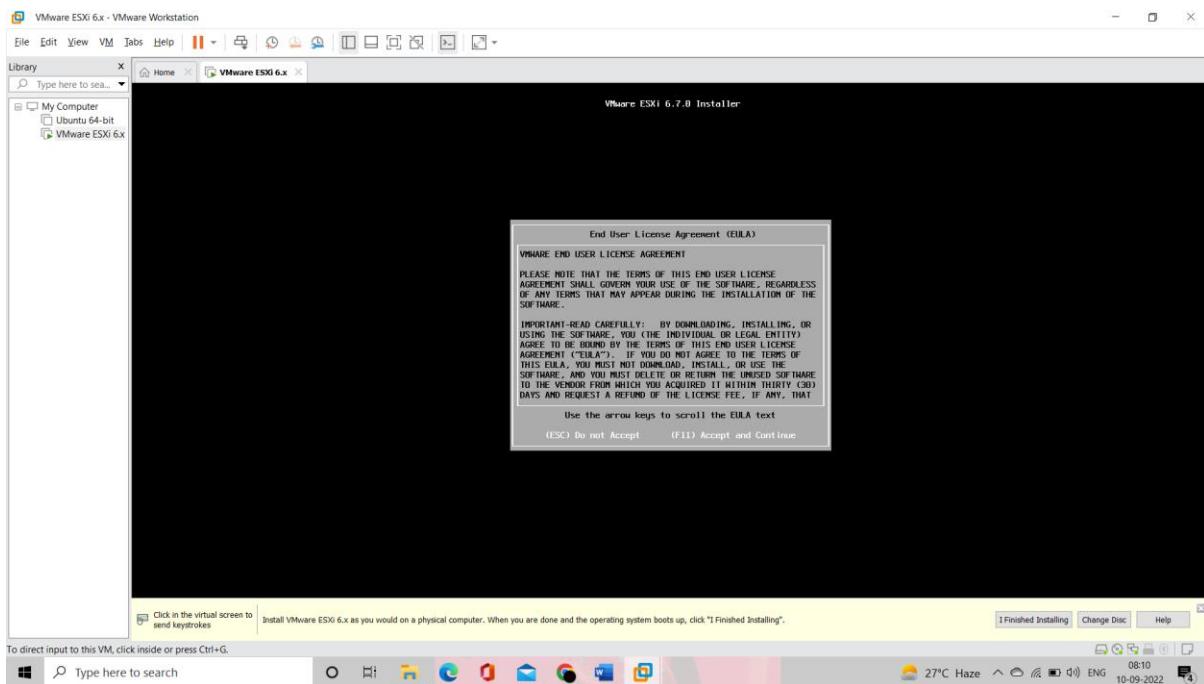
Name: Kiran Mansukh Kidecha

Roll no.: 518

Class: TYIT



step 12: click F11

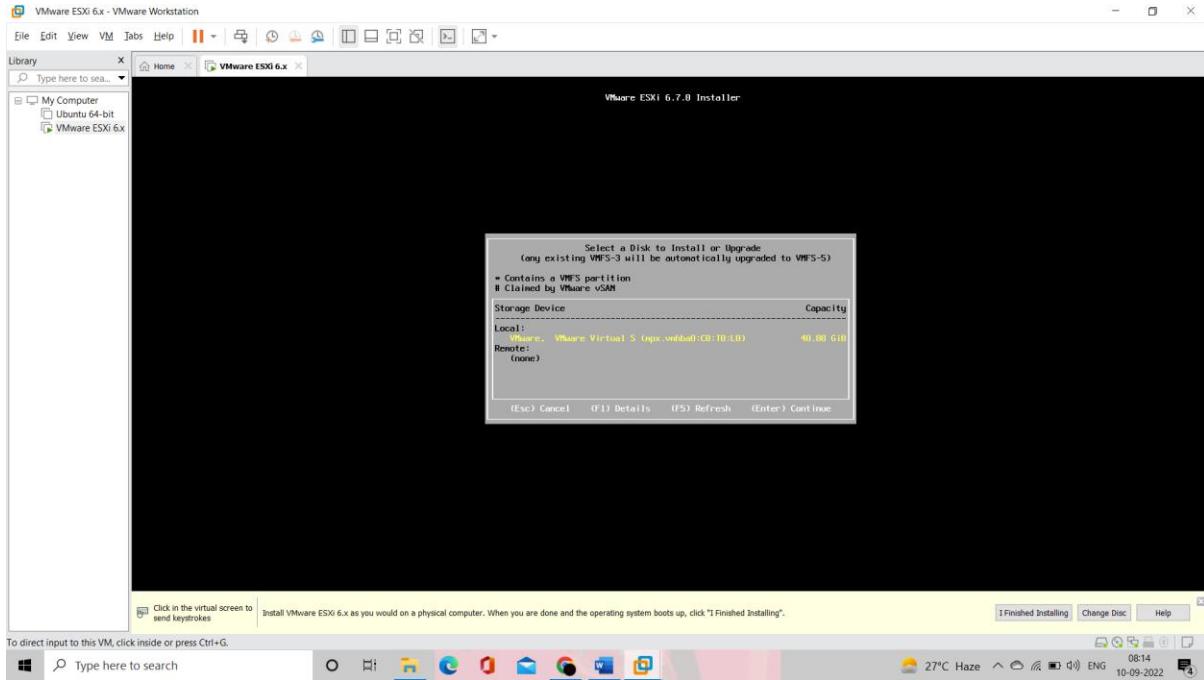


Name: Kiran Mansukh Kidecha

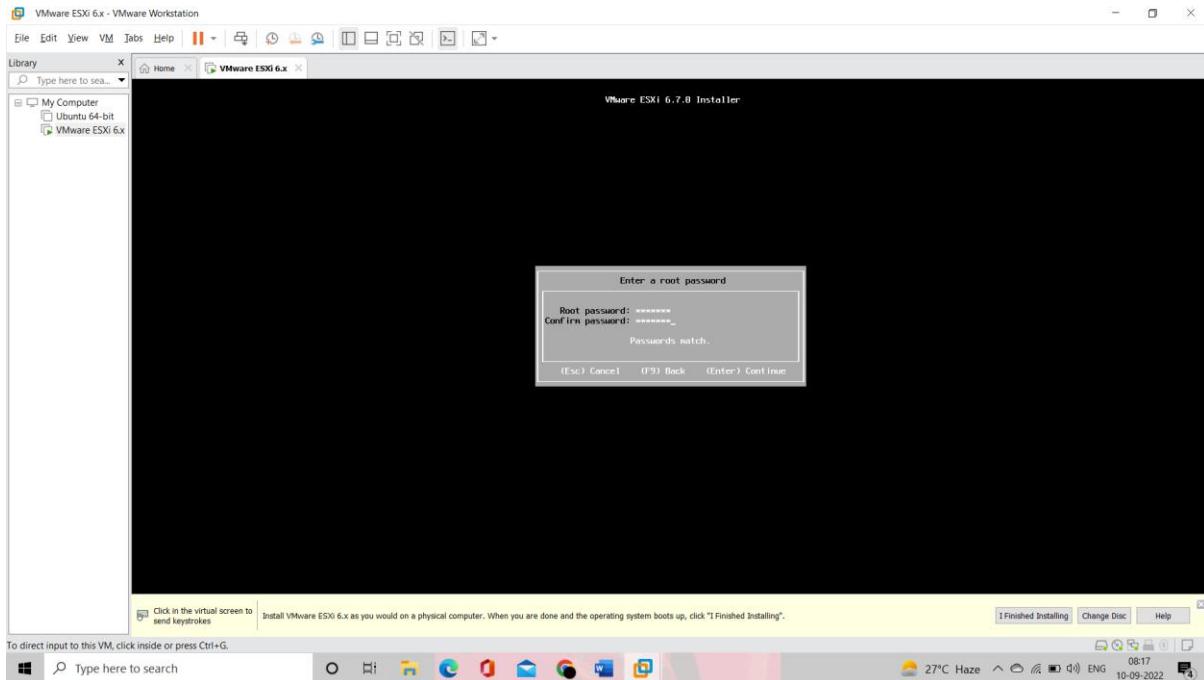
Roll no.: 518

Class: TYIT

step 13: click on continue



step 14: enter root@123 pass and then enter

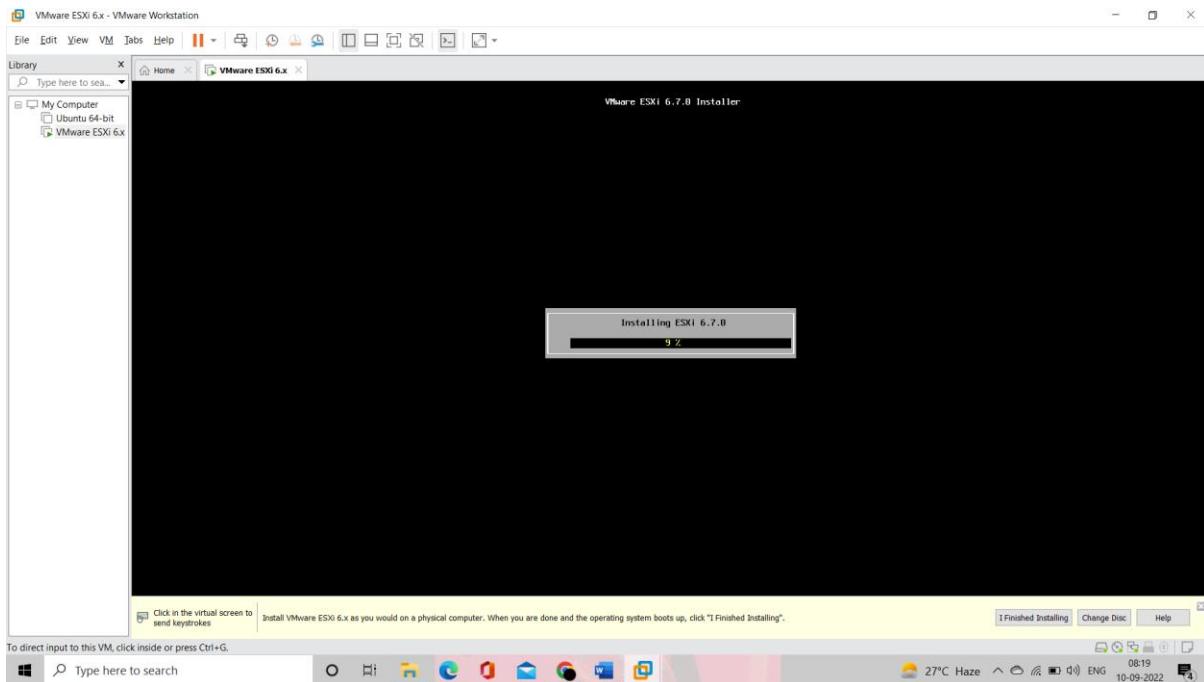
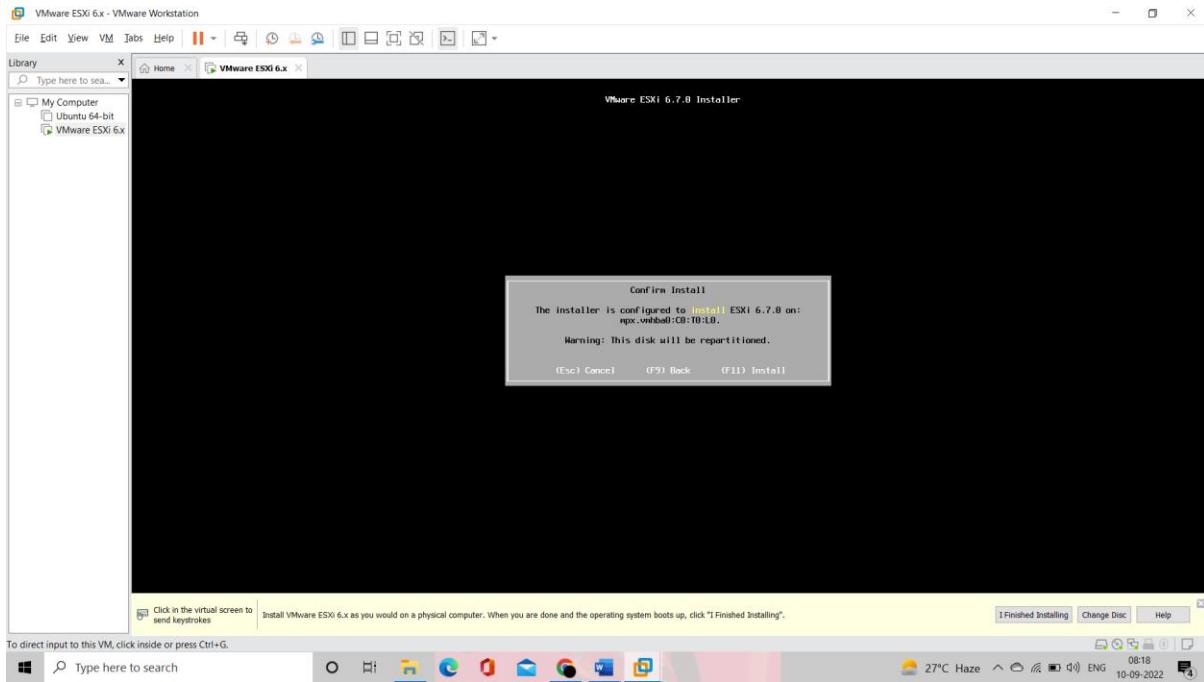


Name: Kiran Mansukh Kidecha

Roll no.: 518

Class: TYIT

step 15: click F11

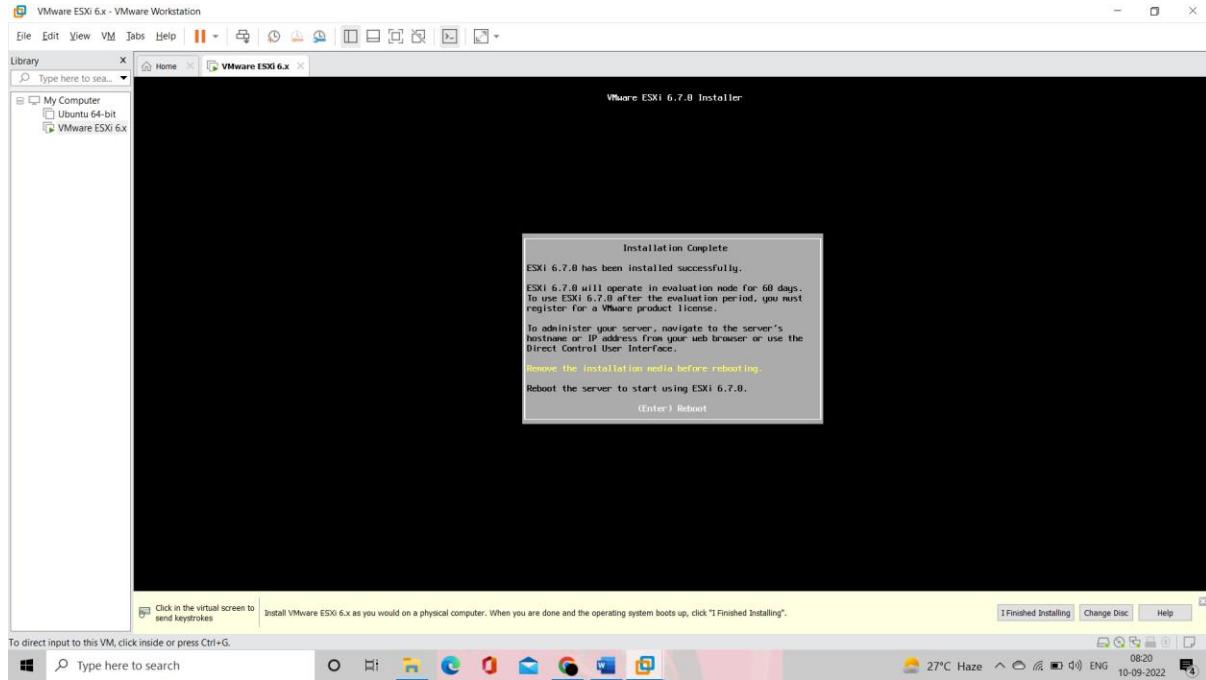


Name: Kiran Mansukh Kidecha

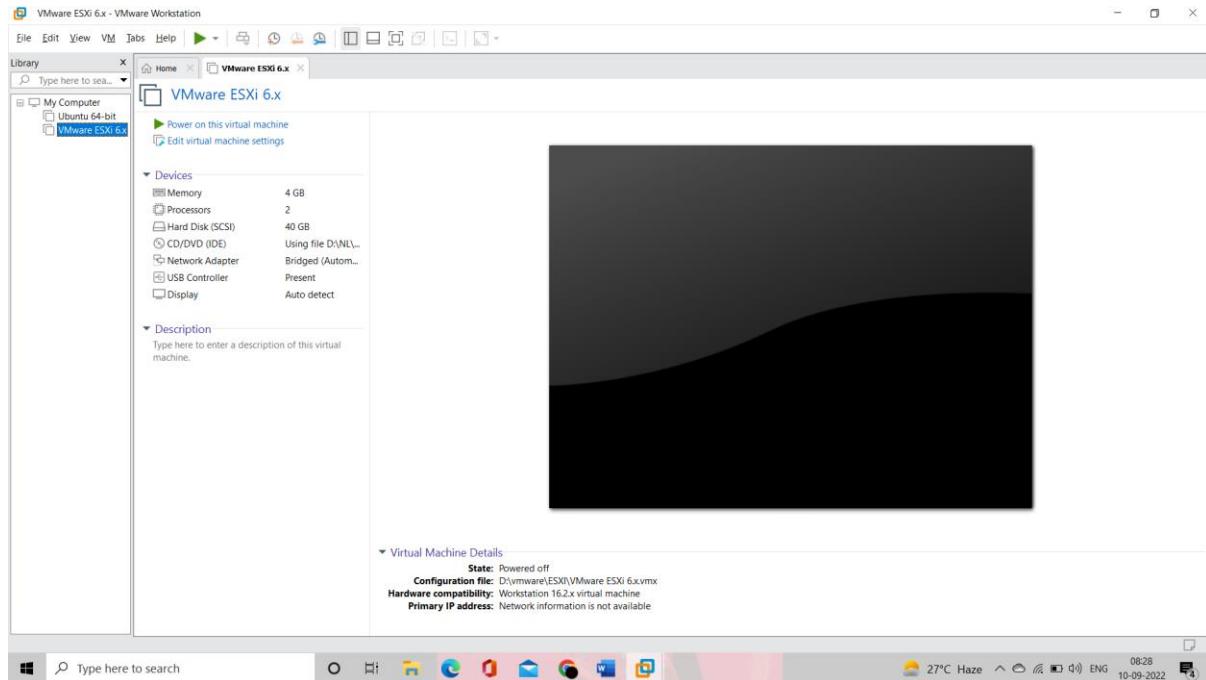
Roll no.: 518

Class: TYIT

step 16: press enter after esxi installation



step 17: shut down the esxi machine

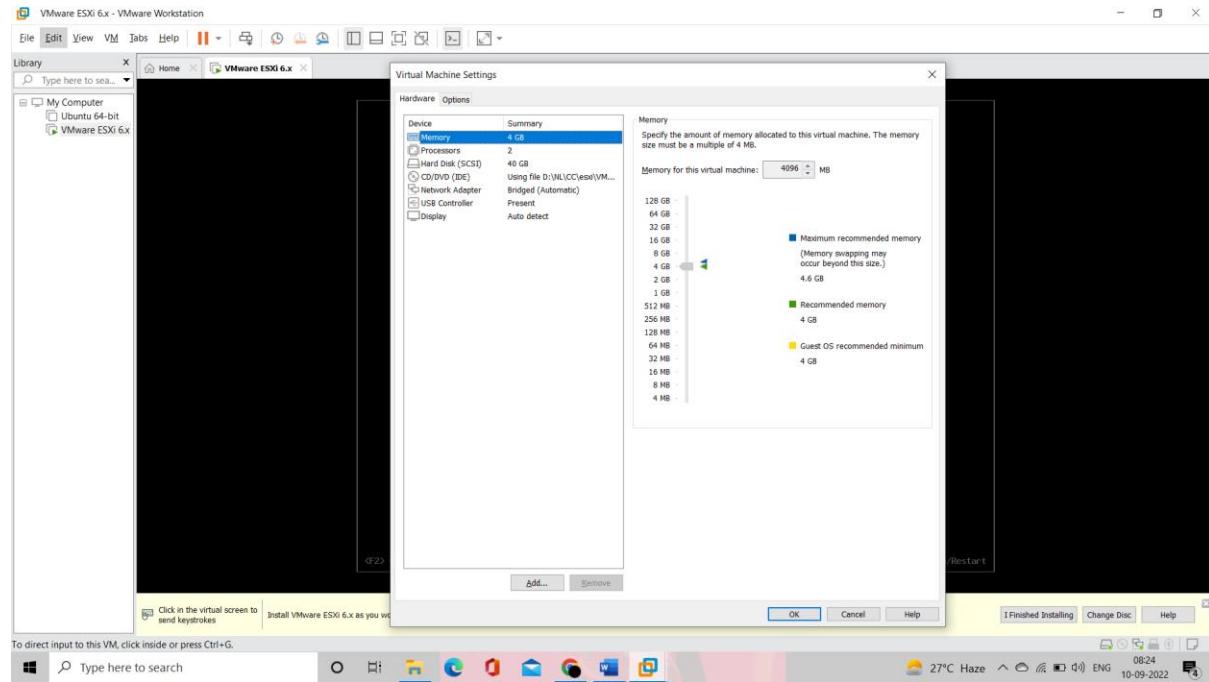


Name: Kiran Mansukh Kidecha

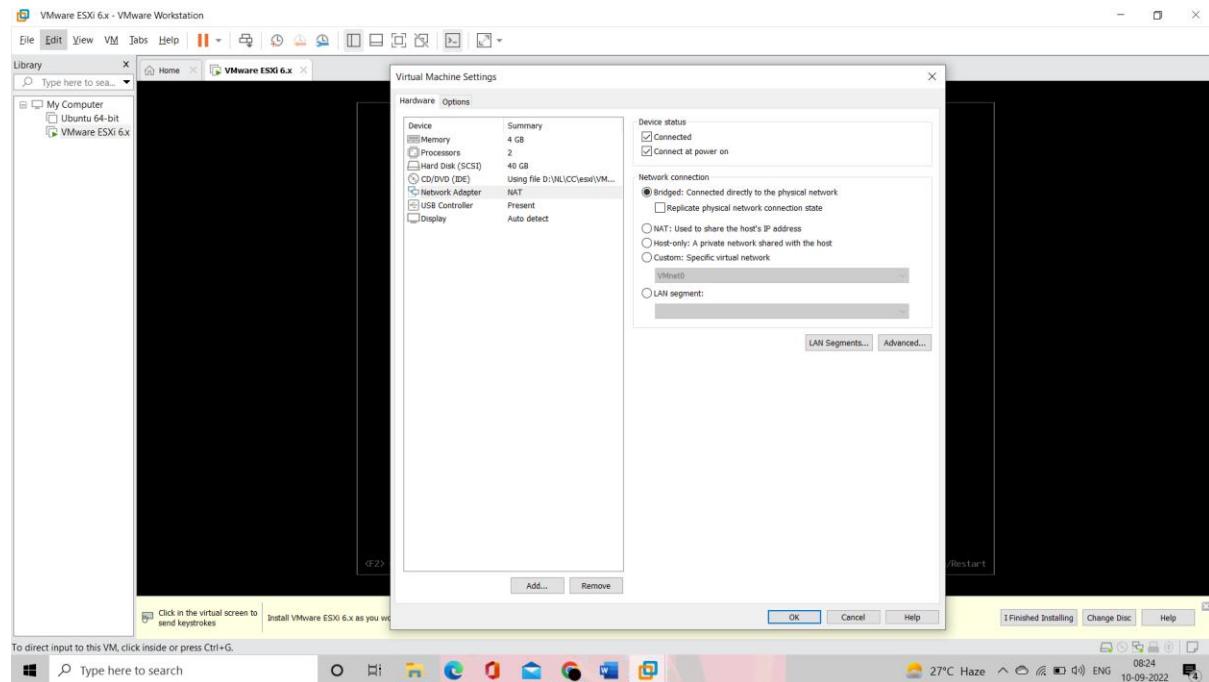
Roll no.: 518

Class: TYIT

step 18: go to edit vm settings



step 19: go to network adaptor and select bridge and save

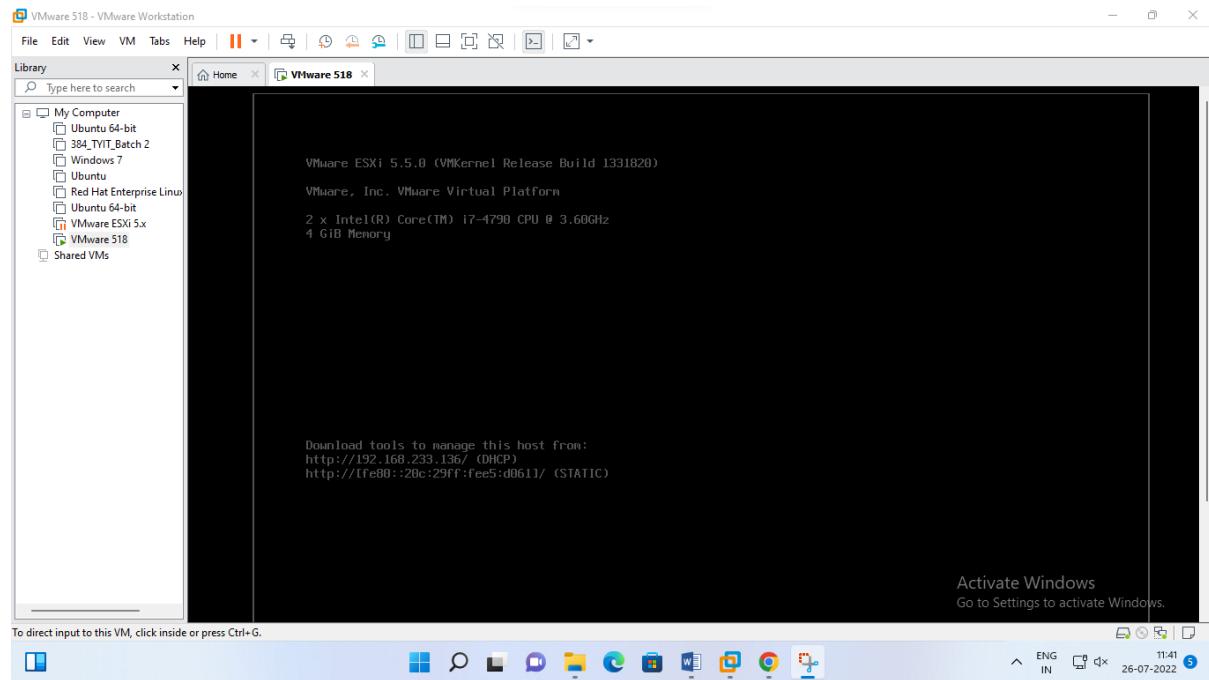


Name: Kiran Mansukh Kidecha

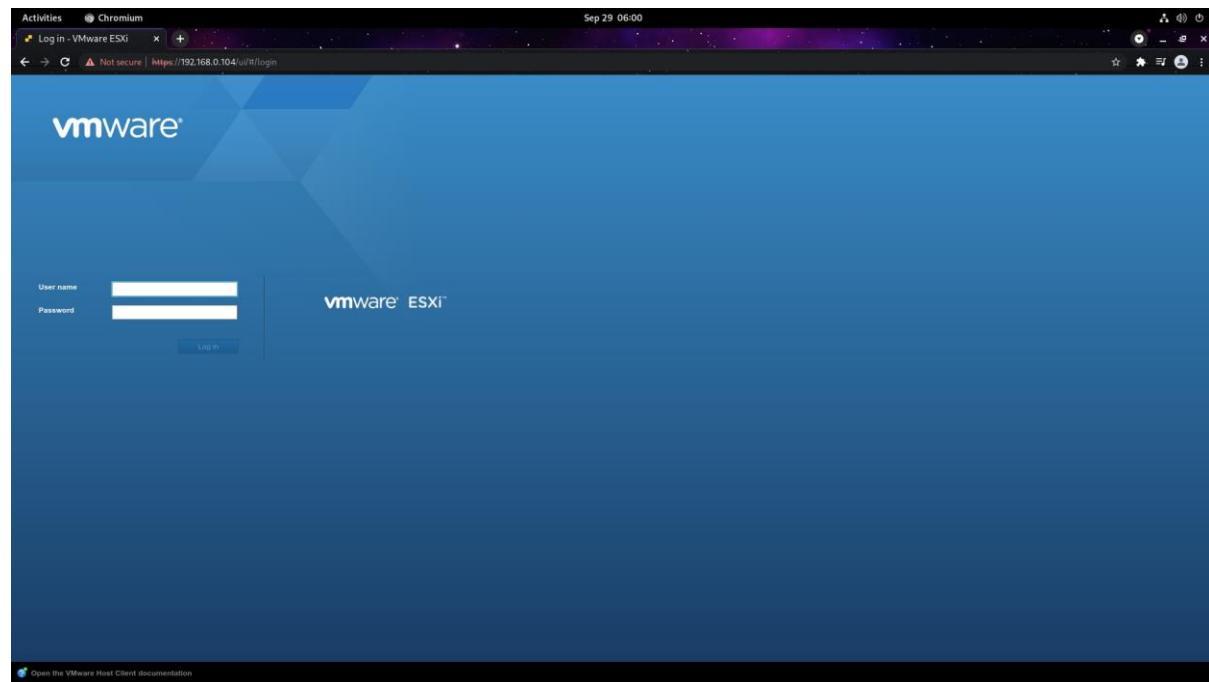
Roll no.: 518

Class: TYIT

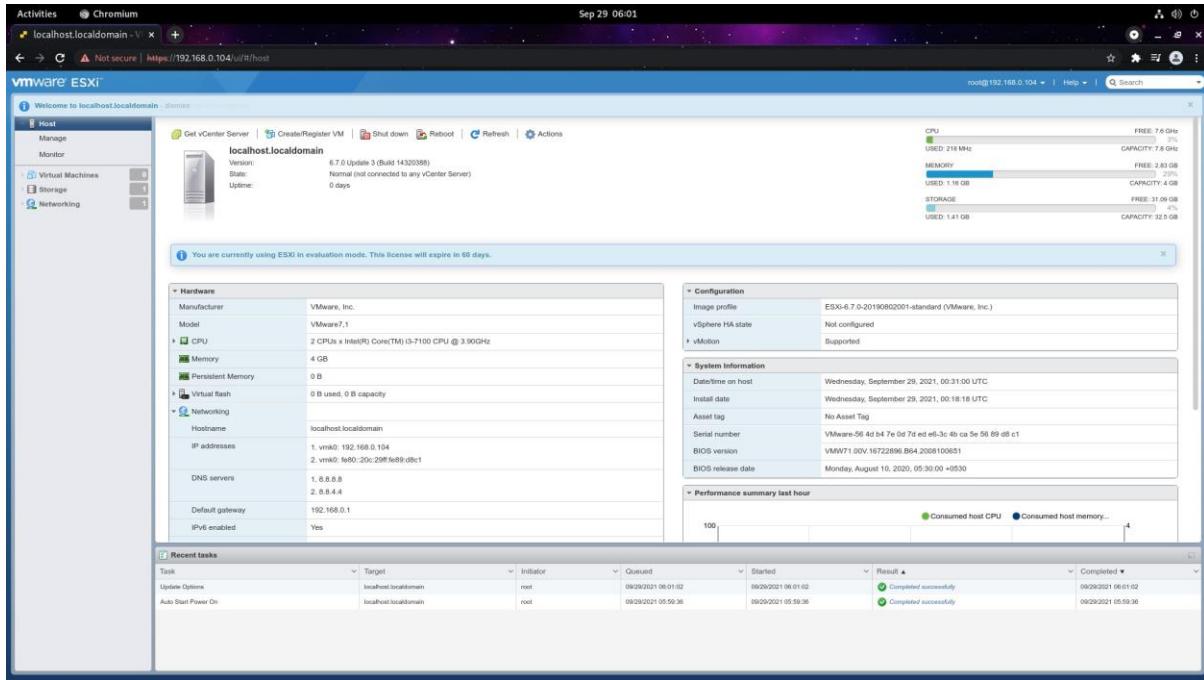
step 20: now start the esxi vm



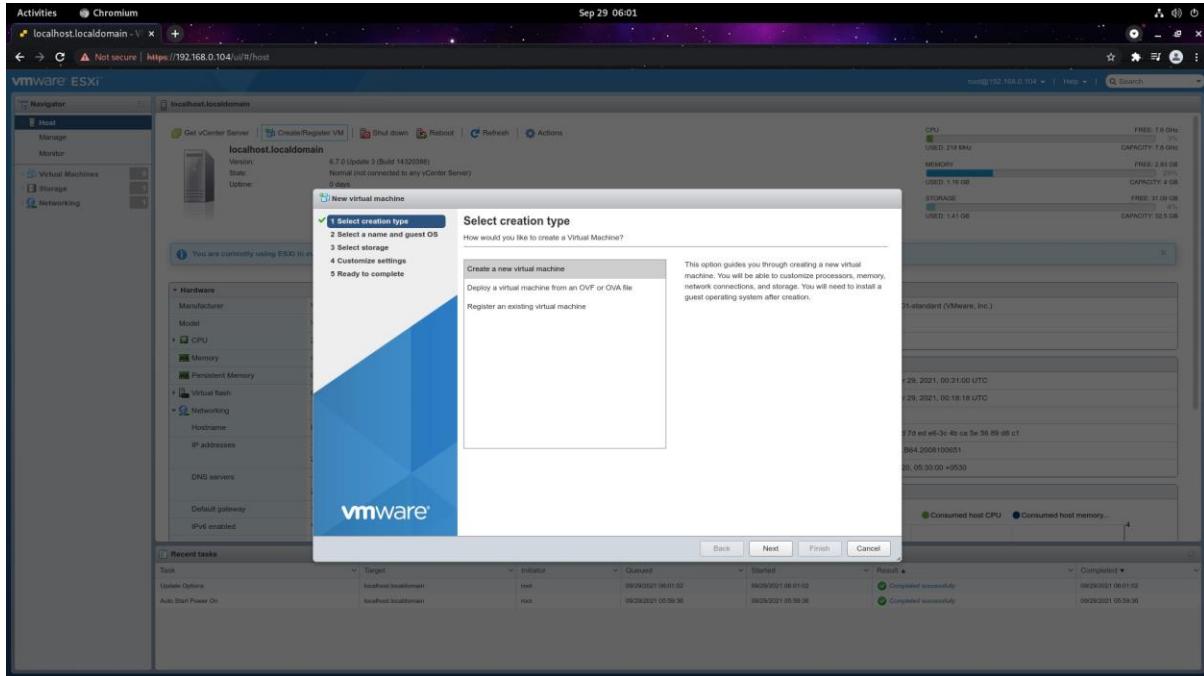
step 21: paste the link to the browser(display on the screen)



step 22: enter the username and pass and login



step 23: click on create or register VM

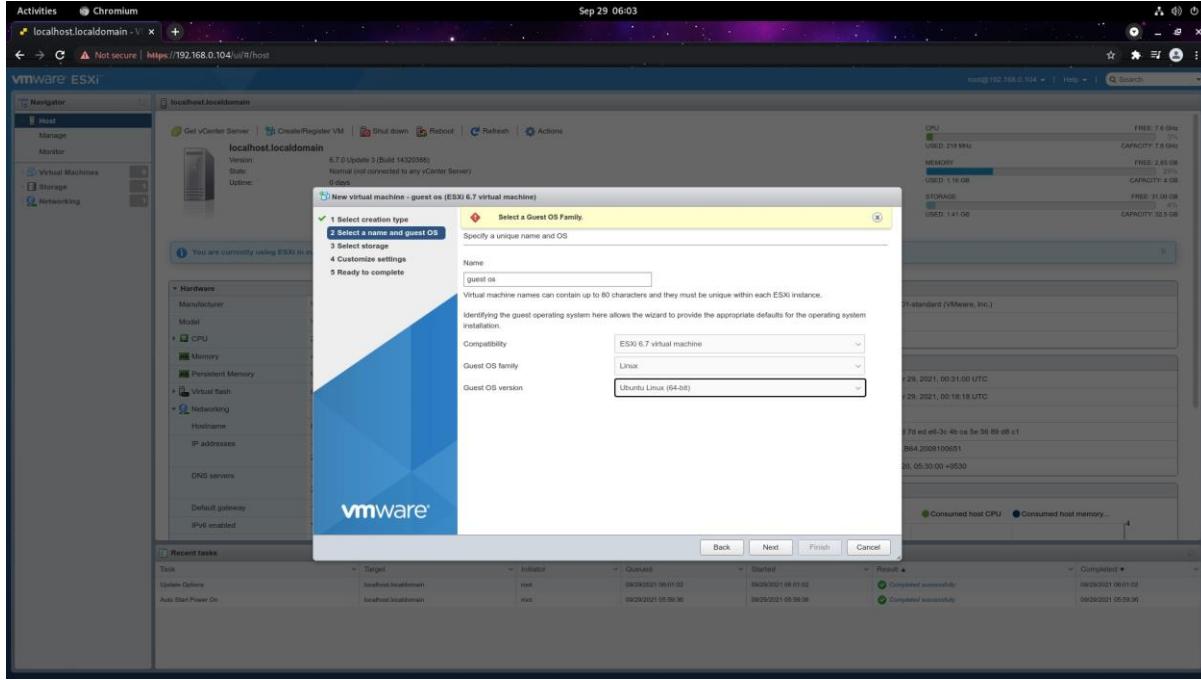


Name: Kiran Mansukh Kidecha

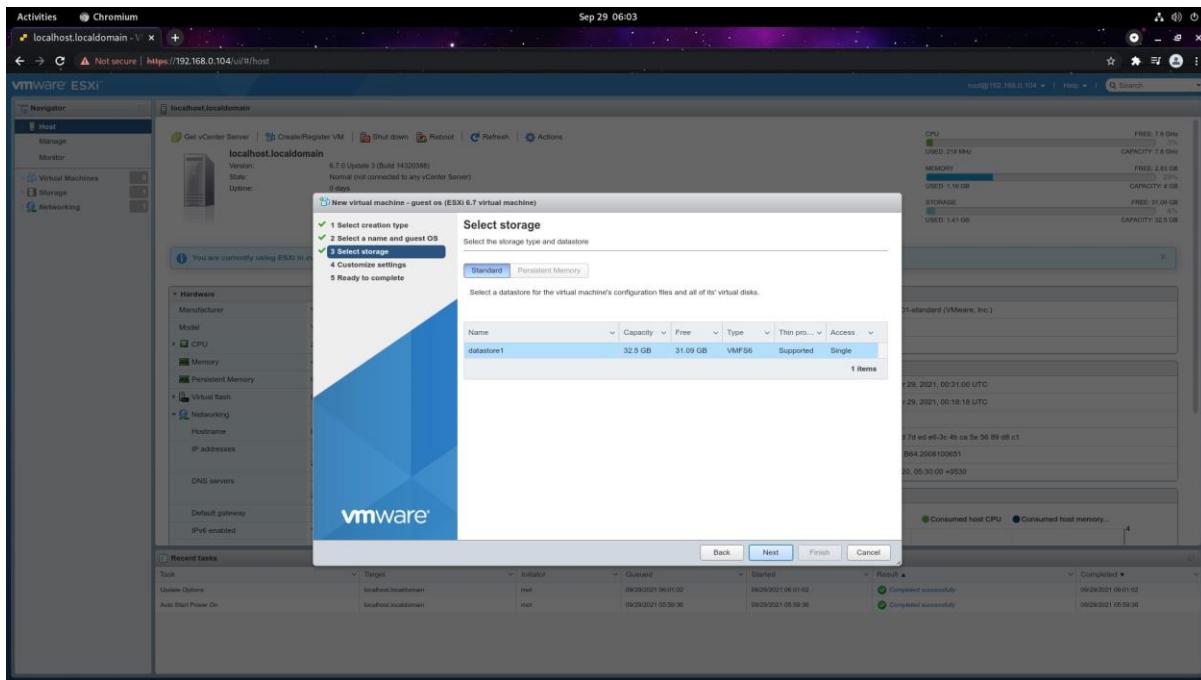
Roll no.: 518

Class: TYIT

step 24: click on next and enter the name for VM and select OS family and version(guest os: Ubuntu and family: unix)



step 25: click on next and select storage

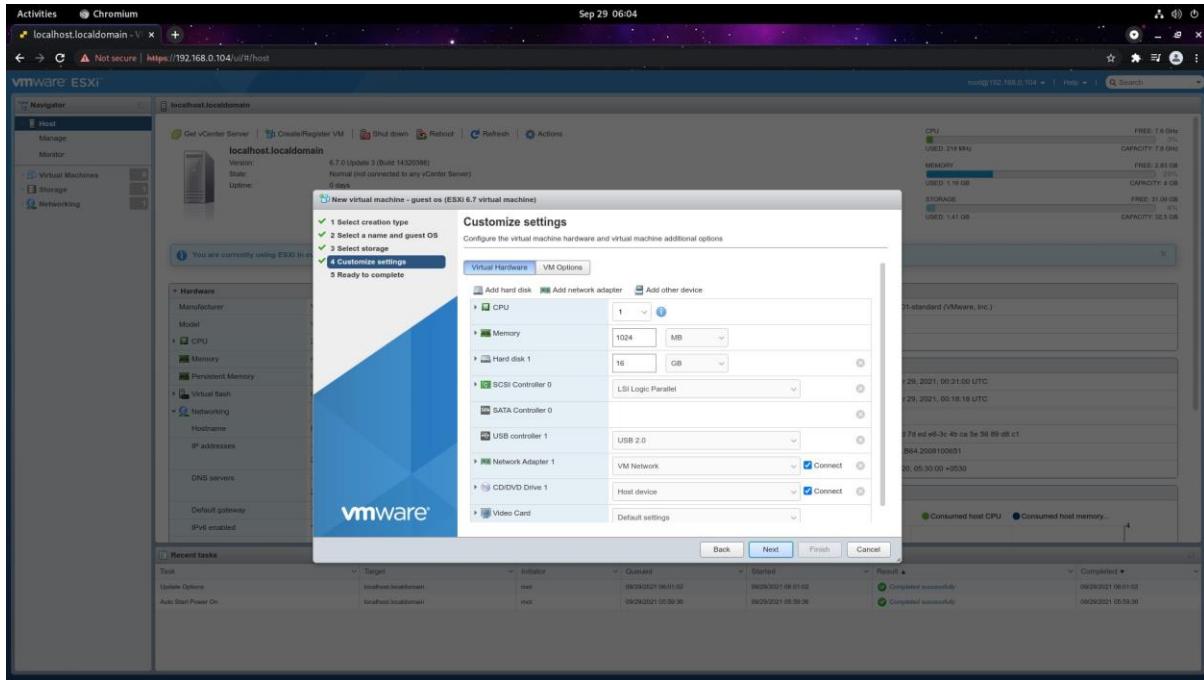


Name: Kiran Mansukh Kidecha

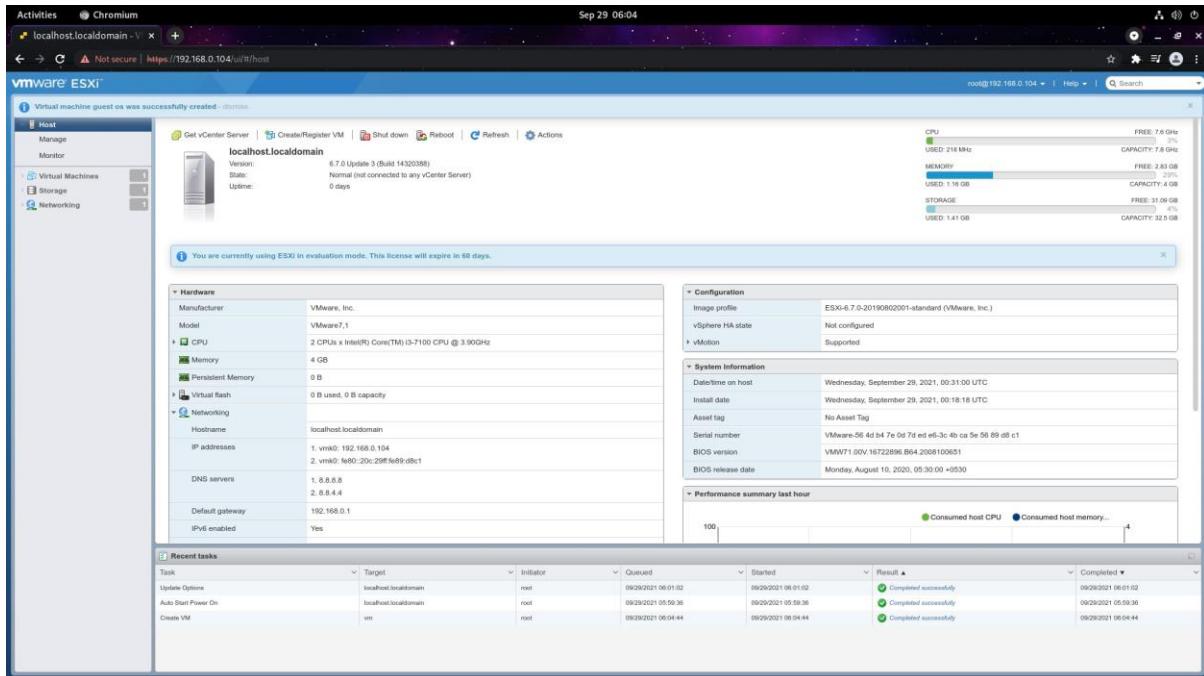
Roll no.: 518

Class: TYIT

step 26: go to customize hardware settings and click on next



step 27: VM details will show, click on finish

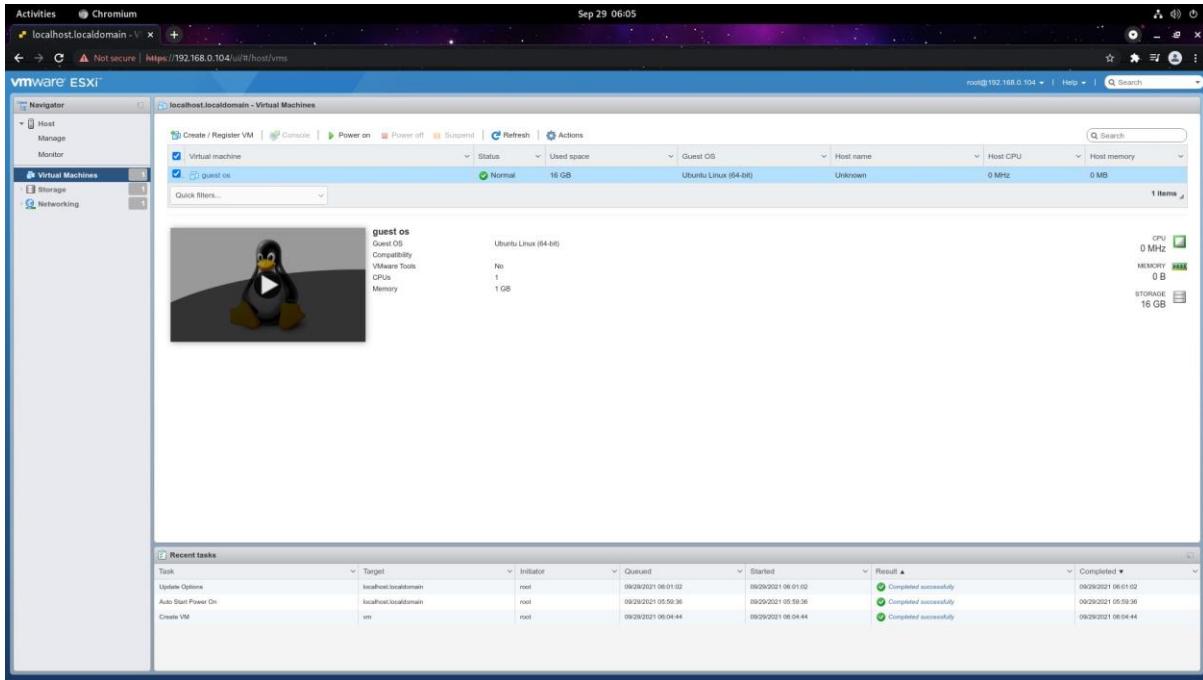


Name: Kiran Mansukh Kidecha

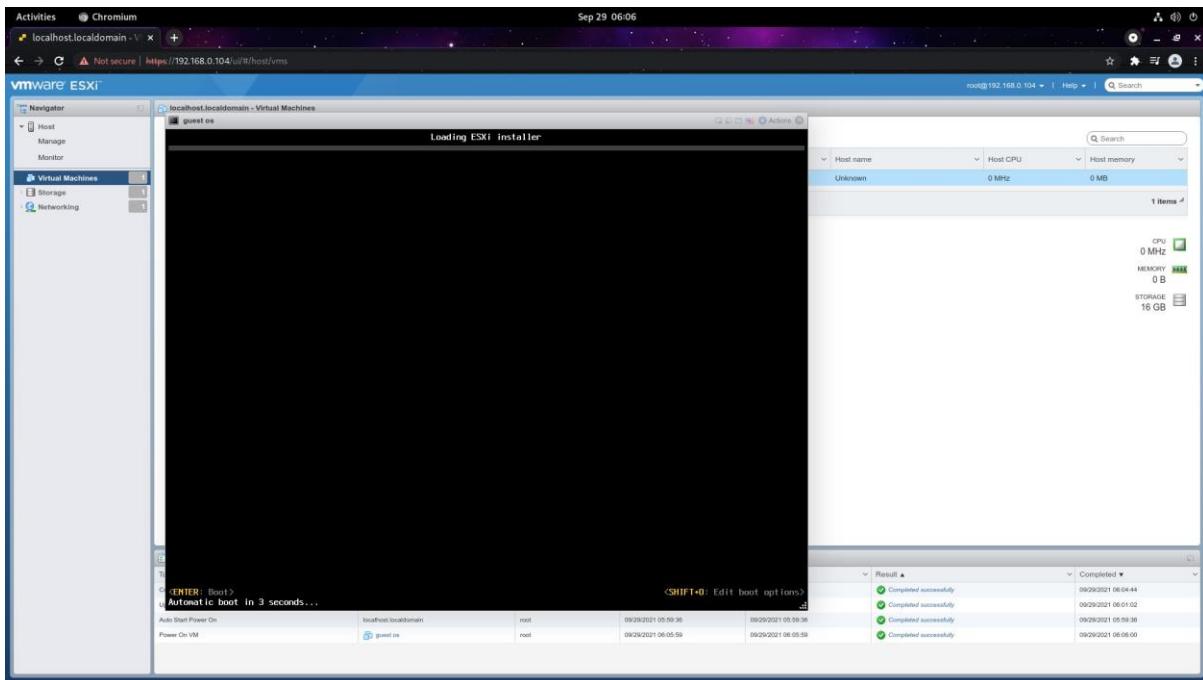
Roll no.: 518

Class: TYIT

step 28: click on VM on the left tab and select the machine you have just created



step 29: click on play button

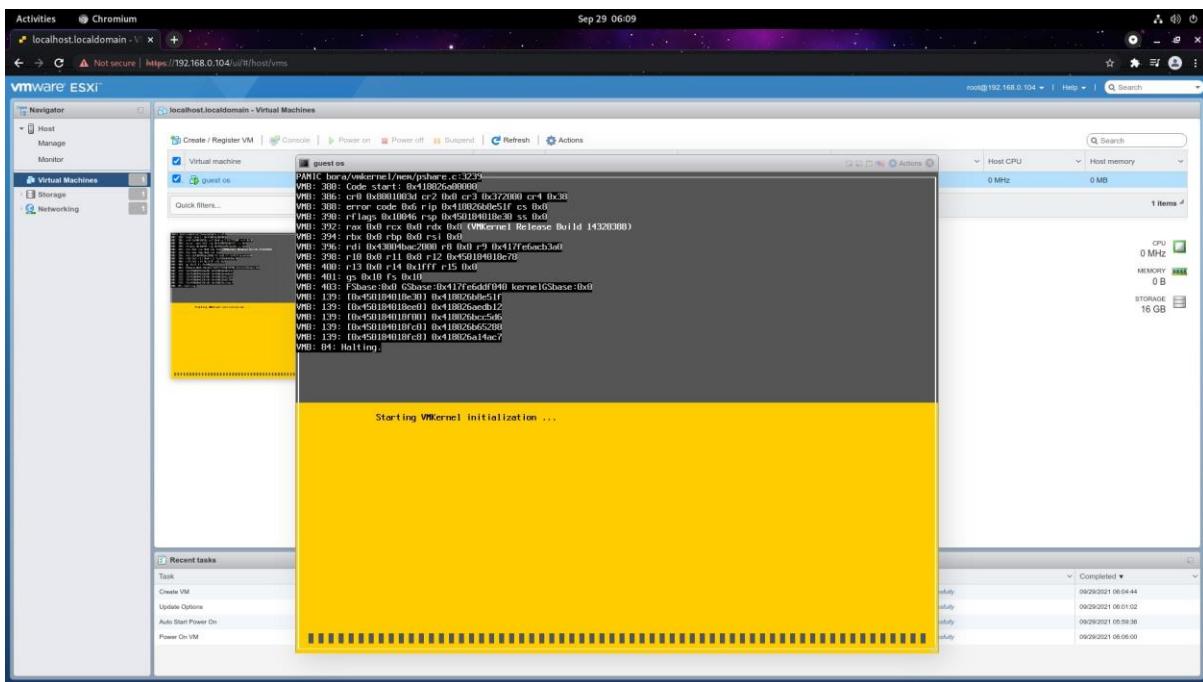
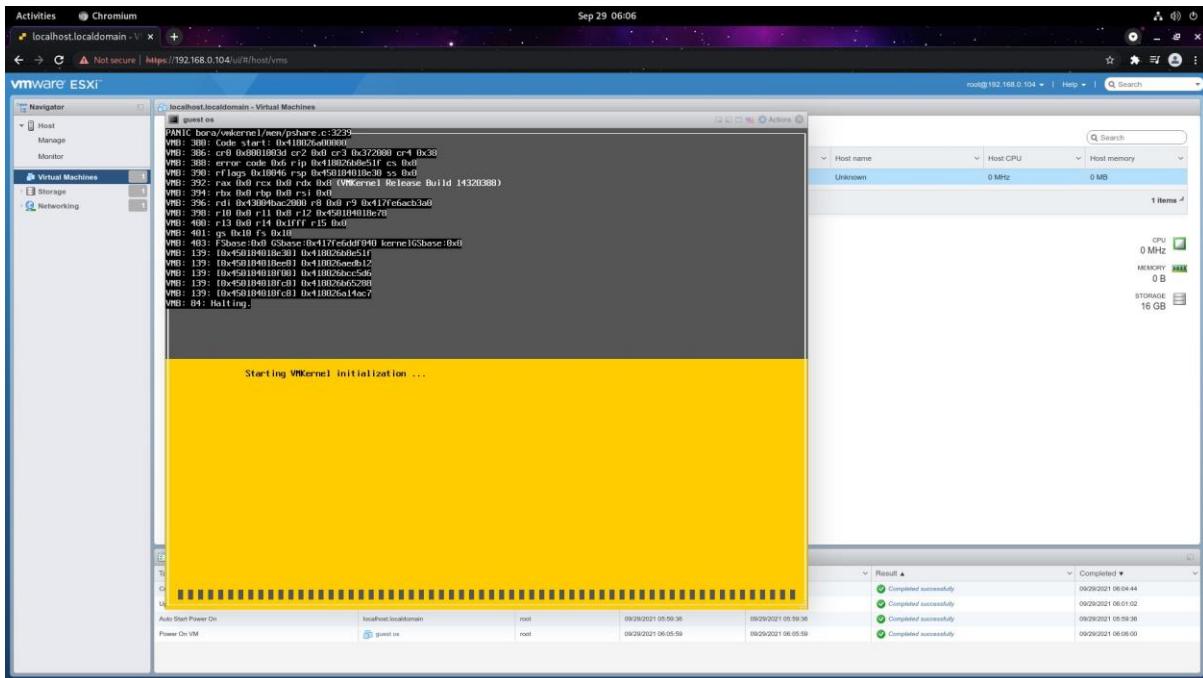


Name: Kiran Mansukh Kidecha

Roll no.: 518

Class: TYIT

step 30: esxi is loaded



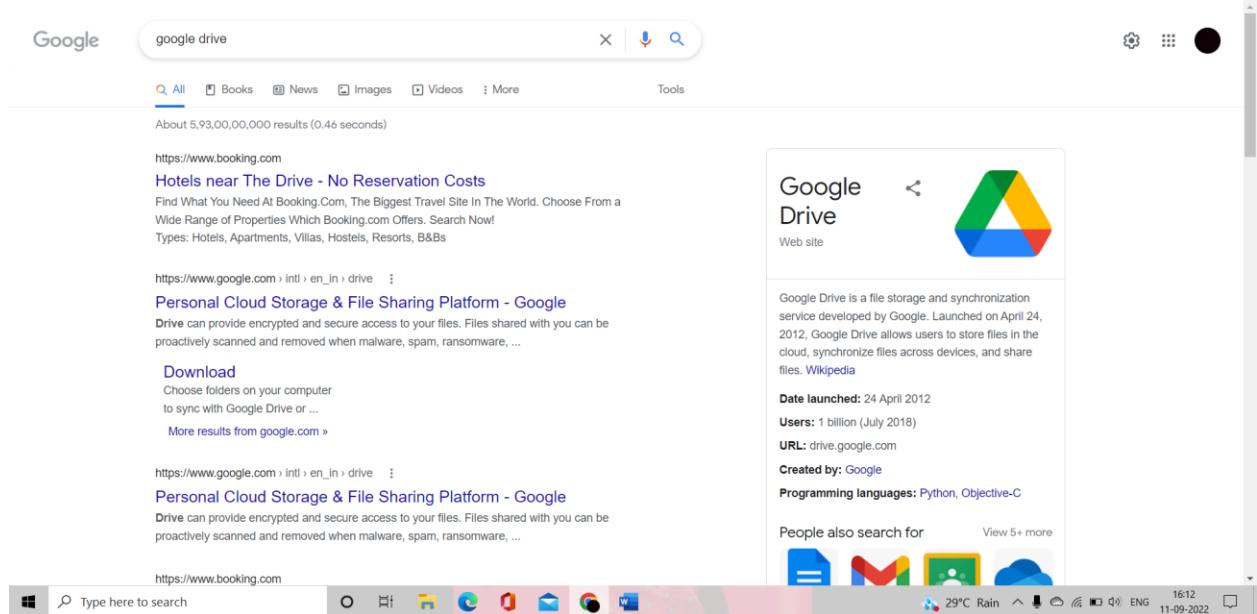
so our VM is running successfully

Practical 3

Steps :

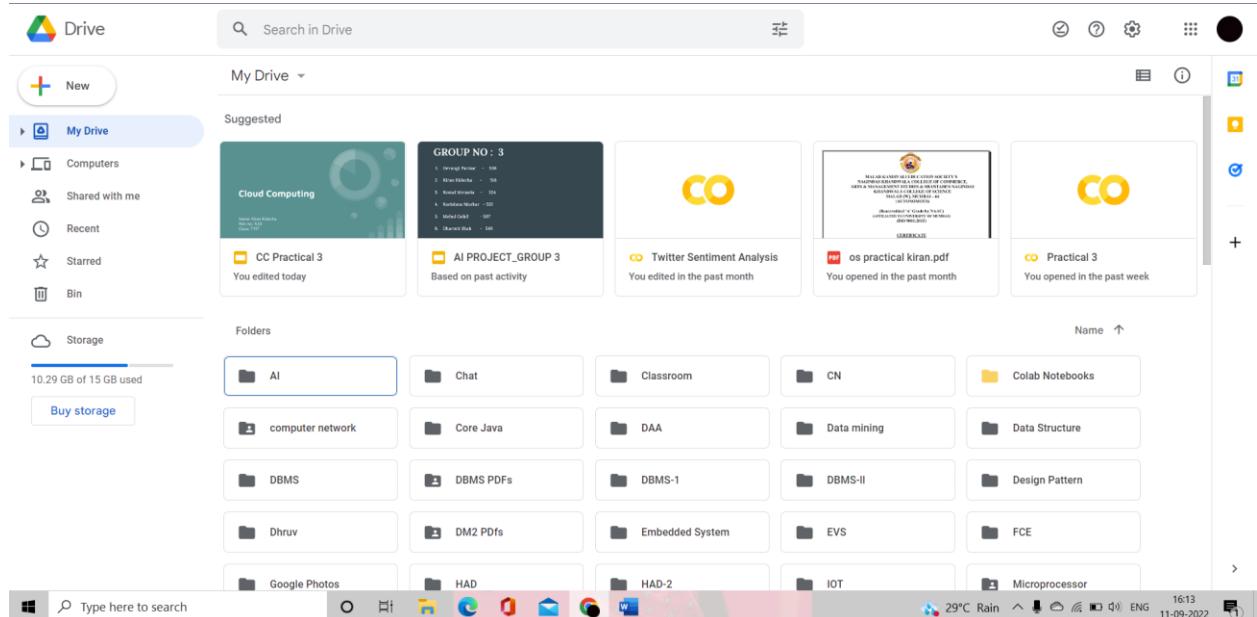
1. Login into your Google Account

Go to <https://drive.google.com/> -> Click ‘Go to Drive’:



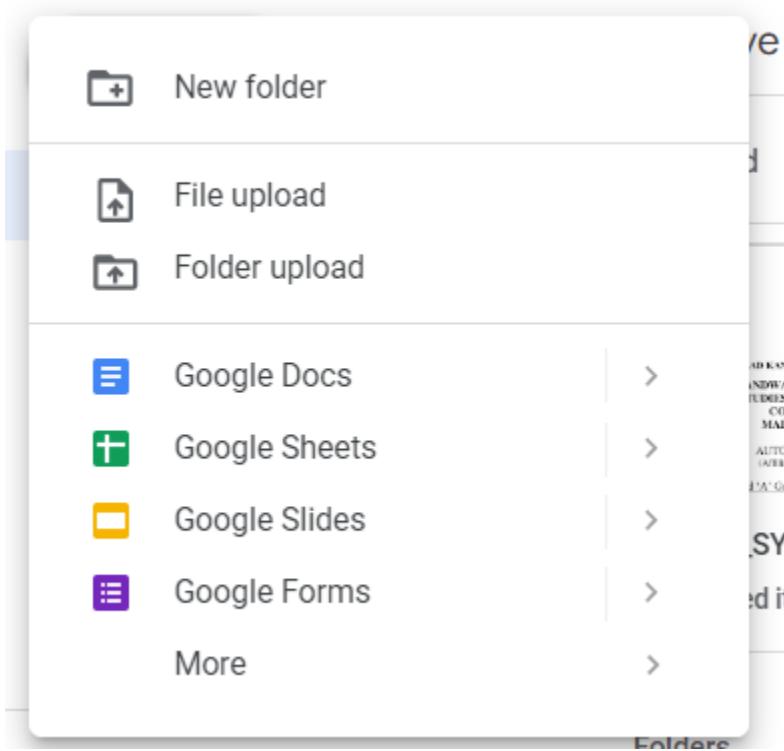
This will take you to the Login page -> Now enter the credentials of your Google account and sign-in

2. This will take you to your drive folder -> This will allow you to create documents as well as store and edit them



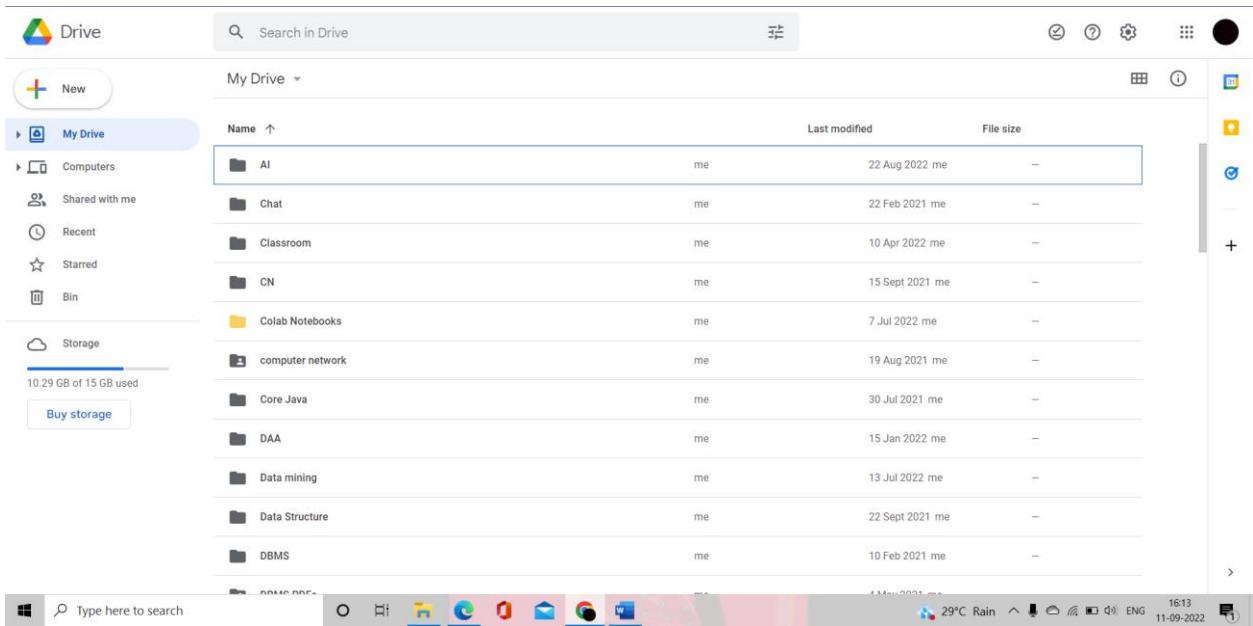
3. Adding files

You can either create a new file or upload files from your computer -> To create a new file right-click the folder view and select the type of file -> To upload files just drag and drop them into the folder view

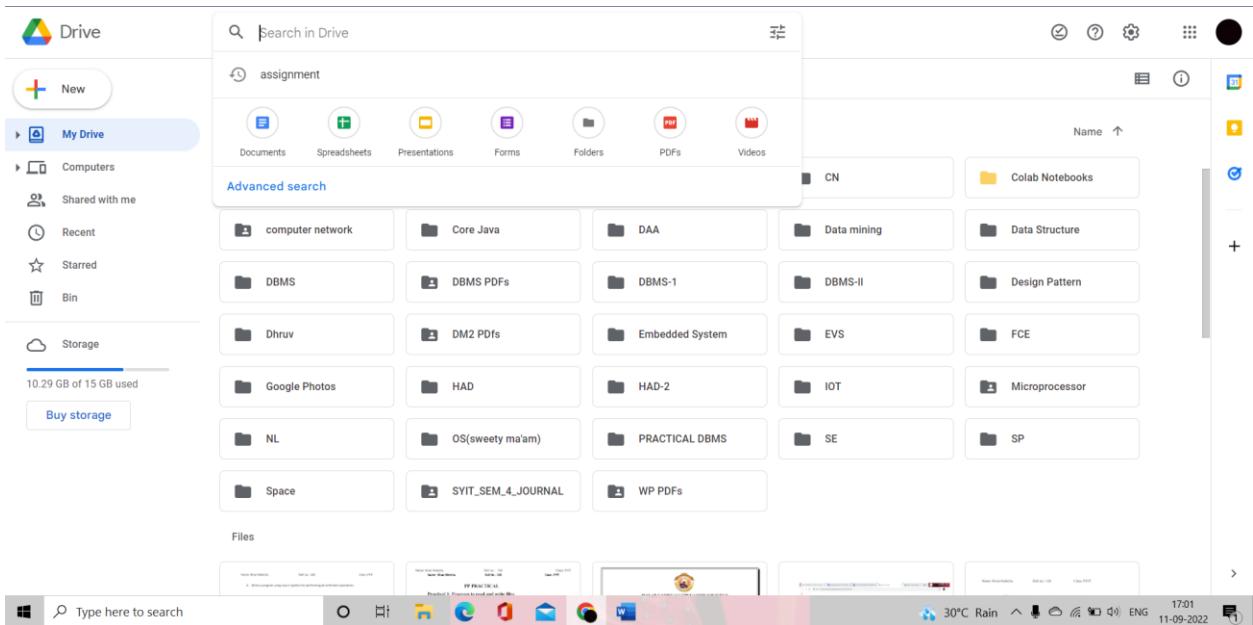


4. Navigating through Drive You can use the navigation bar on the left side:

- ‘My Drive’ contains all the folders and files in your account
- ‘Computers’ allows you to access all the computers synced with your drive account
- ‘Shared with me’ lists all the files and folders that others have shared with you • ‘Recent’ list all the files you have added, modified or accessed recently
- ‘Starred’ shows all the files you have starred (marked as important)
- ‘Bin’ contains all the files you have recently deleted where you can restore them
- ‘Storage’ section shows you your remaining storage and gives you the option to buy more

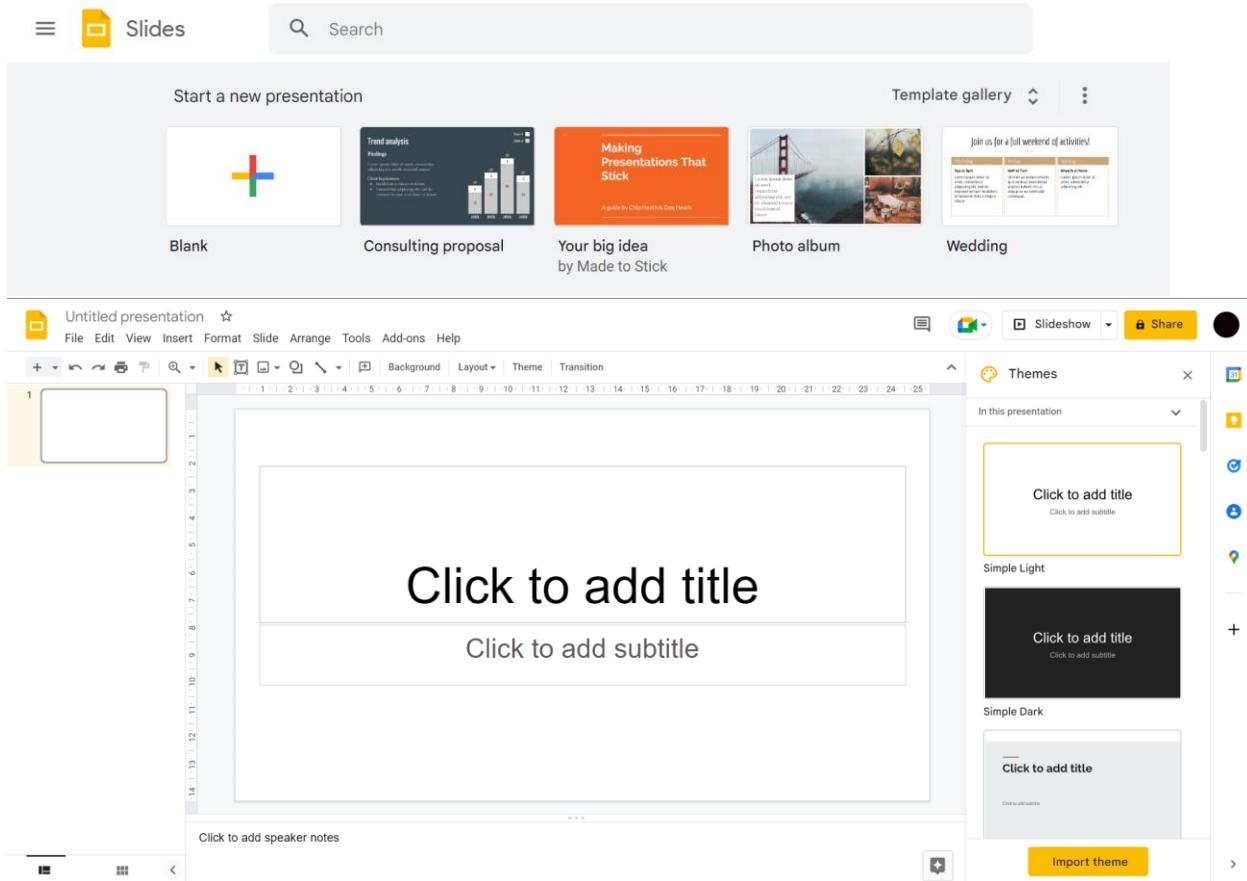


5. You can also use the search bar to search for files by their name or owner or type of file -> If a file or files exists they will be listed -> Click them to access them:

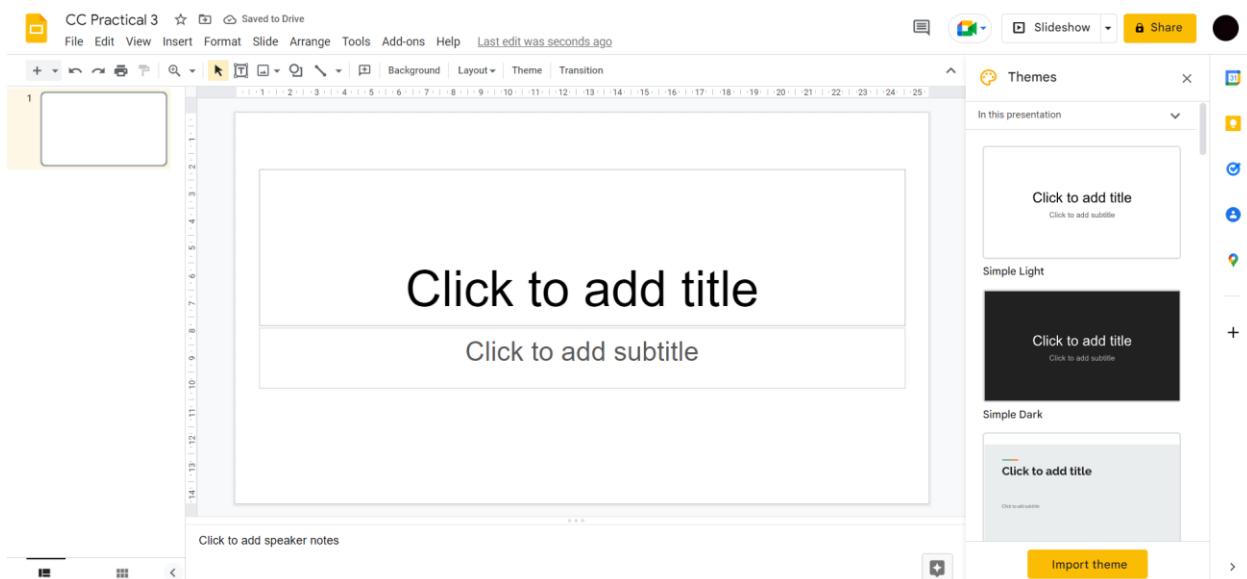


Using Google slides

6. Click the + New button -> Select Google Slides -> This will create a new blank presentation and open a Google Slides tab:



7. Rename the file using the text field in the top left:



Customise and create new slides and add the desired content

Types Of Cloud

1. Private Cloud
2. Public Cloud
3. Hybrid Cloud

Diagram illustrating the Types of Cloud:

```

graph TD
    A[Types of Cloud] --> B[Public CLOUD]
    A --> C[PRIVATE CLOUD]
    A --> D[HYBRID CLOUD]
    A --> E[COMMUNITY CLOUD]
  
```

Click to add speaker notes

8. To export and convert the presentation click File -> Download -> Microsoft PowerPoint -> This will download your presentation as a .pptx file:

CC Practical 3

File Edit View Insert Format Slide Arrange Tools Add-ons Help Last edit was 6 minutes ago

Share

- New
- Open Ctrl+O
- Import slides
- Make a copy
- Email
- Download
- Make available offline
- Version history
- Rename
- Move
- Add a shortcut to Drive
- Move to bin

Microsoft PowerPoint (.pptx)

ODP document (.odp)

PDF document (.pdf)

Plain text (.txt)

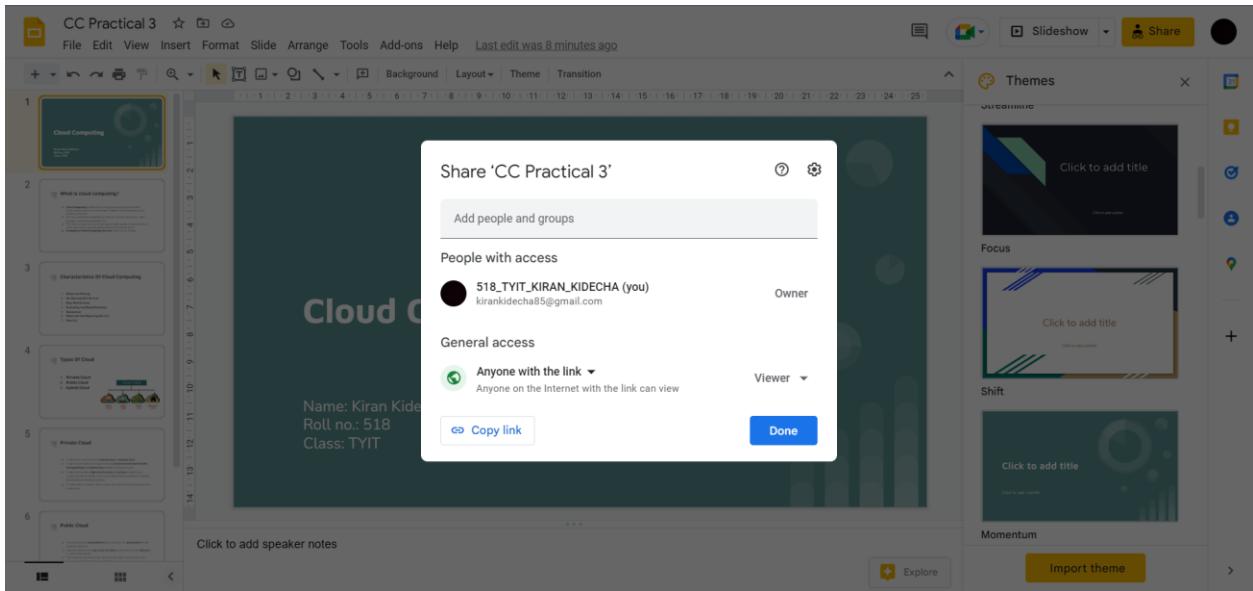
JPEG image (.jpg, current slide)

PNG image (.png, current slide)

Scalable Vector Graphics (.svg, current slide)

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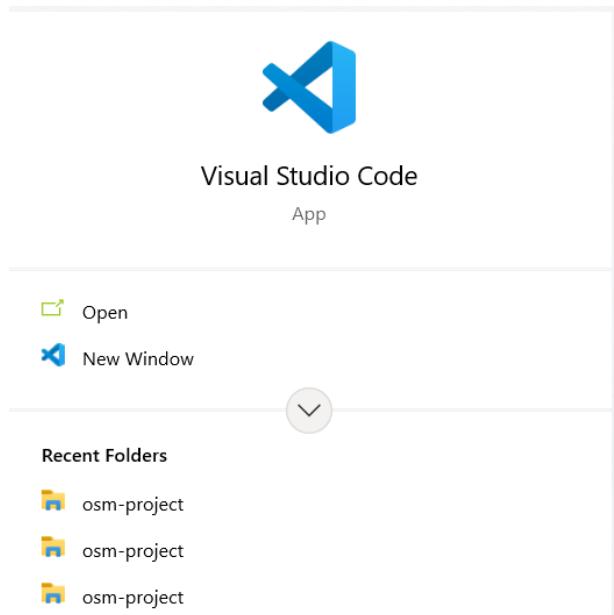
9. To share the presentation, click File -> Share -> Configure the options: Getting the link and setting the permissions



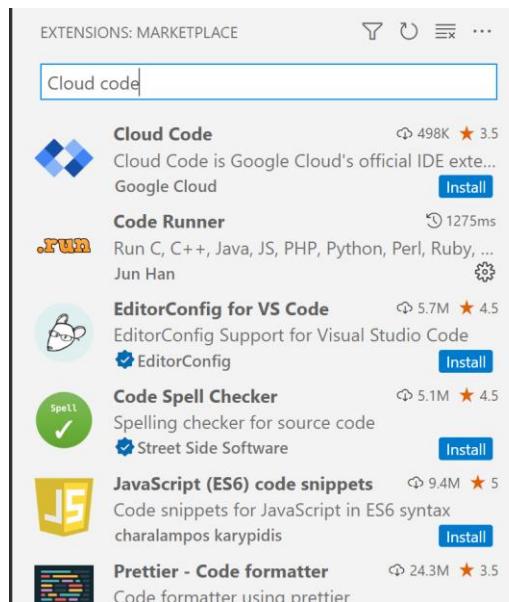
Practical 4

Steps :

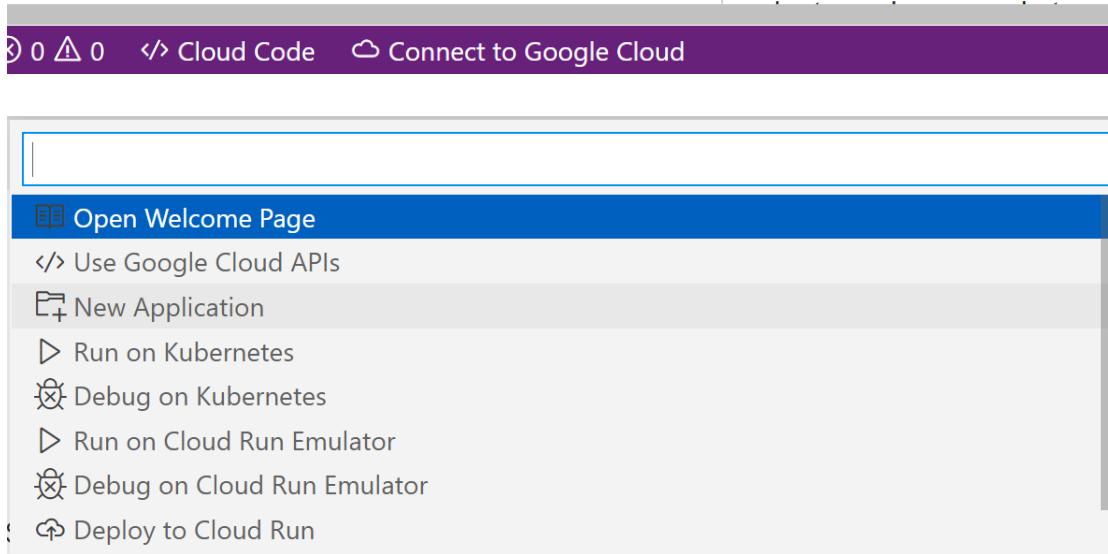
1. open VScode.



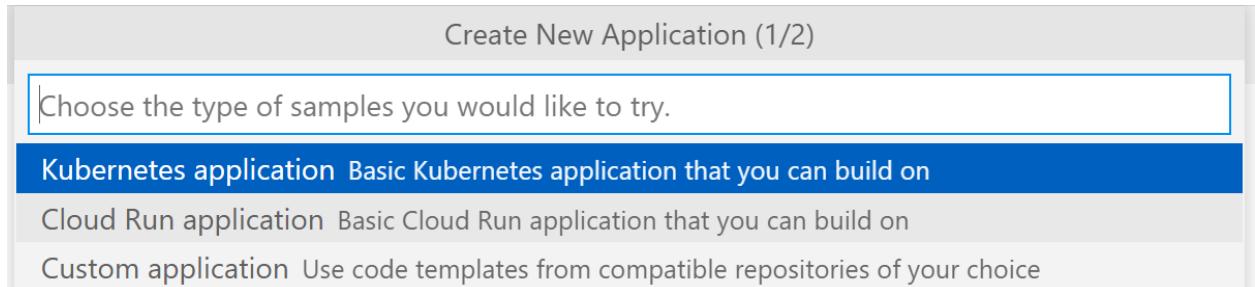
2. search for Cloud code in the extensions section and install it.



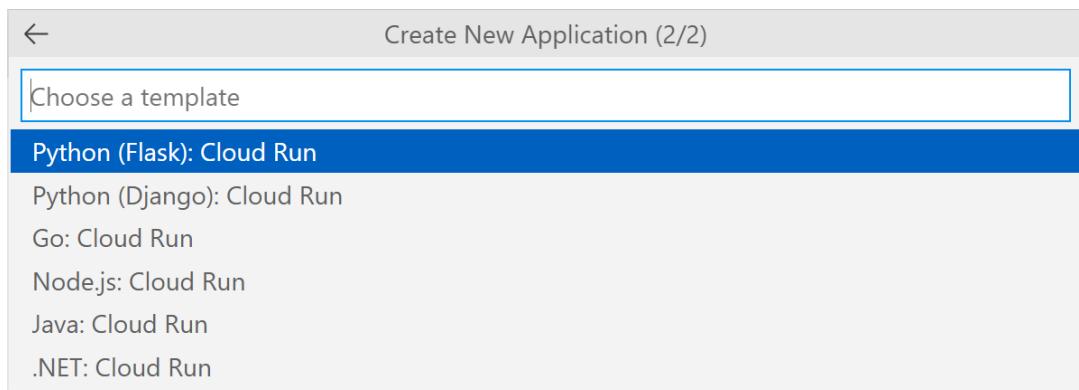
3. Now create a service, from the Cloud code status bar, select New Application.



4. from here select cloud run application.



5. Now select java.

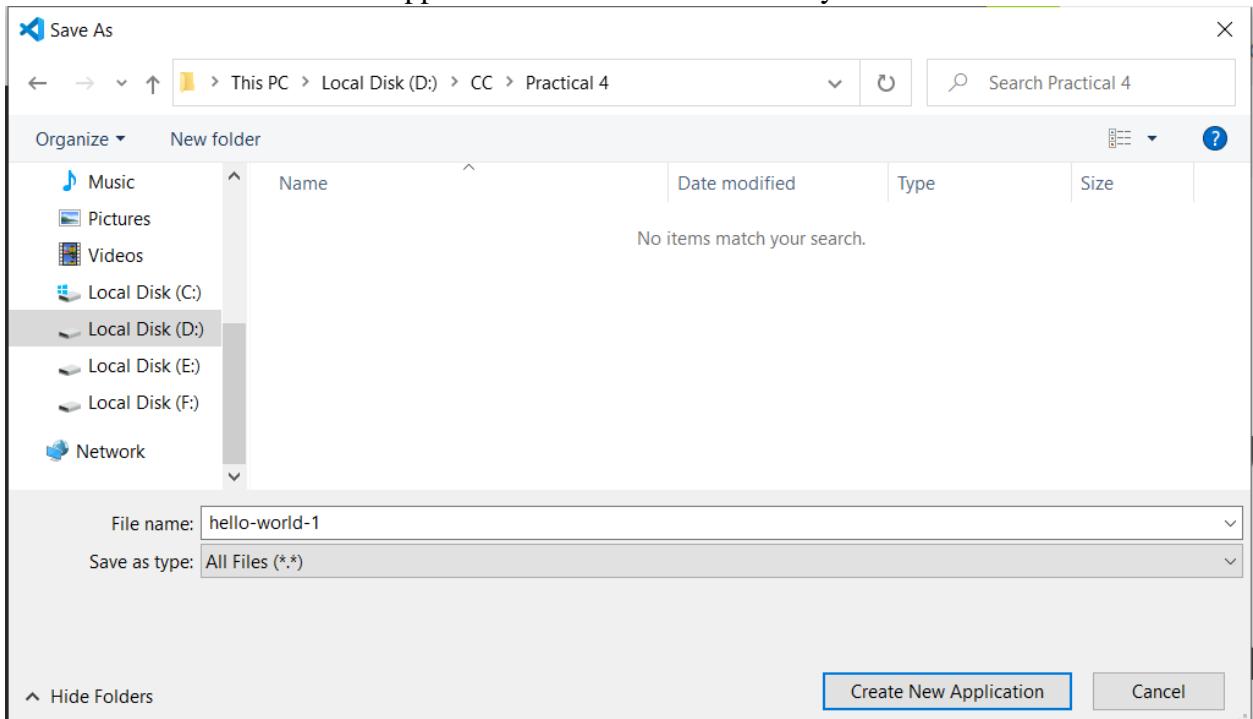


Name: Kiran Mansukh Kidecha

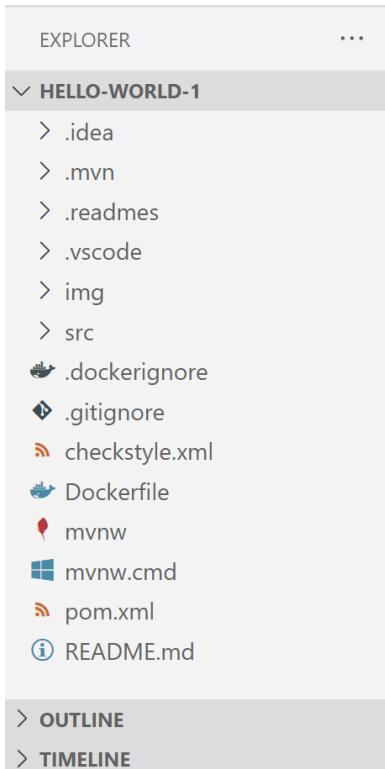
Roll no.: 518

Class: TYIT

6. Now create the hello-world-1 application in the desired directory.



7. Now the project directory will open in vs code.



8. Click on deploy to cloud run.

Cloud Run Hello World with Cloud Code

This "Hello World" sample demonstrates how to deploy a simple "Hello World" application to Cloud Run using the Cloud Code extension for Visual Studio Code.

Table of Contents

- [Getting Started](#)
 - 1. Run the app locally with the Cloud Run Emulator
 - 2. Deploy to Cloud Run
 - [Next steps](#)
 - [Sign up for User Research](#)
-

9. Since no billing account is created can conclude at this stage.

Deploy to Cloud Run

1. Select 'Deploy to Cloud Run' using the Cloud Code status bar.
2. If prompted, login to your Google Cloud account and set your project.
3. Use the Deploy to Cloud Run dialog to configure your deploy settings. For more information on the configuration options available, see [Deploying a Cloud Run app](#).
4. Click 'Deploy'. Cloud Code now builds your image, pushes it to the container registry, and deploys your service to Cloud Run.
5. View your live service by clicking on the URL displayed at the top of the 'Deploy to Cloud Run' dialog.

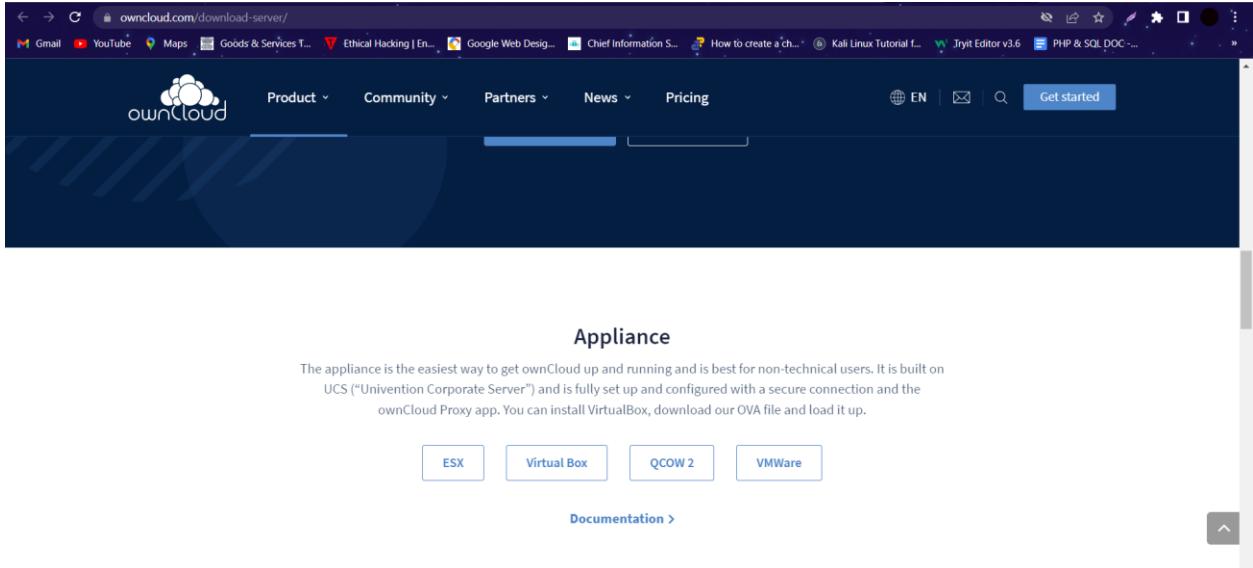
Deployment completed successfully! URL: <https://hello-world-4-jecaesxwdq-uc.a.run.app>

[Show Detailed Logs](#)

Practical 5

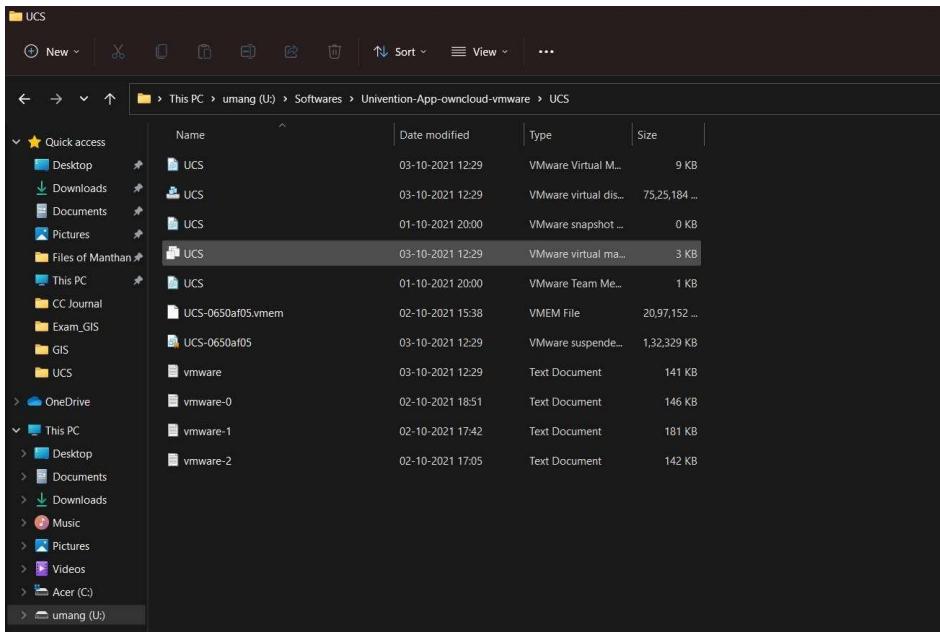
Steps :

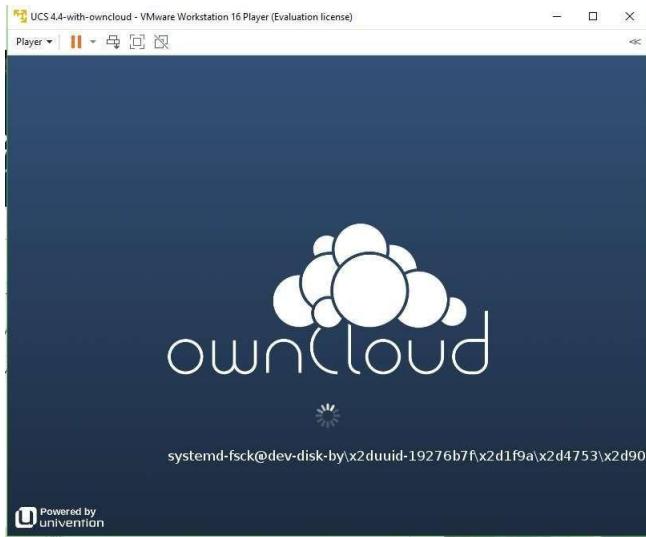
1. Go to <https://owncloud.com/download-server/> → Appliance section → click VMWare → Extract the downloaded .zip file:



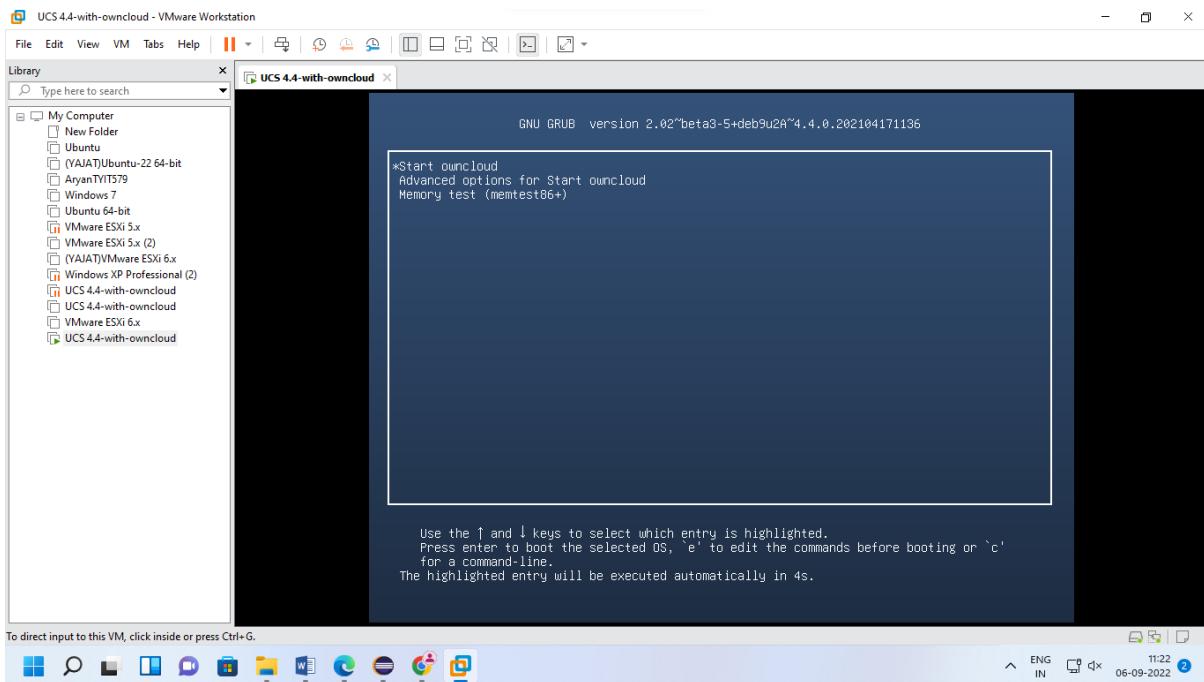
The screenshot shows the ownCloud download server website at owncloud.com/download-server/. The page title is "Appliance". Below the title, there is a brief description: "The appliance is the easiest way to get ownCloud up and running and is best for non-technical users. It is built on UCS ("Univention Corporate Server") and is fully set up and configured with a secure connection and the ownCloud Proxy app. You can install VirtualBox, download our OVA file and load it up." Below the description are four buttons: "ESX", "Virtual Box", "QCOW 2", and "VMWare". A "Documentation >" link is located below the buttons. The overall theme is dark blue.

2. Now Double click the application. It will directly take you to the VMware

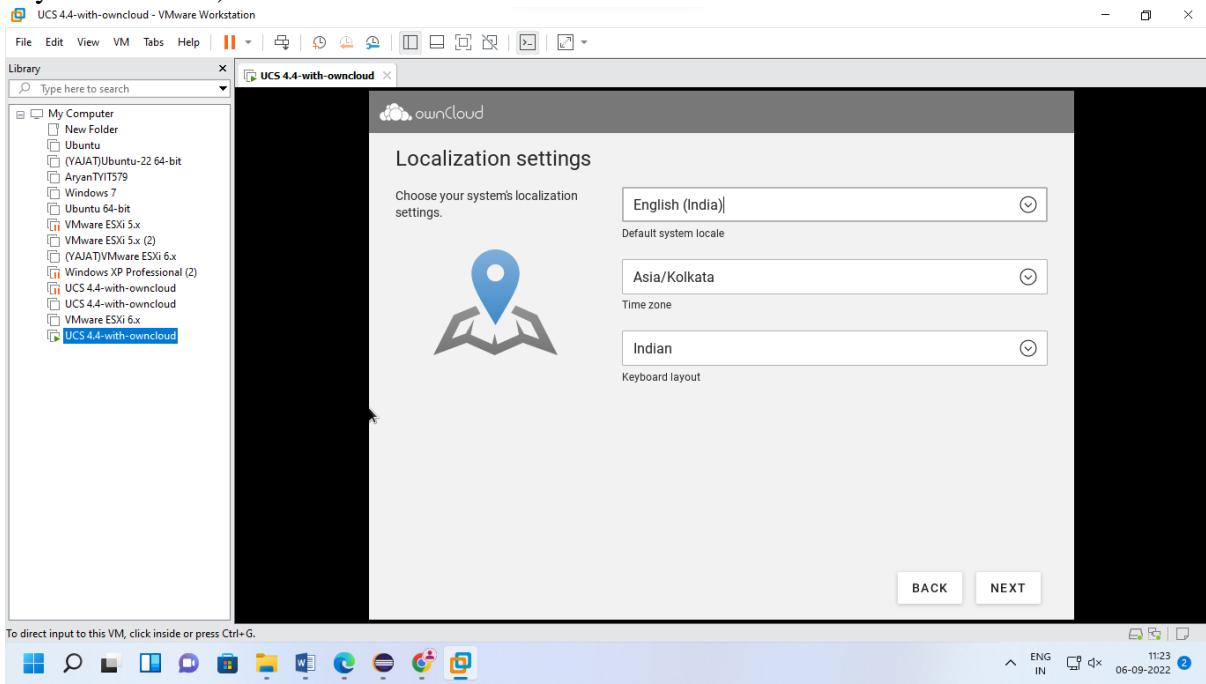




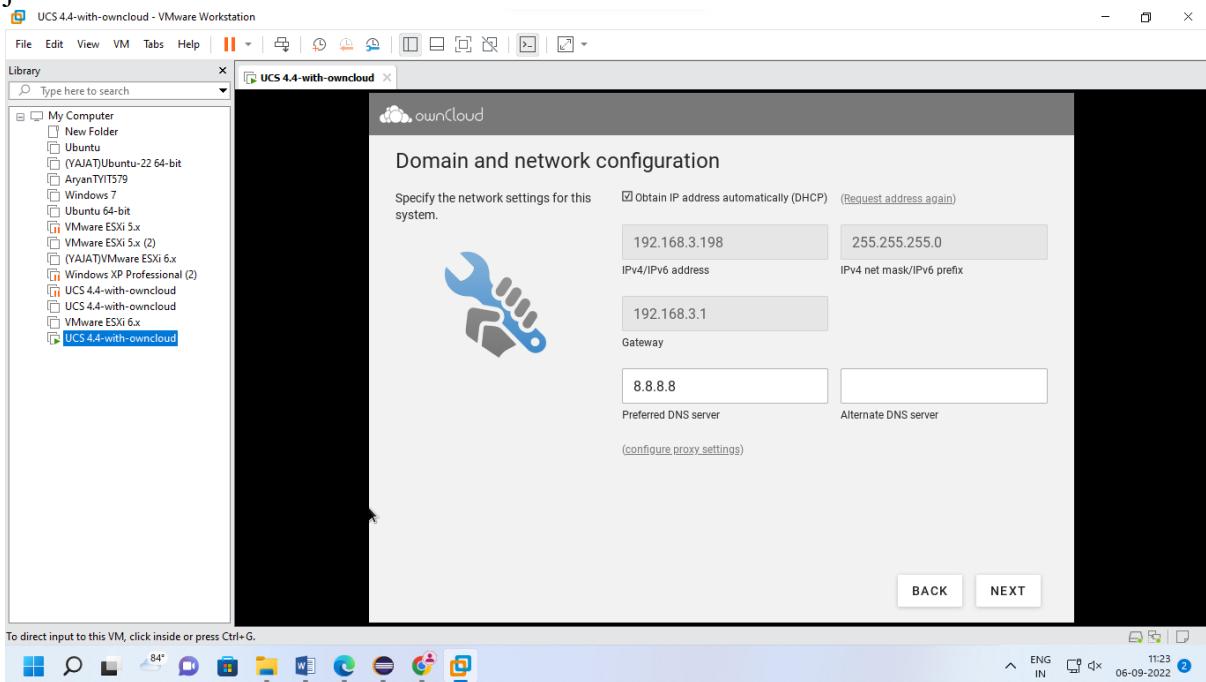
3. Click on "Power on this virtual machine" and following window will appear.



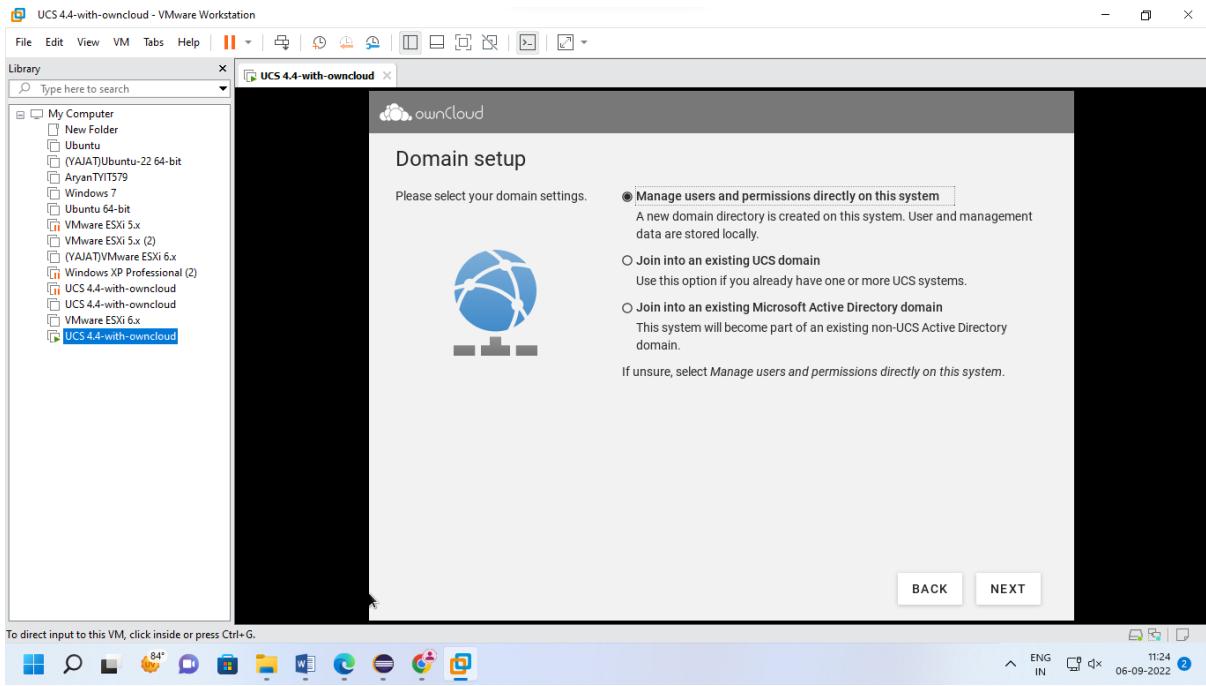
4. On next window it will ask you for your “city”, don’t enter any city name in it and just click “NEXT” (Most important step please don’t enter any city name in it otherwise it will not read keyboard entries).



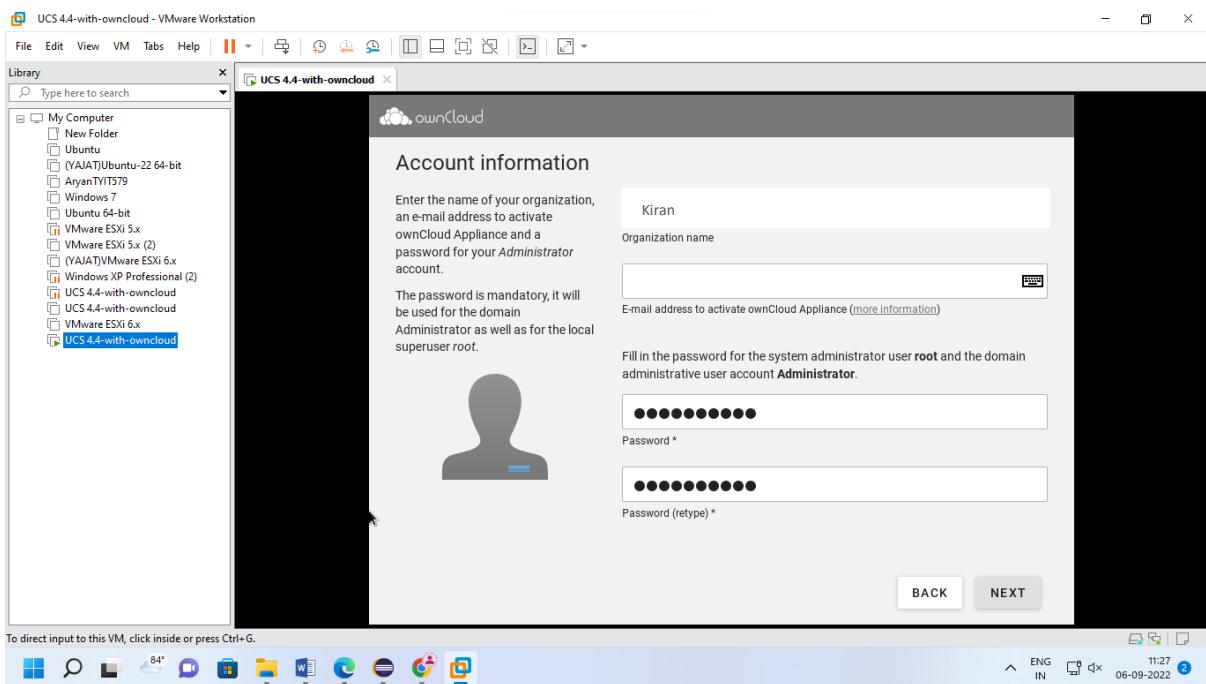
5. It will fetch IP Address, Net Mask and Gateway from DHCP, don’t change anything, also uncheck “Obtain IP address automatically (DHCP)”, mention an “Alternate DNS Server” and just click “NEXT”.



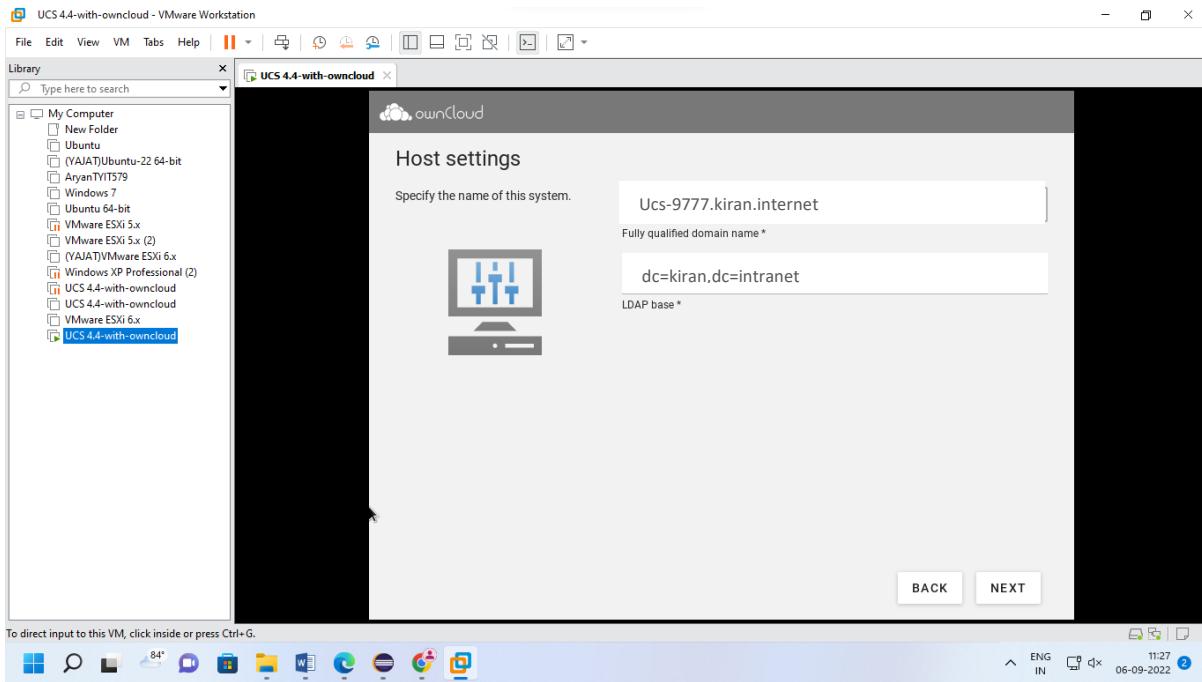
6. In Domain setup click “NEXT”



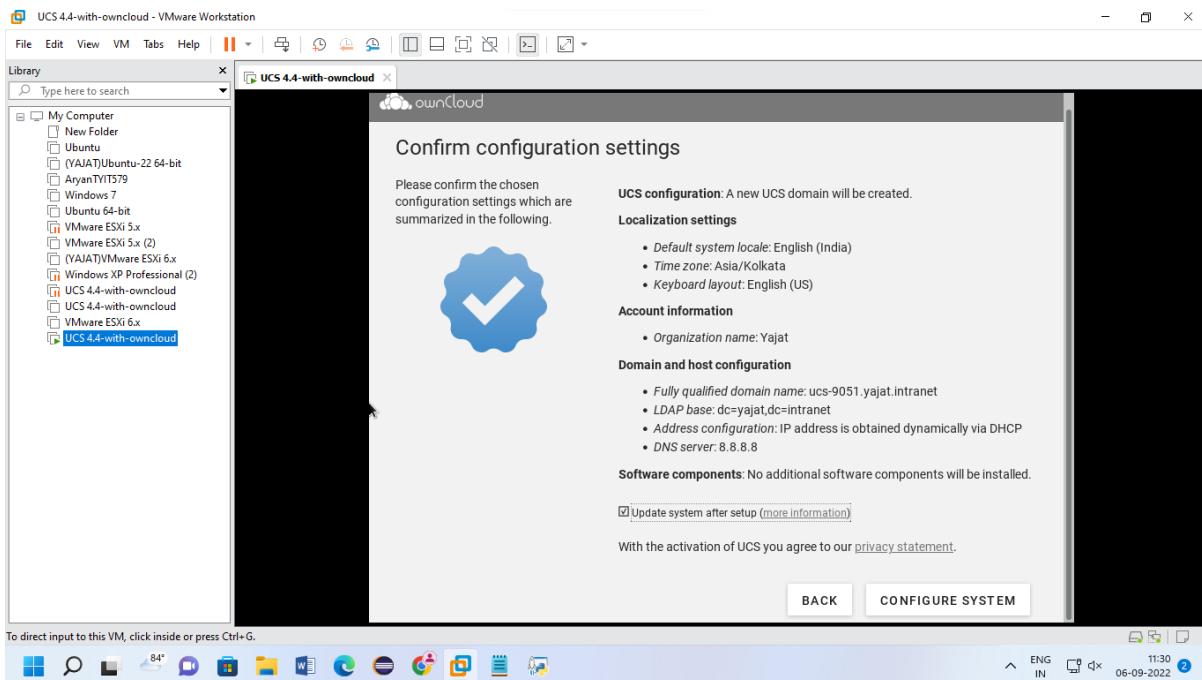
7. Now Account information window will appear, enter details in it. Remember that password we are setting is for “root” and “Administrator”, click on “NEXT”



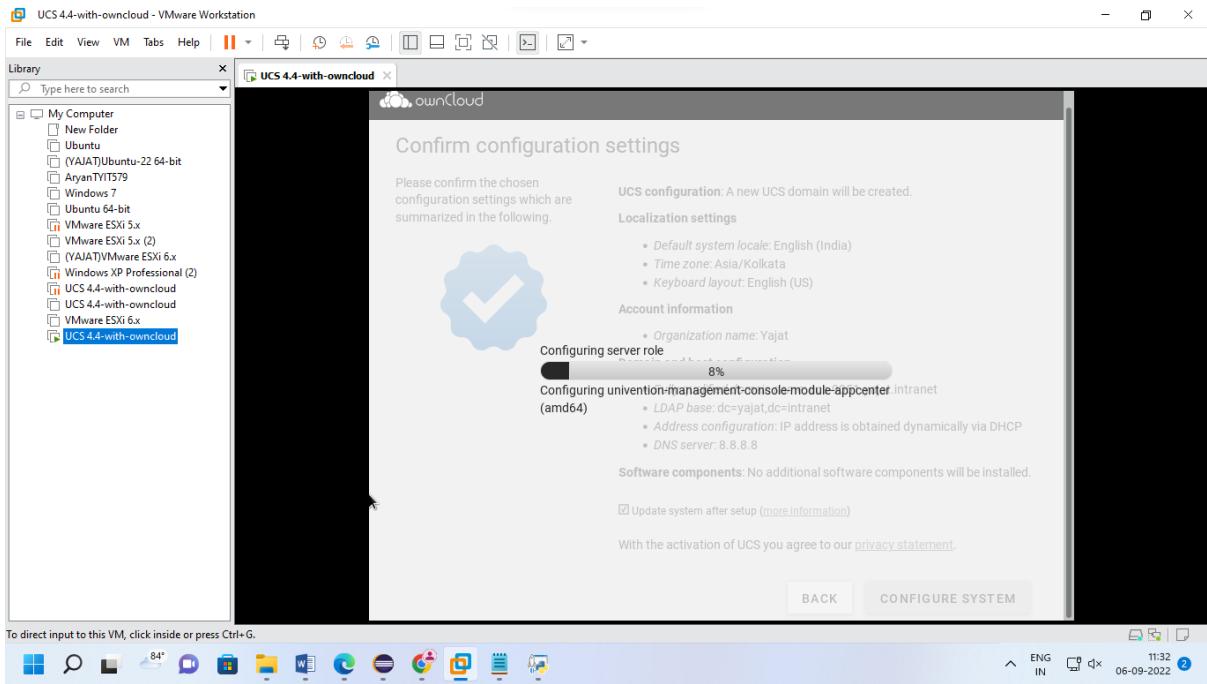
8. On next window it will show you Fully Qualified domain name and LDAP base, click on "NEXT".



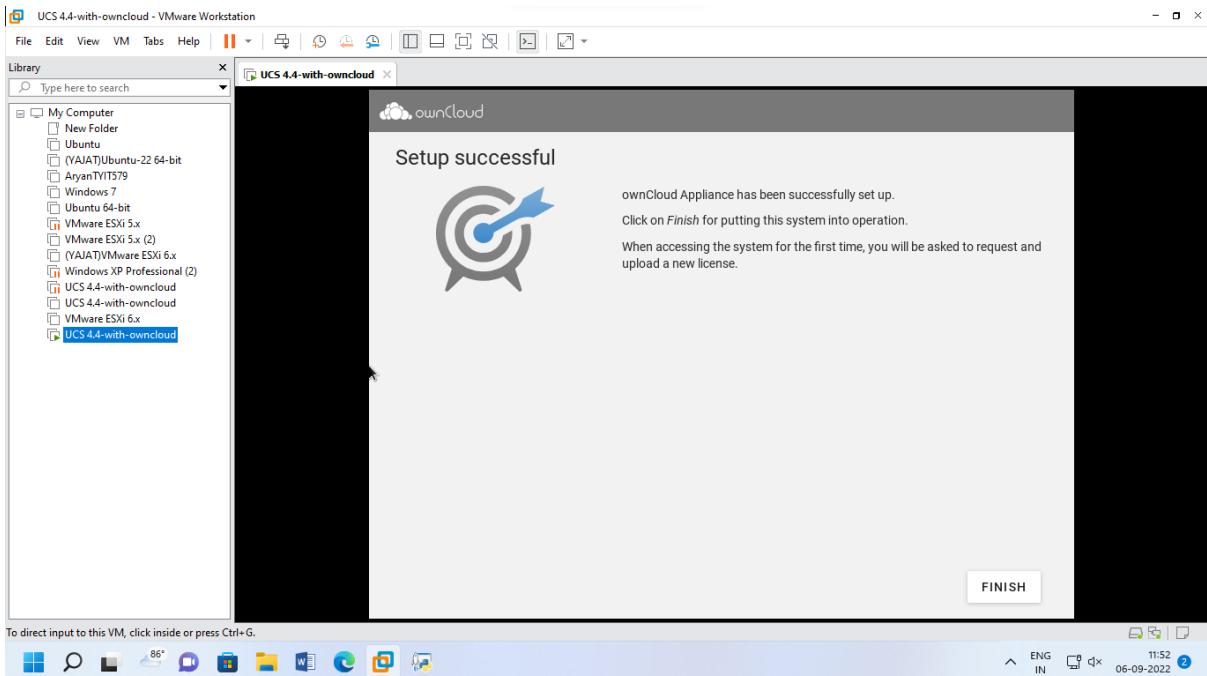
9. It will show the configuration settings for own cloud scroll down a little and click on "CONFIGURE".



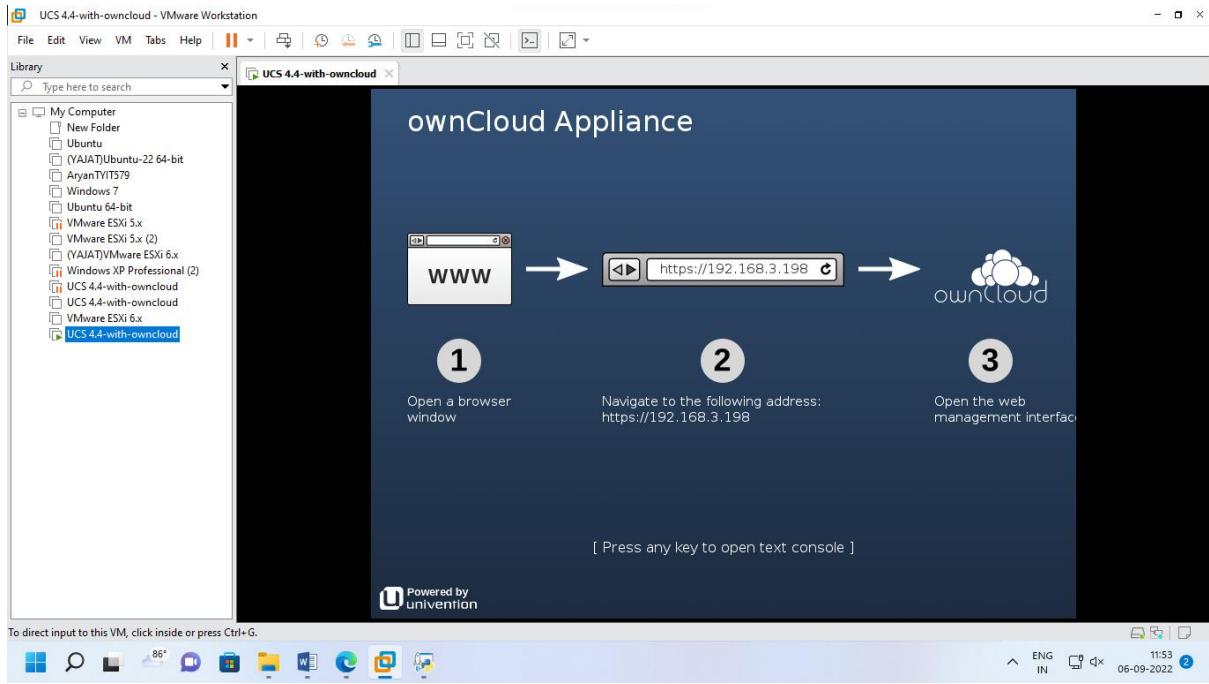
10. It will take time to setup.



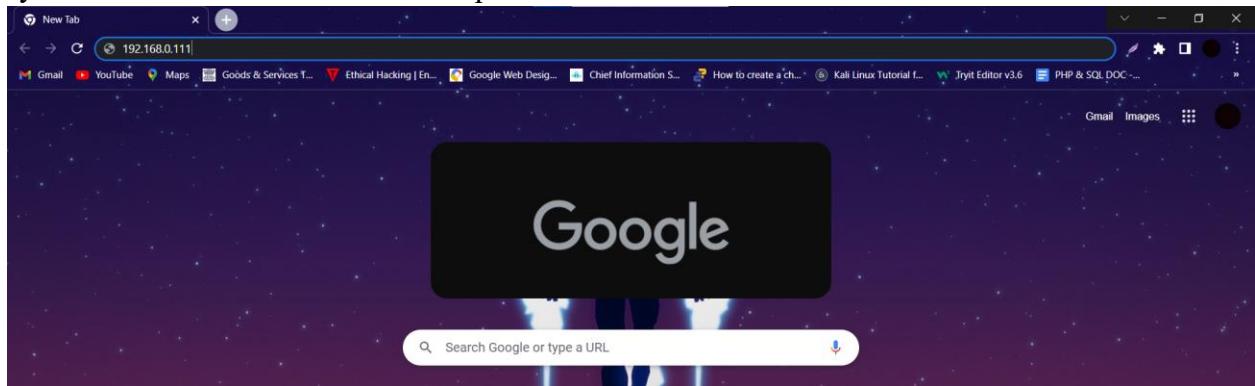
11. The setup is done now click on “FINISH”.



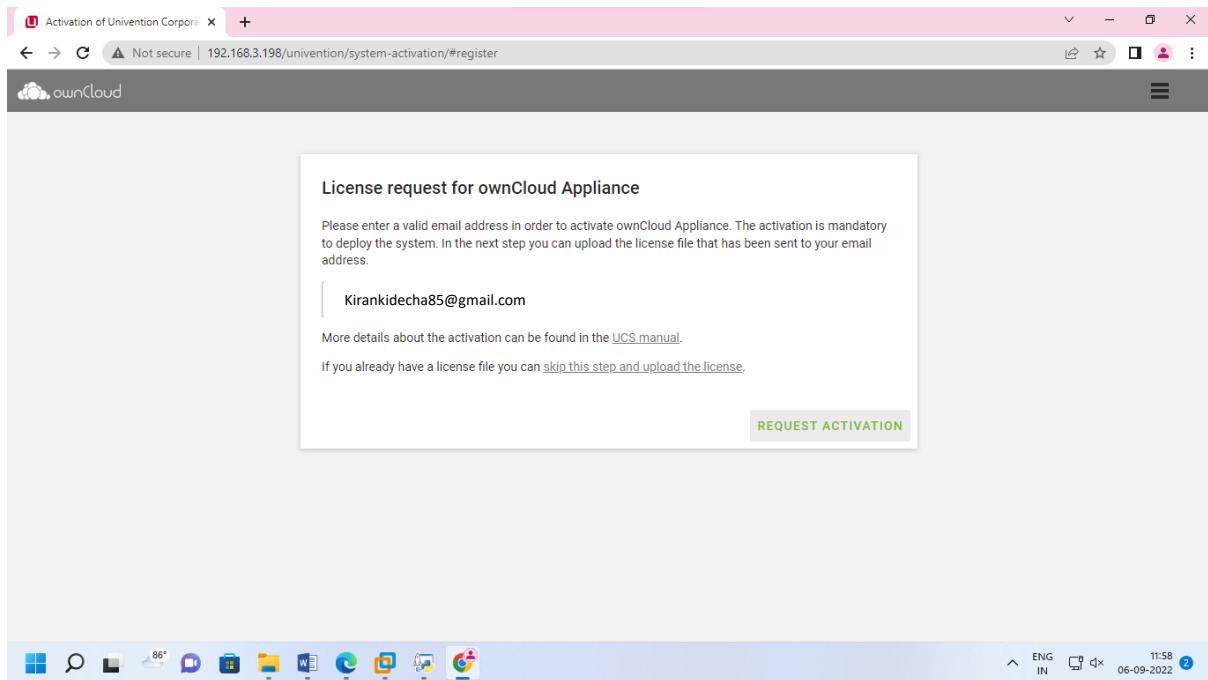
12. Now on next window press any button.



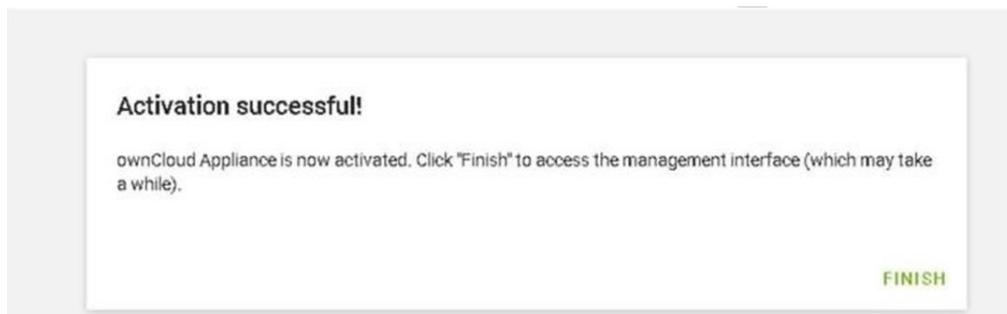
13. Step 14: Now you can see the IP address on top right-hand side, open the browser and enter system's IP address in URL bar and press enter



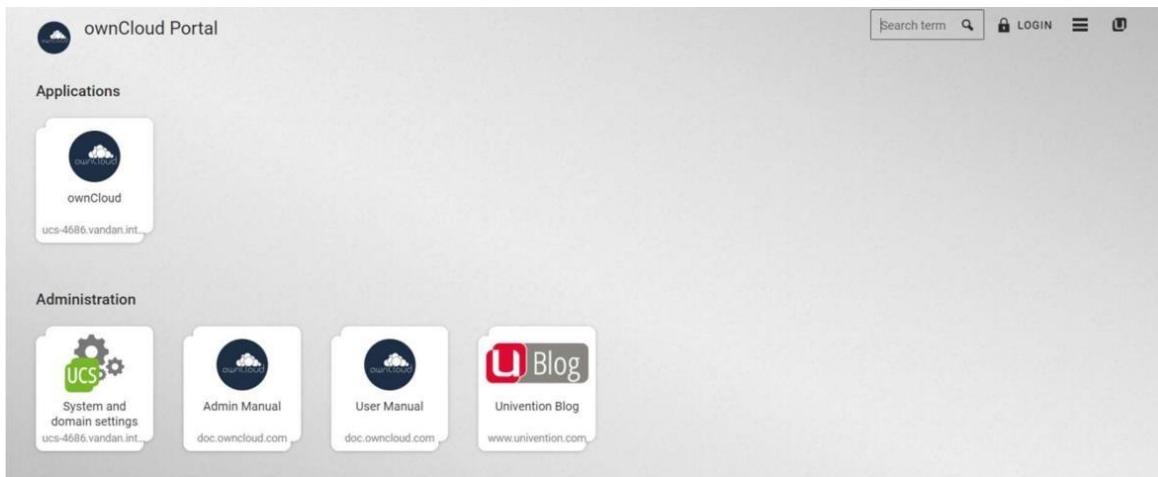
14. It will ask you for Email ID to send license, enter your Email ID and click “REQUEST ACTIVATION”



15. Check your mailbox you will receive the license from OwnCloud, download it
16. Get back to OwnCloud and click on “UPLOAD LICENSE FILE”
17. Now select the license file and click “Open”.
18. On next page click on “FINISH”.



19. We have installed OwnCloud, now just try logging in with “Administrator” as userfor that click on “LOGIN” button.



20. Enter “Administrator” as user name and the password which you set during setting up process and click on “LOGIN”.



21. After we have logged in successfully, now click on hamburger menu button.



22. Now we successfully completed OwnCloud installation.

Practical 6

Components of Eucalyptus:

- Cloud Controller (CLC) :

It is a Java program that offers EC2-compatible interfaces, as well as a web interface to the outside world. In addition to handling incoming requests, the CLC acts as the administrative interface for cloud management and performs high-level resource scheduling and system accounting. The CLC accepts user API requests from command-line interfaces like euca2ools or GUI-based tools like the Eucalyptus User Console and manages the underlying compute, storage, and network resources. Only one CLC can exist per cloud and it handles authentication, accounting, reporting, and quota management.

- Walrus :

It is also written in Java, is the Eucalyptus equivalent to AWS Simple Storage Service (S3). Walrus offers persistent storage to all of the virtual machines in the Eucalyptus cloud and can be used as a simple HTTP put/get storage as a service solution. There are no data type restrictions for Walrus, and it can contain images (i.e., the building blocks used to launch virtual machines), volume snapshots (i.e., point-in-time copies), and application data. Only one Walrus can exist per cloud.

- Cluster Controller (CC) :

It is written in C and acts as the front end for a cluster within a Eucalyptus cloud and communicates with the Storage Controller and Node Controller. It manages instance (i.e., virtual machines) execution and Service Level Agreements (SLAs) per cluster.

- Storage Controller (SC) :

It is written in Java and is the Eucalyptus equivalent to AWS EBS. It communicates with the Cluster Controller and Node Controller and manages Eucalyptus block volumes and snapshots to the instances within its specific cluster. If an instance requires writing persistent data to memory outside of the cluster, it would need to write to Walrus, which is available to any instance in any cluster.

- VMware Broker :

This is an optional component that provides an AWS-compatible interface for VMware environments and physically runs on the Cluster Controller. The VMware Broker overlays existing ESX/ESXi hosts and transforms Eucalyptus Machine Images (EMIs) to VMware

virtual disks. The VMware Broker mediates interactions between the Cluster Controller and VMware and can connect directly to either ESX/ESXi hosts or to vCenter Server.

- Node Controller (NC) :

It is written in C and hosts the virtual machine instances and manages the virtual network endpoints. It downloads and caches images from Walrus as well as creates and caches instances. While there is no theoretical limit to the number of Node Controllers per cluster, performance limits do exist.

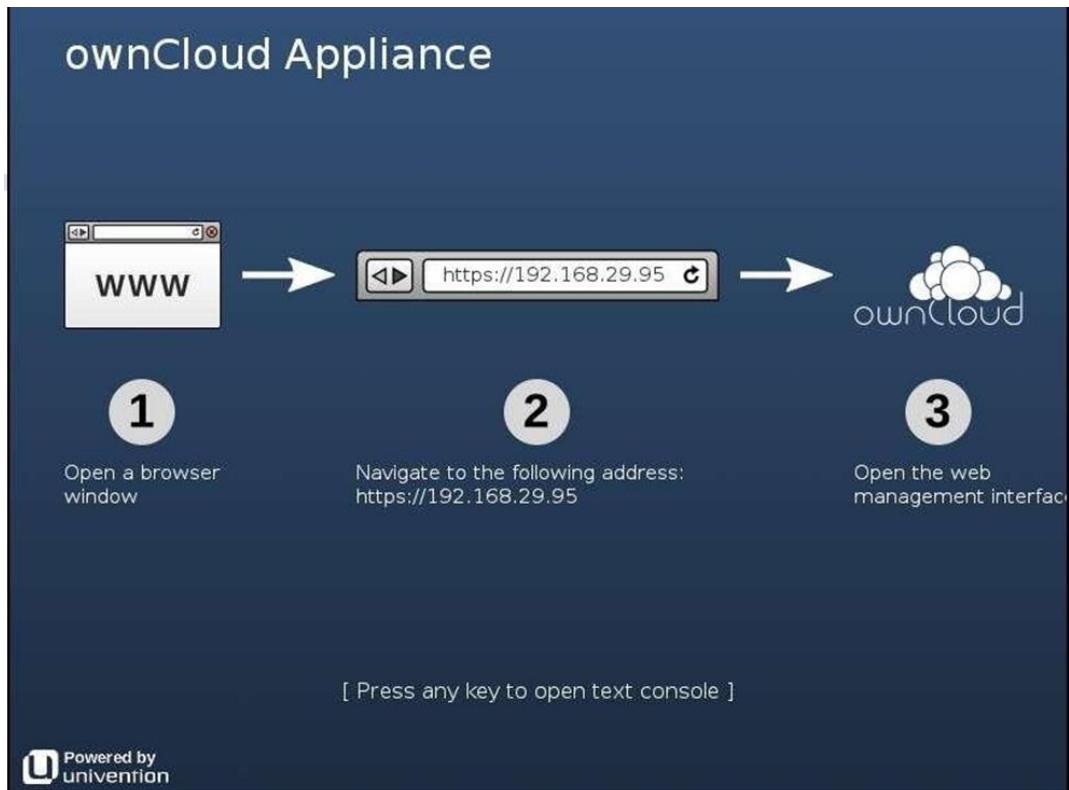
Functionality

- The Eucalyptus User Console provides an interface for users to self-service provision and configure compute, network, and storage resources. Development and test teams can manage virtual instances using built-in key management and encryption capabilities. Access to virtual instances is available using familiar SSH and RDP mechanisms. Virtual instances with application configuration can be stopped and restarted using encrypted boot from EBS capability.
- IaaS service components Cloud Controller, Cluster Controller, Walrus, Storage Controller, and VMware Broker are configurable as redundant systems that are resilient to multiple types of failures. Management state of the cloud machine is preserved and reverted to normal operating conditions in the event of a hardware or software failure.
- Eucalyptus can run multiple versions of Windows and Linux virtual machine images. Users can build a library of Eucalyptus Machine Images (EMIs) with application metadata that are decoupled from infrastructure details to allow them to run on Eucalyptus clouds. Amazon Machine Images are also compatible with Eucalyptus clouds. VMware Images and vApps can be converted to run on Eucalyptus clouds and AWS public clouds.
- Eucalyptus user identity management can be integrated with existing Microsoft Active Directory or LDAP systems to have fine-grained role-based access control over cloud resources.
- Eucalyptus supports storage area network devices to take advantage of storage arrays to improve performance and reliability. Eucalyptus Machine Images can be backed by EBS-like persistent storage volumes, improving the performance of image launch time and enabling fully persistent virtual machine instances. Eucalyptus also supports direct-attached storage

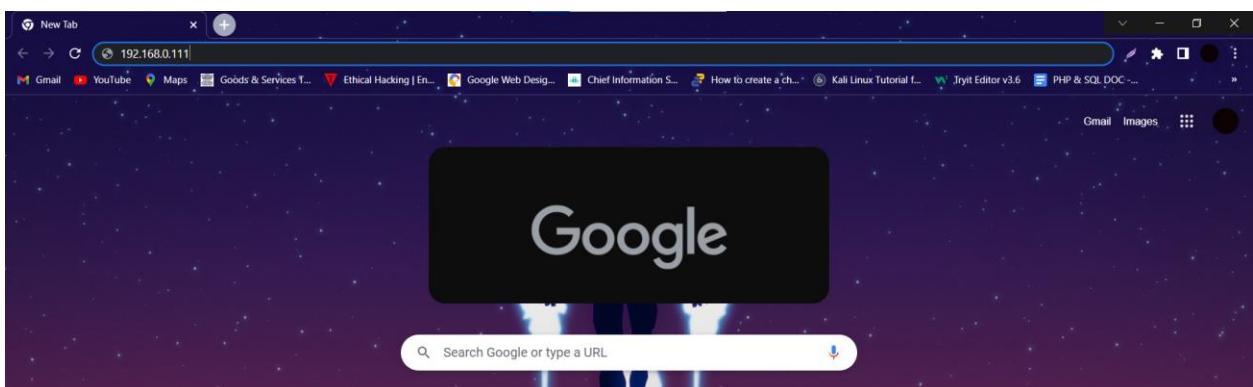
Practical 7

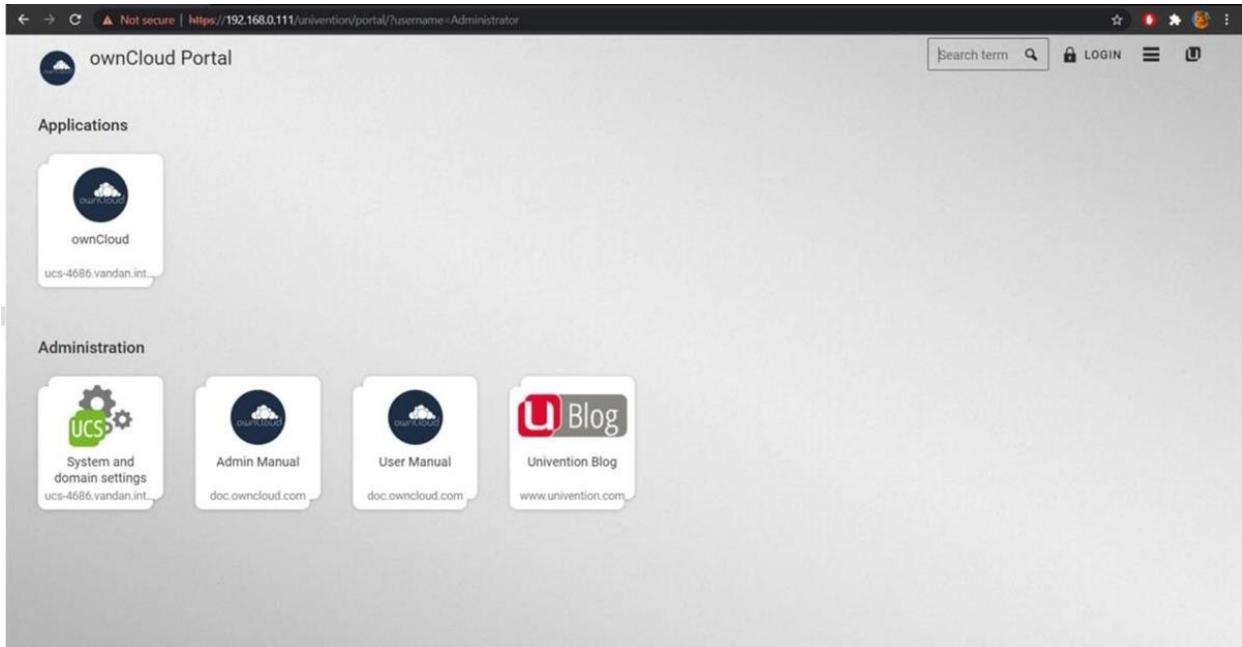
Steps :

1. Open VMware and power on the owncloud VM.

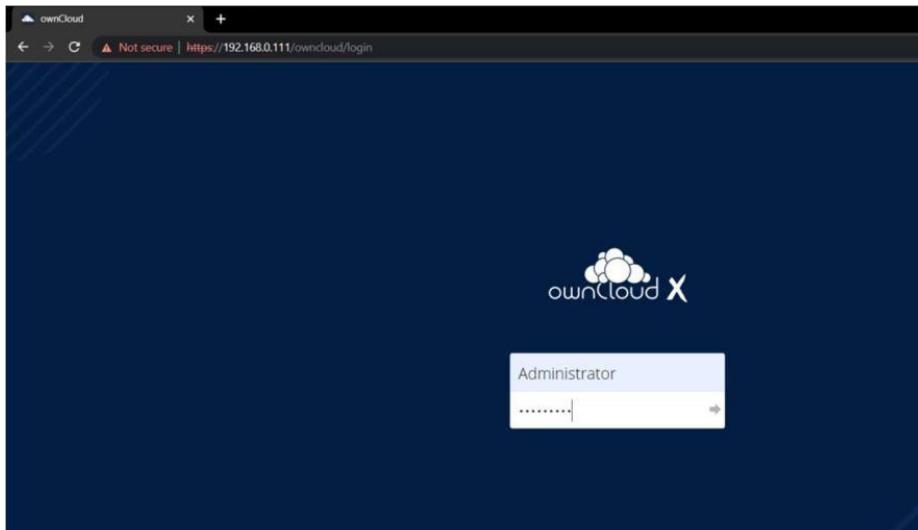


2. Now you can see the IP address on top right-hand side, open the browser and enter system's IP address in URL bar and press enter -> log in to your account admin account -> open owncloud in application section





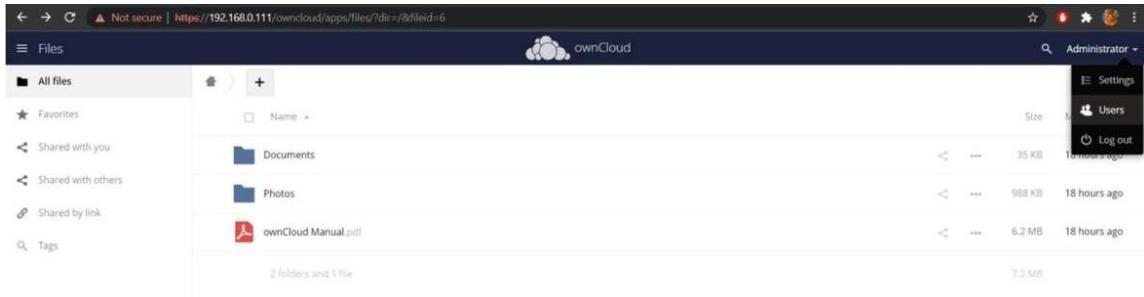
3. Enter admin name and password which you have set while creating account and click on “Log in”.



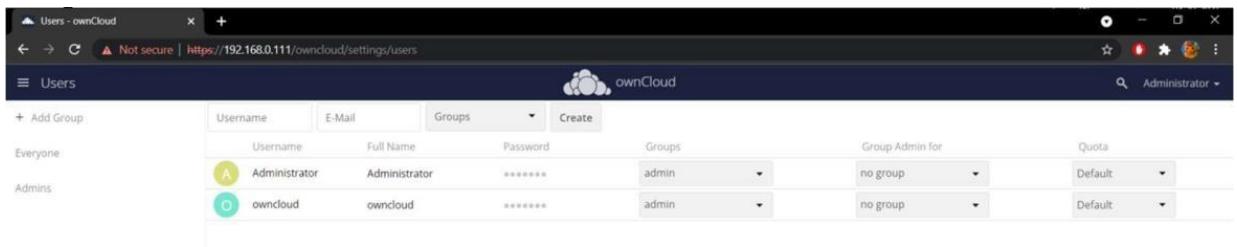
4. Following dashboard will get load



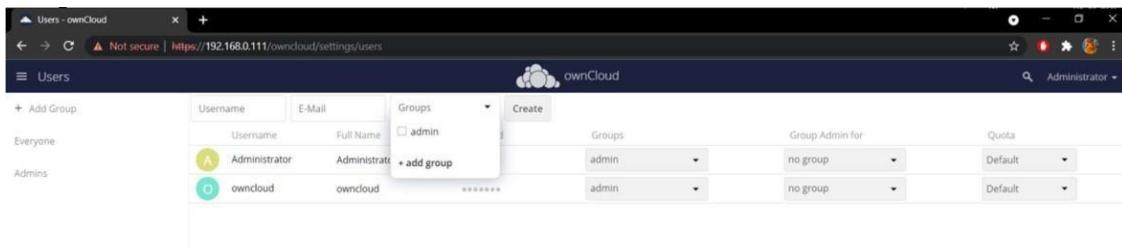
5. Now go to “Users”.



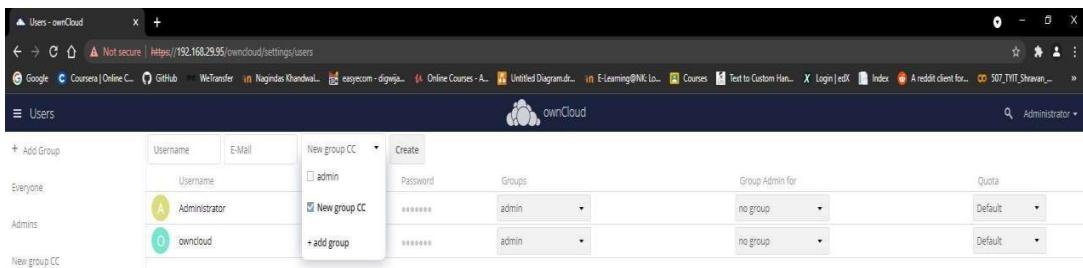
6. You can see that there is only user which is admin, which is in Group admin



7. Now let's add group, for that go to “Group” > “add group”



8. Enter group name and press “enter”.



9. Our group has been added, now select it.

The screenshot shows the 'Users' page of the ownCloud web interface. In the 'Admins' section, there is a table with one row for 'New group CC'. The 'Groups' column for this row contains a dropdown menu with the option 'admin' selected. Other columns include 'Username' (empty), 'Full Name' (empty), 'Password' (empty), 'Group Admin for' (empty), and 'Quota' (empty).

10. Now enter “Username” and “E-mail” for the user and click on “Create”

The screenshot shows the 'Users' page of the ownCloud web interface. A new user 'Shravan' is being created. The 'Create' form fields are filled: 'Username' is 'Shravan' and 'E-Mail' is 'kamatshravan21@gmail.com'. The 'Groups' dropdown is set to 'admin'. The 'Create' button is visible at the bottom of the form.

11. Our user is been added we can change the storage limit for the new user.

The screenshot shows the 'Users' page of the ownCloud web interface. The 'Quota' dropdown for the 'User1' row is open, displaying a list of options: 'Default', 'Unlimited', '5 GB', '10 GB', and 'Other ...'. The '5 GB' option is highlighted.

12. Let's add another user but this time in “admin” group

The screenshot shows the 'Users' page of the ownCloud web interface. A new user 'User2' is being created. The 'Create' form fields are filled: 'Username' is 'User2' and 'E-Mail' is 'student2@gmail.com'. The 'Groups' dropdown is set to 'admin'. The 'Create' button is visible at the bottom of the form.

13. If it shows “admin, admin” in group just click on it and uncheck one “admin”

Username	Full Name	Groups	Group Admin for	Quota
Administrator	Administrator	admin	no group	Default
owncloud	owncloud	admin	no group	Default
User1	User1	no group	no group	Default

14. Before Logging out from admin account, set new password in the password field.

Username	Full Name	Groups	Group Admin for	Quota
Administrator	Administrator	admin	no group	Default
owncloud	owncloud	admin	no group	Default
User1	User1	no group	no group	Default

15. Now “Log out” from the admin account.

16. Try log in with user you just created.

Yes, it has successfully logged in. As you can see this user don't have any privilege link adding users and creating group because it's not in “admin” group, now “log out” from the account.

17. Now let's try to log in from the user account who is in “admin” group.

18. Enter login details and click on “Log in”.

Name	Size	Modified
Documents		
Photos		
ownCloud Manual.pdf	6.2 MB	In a few seconds

Name: Kiran Mansukh Kidecha

Roll no.: 518

Class: TYIT

As you can see this user has the privileges of admin because he is in “admin” group. Note: If it doesn’t show the privilege then go to admin account and check if this user group is “admin” group. This user has all the rights that admin possess like adding or deleting user

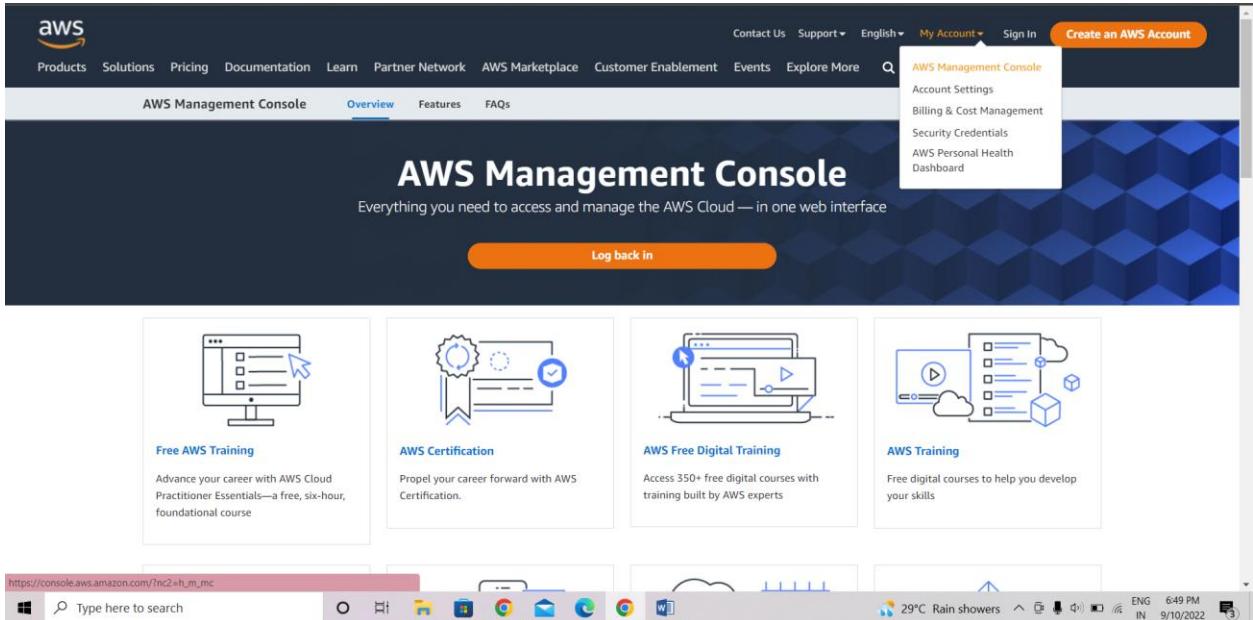
The screenshot shows the 'Users' section of the ownCloud settings interface. A new user entry is being created for 'User2' with the email 'student2@gmail.com'. The 'Groups' dropdown is set to 'admin', indicating the user is being assigned to the 'admin' group. The 'Group Admin for' dropdown is set to 'no group'. The 'Quota' dropdown is set to 'Default'. The table below lists three existing users: 'Administrator' (username 'Administrator', full name 'Administrator', groups 'admin', 'no group', quota 'Default'), 'owncloud' (username 'owncloud', full name 'owncloud', groups 'admin', 'no group', quota 'Default'), and 'User1' (username 'User1', full name 'User1', groups 'no group', 'no group', quota 'Default').

Username	Full Name	Groups	Group Admin for	Quota
Administrator	Administrator	admin	no group	Default
owncloud	owncloud	admin	no group	Default
User1	User1	no group	no group	Default

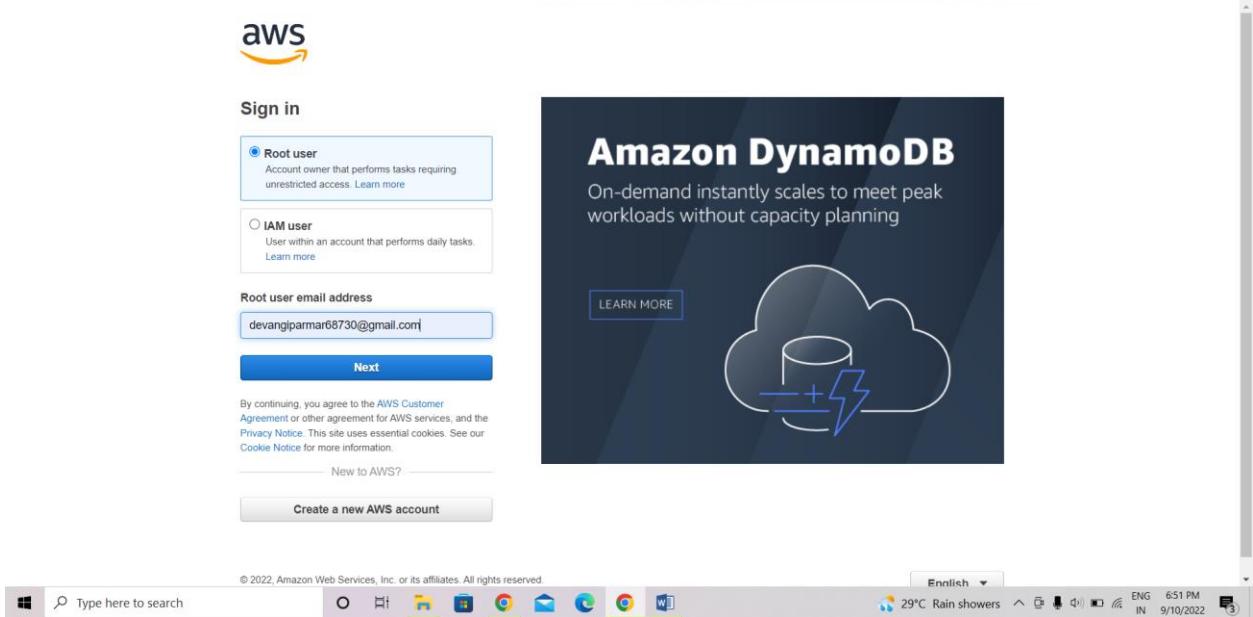
Practical 8

Steps:

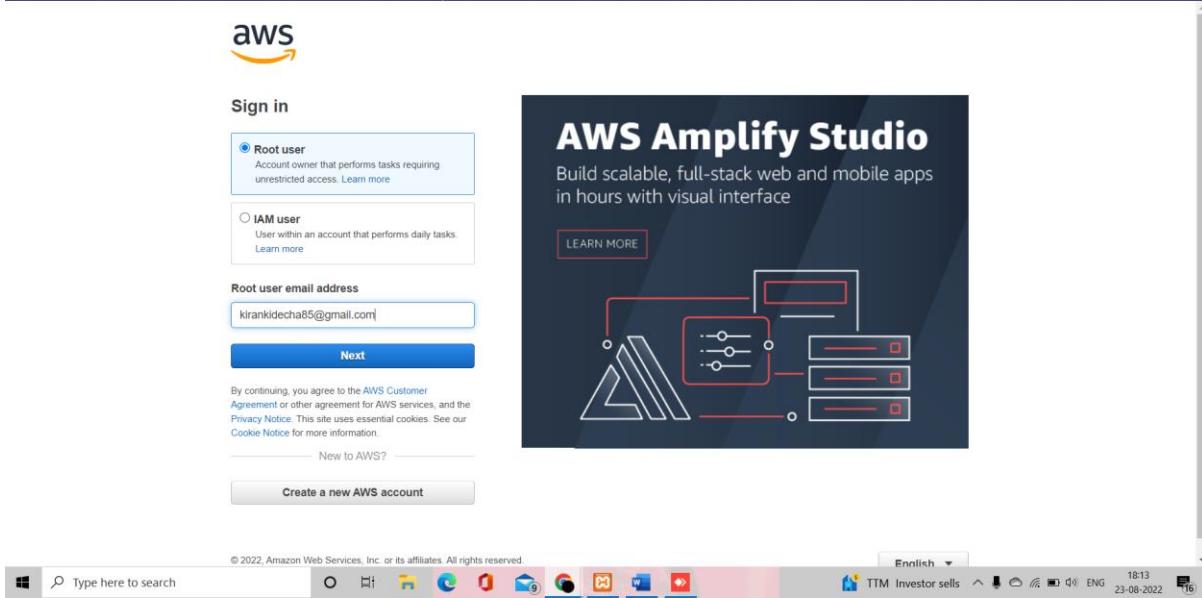
1. Click on the link: <https://aws.amazon.com/console/>
2. Go to “My Account” > “AWS Management Console”.



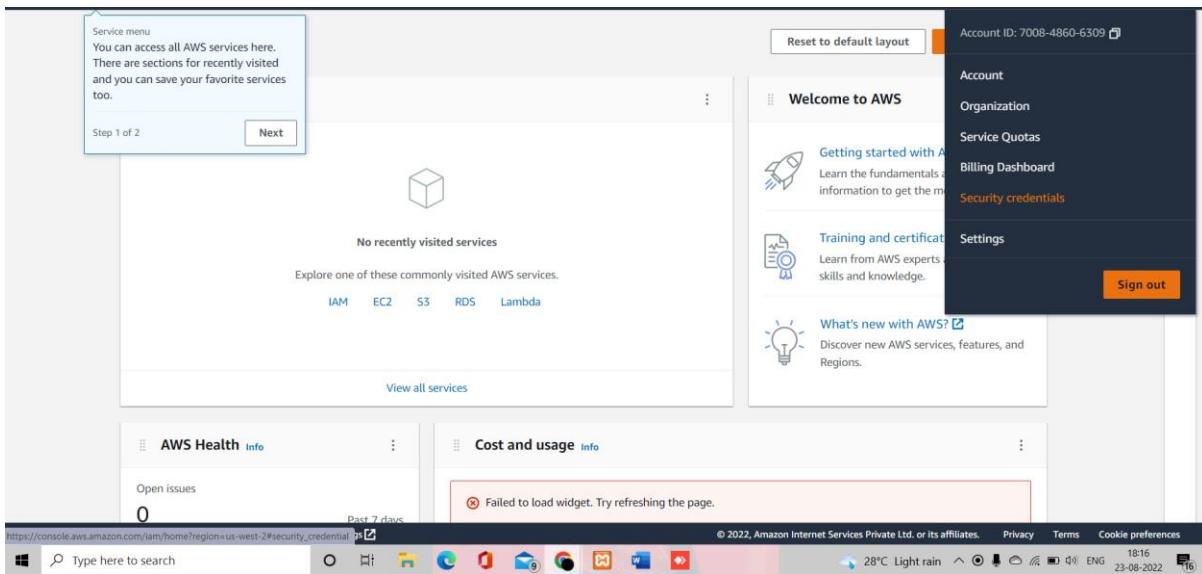
3. Just login to your user's account



4. Click on "Sign In".



5. Once you logged in go to "My security credentials".



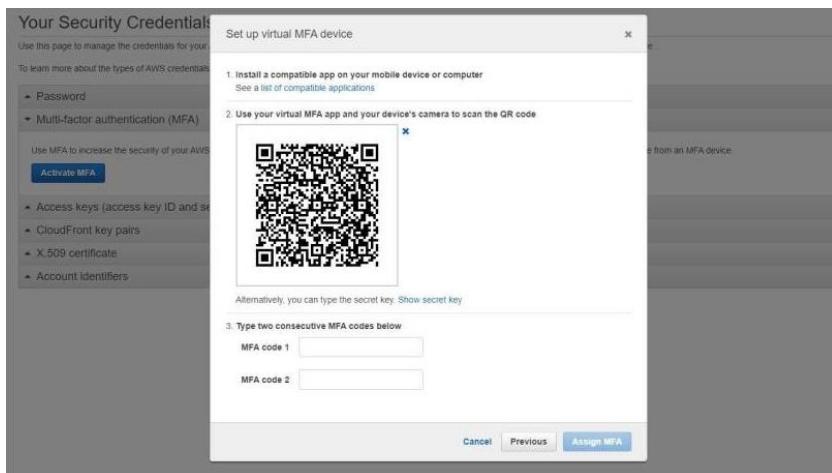
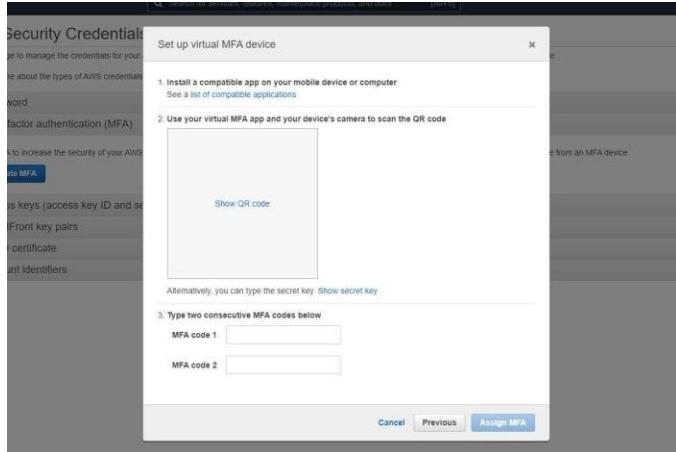
6. Scroll down you will find “Multi-factor authentication (MFA)”. Click on “Assign MFA device”

The screenshot shows the AWS Identity and Access Management (IAM) service. On the left, there's a navigation sidebar with various options like Dashboard, Access management, and Access reports. The main content area is titled 'Your Security Credentials'. It has a sidebar with sections: Password, Multi-factor authentication (MFA), Access keys (access key ID and secret access key), CloudFront key pairs, X.509 certificate, and Account identifiers. The 'Multi-factor authentication (MFA)' section is expanded, showing a blue 'Activate MFA' button. At the bottom of the page, there's a standard Windows taskbar with icons for File Explorer, Edge browser, and other system tools.

7. We will select first option “Virtual MFA device” and click on “Continue”

This screenshot is identical to the one above, showing the 'Your Security Credentials' page in the AWS IAM service. The 'Multi-factor authentication (MFA)' section is expanded, showing the 'Activate MFA' button. The Windows taskbar at the bottom is visible.

8. So, concept is we will use third party app to generate OTP which will help us to authenticate ourselves during logging in. It will add a security layer to our account. Now we have to download “2FA Authenticator (2FAS)” app on our mobile.
9. Click on “Show QR code” to display QR code.

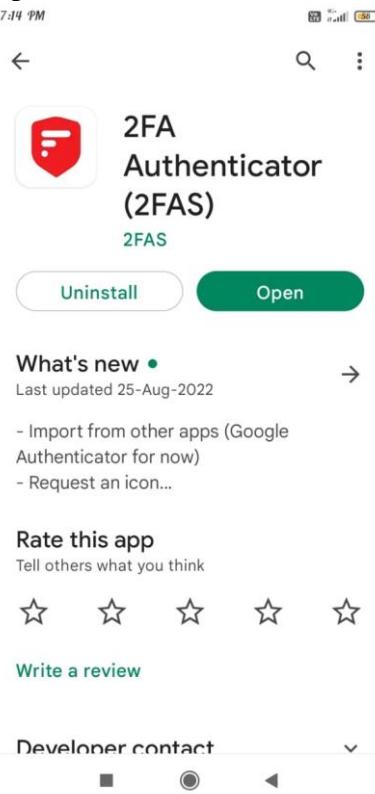


Name: Kiran Mansukh Kidecha

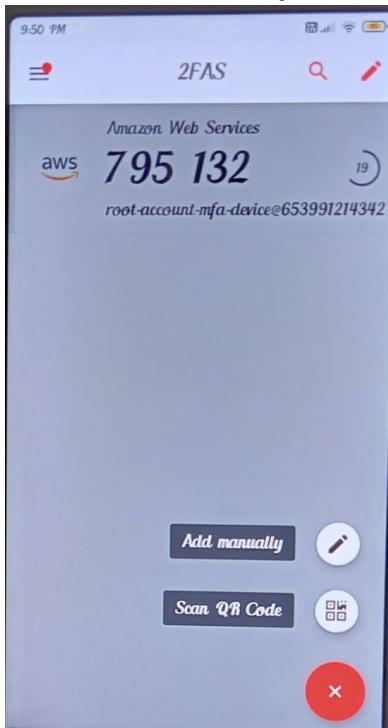
Roll no.: 518

Class: TYIT

10. Open the 2FA Authenticator (2FAS) app click on continue.

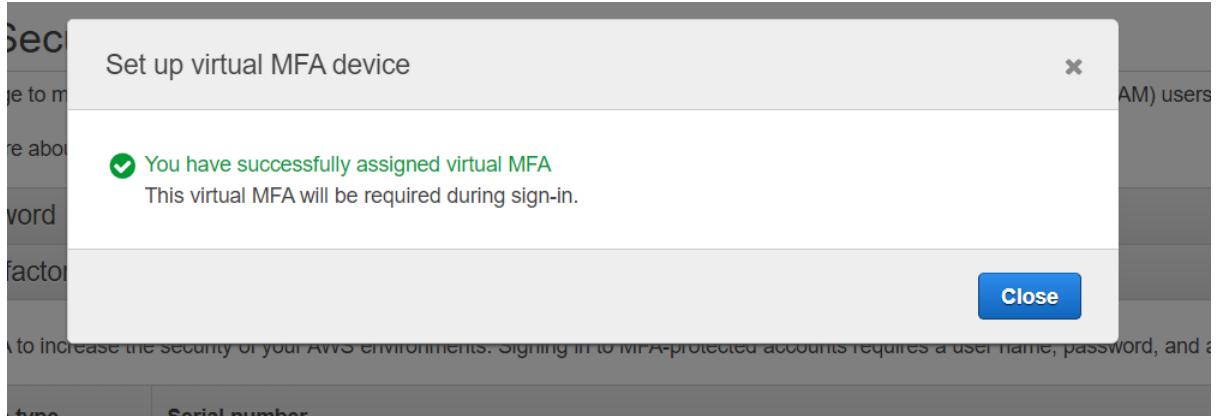


11. And click on “Scan QR code”.



12. First, we have to enter 2 OTP which we will receive on app and click "Assign MFA".

13. Click on "Close"



14. Log out from the account.

The screenshot shows the AWS IAM "Your Security Credentials" page. On the left, a sidebar menu is open under "Identity and Access Management (IAM)", showing options like "Dashboard", "Access management", "Access reports", and "Credential report". The main content area is titled "Your Security Credentials" and contains a table of credentials. The table has columns for "Device type", "Serial number", and "Actions". One row in the table shows a "Virtual" device type with a serial number starting with "arn:aws:iam:". To the right of the table, there is a sidebar with user information ("My Account: 503128184314", "My Organization") and links for "My Service Quotas", "My Billing Dashboard", "My Security Credentials", and a "Sign Out" link. The overall interface is light-colored with blue and grey accents.

Device type	Serial number	Actions
Virtual	arn:aws:iam: 503128184314:mfa/root-account-mfa-device	Manage

15. Now again try to log in to your account.
 16. It will ask for MFA code. You get new code after every 30 seconds, just enter the valid MFA code and click on “Submit” to login.



Multi-factor authentication

Your account is secured using multi-factor authentication (MFA). To finish signing in, turn on or view your MFA device and type the authentication code below.

Email address:
devangiparmar68730@gmail.com

MFA code

Submit

[Troubleshoot MFA](#)

[Cancel](#)



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English ▾

The image shows the AWS Management Console homepage. At the top, there's a search bar and navigation links for "Services", "Vandan", and "Mumbai". The main content area is titled "AWS Management Console". It features several sections: "AWS services" (Recently visited services: IAM; All services), "Build a solution" (Launch a virtual machine, Build a web app, Build using virtual servers, Register a domain, Connect an IoT device, Start migrating to AWS, Start a development project, Deploy a serverless microservice), "Stay connected to your AWS resources on-the-go" (AWS Console Mobile App supports four additional regions), "Explore AWS" (Introducing AWS Backup Audit Manager, Amazon FSx File Gateway, Amazon S3 Multi-Region Access Points, Introducing Amazon FSx for NetApp ONTAP), and a footer with "English ▾".