U18ITI7202-Cloud Computing

Lab Exercise – 2

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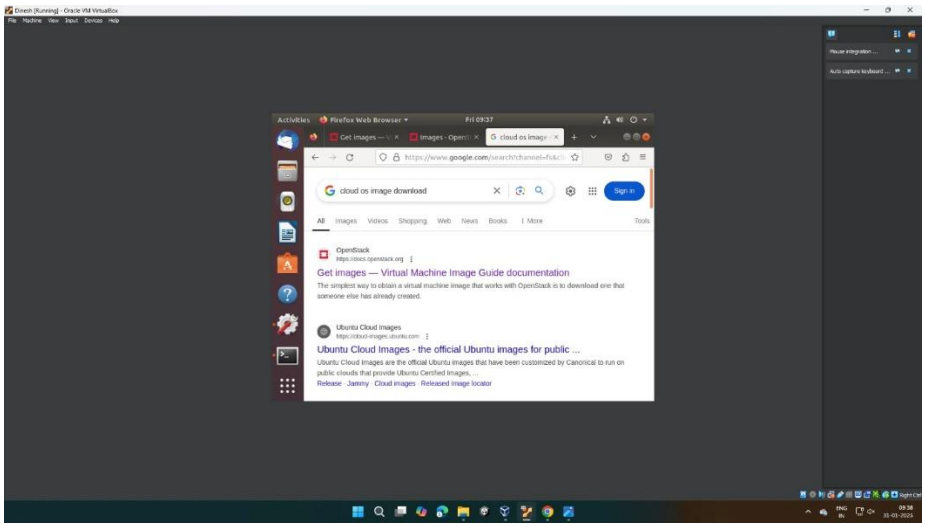
Aim:

To install a customized cloud OS image using OpenStack in a Virtual Machine.

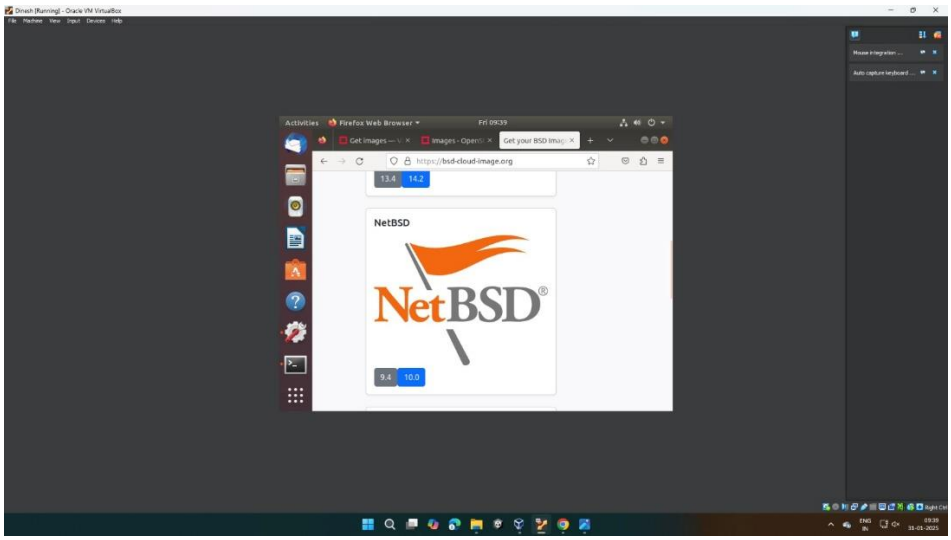
Procedure:

Downloading and Setting Up the Cloud OS Image

1. Open a web browser and search for free customized cloud OS images.



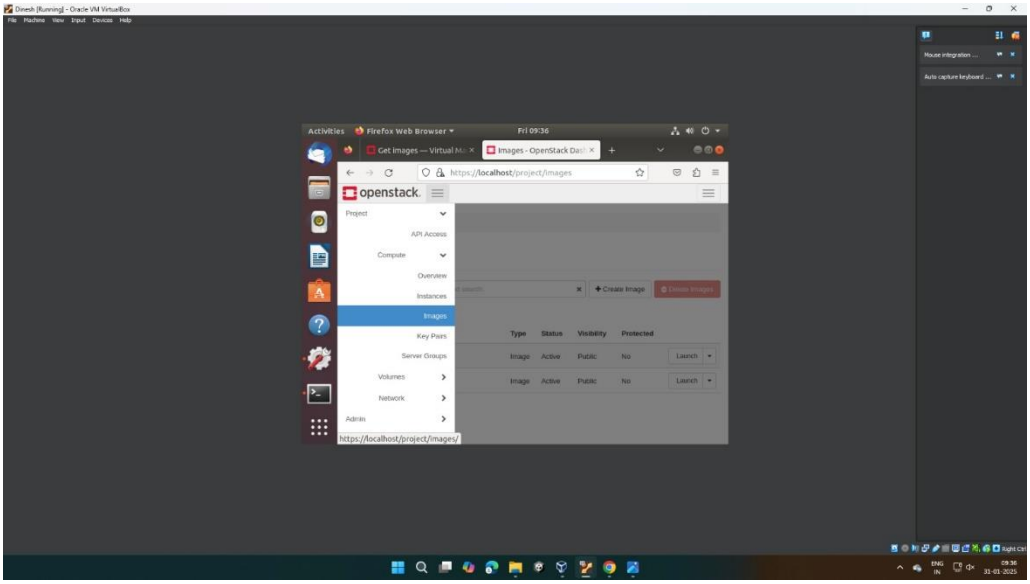
2. Download the desired cloud OS image, here we use NetBSD, as it is lightweight and resource-efficient.



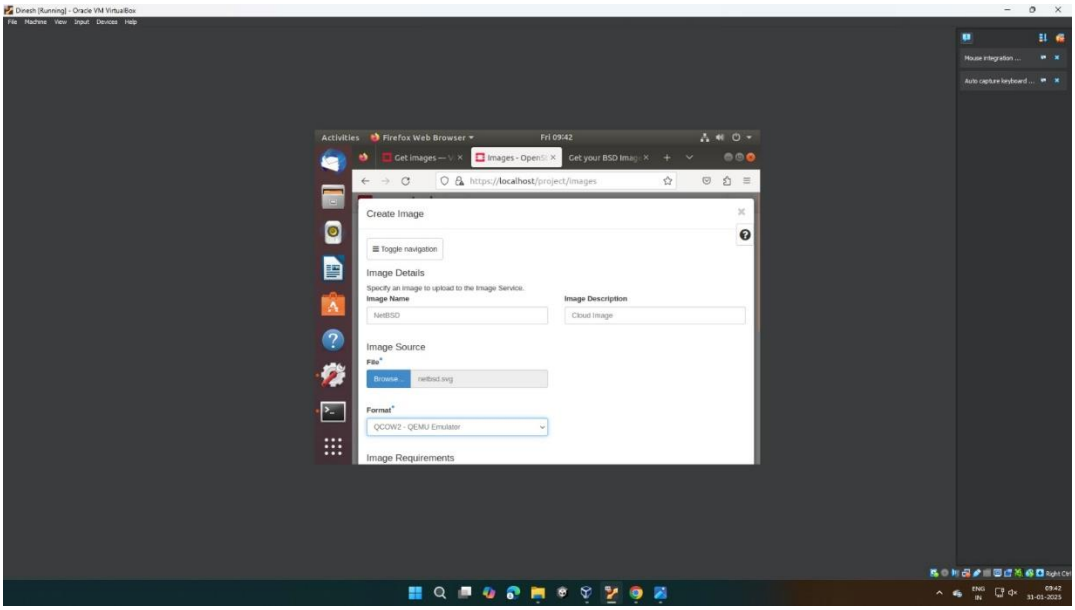
3. Open VirtualBox and set up a virtual machine.

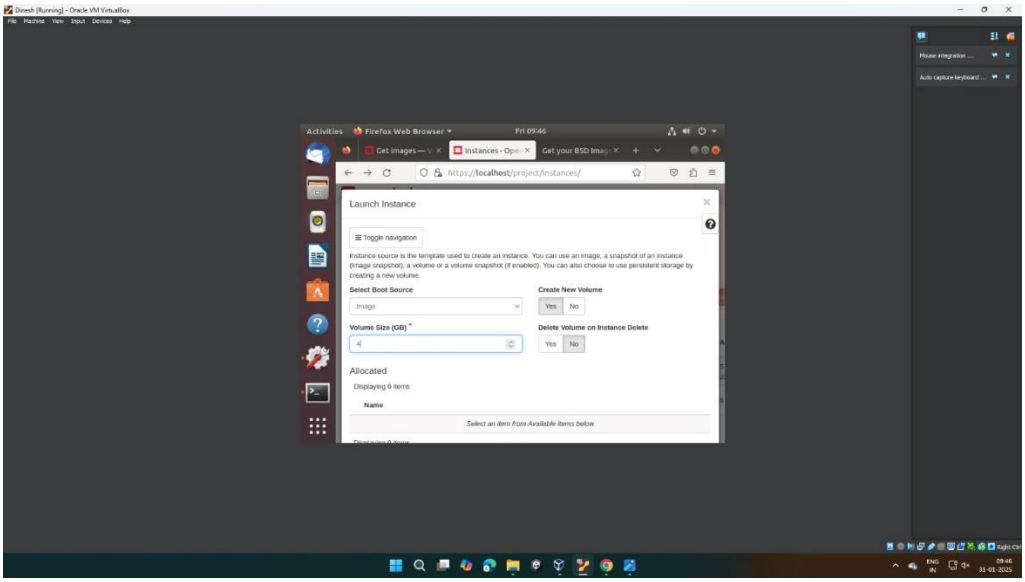
Creating a Customized Image in OpenStack

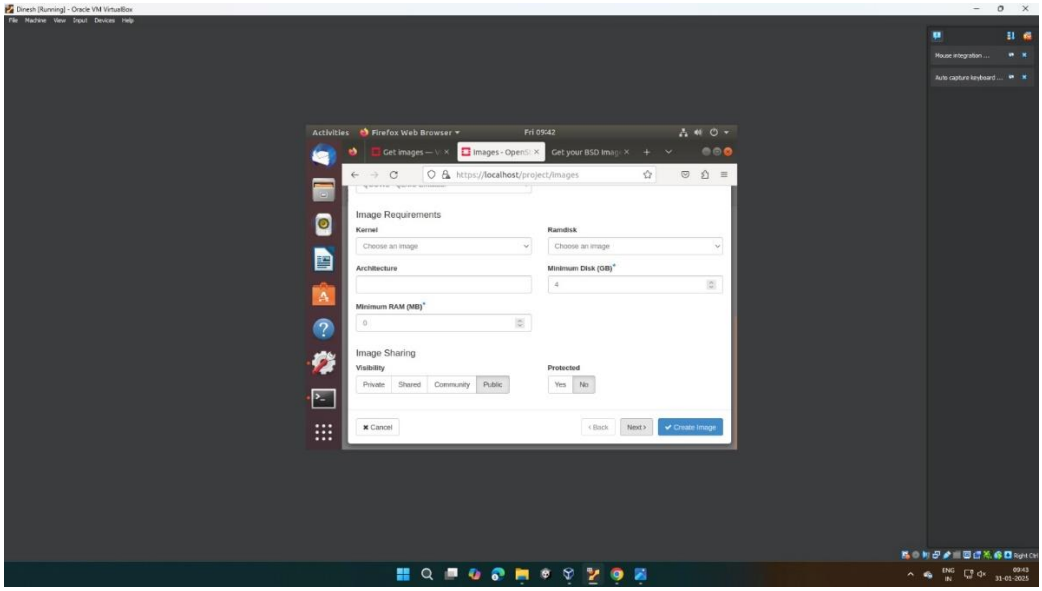
4. Log in to OpenStack.
5. Navigate to the Images tab and click Create Image.



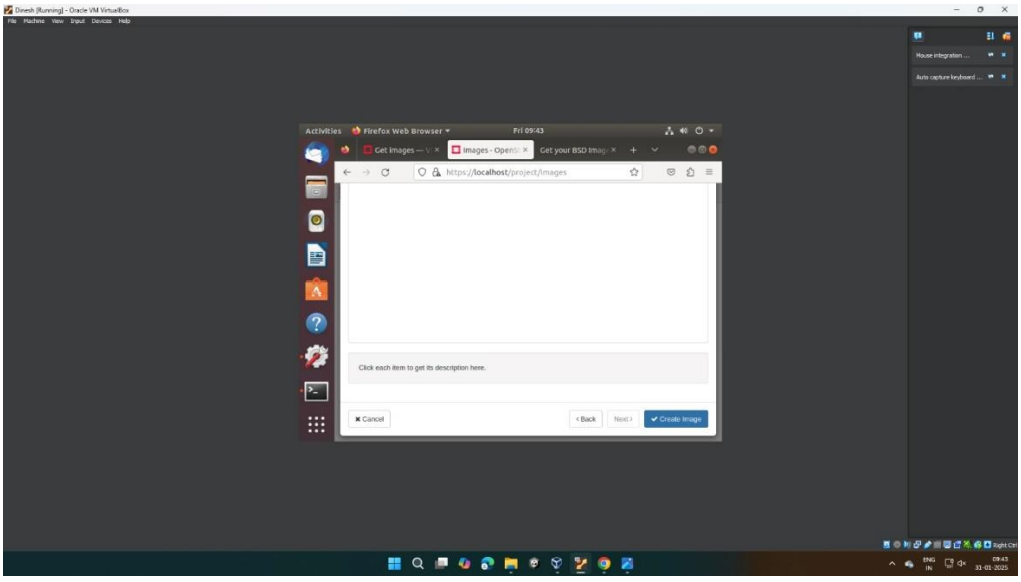
6. Provide the image details:
    - Image Name: NetBSD
    - Format: QEMU Emulator
    - Minimum Disk: 4 GB
    - Minimum RAM: 2 GB
    - Image Sharing: Public



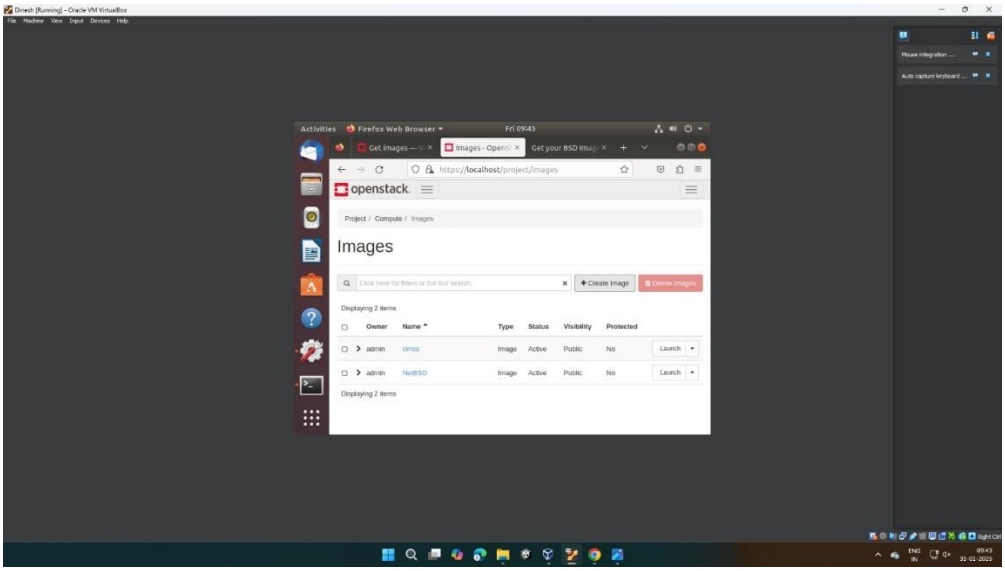




7. Click Next until the Create Image button is enabled, then click it.

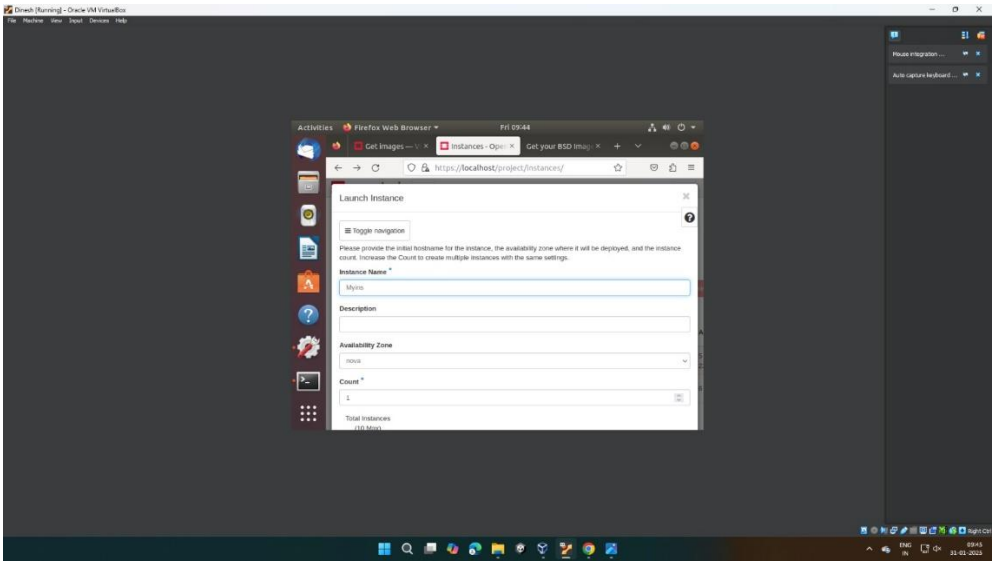


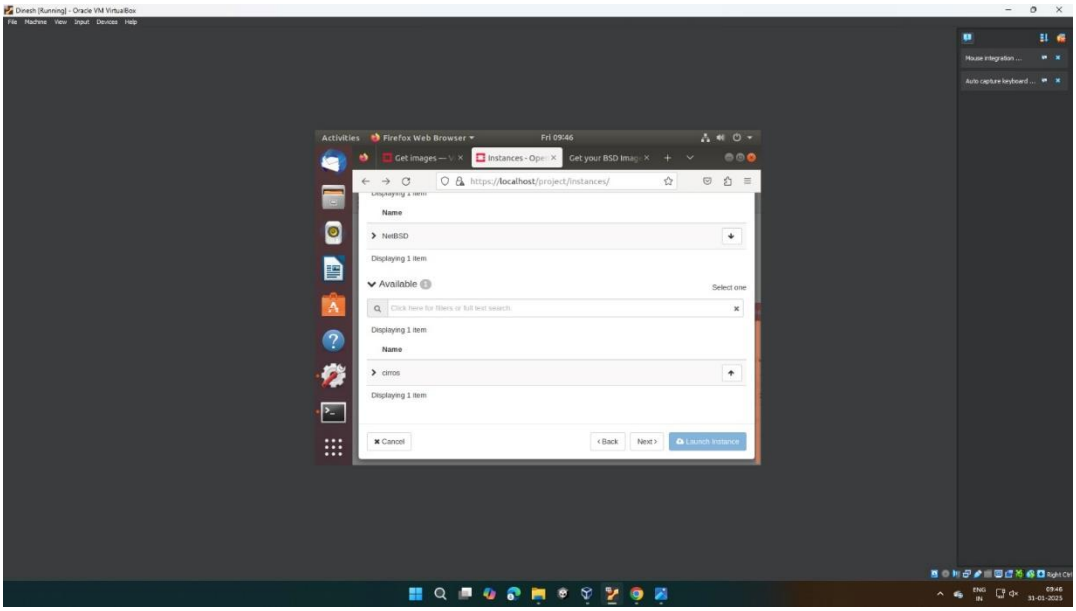
8. The newly created image will now appear in the Images tab.

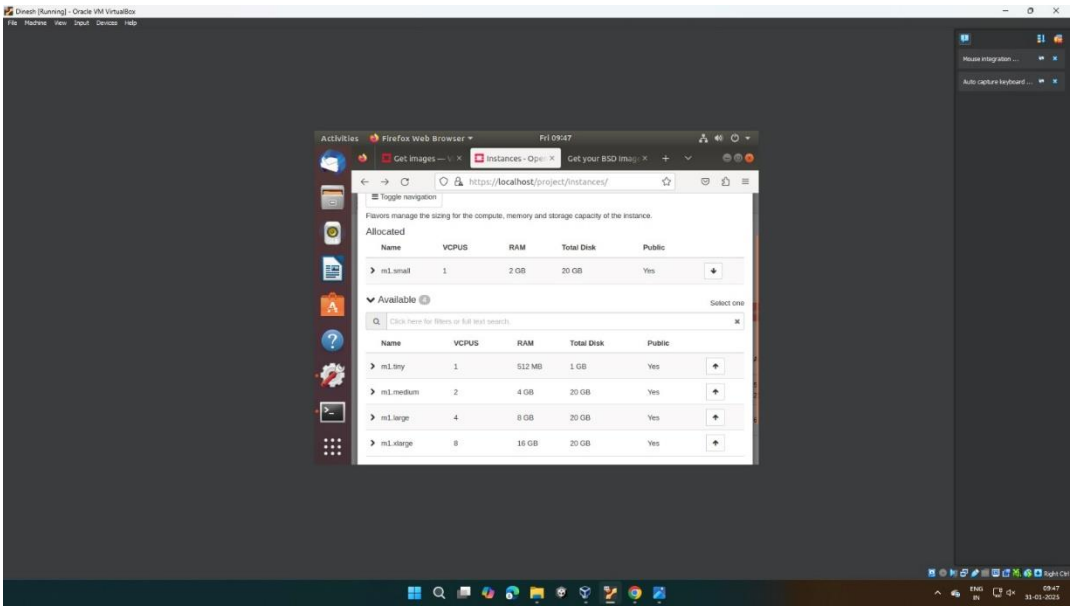


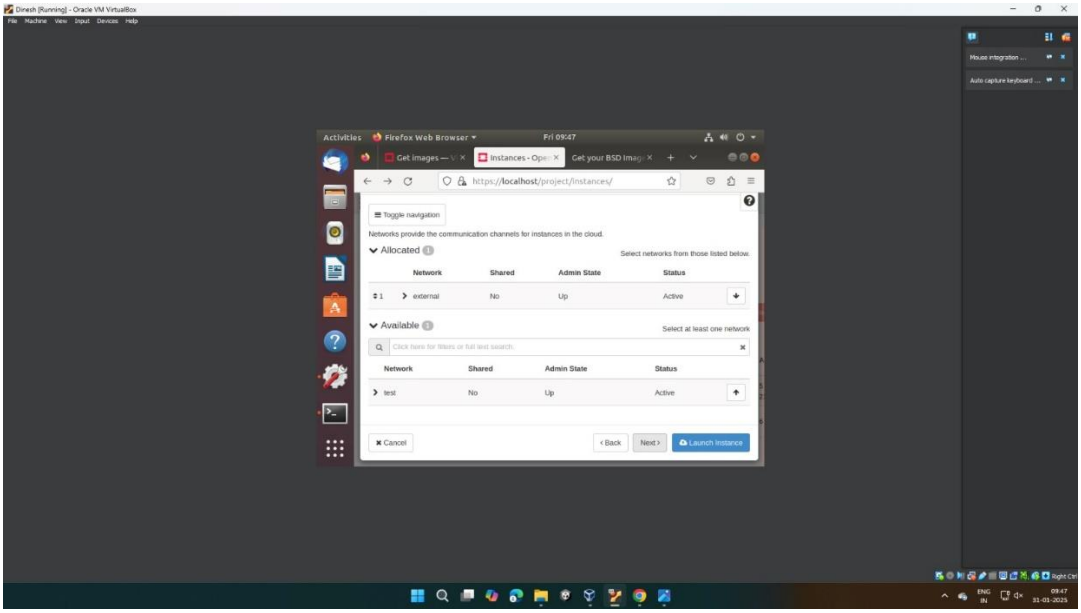
Launching an Instance in OpenStack

9. Navigate to the Instances tab and click Create Instance.
10. Provide the instance details:
    - Instance Name: Myins
    - Boot Source: Image
    - Volume Size: 4 GB
    - Source Image: NetBSD
    - Flavor: m1.small (to allocate sufficient resources)
    - Network: External

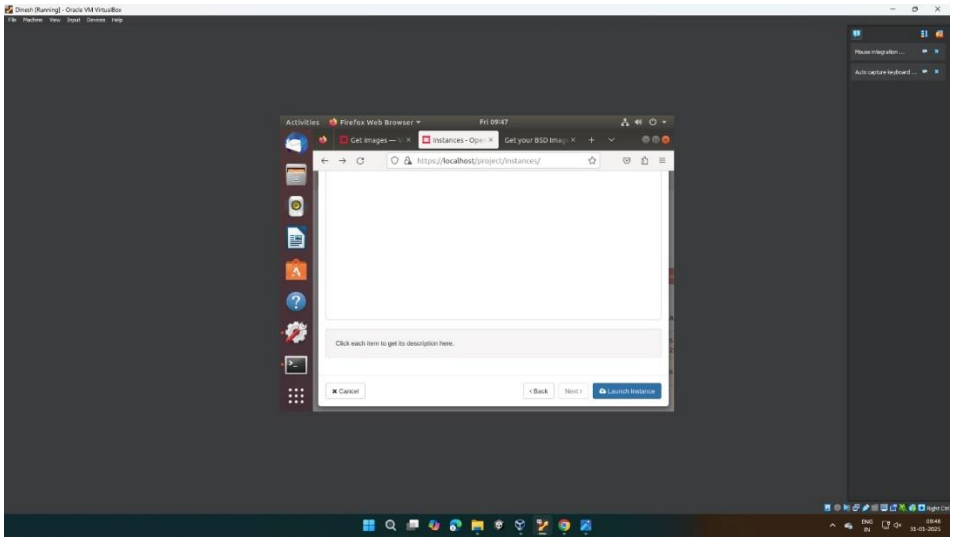



Dinesh [Running] - Oracle VM VirtualBox
Activities
Firefox Web Browser
Fri 09:46
https://localhost/project/instances/
Name
NetBSD
Displaying 1 item
Available
Select one
Displaying 1 item
Name
cirros
Displaying 1 item
Cancel
Back
Next
Launch Instance


Dinesh [Running] - Oracle VM VirtualBox
Activities
Firefox Web Browser
Fri 09:47
https://localhost/project/instances/
Toggle navigation
Flavors manage the sizing for the compute, memory and storage capacity of the instance.
Allocated
Name VCPUS RAM Total Disk Public
m1.small 1 2 GB 20 GB Yes
Available
Select one
Name VCPUS RAM Total Disk Public
m1.tiny 1 512 MB 1 GB Yes
m1.medium 2 4 GB 20 GB Yes
m1.large 4 8 GB 20 GB Yes
m1.xlarge 8 16 GB 20 GB Yes

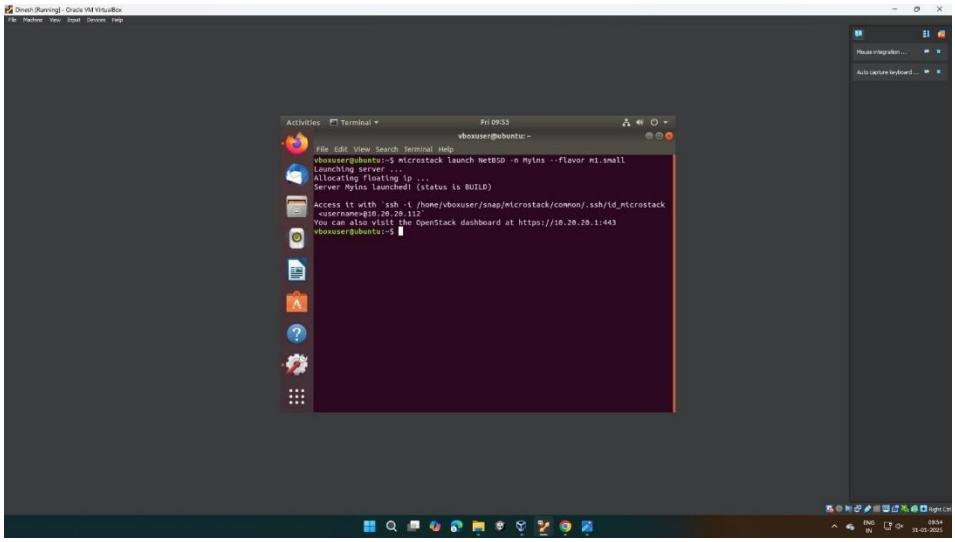

Dinesh [Running] - Oracle VM VirtualBox
Activities
Firefox Web Browser
Fri 09:47
https://localhost/project/instances/
Toggle navigation
Networks provide the communication channels for instances in the cloud.
Allocated
Select networks from those listed below.
Network Shared Admin State Status
external No Up Active
Available
Select at least one network
Network Shared Admin State Status
test No Up Active
Cancel
Back
Next
Launch Instance

11. Click Next until the Launch Instance button is enabled, then click it.



Handling Launch Failure via Terminal

12. If the instance fails to launch, delete the failed instance and use the terminal.
13. Open the terminal and enter the command:
    microstack launch NetBSD -n Myins
14. If the instance still fails, specify the flavor explicitly:
    microstack launch NetBSD -n Myins --flavor m1.small



RESULT:

We have successfully installed and launched our customized cloud OS image using OpenStack.