

ASSIGNMENT NO.

TITLE: Microsoft azure or Amazon EC2

PROBLEM STATEMENT/DEFINITION:

Case study on Microsoft azure. Microsoft Azure is a cloud computing platform and infrastructure, created by Microsoft, for building, deploying and managing applications and services through a global network of Microsoft-managed data centers.

OR

Case study on Amazon EC2 and learn about Amazon EC2 web services.

OBJECTIVE:

1. To learn cloud computing environment.
2. To study how to use Microsoft Azure/Amazon EC2

OUTCOME:

Understand cloud computing environment

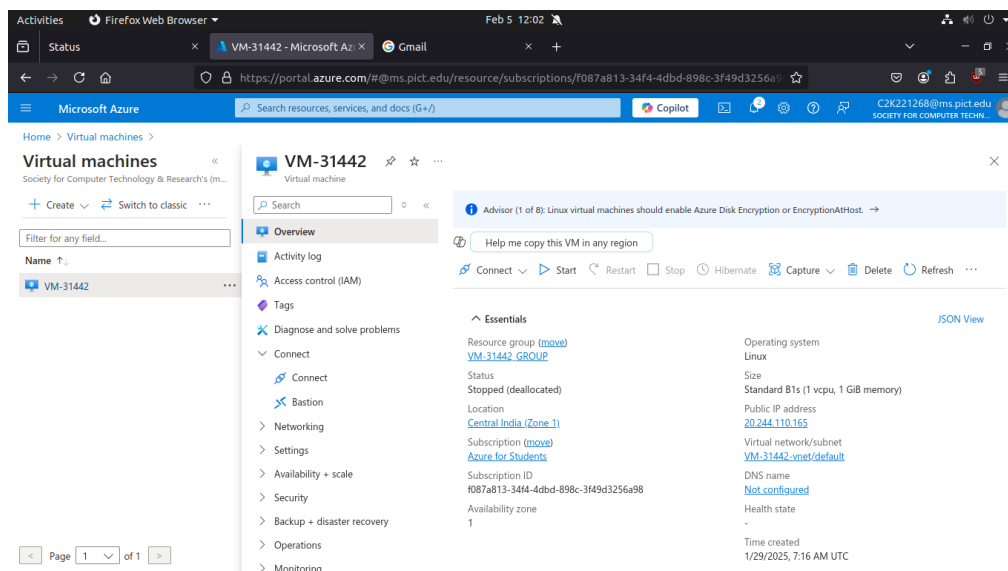
STEPS:

1. Sign up for Microsoft Azure Account

- Navigate to the [Microsoft Azure portal](https://portal.azure.com). Create an account or log in if you already have one.

2. Create a Virtual Machine on Azure

- After logging into Azure portal, click "Create a resource" > "Virtual Machine".



- **Give name** to Virtual Machine.
- Select **region** as Asia-Pacific Central India

Activities Firefox Web Browser Feb 5 11:52

Status Create a virtual machine Gmail

https://portal.azure.com/#create/Microsoft.VirtualMachine-ARM

Microsoft Azure Search resources, services, and docs (G+/)

Home > Virtual machines > Create a virtual machine

Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * Azure for Students

Resource group * (New) VM-31442_group_02051150

Create new

Instance details

Virtual machine name * VM-31442

Region * (Asia Pacific) Central India

Availability options Availability zone

Zone options

☒ Self-selected zone
Choose up to 3 availability zones, one VM per zone

☐ Azure-selected zone (Preview)
Let Azure assign the best zone for your needs

< Previous Next : Disks > Review + create

Give feedback

- Under the **Management** tab, make sure to select the **Free** tier for the virtual machine (if eligible). Click **Create** to start provisioning the VM.
- Choose **Debian Image**

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You can now select multiple zones. Selecting multiple zones will create one VM per zone. Learn more

Security type Trusted launch virtual machines

Image * Debian 12 "Bookworm" - x64 Gen2

See all images | Configure VM generation

VM architecture

☐ Arm64

☒ x64

Run with Azure Spot discount

Size * Standard_B1s - 1 vcpu, 1 GiB memory (680.20/month) (free services eligible)

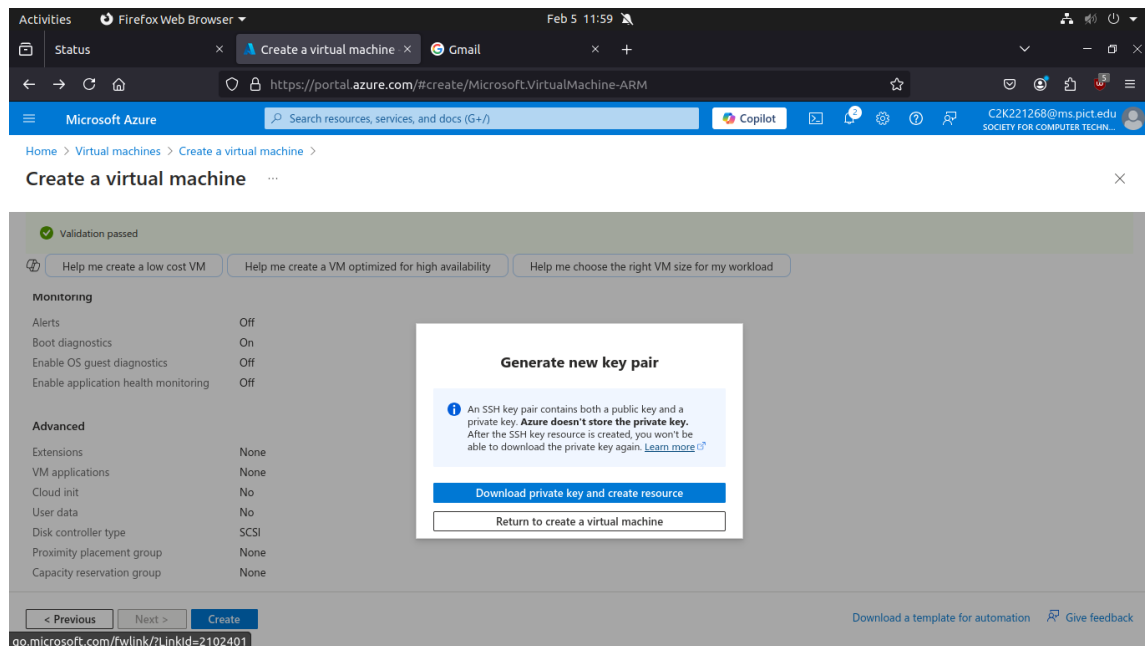
See all sizes

Enable Hibernation

< Previous Next : Disks > Review + create

Give feedback

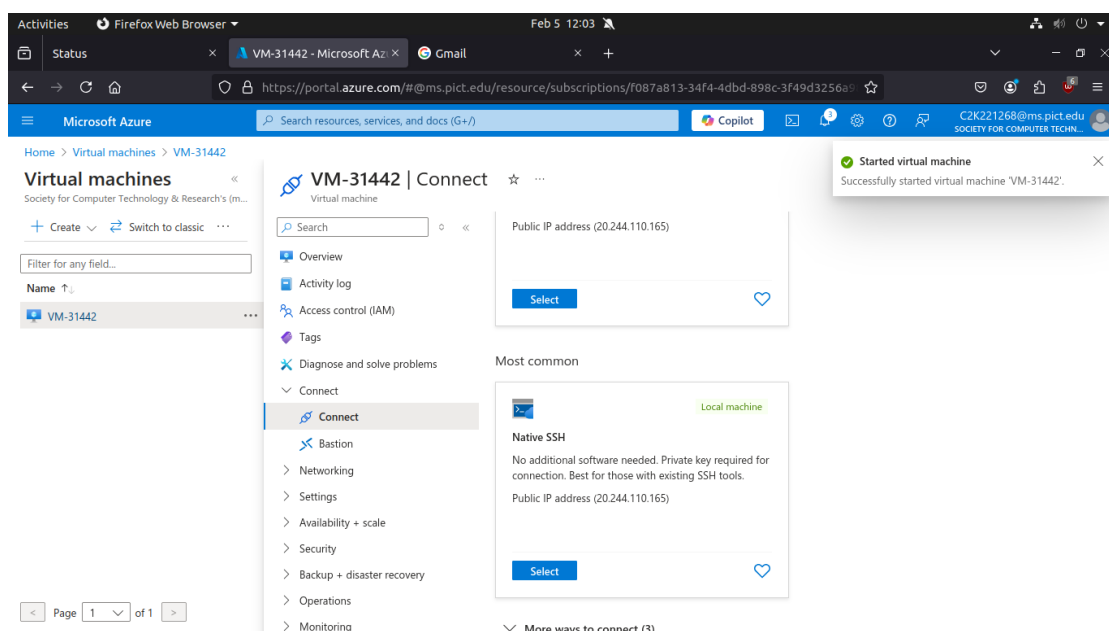
- Download the **private key** (or use an existing one) for accessing the VM.



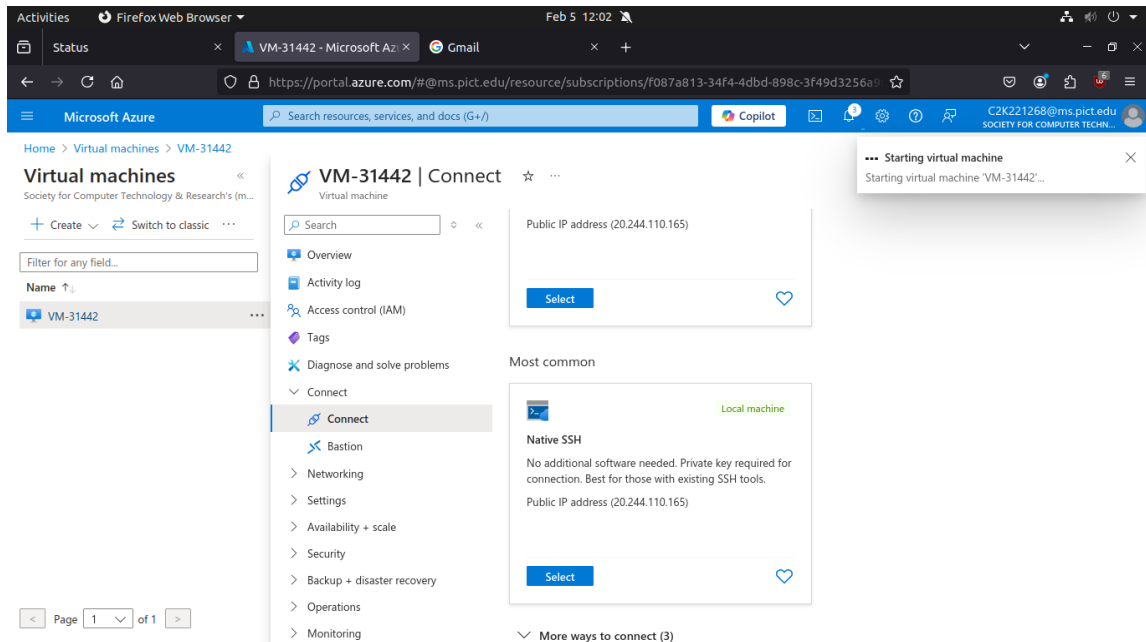
- Virtual Machine created successfully.

3. Access the Virtual Machine

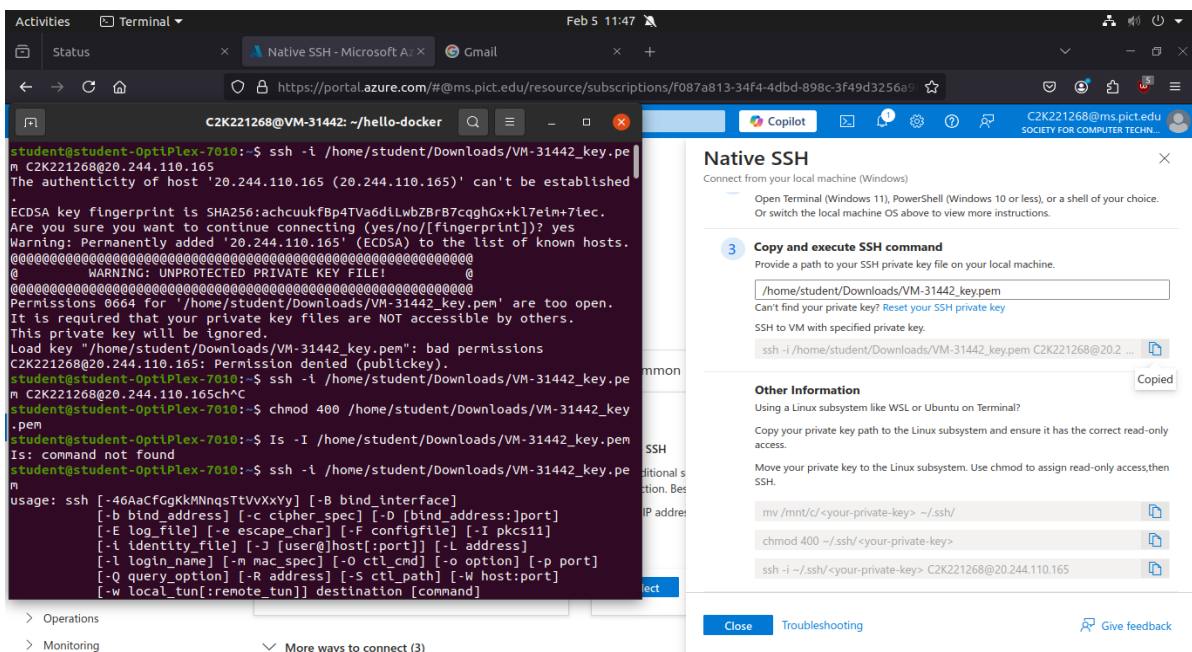
- Start virtual machine by clicking on “**Start**” button



- Choose Native SSH -> Select -> Connect



- Copy path of .pem file location paste to step 3 empty input
- Copy string from same step and paste to terminal.

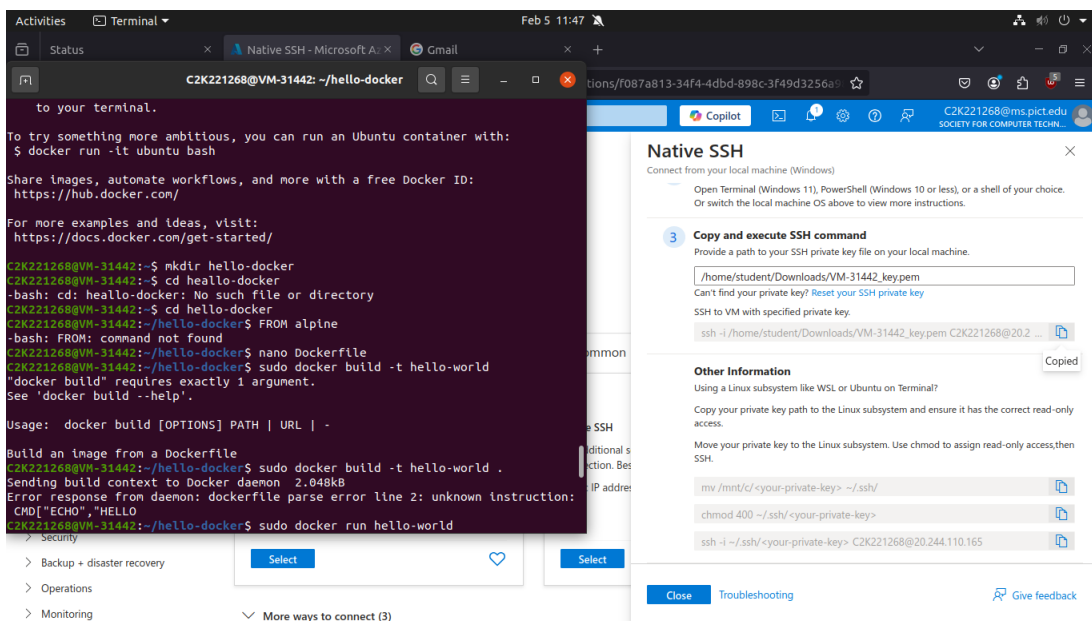


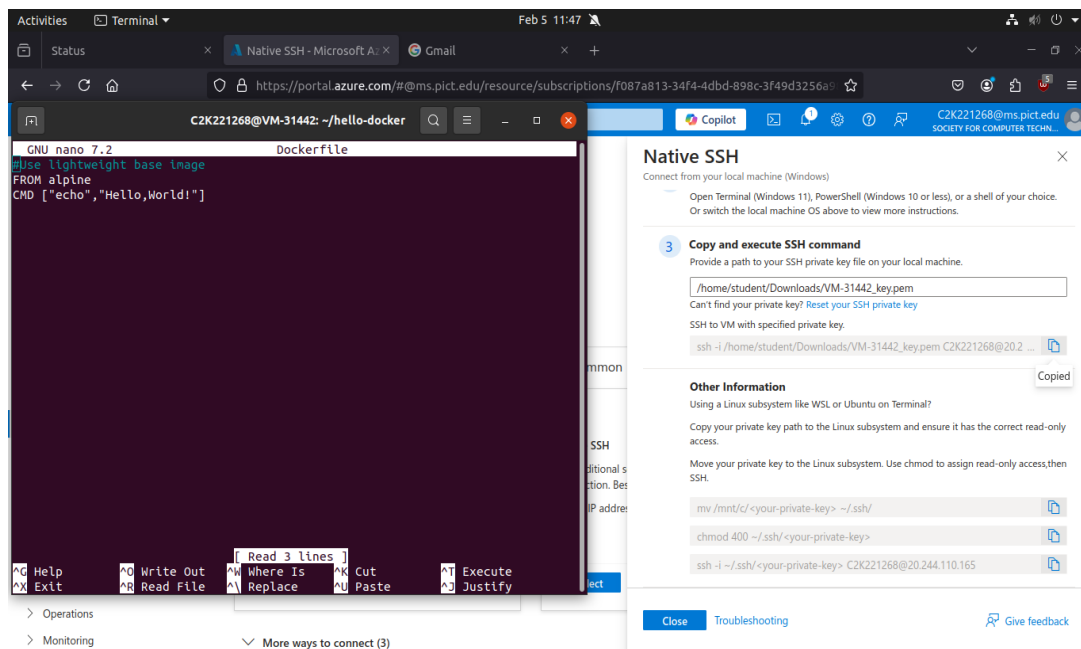
- **Execute following commands to run SSH:**

1. `chmod 400 /home/student/Downloads/VM_name`
2. `ls -l /home/student/Downloads/VM_name`
3. `ssh -i /home/student/Downloads/VM_name`
4. Paste copied string

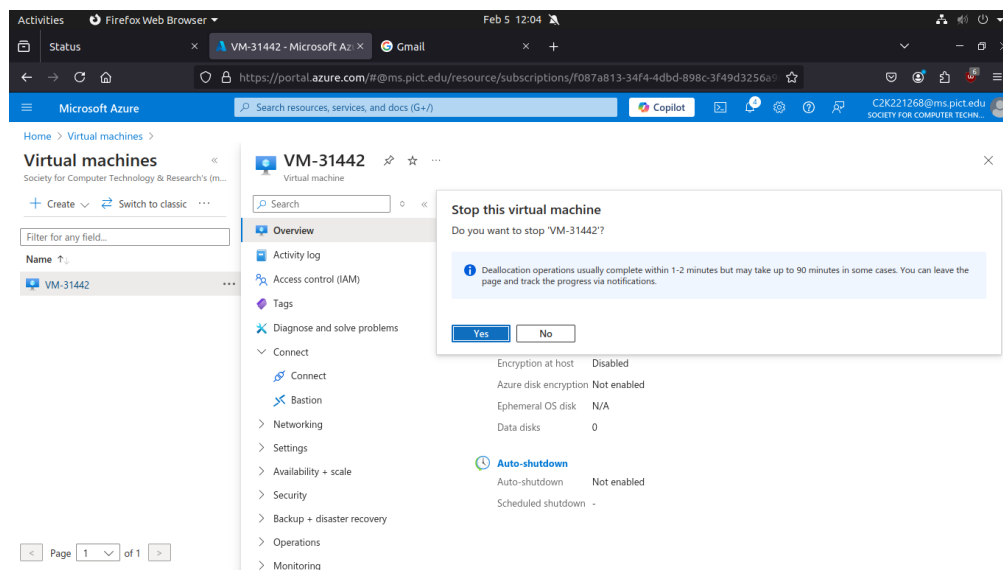
4 Install Docker on the Virtual Machine

- `sudo apt update`
- `sudo apt install docker.io`
- `sudo systemctl enable docker`
- `sudo systemctl start docker`
- `sudo docker --version`





- **STOP** the virtual machine.



Conclusion:

1. **Created an Azure VM:** We signed up for Azure, created a virtual machine with the free tier, and configured its settings.
2. **Installed Docker on the VM:** We installed Docker on the virtual machine to enable containerization.
3. **Transferred and Ran Program:** We transferred our program to the VM, created a Docker container, and ran the program inside the container.
4. **Stopped or Deleted VM:** Finally, we stopped or deleted the VM to prevent further costs, ensuring an efficient and cost-effective setup.