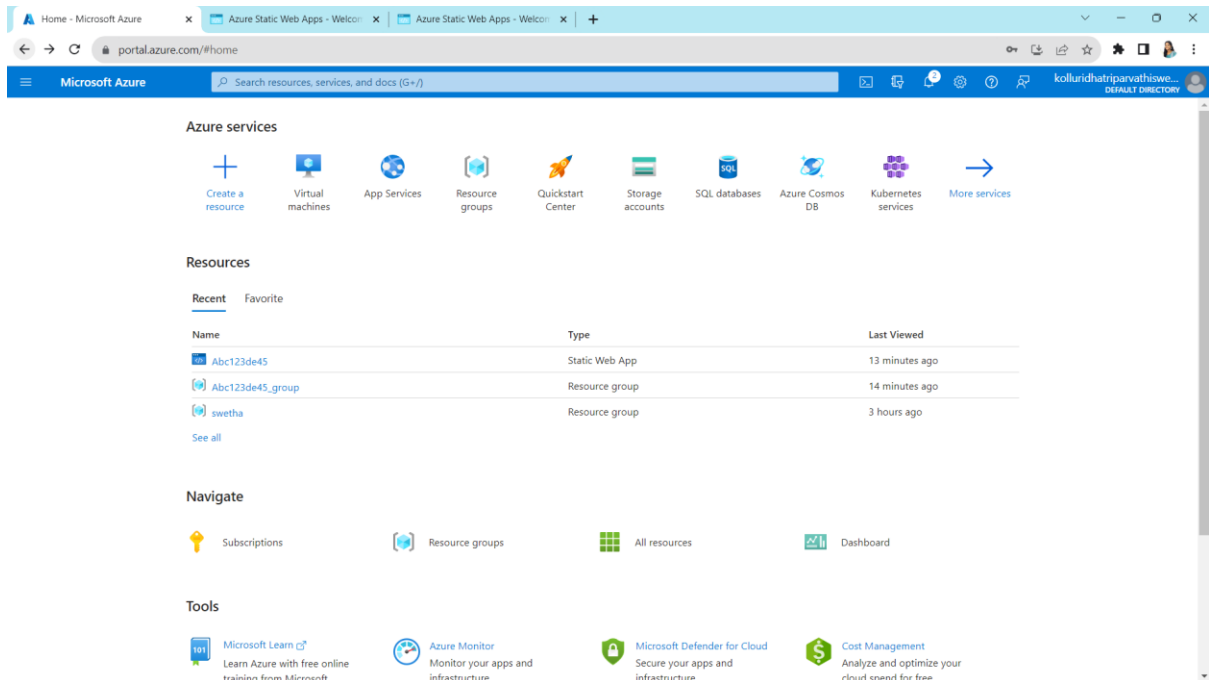


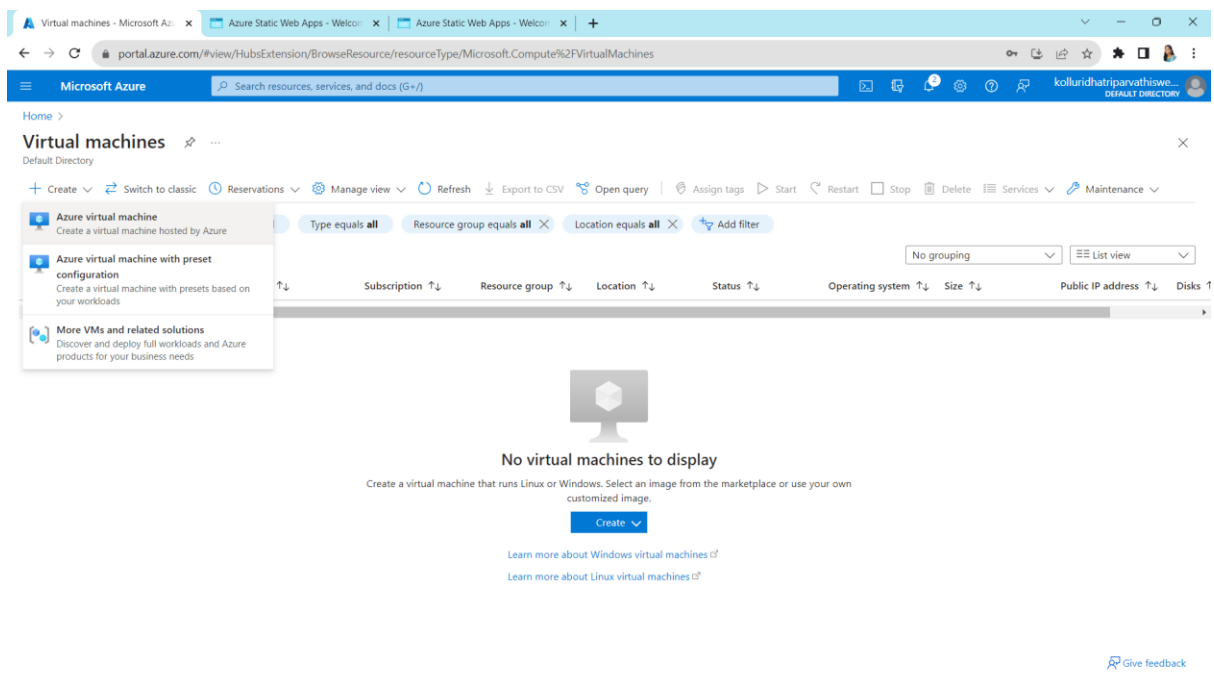
## EXPERIMENT 13

Demonstrate Infrastructure as a Service (IaaS) by establishing the remote connection, launch the created VM image and run in your desktop. first we can sign in into Azure

Select virtual machine to create a virtual machine



Click on create



## Fill up the given requirements

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Project details' tab. The page is titled 'Create a virtual machine' and includes a warning message: 'Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.' The 'Project details' section instructs the user to select a subscription to manage deployed resources and costs. The 'Instance details' section contains the following fields:

- Subscription: Azure for Students
- Resource group: swetha
- Virtual machine name: vm1
- Region: (Asia Pacific) South India
- Availability options: No infrastructure redundancy required
- Security type: Trusted launch virtual machines
- Image: Ubuntu Server 20.04 LTS - x64 Gen2
- VM architecture: v64

At the bottom, there are buttons for 'Review + create', '< Previous', and 'Next : Disks >'. A feedback link 'Give feedback' is also present.

## Change the disc size and click on next

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Disks' tab. The 'Disks' tab is highlighted in the navigation bar. The 'OS disk' section contains the following fields:

- OS disk size: 32 GiB (P4)
- OS disk type: Premium SSD (locally-redundant storage)
- Delete with VM: ☒
- Key management: Platform-managed key

At the bottom, there are buttons for 'Review + create', '< Previous', and 'Next : Networking >'. A feedback link 'Give feedback' is also present.

Click on next

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal. The 'Networking' tab is selected, and the 'Basic' radio button is chosen for the NIC network security group. The 'Public inbound ports' are set to 'Allow selected ports', with 'SSH (22)' selected in the dropdown. A warning message states: 'This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.' The 'Delete public IP and NIC when VM is deleted' checkbox is unchecked, and 'Enable accelerated networking' is checked. The 'Load balancing' section shows 'None' selected for load balancing options. At the bottom, the 'Review + create' button is highlighted.

Click on next

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, with the 'Management' tab selected. The 'Management' tab is highlighted with a red box. The 'Microsoft Defender for Cloud' section shows a green checkmark indicating that the subscription is protected by the Microsoft Defender for Cloud basic plan. The 'Identity' section shows 'Enable system assigned managed identity' as unchecked. The 'Azure AD' section shows 'Login with Azure AD' as unchecked, with a note about RBAC role assignment. The 'Auto-shutdown' section shows 'Enable auto-shutdown' as unchecked. At the bottom, the 'Review + create' button is highlighted.

## Click on next

The screenshot shows the 'Monitoring' tab of the 'Create a virtual machine' wizard in the Microsoft Azure portal. The breadcrumb navigation is 'Home > Virtual machines > Create a virtual machine'. The tabs are 'Basics', 'Disks', 'Networking', 'Management', 'Monitoring' (selected), 'Advanced', 'Tags', and 'Review + create'. The 'Monitoring' tab is highlighted with a red box. The content area is titled 'Configure monitoring options for your VM.' and includes sections for 'Alerts' and 'Diagnostics'. Under 'Alerts', there is a checkbox for 'Enable recommended alert rules' which is currently unchecked. Under 'Diagnostics', there is a section for 'Boot diagnostics' with three radio button options: 'Enable with managed storage account (recommended)' (selected), 'Enable with custom storage account', and 'Disable'. There is also a checkbox for 'Enable OS guest diagnostics' which is unchecked. At the bottom, there are three buttons: 'Review + create' (blue), '< Previous' (grey), and 'Next : Advanced >' (grey). A 'Give feedback' link is also present.

Create a virtual machine - Micro x +

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

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

Home > Virtual machines > Create a virtual machine ...

Basics Disks Networking Management **Monitoring** Advanced Tags Review + create

Configure monitoring options for your VM.

**Alerts**

Enable recommended alert rules ☐

**Diagnostics**

Boot diagnostics ☒ Enable with managed storage account (recommended)  
☐ Enable with custom storage account  
☐ Disable

Enable OS guest diagnostics ☐

Review + create < Previous Next : Advanced >

Give feedback

## Click on next

The screenshot shows the 'Advanced' tab of the 'Create a virtual machine' wizard in the Microsoft Azure portal. The breadcrumb navigation is 'Home > Virtual machines > Create a virtual machine'. The tabs are 'Basics', 'Disks', 'Networking', 'Management', 'Monitoring', 'Advanced' (selected), 'Tags', and 'Review + create'. The 'Advanced' tab is highlighted with a red box. The content area is titled 'Add additional configuration, agents, scripts or applications via virtual machine extensions or cloud-init.' and includes sections for 'Extensions', 'VM applications', and 'Custom data and cloud init'. Under 'Extensions', there is a link 'Select an extension to install'. Under 'VM applications', there is a link 'Select a VM application to install'. Under 'Custom data and cloud init', there is a text area for 'Custom data'. At the bottom, there are three buttons: 'Review + create' (blue), '< Previous' (grey), and 'Next : Tags >' (grey). A 'Give feedback' link is also present.

Create a virtual machine - Micro x +

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

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

Home > Virtual machines > Create a virtual machine ...

Basics Disks Networking Management Monitoring **Advanced** Tags Review + create

Add additional configuration, agents, scripts or applications via virtual machine extensions or cloud-init.

**Extensions**

Extensions provide post-deployment configuration and automation.

Extensions [Select an extension to install](#)

**VM applications**

VM applications contain application files that are securely and reliably downloaded on your VM after deployment. In addition to the application files, an install and uninstall script are included in the application. You can easily add or remove applications on your VM after create. [Learn more](#)

[Select a VM application to install](#)

**Custom data and cloud init**

Pass a cloud-init script, configuration file, or other data into the virtual machine **while it is being provisioned**. The data will be saved on the VM in a known location. [Learn more about custom data for VMs](#)

Custom data

Review + create < Previous Next : Tags >

Give feedback

Give some names and values and click on next

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal. The 'Tags' tab is selected, displaying a table for adding tags. The table has three columns: 'Name', 'Value', and 'Resource'. There are three rows of input fields. The first row has 'cloud' in the Name column, '123' in the Value column, and 'All resources' in the Resource column. The second row has 'computing' in the Name column, '456' in the Value column, and '13 selected' in the Resource column. The third row has empty fields for Name and Value, and '13 selected' in the Resource column. Below the table, there are buttons for 'Review + create', '< Previous', and 'Next: Review + create >'. A 'Give feedback' link is also present.

Name	Value	Resource
cloud	123	All resources
computing	456	13 selected
		13 selected

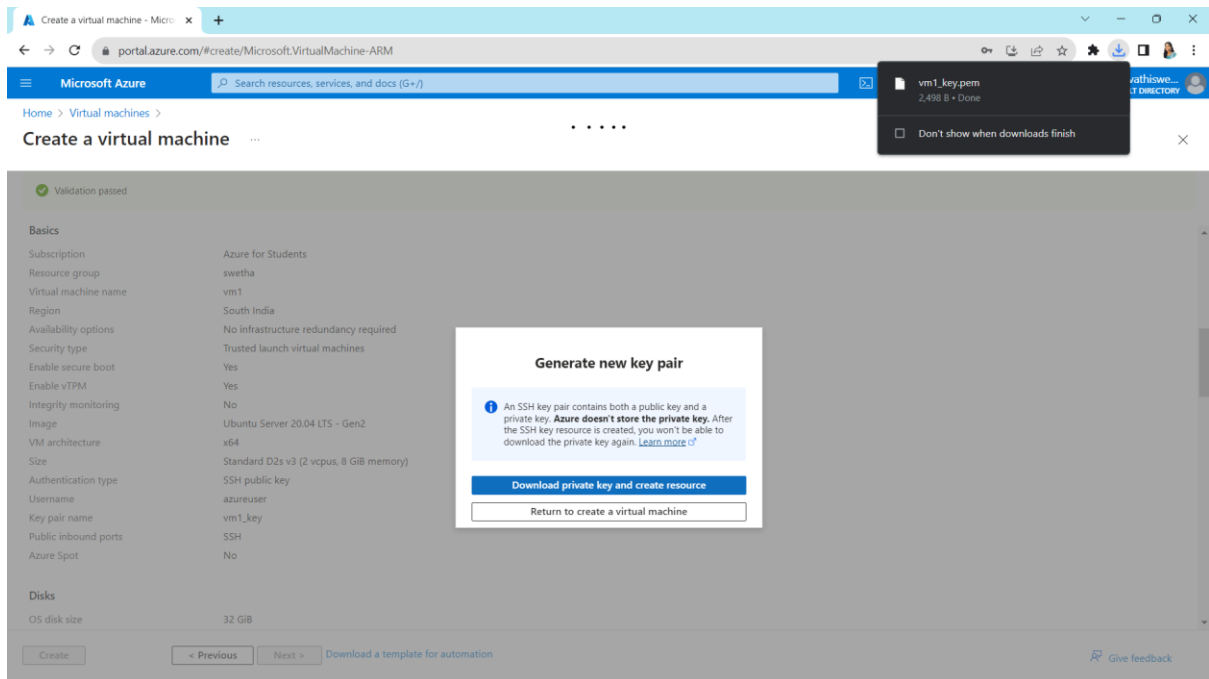
It shows our summary

The screenshot shows the 'Review + create' page in the Microsoft Azure portal. A green banner at the top indicates 'Validation passed'. Below this, the 'Basics' section lists various configuration details in a table. The 'Disks' section shows the OS disk size as 32 GiB. At the bottom, there are buttons for 'Create', '< Previous', and 'Next >', along with a link to 'Download a template for automation'. A 'Give feedback' link is also present.

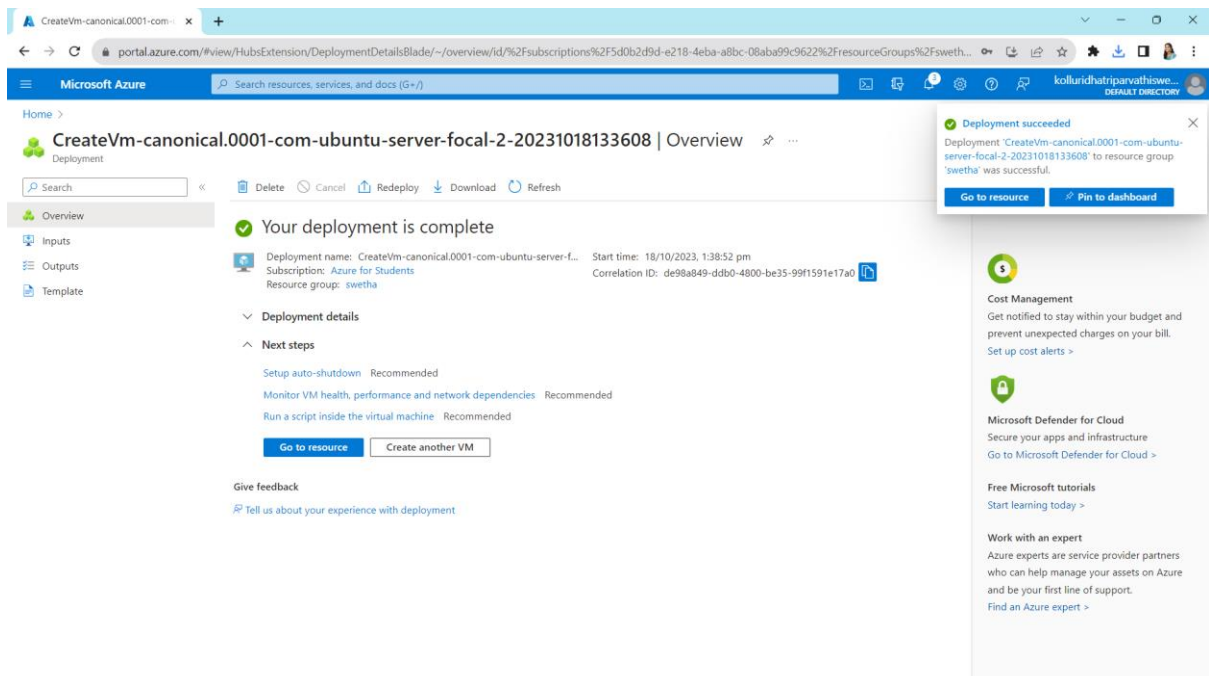
Basics	
Subscription	Azure for Students
Resource group	swetha
Virtual machine name	vm1
Region	South India
Availability options	No infrastructure redundancy required
Security type	Trusted launch virtual machines
Enable secure boot	Yes
Enable vTPM	Yes
Integrity monitoring	No
Image	Ubuntu Server 20.04 LTS - Gen2
VM architecture	x64
Size	Standard D2s v3 (2 vcpus, 8 GiB memory)
Authentication type	SSH public key
Username	azureuser
Key pair name	vm1_key
Public inbound ports	SSH
Azure Spot	No

Disks	
OS disk size	32 GiB

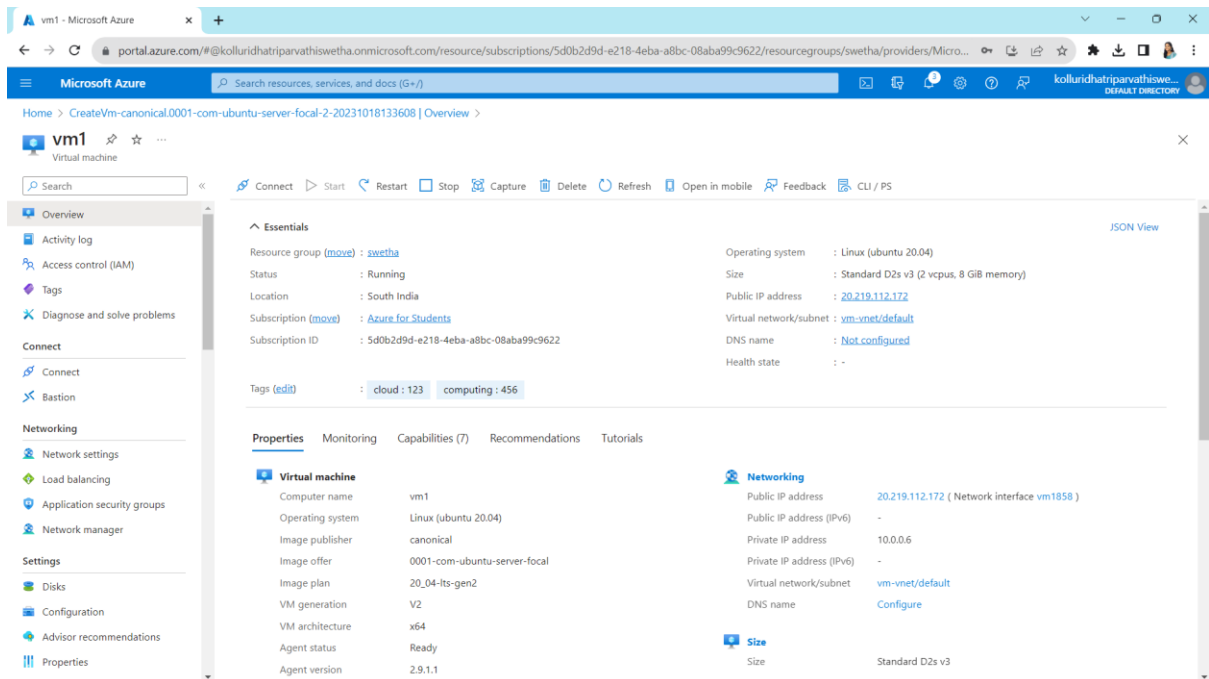
Click on create and it asks to download click on download



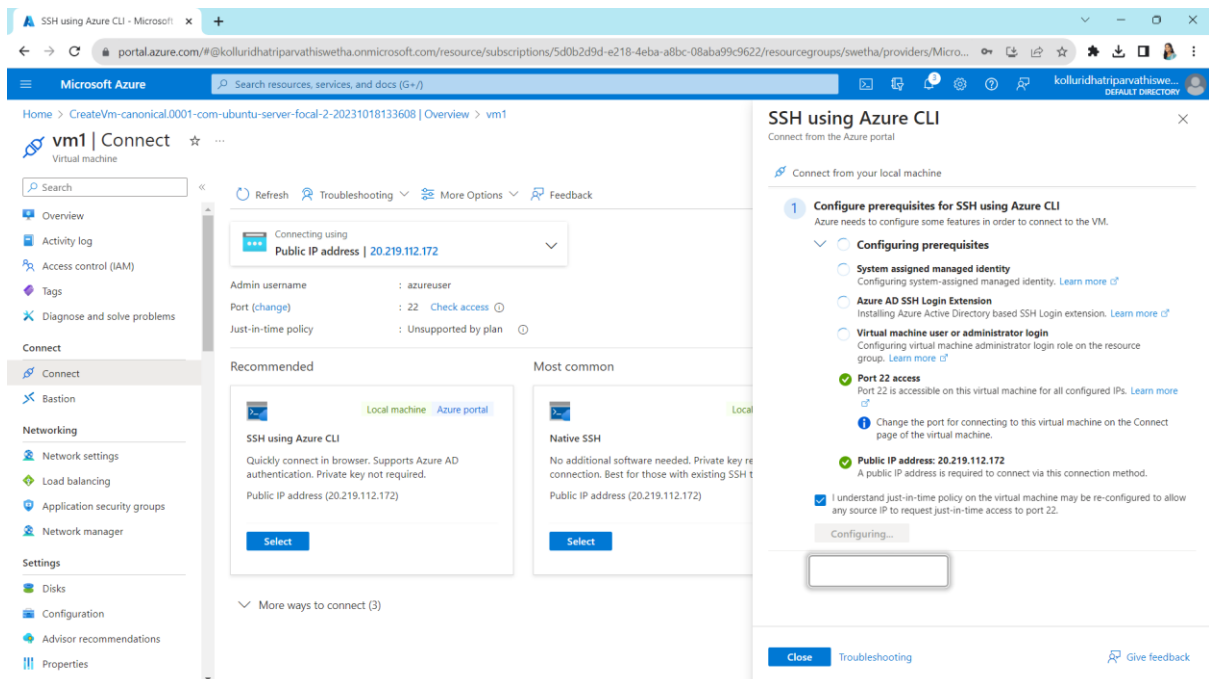
Our required virtual machine is created



Click on connect

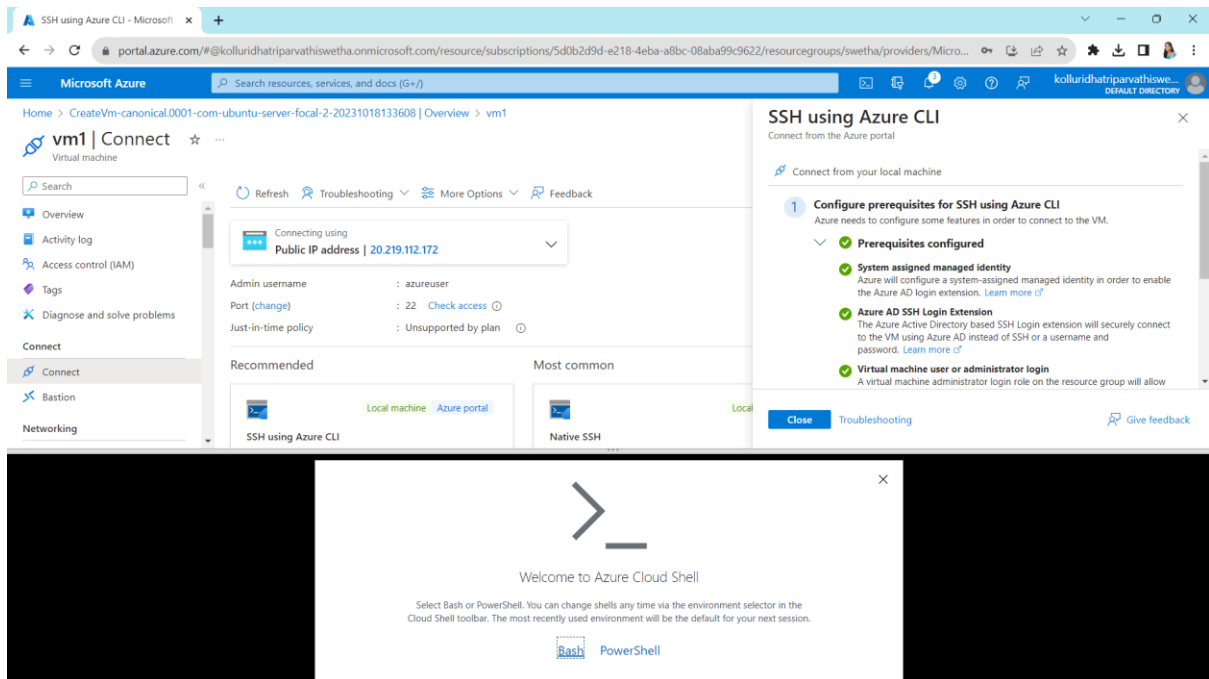


It will loaded and appears like this

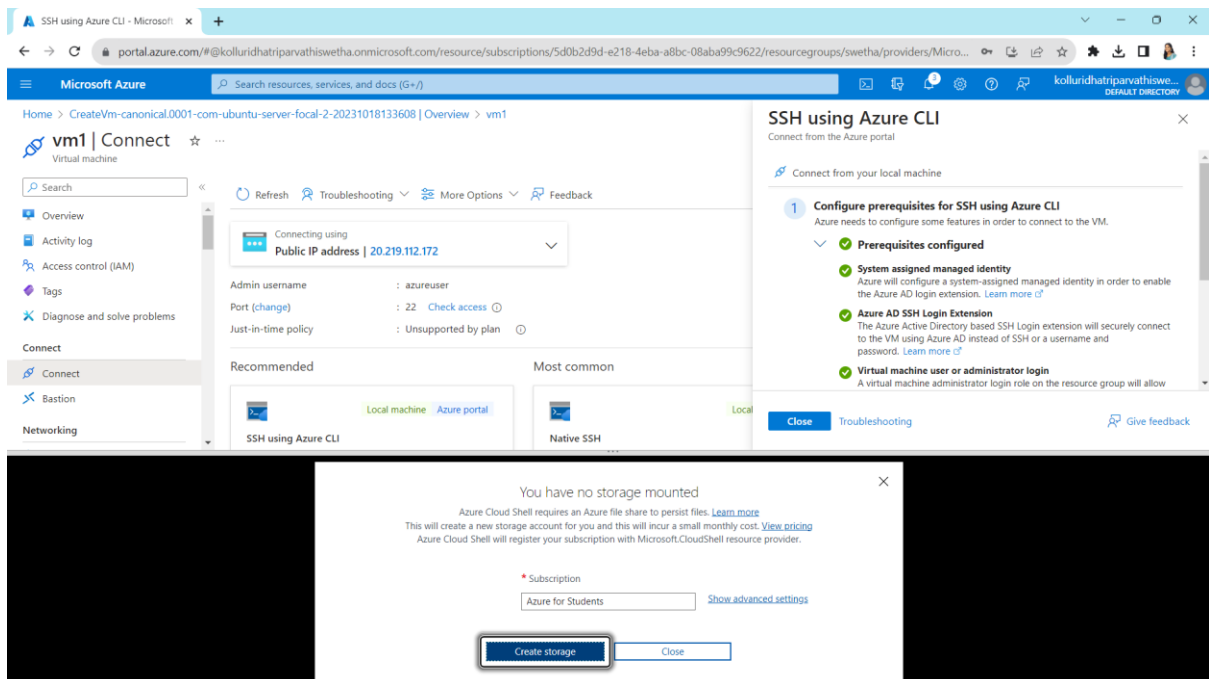


And then close

Click on bash which is on bottom



Click on create storage





## Finally established the remote connection

SSH using Azure CLI - Microsoft

portal.azure.com/#@kolluridhatiparvathiswetha.onmicrosoft.com/resource/subscriptions/5d0b2d9d-e218-4eba-a8bc-08aba99c9622/resourcegroups/swetha/providers/Micro...

Microsoft Azure

Home > CreateVm-canonical.0001-com-ubuntu-server-focal-2-20231018133608 | Overview > vm1

vm1 | Connect

Virtual machine

Search

Refresh Troubleshooting More Options Feedback

Connecting using Public IP address | 20.219.112.172

Admin username : azureuser

Port (change) : 22 Check access

Just-in-time policy : Unsupported by plan

Recommended Most common

SSH using Azure CLI Local machine Azure portal

SSH using Azure CLI Native SSH

SSH using Azure CLI

Connect from the Azure portal

Connect from your local machine

1 Configure prerequisites for SSH using Azure CLI

Azure needs to configure some features in order to connect to the VM.

Prerequisites configured

- System assigned managed identity
- Azure AD SSH Login Extension
- Virtual machine user or administrator login

Close Troubleshooting Give feedback

Bash

Requesting a Cloud Shell.Succeeded.  
Connecting terminal...

Welcome to Azure Cloud Shell

Type "az" to use Azure CLI  
Type "help" to learn about Cloud Shell

az ssh vm --resource-group swetha --vm-name vm1 --subscription 5d0b2d9d-e218-4eba-a8bc-08aba99c9622

Storage fileshare subscription 5d0b2d9d-e218-4eba-a8bc-08aba99c9622 is not registered to Microsoft.CloudShell Namespace. Please follow these instructions "https://aka.ms/RegisterCloudShell" to register. In future, unregistered subscriptions will have restricted access to CloudShell service.

swetha [ ~ ]\$ az ssh vm --resource-group swetha --vm-name vm1 --subscription 5d0b2d9d-e218-4eba-a8bc-08aba99c9622

OpenSSH 8.9p1, OpenSSL 1.1.1k FIPS 25 Mar 2021