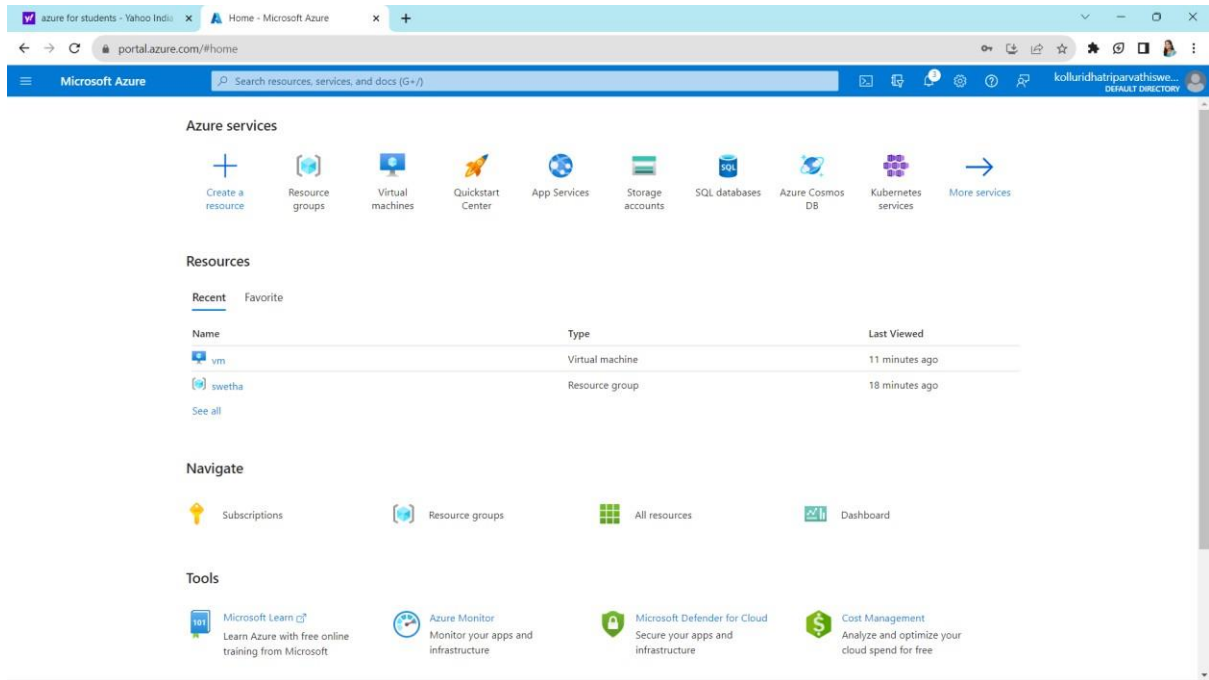


EXPERIMENT 12

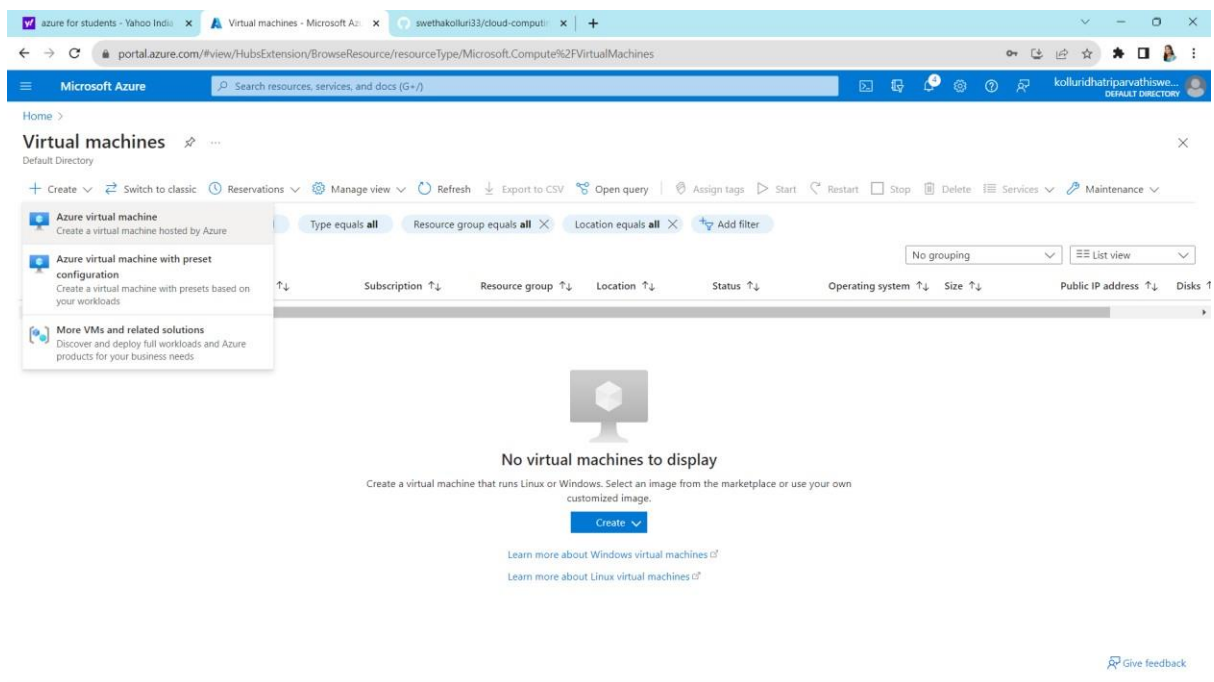
Demonstrate Infrastructure as a Service (IaaS) by creating a Virtual Machine using a Public Cloud Service Provider (Azure), configure with required memory and CPU.

first we can sign in into Azure

home page will appears like this now click on virtual machines



Now click on virtual machines select azure virtual machine and then click on create



Fill up the requirements

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal. The page is divided into two main sections: 'Project details' and 'Instance details'.

Project details

- Subscription ***: Azure for Students
- Resource group ***: swetha

Instance details

- Virtual machine name ***: virtualmachine
- 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**: x64
- Run with Azure Spot discount**: ☐

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

Select password and give a strong password after that click on next

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Administrator account' and 'Inbound port rules' sections.

Administrator account

- Authentication type**: ☒ Password
- Username ***: swetha2004
- Password ***: [Redacted]
- Confirm password ***: [Redacted]

Inbound port rules

- Public inbound ports ***: ☒ Allow selected ports
- Select inbound ports ***: SSH (22)

A blue information box states: "All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page."

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

Click on next

The screenshot shows the 'Create a virtual machine' wizard in the Azure portal. The 'OS disk' section is active, showing a 32 GiB (P4) disk size and Premium SSD storage type. A warning message states: 'Encryption at host is not registered for the selected subscription. Learn more about enabling this feature.' Below the disk settings, there's a section for 'Data disks for virtual machine' with a table for LUN, Name, Size (GiB), Disk type, Host caching, and Delete with VM. At the bottom, there are 'Review + create', '< Previous', and 'Next: Networking >' buttons.

Encryption at host is not registered for the selected subscription. [Learn more about enabling this feature](#)

OS disk

OS disk size 32 GiB (P4)

Some images are, by default, smaller than the selected OS disk size. [Click here to learn how to expand your disk partition size after you create your VM.](#)

OS disk type * Premium SSD (locally-redundant storage)

Delete with VM ☒

Key management Platform-managed key

Enable Ultra Disk compatibility ☐ Ultra disk is not supported with selected security type.

Data disks for virtual machine

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM
-----	------	------------	-----------	--------------	----------------

[Create and attach a new disk](#) [Attach an existing disk](#)

[Review + create](#) [< Previous](#) [Next: Networking >](#) [Give feedback](#)

Check the details and click on next

The screenshot shows the 'Networking' step of the 'Create a virtual machine' wizard. The 'Public inbound ports' section is active, with 'Allow selected ports' selected and 'SSH (22)' chosen. 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.' Below, there are checkboxes for 'Delete public IP and NIC when VM is deleted' and 'Enable accelerated networking'. The 'Load balancing' section shows 'None' selected. At the bottom, there are 'Review + create', '< Previous', and 'Next: Management >' buttons.

Public inbound ports * ☐ None ☒ Allow selected ports

Select inbound ports * SSH (22)

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.

Delete public IP and NIC when VM is deleted ☐

Enable accelerated networking ☒

Load balancing

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Load balancing options ☒ None ☐ Azure load balancer Supports all TCP/UDP network traffic, port-forwarding, and outbound flows. ☐ Application gateway Web traffic load balancer for HTTP/HTTPS with URL-based routing, SSL termination, session persistence, and web application firewall.

[Review + create](#) [< Previous](#) [Next: Management >](#) [Give feedback](#)

Click on next

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal. The browser tabs include 'azure for students - Yahoo India', 'Create a virtual machine - Micro', and 'swethakoluri33/cloud-computi'. The URL is 'portal.azure.com/#create/Microsoft.VirtualMachine-ARM'. The page title is 'Create a virtual machine'. A message states: 'your subscription is protected by Microsoft Defender for Cloud basic plan.' The 'Identity' section has 'Enable system assigned managed identity' set to 'Off'. The 'Azure AD' section has 'Login with Azure AD' set to 'Off', with a note: 'RBAC role assignment of Virtual Machine Administrator Login or Virtual Machine User Login is required when using Azure AD login. Learn more.' The 'Auto-shutdown' section has 'Enable auto-shutdown' set to 'Off'. The 'Backup' section has 'Enable backup' set to 'Off'. The 'Guest OS updates' section has 'Patch orchestration options' set to 'Image default', with a note: 'Some patch orchestration options are not available for this image. Learn more.' At the bottom, there is a 'Review + create' button, a '< Previous' button, and a 'Next: Monitoring >' button. A 'Give feedback' link is also present.

Click on next

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal, specifically the 'Monitoring' tab. The browser tabs and URL are the same as the previous screenshot. The page title is 'Create a virtual machine'. The 'Basics' tab is selected, and the 'Monitoring' tab is active. The 'Configure monitoring options for your VM.' section includes: 'Alerts' with 'Enable recommended alert rules' set to 'Off'; 'Diagnostics' with 'Boot diagnostics' set to 'Enable with managed storage account (recommended)', and 'Enable OS guest diagnostics' set to 'Off'. At the bottom, there is a 'Review + create' button, a '< Previous' button, and a 'Next: Advanced >' button. A 'Give feedback' link is also present.

Click on next

The screenshot shows the 'Create a virtual machine' page in the Microsoft Azure portal. The page is titled 'Create a virtual machine' and has a breadcrumb trail 'Home > Virtual machines >'. The page is divided into several sections: 'Performance (NVMe)', 'Host', 'Capacity reservations', and 'Proximity placement group'. The 'Host' section is currently selected, showing a dropdown menu for 'Host group' with the value 'No host groups found'. The 'Capacity reservations' section shows a dropdown menu for 'Capacity reservation group' with the value 'None'. The 'Proximity placement group' section shows a dropdown menu for 'Proximity placement group' with the value 'No proximity placement groups found'. At the bottom of the page, there are buttons for 'Review + create', '< Previous', and 'Next: Tags >'. A 'Give feedback' link is also present in the bottom right corner.

Home > Virtual machines >

Create a virtual machine

Performance (NVMe)
Enable capabilities to enhance the performance of your resources.
Higher remote disk storage performance with NVMe ☐
The selected size is not supported for NVMe. [See supported size families](#)

Host
Azure Dedicated Hosts allow you to provision and manage a physical server within our data centers that are dedicated to your Azure subscription. A dedicated host gives you assurance that only VMs from your subscription are on the host, flexibility to choose VMs from your subscription that will be provisioned on the host, and the control of platform maintenance at the level of the host. [Learn more](#)

Host group

Capacity reservations
Capacity reservations allow you to reserve capacity for your virtual machine needs. You get the same SLA as normal virtual machines with the security of reserving the capacity ahead of time. [Learn more](#)

Capacity reservation group

Proximity placement group
Proximity placement groups allow you to group Azure resources physically closer together in the same region. [Learn more](#)

Proximity placement group

[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, specifically the 'Tags' section. The page has a breadcrumb trail 'Home > Virtual machines >'. The 'Tags' section is currently selected, showing a table with columns 'Name', 'Value', and 'Resource'. The table contains three rows: 'cloud' with value '123' and resource 'All resources', 'computing' with value '456' and resource 'All resources', and 'big data' with value '789' and resource '13 selected'. There are also empty rows for adding new tags. At the bottom of the page, there are buttons for 'Review + create', '< Previous', and 'Next: Review + create >'. A 'Give feedback' link is also present in the bottom right corner.

Home > Virtual machines >

Create a virtual machine

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

Tags are name/value pairs that enable you to categorize resources and view consolidated billing by applying the same tag to multiple resources and resource groups. [Learn more about tags](#)

Note that if you create tags and then change resource settings on other tabs, your tags will be automatically updated.

Name	Value	Resource
cloud	123	All resources
computing	456	All resources
big data	789	13 selected
		13 selected

[Review + create](#) [Previous](#) [Next: Review + create >](#) [Give feedback](#)

Click on create which is on left side bottom

Validation passed

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

Cost given below is an estimate and not the final price. Please use [Pricing calculator](#) for all your pricing needs.

Price

1 X Standard D2s v3
by Microsoft
[Terms of use](#) | [Privacy policy](#)

Subscription credits apply ⓘ
10.6022 INR/hr
[Pricing for other VM sizes](#)

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

Name:

Preferred e-mail address:

[Create](#) [Previous](#) [Next](#) [Download a template for automation](#) [Give feedback](#)

Click on got resources

Home > **CreateVm-canonical.0001-com-ubuntu-server-focal-2-20231018104528** | Overview

Deployment

Search << Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

Your deployment is complete

Deployment name: CreateVm-canonical.0001-com-ubuntu-server-f... Start time: 18/10/2023, 10:53:38 am
Subscription: Azure for Students Correlation ID: 82b18ccb-5cb2-4421-ab19-c6efc956484b ⓘ
Resource group: swetha

Deployment details

Resource	Type	Status	Operation details
virtualmachine	Microsoft.Compute/virtualMachines	OK	Operation details
virtualmachine780	Microsoft.Network/networkInterfa...	Created	Operation details
virtualmachine-nsg	Microsoft.Network/networkSecuri...	OK	Operation details
virtualmachine-ip	Microsoft.Network/publicIpAddre...	OK	Operation details

Next steps

[Setup auto-shutdown](#) Recommended

[Monitor VM health, performance and network dependencies](#) Recommended

[Run a script inside the virtual machine](#) Recommended

[Go to resource](#) [Create another VM](#)

Give feedback

[Tell us about your experience with deployment](#)

Cost Management
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Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.
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It shows all you listed before

The screenshot displays the Azure portal interface for a virtual machine. The left sidebar contains navigation options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Connect, Networking, Settings, and Properties. The main content area shows the 'Essentials' tab for the 'virtualmachine' resource. Key details include: Resource group: swetha, Status: Running, Location: South India, Subscription: Azure for Students, Subscription ID: 5d0b2d9d-e218-4eba-a8bc-08aba99c9622, Tags: cloud: 123, computing: 456, big data: 789. The 'Properties' tab is also visible, showing details about the virtual machine's configuration, including the operating system (Linux (ubuntu 20.04)), image publisher (canonical), image offer (0001-com-ubuntu-server-focal), image plan (20_04-lts-gen2), VM generation (V2), VM architecture (x64), agent status (Ready), and agent version (2.9.1.1). The 'Networking' tab shows the public IP address (20.235.162.247) and the virtual network/subnet (vm-vnet/default).

Go to home created virtual machine is appears at home page

The screenshot shows the Azure portal home page. The 'Azure services' section includes links to various services like Virtual machines, Resource groups, Quickstart Center, App Services, Storage accounts, SQL databases, Azure Cosmos DB, and Kubernetes services. The 'Resources' section has a 'Recent' tab that lists the following resources:

Name	Type	Last Viewed
virtualmachine	Virtual machine	a minute ago
swetha	Resource group	3 minutes ago
vm	Virtual machine	57 minutes ago

The 'Navigate' section provides links to Subscriptions, Resource groups, All resources, and Dashboard. The 'Tools' section includes links to Microsoft Learn, Azure Monitor, Microsoft Defender for Cloud, and Cost Management.