

CSA1518-CLOUD COMPUTING AND BIG DATA ANALYTICS

D.SWAROOPA RANI

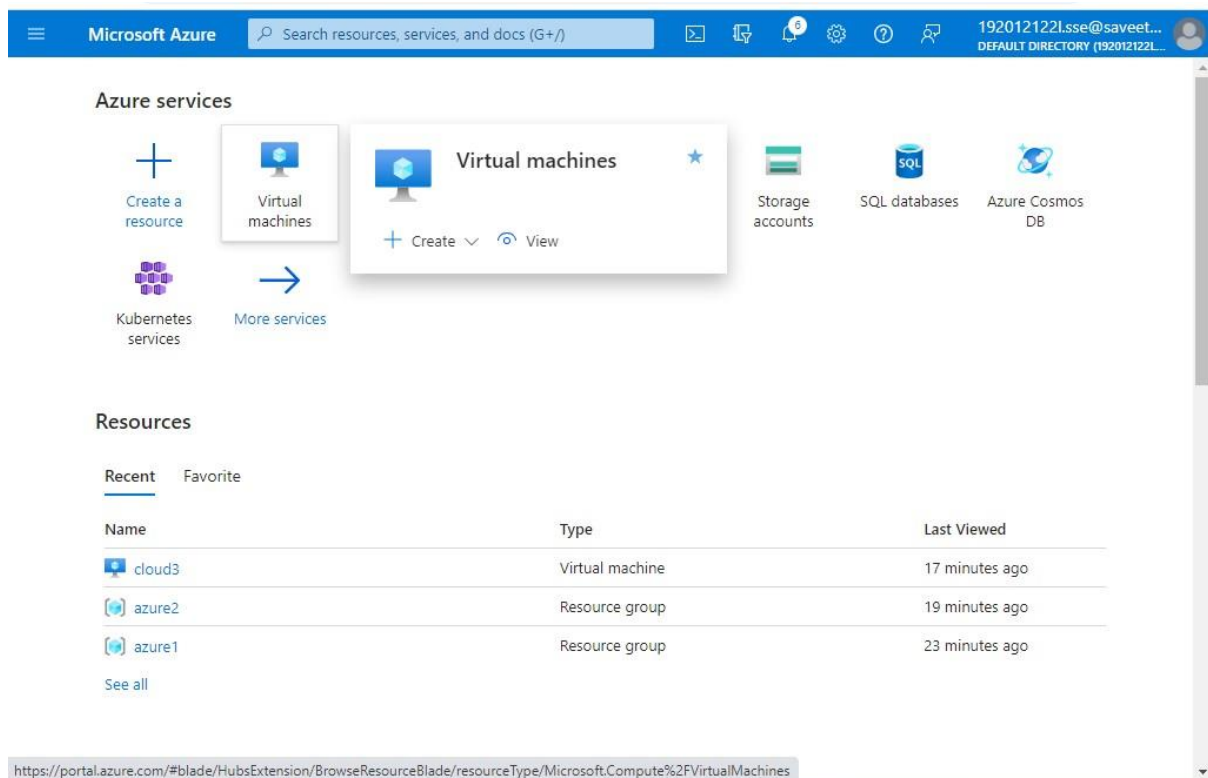
192011070

EXPERIMENT:13

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

IMPLEMENTATION:

STEP 1:SELECT VIRTUAL MACHINE



The screenshot shows the Microsoft Azure portal interface. At the top, there's a navigation bar with the 'Microsoft Azure' logo, a search bar, and user information for '192012122L.sse@saveet...'. Below the navigation bar, the 'Azure services' section is visible, with 'Virtual machines' highlighted and a 'Create' button. Other services like 'Storage accounts', 'SQL databases', and 'Azure Cosmos DB' are also shown. The 'Resources' section below lists recent resources:

| Name | Type | Last Viewed |
|--------|-----------------|----------------|
| cloud3 | Virtual machine | 17 minutes ago |
| azure2 | Resource group | 19 minutes ago |
| azure1 | Resource group | 23 minutes ago |

The URL at the bottom of the page is <https://portal.azure.com/#blade/HubsExtension/BrowseResourceBlade/resourceType/Microsoft.Compute%2FVirtualMachines>.

STEP 2:CLICK ON CREATE

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

Home >

Virtual machines

Default Directory (1920121221sssaveetha.onmicrosoft.com)

+ Create Switch to classic Reservations Manage view Refresh Export to CSV Open query Assign tags

Filter for any field... Subscription equals all Type equals all Add filter More (2)

Showing 1 to 1 of 1 records. No grouping List view

| Name | Type | Subscription | Resource group | Location | Status | Operating s |
|--------|-----------------|--------------------|----------------|---------------|-----------------------|-------------|
| cloud3 | Virtual machine | Azure for Students | azure1 | Central India | Stopped (deallocated) | Linux |

< Previous Page 1 of 1 Next > Give feedback

STEP 3:SELECT AZURE VIRTUAL MACHINE

Home >

Virtual machines

Default Directory (1920121221sssaveetha.onmicrosoft.com)

+ Create Switch to classic Reservations Manage view Refresh Export to CSV Open query Assign tags

Type equals all Add filter More (2)

No grouping List view

| Subscription | Resource group | Location | Status | Operating : |
|--------------------|----------------|---------------|-----------------------|-------------|
| Azure for Students | azure1 | Central India | Stopped (deallocated) | Linux |

Azure virtual machine
Create a virtual machine hosted by Azure

Azure virtual machine with preset configuration
Create a virtual machine with presets based on your workloads

Azure Arc virtual machine
Create a new Azure Arc virtual machine in one of your non-Azure environments

Azure VMware Solution virtual machine
Create a VMware virtual machine hosted by Azure

< Previous Page 1 of 1 Next > Give feedback

STEP 4:FILL THE DETAILS IN MANDATORY COLUMNS

Microsoft Azure

Search resources, services, and docs (G+)

1920121221.sse@saveet...
DEFAULT DIRECTORY (1920121221...

Home > Virtual machines >

Create a virtual machine

Project details

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 *

azure2

Create new

Instance details

Virtual machine name *

cloud4

Region *

(Asia Pacific) South India

Availability options

No infrastructure redundancy required

Security type

Trusted launch virtual machines

Configure security features

Image *

Ubuntu Server 20.04 LTS - x64 Gen2

See all images | Configure VM generation

Review + create

< Previous

Next : Disks >

Give feedback

Microsoft Azure

Search resources, services, and docs (G+)

1920121221.sse@saveet...
DEFAULT DIRECTORY (1920121221...

Home > Virtual machines >

Create a virtual machine

See all sizes

Administrator account

Authentication type

SSH public key

☒ Password

Username *

Mrudula1807

Password *

.....

Confirm password *

.....

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports *

None

☒ Allow selected ports

Select inbound ports *

SSH (22)

Review + create

< Previous

Next : Disks >

Give feedback

STEP 5:CLICK ON NETWORKING

Microsoft Azure

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

6

1920121221.sse@saveet...
DEFAULT DIRECTORY (1920121221...

[Home](#) > [Virtual machines](#) >

Create a virtual machine

OS disk

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 cloud4

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 | | | | |

Advanced

Review + create

< Previous

Next : Networking >

Give feedback

CREATE DISK

Home

 >

Virtual machines

 >

Create a virtual machine

 >

Create a new disk

Create a new disk to store applications and data on your VM. Disk pricing varies based on factors including disk size, storage type, and number of transactions. [Learn more](#)

Name *

cloud4_DataDisk_0

Source type * ⓘ

None (empty disk) ▼

Size * ⓘ

64 GiB

Premium SSD LRS

[Change size](#)

Key management ⓘ

Platform-managed key ▼

Enable shared disk

☐ Yes ☒ No

Delete disk with VM

☐

OK

STEP 6:CLICK NEXT: MANAGEMENT

[Home](#) > [Virtual machines](#) >

Create a virtual machine ...

×

☒ 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](#) ↗

Place this virtual machine behind an existing load balancing solution? ☐

[Review + create](#)

[< Previous](#)

[Next : Management >](#)

[Give feedback](#)

STEP 7:CLICK NEXT:MONITORING

Create a virtual machine ...

×

Azure AD

Login with Azure AD ⓘ ☐

ℹ RBAC role assignment of Virtual Machine Administrator Login or Virtual Machine User Login is required when using Azure AD login. [Learn more](#) ↗

ℹ Azure AD login now uses SSH certificate-based authentication. You will need to use an SSH client that supports OpenSSH certificates. You can use Azure CLI or Cloud Shell from the Azure Portal. [Learn more](#) ↗

Auto-shutdown

Enable auto-shutdown ⓘ ☐

Backup

Enable backup ⓘ ☐

Guest OS updates

Patch orchestration options ⓘ

Image default ▼

ℹ Some patch orchestration options are not available for this image. [Learn more](#) ↗

[Review + create](#)

[< Previous](#)

[Next : Monitoring >](#)

[Give feedback](#)

CLICK ON ADVANCED

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 TAGS

[Home](#) > [Virtual machines](#) >

Create a virtual machine ...



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](#)

STEP 8:ASSIGN NAME AND VALUE

[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 |
|---------|---------|-------------|
| ubuntu2 | 15 | 13 selected |
| | 15 | 13 selected |

[Review + create](#)

[< Previous](#)

[Next : Review + create >](#)

[Give feedback](#)

STEP 9:VALIDATION IS PASSED.CLICK ON CREATE

[Home](#) > [Virtual machines](#) >

Create a virtual machine ...



✓ Validation passed

Tags

| | |
|---------|--------------------------------|
| ubuntu2 | 15 (Auto-shutdown schedule) |
| ubuntu2 | 15 (Availability set) |
| ubuntu2 | 15 (Disk) |
| ubuntu2 | 15 (Network interface) |
| ubuntu2 | 15 (Network security group) |
| ubuntu2 | 15 (Public IP address) |
| ubuntu2 | 15 (Recovery Services vault) |
| ubuntu2 | 15 (SQL Virtual Machine) |
| ubuntu2 | 15 (SSH key) |
| ubuntu2 | 15 (Storage account) |
| ubuntu2 | 15 (Virtual machine) |
| ubuntu2 | 15 (Virtual machine extension) |
| ubuntu2 | 15 (Virtual network) |

[Create](#)

[< Previous](#)

[Next >](#)

[Download a template for automation](#)

[Give feedback](#)

STEP 10:DEPLOYMENT IS COMPLETED

OUTPUT

Microsoft Azure

Search resources, services, and docs (G+)

7

192012122Lsse@saveet...
DEFAULT DIRECTORY (192012122L...

Home >

CreateVm-canonical.0001-com-ubuntu-server-focal-2-20

Deployment

Search

«

Delete

Cancel

Redeploy

Download

Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name: CreateVm-c...

Subscription: [Azure for Students](#)

Resource group: [azure2](#)

Start time: 7/11/202...

Correlation ID: [fa463ec](#)

Deployment 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](#)

Deployment succeeded

Deployment 'CreateVm-canonical.0001-com-ubuntu-server-focal-2-20230711011845' to resource group 'azure2' was successful.

[Go to resource](#)

[Pin to dashboard](#)

Cost Management

Get notified to stay within your budget and prevent unexpected charges on your bill.
[Set up cost alerts >](#)

Microsoft Defender for Cloud

Secure your apps and infrastructure
[Go to Microsoft Defender for Cloud >](#)

Free Microsoft tutorials

[Start learning today >](#)

Work with an expert

Azure experts are service provider partners who can help manage your assets on Azure