

CSA1518-CLOUD COMPUTING AND BIG DATA ANALYTICS FOR SOCIAL MEDIA

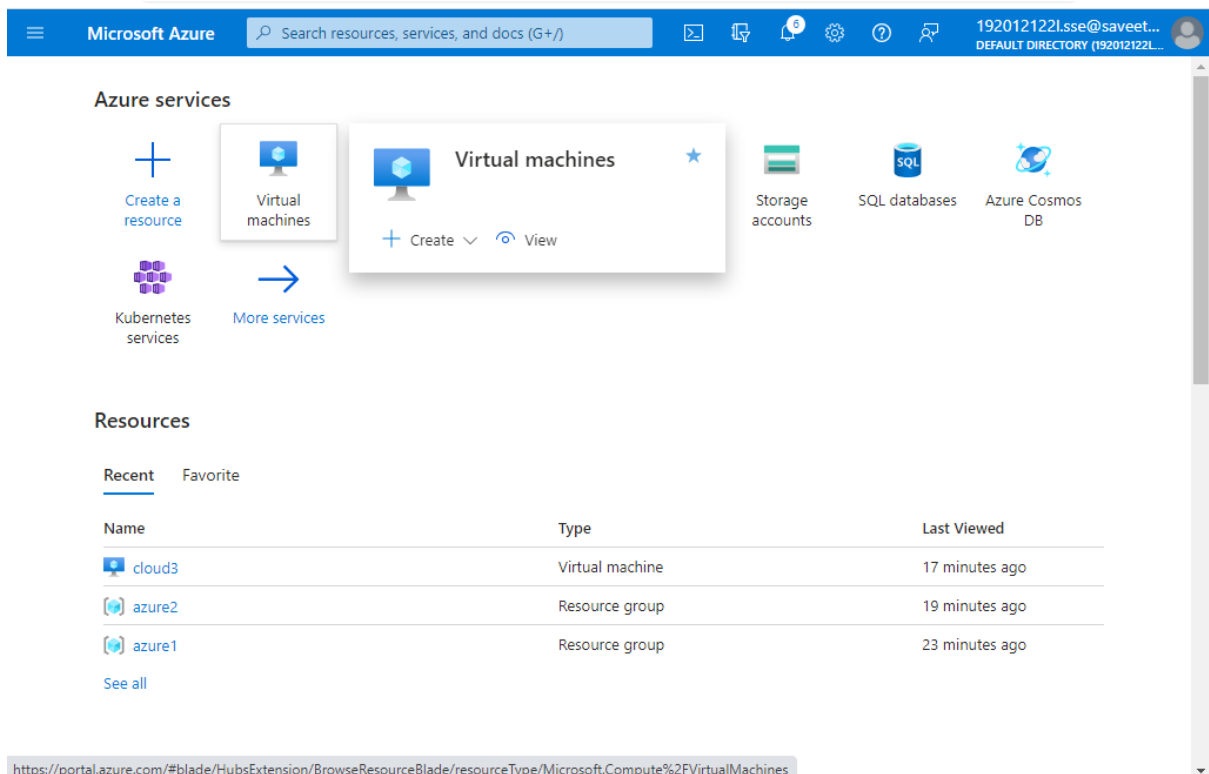
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EXPT 15: Demonstrate Platform as a Service (PaaS) create and configure a new VM Image in any Public Cloud Service Provider

IMPLEMENTATION:

STEP 1:SELECT VIRTUAL MACHINE



The screenshot shows the Microsoft Azure portal interface. At the top, there is a blue header bar with the Microsoft Azure logo, a search bar, and user information. Below the header, the 'Azure services' section is visible, featuring a grid of service tiles. The 'Virtual machines' tile is highlighted with a white border and a star icon. To the right of the 'Virtual machines' tile, there are links for 'Storage accounts', 'SQL databases', and 'Azure Cosmos DB'. Below the 'Azure services' section, the 'Resources' section is displayed, showing a table of recent resources. The table has columns for 'Name', 'Type', and 'Last Viewed'. The resources listed are 'cloud3' (Virtual machine), 'azure2' (Resource group), and 'azure1' (Resource group). A 'See all' link is present at the bottom of the resources list.

Azure services

- Create a resource
- Virtual machines
- Kubernetes services
- More services
- Storage accounts
- SQL databases
- Azure Cosmos DB

Resources

Recent Favorite

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







[See all](#)

<https://portal.azure.com/#blade/HubsExtension/BrowseResourceBlade/resourceType/Microsoft.Compute%2FVirtualMachines>

STEP 2:CLICK ON CREATE

Microsoft Azure

Search resources, services, and docs (G+)



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

[Home](#) >


Virtual machines

Default Directory (192012122Lsse@saveet...onmicrosoft.com)

[+ Create](#) [Switch to classic](#) [Reservations](#) [Manage view](#) [Refresh](#) [Export to CSV](#) [Open query](#) [Assign tags](#) [...](#)

[Subscription equals all](#) [Type equals all](#) [Add filter](#) [More \(2\)](#)

Showing 1 to 1 of 1 records. [No grouping](#) [List view](#)

<input type="checkbox"/> Name ↑↓	Type ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating s
<input type="checkbox"/>  cloud3	Virtual machine	Azure for Students	azure1	Central India	Stopped (deallocated)	Linux

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[Give feedback](#)





STEP 3:SELECT AZURE VIRTUAL MACHINE

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Virtual machines

Default Directory (1920121221s@saveetha.onmicrosoft.com)

[+](#) Create [↔](#) Switch to classic [⌚](#) Reservations [⚙️](#) Manage view [🔄](#) Refresh [📄](#) Export to CSV [🔗](#) Open query [🏷️](#) Assign tags ...

-  **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

Type equals **all** [+ Add filter](#) [More \(2\)](#)

No grouping [List view](#)

Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system
Azure for Students	azure1	Central India	Stopped (deallocated)	Linux

STEP 4:FILL THE DETAILS IN MANDATORY COLUMNS

Microsoft Azure

Search resources, services, and docs (G+)

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DEFAULT DIRECTORY (1920121221s@saveetha.onmicrosoft.com)

[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](#)

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Microsoft Azure

Search resources, services, and docs (G+)

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DEFAULT DIRECTORY (192012122L...

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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

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STEP 5:CLICK ON NETWORKING

Microsoft Azure

Search resources, services, and docs (G+)

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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

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CREATE DISK

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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 *	<input type="text" value="cloud4_DataDisk_0"/>
Source type * ⓘ	<div>None (empty disk) ▾</div>
Size * ⓘ	<div>64 GiB Premium SSD LRS Change size</div>
Key management ⓘ	<div>Platform-managed key ▾</div>
Enable shared disk	<div><input type="radio"/> Yes <input checked="" type="radio"/> No</div>
Delete disk with VM	<div><input type="checkbox"/></div>

OK

STEP 6:CLICK NEXT: MANAGEMENT

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

Create a virtual machine ...



	<div><input checked="" type="radio"/> Allow selected ports</div>
Select inbound ports *	<div>SSH (22) ▾</div>
	<div>⚠ 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.</div>
Delete public IP and NIC when VM is deleted ⓘ	<div><input type="checkbox"/></div>
Enable accelerated networking ⓘ	<div><input checked="" type="checkbox"/></div>
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?	<div><input type="checkbox"/></div>

Review + create

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Give feedback

STEP 7:CLICK NEXT:MONITORING

Create a virtual machine

×

Azure AD

Login with Azure AD ⓘ☐

ⓘ

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

ⓘ

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

ⓘ

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

Review + create

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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

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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 ⓘ

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STEP 8:ASSIGN NAME AND VALUE

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Create a virtual machine ...



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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
<input type="text" value="ubuntu2"/>	<input type="text" value="15"/>	<input type="text" value="13 selected"/>
<input type="text"/>	<input type="text" value="15"/>	<input type="text" value="13 selected"/>

[Review + create](#)

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STEP 9:VALIDATION IS PASSED.CLICK ON CREATE

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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

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[Download a template for automation](#)

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STEP 10:DEPLOYMENT IS COMPLETED

OUTPUT

Microsoft Azure

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Home >

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

Search

Overview

Inputs

Outputs

Template

Deployment succeeded

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

Go to resource

Pin to dashboard

Your deployment is complete

Deployment name: CreateVm-c... Start time: 7/11/202...
Subscription: Azure for Students Correlation ID: fa463ex
Resource group: azure2

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

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

STEP11:

Microsoft Azure

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cloud4
Virtual machine

Search

Connect

Start

Restart

Stop

Capture

Delete

Refresh

Open in mobile

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Disks

Size

Microsoft Defender for Cloud

Advisor recommendations

Extensions + applications

Availability + scaling

Configuration

Essentials

Resource group (move)
azure2

Status
Running

Location
South India

Subscription (move)
Azure for Students

Subscription ID
042e3f3b-8cfe-4e88-82c8-b6bf539841a2

Tags (edit)
ubuntu2 : 15

Operating system
Linux (ubuntu 20.04)

Size
Standard D2s v3 (2 vcpus, 8 GiB memory)

Public IP address
20.219.71.190

Virtual network/subnet
cloud4-vnet/default

DNS name
Not configured

Health state
-

JSON View

Properties

Monitoring

Capabilities (7)







Recommendations

Tutorials

Virtual machine

Microsoft Azure

Search resources, services, and docs (G+)



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Extensions + applications

To improve security, enable just-in-time access on this VM. →

Connect with RDP

To connect to your virtual machine via RDP, select an IP address, optionally change the port number, and download the RDP file.

IP address *

Public IP address (20.219.71.190)

Port number *

3389

Download RDP File

Can't connect?

- Install and configure Remote Desktop to connect to a Linux VM
- Test network security groups
- Run a comprehensive RDP connectivity test

Provide feedback







Tell us about your RDP experience

cloud4.rdp

Show all

Microsoft Azure

Search resources, services, and docs (G+)



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Advisor recommendations

Extensions + applications

Availability + scaling

Configuration

To improve security, enable just-in-time access on this VM. →

RDP SSH Bastion

Connect via SSH with client

^ Suggested method for connecting

Azure has checked the status for the most common prerequisites when connecting using this method.

- Checking network security group for inbound access from your client's IP address. [Learn more](#)
- The VM's network interface has a Public IP address. [Learn more](#)
- The VM is running.

- Open the client of your choice, for example [WSL on Windows](#), [Terminal on Mac](#) or [Shell on Linux](#).
- Ensure you have read-only access to the private key. Chmod is only supported on Linux subsystems (e.g. WSL on Windows or Terminal on Mac).

```
chmod 400 <keyname>.pem
```
- Provide a path to your SSH private key file. [Replace/reset your SSH private key.](#)

Private key path

~/ssh/<keyname>.pem

Microsoft Azure

Search resources, services, and docs (G+)

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Remote Desktop Connection

The publisher of this remote connection can't be identified. Do you want to connect anyway?

This remote connection could harm your local or remote computer. Do not connect unless you know where this connection came from or have used it before.

Publisher: Unknown publisher
Type: Remote Desktop Connection
Remote computer: 20.219.71.190

☐ Don't ask me again for connections to this computer

Show Details

Connect

Cancel

3. Provide a path to your SSH private key file. [Replace/reset your SSH private key.](#)

Private key path

4. Run the example command below to connect to your VM.

```
ssh -i <private key path> Mrudula1807@20.219.71.190
```

cloud4.rdp

Show all