

# Assignment – Azure Virtual Machines And Advance Azure Virtual Machines

## Assignment-1

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**Tasks To Be Performed:**

1. Create a VM in the west US region
2. Select the Ubuntu image for creating the VM
3. Open the SSH port
4. Connect to the Linux VM using the terminal

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

Home > Virtual machines >

Create a virtual machine

Validation passed

Subscription	Free Trial
Resource group	(new) linux-vm_group
Virtual machine name	linux-vm
Region	West US
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 B1s (1 vcpu, 1 GiB memory)
Authentication type	Password
Username	azuser
Public inbound ports	SSH
Azure Spot	No

Disks

OS disk size	Image default
OS disk type	Premium SSD LRS

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Home >

Virtual machines

Default Directory

+ Create Switch to classic Reservations Manage view Refresh Export to CSV Open query Assign tags Start Restart Stop Delete Services Maintenance

Filter for any field... Subscription equals all Type equals all Resource group equals all Location equals all Add filter

Showing 1 to 1 of 1 records.

Name	Type	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disks
linux-vm	Virtual machine	Free Trial	linux-vm_group	West US	Running	Linux	Standard_B1s	40.112.172.47	1

```
PS C:\Users\sfbjs> ssh azuser@40.112.172.47
The authenticity of host '40.112.172.47 (40.112.172.47)' can't be established.
ED25519 key fingerprint is SHA256:ifHpakLJetQ+KCnqq5SB2knTdy6tAdj3lIhtZYQnDTk.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '40.112.172.47' (ED25519) to the list of known hosts.
azuser@40.112.172.47's password:
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.0-1053-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

System information as of Mon Jan 22 06:46:16 UTC 2024

System load:  0.01          Processes:            102
Usage of /:   5.2% of 28.89GB Users logged in:      0
Memory usage: 32%          IPv4 address for eth0: 10.0.0.4
```

# Assignment – Azure Virtual Machines And Advance Azure Virtual Machines

## Assignment-2

Module 4 – Assignment 2

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**Tasks To Be Performed:**

1. Create a Windows VM in west US region
2. Open the RDP port
3. Connect to it using Windows Remote Desktop

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azudeck@outlook.com  
DEFAULT DIRECTORY

Home > Virtual machines >

Create a virtual machine

Validation passed

Resource group

linux-vm\_group

Virtual machine name

windows

Region

West US

Availability options

No infrastructure redundancy required

Security type

Trusted launch virtual machines

Enable secure boot

Yes

Enable vTPM

Yes

Integrity monitoring

No

Image

Windows 10 Pro, version 22H2 - Gen2

VM architecture

x64

Size

Standard B1s (1 vcpu, 1 GiB memory)

Username

azuser

Public inbound ports

RDP

Already have a Windows license?

Yes

License type

Windows Client

Azure Spot

No

Disks

OS disk size

Image default

OS disk type

Premium SSD LRS

Create

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# Assignment – Azure Virtual Machines And Advance Azure Virtual Machines


## Assignment-3

Module 4 – Assignment 3

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1



2

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**Tasks To Be Performed:**

1. Create a VM scale set with Ubuntu as OS
2. Give min VM's as 1 and maximum as 5
3. For scale-out CPU % is 75 and increase by 1 VM
4. For scale-in CPU % is 25 increase by 1 VM

portal.azure.com/?quickstart=true#create/Microsoft.VMSS

Microsoft Azure

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azuresdk@outlook.com

Home > Virtual machine scale sets >

Create a virtual machine scale set

Validation passed

Basics Spot Disks Networking Scaling Management Health Advanced Tags Review + create

Basics

Subscription	Free Trial
Resource group	linux-vm_group
Virtual machine scale set name	vm-scale-set
Region	Central India
Orchestration mode	Uniform
Availability zone	None
Image	Ubuntu Server 20.04 LTS - Gen2
Size	Standard B1s (1 vcpu, 1 GiB memory)
Security type	Trusted launch virtual machines
Enable secure boot	Yes
Enable vTPM	Yes
Integrity monitoring	No
Authentication type	Password
Username	atuser

Spot

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portal.azure.com/?quickstart=true#create/Microsoft.VMSS

Microsoft Azure

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Home > Virtual machine scale sets >

Create a virtual machine scale set

Validation passed

Enable automatic OS upgrades Off

Scaling

Scaling	Yes
Minimum number of instances	1
Maximum number of instances	5
Scale out CPU threshold (%)	75
Number of instances to increase by	1
Scale in CPU threshold (%)	25
Number of instances to decrease by	1
Scale-in policy	Default

Health

Application health monitor	ApplicationHealthExtension
Protocol	HTTP
Port number	80
Path	/

Advanced

Enable scaling beyond 100 instances	Yes
-------------------------------------	-----

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# Assignment – Azure Virtual Machines And Advance Azure Virtual Machines

The screenshot displays the Azure portal interface for configuring a virtual machine scale set. The left sidebar shows the navigation menu with 'Scaling' selected. The main pane shows the 'vm-scale-set' configuration page. The 'Predictive autoscale' mode is set to 'Disabled'. The 'Scale mode' is set to 'Scale based on a metric'. The 'Rules' section shows two rules: 'Scale out' when '(Average) Percentage CPU > 75' with an increase count of 1, and 'Scale in' when '(Average) Percentage CPU < 25' with a decrease count of 1. The 'Instance limits' section shows a minimum of 1, a maximum of 5, and a default of 1. The 'Schedule' section is empty.

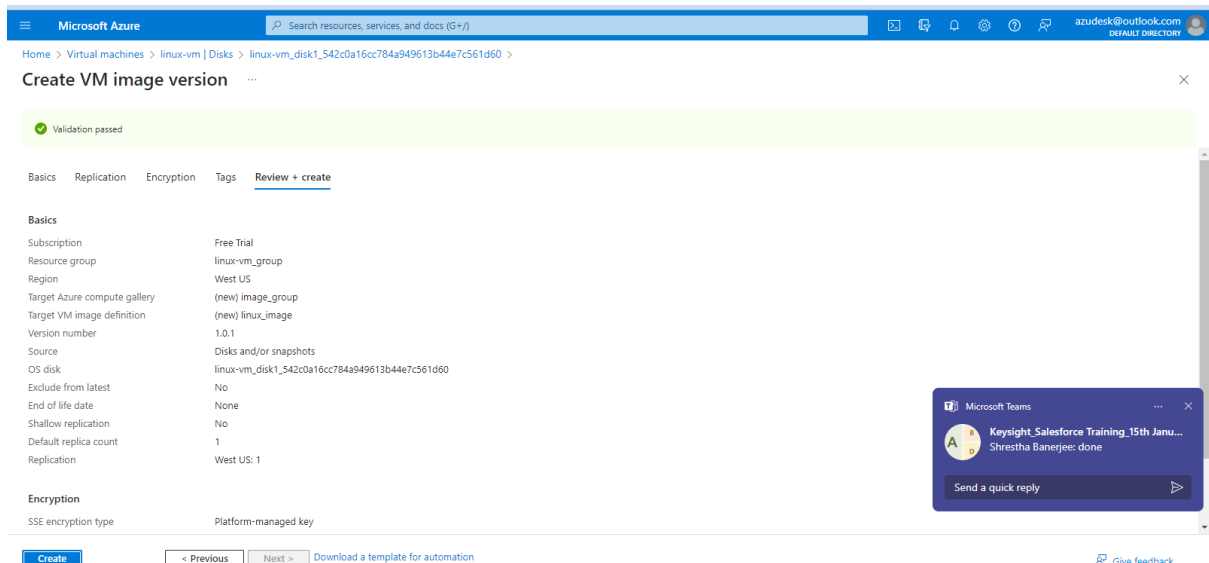
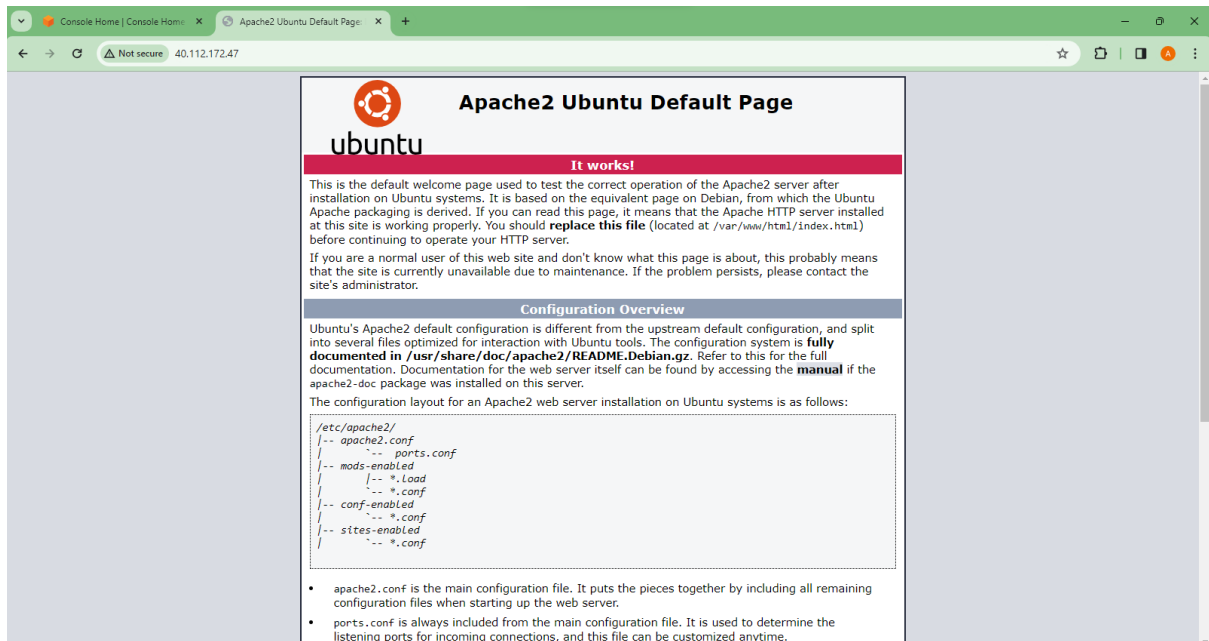
## Assignment-4

The screenshot displays the Azure portal interface for the 'Virtual machines' page. The left sidebar shows the navigation menu with 'Virtual machines' selected. The main pane shows a table of virtual machines. The table has columns for Name, Type, Subscription, Resource group, Location, Status, Operating system, Size, Public IP address, and Disks. There is one record in the table.

Name	Type	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disks
linux-vm	Virtual machine	Free Trial	linux-vm_group	West US	Running	Linux	Standard_B1s	40.112.172.47	1


# Assignment – Azure Virtual Machines And Advance Azure Virtual Machines




```
azuser@linux-vm:~$ history
1  sudo apt-get update
2  sudo apt-get install apache2
3  history
azuser@linux-vm:~$ |
```




## Assignment – Azure Virtual Machines And Advance Azure Virtual Machines

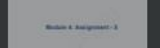
## Assignment-5



Module 4 – Assignment 5

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Module 4 - Assignment- 5

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### Tasks To Be Performed:

1. Deploy a VM from the previously created image
2. Open port 80 in NSG
3. Start the Apache2 service in the VM
4. Verify if you are able to access the website

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azuresdk@outlook.com  
DEFAULT DIRECTORY

Home > 1.0.1 (image\_group/linux\_image/1.0.1) >

Create a virtual machine

Validation passed

Basics

Subscription

Resource group

Virtual machine name

Region

Availability options

Security type

Enable secure boot

Enable vTPM

Integrity monitoring

Image

VM architecture

Size

Authentication type

Username

Public inbound ports

Azure Spot

Free Trial

linux-vm\_group

apacheimagevm

West US

No infrastructure redundancy required

Trusted launch virtual machines

Yes

Yes

No

image\_group/linux\_image/1.0.1 - Gen2

x64

Standard B1s (1 vcpu, 1 GiB memory)

Password

azuser

SSH, HTTP

No

Create

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DEFAULT DIRECTORY

Home

Virtual machines

Default Directory

Create

Switch to classic

Reservations

Manage view

Refresh

Export to CSV

Open query

Assign tags

Start

Restart

Stop

Delete

Services

Maintenance

Filter for any field...

Subscription equals all

Type equals all

Resource group equals all

Location equals all

Add filter

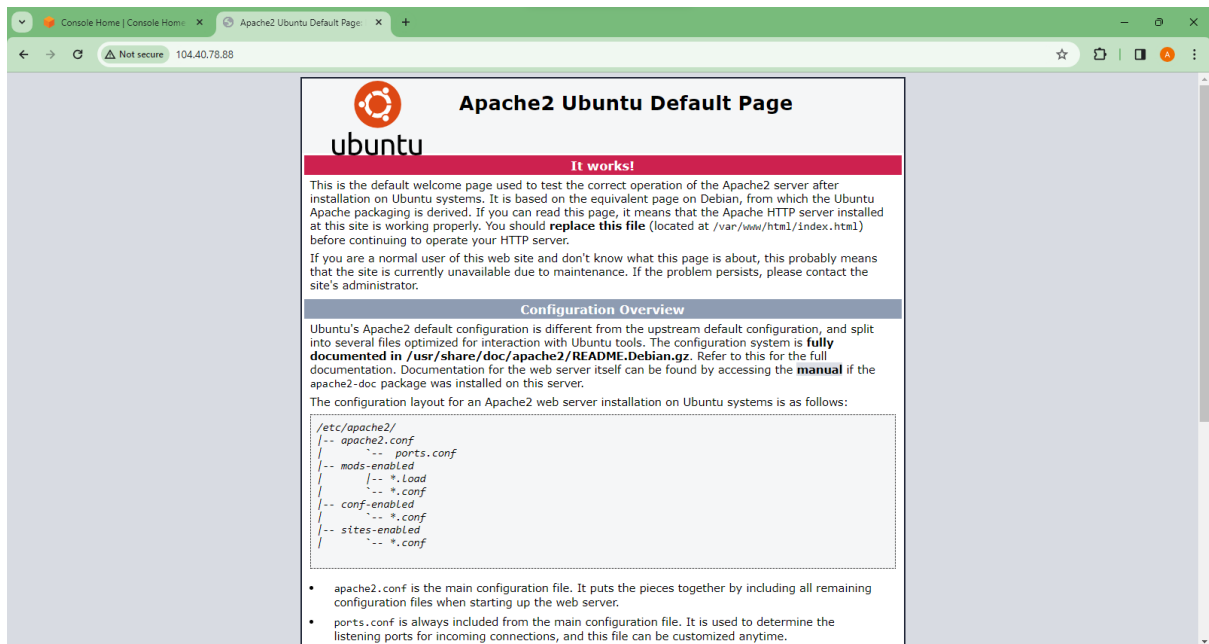
Showing 1 to 3 of 3 records.

No grouping

List view

<input type="checkbox"/>	Name ↑↓	Type ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓	Public IP address ↑↓	Disks ↑↓	
<input type="checkbox"/>	apachemagevm	Virtual machine	Free Trial	linux-vm_group	West US	Creating	Linux	Standard_B1s	104.40.78.88	1	...
<input type="checkbox"/>	linuxesum	Virtual machine	Free Trial	linuxesum_group	West US	Running	Linux	Standard_B1s	40.112.172.47	1	

# Assignment – Azure Virtual Machines And Advance Azure Virtual Machines



The screenshot shows a web browser window with two tabs: 'Console Home | Console Home' and 'Apache2 Ubuntu Default Page'. The address bar shows '104.40.78.88' and a 'Not secure' warning. The page content is as follows:

## Apache2 Ubuntu Default Page

**It works!**

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

### Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in `/usr/share/doc/apache2/README.Debian.gz`**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
    |-- ports.conf
|-- mods-enabled
    |-- *.load
    |-- *.conf
|-- conf-enabled
    |-- *.conf
|-- sites-enabled
    |-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- `ports.conf` is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.