Module 4: Assignment - 1

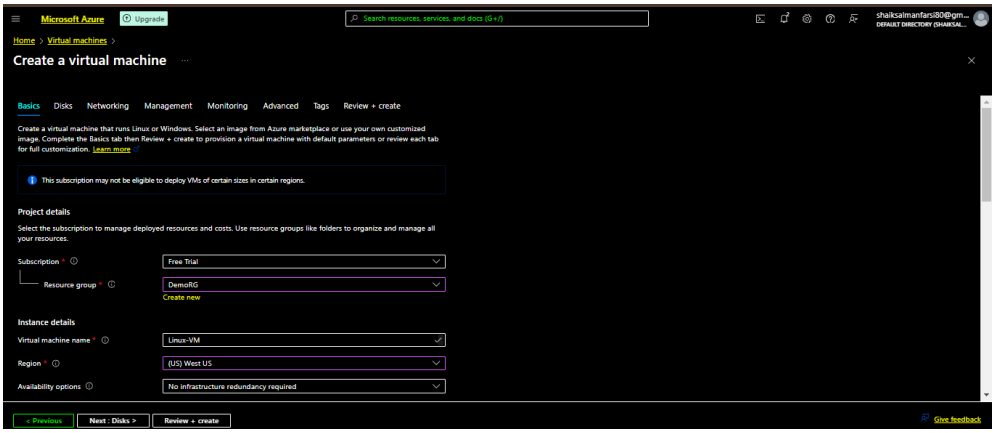
Azure 104 Certification Course

IntelliPaat

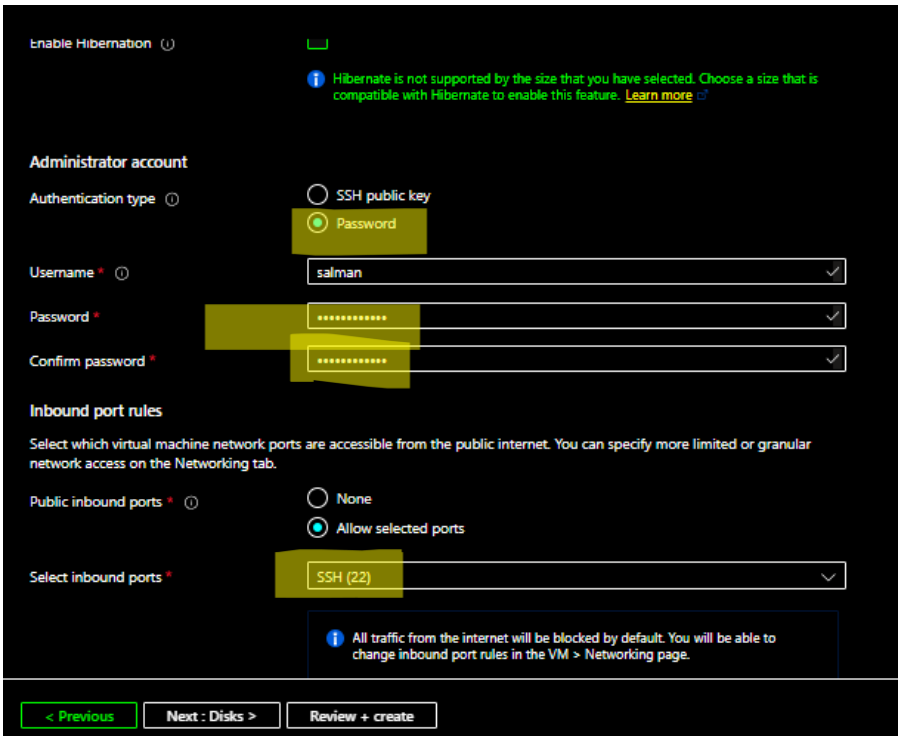
Tasks To Be Performed:

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

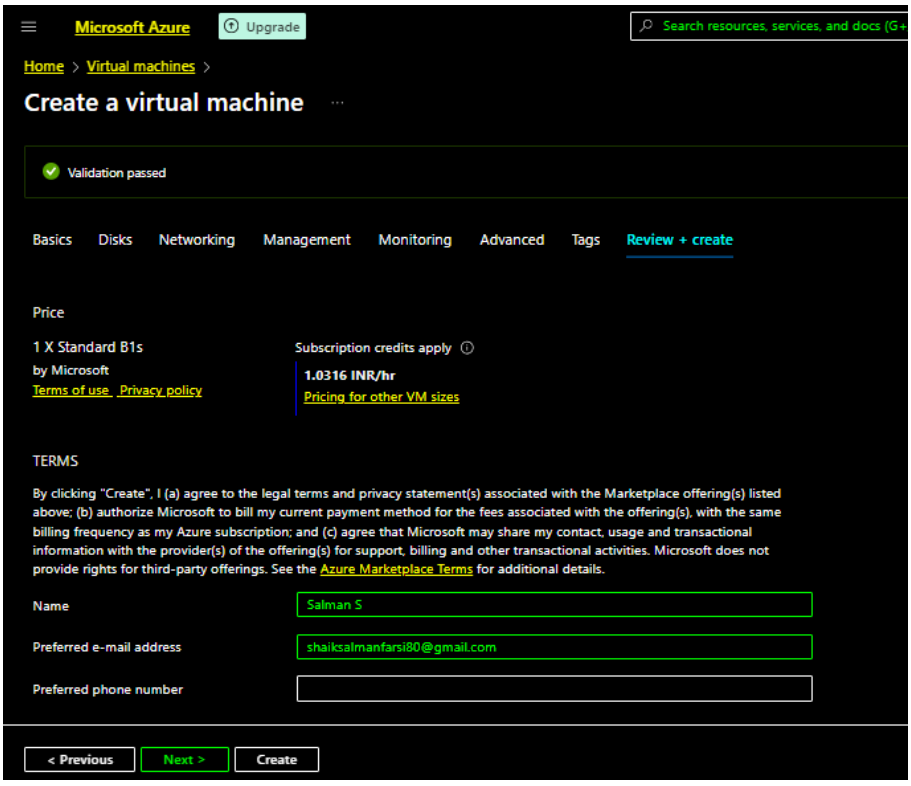
Launch VM for Ubuntu OS on west US Region



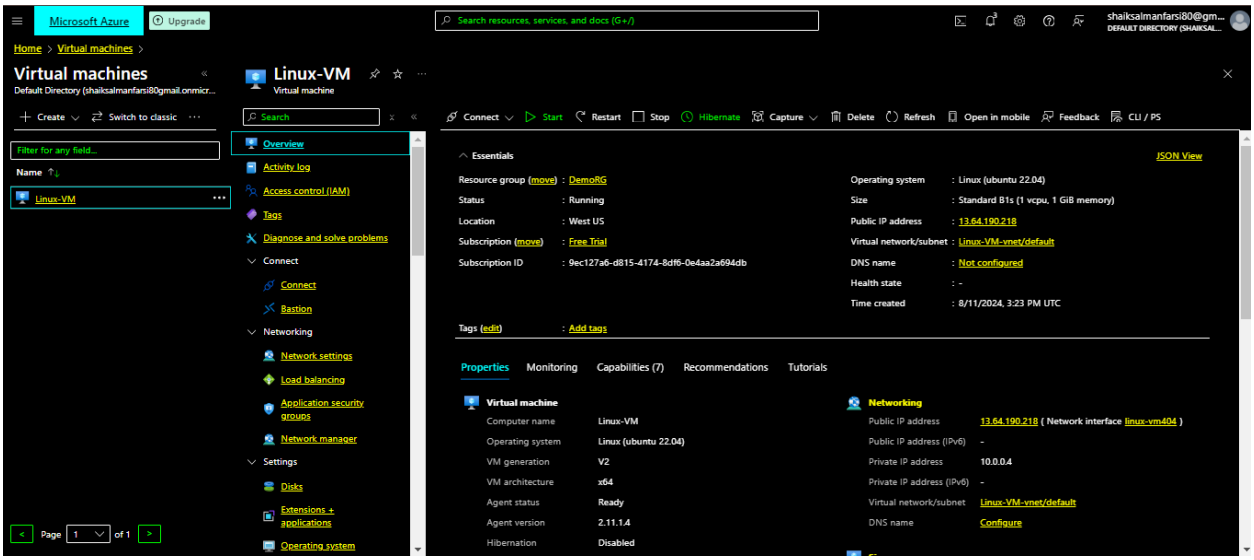
Review + Create



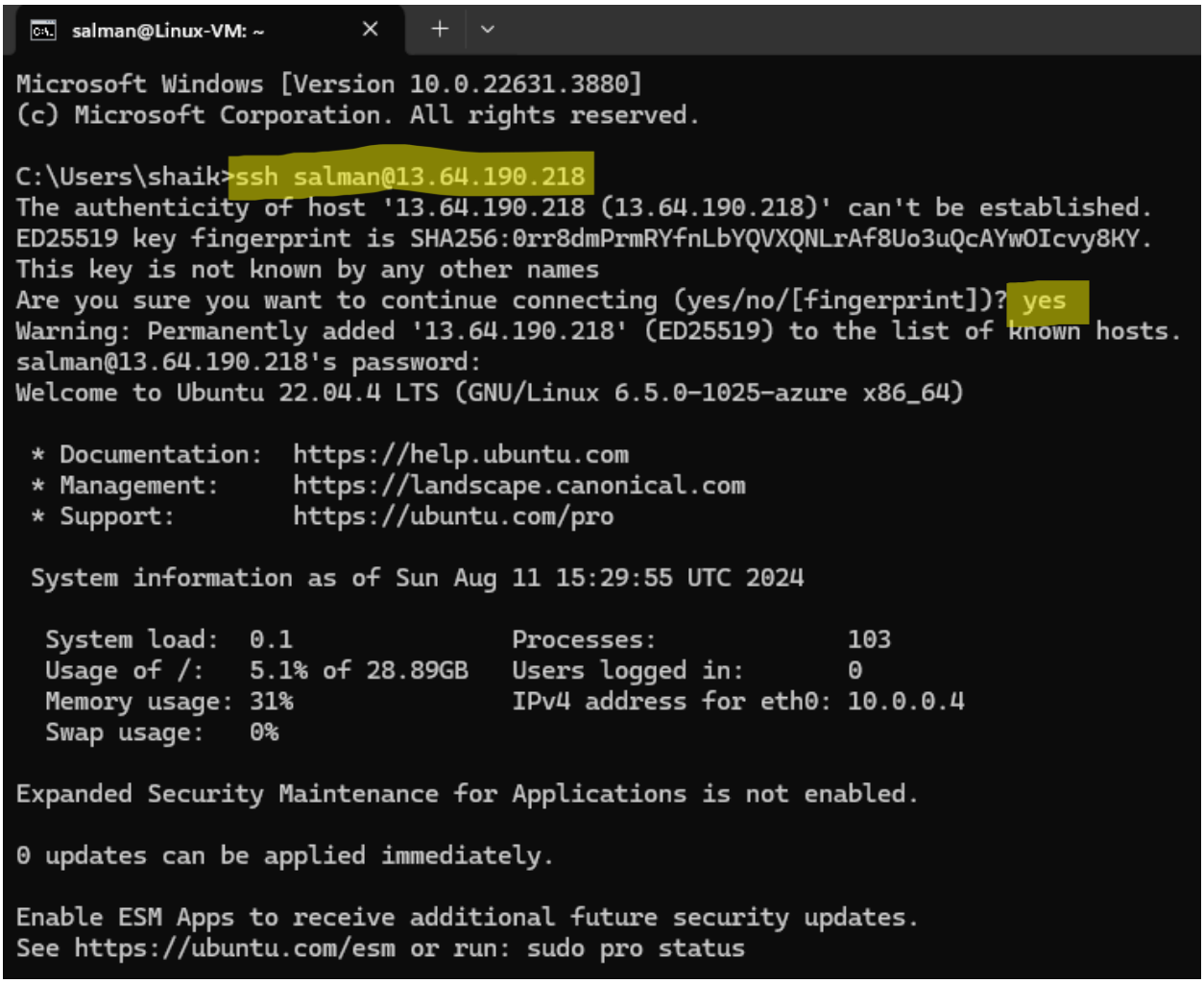
Create

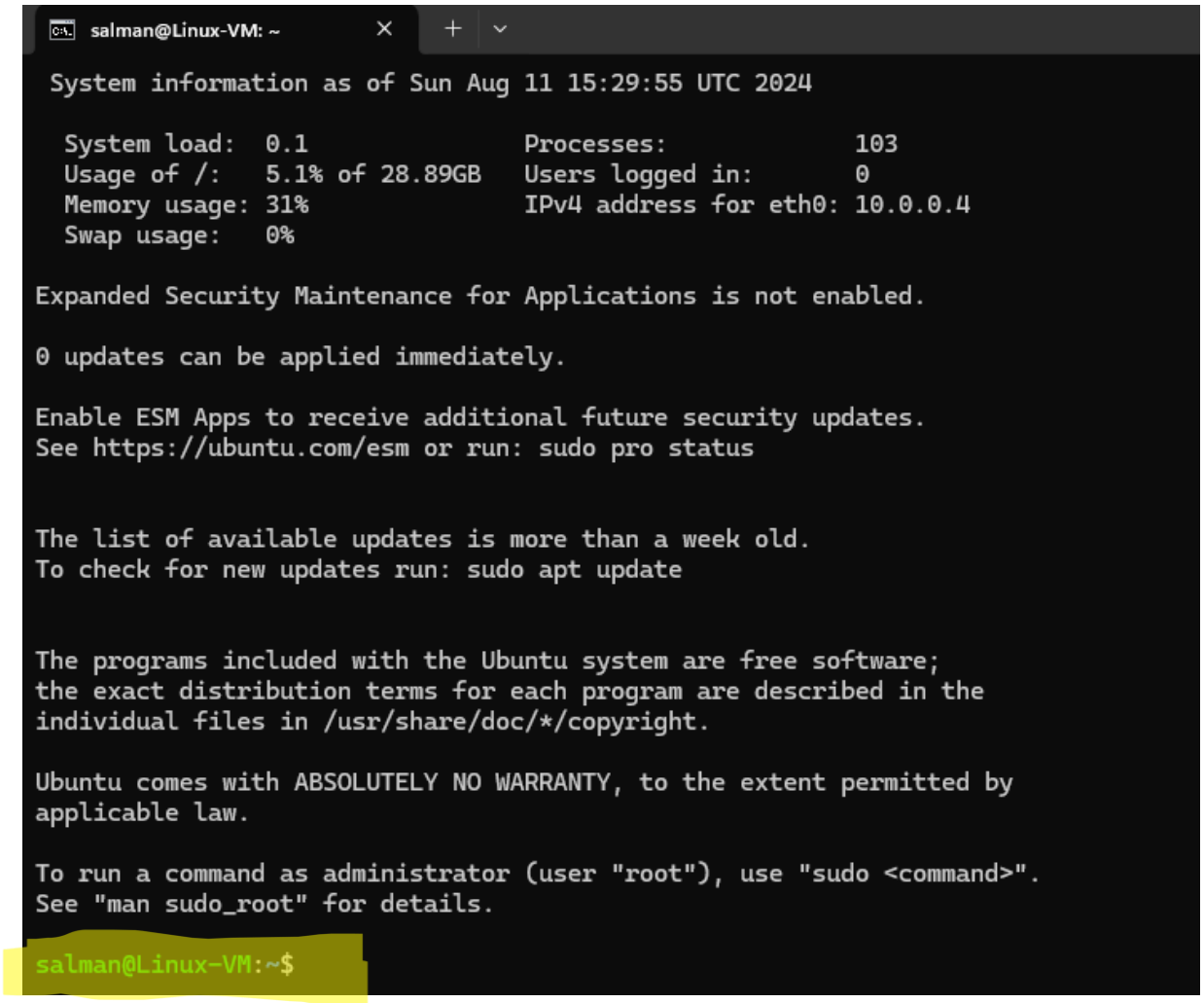


Copy Public Ip



Open Cmd





Module 4: Assignment - 2

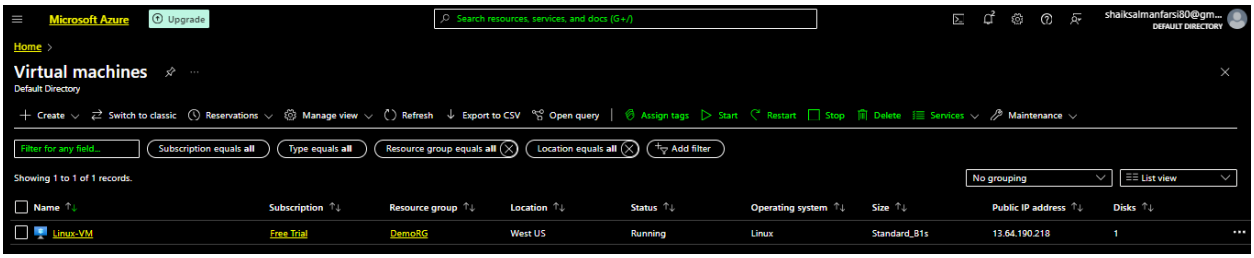
Azure 104 Certification Course

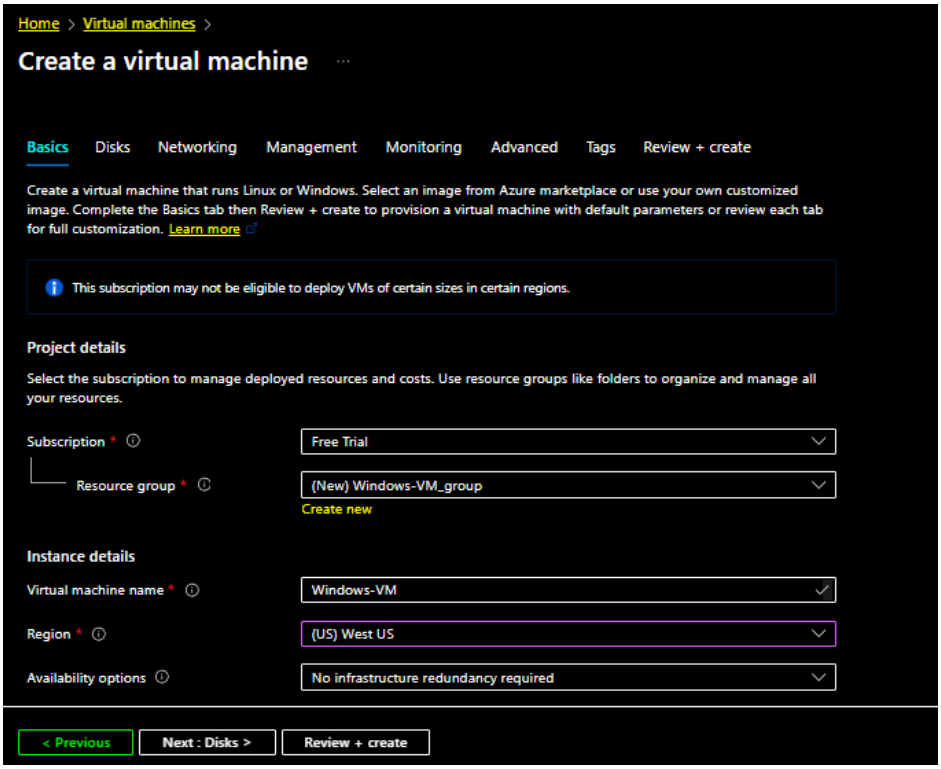
IntelliPaat

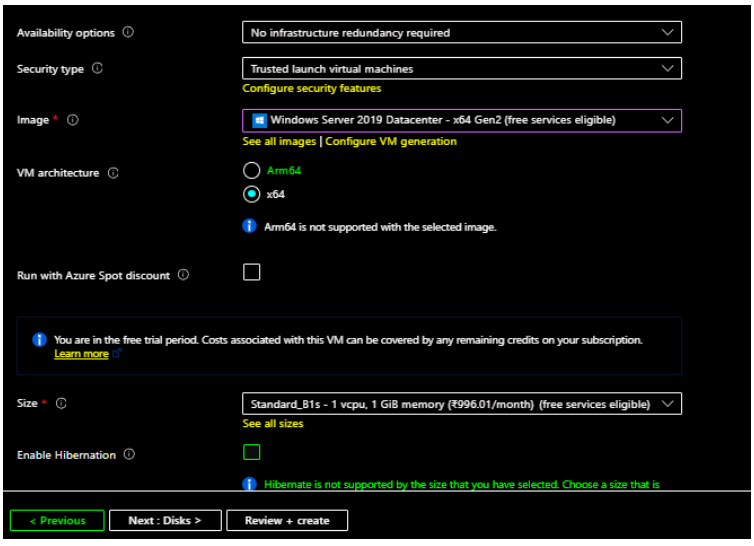
Tasks To Be Performed:

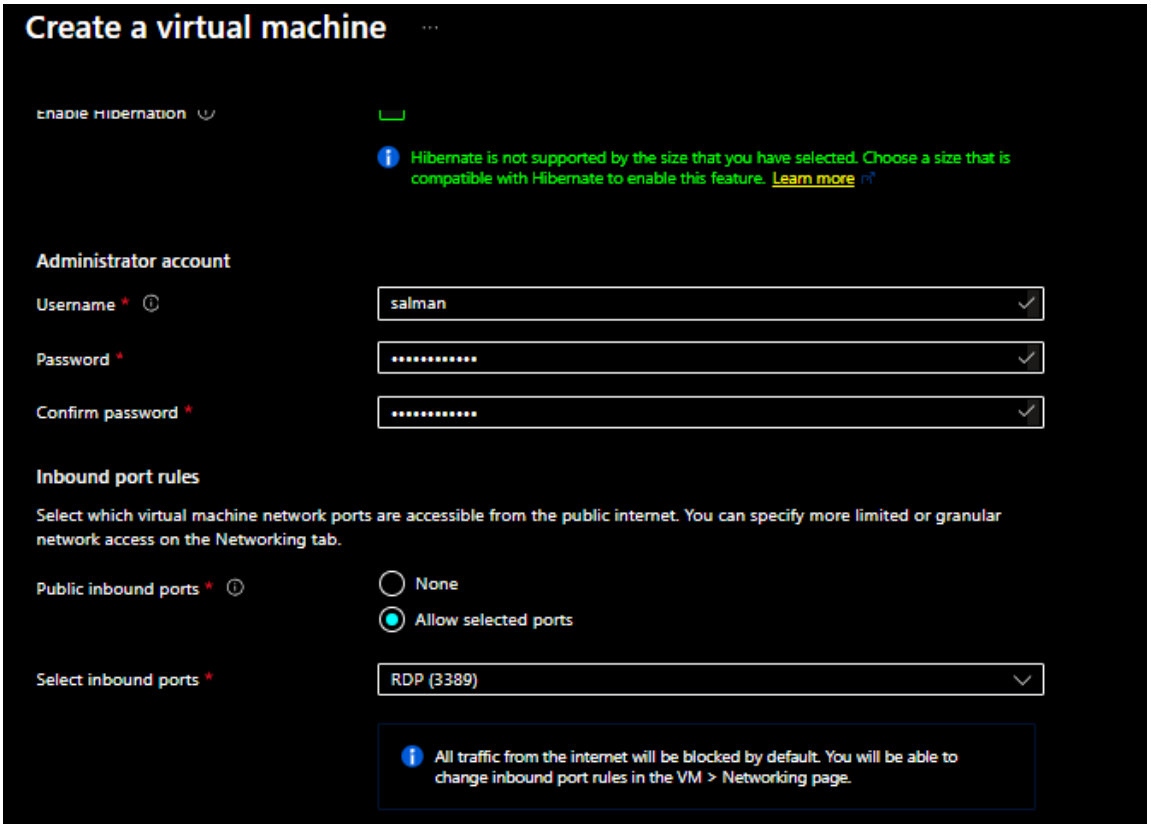
1. Create a Windows VM in west US region
2. Open the RDP port
3. Connect to it using Windows Remote Desktop

Launch Windows VM on west US Region

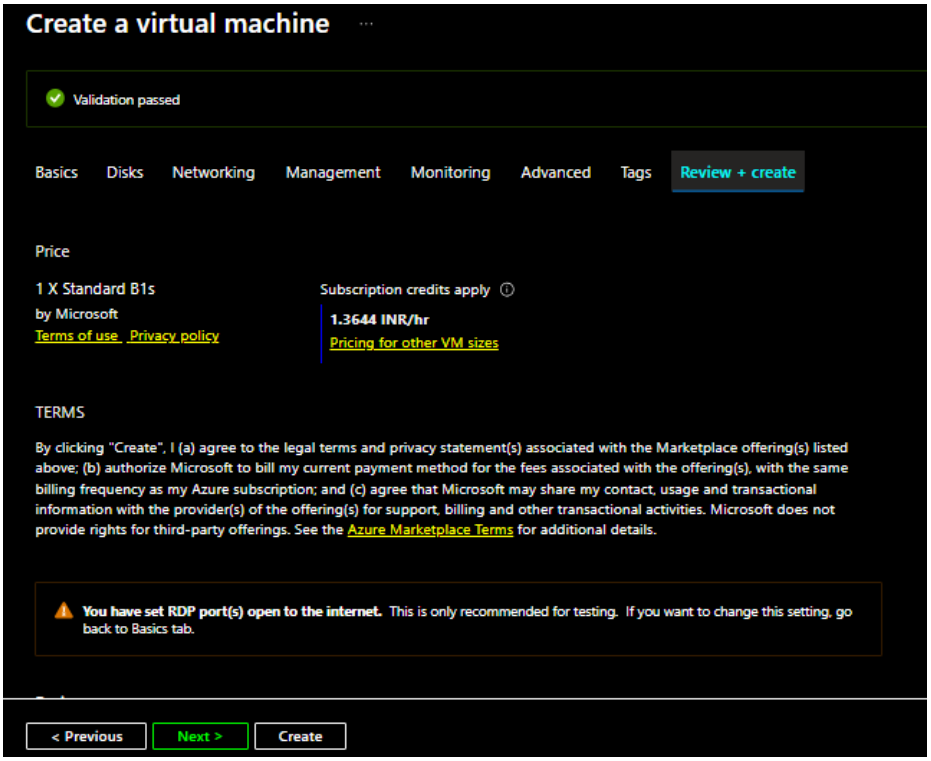


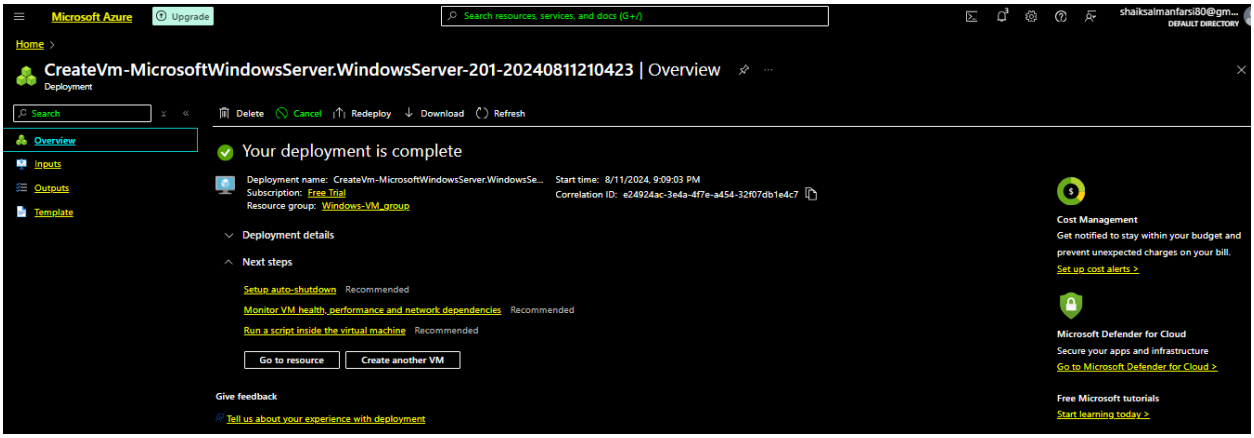




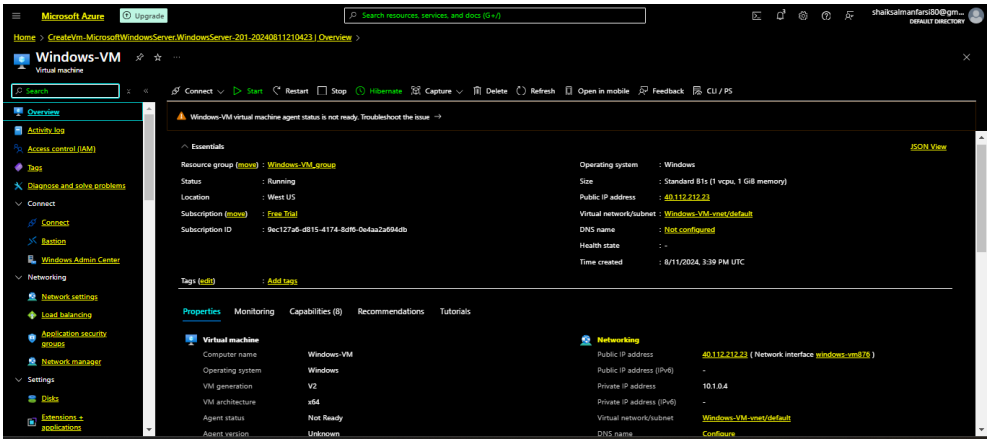


Review + Create and then Create

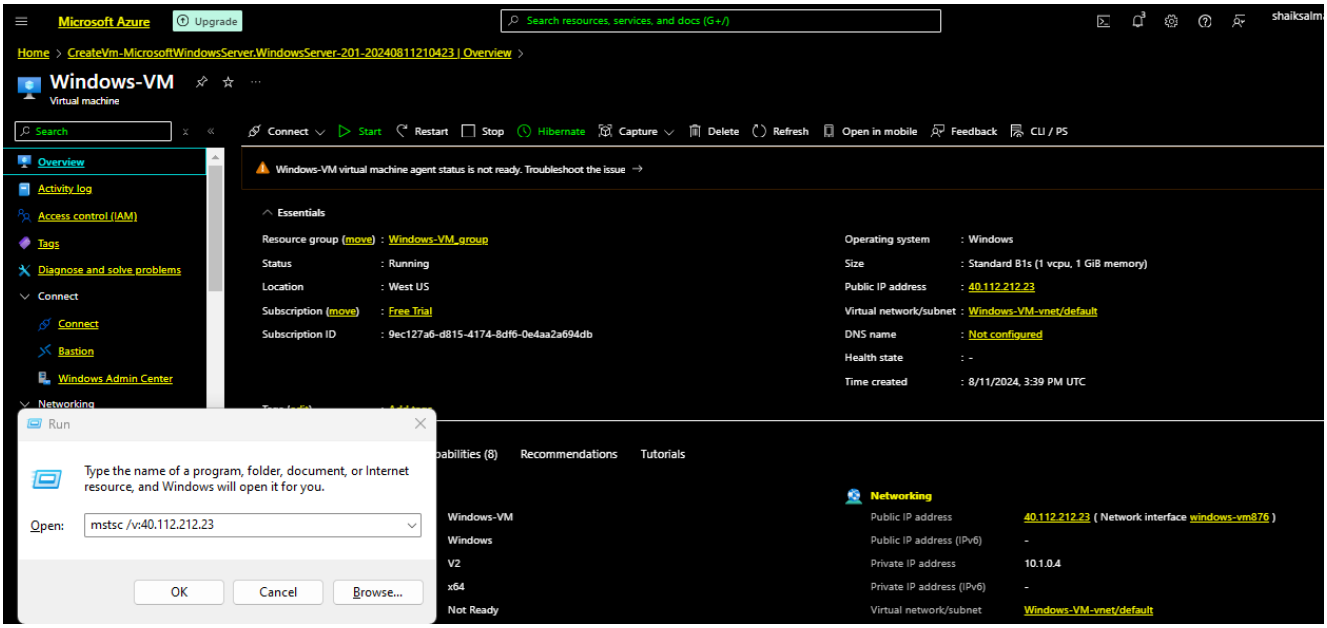




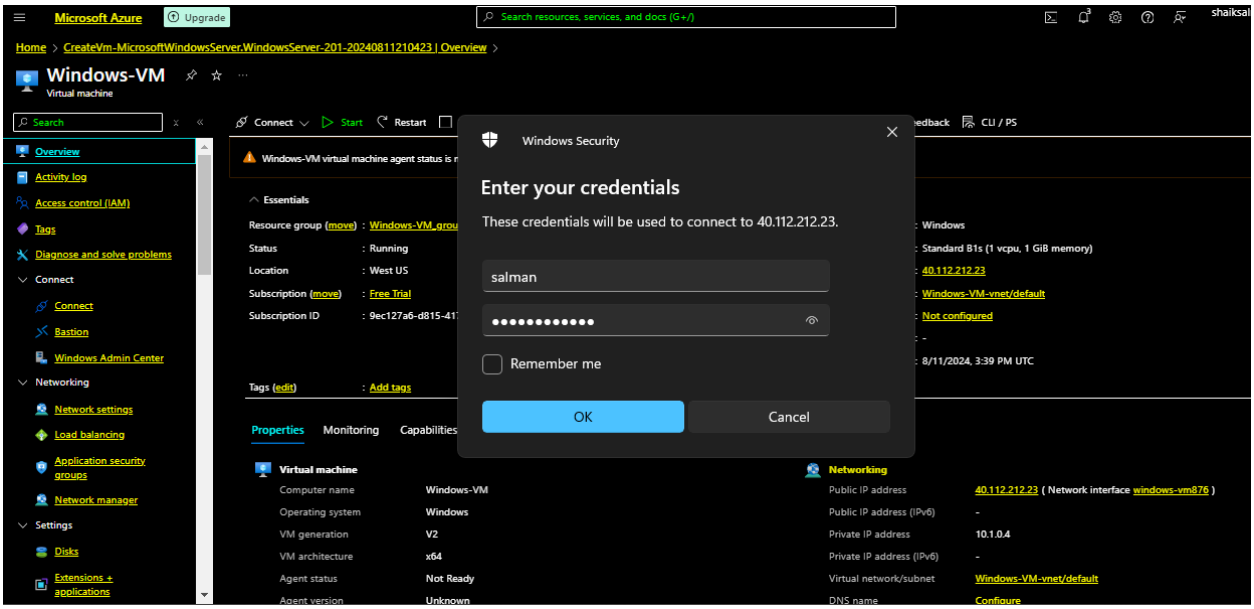
Copy Public Ip



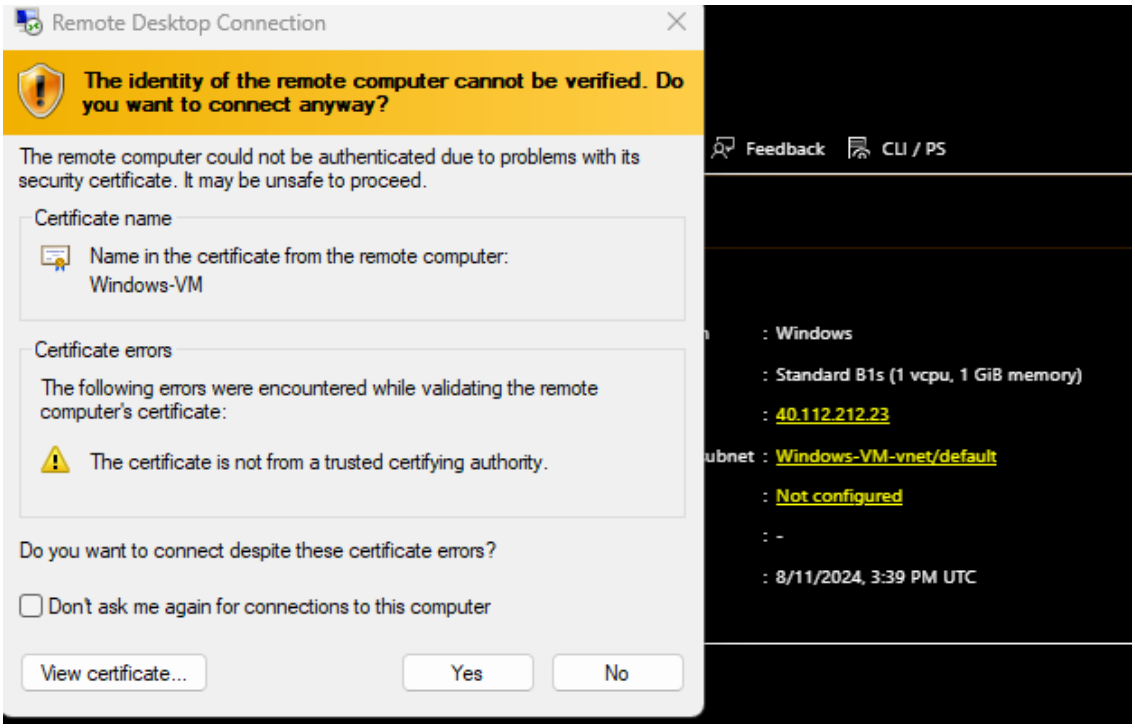
Click Window + R and mstsc /v:public ip



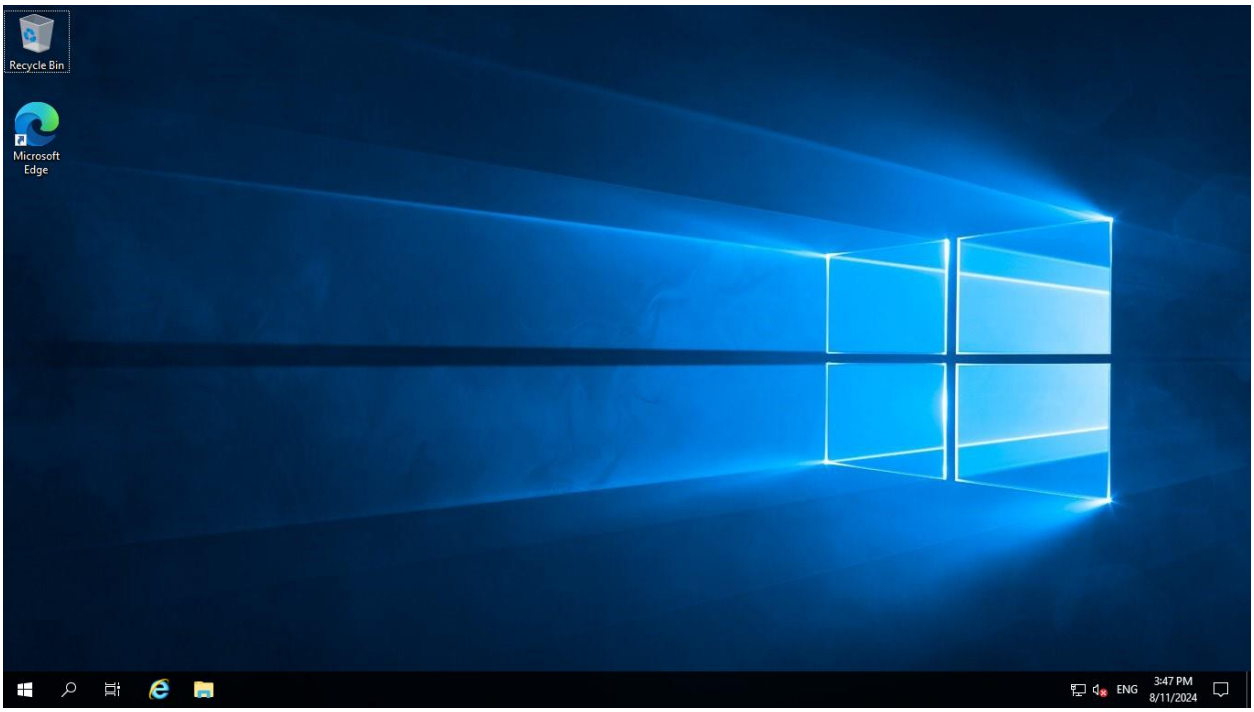
Type VM Credentials to connect RDP

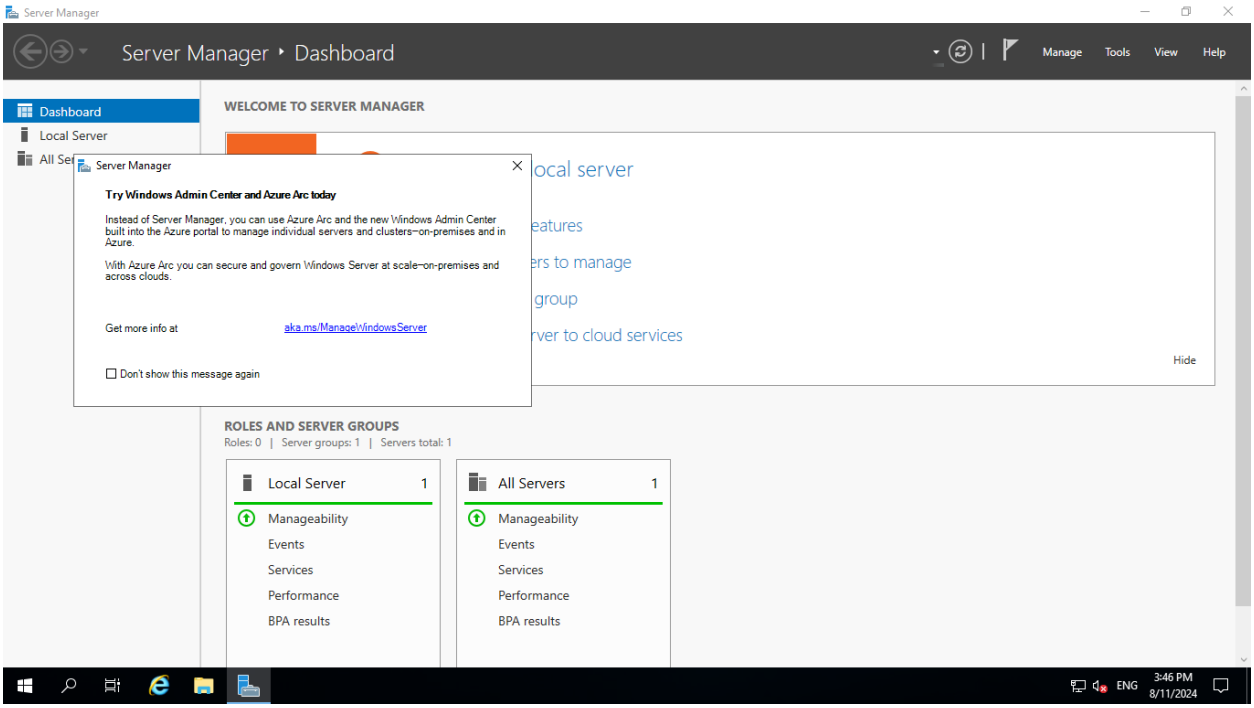


Yes



Connected


Recycle Bin
Microsoft Edge
ENG
3:47 PM
8/11/2024


Server Manager
Server Manager • Dashboard
Manage
Tools
View
Help
Dashboard
Local Server
WELCOME TO SERVER MANAGER
Server Manager
Try Windows Admin Center and Azure Arc today
Instead of Server Manager, you can use Azure Arc and the new Windows Admin Center built into the Azure portal to manage individual servers and clusters–on-premises and in Azure.
With Azure Arc you can secure and govern Windows Server at scale–on-premises and across clouds.
Get more info at
aka.ms/ManageWindowsServer
Don't show this message again
Hide
ROLES AND SERVER GROUPS
Roles: 0 | Server groups: 1 | Servers total: 1
Local Server 1
All Servers 1
Manageability
Events
Services
Performance
BPA results
ENG
3:46 PM
8/11/2024

Module 4: Assignment - 3

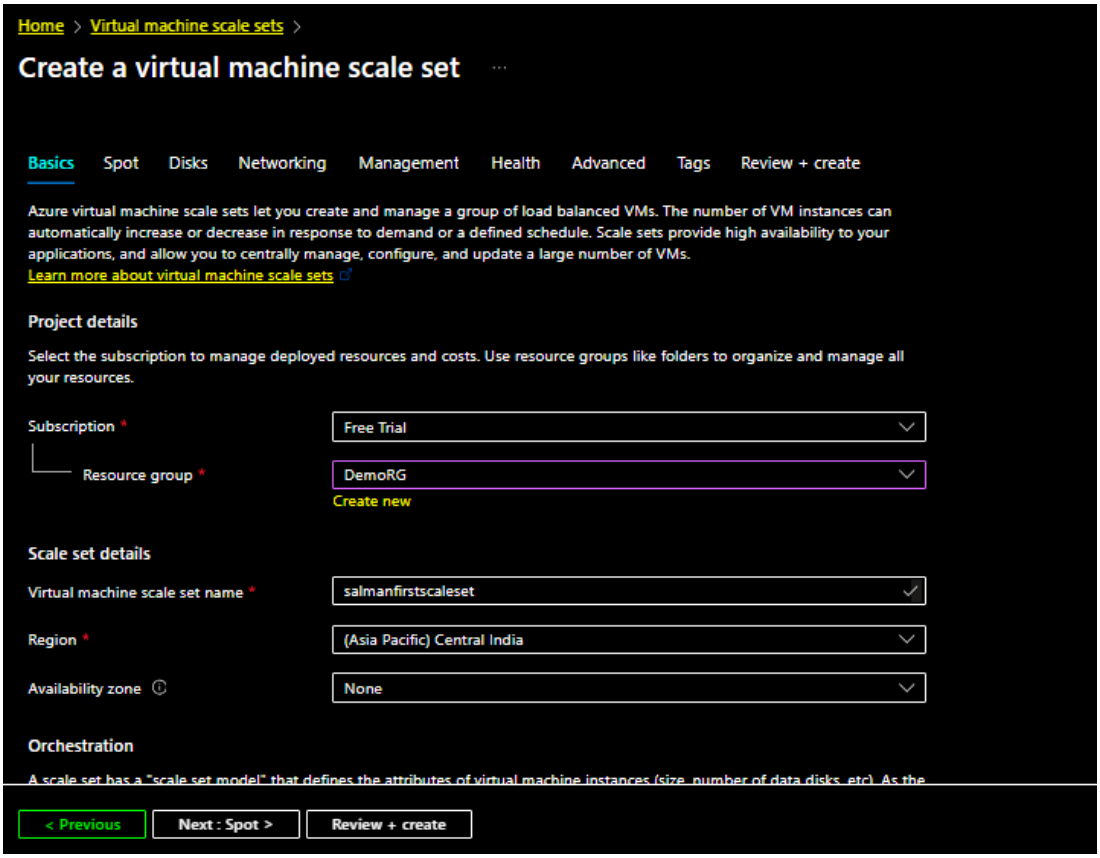
Azure 104 Certification Course

IntelliPaat

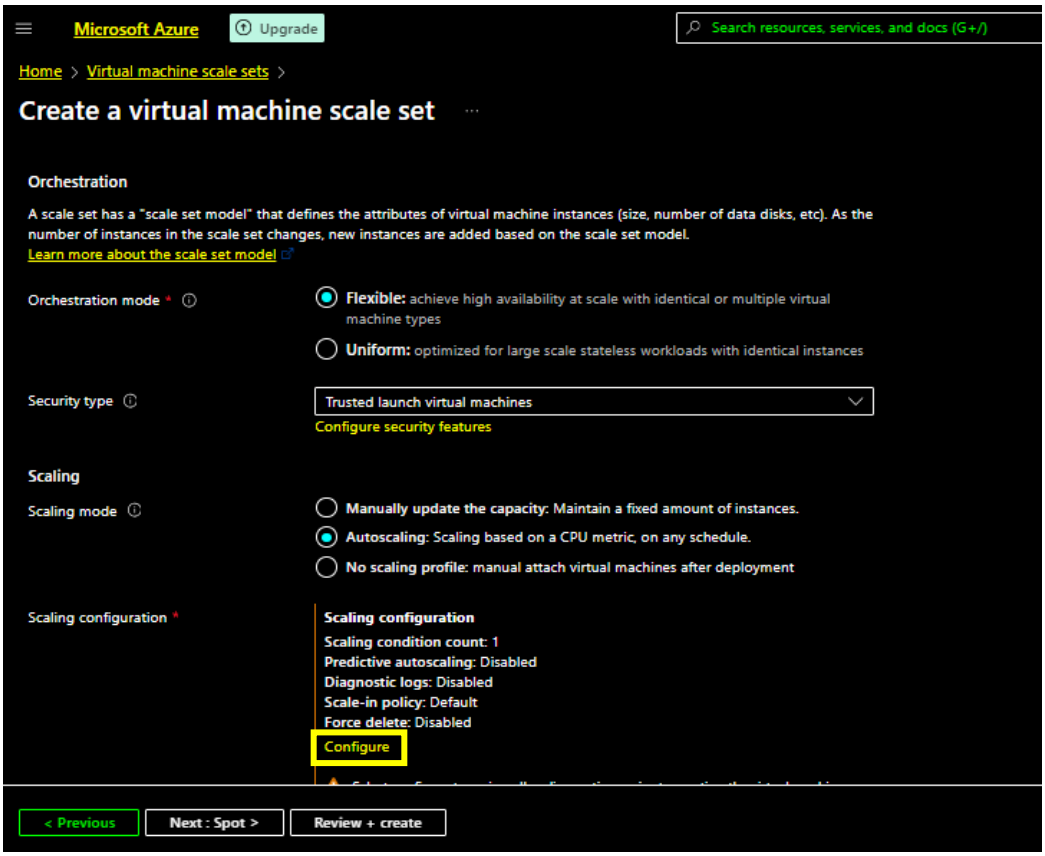
Tasks To Be Performed:

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

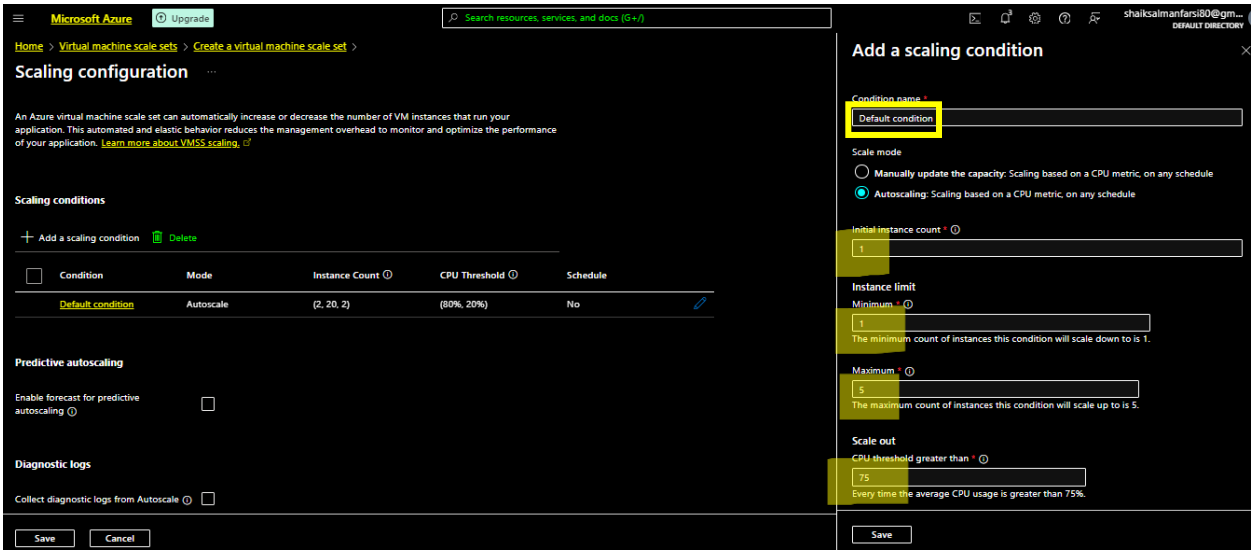
Search Virtual Machine Scale sets and Create



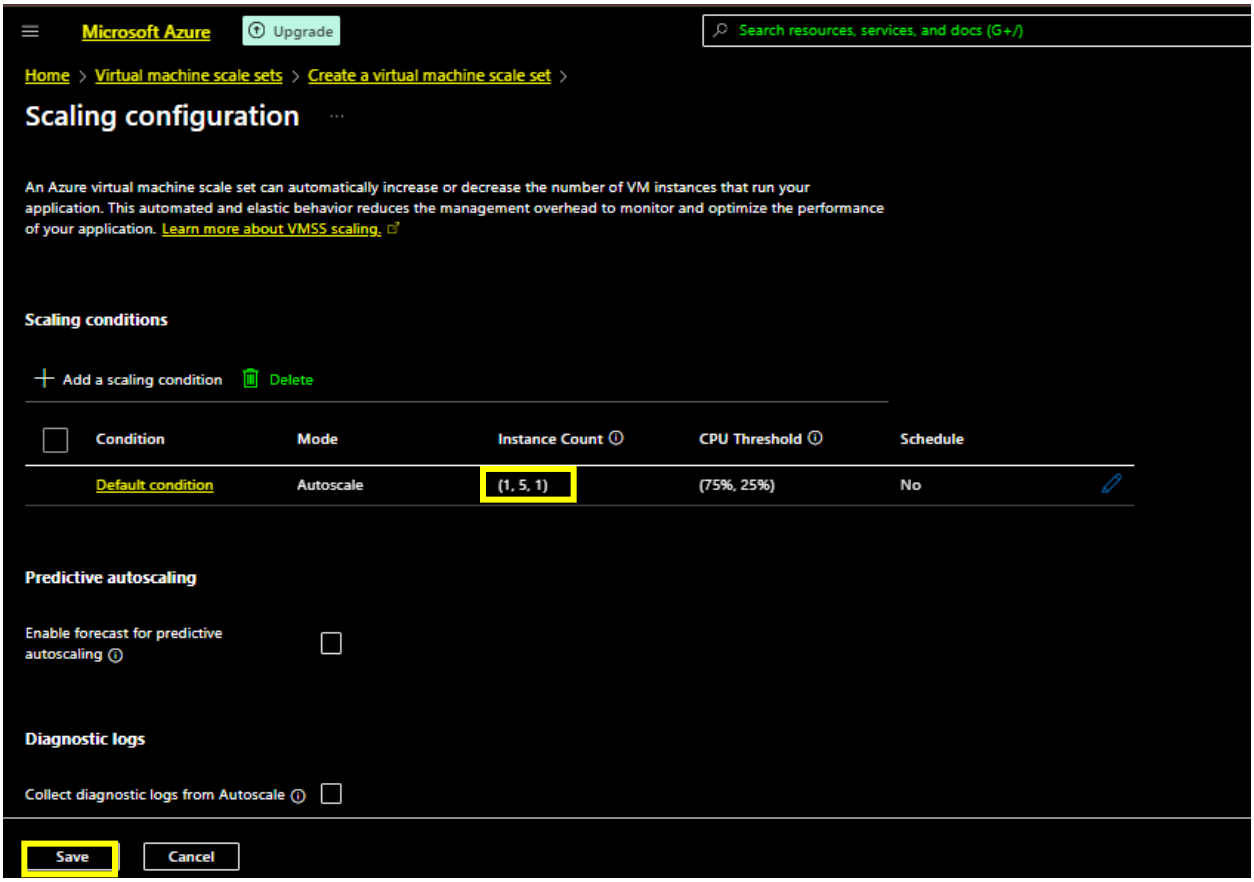
Click Configuration

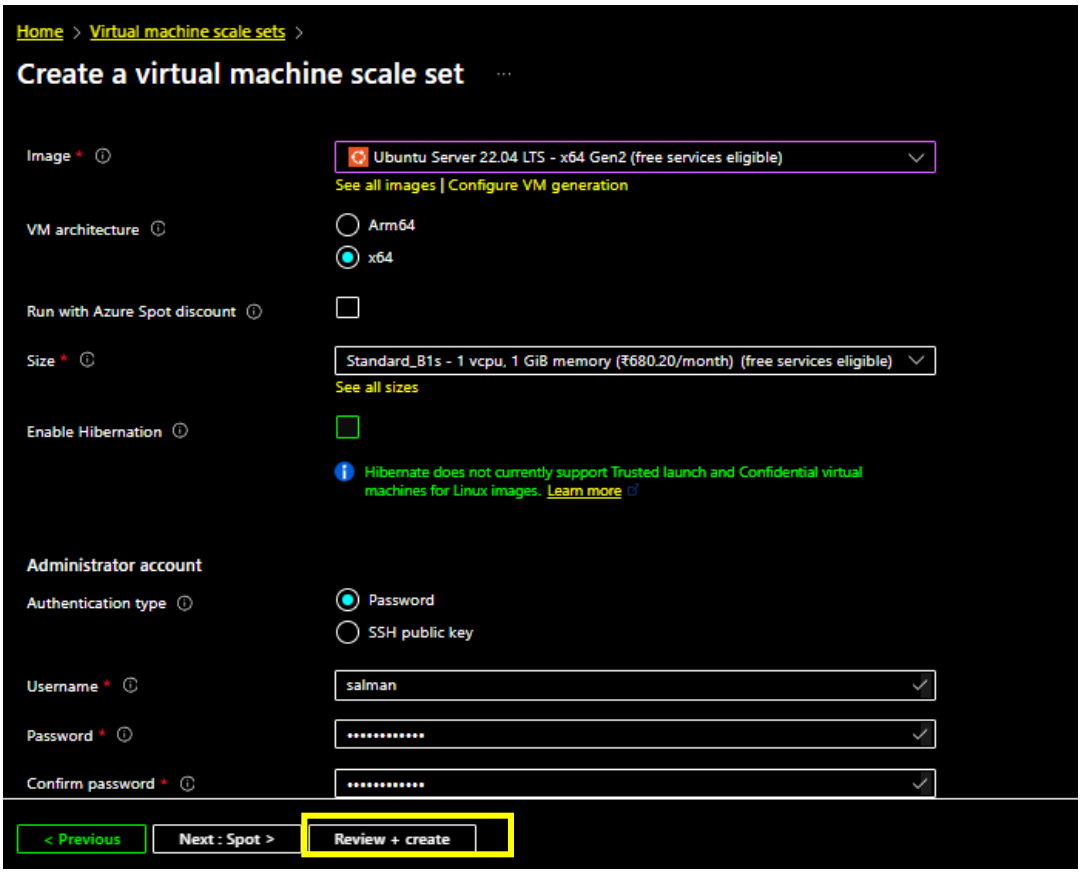


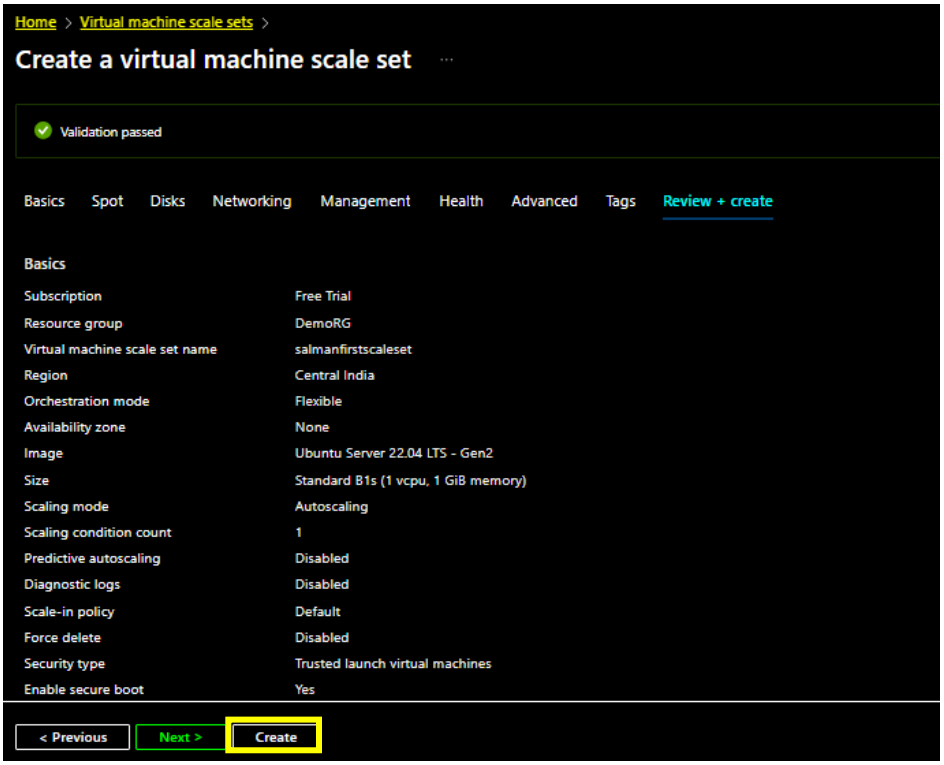
Need to Set Up Assignment Task Here



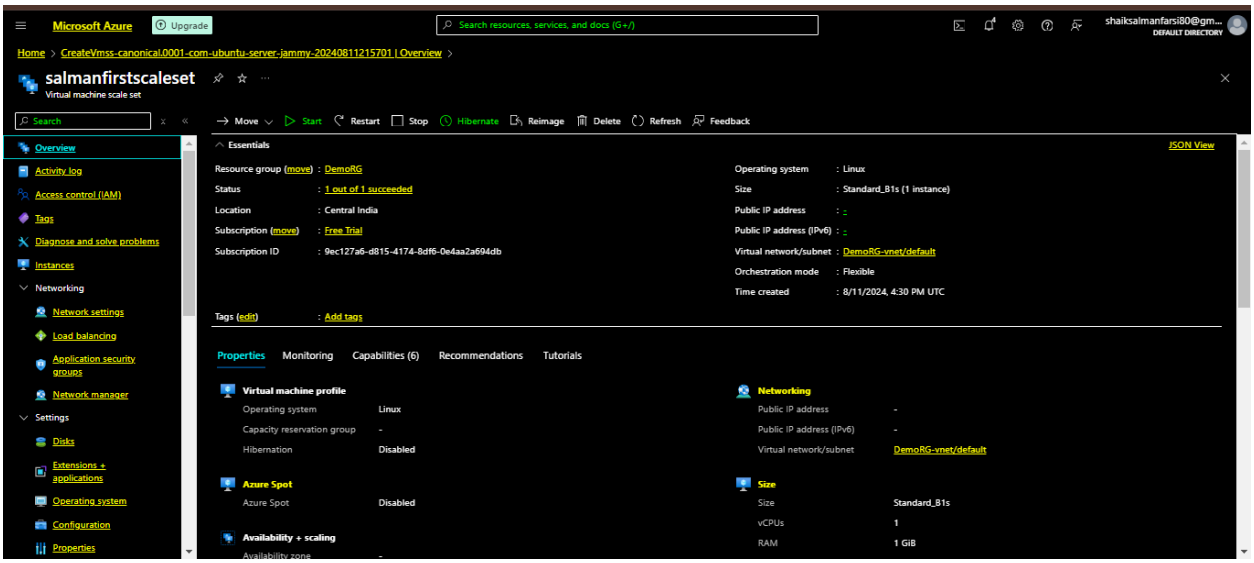

Microsoft Azure
Upgrade
Search resources, services, and docs (G+/)
Home > Virtual machine scale sets > Create a virtual machine scale set >
Scaling configuration
An Azure virtual machine scale set can automatically increase or decrease the number of VM instances that run your application. This automated and elastic behavior reduces the management overhead to monitor and optimize the performance of your application. Learn more about VMSS scaling.
Scaling conditions
Add a scaling condition
Delete
Condition
Mode
Instance Count
CPU Threshold
Schedule
Default condition
Autoscale
(2, 20, 2)
(80%, 20%)
No
Predictive autoscaling
Enable forecast for predictive autoscaling
Diagnostic logs
Collect diagnostic logs from Autoscale
Save
Cancel
Add a scaling condition
75
Every time the average CPU usage is greater than 75%.
Increase instance count by *
1
The condition will increase the instance count by 1 instances
Scale in
CPU threshold less than *
25
Every time the average CPU usage is less than 25%.
Decrease instance count by *
1
The condition will decrease the instance count by 1 instances
Query duration
Minutes *
10
Schedule
This is the auto created default condition. This condition cannot be
can disable autoscale to turn off autoscale. Since this condition is ex
schedule(s) of the other scale condition(s) match, scheduling will not
condition.
Save


Microsoft Azure
Upgrade
Search resources, services, and docs (G+/)
Home > Virtual machine scale sets > Create a virtual machine scale set >
Scaling configuration
An Azure virtual machine scale set can automatically increase or decrease the number of VM instances that run your application. This automated and elastic behavior reduces the management overhead to monitor and optimize the performance of your application. Learn more about VMSS scaling.
Scaling conditions
Add a scaling condition
Delete
Condition
Mode
Instance Count
CPU Threshold
Schedule
Default condition
Autoscale
(1, 5, 1)
(75%, 25%)
No
Predictive autoscaling
Enable forecast for predictive autoscaling
Diagnostic logs
Collect diagnostic logs from Autoscale
Save
Cancel


Home > Virtual machine scale sets >
Create a virtual machine scale set
Image *
Ubuntu Server 22.04 LTS - x64 Gen2 (free services eligible)
See all images | Configure VM generation
VM architecture
Arm64
x64
Run with Azure Spot discount
Size *
Standard_B1s - 1 vcpu, 1 GiB memory (₹680.20/month) (free services eligible)
See all sizes
Enable Hibernation
Hibernate does not currently support Trusted launch and Confidential virtual machines for Linux images. Learn more
Administrator account
Authentication type
Password
SSH public key
Username *
salman
Password *
Confirm password *
< Previous
Next : Spot >
Review + create


Home > Virtual machine scale sets >
Create a virtual machine scale set
Validation passed
Basics
Spot
Disks
Networking
Management
Health
Advanced
Tags
Review + create
Basics
Subscription
Free Trial
Resource group
DemoRG
Virtual machine scale set name
salmanfirstscaleset
Region
Central India
Orchestration mode
Flexible
Availability zone
None
Image
Ubuntu Server 22.04 LTS - Gen2
Size
Standard B1s (1 vcpu, 1 GiB memory)
Scaling mode
Autoscaling
Scaling condition count
1
Predictive autoscaling
Disabled
Diagnostic logs
Disabled
Scale-in policy
Default
Force delete
Disabled
Security type
Trusted launch virtual machines
Enable secure boot
Yes
< Previous
Next >
Create

Assignment Task Completed



Module 4: Assignment - 4

Azure 104 Certification Course

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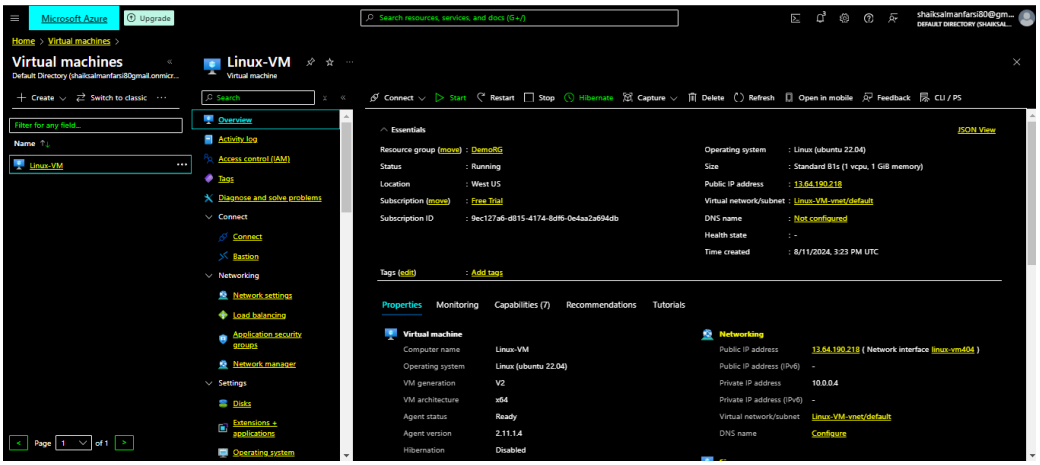
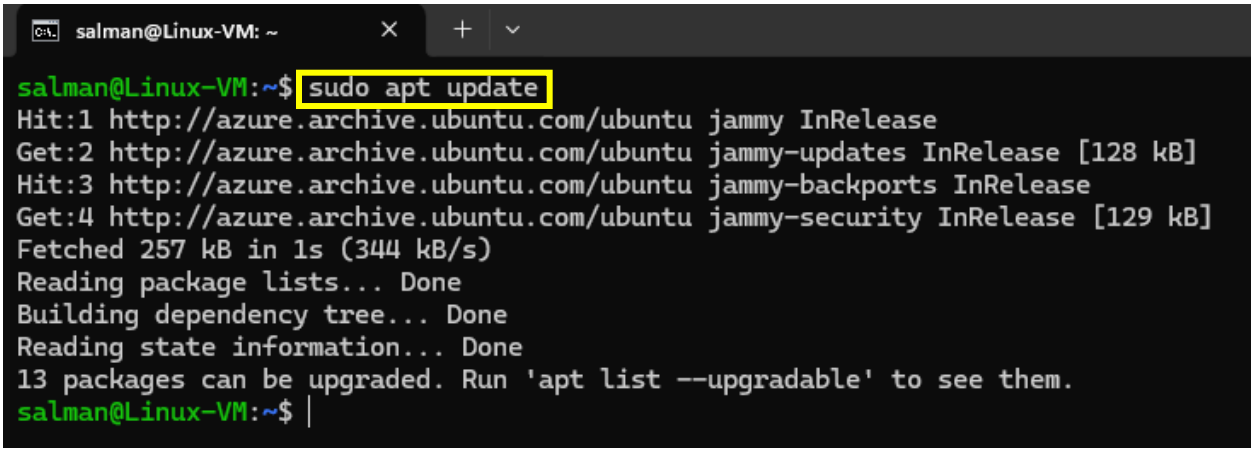
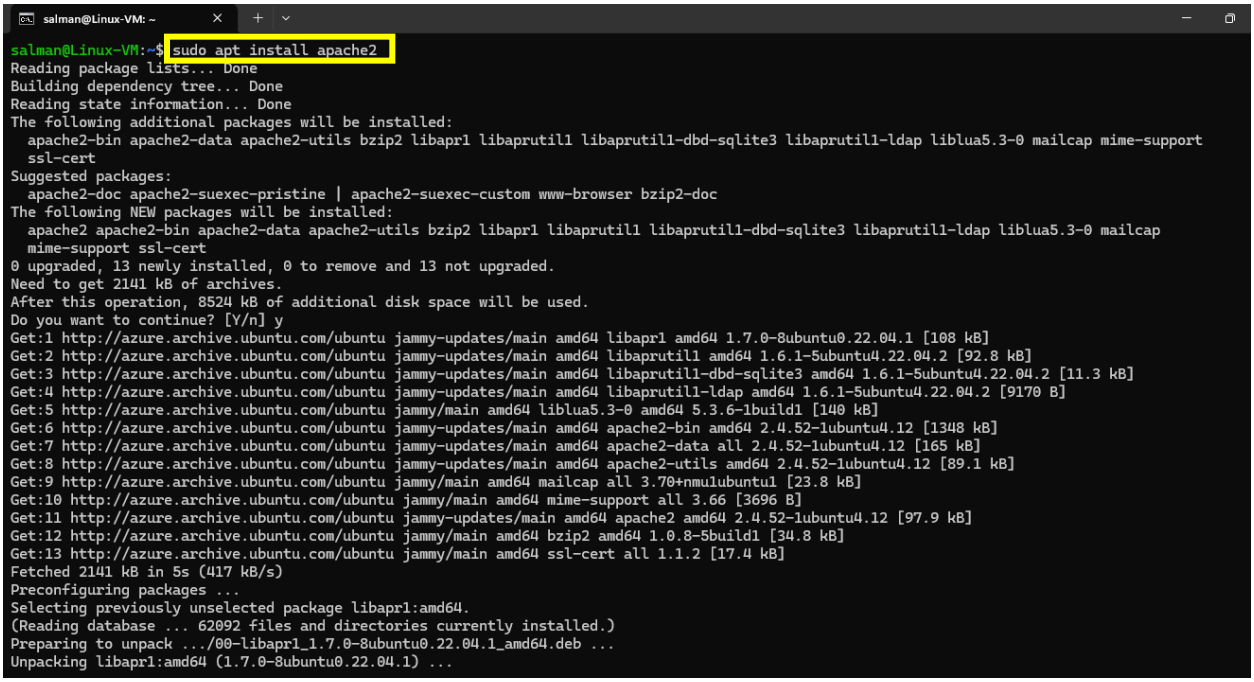
Tasks To Be Performed:

1. Create a Linux VM with Ubuntu OS
2. Install Apache2 software
3. Create image out of VM

In Assignment I installed ubuntu virtual machine and I am using the same VM now

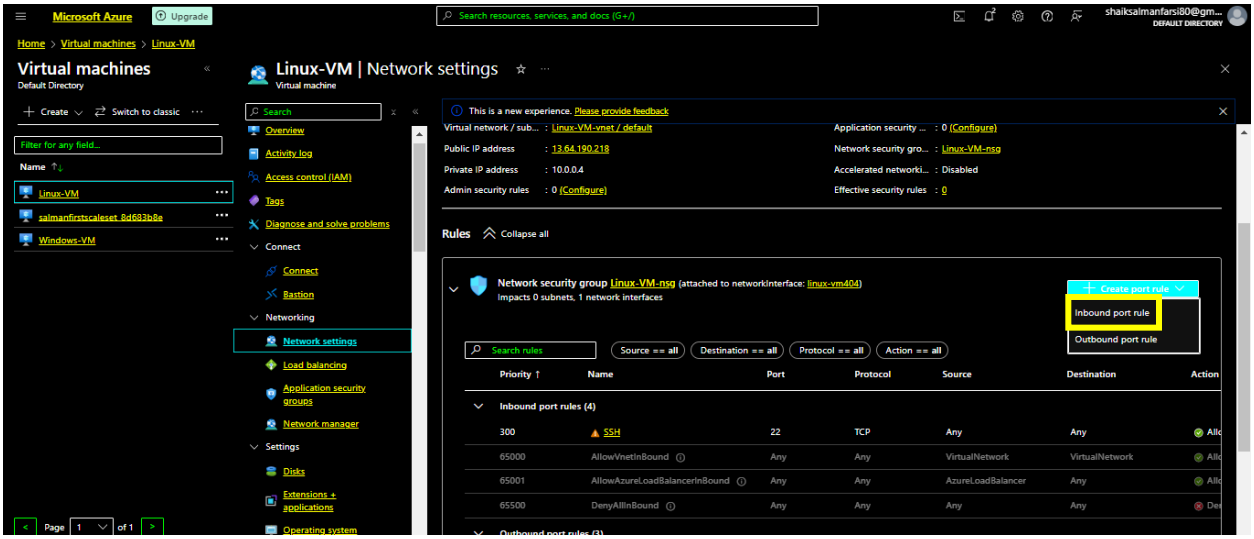


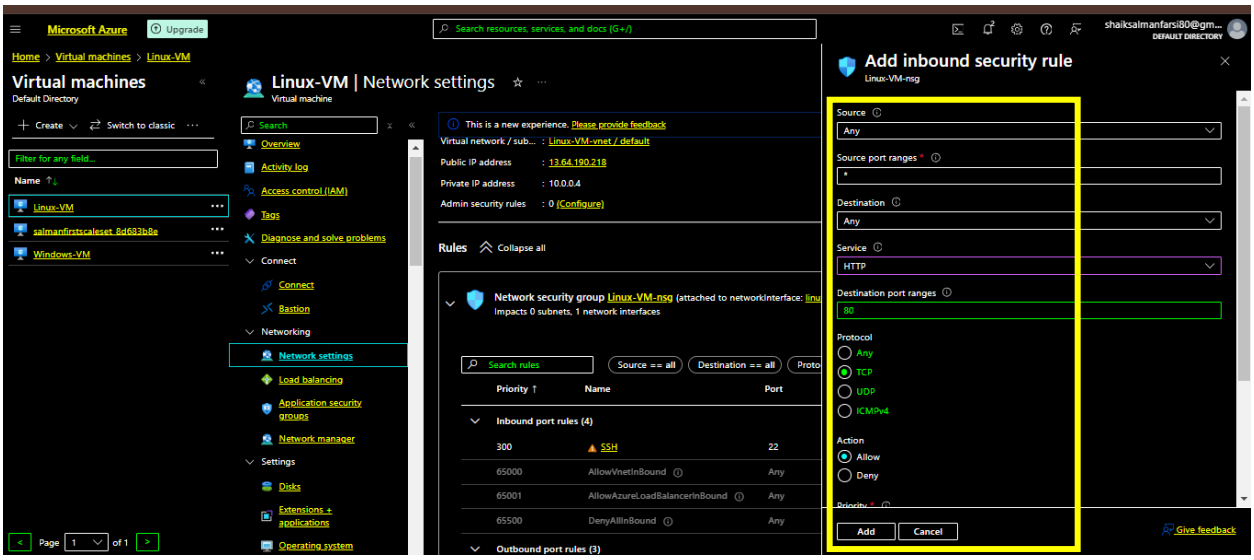


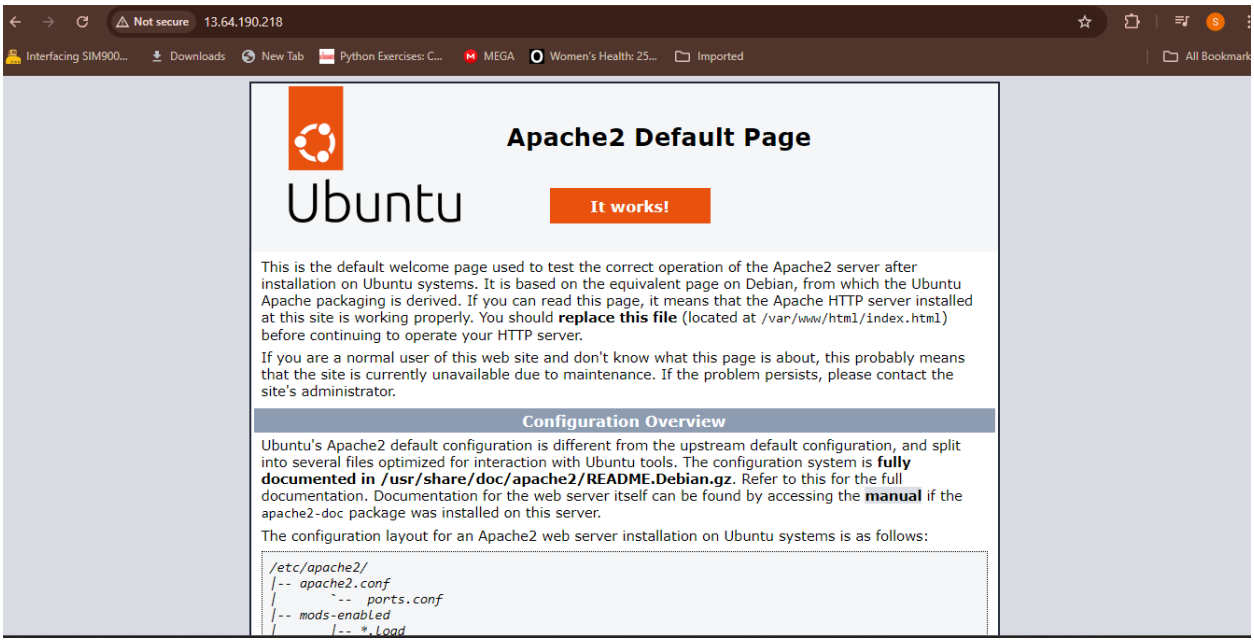


```
No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
salman@Linux-VM:~$
```

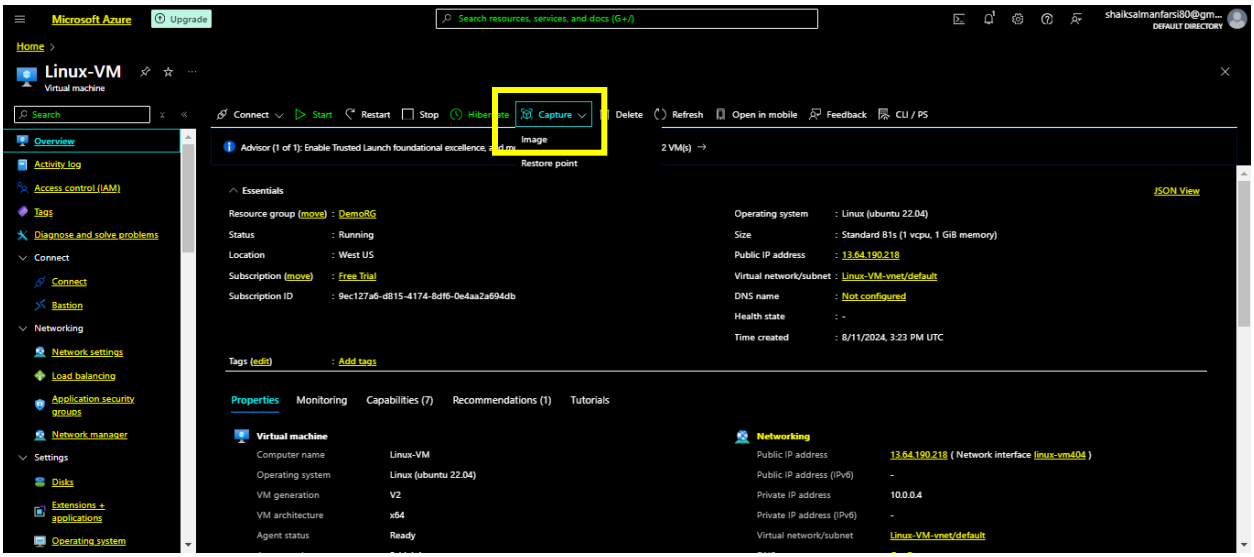
I am using Assignment 1 VM so on that time we are not enable to http port so here need to modify

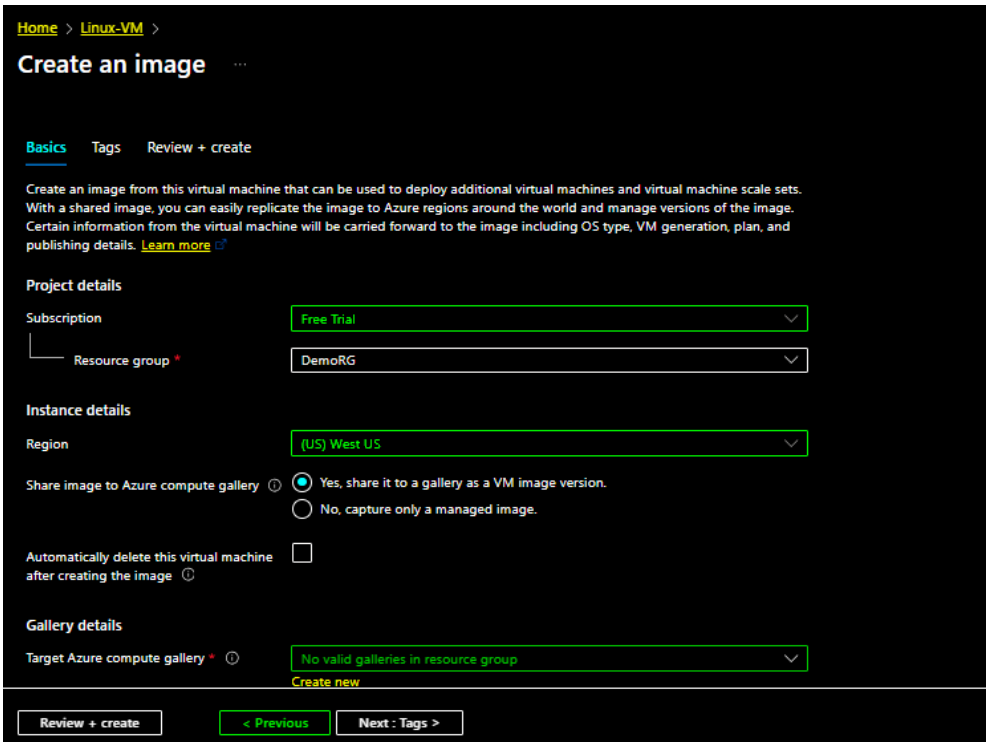


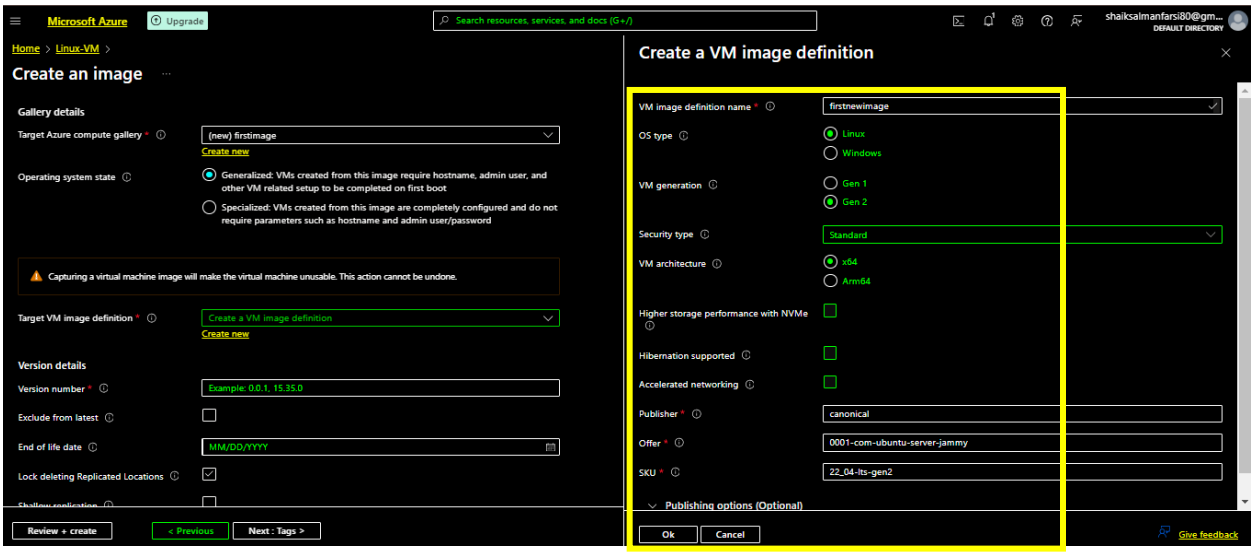


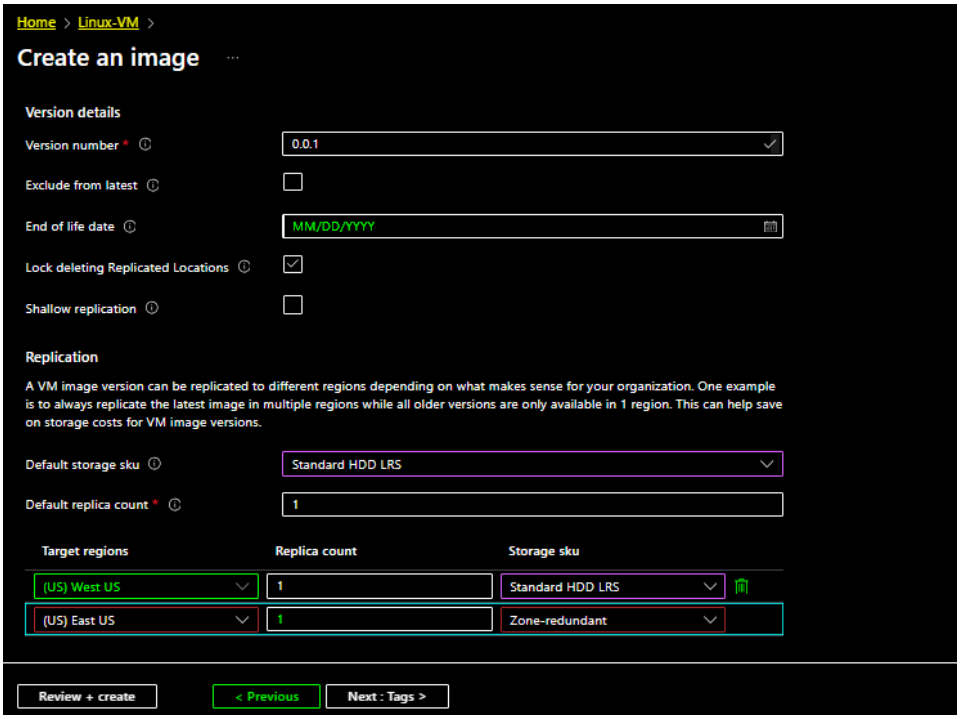


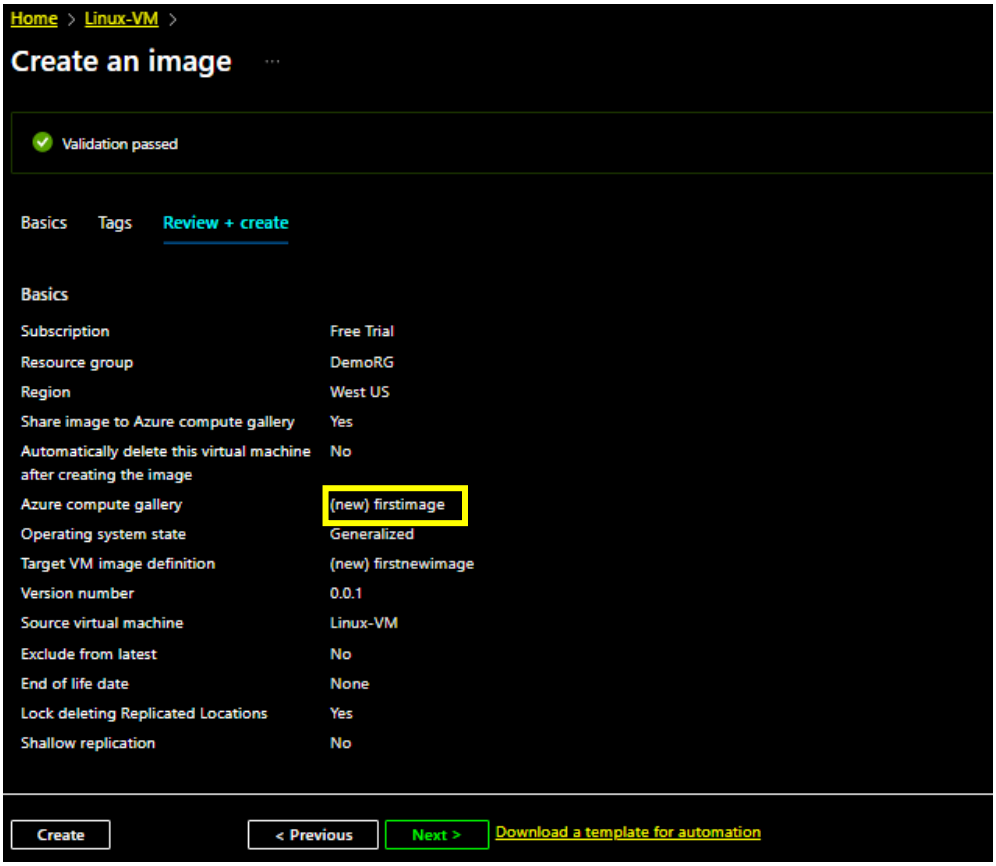
Now Creating Image



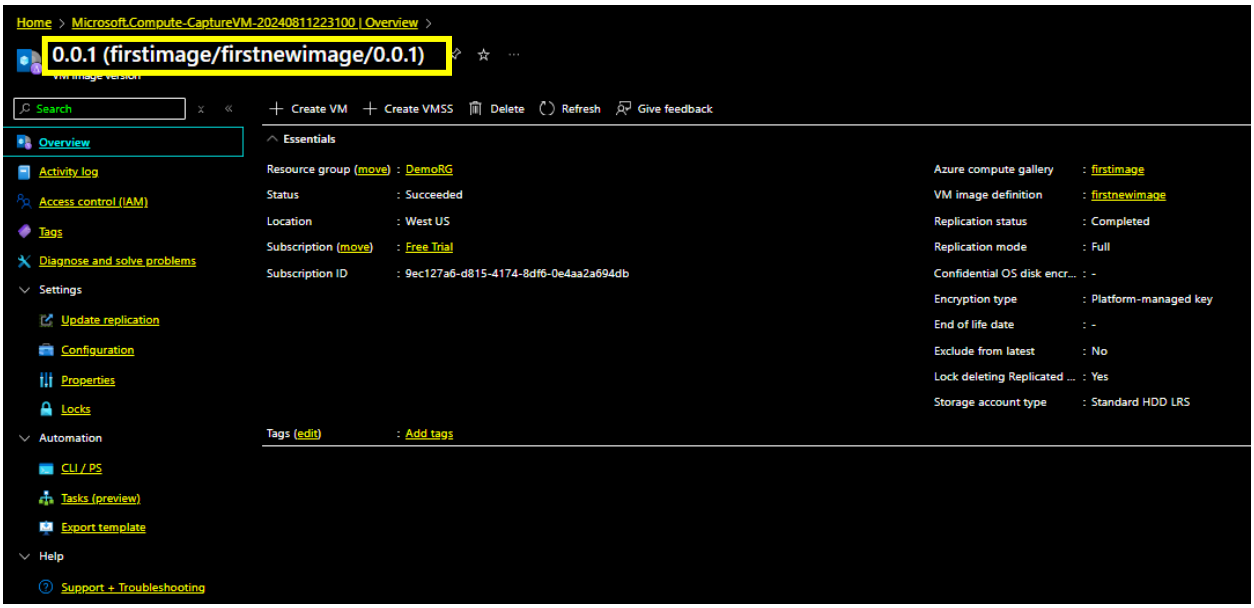

Home > Linux-VM >
Create an image
Basics
Tags
Review + create
Create an image from this virtual machine that can be used to deploy additional virtual machines and virtual machine scale sets. With a shared image, you can easily replicate the image to Azure regions around the world and manage versions of the image. Certain information from the virtual machine will be carried forward to the image including OS type, VM generation, plan, and publishing details. Learn more
Project details
Subscription
Free Trial
Resource group *
DemoRG
Instance details
Region
(US) West US
Share image to Azure compute gallery
Yes, share it to a gallery as a VM image version.
No, capture only a managed image.
Automatically delete this virtual machine after creating the image
Gallery details
Target Azure compute gallery *
No valid galleries in resource group
Create new
Review + create
< Previous
Next : Tags >


Microsoft Azure
Upgrade
Search resources, services, and docs (G+/)
shaiksalmanfarsi80@gm...
DEFAULT DIRECTORY
Home > Linux-VM >
Create an image
Gallery details
Target Azure compute gallery *
(new) firstimage
Create new
Operating system state
Generalized: VMs created from this image require hostname, admin user, and other VM related setup to be completed on first boot
Specialized: VMs created from this image are completely configured and do not require parameters such as hostname and admin user/password
Capturing a virtual machine image will make the virtual machine unusable. This action cannot be undone.
Target VM image definition *
Create a VM image definition
Create new
Version details
Version number *
Example: 0.0.1, 15.35.0
Exclude from latest
End of life date
MM/DD/YYYY
Lock deleting Replicated Locations
Review + create
< Previous
Next : Tags >
Create a VM image definition
VM image definition name *
firstnewimage
OS type
Linux
Windows
VM generation
Gen 1
Gen 2
Security type
Standard
VM architecture
x64
Arm64
Higher storage performance with NVMe
Hibernation supported
Accelerated networking
Publisher *
canonical
Offer *
0001-com-ubuntu-server-jammy
SKU *
22_04-lts-gen2
Publishing options (Optional)
Ok
Cancel
Give feedback


Home > Linux-VM >
Create an image
Version details
Version number *
0.0.1
Exclude from latest
End of life date
MM/DD/YYYY
Lock deleting Replicated Locations
Shallow replication
Replication
A VM image version can be replicated to different regions depending on what makes sense for your organization. One example is to always replicate the latest image in multiple regions while all older versions are only available in 1 region. This can help save on storage costs for VM image versions.
Default storage sku
Standard HDD LRS
Default replica count *
1
Target regions
Replica count
Storage sku
(US) West US
1
Standard HDD LRS
(US) East US
1
Zone-redundant
Review + create
< Previous
Next : Tags >


Home > Linux-VM >
Create an image
Validation passed
Basics
Tags
Review + create
Basics
Subscription
Free Trial
Resource group
DemoRG
Region
West US
Share image to Azure compute gallery
Yes
Automatically delete this virtual machine after creating the image
No
Azure compute gallery
(new) firstimage
Operating system state
Generalized
Target VM image definition
(new) firstnewimage
Version number
0.0.1
Source virtual machine
Linux-VM
Exclude from latest
No
End of life date
None
Lock deleting Replicated Locations
Yes
Shallow replication
No
Create
< Previous
Next >
Download a template for automation

Now the Assignment Task is completed



Module 4: Assignment - 5

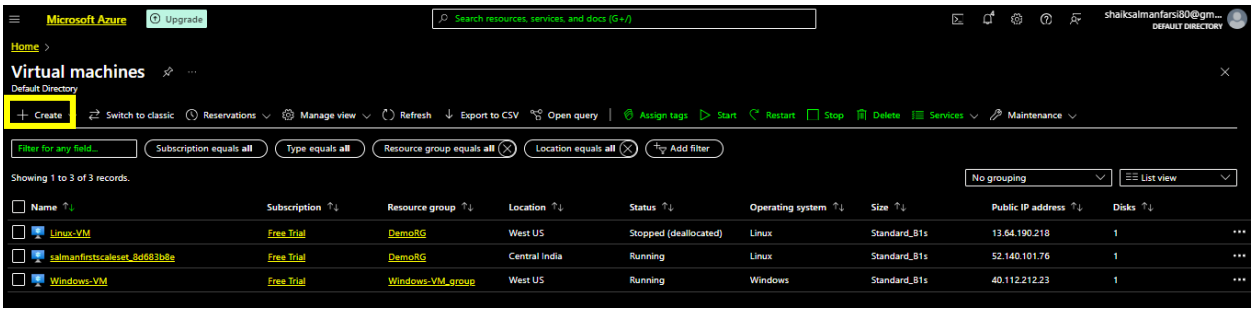
Azure 104 Certification Course

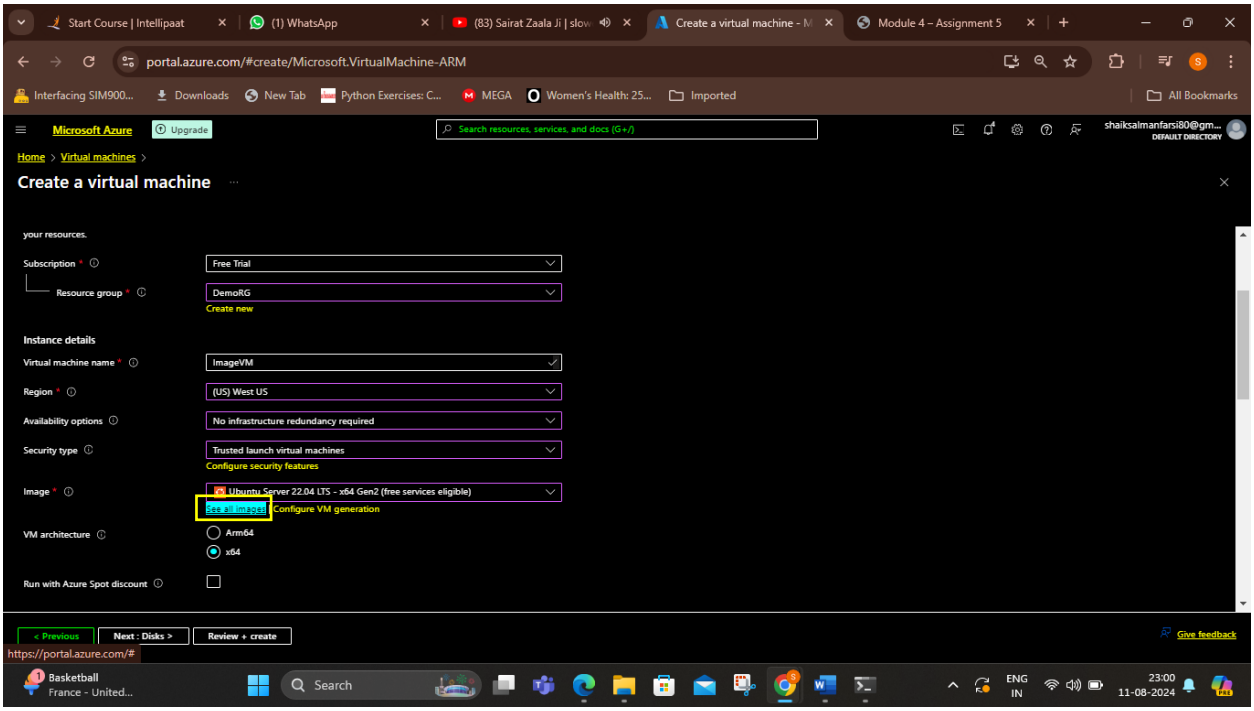
IntelliPaat

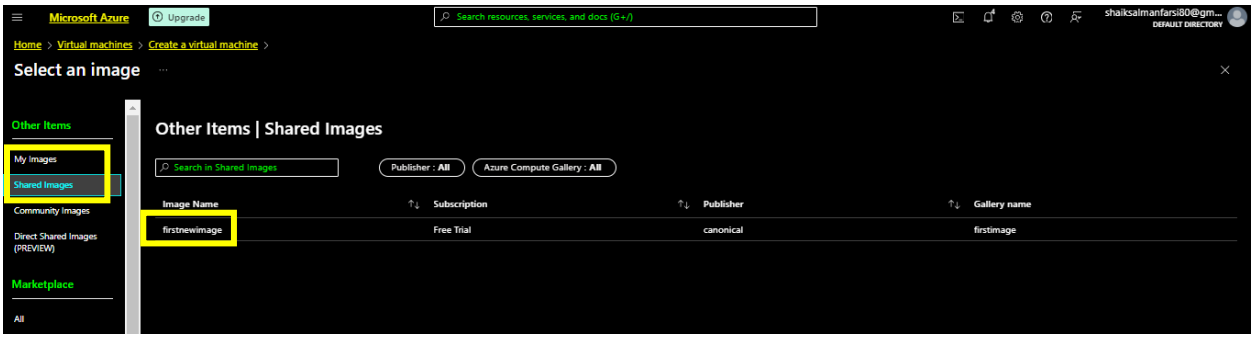
Tasks To Be Performed:

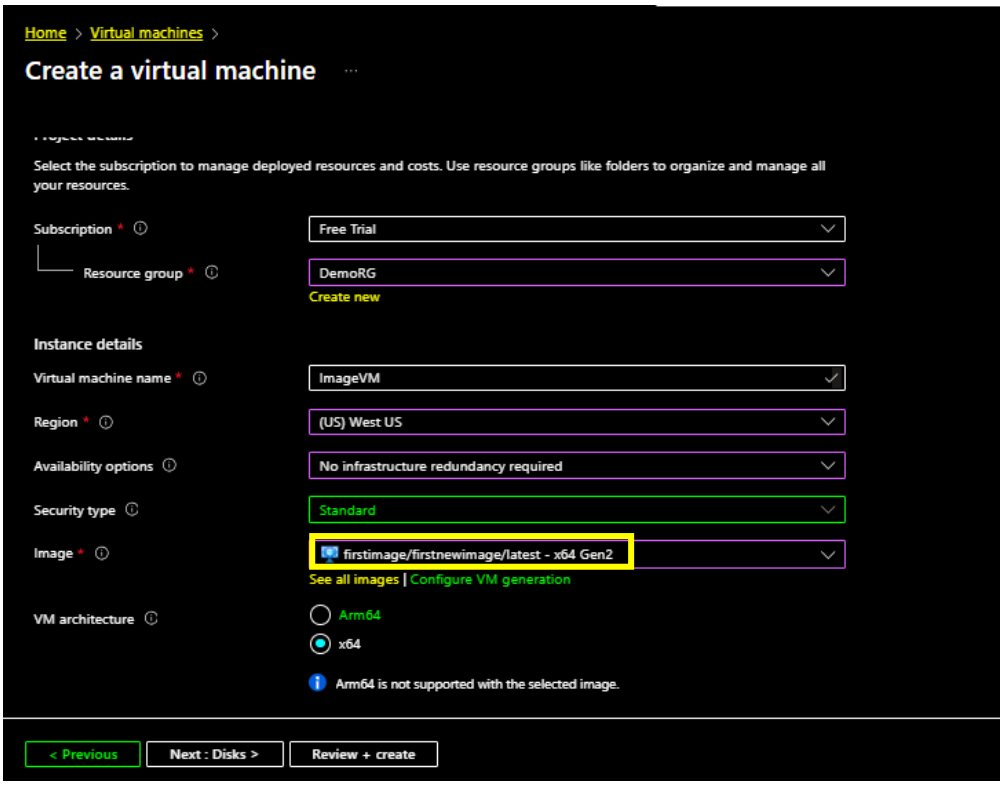
1. Deploy a VM from the previously created image
2. Open port 80 in NSG
3. Start the Apache2 service in the VM
4. Verify if you are able to access the website

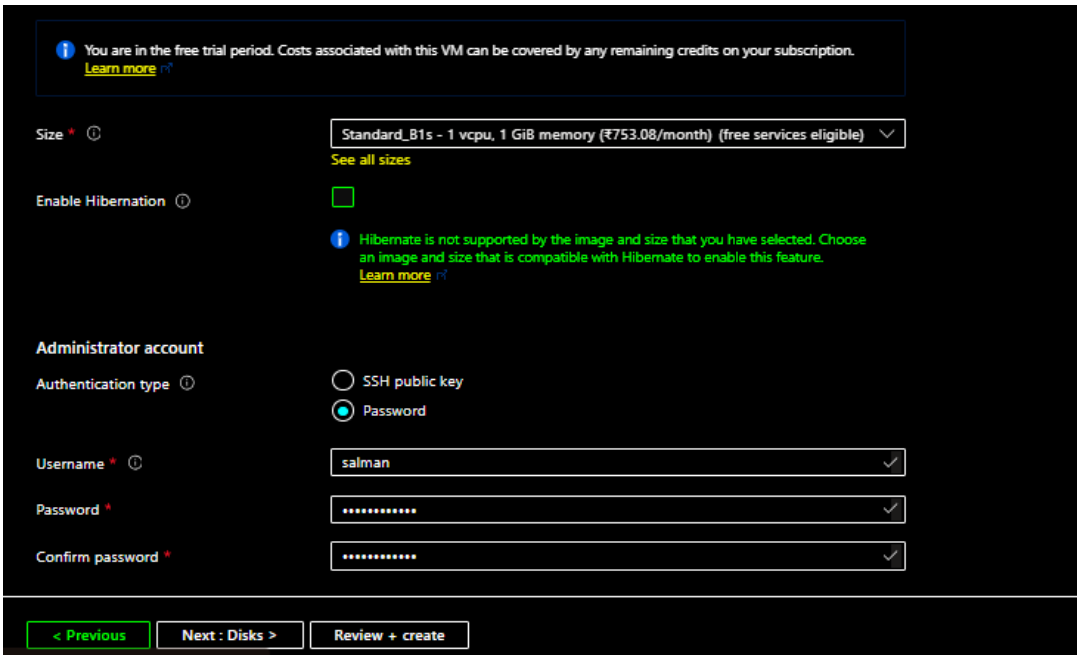
Now Deploying VM using with Previously created Image

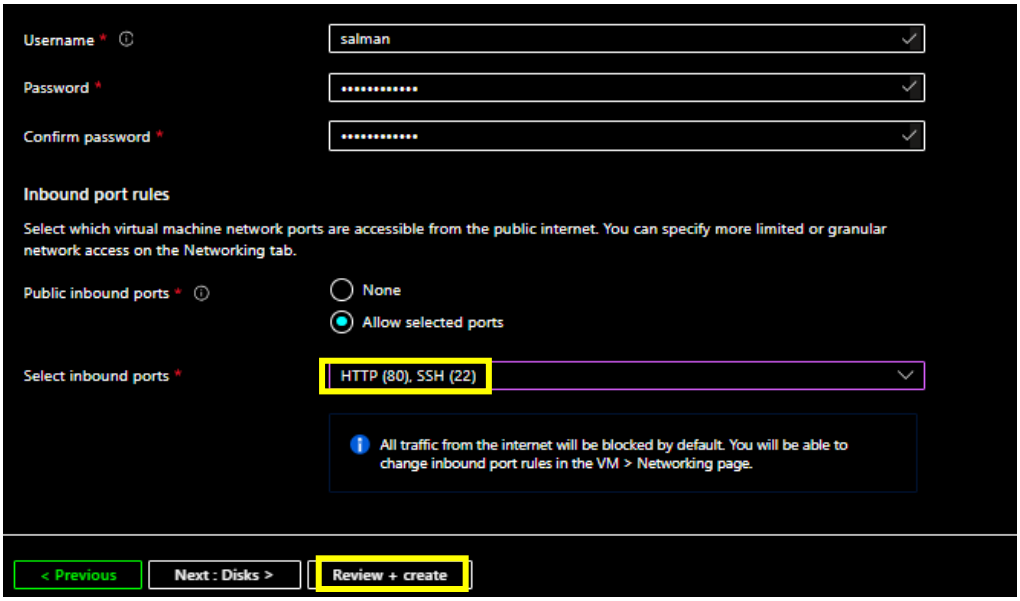


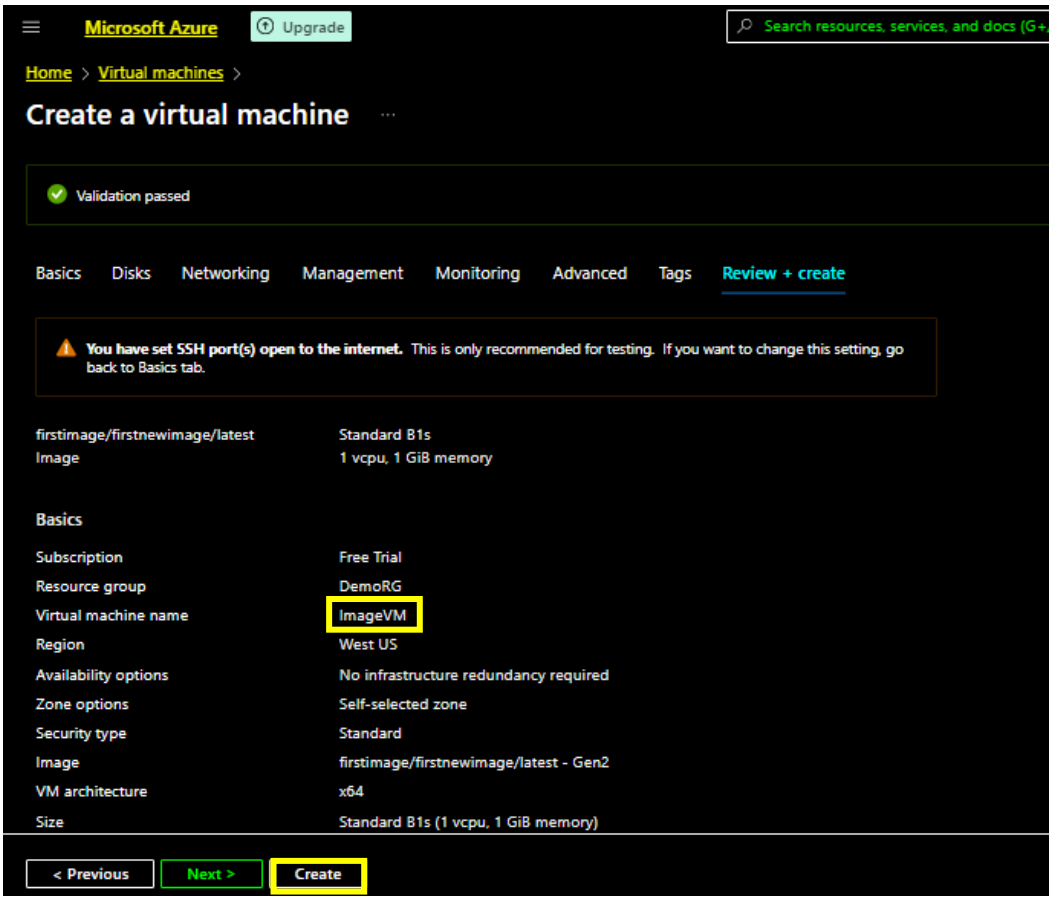

Start Course | Intellipaat
(1) WhatsApp
(83) Sairat Zaala Ji | slow
Create a virtual machine - M
Module 4 – Assignment 5
portal.azure.com/#create/Microsoft.VirtualMachine-ARM
Interfacing SIM900...
Downloads
New Tab
Python Exercises: C...
MEGA
Women's Health: 25...
Imported
All Bookmarks
Microsoft Azure
Upgrade
Search resources, services, and docs (G+/)
shaiksalmanfarsi80@gm...
DEFAULT DIRECTORY
Home > Virtual machines >
Create a virtual machine
your resources.
Subscription *
Free Trial
Resource group *
DemoRG
Create new
Instance details
Virtual machine name *
ImageVM
Region *
(US) West US
Availability options
No infrastructure redundancy required
Security type
Trusted launch virtual machines
Configure security features
Image *
Ubuntu Server 22.04 LTS - x64 Gen2 (free services eligible)
See all images
Configure VM generation
VM architecture
Arm64
x64
Run with Azure Spot discount
< Previous
Next : Disks >
Review + create
Give feedback
https://portal.azure.com/#
Basketball
France - United...
Search
ENG
IN
23:00
11-08-2024

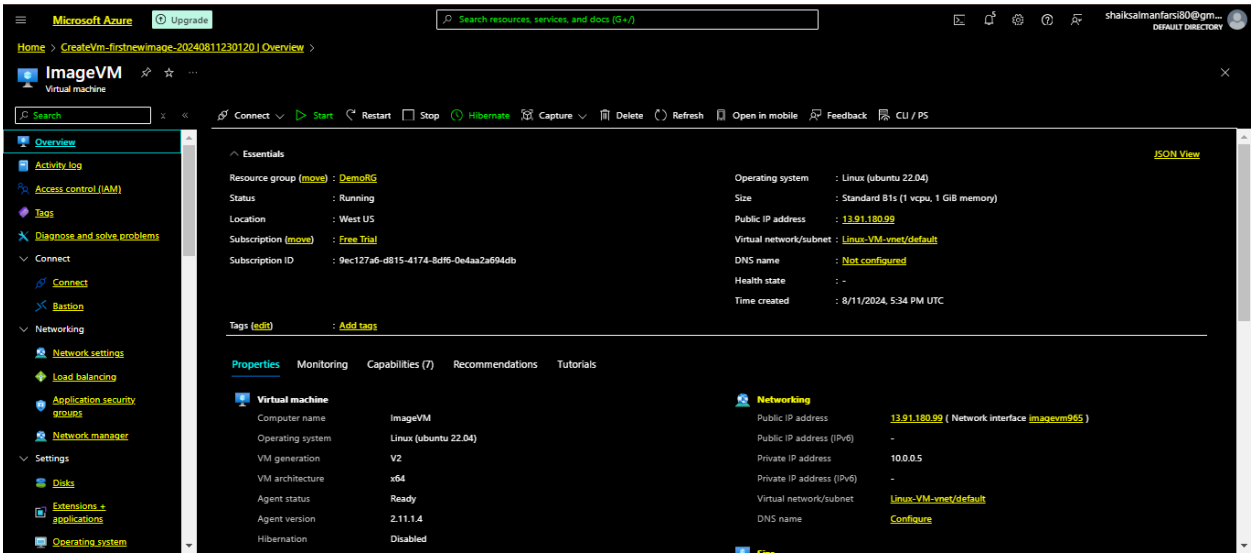

Microsoft Azure
Upgrade
Search resources, services, and docs (G+/)
shaiksalmanfarsi80@gm...
DEFAULT DIRECTORY
Home > Virtual machines > Create a virtual machine >
Select an image
Other Items
My images
Shared Images
Community Images
Direct Shared Images (PREVIEW)
Marketplace
All
Other Items | Shared Images
Search in Shared Images
Publisher : All
Azure Compute Gallery : All
Image Name
Subscription
Publisher
Gallery name
firstnewimage
Free Trial
canonical
firstimage

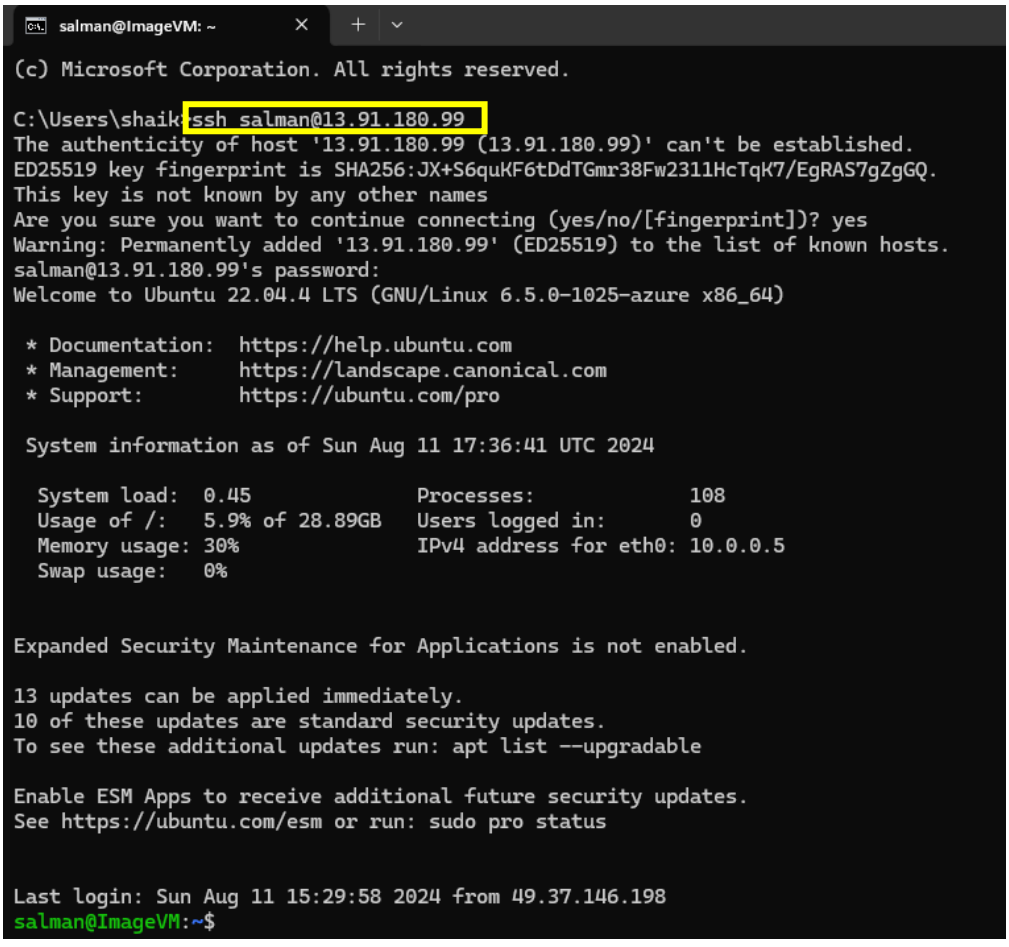

Home > Virtual machines >
Create a virtual machine
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription *
Free Trial
Resource group *
DemoRG
Create new
Instance details
Virtual machine name *
ImageVM
Region *
(US) West US
Availability options
No infrastructure redundancy required
Security type
Standard
Image *
firstimage/firstnewimage/latest - x64 Gen2
See all images | Configure VM generation
VM architecture
Arm64
x64
Arm64 is not supported with the selected image.
< Previous
Next : Disks >
Review + create

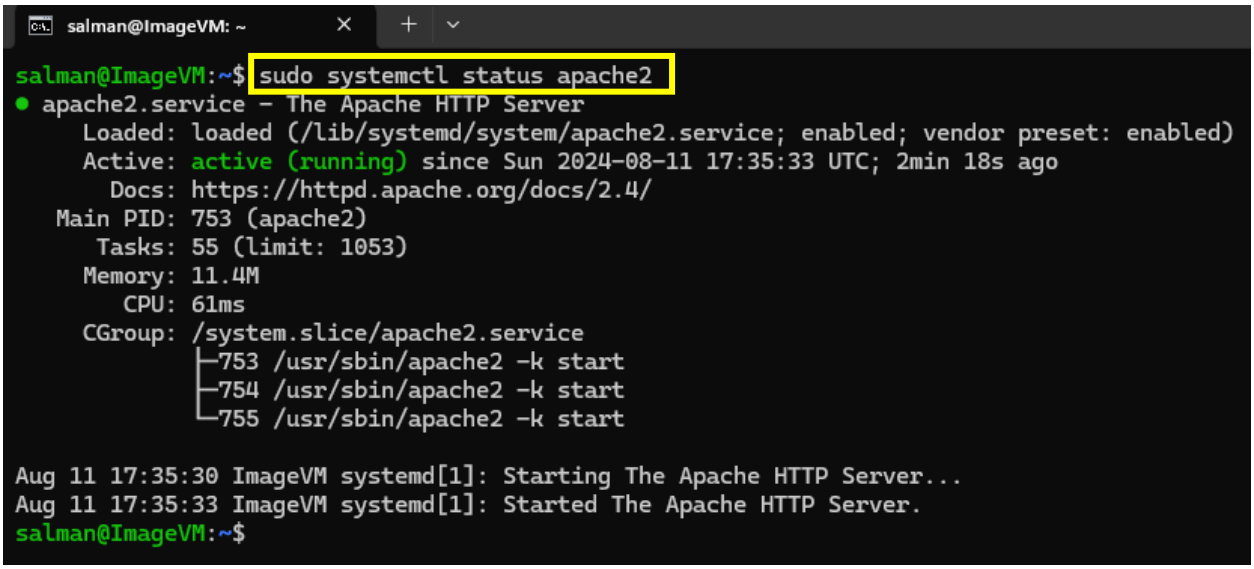

You are in the free trial period. Costs associated with this VM can be covered by any remaining credits on your subscription.
Learn more
Size *
Standard_B1s - 1 vcpu, 1 GiB memory (₹753.08/month) (free services eligible)
See all sizes
Enable Hibernation
Hibernate is not supported by the image and size that you have selected. Choose an image and size that is compatible with Hibernate to enable this feature.
Learn more
Administrator account
Authentication type
SSH public key
Password
Username *
salman
Password *
Confirm password *
< Previous
Next : Disks >
Review + create


Username *
salman
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 *
HTTP (80), SSH (22)
All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.
< Previous
Next : Disks >
Review + create


Microsoft Azure
Upgrade
Search resources, services, and docs (G+
Home > Virtual machines >
Create a virtual machine
Validation passed
Basics Disks Networking Management Monitoring Advanced Tags Review + create
You have set SSH port(s) open to the internet. This is only recommended for testing. If you want to change this setting, go back to Basics tab.
firstimage/firstnewimage/latest
Image
Standard B1s
1 vcpu, 1 GiB memory
Basics
Subscription
Free Trial
Resource group
DemoRG
Virtual machine name
ImageVM
Region
West US
Availability options
No infrastructure redundancy required
Zone options
Self-selected zone
Security type
Standard
Image
firstimage/firstnewimage/latest - Gen2
VM architecture
x64
Size
Standard B1s (1 vcpu, 1 GiB memory)
< Previous
Next >
Create


Microsoft Azure
Upgrade
Search resources, services, and docs (G+/)
shaiksalmanfarsi80@gm...
DEFAULT DIRECTORY
Home > CreateVm-firstnewimage-20240811230120 | Overview >
ImageVM
Virtual machine
Search
Connect
Start
Restart
Stop
Hibernate
Capture
Delete
Refresh
Open in mobile
Feedback
CLI / PS
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Connect
Bastion
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Disks
Extensions + applications
Operating system
Essentials
JSON View
Resource group (move) : DemoRG
Status : Running
Location : West US
Subscription (move) : Free Trial
Subscription ID : 9ec127a6-d815-4174-8df6-0e4aa2a694db
Operating system : Linux (ubuntu 22.04)
Size : Standard B1s (1 vcpu, 1 GiB memory)
Public IP address : 13.91.180.99
Virtual network/subnet : Linux-VM-vnet/default
DNS name : Not configured
Health state : -
Time created : 8/11/2024, 5:34 PM UTC
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (7)
Recommendations
Tutorials
Virtual machine
Computer name ImageVM
Operating system Linux (ubuntu 22.04)
VM generation V2
VM architecture x64
Agent status Ready
Agent version 2.11.1.4
Hibernation Disabled
Networking
Public IP address 13.91.180.99 (Network interface imagevm965)
Public IP address (IPv6) -
Private IP address 10.0.0.5
Private IP address (IPv6) -
Virtual network/subnet Linux-VM-vnet/default
DNS name Configure


salman@ImageVM: ~
(c) Microsoft Corporation. All rights reserved.
C:\Users\shaik>ssh salman@13.91.180.99
The authenticity of host '13.91.180.99 (13.91.180.99)' can't be established.
ED25519 key fingerprint is SHA256:JX+S6quKF6tDdTGmr38Fw2311HcTqK7/EgRAS7gZgGQ.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '13.91.180.99' (ED25519) to the list of known hosts.
salman@13.91.180.99's password:
Welcome to Ubuntu 22.04.4 LTS (GNU/Linux 6.5.0-1025-azure x86_64)
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/pro
System information as of Sun Aug 11 17:36:41 UTC 2024
System load: 0.45
Usage of /: 5.9% of 28.89GB
Memory usage: 30%
Swap usage: 0%
Processes: 108
Users logged in: 0
IPv4 address for eth0: 10.0.0.5
Expanded Security Maintenance for Applications is not enabled.
13 updates can be applied immediately.
10 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
Last login: Sun Aug 11 15:29:58 2024 from 49.37.146.198
salman@ImageVM:~$


salman@ImageVM: ~
salman@ImageVM:~$ sudo systemctl status apache2
● apache2.service - The Apache HTTP Server
Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
Active: active (running) since Sun 2024-08-11 17:35:33 UTC; 2min 18s ago
Docs: https://httpd.apache.org/docs/2.4/
Main PID: 753 (apache2)
Tasks: 55 (limit: 1053)
Memory: 11.4M
CPU: 61ms
CGroup: /system.slice/apache2.service
├─753 /usr/sbin/apache2 -k start
├─754 /usr/sbin/apache2 -k start
└─755 /usr/sbin/apache2 -k start
Aug 11 17:35:30 ImageVM systemd[1]: Starting The Apache HTTP Server...
Aug 11 17:35:33 ImageVM systemd[1]: Started The Apache HTTP Server.
salman@ImageVM:~$


Not secure
13.91.180.99
Interfacing SIM900...
Downloads
New Tab
Python Exercises: C...
MEGA
Women's Health: 25...
Imported
Apache2 Default Page
Ubuntu
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