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Registration no: 2280151

Program: BSSE

Section: B

Lab 06 - Secure Network Traffic

Task 1 – Create a Virtual Machine

The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal. The user is logged in as 'bsse2280151@szabist.pk'. The page is titled 'Create a virtual machine' and includes a search bar and navigation links. The 'Basics' tab is selected, showing options to create a low-cost VM, a VM optimized for high availability, or choose the right VM size. The 'Project details' section shows the subscription 'Azure for Students' and the resource group '(New) Lab06-RG'. A message indicates that the subscription may not be eligible for certain VM sizes in certain regions. The 'Review + create' button is visible at the bottom.

Microsoft Azure | Search resources, services, and docs (G+/I) | Copilot | bsse2280151@szabist.pk | DEFAULT DIRECTORY

All services > Compute infrastructure | Virtual machines >

Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

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

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

i This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * **i** | Azure for Students

Resource group * **i** | (New) Lab06-RG

< Previous | Next : Disks > | Review + create

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The screenshot shows the 'Create a virtual machine' wizard in the Microsoft Azure portal, Step 2: Instance details. The user is logged in as 'bsse2280151@szabist.pk'. The 'Resource group' is '(New) Lab06-RG'. The 'Instance details' section shows the virtual machine name 'SimpleWinVM', the region '(Asia Pacific) Central India', and the availability options 'Availability zone'. The 'Zone options' section shows 'Self-selected zone' selected, with a note that using an Azure-selected zone is not supported in the region 'Central India'. The 'Review + create' button is visible at the bottom.

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Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

Resource group * **i** | (New) Lab06-RG

Instance details

Virtual machine name * **i** | SimpleWinVM

Region * **i** | (Asia Pacific) Central India

Availability options **i** | Availability zone

Zone options **i**

☒ Self-selected zone
Choose up to 3 availability zones, one VM per zone

☐ Azure-selected zone (Preview)
Let Azure assign the best zone for your needs

i Using an Azure-selected zone is not supported in region 'Central India'.

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Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Availability zone * ⓘ

Zone 2

You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type ⓘ

Trusted launch virtual machines

[Configure security features](#)

Image * ⓘ

Windows Server 2019 Datacenter - x64 Gen2

[See all images](#) | [Configure VM generation](#)

VM architecture ⓘ

Arm64

x64

Arm64 is not supported with the selected image.

Run with Azure Spot discount ⓘ

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Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Run with Azure Spot discount ⓘ

Size * ⓘ

Standard_D2s_v3 - 2 vcpus, 8 GiB memory (\$143.81/month)

[See all sizes](#)

Enable Hibernation ⓘ

Hibernate is not supported by the size that you have selected. Choose a size that is compatible with Hibernation to enable this feature. [Learn more](#)

Administrator account

Username * ⓘ

osamauser

Password *

Confirm password *

Inbound port rules

< Previous Next : Disks > Review + create

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All services > Compute infrastructure | Virtual machines >

Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

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

Select one or more ports

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

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Create a virtual machine

Help me create a low cost VMHelp me create a VM optimized for high availabilityHelp me choose the right VM size for my workload

Help me create a low cost VMHelp me create a VM optimized for high availabilityHelp me choose the right VM size for my workload

Virtual network

(New) vnet-centralindia (Lab06-RG)
Edit virtual network

Subnet

(New) snet-centralindia-1
Edit subnet172.16.0.0 - 172.16.0.255 (256 addresses)

Public IP

Create new

NIC network security group

None

Basic

Advanced

All ports on this virtual machine may be exposed to the public internet. This is a security risk. Use a network security group to limit public access to specific ports. You can also select a subnet that already has network security groups defined or remove the public IP address.

< PreviousNext : Management >Review + create

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Create a virtual machine

Help me create a low cost VMHelp me create a VM optimized for high availabilityHelp me choose the right VM size for my workload

Help me create a low cost VMHelp me create a VM optimized for high availabilityHelp me choose the right VM size for my workload

BasicsDisksNetworkingManagementMonitoringAdvancedTagsReview + 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

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Create a virtual machine

Help me create a low cost VMHelp me create a VM optimized for high availabilityHelp me choose the right VM size for my workload

Help me create a low cost VMHelp me create a VM optimized for high availabilityHelp me choose the right VM size for my workload

BasicsDisksNetworkingManagementMonitoringAdvancedTagsReview + create

Validation passed

Price

1 X Standard D2s v3
by Microsoft

Subscription credits apply

0.1970 USD/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

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All services >

CreateVm-MicrosoftWindowsServer.WindowsServer-201-202510301537...
Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name : CreateVm-MicrosoftWindowsServer.WindowsServer-201-20251030153743
Subscription : Azure for Students
Resource group : Lab06-RG
Start time : 10/30/2025, 3:44:55 PM
Correlation ID : 1f2746cf-e194-4dae-b9e4-effcae586fa2

> Deployment details

> Next steps
Set up 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 Scale out your VM

Add or remove favorites by pressing Ctrl+Shift+F

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Notifications

More events in the activity log → Dismiss all

✓ Deployment succeeded

Deployment 'CreateVm-MicrosoftWindowsServer.WindowsServer-201-20251030153743' to resource group 'Lab06-RG' was successful.

Go to reso... Pin to dashb...

a minute ago

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All services > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20251030153743 | Overview > SimpleWinVM

SimpleWinVM | Network settings ☆ ... List all my network interfaces for this VM +2

Virtual machine

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

> Connect

> Networking

Network settings

Load balancing

Application security groups

Network manager

Network interface / IP configuration

simplewinvm972_z2 (primary) / ipconfig1 (primary)

Essentials

Network interface
simplewinvm972_z2

Virtual network / subnet
vnet-centralindia / snet-centralindia-1

Public IP address
4.240.100.118

Private IP address
172.16.0.4

Admin security rules
0 (Configure)

Load balancers
0 (Configure)

Application security groups
0 (Configure)

Network security group
-

Accelerated networking
Enabled

Effective security rules
0

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Task 2: Create a Network Security Group

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All services > Network foundation

Network foundation | Network security groups

Preview

Search

+ Create | Manage view | Refresh | Export to CSV | Open query | Assign tags

You are viewing a new version of Browse experience. [Click here to access the old experience.](#)

Filter for any field... | Subscription equals all | Resource Group equals all | Location equals

No network security groups to display

Create a network security group with rules to filter inbound traffic to, and outbound traffic from, virtual machines and subnets.

+ Create | [Learn more](#)

Showing 1 - 0 of 0. Display count: auto

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All services > Network foundation | Network security groups >

Create network security group

Basics | Tags | Review + create

Project details

Subscription * | Azure for Students

Resource group * | Lab06-RG | [Create new](#)

Instance details

Name * | myNSGSecure

Region * | Central India

Review + create | < Previous | Next : Tags > | [Download a template for automation](#)

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Create network security group

Validation passed

BasicsTagsReview + create

Basics

Subscription

Azure for Students

Resource group

Lab06-RG

Region

Central India

name

myNSGSecure

Tags

None

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All services >

CreateNetworkSecurityGroupBladeV2-20251030155437 | Overview

Deployment

SearchDeleteCancelRedeployDownloadRefresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name : CreateNetworkSecurityGroupBl...

Start time : 10/30/2025, 3:56:26 PM

Subscription : Azure for Students

Correlation ID : 3c813048-1cdb-4ba0-80a5-7f9...

Resource group : Lab06-RG

> Deployment details

✓ Next steps

Go to resource

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Tell us about your experience with deployment

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All services > CreateNetworkSecurityGroupBladeV2-20251030155437 | Overview > myNSGSecure

myNSGSecure | Network interfaces

Network security group

SearchAssociateRefreshDissociate

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Settings

Inbound security rules

Outbound security rules

Network interfaces

Subnets

Properties

Associate network interface

myNSGSecure

Network interface associations *

simplewinvm972_z2

No results.

OK

Add or remove favorites by pressing Ctrl+L+Shift+F

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myNSGSecure | Network interfaces

Search network interfaces

Name	Public IP address	Private IP address
simplewinvm972_z2	4.240.100.118	172.16.0.4

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Task 3: Configure Inbound Security Rule (Allow RDP)

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SimpleWinVM | Connect

Remote Desktop Connection

Source

Destination

Connect

Check access

Connect using RDP file

Download and open file to connect

Username

osamauser

Forgot password? Reset password

Edit settings

Microsoft Azure Search resources, services, and docs (G+/) Copilot bsse2280151@szabist.pk DEFAULT DIRECTORY

All services > SimpleWinVM

SimpleWinVM | Network settings

Virtual machine

Search rules

Source == all Destination == all Protocol == all Action == all Port

Network security group **myNSGSecure** (attached to networkInterface: simplewinvm972_z2)
Impacts 0 subnets, 1 network interfaces

Inbound port rules (3)

Prio...	Name	Port	Protocol	Source
65000	AllowVnetInBound		Any	Any
65001	AllowAzureLoadBalancerInB...		Any	Any
65500	DenyAllInBound		Any	Any

Outbound port rules (3)

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All services > SimpleWinVM

SimpleWinVM | Network settings

Virtual machine

Search rules

Source == all Destination == all Protocol == all Action == all Port

Network security group **myNSGSecure** (attached to networkInterface: simplewinvm972_z2)
Impacts 0 subnets, 1 network interfaces

Rules Collapse all

Network security group myNSGSecure (attached to networkInterface: simplewinvm972_z2)
Impacts 0 subnets, 1 network interfaces

Add inbound security rule

Source: Any

Source port ranges: *

Destination: Any

Service: Custom

Destination port ranges: 3389

Protocol: TCP

Add Cancel Give feedback

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All services > SimpleWinVM

SimpleWinVM | Network settings

Virtual machine

Search

Tags

Diagnose and solve problems

Resource visualizer

Connect

Networking

Network settings

Load balancing

Application security groups

Network manager

Settings

Availability + scale

Private IP address

172.16.0.4

Admin security rules

0 (Configure)

Rules

Collapse all

Network security group myNSGSecure

Impacts 0 subnets, 1 network interfaces

Search rules

Source == all

Destination

Inbound port rules (3)

65000 AllowVnetInBound

65001 AllowAzureLoadBalancerInB...

Add inbound security rule

myNSGSecure

Any

TCP

UDP

ICMPv4

ICMPv6

Allow

Deny

Priority *

300

Name *

AllowRDP

Description

Add

Cancel

Give feedback

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All services > SimpleWinVM

SimpleWinVM | Network settings

Virtual machine

Search

Tags

Diagnose and solve problems

Resource visualizer

Connect

Networking

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Network manager

Settings

Availability + scale

Network security group myNSGSecure

attached to networkInterface: simplewinvm972_z2

Impacts 0 subnets, 1 network interfaces

Search rules

Source == all

Destination == all

Protocol == all

Action == all

Port

Inbound port rules (4)

300 AllowRDP

65000 AllowVnetInBound

65001 AllowAzureLoadBalancerInB...

65500 DenyAllInBound

Outbound port rules (3)

Microsoft

Sign out

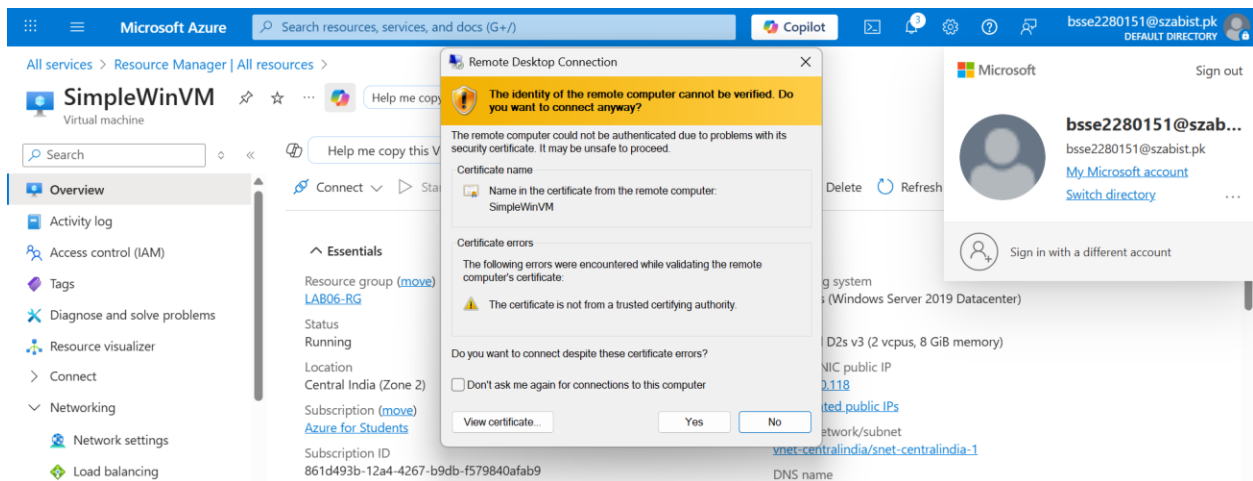
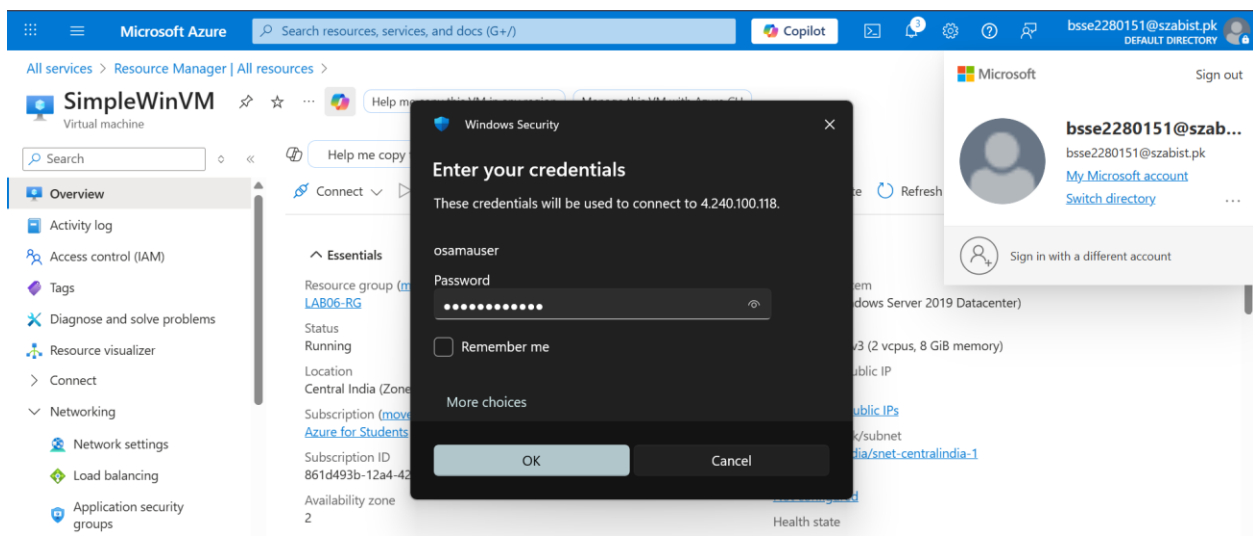
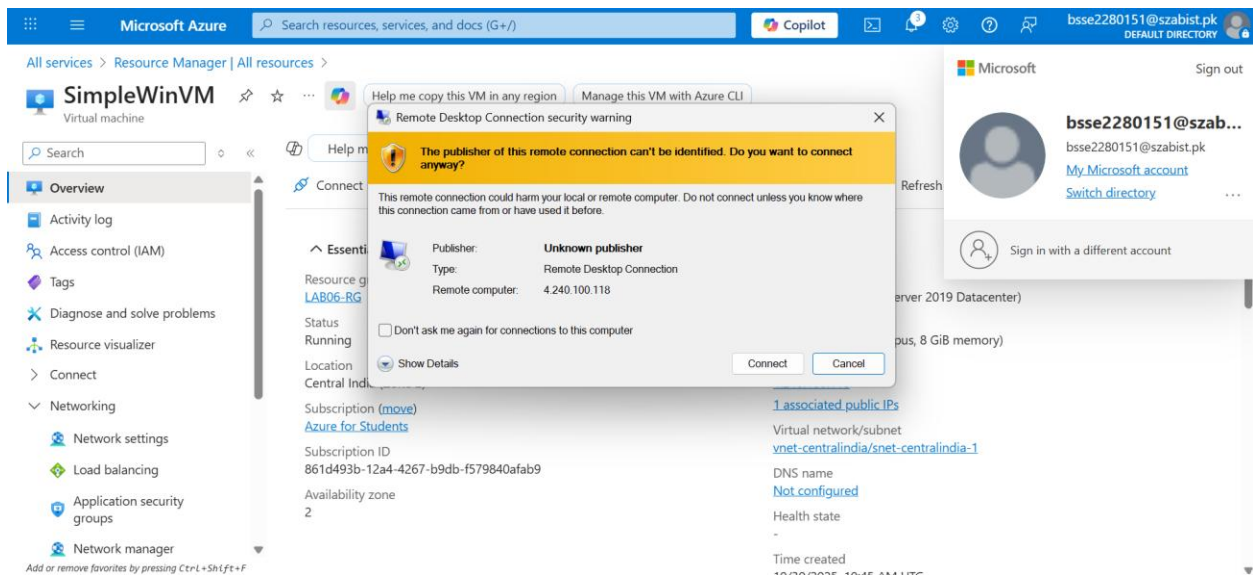
bsse2280151@szabist.pk

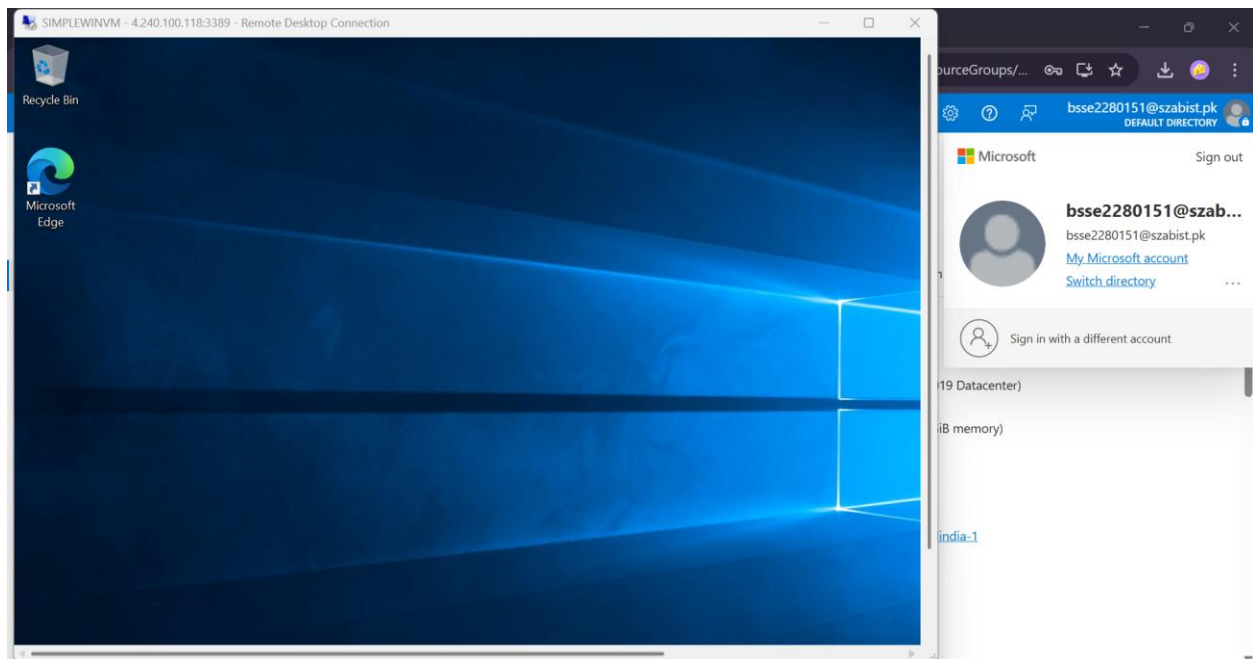
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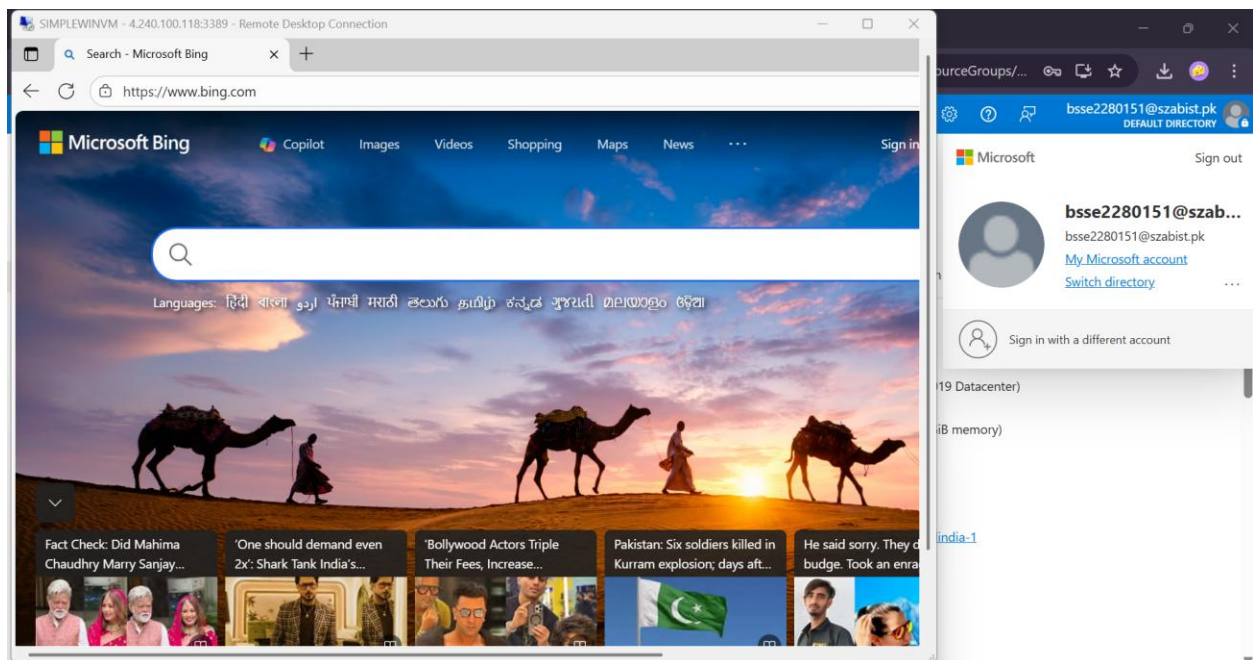
Switch directory

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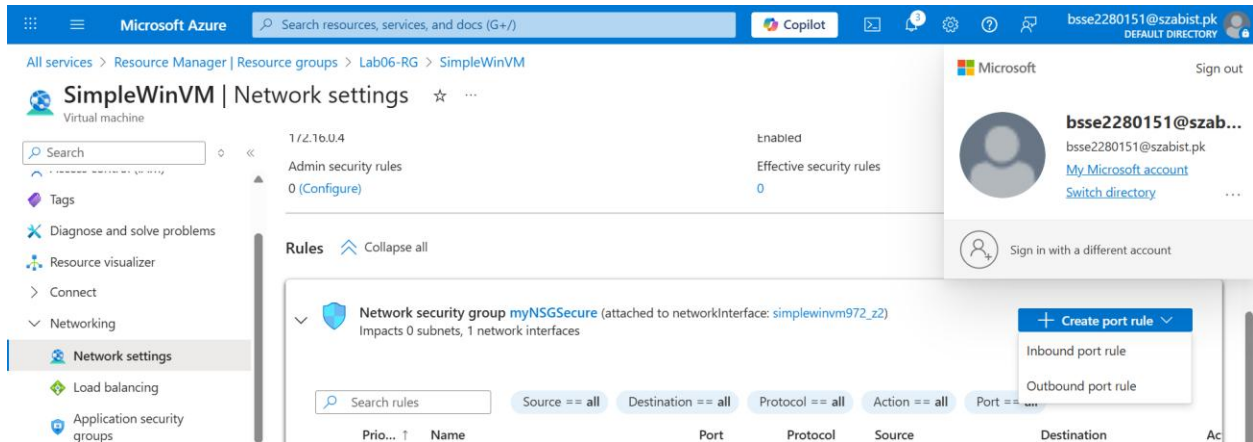




ACCESSED:



Task 4: Configure Outbound Security Rule (Deny Internet)



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SimpleWinVM | Network settings

Virtual machine

1/2.16.0.4

Admin security rules

0 (Configure)

Enabled

Effective security rules

0

Rules

Network security group myNSGSecure (attached to networkInterface: simplewinvm972_z2)

Impacts 0 subnets, 1 network interfaces

Search rules

Source == all Destination == all Protocol == all Action == all Port == all

Prio... 1 Name Port Protocol Source Destination Ac

Microsoft

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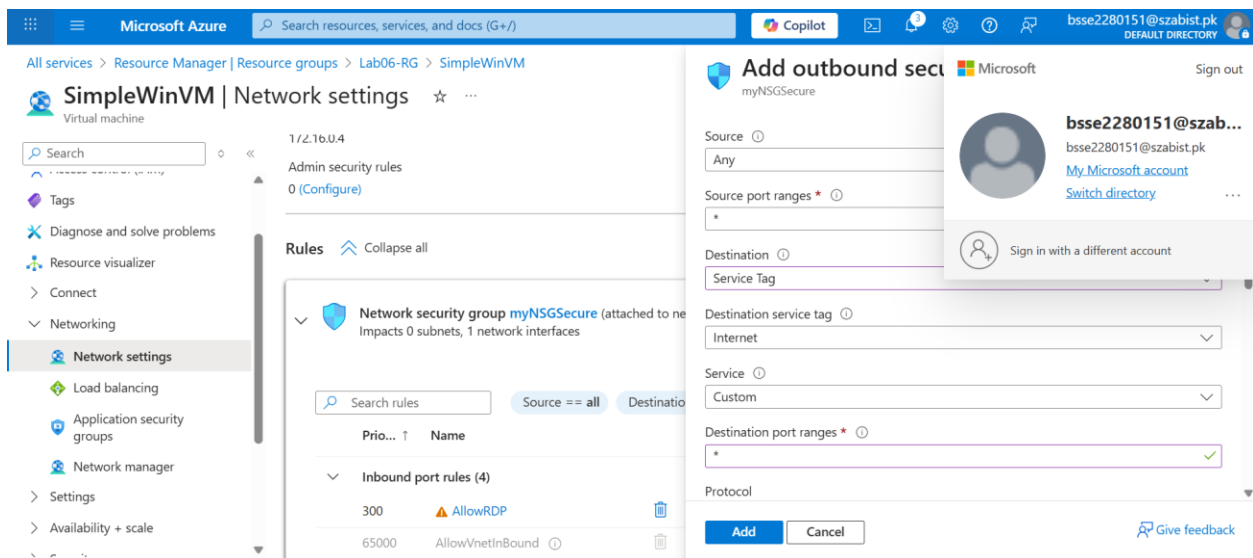
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+ Create port rule

Inbound port rule

Outbound port rule



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SimpleWinVM | Network settings

Virtual machine

1/2.16.0.4

Admin security rules

0 (Configure)

Rules

Network security group myNSGSecure (attached to networkInterface: simplewinvm972_z2)

Impacts 0 subnets, 1 network interfaces

Search rules

Source == all Destination == all Protocol == all Action == all Port == all

Prio... 1 Name Port Protocol Source Destination Ac

Inbound port rules (4)

300 AllowRDP

65000 AllowVnetInBound

Add outbound security rule

myNSGSecure

Source

Any

Source port ranges *

*

Destination

Service Tag

Destination service tag

Internet

Service

Custom

Destination port ranges *

*

Protocol

TCP

Action

Deny

Priority *

4000

Name *

DenyInternet

Description

Add Cancel

Give feedback

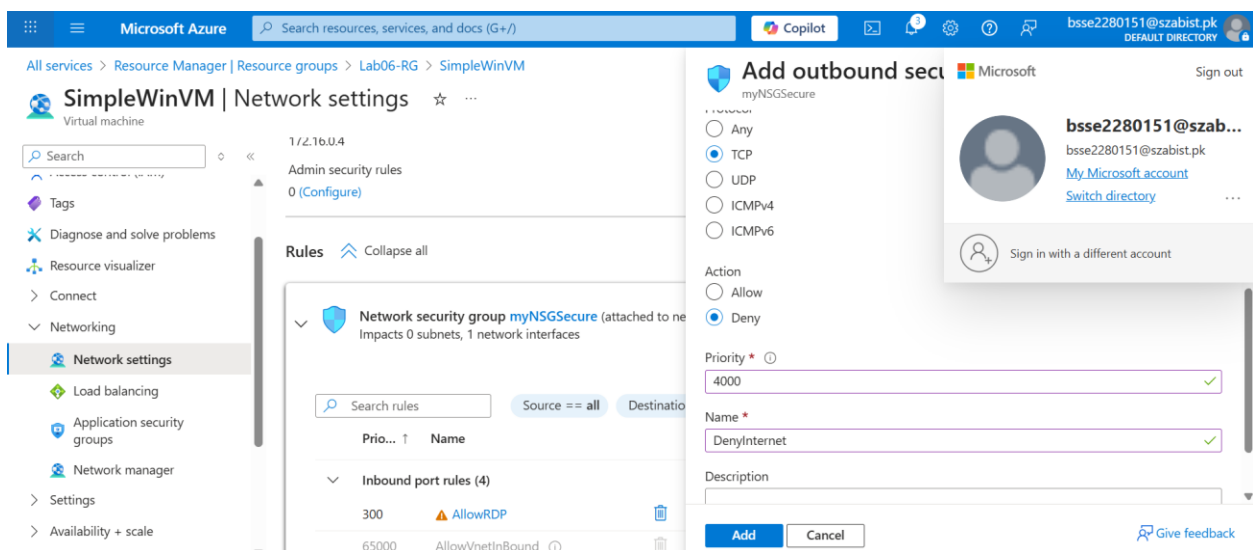
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SimpleWinVM | Network settings

Virtual machine

1/2.16.0.4

Admin security rules

0 (Configure)

Rules

Network security group myNSGSecure (attached to networkInterface: simplewinvm972_z2)

Impacts 0 subnets, 1 network interfaces

Search rules

Source == all Destination == all Protocol == all Action == all Port == all

Prio... 1 Name Port Protocol Source Destination Ac

Inbound port rules (4)

300 AllowRDP

65000 AllowVnetInBound

Add outbound security rule

myNSGSecure

Source

Any

Source port ranges *

*

Destination

Service Tag

Destination service tag

Internet

Service

Custom

Destination port ranges *

*

Protocol

TCP

Action

Deny

Priority *

4000

Name *

DenyInternet

Description

Add Cancel

Give feedback

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SimpleWinVM | Network settings

Virtual machine

Search

Tags

Diagnose and solve problems

Resource visualizer

Connect

Networking

Network settings

Load balancing

Application security

Impacts 0 subnets, 1 network interfaces

Search rules

Source == all Destination == all Protocol == all Action == all Port

Prio...	Name	Port	Protocol	Source	
Inbound port rules (4)					
Outbound port rules (4)					
4000	DenyInternet		Any	TCP	Any
65000	AllowVnetOutBound		Any	Any	VirtualNetwork
65001	AllowInternetOutBound		Any	Any	Internet

Internet Deny

VirtualNetwork Allow

Internet Allow

Any Deny

SUCCESS

Unable to access:

SIMPLEWINVM - 4.240.100.118:3389 - Remote Desktop Connection

www.microsoft.com

https://www.microsoft.com

Hmmm... can't reach this page

www.microsoft.com took too long to respond

Try:

- Checking the connection
- Checking the proxy and the firewall

ERR_CONNECTION_TIMED_OUT

Refresh

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Internet Deny

VirtualNetwork Allow

Internet Allow

Any Deny