INTRODUCTION TO CLOUD COMPUTING

Lab Task 06 (Secure Network Traffic)

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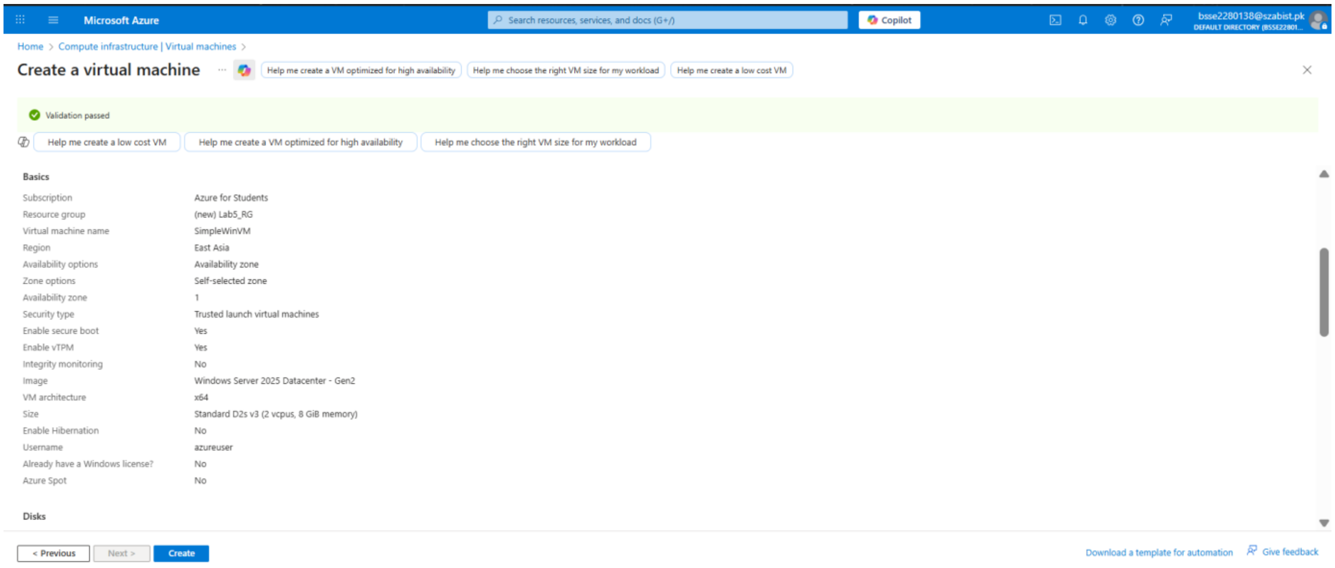
Section: SE 7-B

Task 1: Create a virtual machine

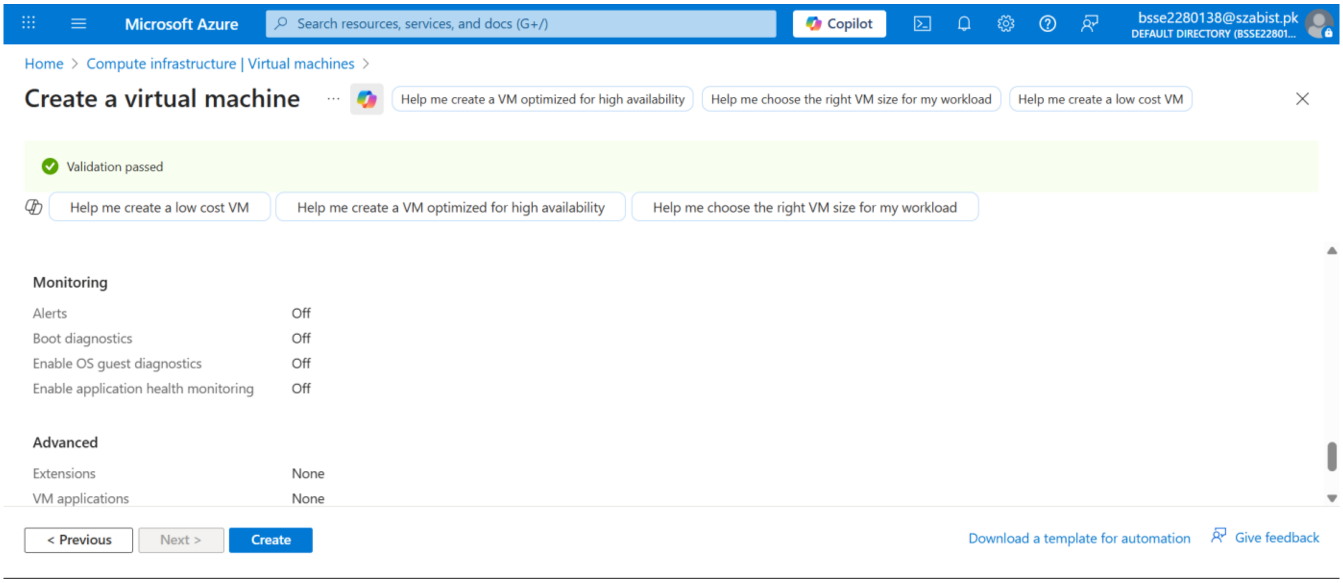

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
bsse2280138@szabist.pk
DEFAULT DIRECTORY (BSSE22801...
Home > Compute infrastructure | Virtual machines >
Create a virtual machine
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Help me create a low cost VM
< Previous
Next >
Create
Download a template for automation
Give feedback

Validation passed

Basics

Subscription	Azure for Students
Resource group	(new) Lab5_RG
Virtual machine name	SimpleWinVM
Region	East Asia
Availability options	Availability zone
Zone options	Self-selected zone
Availability zone	1
Security type	Trusted launch virtual machines
Enable secure boot	Yes
Enable vTPM	Yes
Integrity monitoring	No
Image	Windows Server 2025 Datacenter - Gen2
VM architecture	x64
Size	Standard D2s v3 (2 vcpus, 8 GiB memory)
Enable Hibernation	No
Username	azureuser
Already have a Windows license?	No
Azure Spot	No

Disks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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
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Next >
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Give feedback

Validation passed

Monitoring

Alerts	Off
Boot diagnostics	Off
Enable OS guest diagnostics	Off
Enable application health monitoring	Off

Advanced

Extensions	None
VM applications	None

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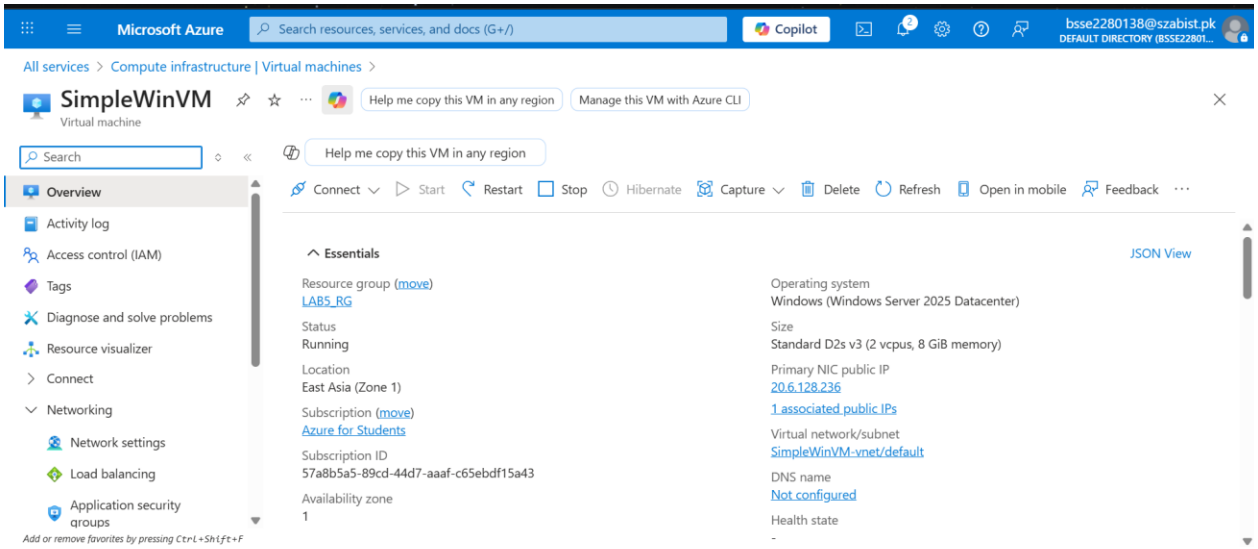
Lab Task 06 (Secure Network Traffic)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DEFAULT DIRECTORY (BSSE22801...
All services > Compute infrastructure | Virtual machines >
Help me copy this VM in any region
Manage this VM with Azure CLI
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Resource visualizer
Connect
Networking
Network settings
Load balancing
Application security groups
Add or remove favorites by pressing Ctrl+Shift+F
Connect
Start
Restart
Stop
Hibernate
Capture
Delete
Refresh
Open in mobile
Feedback
JSON View

SimpleWinVM
Virtual machine

Essentials

Resource group (move)
LAB5_RG

Status
Running

Location
East Asia (Zone 1)

Subscription (move)
Azure for Students

Subscription ID
57a8b5a5-89cd-44d7-aaaf-c65ebdf15a43

Availability zone
1

Operating system
Windows (Windows Server 2025 Datacenter)

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

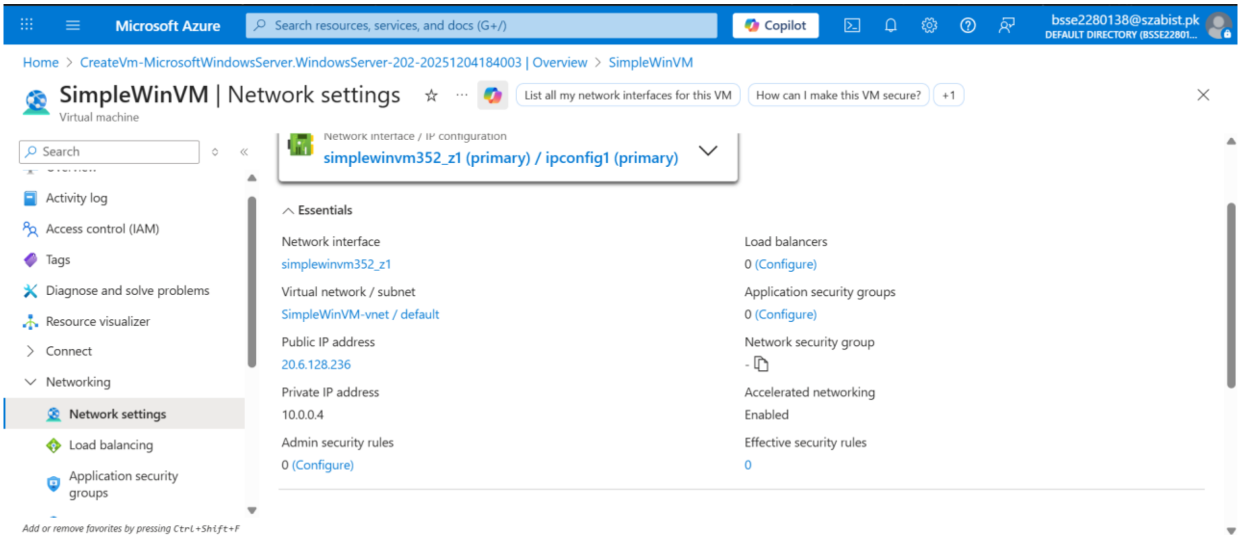
Primary NIC public IP
20.6.128.236

1 associated public IPs

Virtual network/subnet
SimpleWinVM-vnet/default

DNS name
Not configured

Health state
-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Copilot
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DEFAULT DIRECTORY (BSSE22801...
Home > CreateVm-MicrosoftWindowsServer.WindowsServer-202-20251204184003 | Overview > SimpleWinVM
List all my network interfaces for this VM
How can I make this VM secure?
+1
Search
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Resource visualizer
Connect
Networking
Network settings
Load balancing
Application security groups
Add or remove favorites by pressing Ctrl+Shift+F

SimpleWinVM | Network settings
Virtual machine

Network interface / IP configuration
simplewinvm352_z1 (primary) / ipconfig1 (primary)

Essentials

Network interface
simplewinvm352_z1

Virtual network / subnet
SimpleWinVM-vnet / default

Public IP address
20.6.128.236

Private IP address
10.0.0.4

Admin security rules
0 (Configure)

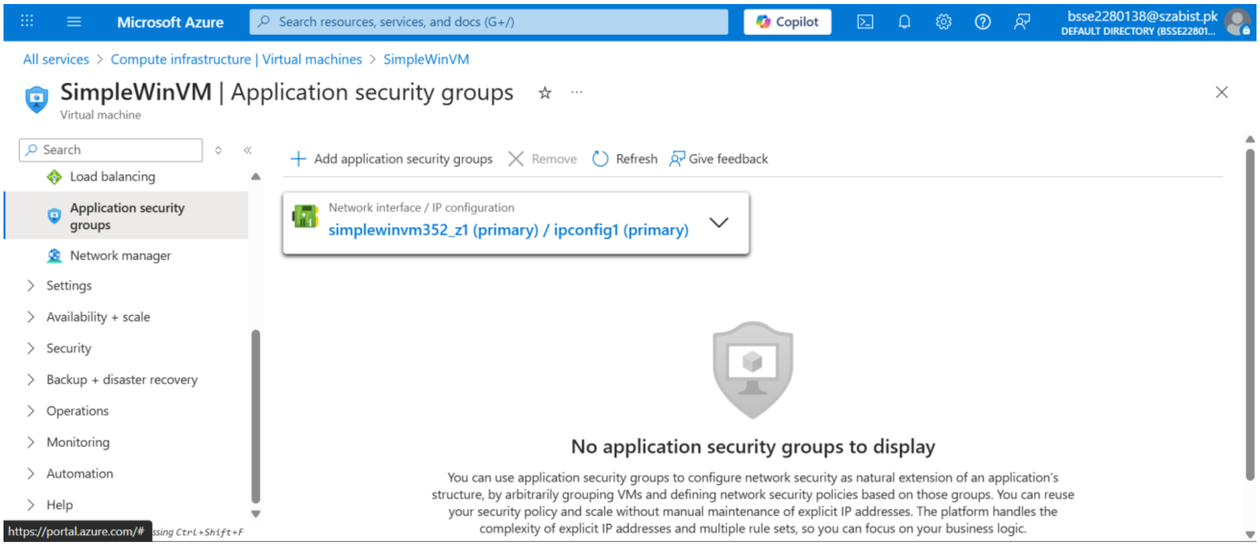
Load balancers
0 (Configure)

Application security groups
0 (Configure)

Network security group
-

Accelerated networking
Enabled

Effective security rules
0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DEFAULT DIRECTORY (BSSE22801...
All services > Compute infrastructure | Virtual machines > SimpleWinVM
Search
Load balancing
Application security groups
Network manager
Settings
Availability + scale
Security
Backup + disaster recovery
Operations
Monitoring
Automation
Help
https://portal.azure.com/#
Add application security groups
Remove
Refresh
Give feedback

SimpleWinVM | Application security groups
Virtual machine

Network interface / IP configuration
simplewinvm352_z1 (primary) / ipconfig1 (primary)

No application security groups to display

You can use application security groups to configure network security as natural extension of an application's structure, by arbitrarily grouping VMs and defining network security policies based on those groups. You can reuse your security policy and scale without manual maintenance of explicit IP addresses. The platform handles the complexity of explicit IP addresses and multiple rule sets, so you can focus on your business logic.

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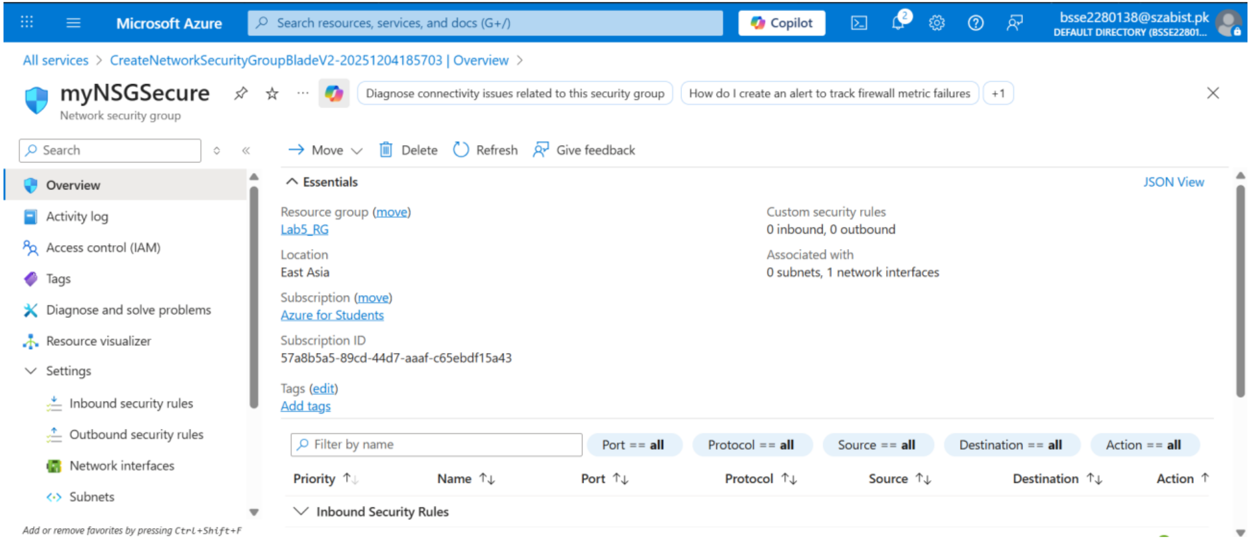
Lab Task 06 (Secure Network Traffic)

Task 2: Create a network security group



myNSGSecure
Network security group

Resource group (move)
Lab5_RG

Location
East Asia

Subscription (move)
Azure for Students

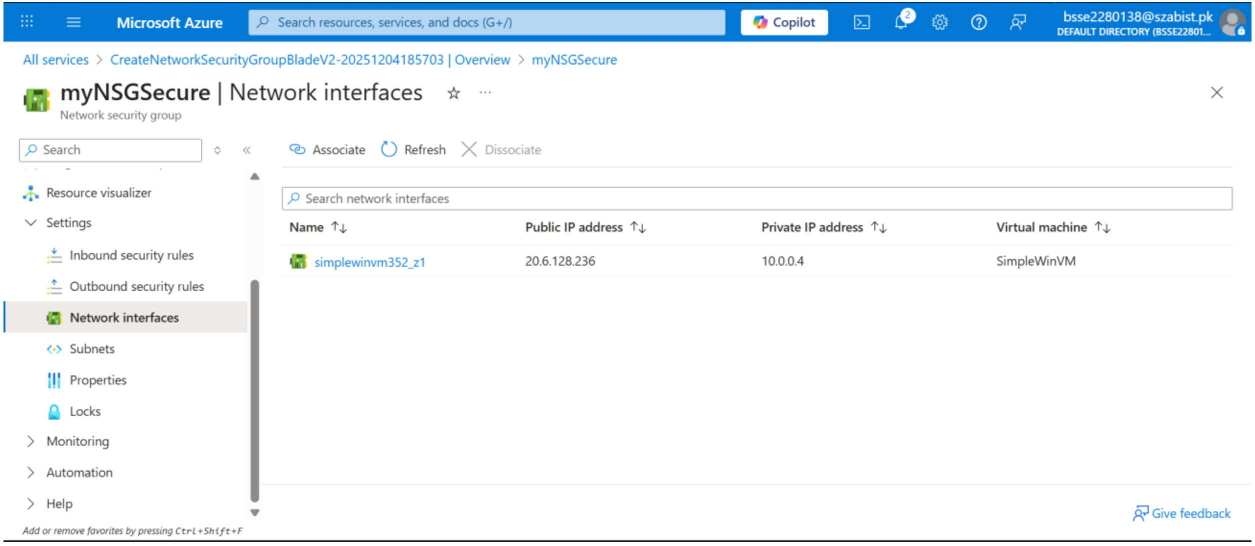
Subscription ID
57a8b5a5-89cd-44d7-aaaf-c65ebdf15a43

Tags (edit)
Add tags

Custom security rules
0 inbound, 0 outbound

Associated with
0 subnets, 1 network interfaces

Priority	Name	Port	Protocol	Source	Destination	Action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DEFAULT DIRECTORY (BSSE22801...
All services > CreateNetworkSecurityGroupBladeV2-20251204185703 | Overview > myNSGSecure
Search
Resource visualizer
Settings
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Monitoring
Automation
Help
Add or remove favorites by pressing Ctrl+Shift+F
Associate
Refresh
Dissociate
Search network interfaces
Give feedback

myNSGSecure | Network interfaces
Network security group

Name	Public IP address	Private IP address	Virtual machine
simplewinvm352_z1	20.6.128.236	10.0.0.4	SimpleWinVM

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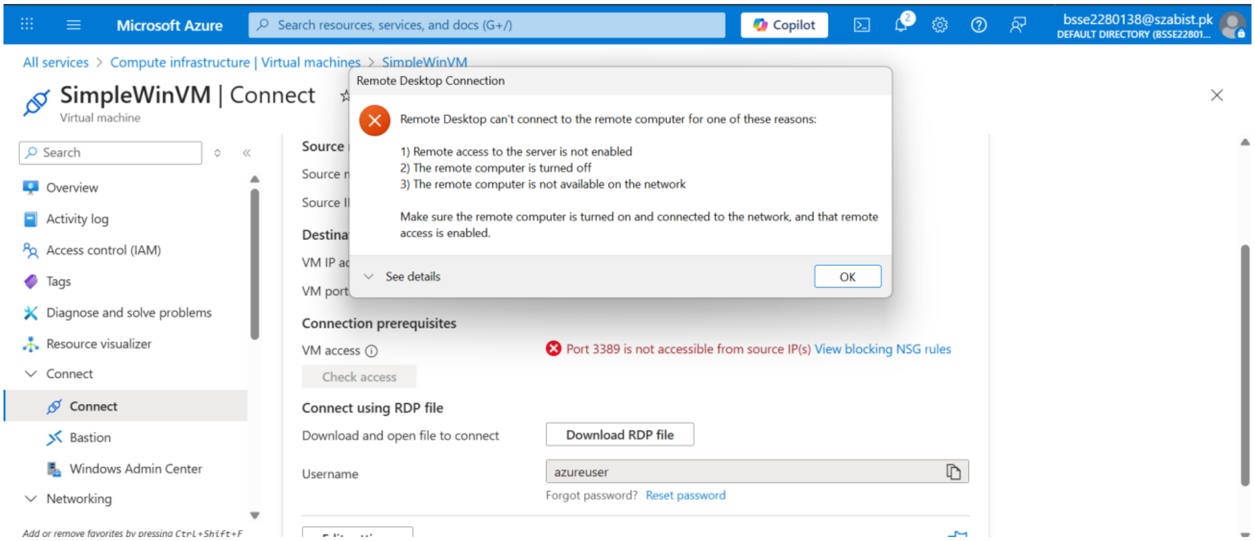
Lab Task 06 (Secure Network Traffic)

Task 3: Configure an inbound security port rule to allow RDP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DEFAULT DIRECTORY (BSSE22801...
All services > Compute infrastructure | Virtual machines > SimpleWinVM
SimpleWinVM | Connect
Virtual machine
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Resource visualizer
Connect
Connect
Bastion
Windows Admin Center
Networking
Add or remove favorites by pressing Ctrl+Shift+F

Remote Desktop Connection

Remote Desktop can't connect to the remote computer for one of these reasons:

1) Remote access to the server is not enabled
2) The remote computer is turned off
3) The remote computer is not available on the network

Make sure the remote computer is turned on and connected to the network, and that remote access is enabled.

Connection prerequisites

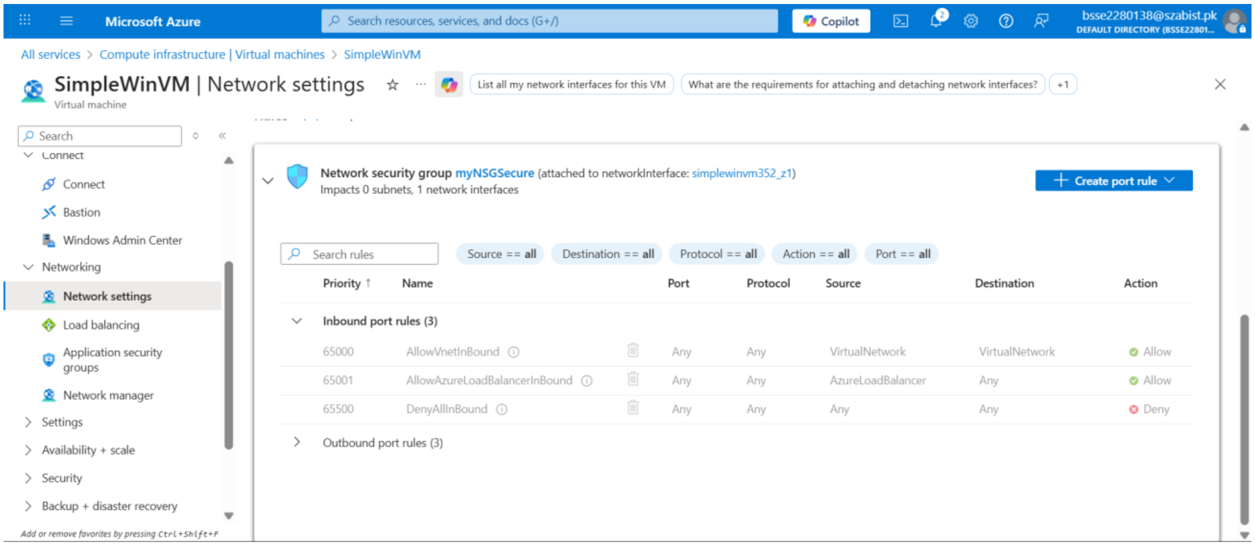
VM access: Port 3389 is not accessible from source IP(s) View blocking NSG rules

Connect using RDP file

Download and open file to connect: Download RDP file

Username: azureuser

Forgot password? Reset password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Copilot
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DEFAULT DIRECTORY (BSSE22801...
All services > Compute infrastructure | Virtual machines > SimpleWinVM
SimpleWinVM | Network settings
Virtual machine
List all my network interfaces for this VM
What are the requirements for attaching and detaching network interfaces?
+1
Search
Connect
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Availability + scale
Security
Backup + disaster recovery
Add or remove favorites by pressing Ctrl+Shift+F

Network security group myNSGSecure (attached to networkInterface: simplewinvm352_z1)
Impacts 0 subnets, 1 network interfaces

Create port rule
Search rules
Source == all
Destination == all
Protocol == all
Action == all
Port == all

Priority ↑	Name	Port	Protocol	Source	Destination	Action
Inbound port rules (3)						
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny
Outbound port rules (3)						

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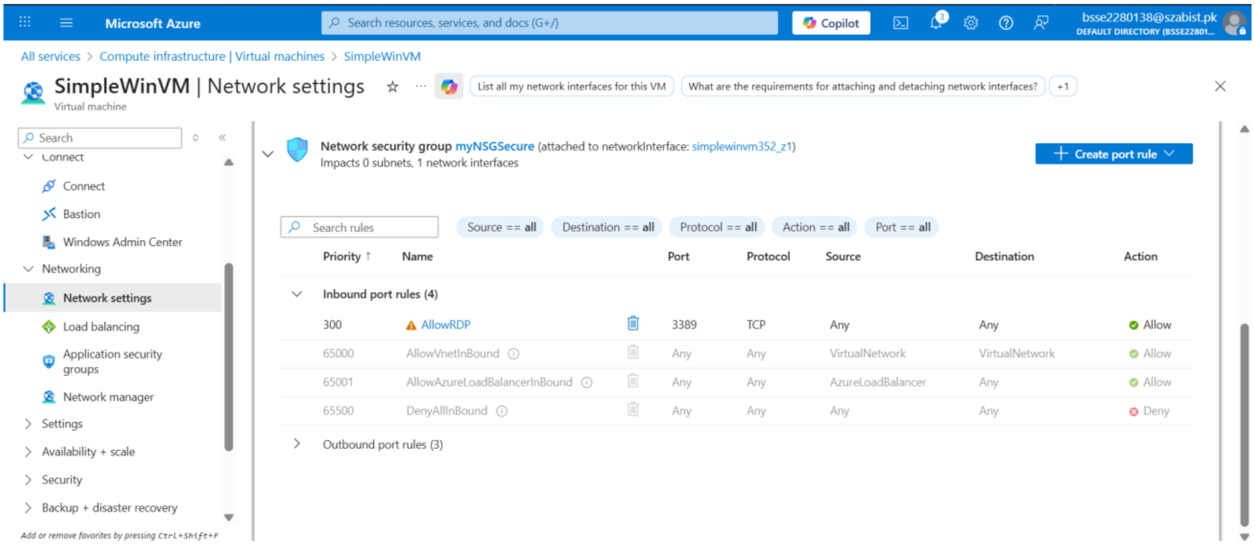
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All services > Compute infrastructure | Virtual machines > SimpleWinVM
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+1
Search
Connect
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Availability + scale
Security
Backup + disaster recovery
Add or remove favorites by pressing Ctrl+Shift+F
Create port rule
Search rules
Source == all
Destination == all
Protocol == all
Action == all
Port == all

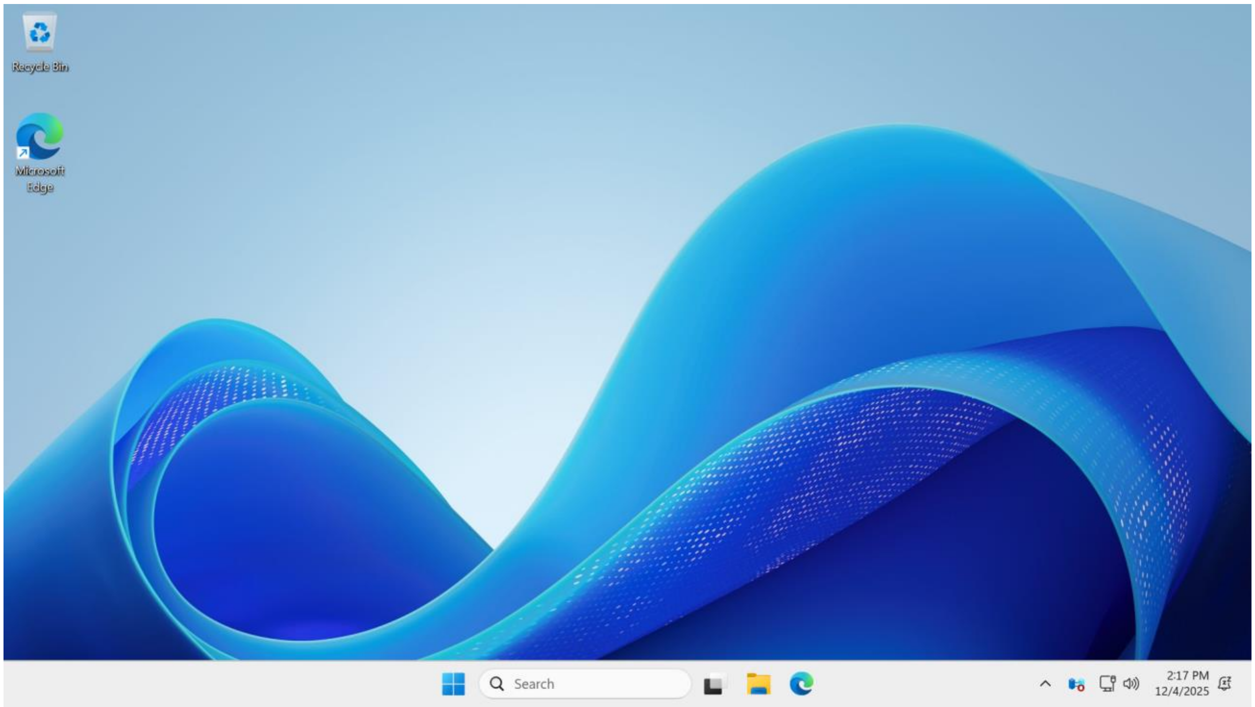
SimpleWinVM | Network settings

Virtual machine

Network security group myNSGSecure (attached to networkInterface: simplewinvm352_z1)

Impacts 0 subnets, 1 network interfaces

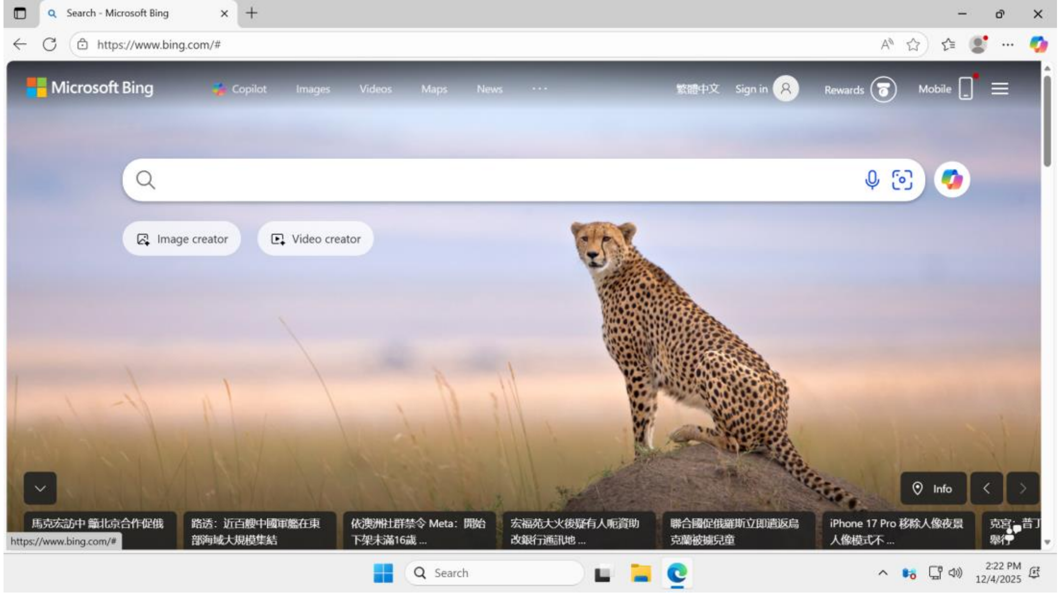
Priority ↑	Name	Port	Protocol	Source	Destination	Action
Inbound port rules (4)						
300	⚠ AllowRDP	3389	TCP	Any	Any	✓ Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	✓ Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	✓ Allow
65500	DenyAllInBound	Any	Any	Any	Any	✕ Deny
Outbound port rules (3)						

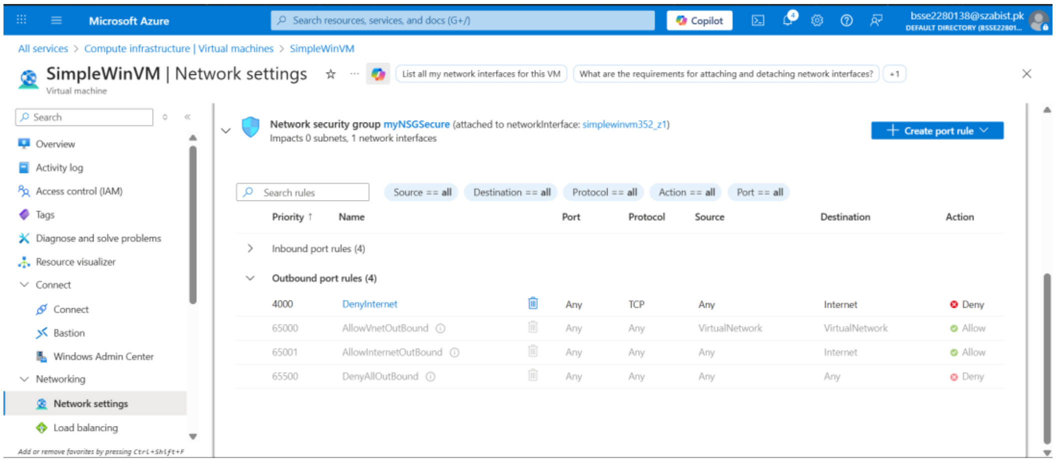


INTRODUCTION TO CLOUD COMPUTING

Lab Task 06 (Secure Network Traffic)

Task 4: Configure an outbound security port rule to deny Internet access

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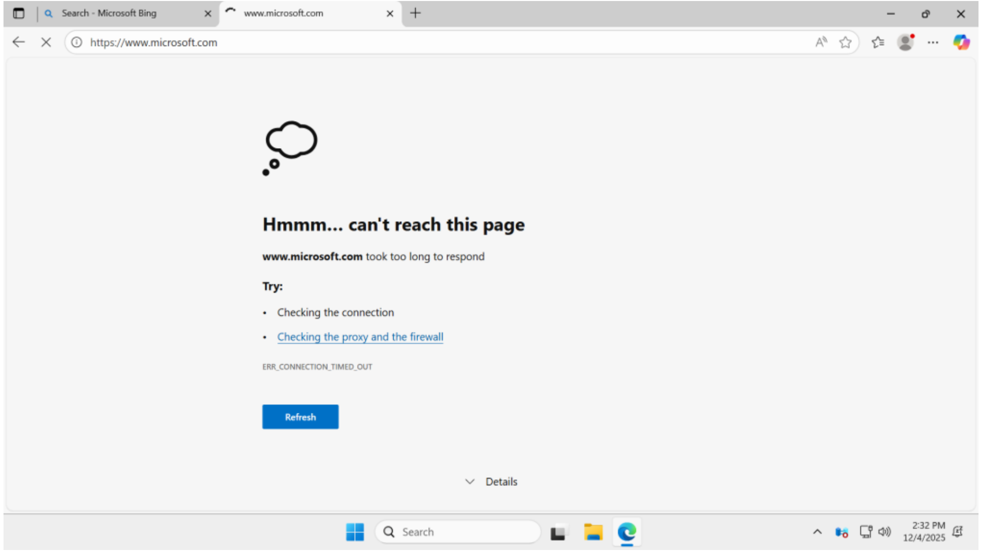
Copilot
bsse2280138@szabist.pk
DEFAULT DIRECTORY (BSSE22801...
All services > Compute infrastructure | Virtual machines > SimpleWinVM
List all my network interfaces for this VM
What are the requirements for attaching and detaching network interfaces?
+1
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Resource visualizer
Connect
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Add or remove favorites by pressing Ctrl+Shift+F
Create port rule
Search rules
Source == all
Destination == all
Protocol == all
Action == all
Port == all

SimpleWinVM | Network settings

Virtual machine

Network security group myNSGSecure (attached to networkInterface: simplewinvm352_z1)
Impacts 0 subnets, 1 network interfaces

Priority ↑	Name	Port	Protocol	Source	Destination	Action
Inbound port rules (4)						
Outbound port rules (4)						
4000	DenyInternet	Any	TCP	Any	Internet	Deny
65000	AllowVnetOutBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowInternetOutBound	Any	Any	Any	Internet	Allow
65500	DenyAllOutBound	Any	Any	Any	Any	Deny



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