

Introduction to Cloud Computing

LAB 06

Name: Hamad Naseem

ID: 2280143

BSSE 7-B

Task 1: Create a virtual machine

The screenshot shows the 'Create a virtual machine' wizard in the Azure portal, specifically the 'Networking' tab. The breadcrumb navigation is 'Home > Compute infrastructure | Virtual machines >'. The title is 'Create a virtual machine' with a help icon and a '+2' button. Below the title are three tabs: 'Help me create a low cost VM', 'Help me create a VM optimized for high availability' (selected), and 'Help me choose the right VM size for my workload'. The 'Networking' tab is active, showing tabs for 'Basics', 'Disks', 'Networking', 'Management', 'Monitoring', 'Advanced', 'Tags', and 'Review + create'. The description states: 'Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. [Learn more](#)'. Under 'Network interface', it says 'When creating a virtual machine, a network interface will be created for you.' The configuration fields are: 'Virtual network' set to '(New) vnet-centralindia (MyResourceGroup)' with an 'Edit virtual network' link; 'Subnet' set to '(New) snet-centralindia-1' with an 'Edit subnet' link and IP range '172.16.0.0 - 172.16.0.255 (256 addresses)'; 'Public IP' set to 'Create new'; and 'NIC network security group' set to 'None' (selected), with options for 'Basic' and 'Advanced'. A warning box states: '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.' At the bottom are buttons for '< Previous', 'Next : Management >', 'Review + create', and a 'Give feedback' link.

The screenshot shows the 'Create a virtual machine' wizard in the Azure portal, specifically the 'Monitoring' tab. The breadcrumb navigation is 'Home > Compute infrastructure | Virtual machines >'. The title is 'Create a virtual machine' with a help icon and a '+2' button. Below the title are three tabs: 'Help me create a low cost VM', 'Help me create a VM optimized for high availability' (selected), and 'Help me choose the right VM size for my workload'. The 'Monitoring' tab is active, showing tabs for 'Basics', 'Disks', 'Networking', 'Management', 'Monitoring', 'Advanced', 'Tags', and 'Review + create'. The description states: 'Configure monitoring options for your VM.' Under 'Alerts', there is a checkbox for 'Enable recommended alert rules'. Under 'Diagnostics', there is a 'Boot diagnostics' section with three options: 'Enable with managed storage account (recommended)', 'Enable with custom storage account', and 'Disable' (selected). There is also a checkbox for 'Enable OS guest diagnostics'. Under 'Health', there is a checkbox for 'Enable application health monitoring'. At the bottom are buttons for '< Previous', 'Next : Advanced >', 'Review + create', and a 'Give feedback' link.

Introduction to Cloud Computing

LAB 06

The screenshot displays the Microsoft Azure portal interface for a virtual machine named "SimpleWinVM". The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile "bsse2280143@szabist.pk". The breadcrumb trail shows the path: Home > CreateVm-MicrosoftWindowsServer.WindowsServer-202-20251114232403 | Overview > SimpleWinVM.

The left sidebar contains a navigation menu with options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Connect, Networking, Settings, Availability + scale, Security, Backup + disaster recovery, Operations, Monitoring, Automation, and Help. The "Networking" option is currently selected.

The main content area is divided into two sections. The top section, titled "Essentials", provides a summary of the virtual machine's properties:

- Resource group: [MyResourceGroup](#)
- Status: Running
- Location: Central India (Zone 1)
- Subscription: [Azure for Students](#)
- Subscription ID: 08961442-0f0c-42c9-828a-eb31cd3c44ff
- Availability zone: 1
- Tags: [Add tags](#)
- Operating system: Windows (Windows Server 2025 Datacenter)
- Size: Standard_DS2_v3
- Primary NIC public IP: [40.81.225.235](#)
- Virtual network/subnet: [vnet-centralindia/snet-centralindia-1](#)
- DNS name: [Not configured](#)
- Health state: -
- Time created: 11/14/2025, 6:29 PM UTC

The bottom section, titled "Properties", lists the virtual machine's configuration details:

- Computer name: SimpleWinVM
- Operating system: Windows (Windows Server 2025 Datacenter)
- VM generation: V2
- Agent status: Ready
- Agent version: 2.7.41491.1172
- Hibernation: Disabled

The "Networking" section is expanded, showing the network interface configuration:

- Network interface: [simplewinvm845_z1](#) (primary) / [ipconfig1](#) (primary)
- Virtual network / subnet: [vnet-centralindia / snet-centralindia-1](#)
- Public IP address: [40.81.225.235](#)
- Private IP address: [172.16.0.4](#)
- Admin security rules: [0](#) (Configure)

The right sidebar shows additional network settings:

- Load balancers: [0](#) (Configure)
- Application security groups: [0](#) (Configure)
- Network security group: -
- Accelerated networking: Enabled
- Effective security rules: [0](#)

The bottom of the page includes a footer with the text "Add or remove favorites by pressing Ctrl+Shift+F".

Introduction to Cloud Computing

LAB 06

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile 'bsse2280143@szabist.pk'. The breadcrumb trail is 'Home > CreateVm-MicrosoftWindowsServer.WindowsServer-202-20251114232403 | Overview > SimpleWinVM'. The main heading is 'SimpleWinVM | Application security groups'. A left sidebar lists navigation options: Resource visualizer, Connect, Networking (selected), Application security groups (active), Network manager, Settings, Availability + scale, Security, Backup + disaster recovery, and Operations. The main content area shows a message: 'No application security groups to display'. Below this message is a button labeled 'Add application security groups'.

Task 2: Create a network security group

The screenshot shows the Microsoft Azure portal interface for the 'myNSGSecure' network security group. The top navigation bar includes the Microsoft Azure logo, a search bar, and the user profile 'bsse2280143@szabist.pk'. The breadcrumb trail is 'All services > CreateNetworkSecurityGroupBladeV2-20251115000821 | Overview >'. The main heading is 'myNSGSecure | Network security group'. A left sidebar lists navigation options: Overview (active), Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Settings, Monitoring, Automation, and Help. The main content area displays 'Essentials' information: Resource group (MyResourceGroup), Location (Central India), Subscription (Azure for Students), and Subscription ID (08961442-0f0c-42c9-828a-eb31cd3c44ff). It also shows 'Custom security rules' (0 inbound, 0 outbound) and 'Associated with' (0 subnets, 0 network interfaces). Below this is a table of 'Inbound Security Rules'.

Priority	Name	Port	Protocol	Source	Destination	Action
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow

Introduction to Cloud Computing

LAB 06

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The main content area displays the 'myNSGSecure | Network interfaces' page. A notification at the top right states 'Saved network interface' with the message 'Successfully saved network security group for network interface 'simplewinvm845_z1''. Below the notification, there is a table of network interfaces.

Name	Public IP address	Private IP address	Virtual machine
simplewinvm845_z1	40.81.225.235	172.16.0.4	SimpleWinVM

Task 3: Configure an inbound security port rule to allow RDP

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The main content area displays the 'SimpleWinVM | Connect' page. A modal dialog box is open, displaying an error message: 'Remote Desktop Connection' with a red 'X' icon. The message states: '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.' Below the error message, there is a 'Check access' button and a 'Download RDP file' button. The 'Connect using RDP file' section shows the 'Download RDP file' button and the 'Username' field with the value 'azureuser'.

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The main content area displays the 'SimpleWinVM | Network settings' page. The page shows the 'Network security group myNSGSecure' (attached to network interface: simplewinvm845_z1) and its impact on subnets and network interfaces. Below this, there is a table of port rules.

Priority	Name	Port	Protocol	Source	Destination	Action
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalancerInBound	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny

Introduction to Cloud Computing

LAB 06

Microsoft Azure

Search resources, services, and docs (G+/I)

Copilot

bsse2280143@szabist.pk

DEFAULT DIRECTORY (BSSE22801...

Home > SimpleWinVM

SimpleWinVM | Network settings

Virtual machine

How can I make this VM secure?

What are the requirements for attaching and detaching network interfaces?

+1

network security group myvmssecure (attached to networkinterface: simplewinvm042_61)

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 (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)						

Recycle Bin

Microsoft Edge

Search

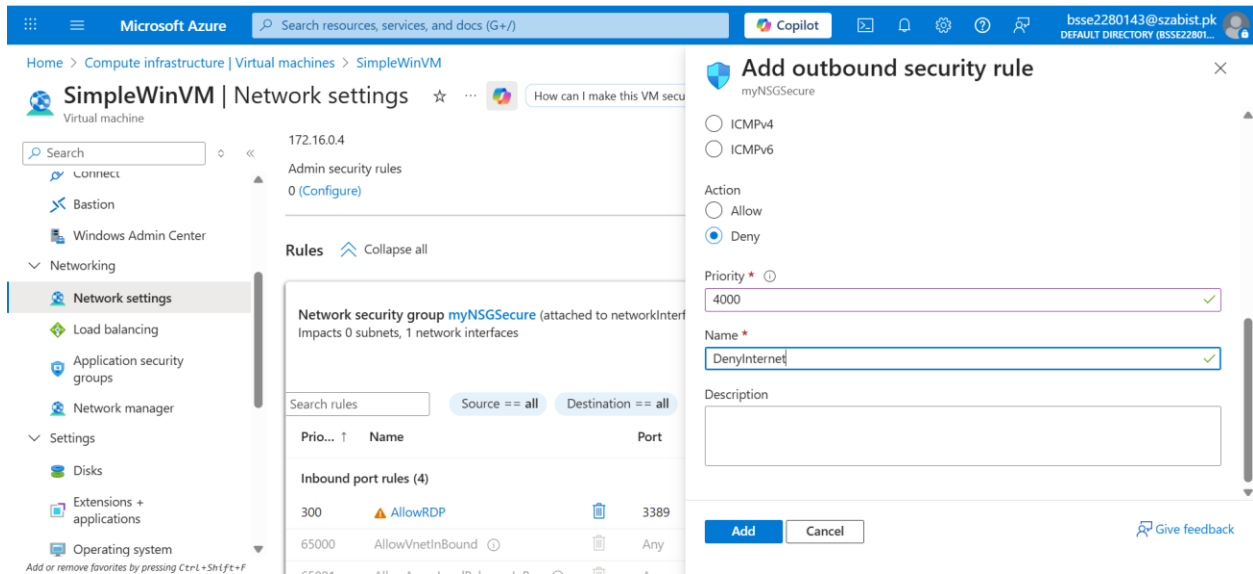
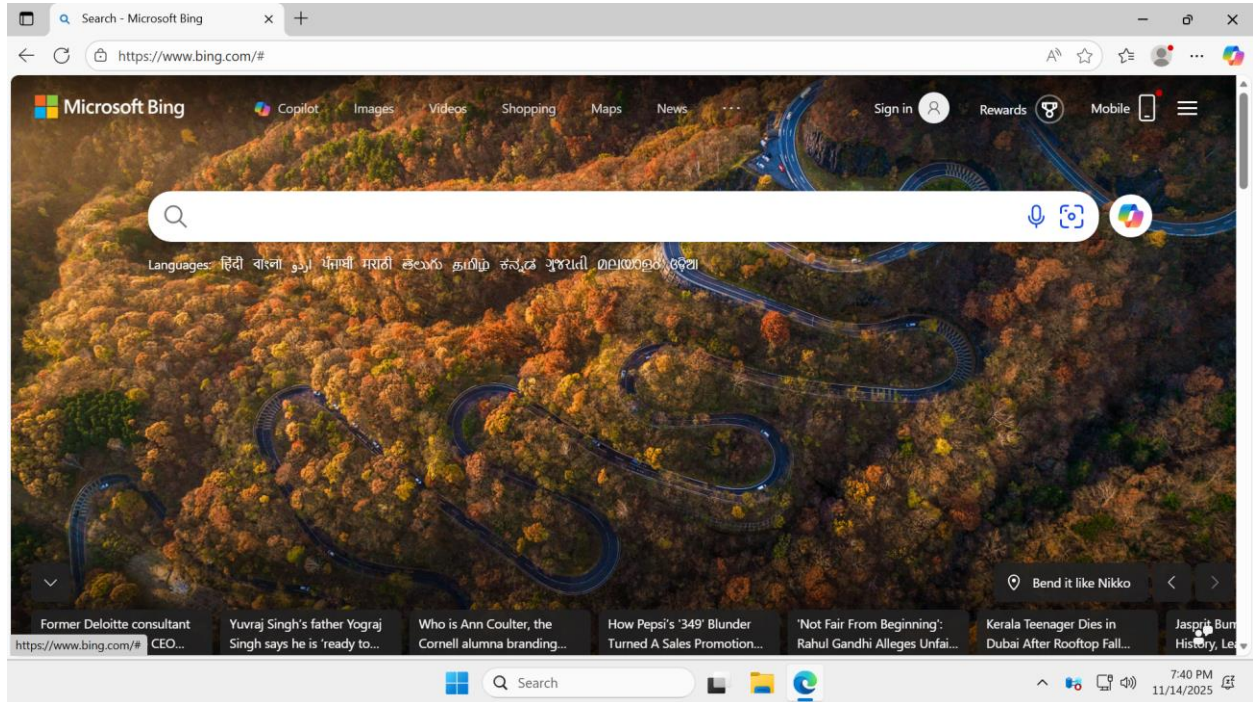
7:36 PM

11/14/2025

Introduction to Cloud Computing

LAB 06

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



Introduction to Cloud Computing

LAB 06

