

Lab 1 Deploy a Virtual Machine (VM) in Azure Portal

Methods: Azure Portal (GUI)

Purpose: Learn to deploy a VM, configure networking, and connect via RDP

Tools: Azure Portal

Skills Covered: Compute, Networking, NSG, VM Management

Step 1 – Create a Resource Group

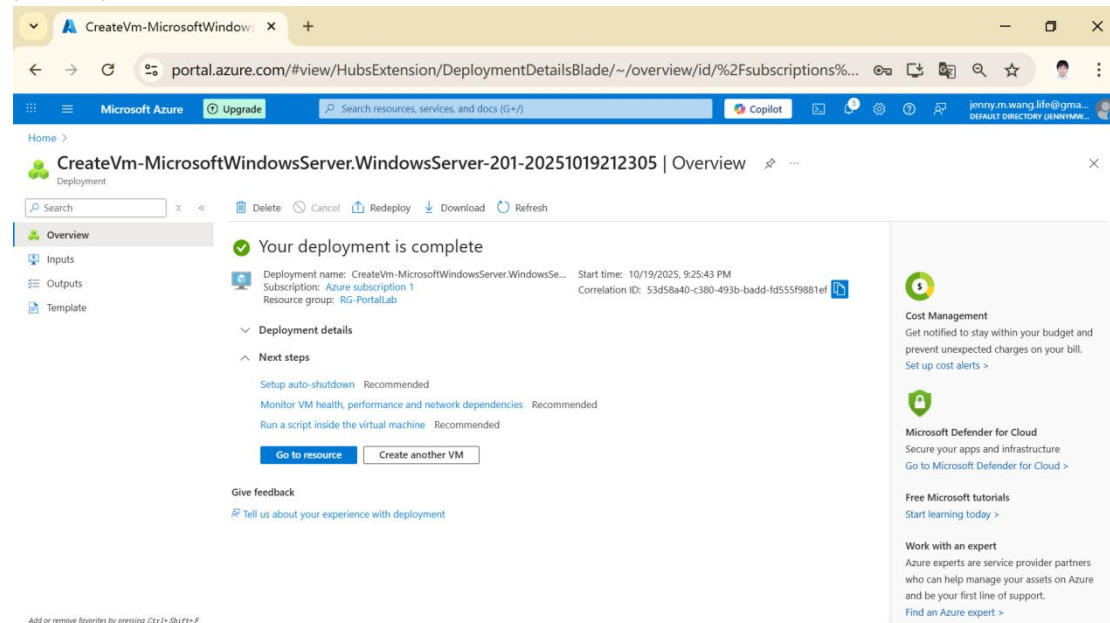
The screenshot shows the 'Create a resource group' page in the Azure Portal. The browser address bar shows the URL: `portal.azure.com/#view/HubsExtension/ResourceGroupCreate.ReactView/_provisioningContext~/7B*tel...`. The page title is 'Create a resource group'. Below the title, there are tabs for 'Basics', 'Tags', and 'Review + create'. The 'Basics' tab is selected. A description of a resource group is provided: 'Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. [Learn more](#)'. Below the description, there are three dropdown menus: 'Subscription *' (set to 'Azure subscription 1'), 'Resource group name *' (set to 'RG-PortalLab'), and 'Region *' (set to '(Canada) Canada Central'). At the bottom, there are three buttons: 'Previous', 'Next', and 'Review + create'.

Step 2 – Create a Virtual Machine

The screenshot shows the 'Create a virtual machine' page in the Azure Portal. The browser address bar shows the URL: `portal.azure.com/#create/Microsoft.VirtualMachine-ARM`. The page title is 'Create a virtual machine'. Below the title, there are three tabs: 'Help me create a low cost VM', 'Help me choose the right VM size for my workload', and 'Help me create a VM optimized for high availability'. The 'Help me create a low cost VM' tab is selected. A green banner indicates 'Validation passed'. Below the banner, there are three tabs: 'Help me create a low cost VM', 'Help me create a VM optimized for high availability', and 'Help me choose the right VM size for my workload'. The 'Help me create a low cost VM' tab is selected. Below the tabs, there is a 'Basics' section with a list of configuration options and their values: Subscription (Azure subscription 1), Resource group (RG-PortalLab), Virtual machine name (PortalVM01), Region (Canada Central), 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 2019 Datacenter - Gen2), VM architecture (x64), Size (Standard B1s (1 vcpu, 1 GiB memory)), Enable Hibernation (No), Username (azuruser), Public inbound ports (RDP), Already have a Windows license? (No), and Azure Spot (No). The 'Public inbound ports' field is highlighted with a red box. At the bottom, there are three buttons: '< Previous', 'Next >', and 'Create'. On the right side, there are links for 'Download a template for automation' and 'Give feedback'.

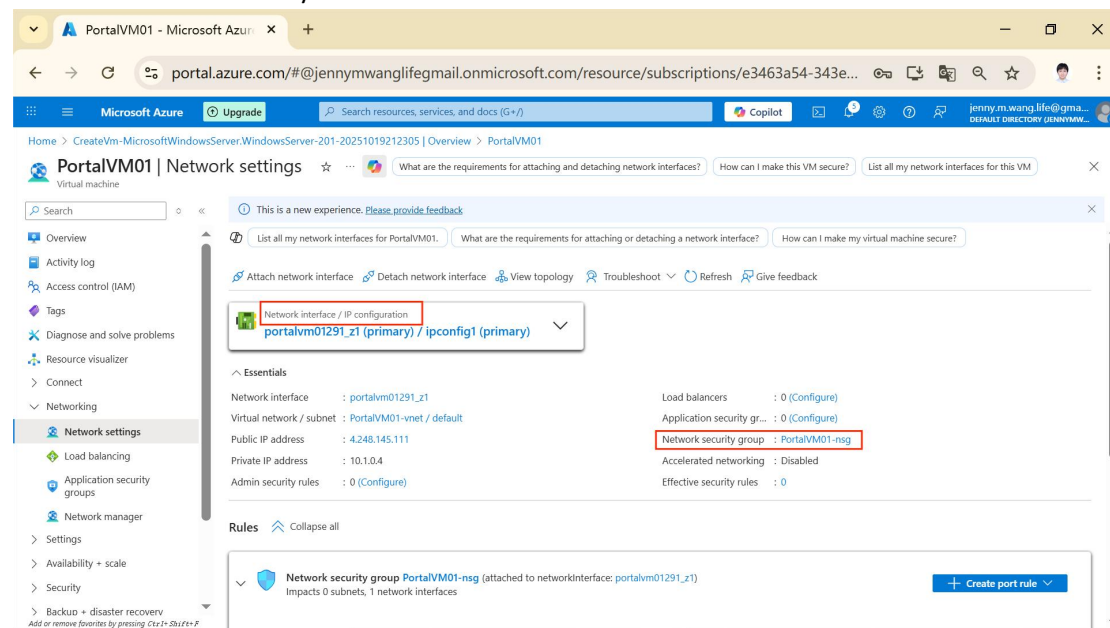
I select RDP (3389) as an allowed inbound port to let Azure automatically adds an NSG rule allowing TCP 3389 inbound, applies it to the VM's network interface or subnet and lets me connect using Remote Desktop. I will delete the VM after I finish to avoid charges and exposure.

In real-world environments, I would only keep it open when needed and restrict source IPs (only my IP), or use Azure Bastion (secure RDP in browser, no port opening) or use VPN (connect privately to Azure first).



Step 3 – Configure Networking

The NSG is attached to my NIC:



I can see an “Allow RDP” rule (port 3389), which means I can connect to my VM from my computer via Remote Desktop. I can also create port rule here:

PortalVM01 - Microsoft Azure

portal.azure.com/#@jennymwanglifegmail.onmicrosoft.com/resource/subscriptions/e3463a54-343e...

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

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20251019212305 | Overview > PortalVM01

PortalVM01 | Network settings

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

Settings

Availability + scale

Security

Backup + disaster recovery

Add or remove favorites by pressing Ctrl+Shift+F

Rules Collapse all

Network security group PortalVM01-nsg (attached to networkInterface: portalvm01291_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 (4)						
300	RDP	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)						

I can view Full NSG Settings by clicking on the Network security group name to review all inbound rules, see their Priority (lower number = higher priority) and confirm Access = Allow for RDP (3389):

PortalVM01-nsg - Microsoft Azure

portal.azure.com/#@jennymwanglifegmail.onmicrosoft.com/resource/subscriptions/e3463a54-343e...

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

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20251019212305 | Overview > PortalVM01 | Network settings >

PortalVM01-nsg

Network security group

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Settings

Monitoring

Automation

Help

Essentials

Resource group (move) : RG-PortalLab

Location : Canada Central

Subscription (move) : Azure subscription 1

Subscription ID : e3463a54-343e-44be-a279-a276256ed67

Tags (edit) : Add tags

Custom security rules : 1 inbound, 0 outbound

Associated with : 0 subnets, 1 network interfaces

Filter by name

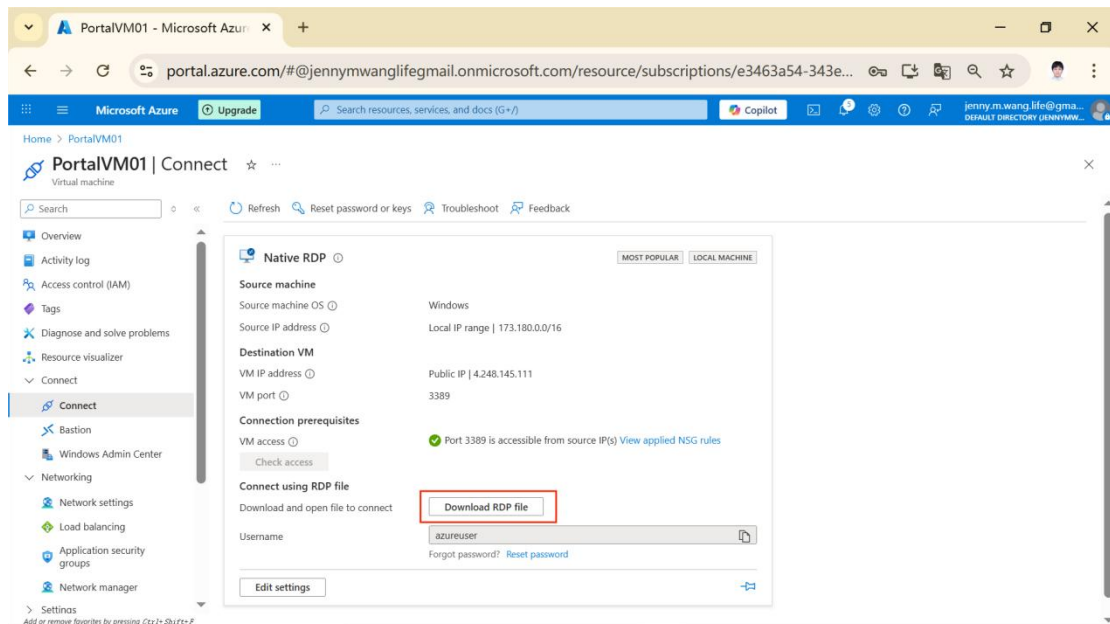
Port == all Protocol == all Source == all Destination == all Action == all

Priority ↑↓	Name ↑↓	Port ↑↓	Protocol ↑↓	Source ↑↓	Destination ↑↓	Action ↑↓
Inbound Security Rules						
300	RDP	3389	TCP	Any	Any	Allow
65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowAzureLoadBalance...	Any	Any	AzureLoadBalancer	Any	Allow
65500	DenyAllInBound	Any	Any	Any	Any	Deny
Outbound Security Rules						
65000	AllowVnetOutBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowInternetOutBound	Any	Any	Any	Internet	Allow
65500	DenyAllOutBound	Any	Any	Any	Any	Deny

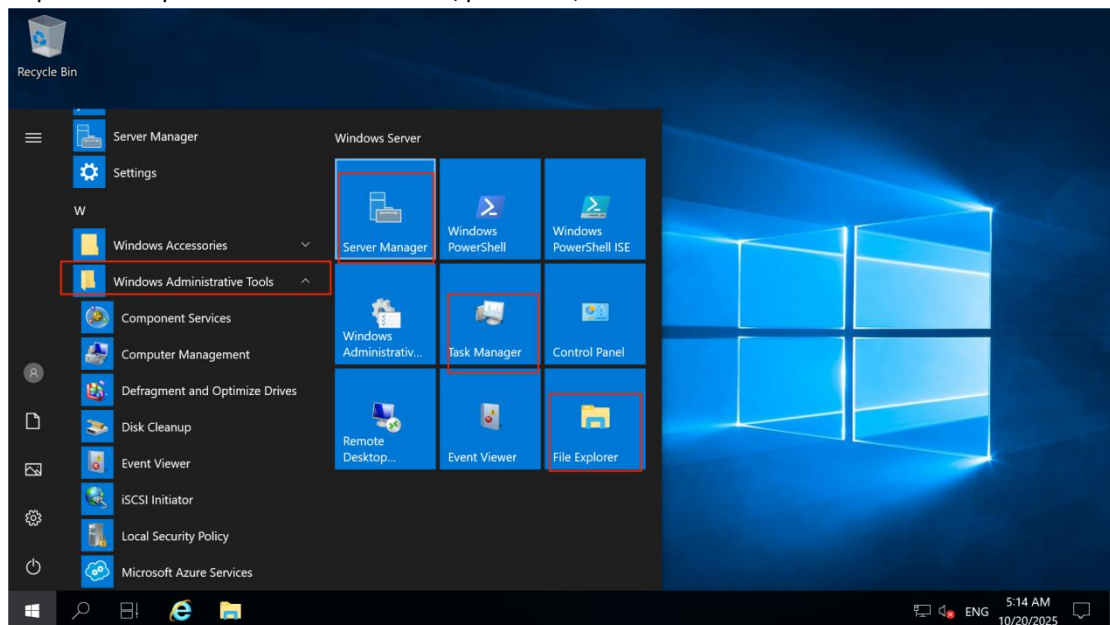
Add or remove favorites by pressing Ctrl+Shift+F

Step 4 – Connect to VM via RDP

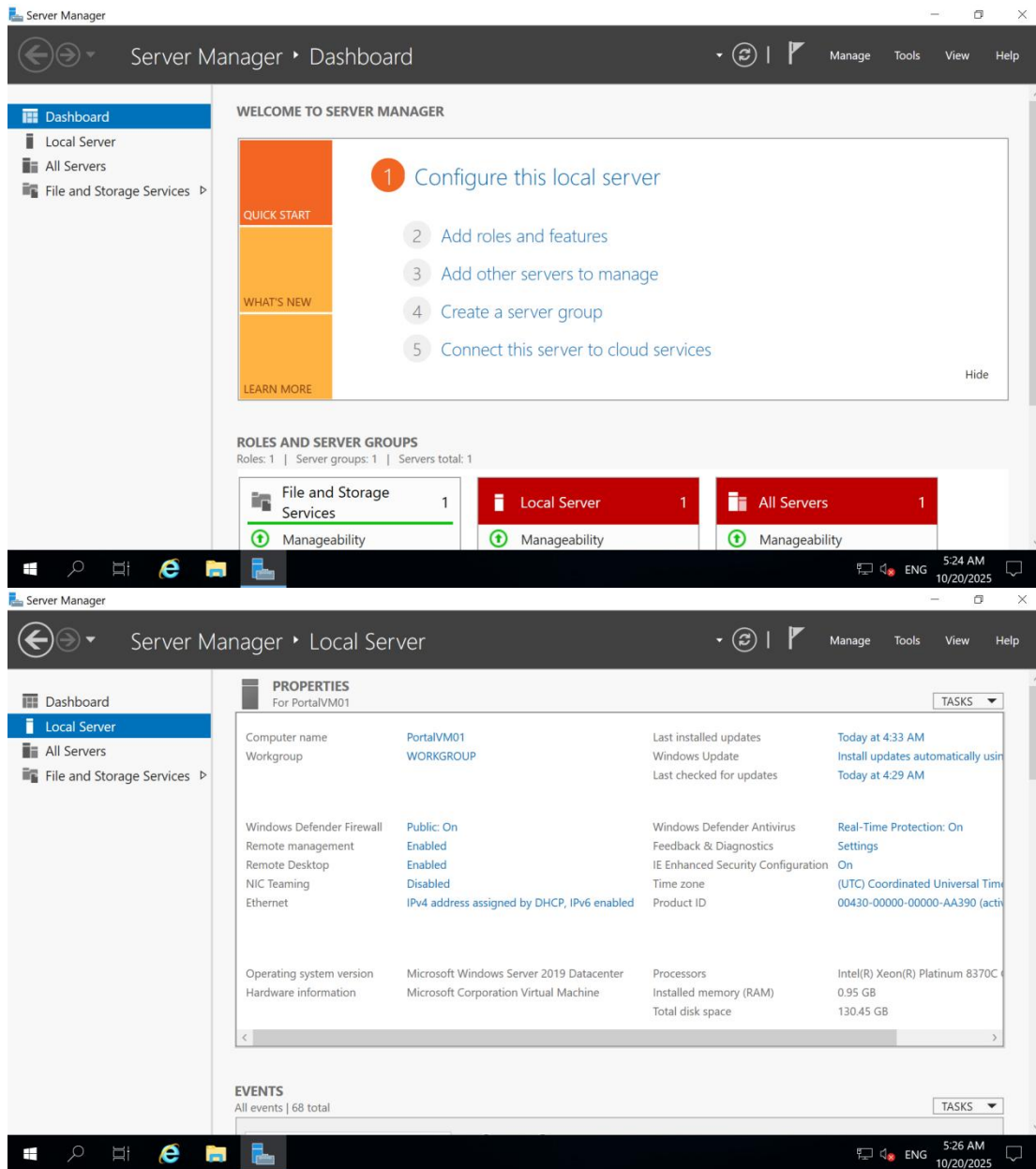
VM → Connect → RDP → Download file:



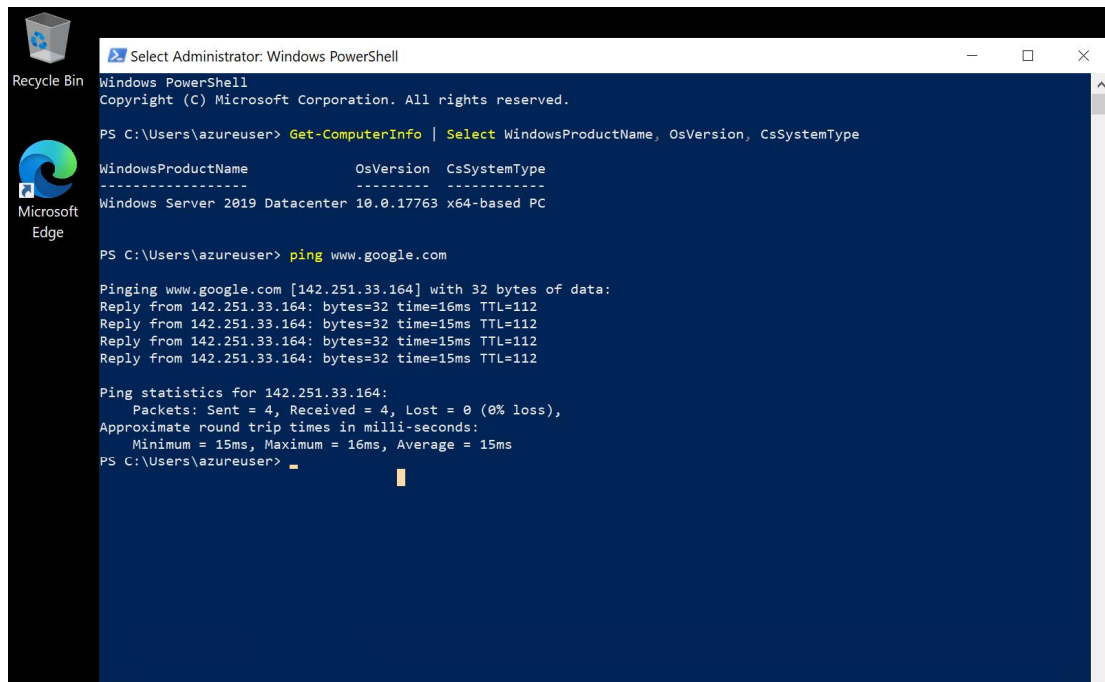
I open the .rdp file and enter username/password, then I am inside the VM:



Exploring Server Manager, File Explorer and Task Manager:



Running some system commands and test Internet and Network Connectivity:



Select Administrator: Windows PowerShell

```
Windows PowerShell
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PS C:\Users\azureuser> Get-ComputerInfo | Select WindowsProductName, OsVersion, CsSystemType

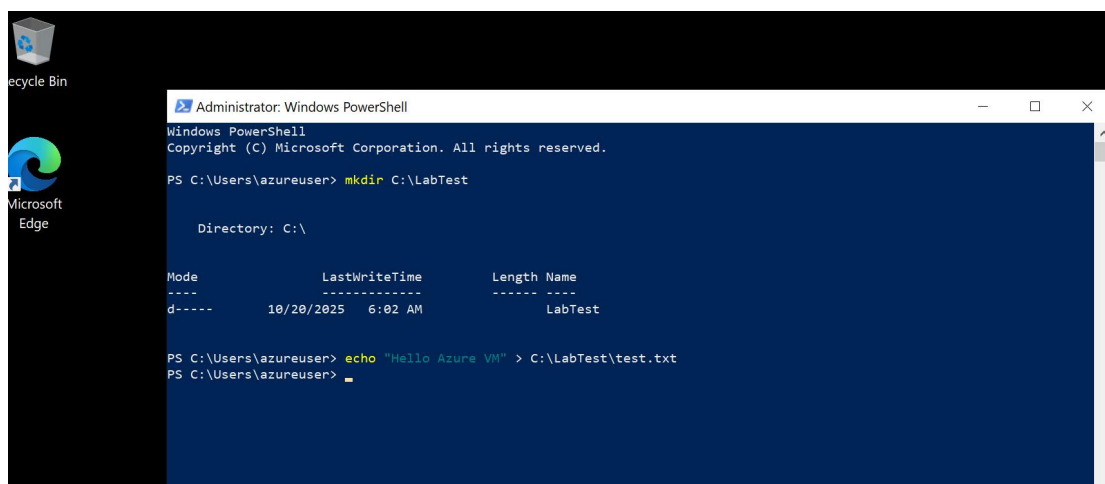
WindowsProductName      OsVersion  CsSystemType
-----
Windows Server 2019 Datacenter 10.0.17763 x64-based PC

PS C:\Users\azureuser> ping www.google.com

Pinging www.google.com [142.251.33.164] with 32 bytes of data:
Reply from 142.251.33.164: bytes=32 time=16ms TTL=112
Reply from 142.251.33.164: bytes=32 time=15ms TTL=112
Reply from 142.251.33.164: bytes=32 time=15ms TTL=112
Reply from 142.251.33.164: bytes=32 time=15ms TTL=112

Ping statistics for 142.251.33.164:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 15ms, Maximum = 16ms, Average = 15ms
PS C:\Users\azureuser>
```

Create a simple folder structure for logs or test files:



Administrator: Windows PowerShell

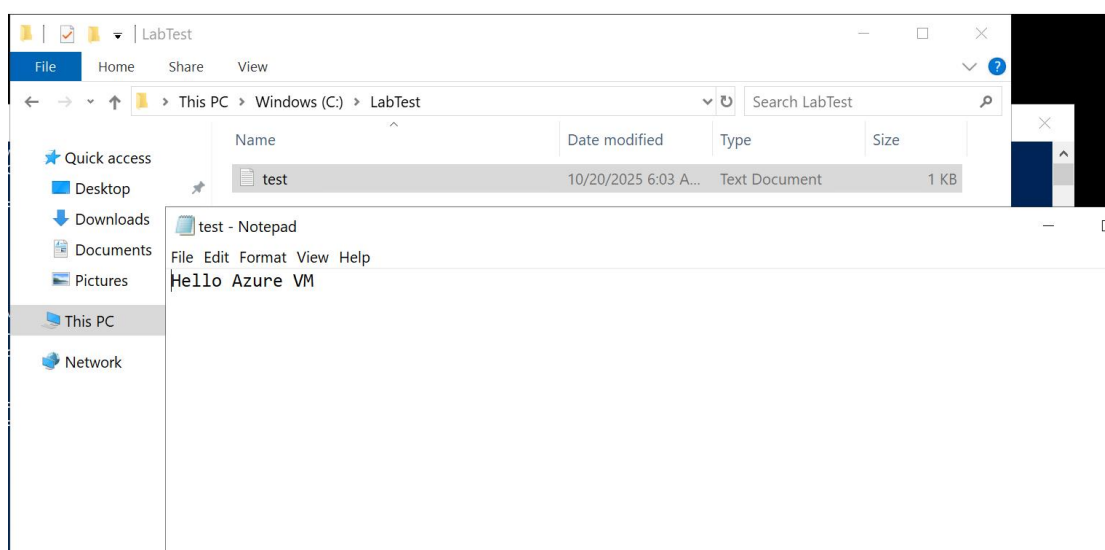
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\azureuser> mkdir C:\LabTest

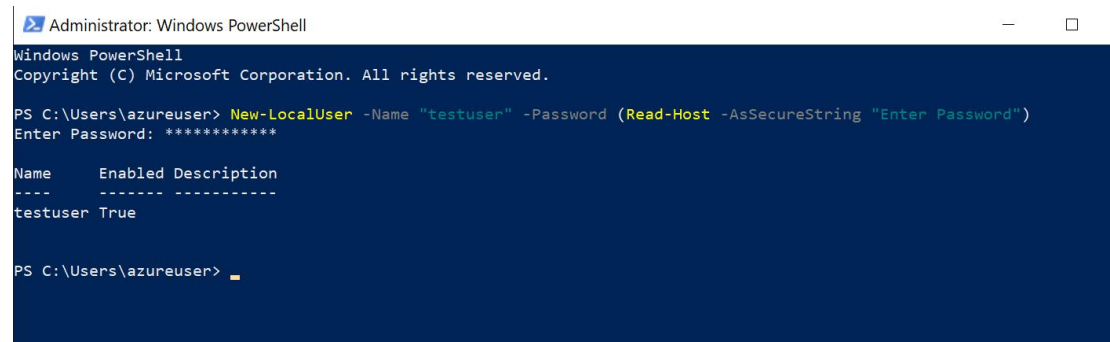
Directory: C:\

Mode                LastWriteTime         Length Name
----                -
d-----          10/20/2025   6:02 AM                LabTest

PS C:\Users\azureuser> echo "Hello Azure VM" > C:\LabTest\test.txt
PS C:\Users\azureuser>
```



Create a local user:



```
Administrator: Windows PowerShell
Windows PowerShell
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PS C:\Users\azureuser> New-LocalUser -Name "testuser" -Password (Read-Host -AsSecureString "Enter Password")
Enter Password: *****

Name      Enabled Description
----      -
testuser  True
```

PS C:\Users\azureuser> █

Lab Completion Summary:

This lab successfully deployed a Windows Virtual Machine using the Azure Portal. The VM was configured with a network interface, subnet, virtual network, public IP, and network security group, and I was able to connect via RDP. Completing this lab provided hands-on experience with core Azure compute and networking concepts, and the steps, screenshots, and diagram have been documented for reference and portfolio purposes.