Lab   Deploy a VM using Cloud Shell
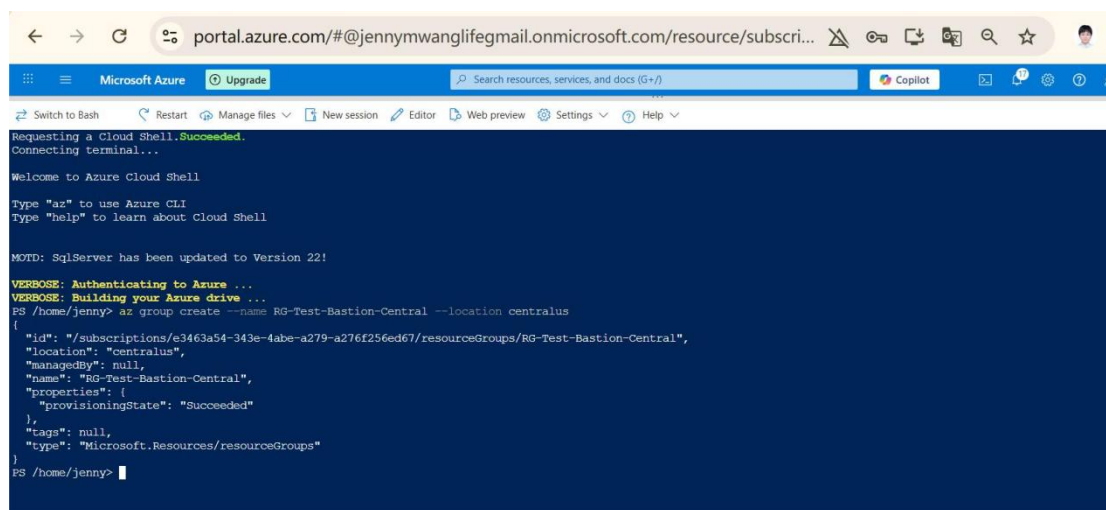
Methods: Learn to deploy a Windows VM in Azure using Cloud Shell and securely access it via Bastion.

Purpose: Use Cloud Shell to create a resource group, deploy a VM, configure Bastion, and test connectivity.

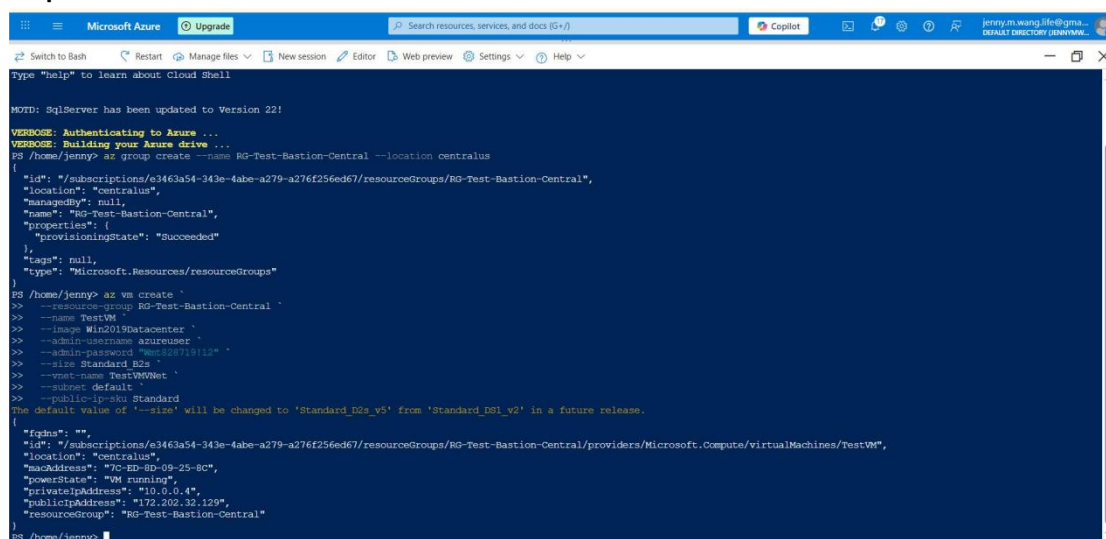**Tools:** Azure Cloud Shell, Azure Portal.

Skills Covered: Deploying VMs, managing resource groups, configuring Bastion, and testing network connectivity.

Step 1 – Create a Resource Group

Step 2 – Create a Windows VM

Step 3 – Set up Bastion for secure RDP access

Create a subnet for Bastion:

The default value of '--size' will be changed to 'Standard_D2s_v5' from 'Standard_DS1_v2' in a future release.
{
  "fqdns": "",
  "id": "/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Compute/virtualMachines/TestVM",
  "location": "centralus",
  "macAddress": "7C-ED-BD-09-25-8C",
  "powerState": "VM running",
  "privateIpAddress": "10.0.0.4",
  "publicIpAddress": "172.202.32.129",
  "resourceGroup": "RG-Test-Bastion-Central"
}
PS /home/jenny> az vm show `
>>   --resource-group RG-Test-Bastion-Central `
>>   --name TestVM `
>>   --query "networkProfile.networkInterfaces[0].id" `
>>   -o tsv
/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Network/networkInterfaces/TestVMNic
PS /home/jenny> az network nic show `
>>   --resource-group RG-Test-Bastion-Central `
>>   --name TestVMNic `
>>   --query "ipConfigurations[0].subnet.id" `
>>   -o tsv
/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Network/virtualNetworks/TestVMVNet/subnets/default
PS /home/jenny> az network vnet subnet create `
>>   --resource-group RG-Test-Bastion-Central `
>>   --vnet-name TestVMVNet `
>>   --name AzureBastionSubnet `
>>   --address-prefix 10.0.1.0/27
{
  "addressPrefix": "10.0.1.0/27",
  "delegations": [],
  "etag": "W/\"60a3e649-7e51-4b55-bbe8-9a125ca8c442\"",
  "id": "/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Network/virtualNetworks/TestVMVNet/subnets/AzureBastionSubnet",
  "name": "AzureBastionSubnet",
  "privateEndpointNetworkPolicies": "Disabled",
  "privateLinkServiceNetworkPolicies": "Enabled",
  "provisioningState": "Succeeded",
  "resourceGroup": "RG-Test-Bastion-Central",
  "type": "Microsoft.Network/virtualNetworks/subnets"
}
PS /home/jenny>

Create the Bastion host:

  "name": "AzureBastionSubnet",
  "privateEndpointNetworkPolicies": "Disabled",
  "privateLinkServiceNetworkPolicies": "Enabled",
  "provisioningState": "Succeeded",
  "resourceGroup": "RG-Test-Bastion-Central",
  "type": "Microsoft.Network/virtualNetworks/subnets"
}
PS /home/jenny> az network public-ip create `
>>   --resource-group RG-Test-Bastion-Central `
>>   --name BastionPublicIP `
>>   --sku Standard
[Coming breaking change] In the coming release, the default behavior will be changed as follows when sku is Standard and zone is not provided: For zonal regions, you will get a zone-redundant IP indicated by zones:["1","2","3"]; For non-zonal regions, you will get a non zone-redundant IP indicated by zones:null.
{
  "publicIp": {
    "ddosSettings": {
      "protectionMode": "VirtualNetworkInherited"
    },
    "etag": "W/\"87967bf7-55ce-4a47-9eb9-af18d5ab6315\"",
    "id": "/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Network/publicIPAddresses/BastionPublicIP",
    "idleTimeoutInMinutes": 4,
    "ipAddress": "52.173.207.243",
    "ipTags": [],
    "location": "centralus",
    "name": "BastionPublicIP",
    "provisioningState": "Succeeded",
    "publicIPAddressVersion": "IPv4",
    "publicIPAllocationMethod": "Static",
    "resourceGroup": "RG-Test-Bastion-Central",
    "resourceGuid": "bb4b394c-1483-4866-9f3c-57445243ce2f",
    "sku": {
      "name": "Standard",
      "tier": "Regional"
    },
    "type": "Microsoft.Network/publicIPAddresses"
  }
}
PS /home/jenny>
PS /home/jenny> az network bastion create `
>>   --name BastionHost `
>>   --resource-group RG-Test-Bastion-Central `

It takes some time:

Read more about the command in reference docs
PS /home/jenny> az network bastion create `
>>   --name BastionHost `
>>   --resource-group RG-Test-Bastion-Central `
>>   --vnet-name TestVMVNet `
>>   --public-ip-address BastionPublicIP `
>>   --location centralus
 - Running ..

"dnsName": "bst-c6d0e241-1c81-4315-8640-7f8935eac67d.bastion.azure.com",
"enableFileCopy": false,
"enableIpConnect": false,
"enableKerberos": false,
"enableSessionRecording": false,
"enableShareableLink": false,
"enableTunneling": false,
"etag": "W/\"9fdfced8-29d8-45e7-b155-1efe64e8aa40\"",
"id": "/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Network/bastionHosts/BastionHost",
"ipConfigurations": [
    {
        "etag": "W/\"9fdfced8-29d8-45e7-b155-1efe64e8aa40\"",
        "id": "/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Network/bastionHosts/BastionHost/bastionHostIpConfigurations/bastion_ip_config",
        "name": "bastion_ip_config",
        "privateIPAllocationMethod": "Dynamic",
        "provisioningState": "Succeeded",
        "publicIPAddress": {
            "id": "/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Network/publicIPAddresses/BastionPublicIP",
            "resourceGroup": "RG-Test-Bastion-Central"
        },
        "resourceGroup": "RG-Test-Bastion-Central",
        "subnet": {
            "id": "/subscriptions/e3463a54-343e-4abe-a279-a276f256ed67/resourceGroups/RG-Test-Bastion-Central/providers/Microsoft.Network/virtualNetworks/TestVMVNet/subnets/AzureBastionSubnet",
            "resourceGroup": "RG-Test-Bastion-Central"
        },
        "type": "Microsoft.Network/bastionHosts/bastionHostIpConfigurations"
    }
],
"location": "centralus",
"name": "BastionHost",
"provisioningState": "Succeeded",
"resourceGroup": "RG-Test-Bastion-Central",
"scaleUnits": 2,
"sku": {
    "name": "Standard"
},
"tags": {},
"type": "Microsoft.Network/bastionHosts"
PS /home/jenny>

Step 4 – Connect to my VM via Bastion
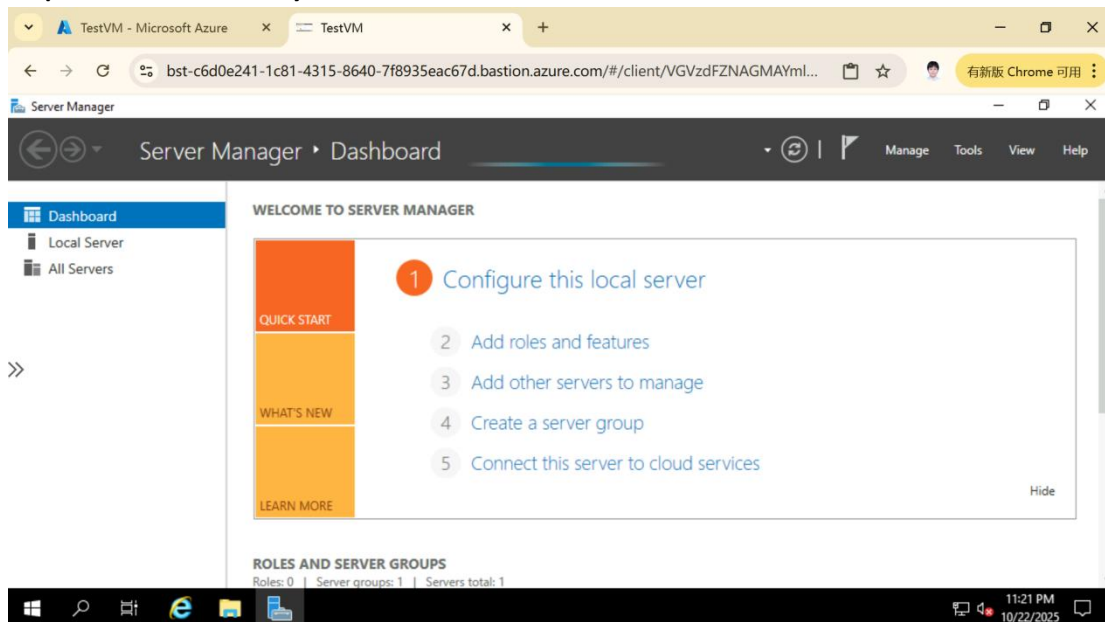
Step 5 – Test Connectivity from the VM
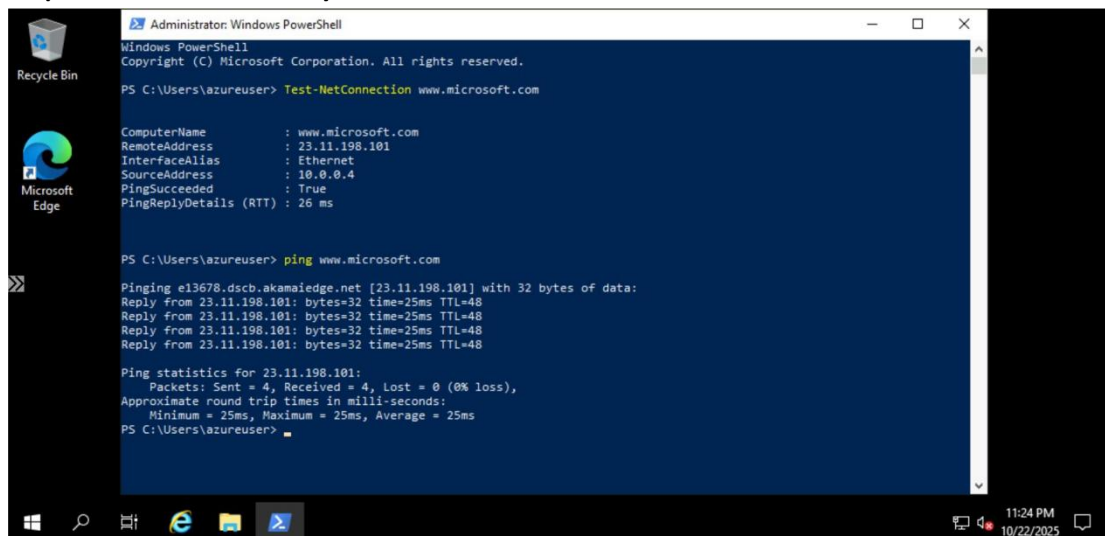
My VM is running correctly and the network setup is working.