Fenwick Technical IT Engineer Main Task

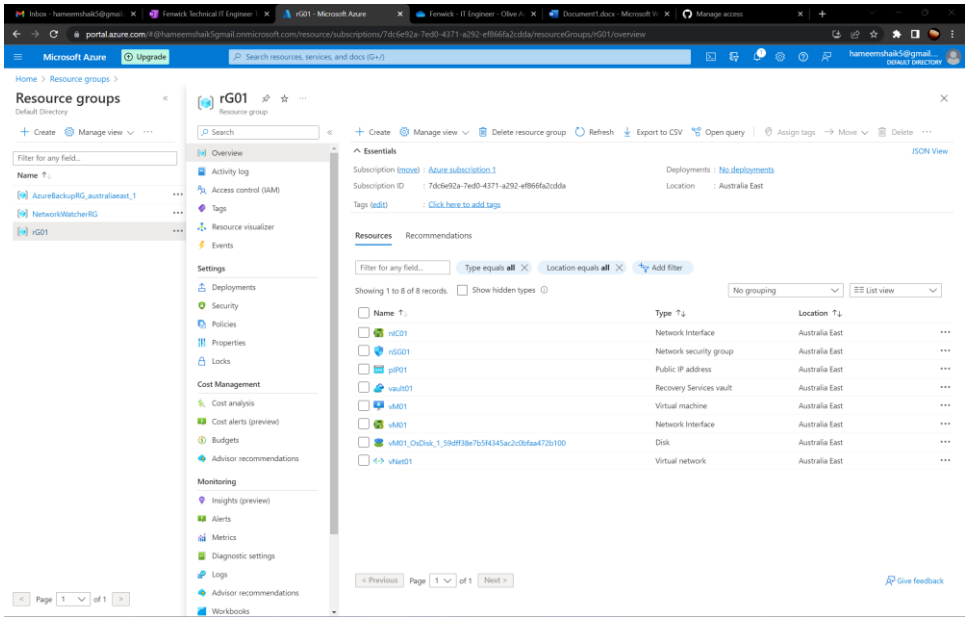
Script to deploy a Windows IIS Server on Azure with the following specifications:

1. Pick an appropriate Windows Server image to support Hot patching.
2. Pick an appropriate size for a small IIS server (1-5 users, static website) with very low average CPU.
3. Deploy within the Australia East region.
4. Use an appropriate subnetting scheme for approximately 20 related machines.
5. Make sure the machine is secure with only secure public web access.
6. Create and apply an appropriate backup policy.

PowerShell script execution screenshots (PowerShell Script CLI & Azure Portal UI)

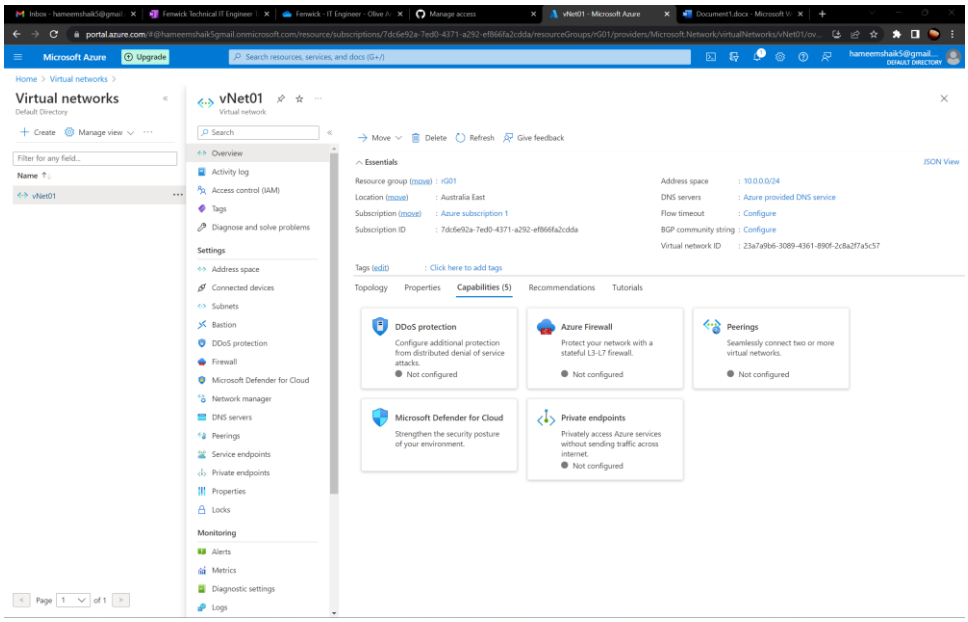
- **Resource group creation:**

```
PS C:\WINDOWS\system32> $resourceGroupName = "rG01"
$locationName = "australiaeast"
New-AzResourceGroup `
    -Name $resourceGroupName `
    -Location $locationName


ResourceGroupName : rG01
Location          : australiaeast
ProvisioningState : Succeeded
Tags              :
ResourceId        : /subscriptions/7dc6e92a-7ed0-4371-a292-ef866fa2cdda/resourceGroups/rG01
```



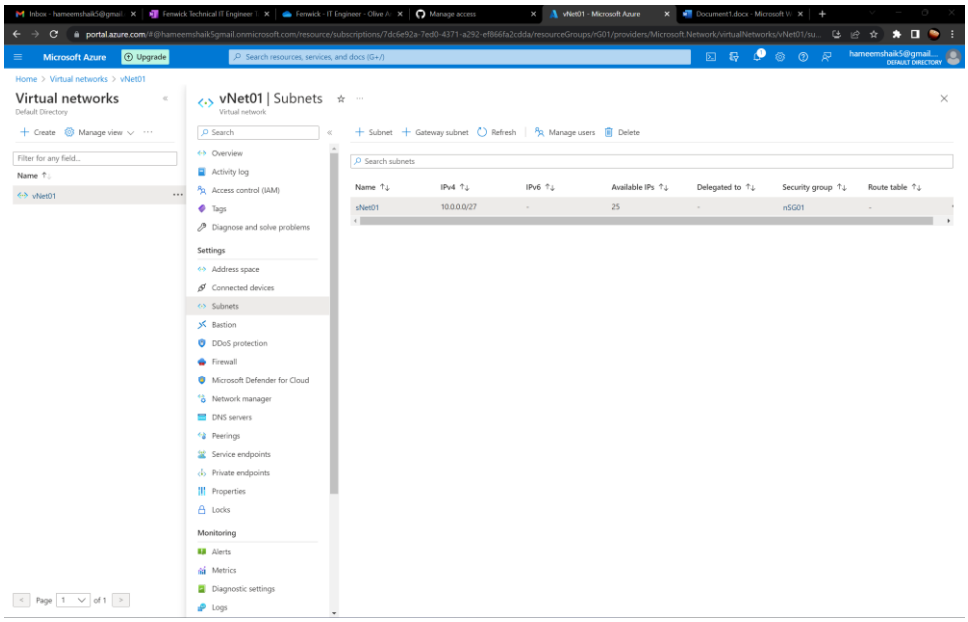
- **Virtual network creation:**

```
PS C:\WINDOWS\system32> Get-AzVirtualNetwork `

ResourceGroupName Name   Location      ProvisioningState EnableDdosProtection
----------------- ----   --------      ----------------- --------------------
rG01              vNet01 australiaeast Succeeded         False
```



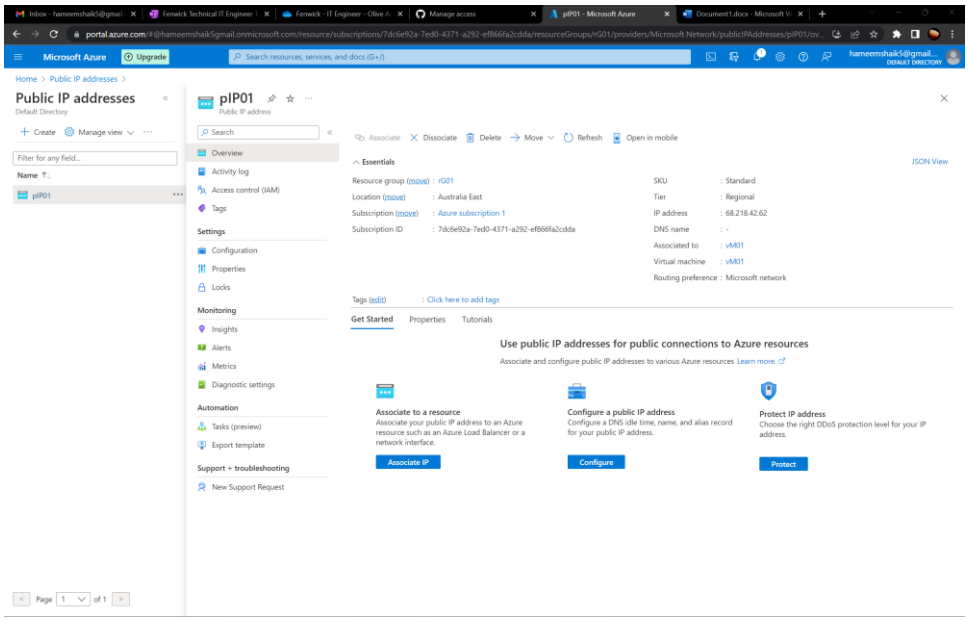
- **Subnet creation:**

```
PS C:\WINDOWS\system32> $subnetName = "sNet01"
Get-AzVirtualNetworkSubnetConfig `
    -Name $subnetName `
    -VirtualNetwork $vNet01 <# Shows the created subnet #>


AddressPrefix Name   NetworkSecurityGroup Name RouteTable Name NatGateway Name ProvisioningState PrivateEn
                                                                                dpointNet
                                                                                workPolic
                                                                                ies
------------- ----   ------------------------- --------------- --------------- ----------------- ---------
{10.0.0.0/27} sNet01                                                            Disabled
```



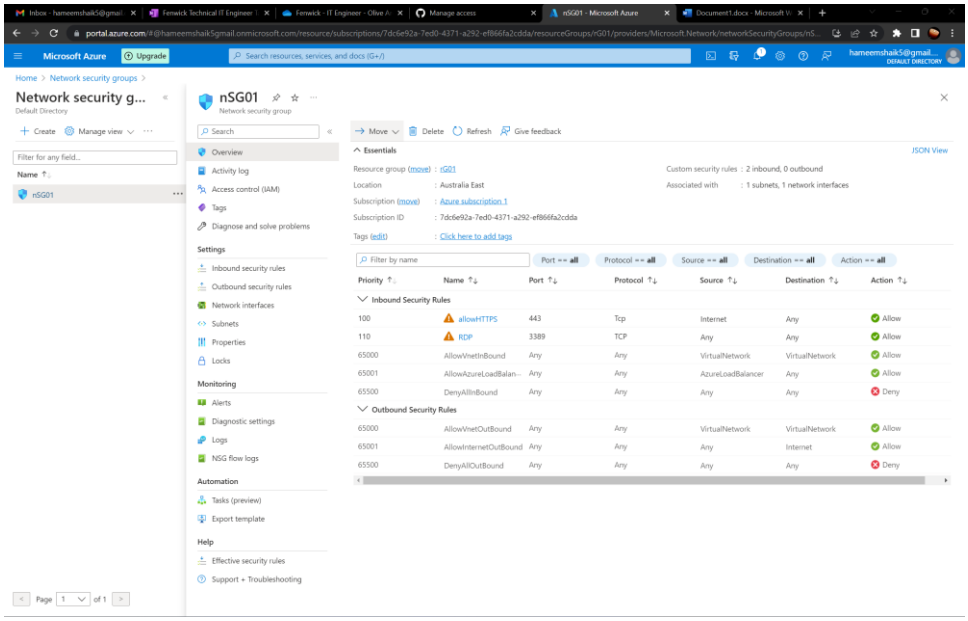
- **Public IP address creation:**

```
PS C:\WINDOWS\system32> Get-AzPublicIPAddress <# Shows all available public IP addresses. #>

ResourceGroupName Name  Location      PublicIpAllocationMethod IpAddress    PublicIpAddressVersion IdleTimeoutInMinutes ProvisioningState
----------------- ----  --------      ------------------------ ---------    ---------------------- -------------------- -----------------
rG01              pIP01 australiaeast Static                   68.218.42.62 IPv4                   4                    Succeeded
```

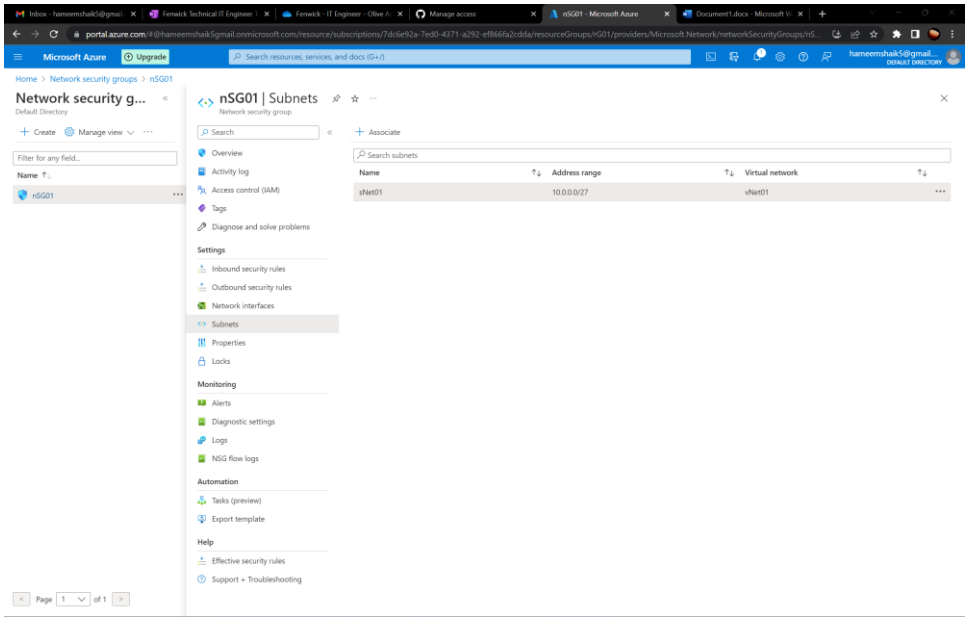


- **Network security group creation:**

```
New-AzNetworkSecurityGroup `
        -Name $networkSecurityGroupName `
        -ResourceGroupName $resourceGroupName `
        -Location $location


ResourceGroupName Name  Location      ProvisioningState
----------------- ----  --------      -----------------
rG01              nSG01 australiaeast Succeeded
```

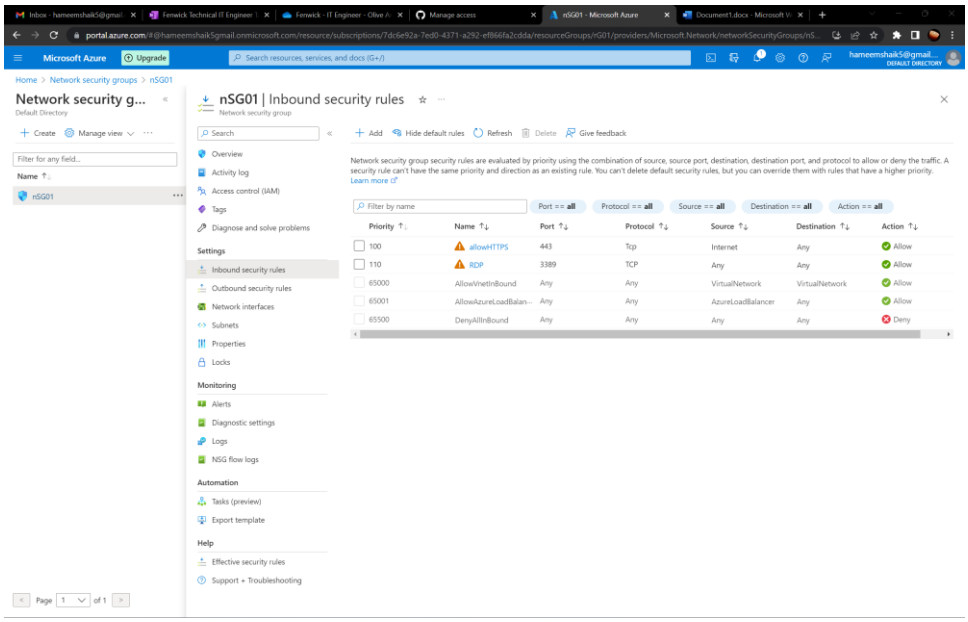


- **Associating network security group: nSG01 to the subnet: sNet01:**



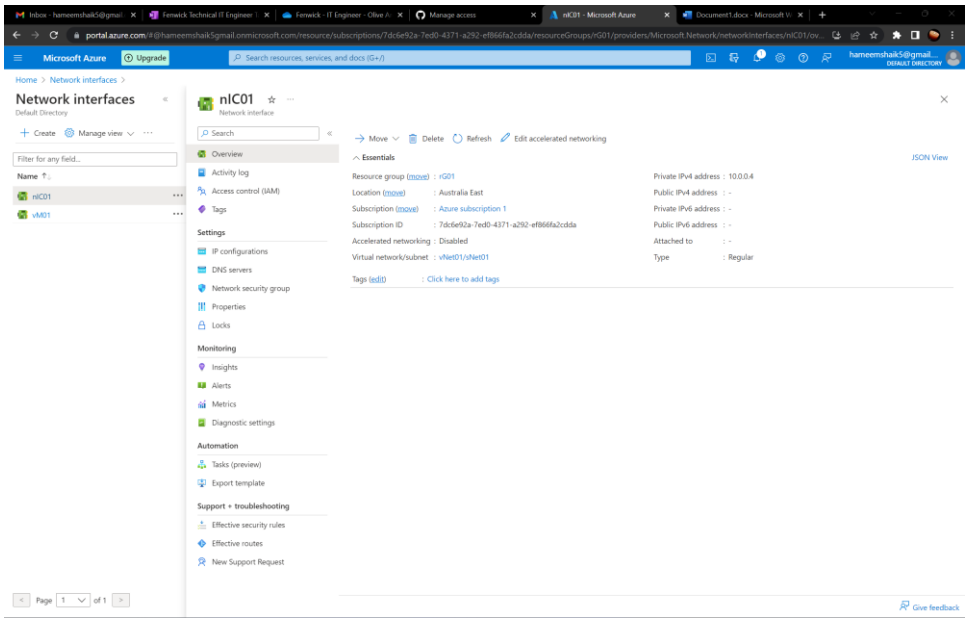
- **Adding a rule to the network security group:**

```
PS C:\WINDOWS\system32> Get-AzNetworkSecurityRuleConfig -NetworkSecurityGroup $nSG01 <# Shows all available network security rules #>

Protocol Name       Access Priority Direction ProvisioningState
-------- ----       ------ -------- --------- -----------------
Tcp      allowHTTPS Allow  100      Inbound
```



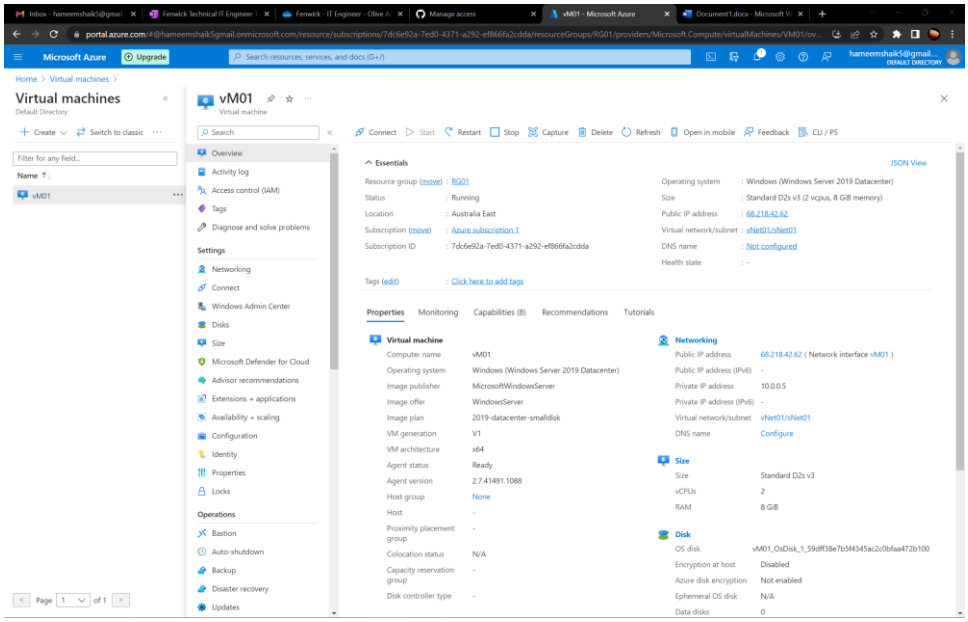
- **Create a virtual network interface:**

```
PS C:\WINDOWS\system32> Get-AzNetworkInterface <# Shows all available network interfaces. #>

ResourceGroupName Name  Location      MacAddress        Primary EnableAcceleratedNetworking EnableIPForwarding DisableTcpStateTracking ProvisioningState VnetEncryptionSupported AuxiliaryMode
----------------- ----  --------      ----------        ------- --------------------------- ------------------ ------------------------ ----------------- ------------------------- -------------
rG01              nIC01 australiaeast                     False                       False              False                    Succeeded                 False
rG01              vM01  australiaeast 00-22-48-93-1F-58 True    False                       False              False                    Succeeded                 False
```



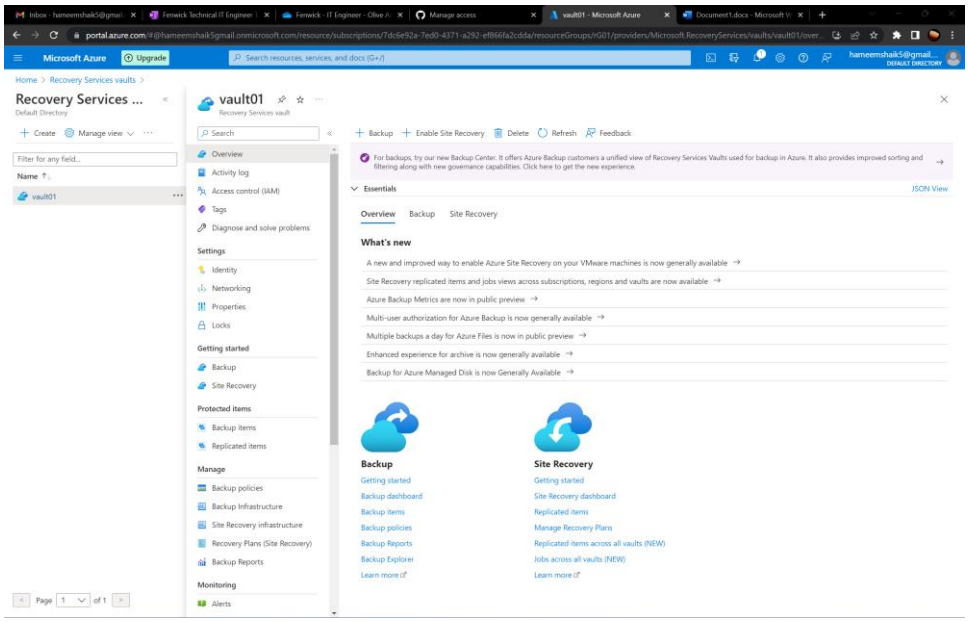
- **Virtual machine creation:**

```
PS C:\WINDOWS\system32> Get-AzVM

ResourceGroupName Name      Location          VmSize  OsType  NIC ProvisioningState Zone
----------------- ----      --------          ------  ------  --- ----------------- ----
RG01              vM01 australiaeast Standard_D2s_v3 Windows vM01         Succeeded


PS C:\WINDOWS\system32> $PSVersionTable.PSVersion

Major  Minor  Build  Revision
-----  -----  -----  --------
5      1      22621  1778
```



- **Backup process:**

```
PS C:\WINDOWS\system32> Get-AzRecoveryServicesVault `


Name              : vault01
ID                : /subscriptions/7dc6e92a-7ed0-4371-a292-ef866fa2cdda/resourceGroups/rG01/providers/Microsoft.RecoveryServices/vaults/vault01
Type              : Microsoft.RecoveryServices/vaults
Location          : australiaeast
ResourceGroupName : rG01
SubscriptionId    : 7dc6e92a-7ed0-4371-a292-ef866fa2cdda
Properties        : Microsoft.Azure.Commands.RecoveryServices.ARSVaultProperties
Identity          :
```




```
PS C:\WINDOWS\system32> $backUpPolicy01 = Get-AzRecoveryServicesBackupProtectionPolicy -Name "DefaultPolicy"

PS C:\WINDOWS\system32> $resourceGroupName = "rG01"
$locationName = "australiaeast" <# 3. Deploy within the Australia East region. #>
$virtualNetworkName = "vNet01"
$subnetName = "sNet01"
$publicIPName = "pIP01"
$publicIPAllocationMethod = "Static"
$networkSecurityGroupName = "nSG01"
$ruleName = "allowHTTPS"
$networkInterfaceCardName = "nIC01"
$vMImage = "MicrosoftWindowsServer:WindowsServer:2019-datacenter-smalldisk:latest" <# 1. Appropriate Windows Server image which supports Hotpatching. #>
$vMName = "vM01"
Enable-AzRecoveryServicesBackupProtection -Policy $backUpPolicy01 -Name $vMName -ResourceGroupName $resourceGroupName

WorkloadName     Operation           Status              StartTime              EndTime
------------     ---------           ------              ---------              -------
vm01             ConfigureBackup     Completed           26/06/2023 8:11:25 AM  26/06/2023 8:12:26 AM
```

```
WorkloadName     Operation           Status              StartTime              EndTime
------------     ---------           ------              ---------              -------
vm01             ConfigureBackup     Completed           26/06/2023 8:11:25 AM  26/06/2023 8:12:26 AM
```

```
PS C:\WINDOWS\system32> Backup-AzRecoveryServicesBackupItem -Item $item

WorkloadName     Operation           Status              StartTime              EndTime                JobID
------------     ---------           ------              ---------              -------                -----
vm01             Backup              InProgress          26/06/2023 8:20:59 AM                         0f536bce-175a-423d-bd62-28369ea5fd6b
```

```
PS C:\WINDOWS\system32> Get-AzRecoveryServicesBackupJob

WorkloadName     Operation           Status              StartTime              EndTime                JobID
------------     ---------           ------              ---------              -------                -----
vm01             Backup              InProgress          26/06/2023 8:20:59 AM                         0f536bce-175a-423d-bd62-28369ea5fd6b
vm01             ConfigureBackup     Completed           26/06/2023 8:11:25 AM  26/06/2023 8:12:26 AM  b3403b43-c891-46b8-a79b-29cd52fd272c
```