Create and manage Azure VM with Powershell

```
## Create and manage virtual machine with PowerShell

## Login to create a connection and authenticate with your Azure account.
Login-AzureRmAccount

# Variables for common values
$resourceGroup = "myResourceGroup"
$location = "westeurope"
$vmName = "myVM"

# Create user object
$cred = Get-Credential -Message "Enter a username and password for the virtual machine."

# Create a resource group
New-AzureRmResourceGroup -Name $resourceGroup -Location $location

# Create a subnet configuration
$subnetConfig = New-AzureRmVirtualNetworkSubnetConfig -Name mySubnet -AddressPrefix 192.168.1.0/24

# Create a virtual network
$vnet = New-AzureRmVirtualNetwork -ResourceGroupName $resourceGroup -Location $location `
-Name MYvNET -AddressPrefix 192.168.0.0/16 -Subnet $subnetConfig

# Create a public IP address and specify a DNS name
$pip = New-AzureRmPublicIpAddress -ResourceGroupName $resourceGroup -Location $location `
-Name "mypublicdns$(Get-Random)" -AllocationMethod Static -IdleTimeoutInMinutes 4

# Create an inbound network security group rule for port 3389
$nsgRuleRDP = New-AzureRmNetworkSecurityRuleConfig -Name myNetworkSecurityGroupRuleRDP -Protocol Tcp `
-Direction Inbound -Priority 1000 -SourceAddressPrefix * -SourcePortRange * -DestinationAddressPrefix * `
-DestinationPortRange 3389 -Access Allow

# Create a network security group
$nsg = New-AzureRmNetworkSecurityGroup -ResourceGroupName $resourceGroup -Location $location `
-Name myNetworkSecurityGroup -SecurityRules $nsgRuleRDP

# Create a virtual network card and associate with public IP address and NSG
$nic = New-AzureRmNetworkInterface -Name myNic -ResourceGroupName $resourceGroup -Location $location `
-SubnetId $vnet.Subnets[0].Id -PublicIpAddressId $pip.Id -NetworkSecurityGroupId $nsg.Id

# Create a virtual machine configuration
$vmConfig = New-AzureRmVMConfig -VMName $vmName -VMSize Standard_B1s | `
Set-AzureRmVMOperatingSystem -Windows -ComputerName $vmName -Credential $cred | `
Set-AzureRmVMSourceImage -PublisherName MicrosoftWindowsServer -Offer WindowsServer -Skus 2016-Datacenter -Version latest | `
Add-AzureRmVMNetworkInterface -Id $nic.Id

# Create a virtual machine
New-AzureRmVM -ResourceGroupName $resourceGroup -Location $location -VM $vmConfig
```

OUTPUT:-

```
PS C:\Users\TA20059057> Login-AzureRmAccount


Account           : jmonica21@outlook.com
SubscriptionName  : Free Trial
SubscriptionId    : ebc74d3a-8d89-4c69-927c-bd54ae32164d
TenantId          : e13502df-5739-4a7e-83c0-06697f838d0d
Environment       : AzureCloud



PS C:\Users\TA20059057> $resourceGroup = "myResourceGroup"
$location = "westeurope"
$vmName = "myVM"

PS C:\Users\TA20059057> $cred = Get-Credential -Message "Enter a username and password for the virtual machine."

PS C:\Users\TA20059057> New-AzureRmResourceGroup -Name $resourceGroup -Location $location


ResourceGroupName : myResourceGroup
Location          : westeurope
ProvisioningState : Succeeded
Tags              :
ResourceId        : /subscriptions/ebc74d3a-8d89-4c69-927c-bd54ae32164d/resourceGroups/myResourceGroup



PS C:\Users\TA20059057> $subnetConfig = New-AzureRmVirtualNetworkSubnetConfig -Name mySubnet -AddressPrefix 192.168.1.0/24
PS C:\Users\TA20059057> $vnet = New-AzureRmVirtualNetwork -ResourceGroupName $resourceGroup -Location $location `
  -Name MYvNET -AddressPrefix 192.168.0.0/16 -Subnet $subnetConfig
WARNING: The output object type of this cmdlet will be modified in a future release.

PS C:\Users\TA20059057> $pip = New-AzureRmPublicIpAddress -ResourceGroupName $resourceGroup -Location $location `
  -Name "mypublicdns$(Get-Random)" -AllocationMethod Static -IdleTimeoutInMinutes 4
WARNING: The output object type of this cmdlet will be modified in a future release.

PS C:\Users\TA20059057> $nsgRuleRDP = New-AzureRmNetworkSecurityRuleConfig -Name myNetworkSecurityGroupRuleRDP  -Protocol Tcp `
  -Direction Inbound -Priority 1000 -SourceAddressPrefix * -SourcePortRange * -DestinationAddressPrefix * `
  -DestinationPortRange 3389 -Access Allow

PS C:\Users\TA20059057> $nsg = New-AzureRmNetworkSecurityGroup -ResourceGroupName $resourceGroup -Location $location `
  -Name myNetworkSecurityGroup -SecurityRules $nsgRuleRDP
WARNING: The output object type of this cmdlet will be modified in a future release.

PS C:\Users\TA20059057> $nic = New-AzureRmNetworkInterface -Name myNic -ResourceGroupName $resourceGroup -Location $location `
  -SubnetId $vnet.Subnets[0].Id -PublicIpAddressId $pip.Id -NetworkSecurityGroupId $nsg.Id
WARNING: The output object type of this cmdlet will be modified in a future release.

PS C:\Users\TA20059057> $vmConfig = New-AzureRmVMConfig -VMName $vmName -VMSize Standard_D1 | `
Set-AzureRmVMOperatingSystem -Windows -ComputerName $vmName -Credential $cred | `
Set-AzureRmVMSourceImage -PublisherName MicrosoftWindowsServer -Offer WindowsServer -Skus 2016-Datacenter -Version latest | `
Add-AzureRmVMNetworkInterface -Id $nic.Id
WARNING: New-AzureRmVMConfig: A property of the output of this cmdlet will change in an upcoming breaking change release. The StorageA
ccountType property for a DataDisk will return Standard_LRS and Premium_LRS
WARNING: Set-AzureRmVMOperationSystem: A property of the output of this cmdlet will change in an upcoming breaking change release. The
 StorageAccountType property for a DataDisk will return Standard_LRS and Premium_LRS
WARNING: Set-AzureRmVMSourceImage: A property of the output of this cmdlet will change in an upcoming breaking change release. The Sto
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WARNING: Add-AzureRmVMNetworkInterface: A property of the output of this cmdlet will change in an upcoming breaking change release. Th
e StorageAccountType property for a DataDisk will return Standard_LRS and Premium_LRS
PS C:\Users\TA20059057> $vmConfig = New-AzureRmVMConfig -VMName $vmName -VMSize Standard_B1s | `
Set-AzureRmVMOperatingSystem -Windows -ComputerName $vmName -Credential $cred | `
Set-AzureRmVMSourceImage -PublisherName MicrosoftWindowsServer -Offer WindowsServer -Skus 2016-Datacenter -Version latest | `
Add-AzureRmVMNetworkInterface -Id $nic.Id
WARNING: New-AzureRmVMConfig: A property of the output of this cmdlet will change in an upcoming breaking change release. The StorageA
ccountType property for a DataDisk will return Standard_LRS and Premium_LRS
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WARNING: Set-AzureRmVMSourceImage: A property of the output of this cmdlet will change in an upcoming breaking change release. The Sto
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WARNING: Add-AzureRmVMNetworkInterface: A property of the output of this cmdlet will change in an upcoming breaking change release. Th
e StorageAccountType property for a DataDisk will return Standard_LRS and Premium_LRS

PS C:\Users\TA20059057> New-AzureRmVM -ResourceGroupName $resourceGroup -Location $location -VM $vmConfig
WARNING: New-AzureRmVM: A property of the output of this cmdlet will change in an upcoming breaking change release. The StorageAccount
Type property for a DataDisk will return Standard_LRS and Premium_LRS
WARNING: Since the VM is created using premium storage or managed disk, existing standard storage account, freemyresomyvm020712480, is
 used for boot diagnostics.
|
```
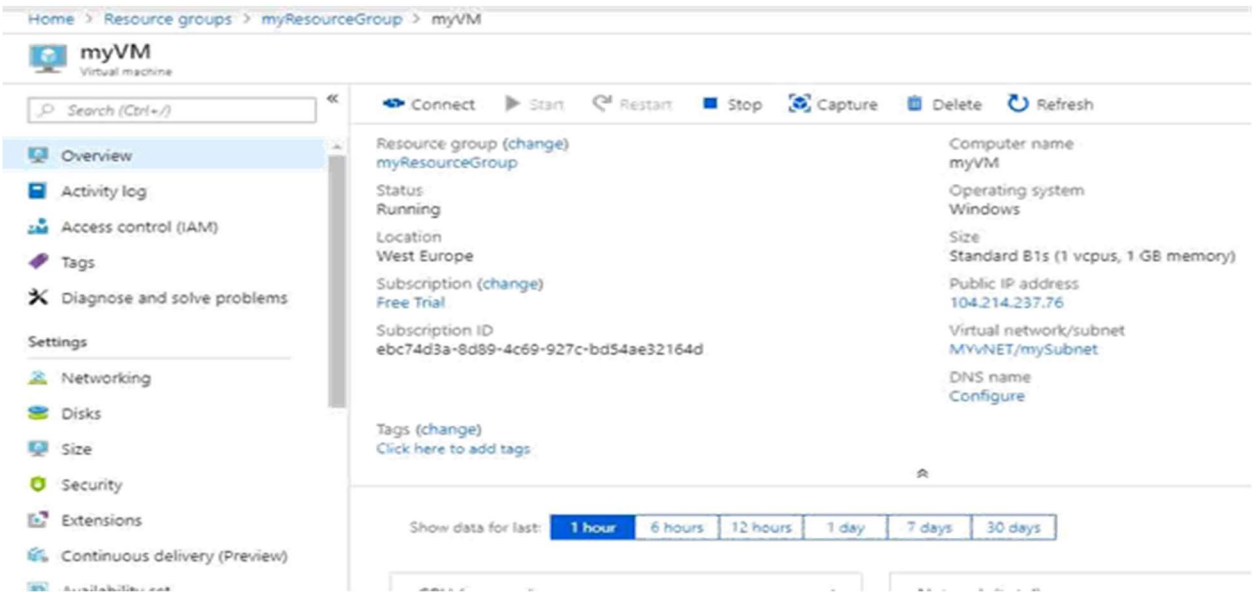
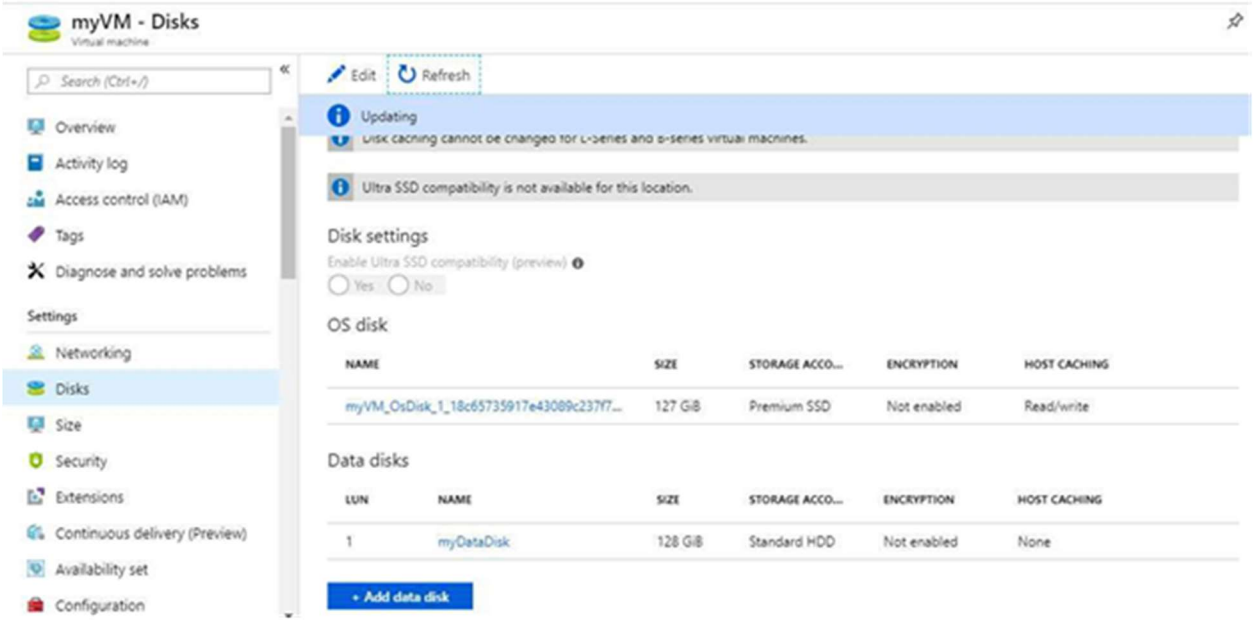



Management tasks

i. Create and attach data disk

```
$diskConfig = New-AzureRmDiskConfig -AccountType StandardLRS -Location "West Europe" - CreateOption Empty -DiskSizeGB 128

$dataDisk = New-AzureRmDisk -ResourceGroupName $resourceGroup -DiskName "myDataDisk" - Disk $diskConfig
$vm = Get-AzureRmVM -ResourceGroupName $resourceGroup -Name "myVM"

$vm = Add-AzureRmVMDataDisk -VM $vm -Name "myDataDisk" -CreateOption Attach - ManagedDiskId $dataDisk.Id -Lun 1
Update-AzureRmVM -ResourceGroupName $resourceGroup -VM $vm

##To verify that the data disk is attached
$vm.StorageProfile.DataDisks
```



ii. For VM power states

```
##  To Stop and deallocate a VM
Stop-AzureRmVM -ResourceGroupName "myResourceGroup" -Name "myVM" - Force

## Start a VM
Start-AzureRmVM -ResourceGroupName "myResourceGroup" -Name "myVM"

##  To remove the resource group and all its related resources Remove-AzureRmResourceGroup -Name "myResourceGroup" - Force
```

iii. To create Managed Availability Set

```
 # Create a managed availability set (i.e., Sku is Aligned) with Fault & Update Domain details
$AvSet = (New-AzureRmAvailabilitySet -Location $region -Name $AvSetName -ResourceGroupName $rg -PlatformFaultDomainCount 2 `
 -PlatformUpdateDomainCount 5 -Sku Aligned).Id
```

iv. To Resize a VM

```
## Resize a VM
Get-AzureRmVMSize -ResourceGroupName "myResourceGroupVM" -VMName "myVM"

##If the size is available, the VM can be resized from a powered-on state, however it is rebooted during the operation.
$vm = Get-AzureRmVM -ResourceGroupName "myResourceGroupVM" -VMName "myVM"
$vm.HardwareProfile.VmSize = "Standard_DS3_v2"
Update-AzureRmVM -VM $vm -ResourceGroupName "myResourceGroupVM"
```

v. To Remove Resource Group and VM

```
## Run the following command to remove the resource group, VM, and all related resources.
Remove-AzureRmResourceGroup -Name $rg -Force
```