Create and manage Azure VM with Powershell

```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
rageAccountType property for a DataDisk will return Standard_LRS and Premium_LRS
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: 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.
|
```
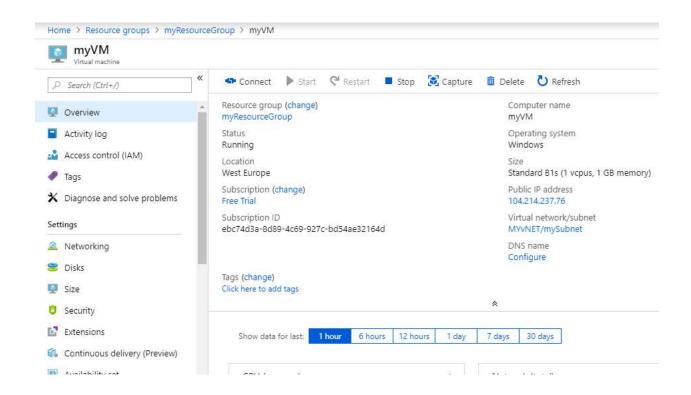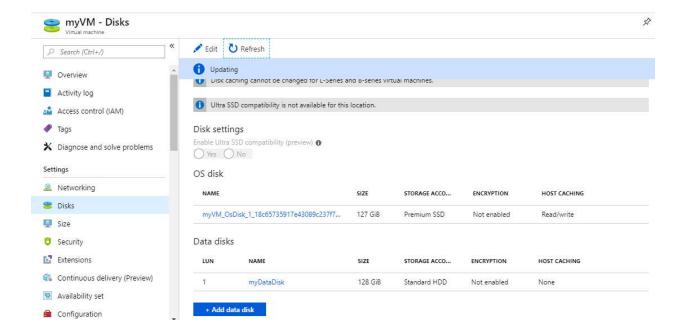
myVM
Virtual machine

Search (Ctrl+/)

Overview	
Activity log	
Access control (IAM)	
Tags	
Diagnose and solve problems	

Settings

- Networking
- Disks
- Size
- Security
- Extensions
- Continuous delivery (Preview)
- Availability set

🔌 Connect ▶ Start ↻ Restart ■ Stop 🎞 Capture 🗑 Delete ↻ Refresh

Resource group (change)
myResourceGroup

Status
Running

Location
West Europe

Subscription (change)
Free Trial

Subscription ID
ebc74d3a-8d89-4c69-927c-bd54ae32164d

Computer name
myVM

Operating system
Windows

Size
Standard B1s (1 vcpus, 1 GB memory)

Public IP address
104.214.237.76

Virtual network/subnet
MYvNET/mySubnet

DNS name
Configure

Tags (change)
Click here to add tags

Show data for last: **1 hour** 6 hours 12 hours 1 day 7 days 30 days

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
```