Chapter 1: Getting Started

```
Windows PowerShell
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PS C:\Users\tmitchell> Get-Module -Name PowerShellGet -ListAvailable | Select-Object -Property Name,Version,Path

Name          Version Path
----          ------- ----
PowerShellGet 1.6.5   C:\Program Files\WindowsPowerShell\Modules\PowerShellGet\1.6.5\PowerShellGet.psd1
PowerShellGet 1.6.0   C:\Program Files\WindowsPowerShell\Modules\PowerShellGet\1.6.0\PowerShellGet.psd1
PowerShellGet 1.0.0.1 C:\Program Files\WindowsPowerShell\Modules\PowerShellGet\1.0.0.1\PowerShellGet.psd1


PS C:\Users\tmitchell>
```
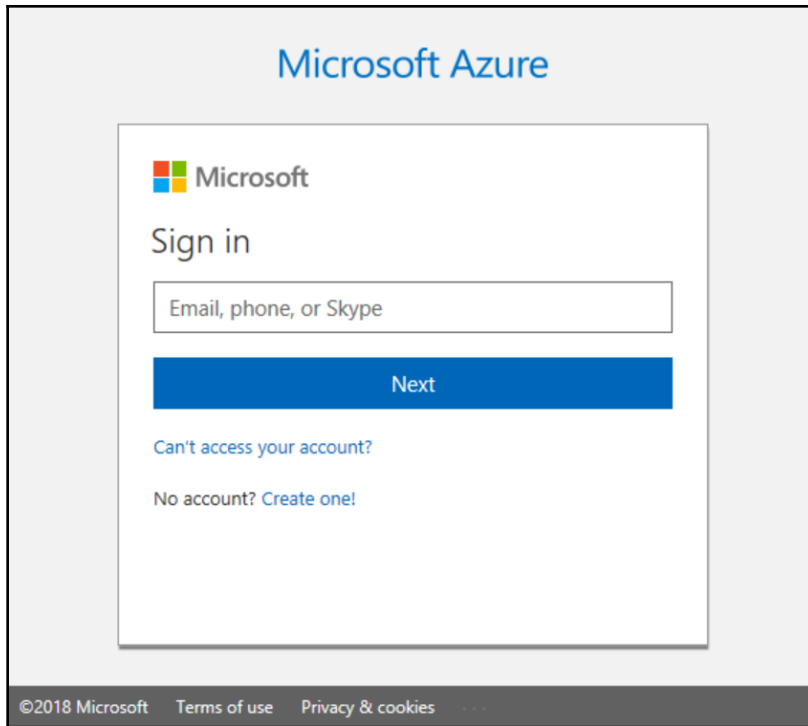
```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

 Installing package 'PowerShellGet'
    Installed dependent package 'PackageManagement'
    [oooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo                            ]

PowerShellGet 1.6.5   C:\Program Files\WindowsPowerShell\Modules\PowerShellGet\1.6.5\PowerShellGet.psd1
PowerShellGet 1.6.0   C:\Program Files\WindowsPowerShell\Modules\PowerShellGet\1.6.0\PowerShellGet.psd1
PowerShellGet 1.0.0.1 C:\Program Files\WindowsPowerShell\Modules\PowerShellGet\1.0.0.1\PowerShellGet.psd1


PS C:\Users\tmitchell> Install-Module PowerShellGet -Force
```

```
Execution Policy Change
The execution policy helps protect you from scripts that you do not trust. Changing the execution policy might expose you to the security risks
described in the about_Execution_Policies help topic at https:/go.microsoft.com/fwlink/?LinkID=135170. Do you want to change the execution policy?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "N"): y
```

```
Untrusted repository
You are installing the modules from an untrusted repository. If you trust this repository, change its InstallationPolicy value by running the
Set-PSRepository cmdlet. Are you sure you want to install the modules from 'PSGallery'?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "N"):
```

Microsoft Azure

Microsoft

Sign in

Email, phone, or Skype

Next

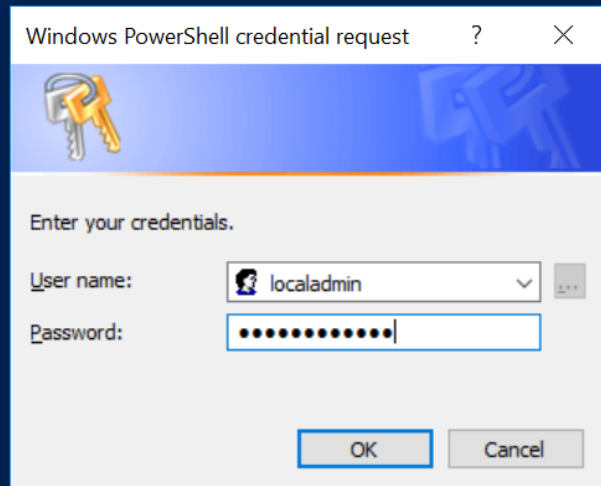Can't access your account?

No account? Create one!

```
PS C:\Users\tmitchell> New-AzureRmResourceGroup -ResourceGroupName "VMLab" -Location "EastUS"


ResourceGroupName : VMLab
Location          : eastus
ProvisioningState : Succeeded
Tags              :
ResourceId        : /subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/resourceGroups/VMLab



PS C:\Users\tmitchell>
```

```
PS C:\Users\tmitchell> $cred = Get-Credential

cmdlet Get-Credential at command pipeline position 1
Supply values for the following parameters:
Credential
```

Windows PowerShell credential request   ?   ✕

Enter your credentials.

User name: localadmin

Password: ••••••••••••

OK   Cancel

```
Creating Azure resources
    5% /
    [oooooo                                                                  ]
    Creating virtualNetworks/myVnet.


PS C:\Users\tmitchell> $cred = Get-Credential

cmdlet Get-Credential at command pipeline position 1
Supply values for the following parameters:
Credential
PS C:\Users\tmitchell> New-AzureRmVm `
>>      -ResourceGroupName "VMLab" `
>>      -Name "myVM" `
>>      -Location "EastUS" `
>>      -VirtualNetworkName "myVnet" `
>>      -SubnetName "mySubnet" `
>>      -SecurityGroupName "myNSG" `
>>      -PublicIpAddressName "myPublicIP" `
>>      -Credential $cred
WARNING: New-AzureRmVM: 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
```

```
ResourceGroupName        : VMLab
Id                       : /subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/resourceGroups/VMLab/providers/Microsoft.Compute/virtualMachines/myVM
VmId                     : afdfbc14-2d22-450c-9b57-aa11e41b4a46
Name                     : myVM
Type                     : Microsoft.Compute/virtualMachines
Location                 : eastus
Tags                     : {}
HardwareProfile          : {VmSize}
NetworkProfile           : {NetworkInterfaces}
OSProfile                : {ComputerName, AdminUsername, WindowsConfiguration, Secrets}
ProvisioningState        : Succeeded
StorageProfile           : {ImageReference, OsDisk, DataDisks}
FullyQualifiedDomainName : myvm-140b09.EastUS.cloudapp.azure.com
```

```
PS C:\Users\tmitchell> Get-AzureRmPublicIpAddress -Name myPublicIP -ResourceGroupName VMLab | Select IPAddress

IpAddress
---------
40.121.34.164
```
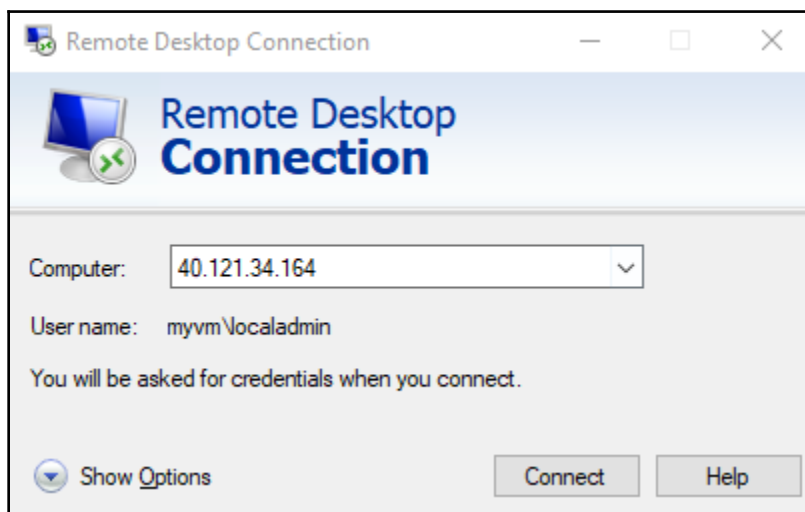


```
PS C:\Users\tmitchell> Get-AzureRmVMSize -Location "EastUS"

Name                NumberOfCores MemoryInMB MaxDataDiskCount OSDiskSizeInMB ResourceDiskSizeInMB
----                ------------- ---------- ---------------- -------------- --------------------
Standard_B1ms                   1       2048                2        1047552                 4096
Standard_B1s                    1       1024                2        1047552                 2048
Standard_B2ms                   2       8192                4        1047552                16384
Standard_B2s                    2       4096                4        1047552                 8192
Standard_B4ms                   4      16384                8        1047552                32768
Standard_B8ms                   8      32768               16        1047552                65536
Standard_DS1_v2                 1       3584                4        1047552                 7168
Standard_DS2_v2                 2       7168                8        1047552                14336
```

```
PS C:\Users\tmitchell> Get-AzureRmVMSize -ResourceGroupName "VMLab" -VMName "myVM"

Name           NumberOfCores MemoryInMB MaxDataDiskCount OSDiskSizeInMB ResourceDiskSizeInMB
----           ------------- ---------- ---------------- -------------- --------------------
Standard_B1ms              1       2048                2        1047552                 4096
Standard_B1s               1       1024                2        1047552                 2048
Standard_B2ms              2       8192                4        1047552                16384
Standard_B2s               2       4096                4        1047552                 8192
Standard_B4ms              4      16384                8        1047552                32768
Standard_B8ms              8      32768               16        1047552                65536
Standard_A0                1        768                1        1047552                20480
Standard_A1                1       1792                2        1047552                71680
Standard_A2                2       3584                4        1047552               138240
Standard_A3                4       7168                8        1047552               291840
Standard_A5                2      14336                4        1047552               138240
Standard_A4                8      14336               16        1047552               619520
Standard_A6                4      28672                8        1047552               291840
Standard_A7                8      57344               16        1047552               619520
```

```
PS C:\Users\tmitchell> Update-AzureRmVM -VM $vm -ResourceGroupName "VMLab"

RequestId IsSuccessStatusCode StatusCode ReasonPhrase
--------- ------------------- ---------- ------------
                         True         OK OK
```

```
ResourceGroupName : VMLab
Name              : myVM
Disks[0]          :
  Name            : myVM_OsDisk_1_c2757511fbf8423ebce7a23e0c297873
  Statuses[0]     :
    Code          : ProvisioningState/succeeded
    Level         : Info
    DisplayStatus : Provisioning succeeded
    Time          : 7/20/2018 7:41:52 PM
VMAgent            :
  VmAgentVersion  : 2.7.41491.875
  Statuses[0]     :
    Code          : ProvisioningState/succeeded
    Level         : Info
    DisplayStatus : Ready
    Message       : GuestAgent is running and accepting new configurations.
    Time          : 7/20/2018 7:42:02 PM
Statuses[0]       :
  Code            : ProvisioningState/succeeded
  Level           : Info
  DisplayStatus   : Provisioning succeeded
  Time            : 7/20/2018 7:43:33 PM
Statuses[1]       :
  Code            : PowerState/running
  Level           : Info
  DisplayStatus   : VM running
```

```
Statuses[1]       :
  Code            : PowerState/deallocated
  Level           : Info
  DisplayStatus   : VM deallocated
```

```
PS C:\Users\tmitchell> Remove-AzureRmVM -ResourceGroupName "VMLab" -Name "myVM"

Virtual machine removal operation
This cmdlet will remove the specified virtual machine. Do you want to continue?
[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"):
```

Chapter 2: Working with Images

```
PS C:\Users\tmitchell> New-AzureRmResourceGroup -ResourceGroupName "VMLab" -Location "EastUS"


ResourceGroupName : VMLab
Location          : eastus
ProvisioningState : Succeeded
Tags              :
ResourceId        : /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab
```

```
PS C:\Users\tmitchell> Get-AzureRmVMImagePublisher -Location "EastUS"

PublisherName                                   Location  Id
-------------                                   --------  --
1e                                              eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
4psa                                            eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
5nine-software-inc                              eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
7isolutions                                     eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
a10networks                                     eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
abiquo                                          eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
accellion                                       eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
accops                                          eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
Acronis                                         eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
Acronis.Backup                                  eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
actian-corp                                     eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
actian_matrix                                   eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
actifio                                         eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
activeeon                                       eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
adatao                                          eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
adobe_test                                      eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
advantech                                       eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
advantech-webaccess                             eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
aerospike                                       eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
aerospike-database                              eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
aiscaler-cache-control-ddos-and-url-rewriting-  eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
akumina                                         eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
alachisoft                                      eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
alces-flight-limited                            eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
alertlogic                                      eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Loca...
```

```
PS C:\Users\tmitchell> Get-AzureRmVMImageOffer -Location "EastUS" -PublisherName "MicrosoftWindowsServer"

Offer                   PublisherName          Location  Id
-----                   -------------          --------  --
Windows-HUB             MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Locations/...
WindowsServer           MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Locations/...
WindowsServerSemiAnnual MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/Microsoft.Compute/Locations/...


PS C:\Users\tmitchell>
```

```
PS C:\Users\tmitchell> Get-AzureRmVMImageSku -Location "EastUS" -PublisherName "MicrosoftWindowsServer" -Offer "WindowsServer"

Skus                                    Offer         PublisherName          Location  Id
----                                    -----         -------------          --------  --
2008-R2-SP1                             WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2008-R2-SP1-smalldisk                   WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2012-Datacenter                         WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2012-Datacenter-smalldisk               WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2012-R2-Datacenter                      WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2012-R2-Datacenter-smalldisk            WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2016-Datacenter                         WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2016-Datacenter-Server-Core             WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2016-Datacenter-Server-Core-smalldisk   WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2016-Datacenter-smalldisk               WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2016-Datacenter-with-Containers         WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2016-Datacenter-with-RDSH               WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
2016-Nano-Server                        WindowsServer MicrosoftWindowsServer eastus    /Subscriptions/4eacb230-3e94-4bec-9cb8-2a5be79fb60e/Providers/...
```

```
PS C:\Users\tmitchell> New-AzureRmVm `
>>    -ResourceGroupName "VMLab" `
>>    -Name "myVM2" `
>>    -Location "EastUS" `
>>    -VirtualNetworkName "myVnet" `
>>    -SubnetName "mySubnet" `
>>    -SecurityGroupName "myNSG" `
>>    -PublicIpAddressName "myPublicIpAddress2" `
>>    -ImageName "MicrosoftWindowsServer:WindowsServer:2016-Datacenter:latest" `
>>    -Credential $cred `
>>    -AsJob

Id    Name             PSJobTypeName     State     HasMoreData   Location    Command
--    ----             -------------     -----     -----------   --------    -------
1     Long Running...  AzureLongRun...   Running   True          localhost   New-AzureRmVM
```

```
ResourceGroupName : VMLab
Name              : myVM2
Disks[0]          :
  Name            : myVM2_OsDisk_1_f0ff24e333764ecbbe905dcd7a7da844
  Statuses[0]     :
    Code          : ProvisioningState/succeeded
    Level         : Info
    DisplayStatus : Provisioning succeeded
    Time          : 6/6/2018 10:18:56 AM
Statuses[0]       :
  Code            : ProvisioningState/creating
  Level           : Info
  DisplayStatus   : Creating
Statuses[1]       :
  Code            : PowerState/running
  Level           : Info
  DisplayStatus   : VM running
```
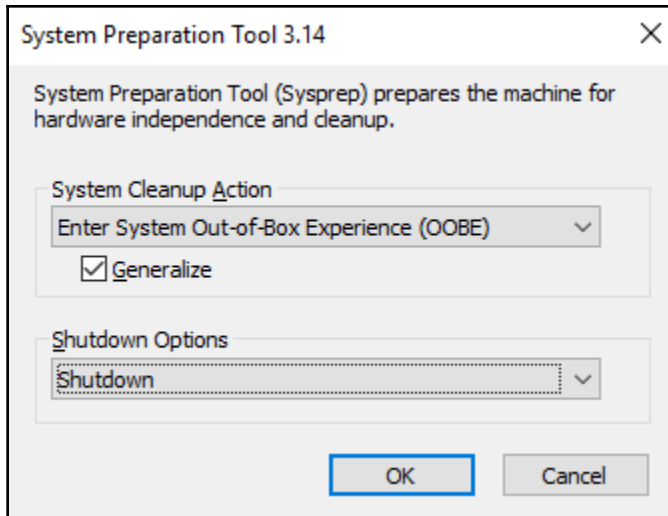
```
Administrator: Command Prompt

Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\localadmin>cd %windir%\system32\sysprep

C:\Windows\System32\Sysprep>sysprep.exe_
```

System Preparation Tool 3.14

System Preparation Tool (Sysprep) prepares the machine for hardware independence and cleanup.

System Cleanup Action

Enter System Out-of-Box Experience (OOBE)   ⌄

☑ Generalize

Shutdown Options

Shutdown   ⌄

OK   Cancel

```
ResourceGroupName    : VMLab
SourceVirtualMachine : Microsoft.Azure.Management.Compute.Models.SubResource
StorageProfile       : Microsoft.Azure.Management.Compute.Models.ImageStorageProfile
ProvisioningState    : Succeeded
Id                   : /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Compute/images/myImage
Name                 : myImage
Type                 : Microsoft.Compute/images
Location             : eastus
Tags                 : {}
```

```
Creating Azure resources
    32% -
    [ooooooooooooooooooooooooooooooooooooooooooo                                          ]

    Creating virtualMachines/myVM3.


ResourceGroupName    : VMLab
SourceVirtualMachine : Microsoft.Azure.Management.Compute.Models.SubResource
StorageProfile       : Microsoft.Azure.Management.Compute.Models.ImageStorageProfile
ProvisioningState    : Succeeded
Id                   : /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Compute/images/myImage
Name                 : myImage
Type                 : Microsoft.Compute/images
Location             : eastus
Tags                 : {}


PS C:\Users\tmitchell> New-AzureRmVm `
>>      -ResourceGroupName "VMLab" `
>>      -Name "myVM3" `
>>      -ImageName "myImage" `
>>      -Location "EastUS" `
>>      -VirtualNetworkName "myVnet" `
>>      -SubnetName "mySubnet" `
>>      -SecurityGroupName "myNSG" `
>>      -PublicIpAddressName "myPublicIP3"

cmdlet New-AzureRmVM at command pipeline position 1
Supply values for the following parameters:
Credential
WARNING: New-AzureRmVM: 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
```

```
PS C:\Users\tmitchell> Remove-AzureRmImage `
>>      -ImageName myImage `
>>      -ResourceGroupName VMLab

Remove-AzureRmImage operation
This cmdlet will remove the specified resource.  Do you want to continue?
[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"):
```

Chapter 3: Working with Disks

```
PS C:\Users\tmitchell> Update-AzureRmVm -ResourceGroupName "VMLab" -VM $vm

RequestId IsSuccessStatusCode StatusCode ReasonPhrase
--------- ------------------- ---------- ------------
          True                OK OK
```
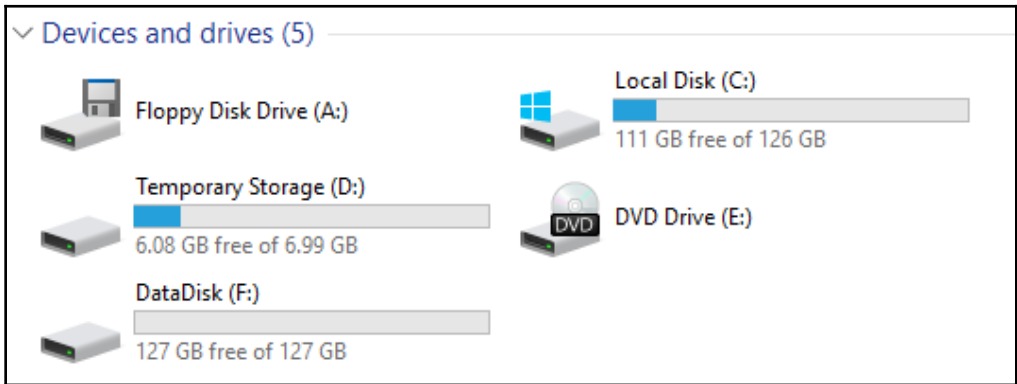
```
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Users\localadmin> Get-Disk | Where partitionstyle -eq 'raw' | `
>> Initialize-Disk -PartitionStyle MBR -PassThru | `
>> New-Partition -AssignDriveLetter -UseMaximumSize | `
>> Format-Volume -FileSystem NTFS -NewFileSystemLabel "DataDisk" -Confirm:$false

DriveLetter FileSystemLabel FileSystem DriveType HealthStatus OperationalStatus SizeRemaining   Size
----------- --------------- ---------- --------- ------------ ----------------- -------------   ----
F           DataDisk        NTFS       Fixed     Healthy      OK                127.89 GB 128 GB

PS C:\Users\localadmin> _
```

∨ Devices and drives (5)

Floppy Disk Drive (A:)

Local Disk (C:)
111 GB free of 126 GB

Temporary Storage (D:)
6.08 GB free of 6.99 GB

DVD Drive (E:)

DataDisk (F:)
127 GB free of 127 GB

```
PS C:\Users\tmitchell> $resourceGroupName = 'VMLab'
PS C:\Users\tmitchell> $location = 'EastUS'
PS C:\Users\tmitchell> $vmName = 'myVM3'
PS C:\Users\tmitchell> $snapshotName = 'mySnapshot'
```

```
ResourceGroupName   : VMLab
ManagedBy           :
Sku                 : Microsoft.Azure.Management.Compute.Models.SnapshotSku
TimeCreated         : 6/6/2018 7:48:07 AM
OsType              : Windows
CreationData        : Microsoft.Azure.Management.Compute.Models.CreationData
DiskSizeGB          : 127
EncryptionSettings  :
ProvisioningState   : Succeeded
Id                  : /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Compute/snapshots/mySnapshot
Name                : mySnapshot
Type                : Microsoft.Compute/snapshots
Location            : eastus
Tags                : {}
```

```
RequestId IsSuccessStatusCode StatusCode ReasonPhrase
--------- ------------------- ---------- ------------
                         True         OK OK
```

```
PS C:\Users\tmitchell> Set-AzureRmVMDiskEncryptionExtension -ResourceGroupName $rgName `
>>      -VMName "myVM9" `
>>      -AadClientID $app.ApplicationId `
>>      -AadClientSecret (New-Object PSCredential "user",$securePassword).GetNetworkCredential().Password `
>>      -DiskEncryptionKeyVaultUrl $diskEncryptionKeyVaultUrl `
>>      -DiskEncryptionKeyVaultId $keyVaultResourceId `
>>      -KeyEncryptionKeyUrl $keyEncryptionKeyUrl `
>>      -KeyEncryptionKeyVaultId $keyVaultResourceId

Enable AzureDiskEncryption on the VM
This cmdlet prepares the VM and enables encryption which may reboot the machine and takes 10-15 minutes to finish. Please save your work on the VM before confirming. Do you want to
continue?
[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"): y

RequestId IsSuccessStatusCode StatusCode ReasonPhrase
--------- ------------------- ---------- ------------
                         True         OK OK
```

```
PS C:\Users\tmitchell> Get-AzureRmVmDiskEncryptionStatus  -ResourceGroupName $rgName -VMName "myVM9"

OsVolumeEncrypted           : Encrypted
DataVolumesEncrypted        : Encrypted
OsVolumeEncryptionSettings  : Microsoft.Azure.Management.Compute.Models.DiskEncryptionSettings
ProgressMessage             : OsVolume: Encrypted, DataVolumes: Encrypted

PS C:\Users\tmitchell>
```

Chapter 4: High Availability

```
PS C:\Users\tmitchell> New-AzureRmAvailabilitySet `
>>     -Location "EastUS" `
>>     -Name "myAvailabilitySet" `
>>     -ResourceGroupName "VMLab" `
>>     -Sku aligned `
>>     -PlatformFaultDomainCount 2 `
>>     -PlatformUpdateDomainCount 2


ResourceGroupName        : VMLab
Id                       : /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Compute/availabilitySets/myA
                           vailabilitySet
Name                     : myAvailabilitySet
Type                     : Microsoft.Compute/availabilitySets
Location                 : eastus
Managed                  : True
Sku                      : Aligned
Tags                     : {}
PlatformFaultDomainCount  : 2
PlatformUpdateDomainCount : 2
Statuses                 : []
VirtualMachinesReferences : []
```

```
ResourceGroupName  Name   Location            VmSize         OsType    NIC   ProvisioningState Zone
-----------------  ----   --------            ------         ------    ---   ----------------- ----
VMLAB              myVM1  eastus  Standard_DS1_v2  Windows  myVM1       Succeeded
VMLAB              myVM2  eastus  Standard_DS1_v2  Windows  myVM2       Creating
```

```
PS C:\Users\tmitchell> Get-AzureRmAvailabilitySet -ResourceGroupName "VMlab" -Name "MyAvailabilitySet"


ResourceGroupName        : VMlab
Id                       : /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMlab/providers/Microsoft.Compute/availabilitySets/myA
                           vailabilitySet
Name                     : myAvailabilitySet
Type                     : Microsoft.Compute/availabilitySets
Location                 : eastus
Managed                  : True
Sku                      : Aligned
Tags                     : {}
PlatformFaultDomainCount  : 2
PlatformUpdateDomainCount : 2
Statuses                 : []
VirtualMachinesReferences : [
                             {
                               "id": "/subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLAB/providers/Microsoft.Compute/virtualMa
                           chines/MYVM1"
                             },
                             {
                               "id": "/subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLAB/providers/Microsoft.Compute/virtualMa
                           chines/MYVM2"
                             }
                           ]
```

137.116.61.181

VM
10.0.0.1

VM
10.0.0.2

VM
10.0.0.3
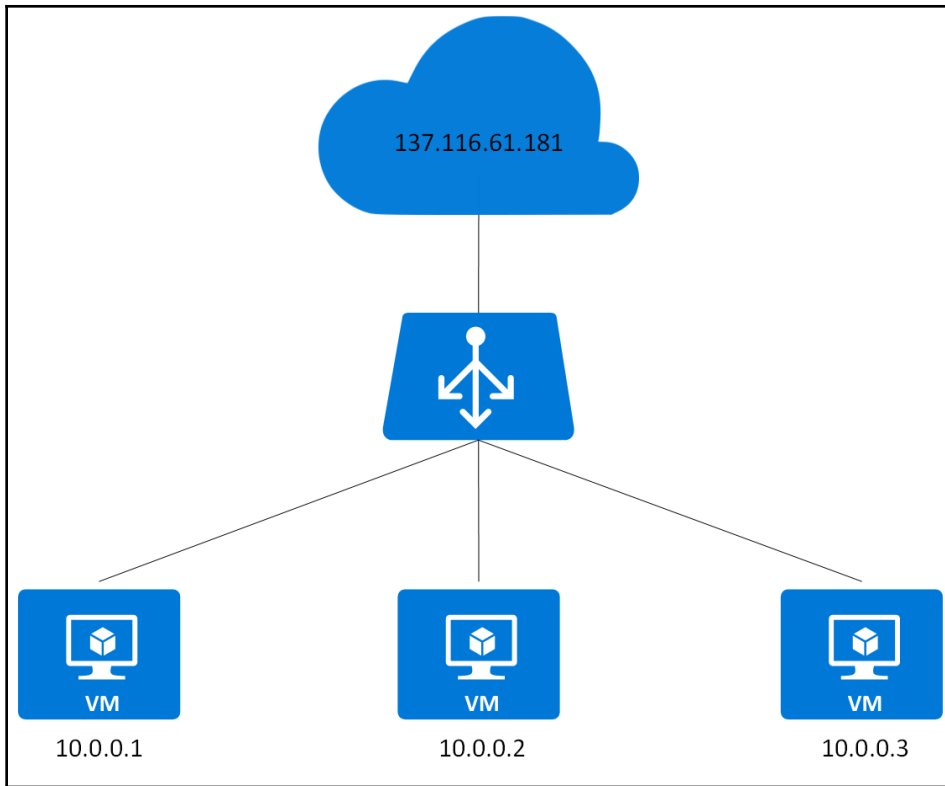
```
PS C:\Users\tmitchell> Set-AzureRmLoadBalancer -LoadBalancer $lb


Name                    : myLoadBalancer
ResourceGroupName       : VMLab
Location                : eastus
Id                      : /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Network/loadBalancers/myLoad
                          alancer
Etag                    : W/"b6dace60-6a59-4e51-aeb4-cc9d20a31d6c"
ResourceGuid            : 2844fcae-cf15-4b51-96d2-560fc2d5cccb
ProvisioningState       : Succeeded
Tags                    :
FrontendIpConfigurations : [
                            {
                              "Zones": [],
                              "Name": "myFrontEndPool",
                              "Etag": "W/\"b6dace60-6a59-4e51-aeb4-cc9d20a31d6c\"",
                              "Id": "/subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Network/loadBalan
                          ers/myLoadBalancer/frontendIPConfigurations/myFrontEndPool",
                              "PrivateIpAllocationMethod": "Dynamic",
                              "PublicIpAddress": {
```

```
                              "BackendPort": 80,
                              "Protocol": "Tcp"
                          }
                      ]
Probes                    : [
                          {
                              "Name": "myHealthProbe",
                              "Id": "/subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Network/loadBalanc
                      ers/myLoadBalancer/probes/myHealthProbe",
                              "Protocol": "tcp",
                              "Port": 80,
                              "IntervalInSeconds": 15,
                              "NumberOfProbes": 2
```

Chapter 5: Other Cool Stuff

```
ResourceGroupName       : VMLab
Id                      : /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Compute
VmId                    : 8e3c6f95-d646-4850-9250-7995446f024c
Name                    : myVM3
Type                    : Microsoft.Compute/virtualMachines
Location                : eastus
Tags                    : {}
AvailabilitySetReference : {Id}
Extensions              : {IIS}
HardwareProfile         : {VmSize}
NetworkProfile          : {NetworkInterfaces}
OSProfile               : {ComputerName, AdminUsername, WindowsConfiguration, Secrets}
ProvisioningState       : Succeeded
StorageProfile          : {ImageReference, OsDisk, DataDisks}
```

```
PS C:\Users\tmitchell> $tags = (Get-AzureRmResource -ResourceGroupName VMLab -Name MyVM3).Tags
PS C:\Users\tmitchell> $tags
PS C:\Users\tmitchell>
```

```
PS C:\Users\tmitchell> Set-AzureRmResource `
>> -ResourceGroupName VMLab `
>> -Name MyVM3 `
>> -ResourceType "Microsoft.Compute/VirtualMachines" `
>> -Tag @{}

Confirm
Are you sure you want to update the following resource: /subscriptions/0aec89a4-d5f8-4343-b43b-1ec899719dfe/resourceGroups/VMLab/providers/Microsoft.Compute/VirtualMachines/MyVM3
[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"): y
```