



Windows PowerShell Get-Help on Cmdlet 'New-AzVM'

PS:\>Get-HELP New-AzVM -Full

NAME

New-AzVM

SYNOPSIS

Creates a virtual machine.

SYNTAX

```
New-AzVM [[-ResourceGroupName] <System.String>] [[-Location] <System.String>] [[-Zone] <System.String[]>]
[-AddressPrefix <System.String>] [-AllocationMethod {Static
| Dynamic}] [-AsJob] [-AvailabilitySetName <System.String>] [-CapacityReservationGroupId <System.String>] -Credential
<System.Management.Automation.PSCredential>
[-DataDiskDeleteOption <System.String>] [-DataDiskSizeInGb <System.Int32[]>] [-DefaultProfile
<Microsoft.Azure.Commands.Common.Authentication.Abstractions.Core.IAzureContextContainer>] [-DiskControllerType
<System.String>] [-DomainNameLabel <System.String>]
[-EdgeZone <System.String>] [-EnableSecureBoot <System.Nullable`1[System.Boolean]>] [-EnableUltraSSD]
[-EnableVtpm <System.Nullable`1[System.Boolean]>]
[-EncryptionAtHost] [-EvictionPolicy <System.String>] [-GenerateSshKey] [-HibernationEnabled] [-HostGroupId
<System.String>] [-HostId <System.String>] [-IfMatch
<System.String>] [-IfNoneMatch <System.String>] [-Image <System.String>] [-ImageReferenceId <System.String>]
```

```

[-MaxPrice <System.Double>] -Name <System.String>

[-NetworkInterfaceDeleteOption <System.String>] [-OpenPorts <System.Int32[]>] [-OSDiskDeleteOption <System.String>]

[-PlatformFaultDomain <System.Int32>] [-Priority

    <System.String>] [-ProximityPlacementGroupId <System.String>] [-PublicIpAddressName <System.String>]

[-PublicIpSku <System.String>] [-SecurityGroupName

    <System.String>] [-SecurityType {TrustedLaunch | ConfidentialVM | Standard}] [-SharedGalleryImageId <System.String>]

[-Size <System.String>] [-SshKeyName

    <System.String>] [-SubnetAddressPrefix <System.String>] [-SubnetName <System.String>] [-SystemAssignedIdentity]

[-UserAssignedIdentity <System.String>] [-UserData

    <System.String>] [-vCPUCountAvailable <System.Int32>] [-vCPUCountPerCore <System.Int32>] [-VirtualNetworkName

<System.String>] [-VmssId <System.String>] [-Confirm]

[-WhatIf] [<CommonParameters>]

New-AzVM [[-ResourceGroupName] <System.String>] [[-Location] <System.String>] [-AddressPrefix <System.String>]

[-AllocationMethod {Static | Dynamic}] [-AsJob]

    [-AvailabilitySetName <System.String>] [-CapacityReservationGroupId <System.String>] [-DataDiskDeleteOption

<System.String>] [-DataDiskSizeInGb <System.Int32>]

    [-DefaultProfile <Microsoft.Azure.Commands.Common.Authentication.Abstractions.Core.IAzureContextContainer>]

-DiskFile <System.String> [-DomainNameLabel

    <System.String>] [-EdgeZone <System.String>] [-EnableUltraSSD] [-EncryptionAtHost] [-EvictionPolicy <System.String>]

[-HibernationEnabled] [-HostGroupId

    <System.String>] [-HostId <System.String>] [-IfMatch <System.String>] [-IfNoneMatch <System.String>] [-Linux]

[-MaxPrice <System.Double>] -Name <System.String>

[-NetworkInterfaceDeleteOption <System.String>] [-OpenPorts <System.Int32[]>] [-OSDiskDeleteOption <System.String>]

[-PlatformFaultDomain <System.Int32>] [-Priority

    <System.String>] [-ProximityPlacementGroupId <System.String>] [-PublicIpAddressName <System.String>]

[-PublicIpSku <System.String>] [-SecurityGroupName

    <System.String>] [-Size <System.String>] [-SubnetAddressPrefix <System.String>] [-SubnetName <System.String>]

[-SystemAssignedIdentity] [-UserAssignedIdentity

    <System.String>] [-UserData <System.String>] [-vCPUCountAvailable <System.Int32>] [-vCPUCountPerCore

<System.Int32>] [-VirtualNetworkName <System.String>] [-VmssId

    <System.String>] [-Confirm] [-WhatIf] [<CommonParameters>]

```

```

New-AzVM [-ResourceGroupName] <System.String> [-Location] <System.String> [-VM]
<Microsoft.Azure.Commands.Compute.Models.PSVirtualMachine> [[-Zone] <System.String[]>]
[-AsJob] [-DataDiskDeleteOption <System.String>] [-DefaultProfile
<Microsoft.Azure.Commands.Common.Authentication.Abstractions.Core.IAzureContextContainer>]
[-DisableBginfoExtension] [-EdgeZone <System.String>] [-GenerateSshKey] [-IfMatch <System.String>] [-IfNoneMatch
<System.String>] [-LicenseType <System.String>]
[-OSDiskDeleteOption <System.String>] [-SshKeyName <System.String>] [-Tag <System.Collections.Hashtable>]
[-vCPUCountAvailable <System.Int32>] [-vCPUCountPerCore
<System.Int32>] [-Confirm] [-WhatIf] [<CommonParameters>]

```

DESCRIPTION

The New-AzVM cmdlet creates a virtual machine in Azure. This cmdlet takes a virtual machine object as input. The New-AzVM cmdlet will create a new storage account for

boot diagnostics if one does not already exist.

 Use the [New-AzVMConfig](<https://learn.microsoft.com/en-us/powershell/module/az.compute/new-azvmconfig>)

cmdlet to create a virtual machine object.
 Then use the following cmdlets to set different properties of the virtual machine object: -

[Add-AzVMNetworkInterface](<https://learn.microsoft.com/en-us/powershell/module/az.compute/add-azvmnetworkinterface>) to set the network profile.
 -

[Set-AzVMOperatingSystem](<https://learn.microsoft.com/en-us/powershell/module/az.compute/set-azvmoperatingsystem>) to set the OS profile.
 -

[Set-AzVMSourceImage](<https://learn.microsoft.com/en-us/powershell/module/az.compute/set-azvmsourceimage>) to set the source image.
 -

[Set-AzVMOSDisk](<https://learn.microsoft.com/en-us/powershell/module/az.compute/set-azvmosdisk>) to set the OS disk(storage profile).
 -

[Get-AzComputeResourceSku](<https://learn.microsoft.com/en-us/powershell/module/az.compute/get-azcomputeresourcesku>) can also be used to find out available virtual

machine sizes for your subscription and region.

 The `SimpleParameterSet` provides a convenient method to create a VM by making common VM creation arguments

PARAMETERS

-AddressPrefix <System.String>

The address prefix for the virtual network which will be created for the VM.

Required? false

Position? named

Default value 192.168.0.0/16

Accept pipeline input? False

Accept wildcard characters? false

-AllocationMethod <System.String>

The IP allocation method for the public IP which will be created for the VM.

Required? false

Position? named

Default value Static

Accept pipeline input? False

Accept wildcard characters? false

-AsJob <System.Management.Automation.SwitchParameter>

Run cmdlet in the background and return a Job to track progress.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-AvailabilitySetName <System.String>

Specifies a name for the availability set.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-CapacityReservationGroupId <System.String>

Id of the capacity reservation Group that is used to allocate.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-Credential <System.Management.Automation.PSCredential>

The administrator credentials for the VM.

 Username
 Restriction:
 Windows: Cannot contain special characters V""[]:|<>+=;,?*@& or end in \".\"

 Linux: Username must only contain letters, numbers, hyphens, and underscores and may not start with a hyphen or number.
 Disallowed values:

\"administrator\", \"admin\", \"user\", \"user1\", \"test\", \"user2\", \"test1\", \"user3\", \"admin1\", \"1\", \"123\", \"a\",
\"actuser\", \"adm\", \"admin2\",

\"aspnet\", \"backup\", \"console\", \"david\", \"guest\", \"john\", \"owner\", \"root\", \"server\", \"sql\", \"support\",
\"support_388945a0\", \"sys\",

\"test2\", \"test3\", \"user4\", \"user5\".
 Minimum-length: 1 character
 Max-length: 20 characters for Windows,
64 characters for Linux

Password
 Must have 3 of the following: 1 lower case character, 1 upper case character, 1 number, and 1 special
character.
 The value must be between 12
and 123 characters long.

Required? true
Position? named

Default value None
Accept pipeline input? False
Accept wildcard characters? false

-DataDiskDeleteOption <System.String>

Specifies Data Disk delete option after VM deletion. Options are Detach, Delete

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-DataDiskSizeInGb <System.Int32[]>

Specifies the sizes of data disks in GB.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-DefaultProfile <Microsoft.Azure.Commands.Common.Authentication.Abstractions.Core.IAzureContextContainer>

The credentials, account, tenant, and subscription used for communication with azure.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-DisableBginfoExtension <System.Management.Automation.SwitchParameter>

Indicates that this cmdlet does not install the BG Info extension on the virtual machine.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-DiskControllerType <System.String>

Specifies the disk controller type configured for the VM and VirtualMachineScaleSet. This property is only supported for virtual machines whose operating system

disk and VM sku supports Generation 2 (<https://learn.microsoft.com/en-us/azure/virtual-machines/generation-2>), please check the HyperVGenerations capability

returned as part of VM sku capabilities in the response of Microsoft.Compute SKUs api for the region contains V2

(<https://learn.microsoft.com/rest/api/compute/resourceskus/list>) .
 For more information about Disk Controller Types supported please refer to

<https://aka.ms/azure-diskcontrollertypes>.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-DiskFile <System.String>

The local path to the virtual hard disk file to be uploaded to the cloud and for creating the VM, and it must have '.vhd' as its suffix.

Required?	true
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-DomainNameLabel <System.String>

The subdomain label for the fully-qualified domain name (FQDN) of the VM. This will take the form `{domainNameLabel}.{location}.cloudapp.azure.com`.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-EdgeZone <System.String>

Sets the edge zone name. If set, the query will be routed to the specified edgezone instead of the main region.

Required? false

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-EnableSecureBoot <System.Nullable`1[System.Boolean]>

Specifies whether secure boot should be enabled on the virtual machine.

Required? false

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-EnableUltraSSD <System.Management.Automation.SwitchParameter>

Use UltraSSD disks for the vm.

Required? false

Position? named

Default value False
Accept pipeline input? False
Accept wildcard characters? false

-EnableVtpm <System.Nullable`1[System.Boolean]>

Specifies whether vTPM should be enabled on the virtual machine.

Required? false
Position? named
Default value None
Accept pipeline input? True (ByPropertyName)
Accept wildcard characters? false

-EncryptionAtHost <System.Management.Automation.SwitchParameter>

EncryptionAtHost property can be used by user in the request to enable or disable the Host Encryption for the virtual machine or virtual machine scale set. This

will enable the encryption for all the disks including Resource/Temp disk at host itself. Default: The Encryption at host will be disabled unless this property is set to true for the resource.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-EvictionPolicy <System.String>

The eviction policy for the Azure Spot virtual machine. Supported values are 'Deallocate' and 'Delete'.

Required? false
Position? named
Default value None
Accept pipeline input? False

Accept wildcard characters? false

-GenerateSshKey <System.Management.Automation.SwitchParameter>

Generate a SSH Public/Private key pair and create a SSH Public Key resource on Azure.

Required? false

Position? named

Default value False

Accept pipeline input? False

Accept wildcard characters? false

-HibernationEnabled <System.Management.Automation.SwitchParameter>

The flag that enables or disables hibernation capability on the VM.

Required? false

Position? named

Default value False

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-HostGroupId <System.String>

Specifies the dedicated host group the virtual machine will reside in.

Required? false

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-HostId <System.String>

The Id of Host

Required? false

Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

`-IfMatch <System.String>`

used to make a request conditional for the PUT and other non-safe methods. The server will only return the requested resources if the resource matches one of the

listed ETag values. Omit this value to always overwrite the current resource. Specify the last-seen ETag value to prevent accidentally overwriting concurrent changes.

Required? false
Position? named
Default value None
Accept pipeline input? True (ByPropertyName)
Accept wildcard characters? false

`-IfNoneMatch <System.String>`

Used to make a request conditional for the GET and HEAD methods. The server will only return the requested resources if none of the listed ETag values match the

current entity. Used to make a request conditional for the GET and HEAD methods. The server will only return the requested resources if none of the listed ETag

values match the current entity. Set to '*' to allow a new record set to be created, but to prevent updating an existing record set. Other values will result in error from server as they are not supported.

Required? false
Position? named
Default value None
Accept pipeline input? True (ByPropertyName)
Accept wildcard characters? false

-Image <System.String>

The friendly image name upon which the VM will be built. The available aliases are: Win2022AzureEdition, Win2022AzureEditionCore, Win2019Datacenter,

Win2016Datacenter, Win2012R2Datacenter, Win2012Datacenter, Ubuntu2204, CentOS85Gen2, Debian11, OpenSuseLeap154Gen2, RHELRaw8LVMLGen2, SuseSles15SP3,

FlatcarLinuxFreeGen2.

Required? false

Position? named

Default value Win2016Datacenter

Accept pipeline input? False

Accept wildcard characters? false

-ImageReferenceId <System.String>

Specified the shared gallery image unique id for vm deployment. This can be fetched from shared gallery image GET call.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-LicenseType <System.String>

Specifies a license type, which indicates that the image or disk for the virtual machine was licensed on-premises.

Possible values for Windows Server are: -

Windows_Client

- Windows_Server

Possible values for Linux Server operating system are: - RHEL_BYOS (for RHEL)

- SLES_BYOS (for SUSE)

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-Linux <System.Management.Automation.SwitchParameter>

Indicates whether the disk file is for Linux VM, if specified; or Windows, if not specified by default.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-Location <System.String>

Specifies a location for the virtual machine.

Required?	false
Position?	1
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-MaxPrice <System.Double>

The max price of the billing of a low priority virtual machine.

Required?	false
Position?	named
Default value	None
Accept pipeline input?	False

Accept wildcard characters? false

-Name <System.String>

The name of the VM resource.

Required? true

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-NetworkInterfaceDeleteOption <System.String>

Specifies what action to perform on the NetworkInterface resource when the VM is deleted. Options are: Detach, Delete.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-OpenPorts <System.Int32[]>

A list of ports to open on the network security group (NSG) for the created VM. The default value depends on the type of image chosen (i.e., Windows: 3389, 5985 and Linux: 22).

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-OSDiskDeleteOption <System.String>

Specifies OS Disk delete option after VM deletion. Options are Detach, Delete

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-PlatformFaultDomain <System.Int32>

Specifies the fault domain of the virtual machine.

Required? false
Position? named
Default value None
Accept pipeline input? True (ByPropertyName)
Accept wildcard characters? false

-Priority <System.String>

The priority for the virtual machine. Only supported values are 'Regular', 'Spot' and 'Low'. 'Regular' is for regular virtual machine. 'Spot' is for spot virtual machine. 'Low' is also for spot virtual machine but is replaced by 'Spot'. Please use 'Spot' instead of 'Low'.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-ProximityPlacementGroupId <System.String>

The resource id of the Proximity Placement Group to use with this virtual machine.

Required? false
Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-PublicIpAddressName <System.String>

The name of a new (or existing) public IP address for the created VM to use. If not specified, a name will be generated.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-PublicIpSku <System.String>

Specifies public IP sku name

Accepted values are "Basic" and "Standard"

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-ResourceGroupName <System.String>

Specifies the name of a resource group.

Required? false

Position? 0

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-SecurityGroupName <System.String>

The name of a new (or existing) network security group (NSG) for the created VM to use. If not specified, a name will be generated.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-SecurityType <System.String>

Specifies the SecurityType of the virtual machine. It has to be set to any specified value to enable UefiSettings. By default, UefiSettings will not be enabled unless this property is set.

Required? false

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-SharedGalleryImageId <System.String>

Specified the shared gallery image unique id for vm deployment. This can be fetched from shared gallery image GET call.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

-Size <System.String>

(<https://learn.microsoft.com/en-us/powershell/module/az.compute/get-azcomputeresourcesku>) can be used to find out available sizes for your subscription and region.
 The Default Value is: Standard_D2s_v3.

Required? false
 Position? named
 Default value Standard_D2s_v3
 Accept pipeline input? False
 Accept wildcard characters? false

-SshKeyName <System.String>

Name of the SSH Public Key resource.

Required? false
 Position? named
 Default value None
 Accept pipeline input? False
 Accept wildcard characters? false

-SubnetAddressPrefix <System.String>

The address prefix for the subnet which will be created for the VM.

Required? false
 Position? named
 Default value 192.168.1.0/24
 Accept pipeline input? False
 Accept wildcard characters? false

-SubnetName <System.String>

The name of a new (or existing) subnet for the created VM to use. If not specified, a name will be generated.

Required? false
 Position? named

Default value None
Accept pipeline input? False
Accept wildcard characters? false

-SystemAssignedIdentity <System.Management.Automation.SwitchParameter>

If the parameter is present then the VM is assigned a managed system identity that is auto generated.

Required? false
Position? named
Default value False
Accept pipeline input? False
Accept wildcard characters? false

-Tag <System.Collections.Hashtable>

Specifies that resources and resource groups can be tagged with a set of name-value pairs. Adding tags to resources enables you to group resources together across resource groups and to create your own views. Each resource or resource group can have a maximum of 15 tags.

Required? false
Position? named
Default value None
Accept pipeline input? True (ByPropertyName)
Accept wildcard characters? false

-UserAssignedIdentity <System.String>

The name of a managed service identity that should be assigned to the VM.

Required? false
Position? named
Default value None
Accept pipeline input? False
Accept wildcard characters? false

-UserData <System.String>

UserData for the VM, which will be base-64 encoded. Customer should not pass any secrets in here.

Required? false

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-vCPUCountAvailable <System.Int32>

Specifies the number of vCPUs available for the VM. When this property is not specified in the request body the default behavior is to set it to the value of

vCPUs available for that VM size exposed in api response of List all available virtual machine sizes in a region

(<https://learn.microsoft.com/en-us/rest/api/compute/resource-skus/list>).

Required? false

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

-vCPUCountPerCore <System.Int32>

Specifies the vCPU to physical core ratio. When this property is not specified in the request body the default behavior is set to the value of vCPUsPerCore for

the VM Size exposed in api response of List all available virtual machine sizes in a region

(<https://learn.microsoft.com/en-us/rest/api/compute/resource-skus/list>). Setting this property to 1 also means that hyper-threading is disabled.

Required? false

Position? named

Default value None

Accept pipeline input? True (ByPropertyName)

Accept wildcard characters? false

`-VirtualNetworkName <System.String>`

The name of a new (or existing) virtual network for the created VM to use. If not specified, a name will be generated.

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

`-VM <Microsoft.Azure.Commands.Compute.Models.PSVirtualMachine>`

Specifies a local virtual machine to create. To obtain a virtual machine object, use the `New-AzVMConfig` cmdlet. Other cmdlets can be used to configure the virtual

machine, such as `Set-AzVMOperatingSystem`, `Set-AzVMSourceImage`, and `Add-AzVMNetworkInterface`.

Required? true

Position? 2

Default value None

Accept pipeline input? True (ByPropertyName, ByValue)

Accept wildcard characters? false

`-VmssId <System.String>`

The ID of Virtual Machine Scale Set that this VM will be associated with

Required? false

Position? named

Default value None

Accept pipeline input? False

Accept wildcard characters? false

`-Zone <System.String[]>`

Specifies the zone of the virtual machine. Although it takes in an array of zones, virtual machines do not support multiple availability zones. The allowed value

depends on the capabilities of the region. Allowed value will normally be 1, 2, or 3. More information on Azure availability zones

(<https://learn.microsoft.com/en-us/azure/reliability/availability-zones-overview#availability-zones>).

Required?	false
Position?	3
Default value	None
Accept pipeline input?	False
Accept wildcard characters?	false

-Confirm <System.Management.Automation.SwitchParameter>

Prompts you for confirmation before running the cmdlet.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

-WhatIf <System.Management.Automation.SwitchParameter>

Shows what would happen if the cmdlet runs. The cmdlet is not run.

Required?	false
Position?	named
Default value	False
Accept pipeline input?	False
Accept wildcard characters?	false

<CommonParameters>

This cmdlet supports the common parameters: Verbose, Debug, ErrorAction, ErrorVariable, WarningAction, WarningVariable, OutBuffer, PipelineVariable, and OutVariable. For more information, see about_CommonParameters (<https://go.microsoft.com/fwlink/?LinkID=113216>).

INPUTS

System.String

Microsoft.Azure.Commands.Compute.Models.PSVirtualMachine

System.String[]

System.Collections.Hashtable

OUTPUTS

Microsoft.Azure.Commands.Compute.Models.PSAzureOperationResponse

Microsoft.Azure.Commands.Compute.Models.PSVirtualMachine

NOTES

----- Example 1: Create a virtual machine -----

New-AzVM -Name MyVm -Credential (Get-Credential)

VERBOSE: Use 'mstsc /v:myvm-222222.eastus.cloudapp.azure.com' to connect to the VM.

ResourceGroupName : MyVm
Id : /subscriptions/00000000-0000-0000-0000-000000000000/resourceGroups/MyVm/providers/Microsoft.Compute/virtualMachines/MyVm
VmId : 11111111-1111-1111-1111-111111111111
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-222222.eastus.cloudapp.azure.com

This example script shows how to create a virtual machine. The script will ask a user name and password for the VM.
This script uses several other cmdlets.

- Example 2: Create a virtual machine from a custom user image -

```
## VM Account  
# Credentials for Local Admin account you created in the sysprepped (generalized) vhd image  
$VMLocalAdminUser = "LocalAdminUser"  
$VMLocalAdminSecurePassword = ConvertTo-SecureString "Password" -AsPlainText -Force  
## Azure Account  
$LocationName = "westus"  
$ResourceGroupName = "MyResourceGroup"  
# This a Premium_LRS storage account.  
# It is required in order to run a client VM with efficiency and high performance.  
$StorageAccount = "Mydisk"
```

```

## VM

$OSDiskName = "MyClient"

$ComputerName = "MyClientVM"

$OSDiskUri = "https://Mydisk.blob.core.windows.net/disks/MyOSDisk.vhd"

$SourceImageUri = "https://Mydisk.blob.core.windows.net/vhds/MyOSImage.vhd"

$VMName = "MyVM"

# Modern hardware environment with fast disk, high IOPs performance.

# Required to run a client VM with efficiency and performance

$VMSize = "Standard_DS3"

$OSDiskCaching = "ReadWrite"

$OSCreateOption = "FromImage"


## Networking

$DNSNameLabel = "mydnsname" # mydnsname.westus.cloudapp.azure.com

$NetworkName = "MyNet"

$NICName = "MyNIC"

$PublicIPAddressName = "MyPIP"

$SubnetName = "MySubnet"

$SubnetAddressPrefix = "10.0.0.0/24"

$VnetAddressPrefix = "10.0.0.0/16"


$SingleSubnet = New-AzVirtualNetworkSubnetConfig -Name $SubnetName -AddressPrefix $SubnetAddressPrefix

$Vnet = New-AzVirtualNetwork -Name $NetworkName -ResourceGroupName $ResourceGroupName -Location
$LocationName -AddressPrefix $VnetAddressPrefix -Subnet $SingleSubnet

$PIP = New-AzPublicIpAddress -Name $PublicIPAddressName -DomainNameLabel $DNSNameLabel
-ResourceGroupName $ResourceGroupName -Location $LocationName -AllocationMethod
Dynamic

$NIC = New-AzNetworkInterface -Name $NICName -ResourceGroupName $ResourceGroupName -Location
$LocationName -SubnetId $Vnet.Subnets[0].Id -PublicIpAddressId $PIP.Id


$Credential = New-Object System.Management.Automation.PSCredential ($VMLocalAdminUser,
$VMLocalAdminSecurePassword);

```

```

$securityTypeStd = "Standard"

$VirtualMachine = New-AzVMConfig -VMName $VMName -VMSize $VMSize -SecurityType $securityTypeStd

$VirtualMachine = Set-AzVMOperatingSystem -VM $VirtualMachine -Windows -ComputerName $ComputerName
-Credential $Credential -ProvisionVMAgent -EnableAutoUpdate

$VirtualMachine = Add-AzVMNetworkInterface -VM $VirtualMachine -Id $NIC.Id

$VirtualMachine = Set-AzVMOSDisk -VM $VirtualMachine -Name $OSDiskName -VhdUri $OSDiskUri -SourceImageUri
$SourceImageUri -Caching $OSDiskCaching -CreateOption

$OSCreateOption -Windows

New-AzVM -ResourceGroupName $ResourceGroupName -Location $LocationName -VM $VirtualMachine -Verbose
-Zone @"1")

```

This example takes an existing sys-prepped, generalized custom operating system image and attaches a data disk to it, provisions a new network, deploys the VHD, and

runs it. This script can be used for automatic provisioning because it uses the local virtual machine admin credentials inline instead of calling Get-Credential which

requires user interaction. This script assumes that you are already logged into your Azure account. You can confirm your login status by using the Get-AzSubscription cmdlet.

Example 3: Create a VM from a marketplace image without a Public IP

```

$VMLocalAdminUser = "LocalAdminUser"

$VMLocalAdminSecurePassword = ConvertTo-SecureString "password" -AsPlainText -Force

$LocationName = "eastus2"

$ResourceGroupName = "MyResourceGroup"

$ComputerName = "MyVM"

$VMName = "MyVM"

$VMSize = "Standard_DS3"

$NetworkName = "MyNet"

$NICName = "MyNIC"

```

```
$SubnetName = "MySubnet"
```

```
$SubnetAddressPrefix = "10.0.0.0/24"
```

```
$VnetAddressPrefix = "10.0.0.0/16"
```

```
$SingleSubnet = New-AzVirtualNetworkSubnetConfig -Name $SubnetName -AddressPrefix $SubnetAddressPrefix
```

```
$Vnet = New-AzVirtualNetwork -Name $NetworkName -ResourceGroupName $ResourceGroupName -Location  
$LocationName -AddressPrefix $VnetAddressPrefix -Subnet $SingleSubnet
```

```
$NIC = New-AzNetworkInterface -Name $NICName -ResourceGroupName $ResourceGroupName -Location  
$LocationName -SubnetId $Vnet.Subnets[0].Id
```

```
$Credential = New-Object System.Management.Automation.PSCredential ($VMLocalAdminUser,  
$VMLocalAdminSecurePassword);
```

```
$VirtualMachine = New-AzVMConfig -VMName $VMName -VMSize $VMSize
```

```
$VirtualMachine = Set-AzVMOperatingSystem -VM $VirtualMachine -Windows -ComputerName $ComputerName  
-Credential $Credential -ProvisionVMAgent -EnableAutoUpdate
```

```
$VirtualMachine = Add-AzVMNetworkInterface -VM $VirtualMachine -Id $NIC.Id
```

```
$VirtualMachine = Set-AzVMSourceImage -VM $VirtualMachine -PublisherName 'MicrosoftWindowsServer' -Offer  
'WindowsServer' -Skus '2022-datacenter-azure-edition-core'
```

```
-Version latest
```

```
New-AzVM -ResourceGroupName $ResourceGroupName -Location $LocationName -VM $VirtualMachine -Verbose
```

This command creates a VM from a marketplace image without a Public IP.

----- Example 4: Create a VM with a UserData value: -----

```
# VM Account
```

```
$VMLocalAdminUser = "LocalAdminUser";
```

```
$VMLocalAdminSecurePassword = ConvertTo-SecureString "Password" -AsPlainText -Force;
```

```
# Azure Account
```

```

$LocationName = "eastus";

$ResourceGroupName = "MyResourceGroup";

# VM Profile & Hardware

$VMName = 'v' + $ResourceGroupName;

$domainNameLabel = "d1" + $ResourceGroupName;

$Credential = New-Object System.Management.Automation.PSCredential ($VMLocalAdminUser,
$VMLocalAdminSecurePassword);

# Create UserData value

$text = "text for UserData";

$bytes = [System.Text.Encoding]::Unicode.GetBytes($text);

$userData = [Convert]::ToBase64String($bytes);

# Create VM

New-AzVM -ResourceGroupName $ResourceGroupName -Name $VMName -Credential $Credential
-DomainNameLabel $domainNameLabel -UserData $userData;

$vm = Get-AzVM -ResourceGroupName $ResourceGroupName -Name $VMName -UserData;

```

The UserData value must always be Base64 encoded.

Example 5: Creating a new VM with an existing subnet in another resource group

```

$UserName = "User"

$Password = ConvertTo-SecureString "#####" -AsPlainText -Force

$psCred = New-Object System.Management.Automation.PSCredential($UserName, $Password)

$Vnet = $(Get-AzVirtualNetwork -ResourceGroupName ResourceGroup2 -Name VnetName)

$PIP = (Get-AzPublicIpAddress -ResourceGroupName ResourceGroup2 -Name PublicIPName)

$NIC = New-AzNetworkInterface -Name NICName -ResourceGroupName ResourceGroup2 -Location SouthCentralUS
-SubnetId $Vnet.Subnets[1].Id -PublicIpAddressId $PIP.Id

```

```

$VirtualMachine = New-AzVMConfig -VMName VirtualMachineName -VMSize Standard_D4s_v3

$VirtualMachine = Set-AzVMOperatingSystem -VM $VirtualMachine -Windows -ComputerName computerName
-Credential $psCred -ProvisionVMAgent -EnableAutoUpdate

$VirtualMachine = Add-AzVMNetworkInterface -VM $VirtualMachine -Id $NIC.Id

$VirtualMachine = Set-AzVMSourceImage -VM $VirtualMachine -PublisherName 'MicrosoftWindowsServer' -Offer
'WindowsServer' -Skus '2022-datacenter-azure-edition-core'

-Version latest

New-AzVM -ResourceGroupName ResourceGroup1 -Location SouthCentralUS -VM $VirtualMachine

```

This example deploys a Windows VM from the marketplace in one resource group with an existing subnet in another resource group.

Example 6: Creating a new VM as part of a VMSS with a PlatformFaultDomain value.

```

$resourceGroupName= "ResourceGroupName";

$loc = 'eastus';

New-AzResourceGroup -Name $resourceGroupName -Location $loc -Force;

$domainNameLabel = "d1" + $resourceGroupName;

$vmname = "vm" + $resourceGroupName;

$platformFaultDomainVMDefaultSet = 2;

$vmssFaultDomain = 3;

$securePassword = <PASSWORD> | ConvertTo-SecureString -AsPlainText -Force;

$user = <USERNAME>;

$cred = New-Object System.Management.Automation.PSCredential ($user, $securePassword);

$vmssName = "vmss" + $resourceGroupName;

$vmssConfig = New-AzVmssConfig -Location $loc -PlatformFaultDomainCount $vmssFaultDomain;

$vmss = New-AzVmss -ResourceGroupName $resourceGroupName -Name $vmssName -VirtualMachineScaleSet
$vmssConfig;

$vm = New-AzVM -ResourceGroupName $resourceGroupName -Name $vmname -Credential $cred -DomainNameLabel

```

```
$domainNameLabel -PlatformFaultDomain
```

```
$platformFaultDomainVMDefaultSet -VmssId $vmss.Id;
```

This example creates a new VM as part of a VMSS with a PlatformFaultDomain value.

----- Example 7: Create a VM using the -Image alias. -----

```
$resourceGroupName= "<Resource Group Name>"
```

```
$loc = "<Azure Region>"
```

```
$domainNameLabel = "<Domain Name Label>"
```

```
$vmname = "<Virtual Machine Name>"
```

```
$securePassword = "<Password>" | ConvertTo-SecureString -AsPlainText -Force
```

```
$user = "<Username>"
```

```
$cred = New-Object System.Management.Automation.PSCredential ($user, $securePassword)
```

```
New-AzResourceGroup -Name $resourceGroupName -Location $loc -Force
```

```
# Create a VM using an Image alias.
```

```
$vmname = 'v' + $resourceGroupName
```

```
$domainNameLabel = "d" + $resourceGroupName
```

```
$vm = New-AzVM -ResourceGroupName $resourceGroupName -Name $vmname -Credential $cred -Image  
OpenSuseLeap154Gen2 -DomainNameLabel $domainNameLabel
```

```
$vm = Get-AzVM -ResourceGroupName $resourceGroupName -Name $vmname
```

This example creates a new VM using the -Image parameter, providing many default values to the VM.

-- Example 8: Creating a VM for Trusted Launch SecurityType. --

```
$rgname = <Resource Group Name>;
```

```
$loc = "eastus";
```

```

New-AzResourceGroup -Name $rgname -Location $loc -Force;

# VM Profile & Hardware

$domainNameLabel1 = 'd1' + $rgname;

$vmSize = 'Standard_D4s_v3';

$vmName1 = 'v' + $rgname;

$imageName = "Win2022AzureEdition";

$disable = $false;

$enable = $true;

$securityType = "TrustedLaunch";


$password = <Password>;

$securePassword = $password | ConvertTo-SecureString -AsPlainText -Force;

$user = <Username>;

$cred = New-Object System.Management.Automation.PSCredential ($user, $securePassword);


# VM creation using Simple parameterset

New-AzVM -ResourceGroupName $rgname -Location $loc -Name $vmName1 -Credential $cred -Size $vmSize -Image
$imageName -DomainNameLabel $domainNameLabel1 -SecurityType
$securityType;

$vm1 = Get-AzVM -ResourceGroupName $rgname -Name $vmName1;


# Verify Values

#$vm1.SecurityProfile.SecurityType "TrustedLaunch";

#$vm1.SecurityProfile.UefiSettings.VTpmEnabled $true;

#$vm1.SecurityProfile.UefiSettings.SecureBootEnabled $true;

```

This example Creates a new VM with the TrustedLaunch Security Type and sets flags EnableSecureBoot and EnableVtpm as True by default. A Trusted Launch VM requires a Gen2 image. Please check the Trusted Launch feature page (<https://aka.ms/trustedlaunch>)for more information.

```

$rgname = "<Resource Group Name>";
$loc = "<Azure Region>";
$vmname = 'vm' + $rgname;
$domainNameLabel = "d1" + $rgname;
$vnetname = "vn" + $rgname;
$vnetAddress = "10.0.0.0/16";
$subnetname = "slb" + $rgname;
$subnetAddress = "10.0.2.0/24";
$OSDiskName = $vmname + "-osdisk";
$NICName = $vmname + "-nic";
$NSGName = $vmname + "-NSG";
$OSDiskSizeinGB = 128;
$VMSize = "Standard_DS2_v2";
$PublisherName = "MicrosoftWindowsServer";
$Offer = "WindowsServer";
$SKU = "2022-datacenter-azure-edition";
$version = "latest";
$password = "<Password>";
$securePassword = $password | ConvertTo-SecureString -AsPlainText -Force;
$user = <Username>;
$cred = New-Object System.Management.Automation.PSCredential ($user, $securePassword);

# Network setup

$frontendSubnet = New-AzVirtualNetworkSubnetConfig -Name $subnetname -AddressPrefix $subnetAddress;

$vnet = New-AzVirtualNetwork -Name $vnetname -ResourceGroupName $rgname -Location $loc -AddressPrefix
$vnetAddress -Subnet $frontendSubnet;

$nsgRuleRDP = New-AzNetworkSecurityRuleConfig -Name RDP -Protocol Tcp -Direction Inbound -Priority 1001
-SourceAddressPrefix * -SourcePortRange *
-DestinationAddressPrefix * -DestinationPortRange 3389 -Access Allow;

$nsg = New-AzNetworkSecurityGroup -ResourceGroupName $RGName -Location $loc -Name $NSGName
-SecurityRules $nsgRuleRDP;

$nic = New-AzNetworkInterface -Name $NICName -ResourceGroupName $RGName -Location $loc -SubnetId
$vnet.Subnets[0].Id -NetworkSecurityGroupId $nsg.Id

```

```

-EnableAcceleratedNetworking;

# VM

$vmConfig = New-AzVMConfig -VMName $vmName -VMSize $VMSize;

Set-AzVMOperatingSystem -VM $vmConfig -Windows -ComputerName $vmName -Credential $cred;

Set-AzVMSourceImage -VM $vmConfig -PublisherName $PublisherName -Offer $Offer -Skus $SKU -Version $version ;

Add-AzVMNetworkInterface -VM $vmConfig -Id $nic.Id;

New-AzVM -ResourceGroupName $rgname -Location $loc -VM $vmConfig;

$vm = Get-AzVM -ResourceGroupName $rgname -Name $vmname;

# Verify $vm.SecurityProfile.SecurityType is TrustedLaunch

# Verify $vm.SecurityProfile.UefiSettings.SecureBootEnabled is true.

# Verify $vm.SecurityProfile.UefiSettings.VTpmEnabled is true.

```

This example shows how to create a VM with a valid Gen2 image, allowing the VM to default to TrustedLaunch which requires Gen2 images. Please check the Trusted Launch feature page (<https://aka.ms/trustedlaunch>) for more information.

Example 10: Creates a VM with TrustedLaunch turned on by default.

```

$rgname = "<Resource Group Name>";

$loc = "<Azure Region>";

$vmname = 'vm' + $rgname;

$domainNameLabel = "d1" + $rgname;

$password = "<Password>";

$securePassword = $password | ConvertTo-SecureString -AsPlainText -Force;

$user = <Username>;

$cred = New-Object System.Management.Automation.PSCredential ($user, $securePassword);

# Create VM

$vm = New-AzVM -ResourceGroupName $rgname -Name $vmname -Credential $cred -DomainNameLabel $domainNameLabel;

$vm = Get-AzVM -ResourceGroupName $rgname -Name $vmname;

# Verify $vm.SecurityProfile.SecurityType is TrustedLaunch.

# Verify the $vm.StorageProfile.ImageReference.Sku has defaulted to "2022-datacenter-azure-edition", a Gen2 image.

```

This example shows how the simple cmdlet call with minimal parameters will result in a TrustedLaunch enabled VM with a Gen2 image. Please check the Trusted Launch feature page (<https://aka.ms/trustedlaunch>) for more information.

=====

RELATED LINKS

Online Version: <https://learn.microsoft.com/powershell/module/az.compute/new-azvm>

Get-AzVM

Remove-AzVM

Restart-AzVM

Start-AzVM

Stop-AzVM

Update-AzVM

Add-AzVMDataDisk

Add-AzVMNetworkInterface

New-AzVMConfig

Set-AzVMOperatingSystem

Set-AzVMSourceImage

Set-AzVMOSDisk