**How to Find Azure Windows VM Images for Terraform or Packer Deployments**

[[Guillermo Musumeci](https://gmusumeci.medium.com/?source=post_page-----f3edaeb42466--------------------------------)](https://gmusumeci.medium.com/?source=post_page-----f3edaeb42466--------------------------------)

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# [Publisher](https://gmusumeci.medium.com/how-to-find-azure-windows-vm-images-for-terraform-or-packer-deployments-f3edaeb42466?source=post_page-----f3edaeb42466--------------------------------)

$Publisher = Get-AzVMImagePublisher -Location $location | select -ExpandProperty publishername |

? {$\_ -match 'microsoftwindowsserver$'}

# Offer

$Offer = Get-AzVMImageOffer -Location $location -PublisherName $Publisher | select -ExpandProperty offer | ? {$\_ -match 'windowsserver$'}

# SKU

$SKU =Get-AzVMImageSku -Location $location -PublisherName $Publisher -Offer $Offer | select -ExpandProperty skus | ? {$\_ -match '2019-Datacenter$'}

When we need to **deploy Windows virtual machines using Terraform or if we need to create a Packer image in Azure**, we will need to find the image information of the operating system.

The information required to deploy a Windows virtual machine is:

* **Publisher**: The organization that created the image. Examples: MicrosoftWindowsServer, MicrosoftWindowsDesktop
* **Offer**: The name of a group of related images created by a publisher. Examples: WindowsServer, Windows-10
* **SKU**: An instance of an offer, such as a major release of a distribution. Examples: 2019-Datacenter, 19h2-pro-g2
* **Version**: The version number of an image SKU.

*This story will help you to find Windows images. If you want to list****Linux images****check*[*https://medium.com/@gmusumeci/how-to-find-azure-linux-vm-images-for-terraform-or-packer-deployments-24e8e0ac68a*](https://medium.com/@gmusumeci/how-to-find-azure-linux-vm-images-for-terraform-or-packer-deployments-24e8e0ac68a)

1. Listing Image Publishers:

We open our **Azure Cloud Shell (PowerShell)** or **Azure PowerShell CLI.**

Login into Azure:

Connect-AzAccount

The process starts by defining our **Azure region** using a variable:

$location = "West Europe"

Then we will use [**Get-AzVMImagePublisher**](https://docs.microsoft.com/en-us/powershell/module/az.compute/get-azvmimagepublisher) to list all **publishers**:

Get-AzVMImagePublisher -Location $location | Select PublisherName

Optionally, we can export the result to a text file to explore the list in detail (I’m pretty sure you will be surprised by the result, and you want to explore a little bit more 😄):

Get-AzVMImagePublisher -Location $location | Select PublisherName | Out-File -FilePath AzurePublisherList.txt

If we need to search for **Windows images**, we can use a Filter:

Get-AzVMImagePublisher -Location $location | Select PublisherName | Where-Object { $\_.PublisherName -like '\*Windows\*' }





Filtering of Windows Publishers

2. Listing Image Offers:

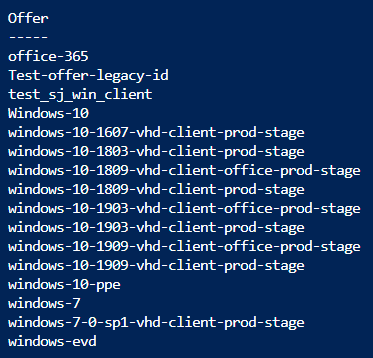
We select the publisher, in this case, we are looking for **Windows Desktop** machines:

$publisher = "MicrosoftWindowsDesktop"

Then, we use the [**Get-AzVMImageOffer**](https://docs.microsoft.com/en-us/powershell/module/az.compute/get-azvmimageoffer) command to list all **offers** available:

Get-AzVMImageOffer -Location $location -PublisherName $publisher | Select Offer





List of Windows Desktop Offers

3. Listing Image SKUs:

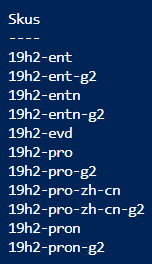
We select the offer, in this example, we are looking for the **Windows 10 Professional Build 1909** offer:

$offer = "windows-10-1909-vhd-client-prod-stage"

Then, we use the [**Get-AzVMImageSku**](https://docs.microsoft.com/en-us/powershell/module/az.compute/get-azvmimagesku) command to list all offers available:

Get-AzVMImageSku -Location $location -PublisherName $publisher -Offer $offer | Select Skus





List of Windows 10 Professional 1909 SKUs

4. Deploying a Windows Virtual Machine using Terraform

This is the relevant code to build an **Azure Virtual Machine** using Terraform and the image information obtained above.

**Note:** for **Windows 10**, configure the offer as “windows-10” and for **Windows 10 with Office**, use “office-365”.

# Create Windows 10 Virtual Machine  
resource "azurerm\_windows\_virtual\_machine" "windows-10-vm" {  
 name = var.windows-10-vm-hostname  
 location = azurerm\_resource\_group.network-rg.location  
 resource\_group\_name = azurerm\_resource\_group.network-rg.name  
 size = var.windows-10-vm-size  
 network\_interface\_ids = [azurerm\_network\_interface.windows-10-vm-nic.id]  
   
 computer\_name = var.windows-10-vm-hostname  
 admin\_username = var.windows-10-admin-username  
 admin\_password = var.windows-10-admin-password os\_disk {  
 name = "${var.windows-10-vm-hostname}-os-disk"  
 caching = "ReadWrite"  
 storage\_account\_type = "Standard\_LRS"  
 } **source\_image\_reference {  
 publisher = "MicrosoftWindowsDesktop"  
 offer = "windows-10"  
 sku = "19h2-pro-g2"  
 version = "latest"  
 }** enable\_automatic\_updates = true  
 provision\_vm\_agent = true tags = {  
 application = var.app\_name  
 environment = var.environment   
 }  
}

The full code to build a **Windows Virtual Machine in Azure using Terraform** is available in the following repo → <https://github.com/guillermo-musumeci/terraform-azure-vm-windows>

5. Creating a Windows Image using Packer

This is the relevant code to create an **Azure Virtual Machine using Packer**, using the image information obtained before:

**Note:** for **Windows 10**, configure the offer as “windows-10” and for **Windows 10 with Office**, use “office-365”.

{  
 "builders": [{  
 "type": "azure-arm", "client\_id": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxx",  
 "client\_secret": "ppppppp-pppp-pppp-pppp-ppppppppppp",  
 "tenant\_id": "zzzzzzz-zzzz-zzzz-zzzz-zzzzzzzzzzzz",  
 "subscription\_id": "yyyyyyy-yyyy-yyyy-yyyy-yyyyyyyyyyy", "managed\_image\_resource\_group\_name": "network-rg",  
 "managed\_image\_name": "myPackerImage",  **"os\_type": "Windows",  
 "image\_publisher": "MicrosoftWindowsDesktop",  
 "image\_offer": "windows-10",  
 "image\_sku": "19h2-pro-g2",** "location": "West Europe",  
 "vm\_size": "Standard\_DS2\_v2"  
 }]  
}

The full code to create a **Windows Image for Azure using Packer** is available in the following repo → <https://github.com/guillermo-musumeci/packer-azure-windows-vm>

And that’s all folks. If you liked this story, please show your support by 👏 this story. Thank you for reading!

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[**Packer**](http://www.packer.io/) is an open-source tool used to create **virtual machine templates** from a **.json** file.

In this story, we will learn how to use **Packer** to define and build custom images in **Azure**, and then use this image to build a **Windows virtual machine** using **Terraform.**

1. Prerequisites

To create our own **custom virtual machine images in Azure** with Packer, we will need **Packer** (pretty obvious) and a couple of **resources in Azure**.

1.1. Packer

**Packer**is available to download at [https://www.packer.io](https://packer.io/) as a single binary file.

We can download Packer binary for **macOS, Linux, or Windows** from the [**Packer web site**](https://www.packer.io/downloads.html)

We can…

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