

## An Overview of Packer

Packer is part of the hashicorp open source suite of tools, and this is the official Packer page: <https://www.packer.io/>.

It's an open source cmd-line tool that allows us to create custom VM images of any OS on several platforms from a JSON file.

Packer's operation is simple; it is based on the basic OS provided by the different cloud providers and configures a temporary VM by executing the scripts described in the JSON template. Then, from this temporary VM, Packer generates a custom image ready to be used to provision VMs.

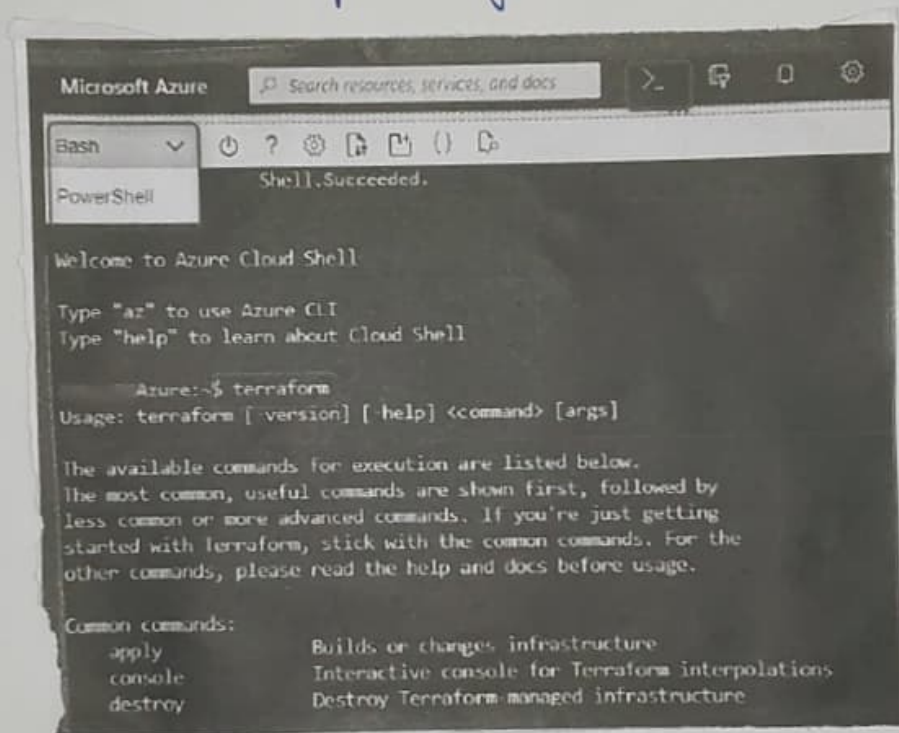
Apart from VM images, Packer also provides other types of images such as Docker images or Vagrant images.

# Optimizing Infrastructure Deployment with Packer

Technical requirement :- Packer are used to create a VM image in an Azure infrastructure. as an example of cloud infrastructure.

## Integrating Packer with Azure Cloud Shell

Provisioning Cloud Infrastructure with terraforms, Packer is also integrated with Azure Cloud shell. as shown in the following screenshot.



## Checking the packer installation

Once installed, we can check the installed version of Packer by running the following cmd.

`packer --version`

This cmd displays the installed Packer version

<code>1.4.2</code>	<code>\$ packer --version</code>
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```

root@nkrif: /home/ # curl -O https://releases.hashicorp.com/terraform/${TERRAFORM_VERSION}/terraform_${TERRAFORM_VERSION}_linux_amd64.zip && curl -O https://releases.hashicorp.com/terraform/${TERRAFORM_VERSION}/terraform_${TERRAFORM_VERSION}_SHA256SUMS && curl https://keybase.io/hashicorp/pgp_keys.asc | gpg --import && curl -O https://releases.hashicorp.com/terraform/${TERRAFORM_VERSION}/terraform_${TERRAFORM_VERSION}_SHA256SUMS.sig && gpg --verify terraform_${TERRAFORM_VERSION}_SHA256SUMS.sig terraform_${TERRAFORM_VERSION}_SHA256SUMS && shasum -a 256 -c terraform_${TERRAFORM_VERSION}_SHA256SUMS 2>&1 | grep "terraform_${TERRAFORM_VERSION}_linux_amd64.zip: OK" && unzip -o terraform_${TERRAFORM_VERSION}_linux_amd64.zip -d /usr/local/bin
% Total    % Received % Xferd Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 1696 100 1696    0     0  2753      0 --:--:-- --:--:-- --:--:-- 2753
gpg: key 51852D87348FFC4C: "HashiCorp Security <security@hashicorp.com>" not changed
gpg: Total number processed: 1
gpg:      unchanged: 1
gpg: Signature made Tue Mar 12 20:19:21 2019 STD
gpg:      using RSA key 51852D87348FFC4C
gpg: Good signature from "HashiCorp Security <security@hashicorp.com>" [unknown]
gpg: WARNING: This key is not certified with a trusted signature!
gpg:      There is no indication that the signature belongs to the owner.
Primary key fingerprint: 91A0 E7F8 5D05 C656 308E F189 5185 2D87 348F FC4C
terraform_0.11.13_linux_amd64.zip: OK
Archive:  terraform_0.11.13_linux_amd64.zip
  inflating: /usr/local/bin/terraform
root@nkrif: /home/ #

```



## Installing Packer (Installing Manually)

To install Packer manually,

1. Go to the official download page (<https://www.packer.io/downloads.html>)
2. After downloading, unzip and copy the binary into an execution directory (for example, inside `c:\packer`).
3. Then, the Path environment variable must be set with the path to the binary directory.

## Installing by script

Installing packer by script on windows

On windows, we can use chocolatey, which is a software package manager. chocolatey is a free public package manager, ~~is~~ dedicated to software. It is widely used for the automation of clw on windows servers or even local machine.

Chocolatey's official website is here: <https://chocolatey.org/>, and its installation documentation is here: <https://chocolatey.org/install>.

Once Chocolatey is installed, we just need to run the following cmd in powershell or CMD tool

`choco install packer -y`.

The following is the screenshot of packer installation.



```
PS C:\WINDOWS\system32> choco install terraform --
chocolatey v0.10.7
Installing the following packages:
C:\Users\
By installing you accept licenses for the packages.
Progress: Downloading terraform 0.11.13... 100%
[+] terraform 0.11.13 [Approved]
terraform package files install completed. Performing other installation steps.
Removing old terraform plugins
Downloading terraform 64 bit
from https://releases.hashicorp.com/terraform/0.11.13/terraform_0.11.13_windows_amd64.zip
Progress: 100% - (completed download of C:\Users\Mikael\AppData\Local\Temp\chocolatey\terraform\0.11.13\terraform_0.11.13
_windows_amd64.zip (20.18 MB)).
Download of terraform_0.11.13_windows_amd64.zip (20.18 MB) completed.
Hashes match.
Extracting C:\Users\Mikael\AppData\Local\Temp\chocolatey\terraform\0.11.13\terraform_0.11.13_windows_amd64.zip to C:\Pro
gramData\chocolatey\lib\terraform\tools...
C:\ProgramData\chocolatey\lib\terraform\tools
ScoopGen has successfully created a shim for terraform.exe
The install of terraform was successful.
Software installed to 'C:\ProgramData\chocolatey\lib\terraform\tools'

Chocolatey installed 1/1 packages.
See the log for details (C:\ProgramData\chocolatey\logs\chocolatey.log).
PS C:\WINDOWS\system32>
```

The execution of `choco install packer -y` installs the latest version of Packer from chocolatey.