HashiCorp Packer for Windows Templates

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What will I cover today?

- The what and why of HashiCorp Packer
- Packer Concepts
- Unattend.xml
- vsphere-iso
- Communicators
- Provisioners
- HCL Files
- Packer init and build
- Demo

About Me

- Colin Westwater
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The what and why of HashiCorp Packer

What is Packer?

- IaC tool to build automated machine images
- Supports lot of platforms both on prem and cloud:
    - AWS, Azure, Oracle, GCP, Digital Ocean, etc.
    - vSphere, Workstation, Hyper-V, Docker, OpenStack, etc.

Why Packer?

- Tired of maintaining Templates
- Easy Introduction to Infrastructure as Code
- Low barrier to entry (free!)

Concepts

- Builds - a single task that builds an image for a single platform. Made up of Builders
- Builders - create the images
- Plugins - standalone apps that perform tasks during a build
- Provisioners - the component that customises the OS
- Communicators - ssh or winrm
- HCL
- CLI Commands - what is run on a CLI to initialise and then build with Packer

unattend.xml

- Use Windows System Image Manager to create a standard unattend.xml file
- Need to note the local admin credentials
- Use it to load drivers, setup PowerShell, WinRM, and install VMware Tools

vsphere-iso

- vsphere-iso is a plugin to Packer
- Used to build a VM from the ISO
- Interacts with the API in vCenter or a standalone Host
- Sets up VM specification but can also perform functions such as snapshots, converting the VM to a template, adding the Template to a content library

Communicators

Two Types:

1. WinRM
2. SSH

Used to connect to the VM once it is running and IP is accessible

Provisioners

Once the Communicator kicks in Provisioners are used to customise the OS.

- File - upload files to the VM
- Shell - BASH scripts
- PowerShell - runs PowerShell scripts
- Windows Shell - 'traditional' Windows commands
- Windows Restart - Reboots the VM

HCL Files

- How do we define the build? HashiCorp Configuration Language
- HCL used in various HashiCorp tools
- Was JSON - migrate to HCL
- BUT JSON-like - Key-Value pairs

Packer init and build

Packer init is used to download the plugins used for the build

Packer build is the CLI command used to start a template build (with options)

Demo

Questions and Link

All code and this presentation is available on:

https://github.com/cwestwater/SVMUG-2022