



## Packer Essentials

- 2 Days
- Lecture and Hands-on Labs

### Course Overview

HashiCorp's Packer is an open source tool for creating images with code for multiple platforms from a single code configuration. From a single code source, a user may provision Amazon Machine Images (AMIs) for AWS EC2, VMDK/VMX files for VMware ESXi, OVF exports for VirtualBox, and so on.

Packer is lightweight, runs on every major operating system, and can even create multiple images in parallel. Packer does not replace configuration management like Ansible or Puppet. Configuration management tools might actually be used to help Packer build the image. Packer also works well with the HashiCorp tool, Terraform, which may be used to launch any images built with Packer.

### Who Should Attend

- DevOps Engineers
- Software Developers
- Technical Managers and Leads
- System and Cloud Administrators

### What You'll Learn

- Deploy and Use HashiCorp Packer
- Write Packer configuration
- Provision machine images for popular platforms like AWS, VMWare, KVM, and VirtualBox
- Use Packer along side other dev tools like Terraform and Ansible
- Optimize your continuous delivery pipeline from development through production
- Interact with Packer HCP Registry
- AI LLM prompt engineering for relevant snippets and jumpstarting solutions

### Outline


#### AI LLM Toolkit

-  Lecture + Lab: Large Language Model toolkit for AI Solution Assistance






#### Software Control Management

-  Lecture + Lab: SCM Option #1 - GitHub
-  Lecture + Lab: SCM Option #2 - GitLab



#### Overview

-  Lecture: Packer Overview and Introduction
-  Lecture + Lab: Install Packer
-  Lecture: Syntax and Configuration Language


## Packer and Docker

-  Lecture + Lab: Packer and Docker - Building an Image
-  Lecture + Lab: Packer and Docker - Provisioning
-  Lecture + Lab: Variables
-  Lecture + Lab: Parallel Builds
-  Lecture + Lab: Post Processing


## KVM

-  Lecture + Lab: cloud-init vs Packer
-  Lecture + Lab: Packer and QEMU KVM

## Dockerfile to Packer

-  Lecture + Lab: Containerizing your Go App with Docker
-  Lecture + Lab: From Dockerfile to Packer and Ansible
-  Challenge: Packer and Python Flask


## VMWare

-  Lecture + Lab: Packer and VMWare

## Packer and AWS

-  Lecture + Lab: Packer AWS AMI and Ansible Management

## GitHub and Packer

-  Lecture + Lab: GitHub HashiCorp Packer Actions

## Packer and Ansible AWX

-  Lecture + Lab: Deploying Tower AWX on Kubernetes
-  Lecture + Lab: Triggering AWX builds with Webhooks

## Prerequisites

Although not required, students with some experience programming, or pre-existing knowledge of cloud architecture, will most appreciate the technical nature of this hands-on course.

## Next Courses

- Ansible 101 (5 days)
- Terraform Essentials (4 days)
- Git and GitHub (2 days)
- Git and GitLab (2 days)

## Certification

- Packer Essentials - Certification Project