

INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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HASHI CORP PACKER TRAINING

1: Introduction to Packer

- **Overview of Packer**
 - What is Packer?
 - Use cases and benefits
 - Key features and architecture

2: Installation and Setup

- **Installing Packer**
 - Installation on Windows, macOS, and Linux
 - Setting up the Packer environment
 - Basic command-line usage

3: Getting Started with Packer

- **Packer Basics**
 - Understanding Packer templates
 - JSON vs. HCL template formats
 - Basic template structure: Builders, Provisioners, and Post-processors

4: Builders

- **Understanding Builders**
 - Overview of Builders
 - Common builders: AWS, Azure, Google Cloud, VMware, VirtualBox, Docker
 - Configuring and using builders
 - Example: Creating an AWS AMI

5: Provisioners

- **Provisioning Basics**

- Overview of Provisioners
- Built-in provisioners: Shell, Ansible, Chef, Puppet, Salt, etc.
- Writing and using shell scripts for provisioning
- Example: Using Ansible as a provisioner

6: Post-Processors

- **Post-Processing**
 - Overview of Post-processors
 - Common post-processors: Compress, Artifact Upload, Docker Push
 - Example: Compressing and uploading images

7: Variables and Functions

- **Dynamic Templates**
 - Using variables in Packer templates
 - Defining and using user variables
 - Using functions to manipulate variables and strings

8: Advanced Template Features

- **Advanced Configuration**
 - Template inheritance and composition
 - Using HCL for advanced configurations
 - Working with complex data structures

9: Debugging and Troubleshooting

- **Debugging Techniques**
 - Common issues and solutions
 - Using Packer's debug mode
 - Logging and output inspection

10: Packer and CI/CD Integration

- **Automation and CI/CD**
 - Integrating Packer with Jenkins
 - Using Packer in GitLab CI/CD pipelines
 - Example: Automating Packer builds with Circle CI

1: Advanced Packer Concepts

- **Deep Dive into Packer Architecture**
 - Detailed overview of Packer's internal workings
 - Understanding Packer's lifecycle: Initialization, Validation, Build, and Cleanup

2: Custom Builders

- **Creating Custom Builders**
 - Introduction to custom builders
 - Building a custom builder from scratch
 - Using the Packer Plugin SDK

3: Advanced Provisioning Techniques

- **Complex Provisioning Scenarios**
 - Multi-step provisioning with multiple provisioners
 - Conditional provisioning logic
 - Using external sources for provisioning scripts and configurations

4: Post-Processing Advanced Techniques

- **Custom Post-Processors**
 - Writing custom post-processors
 - Advanced usage of existing post-processors
 - Chaining multiple post-processors for complex workflows

5: Template Modularity and Reusability

- **Template Design Patterns**
 - Breaking down templates into reusable components
 - Using Packer template includes and data sources
 - Management Strategies for managing large and complex templates

6: Enhanced Configuration

- **Integrating with Configuration Management Tools**

- Advanced Ansible, Chef, Puppet, and Salt integration
- Using dynamic inventory and Packer-generated assets
- Handling secrets and sensitive data with HashiCorp Vault

7: Debugging and Optimization

- **Advanced Debugging Techniques**
 - Deep dive into Packer's logging and debug options
 - Profiling and performance tuning for Packer builds
 - Optimizing image build times and resource usage

8: Security and Compliance

- **Security Best Practices**
 - Hardening Packer templates and images
 - Incorporating security scanning tools (e.g., HashiCorp Sentinel, OpenSCAP)
 - Ensuring compliance with industry standards

9: Multi-Cloud and Hybrid Environments

- **Cross-Cloud Management**
 - Image Building and managing images across multiple cloud providers
 - Using Packer in hybrid cloud scenarios
 - Cross-cloud networking and interoperability

10: Integration with Other Tools

- **Advanced CI/CD Integration**
 - Automating Packer builds with advanced CI/CD pipelines
 - Integrating with Terraform for infrastructure provisioning
 - Using Consul for service discovery and configuration

11: Performance Tuning and Cost Management

- **Efficient Resource Utilization**
 - Strategies for cost-effective image building
 - Using spot instances and other cost-saving techniques
 - Monitoring and optimizing resource usage