Managing Azure with Terraform

Course TF102 2 Days Instructor-led, Hands on

Introduction

As enterprises seek to deploy and maintain increasingly complex Azure cloud infrastructure, there is a necessity to use "Infrastructure as Code" (IaC) tools, like Terraform. An open-source, state management tool developed by HashiCorp, Terraform allows developers to use a common coding interface to work through their various clouds safely and efficiently. Attendees will leave being able to write and understand Terraform code (HCL), have a clear understanding of Terraform's various components and supporting tools, as well as when to reach for Terraform over another IaC tool, such as Ansible.

Who Should Attend?

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

Course Objectives

- Writing Terraform HCL code for managing Azure
- Deploying into Azure
- Where Terraform fits in the Enterprise CI/CD model
- Differences between Terraform and Ansible
- Best practices
- Prepare for HashiCorp's Terraform Associate Certification
- AI LLM prompt engineering for Terraform snippets and jumpstarting solutions

Course Outline

Module 1: Introduction to Terraform

- 💬 Terraform Course Map
- 💬 Introduction to Terraform

Module 2: Software Control Management

- 💻 SCM Option #1 - GitHub

Contact ISInc for more information at 916.920.1700 or by visiting our website at http://www.isinc.com

Module 3: Overview of Terraform

- Terraform Install
- gitignore for Terraform
- Azure Account Setup (Optional)

Module 4: Terraform

- Managing Azure with Terraform
- Terraform HCL Syntax
  - Azure and Terraform Resources
- Terraform Variables
  - Azure and Terraform Variables
- Terraform Locals
  - Output Values

Module 5: Azure

- Exploring Terraform Azure Providers
  - Terraform and Azure
  - Building a Virtual Network
  - Dynamic Provisioning with tfvars Files
  - Creating A Windows VM
- Microsoft Verified Modules
  - Azure Verified Modules for Terraform

Module 6: Beyond Basics

- Import pre-existing infrastructure
  - Data Sources and HTTP Provider
  - Dynamic Operations with Functions
  - Creating a Terraform Module
  - Terraform CLI Workspaces

Module 7: Loops

- for_each
  - Looping Constructs - for_each

Module 8: Provisioning

- local-exec Provisioner

Module 9: Dynamic Blocks

- Dynamic Blocks

Module 10: Azure Management with Terraform

- Store Terraform State in Azure

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- Understanding Azure Managed Identities
    - Managed Identities and Key Vault

Module 11: Additional Activities

- Troubleshooting Broken Module
- Child Module Practice

Module 12: Terraform Review

- HashiCorp Terraform Study Guide