ProTech Professional Technical Services, Inc.

Terraform - Writing Reusable Code

Course Summary

Description

This class is for students who have some experience using Terraform but want to take it to the next level. Terraform configurations can be complex and confusing to navigate. This class teaches best practices for managing code with Terraform modules, secrets, variables, and more.

Attendees will leave understanding industry best practices for writing Terraform configurations. They will learn how to use modules to make their code more portable, easier to maintain, and produce consistent results. Attendees will learn best practices for securely storing sensitive information as secrets.

Topics

- Introduction
- Resources
- Variables
- State management
- Provisioners
- Modules
- Security
- Wrap-up

Audience

The audience for this class is Developers, Team Leads, DevOps, Architects, and any other Engineering personnel interested in Terraform best practices.

Prerequisites

- Experience using Terraform resources and variables
- Understanding of Terraform lifecycle (plan, apply, destroy)
- Familiarity with Linux Command-line and text editors

Duration

One day

Course Outline

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I.   *Introduction*
   A.   Overview
   B.   Architecture
   C.   Directory structure
   D.   Configuration
   E.   Fundamental concepts

II.   *Resources*
   A.   Types and Arguments
   B.   Behavior
   C.   Dependencies
   D.   Local only resources

III.   *Variables*
   A.   Inputs
   B.   References
   C.   Outputs and Locals
   D.   Overrides

IV.   *State management*
   A.   Remote storage
   B.   Challenges with State file locking
   C.   Importing existing resources

V.   *Provisioners*
   A.   Types of Provisioners
   B.   Remote execute provisioners
   C.   Local execute provisioners

VI.   *Modules*
   A.   Understanding DRY (Don't Repeat Yourself) principle
   B.   Variables and Modules
   C.   Terraform module registry
   D.   Write your own module

VII.   *Security*
   A.   The right way to handle Access & Secret keys
   B.   Terraform and Identity Access Management (IAM)

VIII.   *Wrap-up*
   A.   Review
   B.   Q&A
   C.   Next steps