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SHI GCP-TERRA Getting Started 1 Day Instructor LED User Guide

Contents

SHI GCP-TERRA Getting Started 1 Day Instructor LED

SHI-GCP-TERRA-Getting-Started-1-Day-Instructor-LED-PRODUCT

Product Information

Specifications

- Product Name: Terraform for Google Cloud
- Course Code: GCP-TERRA
- Duration: 1 day

- Instructor Led: Yes
- Audience: Cloud engineers, DevOps engineers, individuals interested in automating infrastructure provisioning with Google Cloud Platform using Terraform.

Course Outline

- Introduction to Terraform for Google Cloud
- Terraform State Management
- Implementing Infrastructure as Code with Terraform
- Creating and Managing Google Cloud Resources with Terraform
- Hands-on Practice with Terraform and Google Cloud

About this course

This course provides an introduction to using Terraform for Google Cloud. It aims to enable learners to understand how Terraform can be utilized to implement infrastructure as code and leverage its key features and functionalities to create and manage Google Cloud infrastructure. Participants will have hands-on practice in building Google Cloud resources using Terraform.

Audience Profile

This course is designed for cloud engineers, DevOps engineers, and individuals who want to start using Terraform to automate infrastructure provisioning, with a specific focus on Google Cloud Platform.

Course Completion:

Upon completion of this course, students will be able to:

- Understand the fundamentals of Terraform for Google Cloud
- Effectively manage Terraform state
- Implement infrastructure as code using Terraform
- Create and manage Google Cloud resources using Terraform
- Gain hands-on experience with Terraform and Google Cloud

Product Usage Instructions

Section 1: Introduction to Terraform for Google Cloud

In this section, you will learn the basic concepts and principles of Terraform for Google Cloud. You will understand how Terraform works and its benefits in automating infrastructure provisioning.

Section 2: Terraform State Management

This section focuses on the importance of Terraform state and how to effectively manage it. You will learn about different state backends, versioning, and locking mechanisms to ensure safe and efficient collaboration in a team environment.

Section 3: Implementing Infrastructure as Code with Terraform

In this section, you will dive into the practical aspects of implementing infrastructure as code using Terraform. You will learn how to write Terraform configuration files, define resources, and use variables and modules to create reusable infrastructure components.

Section 4: Creating and Managing Google Cloud Resources with Terraform

This section focuses on using Terraform to provision and manage Google Cloud resources. You will learn how to authenticate with Google Cloud, create virtual machines, networks, storage buckets, and other resources using Terraform.

Section 5: Hands-on Practice with Terraform and Google Cloud

In this final section, you will get hands-on practice by working on real-world scenarios. You will apply the knowledge gained in previous sections to build, modify, and destroy Google Cloud infrastructure using Terraform.

Frequently Asked Questions (FAQ)

Q: Can I take this course if I have no prior experience with Terraform or Google Cloud?

A: While prior experience with Terraform or Google Cloud is not mandatory, having a basic understanding of infrastructure provisioning and cloud concepts will be beneficial.

Q: Will I receive a certificate upon completing this course?

A: Yes, upon successful completion of the course, you will receive a certificate of completion.

Q: Are there any prerequisites for this course?

A: There are no specific prerequisites for this course. However, familiarity with cloud computing concepts and basic knowledge of Linux command-line interface would be helpful.

About this course

This course provides an introduction to using Terraform for Google Cloud. It enables learners to describe how Terraform can be used to implement infrastructure as a code and to apply some of its key features and functionalities to create and manage Google Cloud infrastructure. Learners will get hands-on practice building Google Cloud resources using Terraform.

Audience profile

Cloud engineers, DevOps engineers, and individuals who want to start using Terraform to automate infrastructure provisioning with a focus on Google Cloud Platform.

At course completion

After completing this course, students will be able to:

- Define the business need for infrastructure as code and the benefits of using it in your environment.

- Explain the features and functionalities of Terraform.
- Use Terraform resources, variables, and output values to create Google Cloud infrastructure resources.
- Use Terraform modules to build reusable configurations.
- Explain Terraform state and its importance.

Introduction to Terraform for Google Cloud

- Introduction to IaC
- What is infrastructure as code (IaC)?
- Problems IaC can solve
- Benefits of IaC
- Provisioning versus configuration
- Imperative versus declarative approach
- Introduction to Terraform
- Terraform overview
- Terraform features
- IaC configuration workflow
- Terraform use cases
- Using Terraform
- How to use Terraform
- Running Terraform in production

Terms and concepts

- Terraform Directory structure
- Introduction to HCL syntax
- Resources
- Variables
- State
- Modules
- Terraform commands
- terraform init
- terraform plan
- terraform apply
- terraform fmt
- terraform destroy
- Terraform Validator tool
- Introduction
- Why use the Terraform Validator tool
- Validation workflow
- Terraform Validator use cases

Writing Infrastructure Code for Google Cloud

- Introduction to Resources
- Resources overview
- Syntax
- Example
- Refer a resource attribute
- Considerations to define a resource block
- Meta-arguments for resources
- Resource dependencies
- Implicit dependency
- Explicit dependency
- Introduction to Variables
- Overview
- Syntax to declare a variable
- Syntax to reference and assign a value to a variable
- Variables best practices
- Introduction to output values
- Output values overview
- Best practices
- Terraform Registry and CFT
- Introduction to Terraform Registry
- Introduction to CFT

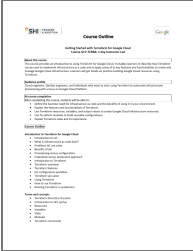## Organizing and Reusing Configuration with Terraform Modules

- Introduction to modules:
- Why are modules needed
- What is a module?
- Example
- Reusing configurations by using modules
- Module sources
- Calling a module into the source configuration
- Using variables to parameterize your configuration
- Pass resource attributes using output variables
- Module use cases, benefits, and best practices

Introduction to Terraform State

- Introduction to Terraform state
- How information is stored in a Terraform state file
- Ways to save a state file
- Storing a state file in a Cloud Storage bucket
- Issues when storing the Terraform state locally
- Benefits of storing a state file in a Cloud Storage bucket
- Process of storing a Terraform state file remotely in a Cloud Storage bucket

- Terraform state best practices

Documents / Resources

	SHI GCP-TERRA Getting Started 1 Day Instructor LED [pdf] User Guide GCP-TERRA Getting Started 1 Day Instructor LED, GCP-TERRA, Getting Started 1 Day Instructor LED, Started 1 Day Instructor LED, Instructor LED, LED

References

- **User Manual**