Getting Started with Terraform for Google Cloud

An all-round course providing an overview of Google products and services

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.

Objectives

- 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.

Programme code	10016324
Duration and time	1 day 9:30-17:30
Venue	Online broadcast
Language	Cantonese, supplemented with English terminology
Course fee	**FREE**
Prerequisites	• Complete Google Cloud Fundamentals: Core Infrastructure • Have basic programming skills and familiarity with using CLI • Have general familiarity with Google Cloud
Bring Your Own Device (BYOD)	Windows 7/10 / Mac OS 10.x or above with minimum 2 GB RAM and 20 GB hard disk

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Course Outline with highlights

Module 1: Introduction to Terraform for Google Cloud

- What is infrastructure as code (IaC)?
- Problems IaC can solve and its benefits
- Provisioning versus configuration
- Imperative versus declarative approach
- Overview and features
- IaC configuration workflow
- Terraform use cases
- How to use Terraform
- Running Terraform in production

Module 2: Terms and concepts

- Terraform Directory structure
- Introduction to HCL syntax
- Resources, variables, state and modules
- Terraform commands (init, plan, apply, fmt, destroy)
- Introduction on Terraform Validator tool
- Validation workflow
- Terraform Validator use cases

Module 3: Writing Infrastructure Code for Google Cloud

- Resources overview
- Syntax
- Example
- Refer a resource attribute
- Considerations to define a resource block
- Meta-arguments for resources
- Resource dependencies (implicit and explicit)

Module 3: Writing Infrastructure Code for Google Cloud (con't)

- Introduction to variables
- Syntax to declare a variable
- Syntax to reference and assign a value to a variable
- Variables best practices
- Output values overview
- Terraform Registry and CFT
- Introduction to Terraform Registry and CFT

Module 4: Organizing and Reusing Configuration with Terraform Modules

- Introduction to modules
- Reusing configurations by using modules
- Module sources
- Calling a module into the source configuration
- Using variables to parameterise your configuration
- Pass resource attributes using output variables
- Module use cases, benefits, and best practices

Module 5: Introduction to Terraform State

- How information is stored in a Terraform state file and 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

This course will be taught by Google Cloud Authorized Trainer.

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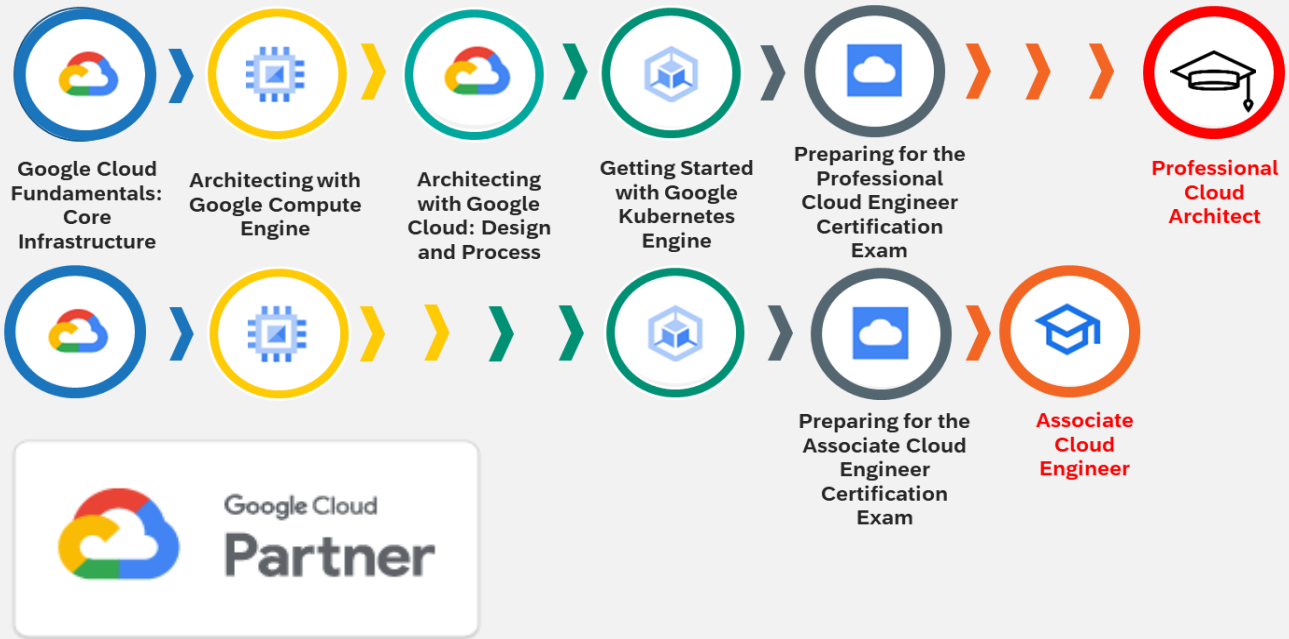
Who Should Attend?

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

Google Cloud Technical Learning Path



Enrolment Methods

1. Scan the QR code to complete the enrolment and payment online OR
2. Mail the crossed cheque with payee name "Hong Kong Productivity Council" (in HK dollar) to HKPC Academy, Hong Kong Productivity Council, 3/F, HKPC Building, 78 Tat Chee Avenue, Kowloon (attention to Mr Desmond CHAN). Please indicate the course name and course code on the envelope.

Enrolment Link

Supporting Organisations (In arbitrary order)

GDG Cloud Hong Kong

Hong Kong Computer Society 香港電腦學會

WTIA 香港無線科技商會

Hong Kong Software Industry Association 香港軟件行業協會

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