Updated 06/01/2025

Terraform training: Authoring and Operations Pro certification

Examination included HCTOP-002

3 days (21 hours)

Presentation

Master Terraform on AWS with this hands-on training. Learn how to manage your cloud infrastructure with IaC

Prepare for Terraform Authoring & Operations Pro with AWS certification by mastering best practices, dynamic HCL configuration and cloud infrastructure optimization.

You'll learn how to create scalable workflows, develop reusable modules and troubleshoot with ease.

The course is based on the latest version of Terraform AWS, v.5.81.0.

Objectives

- Deploying and managing AWS infrastructures
- Automate your workflows and reduce redundant code
- Managing states and configurations with the HCL language
- Learn how to manage a module over time, including versioning and refactoring

Target audience

- DevOps
- System administrators

- Infrastructure engineer
- Technical project managers
- Developers

Prerequisites

- Terraform Associate 002 or 003 certification (recommended)
- Linux skills
- Experience with YAML, JSON, HCL, CSV files
- Knowledge of AWS Terraform in a production environment
- Understanding cloud references

Technical requirements

Each user workstation must have :

- A terminal
- A text editor (Visual Code)
- The right to install the Terraform binary

Terraform training program: Authoring and Operations

Introduction to Terraform

- AWS ecosystem overview
- The challenges of infrastructure as code
- Positioning Terraform and AWS
- Private infrastructures
- Installation and first steps with the Terraform command

Listing AWS resources

- AWS s3 Bucket
- AWS IAM
- AWS security
- AWS s3 object

Infrastructure management with Terraform

- Introduction to the Terraform HCL language
- Terraform Providers
- Terraform Resources
- Terraform Variables

- Resource deployment on AWS

Resource lifecycle management

- HCL language structures
- Configuring, using and modifying CLI commands
- Importing CLI commands into the Terraform project
- Overview of how Terraform creates and updates reports
- Defining the Terraform scope of execution with resource targeting
- Refresh configuration, including resource addresses update

Developing and troubleshooting a dynamic configuration with AWS

- Use of resource meta-arguments to limit redundant code and control resource lifecycles
- Understanding how to use data sources
- Review of expressions used in configuration
- Configuration of complex types, including input and output variables
- List of supported HCL functions
- Manage sensitive inputs and data in configuration

Create, use and maintain Terraform modules

- Learn how to manage a module over time, including versioning and refactoring
- Examine the design and use of the module, including the scope of variables and outputs

Developing Terraform collaborative workflows

- Managing Terraform binary and upgrades
- Define Terraform module and vendor versions and manage upgrades
- Configuring and using remote state
- Modify Terraform workflows for automation
- Share data between configurations and status files

HCP Terraform

- Review of HCP Terraform runtime workflow options
- Manage Terraform HCP workspaces, variable assignment and using dynamic credentials
- Review team access management and scoping permissions
- Creating and applying Terraform policies

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.