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Azure Terraform Training: Infrastructure Automation

Sign up

Duration   3 days (21 hours)

Présentation

Automate your cloud infrastructure management using HashiCorp's Terraform technology and learn how to implement it in Microsoft Azure with our new training. You'll be able to reduce deployment errors or deploy the same model multiple times to reduce costs in your environments.With Terraform CLI, your entire team is aware of infrastructure changes in real time and their impact. This allows you to have complete control over your environment and to avoid unintentional changes that can easily be intercepted before causing damage or disruption to your production.

Thus, Terraform efficiently provisions and secures your Azure-driven cloud infrastructure.This Azure Terraform training will teach you the principles of Cloud Computing and As-a-Code Infrastructure, you will discover how to build an infrastructure with the Azure Cloud Provider, the HLC syntax as well as advanced provisioning management in Azure with Terraform and the creation of AKS clusters with Kubernetes.As in all our trainings, this one will introduce you to the latest version of T erraform on Azure, which at the time of writing is Terraform 1.1.3 released on June 6, 2022.

Objectives

- Deploying an AKS cluster suitable for production missions
- Strengthen the security of a cluster and associated Azure resources
- Deploying microservices applications with all related services (storage, input, network) tailored to the application's needs
- Leverage the proprietary features of AKS to improve application reliability and optimize cost and resource utilization

Target audience

- DevOps
- System administrators
- Infrastructure engineer

- Chefs de projets technique
- Développeurs

Prerequisites

- Cloud and virtualization principles
- Network architecture
- Systems administration
- Basic knowledge of GIT
- Each user station must have:
- A terminal
- A text editor (Visual Code)
- The rights to install the Terraform binary
- The Azure CLI installed (this last option could possibly be done during the training as well, as there will be a configuration part to do)

Azure Terraform Training Program

Introduction

- The fundamental concepts of Cloud Computing
- How does Azure Resource Manager (ARM) work?
- Understanding core services
- What is As-a-Code Infrastructure?
- Why use Terraform with Azure?
- Complete installation of Terraform
- Configuring Terraform in the Azure ecosystem

Building an AWS infrastructure

- Definition of the infrastructure
- Creating your infrastructure step by step
- Managing resources on Terraform
- Modifying, deleting and deploying the infrastructure

The HLC syntax

- Presentation of Terraform HLC
- The different variables
- The different commands
- The explicit and implicit dependencies between resources
- The life cycles of resources
- Count and for_each
- Templates and built-in functions

Azure Network Management

- Azure network interface overview
- Azure VNET
- Azure Subnet
- Azure resource groups
- Dependencies
- Conditional expressions
- Security optimization
- The state of Terraform

Terraform with Azure in depth

- Terraform Provisioner
- Overview of the Terraform workflow
- Controlling the cycle (Write, Plan and Apply)
- Implement and maintain state
- Read, generate and configure
- Managing permissions
- Automating your workflow

Manage AWS services

- Update your system
- Configure tags
- Creating IAM policies
- Using load balancers
- Managing RDS instances
- Provision to AKS clusters

Troubleshooting

- Good practices to avoid an error.
- The main errors encountered
- Problems concerning the Terraform CLI
- Problems with the Terraform Provider

Companies concerned

This training is intended for companies, small or large, wishing to train their teams in a new advanced computer technology.

Teaching methods

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

Organization

The course alternates theoretical contributions by the trainer supported by examples and reflection sessions, and group work.

Validation

At the end of the session, a multiple-choice questionnaire is used to verify the correct acquisition of skills.

Sanction

A certificate will be given to each trainee who has completed the entire course.