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Crossplane training: The cloud-native control plane framework

2 days (14 hours)

Presentation

Our Crossplane training course will enable you to create cloud-native control plans without having to go through the code. The tool features an extensible backend for orchestrating applications or infrastructures. At the end of our course, you'll be able to design a control plane exposing declarative APIs that will be tailored to all your unique orchestration needs. You'll be able to create your own cloud provider platforms. What's more, thanks to your customized APIs, your customers will be able to use [self-service](#) without needing to be infrastructure experts. What's more, Crossplane is based on the Kubernetes control plane, so you'll be able to integrate it with many native cloud tools, even the most popular ones. As with all our training courses, this one will introduce you to the latest stable version of Crossplane (at the time of writing, [Crossplane v1.13.1](#)).

Objectives

- How to create cloud provider platforms
- Design native control plans
- Understand how to integrate several native cloud tools

Target audience

- DevOps
- Developers
- Engineers

Prerequisites

- Cloud knowledge
- Practical knowledge of Kubernetes

Crossplane Training Program

Tool introduction

- Introducing Crossplane
- Installation & Configuration
- Crossplane components

Resources

- Managed resources
 - Designing a single managed resource using CRD
 - Bucket creation within a Kubernetes cluster
 - Using kubectl get managed
- Composite resources
 - Defining composite resources
 - Create a calculation and networking package
 - Apply resource parameters
 - kubectl get composite

Suppliers

- Connect to all services via an API
- Display providers with kubectl get providers
- Use spec.forProvider.region to define the AWS region in which to deploy a compartment
- Supplier configuration
 - kubectl get providersconfig
 - Authentication
 - Global values
- AWS
- Azure
- GCP

Crossplane Packages

- Practical distribution
- Version upgrade
- Authorizations

- Dependency management
- Building a package

Integrations

- Crossplane configuration with Argo CD
- Vault
 - Installation
 - Configure Vault authentication
 - Check Vault secrets

Compositions

- Define a set of managed resources as a single object
- Use compositions to simplify deployment of an infrastructure made up of several managed resources
- Create a storage resource and a virtual network
- Modification of fixed default settings
- Define fields or parameters
- Define calculation resource size
- `kubectl get compositions` to display all compositions

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.

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, with 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.

