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VMware Tanzu Platform for Cloud Foundry Training

3 days (21 hours)

Overview

VMware Tanzu Cloud Foundry, the successor to Pivotal Cloud Foundry (PCF), is a PaaS platform that enables teams to deploy, run, and maintain their applications with a standardized experience, without having to directly manage the underlying infrastructure.

Our VMware Tanzu Cloud Foundry training will help you master the platform's architecture and administration using Foundation Core. You'll learn how to deploy and manage applications using the cf CLI, buildpacks, manifests, and Cloud Foundry routes.

You'll be able to organize environments using organizations and spaces, provision services from the marketplace, and connect applications to data services using service instances and bindings.

You'll also learn how to secure access with UAA, OAuth 2.0, and Application Security Groups, and then ensure application availability using the platform's scaling and resilience mechanisms.

Finally, you'll be able to monitor your applications with Loggregator, use logs to diagnose incidents, and prepare for platform maintenance and updates.

Upon completion of this training, you will be able to administer and operate a VMware Tanzu Cloud Foundry platform and ensure the reliability of the application lifecycle for applications deployed by your teams.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Administer a VMware Tanzu Cloud Foundry platform
- Deploy and update applications using the cf CLI
- Manage organizations, spaces, routes, and services
- Secure application access and communications
- Ensure application scaling, availability, and monitoring
- Diagnose incidents and prepare for maintenance operations

Target Audience

- Cloud Foundry Administrators
- Platform Engineers
- DevOps engineers
- Cloud Engineers
- Cloud and Application Architects

Prerequisites

- Understanding of application development and deployment
- General knowledge of cloud environments and PaaS architectures
- Basic knowledge of networking, security, and system administration
- No specific programming language is required

VMware Tanzu Cloud Foundry Training Curriculum

[Day 1 - Morning]

Understanding the Tanzu Cloud Foundry and Foundation Core architecture

- Understand VMware Tanzu Cloud Foundry's positioning as a PaaS platform for enterprise applications
- Explore the Cloud Foundry architecture and the role of its key components
- Understand the role of Foundation Core (formerly Tanzu Operations Manager / Ops Manager) in platform administration
- Identify the mechanisms for deploying, routing, running, and managing the lifecycle of applications
- Understand the platform's organization and the interactions between applications, services, and infrastructure
- Hands-on workshop: Explore a Tanzu Cloud Foundry platform, identify its components, and analyze an application's flow.

[Day 1 - Afternoon]

Deploying and managing applications with Cloud Foundry

- Get started with the cf CLI and connect to a Cloud Foundry foundation
- Deploy and update an application using `cf push`
- Use buildpacks to prepare application runtime environments
- Define deployment settings using manifests
- Create and manage routes and implement the principles of a Blue-Green deployment
- Hands-on workshop: Deploy an application with `cf push`, create its manifest, configure its routes, and then perform a Blue-Green update.

[Day 2 - Morning]

Manage organizations, spaces, and services

- Structure environments using Cloud Foundry organizations and spaces
- Manage users, roles, quotas, and resources assigned to different environments
- Explore the marketplace and understand the lifecycle of managed services
- Create and manage service instances and their bindings to applications
- Understand the role of service brokers and use data services such as MySQL, PostgreSQL, RabbitMQ, or Valkey depending on the environment
- Hands-on workshop: Create an organization and a space, provision a service, and then connect it to a Cloud Foundry application.

[Day 2 - Afternoon]

Securing Cloud Foundry access and networking

- Understand Cloud Foundry's identity, authentication, and authorization mechanisms
- Securing users and applications with UAA and OAuth 2.0
- Configure roles and control access to organizations and spaces
- Use Application Security Groups to control outbound application communications
- Understanding HTTP and TCP routing as well as network traffic between applications, services, and external resources
- Hands-on workshop: configure user permissions, apply a security group, and control an application's network access.

[Day 3 - Morning]

Ensuring availability and monitoring applications

- Implement horizontal and vertical scaling of applications as needed
- Understand the platform's high-availability and resilience mechanisms
- Analyze failure risks and application recovery behaviors
- Use Loggregator to centralize application logs and metrics
- Configure log draining and leverage the information needed for diagnostics and observability
- Hands-on workshop: Scale an application, trigger a failure, and then analyze its behavior, logs, and recovery.

[Day 3 - Afternoon]

Maintain and troubleshoot a Tanzu Cloud Foundry platform

- Understand maintenance and update operations for a Tanzu Cloud Foundry foundation
- Prepare configuration changes and verify their impact on applications and services
- Diagnose issues with deployment, routing, buildpacks, services, and authentication
- Analyze logs and events to identify the root cause of incidents
- Apply best practices for operating, ensuring availability, and troubleshooting a Cloud Foundry platform
- Hands-on workshop: Diagnose multiple application and platform incidents, then prepare a for maintaining a Tanzu Cloud Foundry foundation.

Target Audience

This training is intended for both individuals and companies—large or small—that wish to train their teams in a new, advanced IT technology or to acquire specific domain knowledge or modern methodologies.

Pre-training Assessment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency level across various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Hands-On Training: 60% Practical, 40% Theoretical. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor—supported by examples and reflection sessions—and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.