

**Cloud-Native Application Modernization with Cloud Foundry, Microservices, Agile, and DevOps**

**Course Number:** MSV-114WA  
**Duration:** 3 days

**Overview**

This Cloud-Native Application Modernization with Cloud Foundry, Microservices, Agile, and DevOps training course teaches attendees how to use Cloud Foundry to build cloud-native and Microservices applications for their organization.

**Prerequisites**

No prior experience is presumed.

**Materials**

All Microservices training students receive comprehensive courseware.

**Software Needed on Each Student PC**

Attendees will not need to install any software on their computer for this class. The class will be conducted in a remote environment that Accelebrate will provide; students will only need a local computer with a web browser and a stable Internet connection. Any recent version of Microsoft Edge, Mozilla Firefox, or Google Chrome will be fine.

**Objectives**

* Understand the key components of Pivotal Cloud Foundry
* Understand the concepts of Cloud-native, Application Modernization, Microservices, and Cloud Foundry
* Use Application PaaS (aPaaS)
* Understand the key automation components of cloud-native with PCF
* Apply the knowledge to improve the reliability of application SDLC processes
* Understand how cloud-native and PCF support technology-enabled business

**Outline**

* Introduction to Application Modernization
  + Cloud-Native
  + Cloud-Native Security
  + Containers
  + Data Science
  + Digital Transformation
  + Internet of Things (IoT)
  + Microservices
  + Smart Applications
  + DevOps
* Introduction to Pivotal Cloud Foundry
  + Evolution of Cloud Architectures
  + Industry Trends
  + Application Paas and OpenPaaS
  + Cloud Foundry Patterns
  + Pivotal Cloud Foundry
* Logging, Scale, and High Availability
  + Cloud-Native Apps
  + Elastic Runtime Architecture
  + High Availability and DR in Cloud
* Services
  + Cloud-Native Apps
  + Managed Services
  + User Provided Service Instances
* Manifests, Managing Scaling, and Autoscaling
  + Using Manifests
  + Managing Autoscaling
  + Managing Application Security Groups
* Log Draining
  + What is Log Draining
  + Cloud-Native Apps
  + Loggregator Review
* Blue-Green Deployments
  + Blue-Green Routing
  + Implications Application Modernization Design
* Microservices
  + The Monolith
  + Microservices
  + Microservices and Pivotal Cloud Foundry
* Cloud-Native Security
  + Comprehensive Security
  + Understanding Shared Responsibility across aPaas, PaaS, and IaaS
  + Data Encryption Patterns
  + Patch Management in Cloud-native
* Application Performance Monitor
  + What and how to Monitor?
  + APM/DPM
  + Application Performance Monitoring with New Relic
  + Digital Performance Monitoring with Dynatrace
* Metrics
  + What to Measure
  + Using Pivotal Cloud Foundry Metrics
  + Key Cloud-Native KPIs
* Buildpacks
  + Buildpack API
* Service Brokers
  + Service Broker API
* CI/CD
  + What does continuous delivery mean?
  + What is continuous integration?
  + How does PCF enable CI/CD?
  + Project methodologies
  + Measuring your organization's maturity
  + Tool patterns
  + IT organization structure
  + Business continuity
  + Supportability and sustainability
* Route Service
  + Purpose
  + Request Flow
* Advanced Topics
  + Operational Readiness
  + Kaizen
  + Collaboration
  + Value stream mapping
  + Tasks
  + File System as a Service
  + Container-to-Container Routing
  + TCP Routing
* Conclusion