

**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