Architecting Microservices with Kubernetes, Docker, and Continuous Integration Eğitimi

Eğitim Hakkında

Architecting Microservices with Kubernetes, Docker, and Continuous Integration bu Mimari Mikro Hizmet eğitimi, Mikro Hizmetler için bu yığının nasıl kullanılacağını ve CI / CD için bir OpenShift ortamında çeşitli bileşenlerin nasıl kullanılacağını öğretir.

Neler Öğreneceksiniz

Kursta ana hatları verilen yığını güvenle kullanmayı,

Çeşitli temel bileşenleri anlamayı,

OpenShift ile Docker, Kubernetes ve Jenkins üzerindeki uygulamaları mikro hizmet mimarisine sahip çözümlere geçirmek için bilgileri uygulamayı,

CI / CD için bir OpenShift ortamındaki çeşitli bileşenleri anlamayı.

Eğitim İçeriği

Docker
What is Docker
Where Can I Run Docker?
Installing Docker Container Engine
Docker Machine
Docker and Containerization on Linux
Linux Kernel Features: cgroups and namespaces
The Docker-Linux Kernel Interfaces
Docker Containers vs Traditional Virtualization
Docker as Platform-as-a-Service
Docker Integration
Docker Services
Docker Application Container Public Repository
Competing Systems
Docker Command Line
Starting, Inspecting, and Stopping Docker Containers
Docker Volume
Dockerfile

Docker Compose
Using Docker Compose
Dissecting docker-compose.yml
Specifying services
Dependencies between containers
Injecting Environment Variables

Introduction to Kubernetes

What is Kubernetes
What is a Container
Container – Uses
Container – Pros
Container – Cons
Composition of a Container
Control Groups
Namespaces
Union Filesystems
Popular Containerization Software
Microservices
Microservices and Containers / Clusters
Microservices and Orchestration
Microservices and Infrastructure-as-Code
Kubernetes Container Networking
Kubernetes Networking Options
Kubernetes Networking – Balanced Design

Kubernetes – From the Firehose

What is Kubernetes?
Container Orchestration
Kubernetes Basic Architecture
Kubernetes Detailed Architecture
Kubernetes Concepts
Cluster and Namespace
Node
Master
Pod
Label
Annotation
Label Selector
Replication Controller and Replica Set
Service
Storage Volume
Secret
Resource Quota
Authentication and Authorization
Routing
Registry
Using Docker Registry

Getting Started with OpenShift
What is OpenShift/OKD
Differences between OpenShift and Kubernetes
Where OpenShift Fits in the IT Landscape?
OpenShift Releases
OpenShift Architecture
OpenShift - Infrastructure
OpenShift - Nodes
OpenShift - Pods
OpenShift – Registry
OpenShift - Service layer
OpenShift Origin Installation
Firewall Configuration
OpenShift CLI
OpenShift CLI (Contd.)
OpenShift – Volumes
OpenShift – Secrets
OpenShift – Secrets (Contd.)

CI/CD with OpenShift, Jenkins, and Blue Ocean
Jenkins Continuous Integration
Jenkins Features
Running Jenkins
Downloading and Installing Jenkins
Running Jenkins as a Stand-Alone Application
Running Jenkins on an Application Server
Installing Jenkins as a Windows Service
Different types of Jenkins job
Configuring Source Code Management(SCM)
Working with Subversion
Working with Subversion (cont'd)
Working with Git
Build Triggers
Schedule Build Jobs
Polling the SCM
Maven Build Steps
Configuring Jenkins to Access OpenShift/Kubernetes
Jenkins / OpenShift Pipeline
Jenkins / OpenShift Pipeline Output
Installing Jenkins Plugins
The Blue Ocean Plugin
Blue Ocean Plugin Features
New modern user experience
Advanced Pipeline visualizations with built-in failure diagnosis
Branch and Pull Request awareness
Personalized View
OpenShift Pipeline Output
Creating OpenShift Blue Ocean Pipeline

Operational Readiness
What is Operational Readiness
Telemetry
End-to-end Requirements Traceability
Log Strategy
Monitoring Strategy
Runbooks

Application Modernization
Next Generation Methodologies, Approaches, Tools, and Applications
What is Application Modernization
Typical App Modernization Projects
Why Modernization?
Goals for Application Modernization
Modernization Process
Modernization in a Nutshell
Modernization in a Nutshell - Analyze
Modernization in a Nutshell - Rationalize
Modernization in a Nutshell - Modernize
Modernization in a Nutshell – Supervise
What Can Be Done to Modernize Applications?
So, How Can Microservices Help Me?
The Data Exchange Interoperability Consideration
Microservices in Their Purest Form: AWS Lambdas
The Microservices Architecture Design Principles
Decentralized Processing
Crossing Process Boundary is Expensive!
Managing Microservices
Traditional Enterprise Application Architecture (Simplified)
Monolithic revisited
Monolithic vs. Microservices
Microservices Architecture Example (Simplified)
Maintaining State in App Modernization
Twelve-factor Applications
Twelve Factors, Microservices, and App Modernization
12-Factor Microservice Codebase
12-Factor Microservice Dependencies
12-Factor Microservice Config
12-Factor Microservice Backing Services
12-Factor Microservice Continuous Delivery
12-Factor Microservice Processes
12-Factor Microservice Data Isolation
12-Factor Microservice Concurrency
12-Factor Microservice Disposability
12-Factor Microservice Environment Parity
12-Factor Microservice Logs
12-Factor Microservice Admin Processes
Design for Failure
Fault Injection During System Testing

Messaging Architectures – Messaging Models
What is Kafka?
Kafka Architecture
Need for Kafka

Security in Microservices

Why Microservice Security?
Security Testing in Microservices
Security Topology
Authorization and Authentication
J2EE Security Refresh
Role-based Access Control in a Nutshell
Claim-based Access Control in a Nutshell
Sharing Sessions
Session Cookie
JSON Web Token (JWT)
Spring Security