MIGRATING TO MICROSERVICES

Course Code: 821582

EXCLUSIVE: This hands-on course will teach you all aspects of Microservice architecture.

Microservices thrive on independent services to provide flexibility, autonomous processes, and communication through APIs. In this course, you'll examine the differences between Microservices and monolithic applications and their architectures, the benefits of using the Microservice Architecture and transitioning to microservices. Learn how to map technical practices to the business strategy behind microservices, and its different tools, and communicate with the stakeholders to explain microservices' needs. You will conceptualize container technologies such as use Docker, Kubernetes, and Jenkins and learn how DevOps can benefit from microservices adoption.

What You'll Learn

- Adopt, plan, or improve your transition to microservices
- Map technical practices to the business strategy behind microservices
- Navigate different tools for enabling microservices and how to use them
- Communicate with stakeholders, management, and teams regarding needs and expectations around microservices
- Get hands-on practice with Docker, Kubernetes, Jenkins for core microservices architecture
- Get hands-on practice with the toolchain in our real-world application labs
- Build more mature DevOps practices through microservice adoption
- Understand how to refactor monolithic systems into more modular, component-based systems
- Apply microservice use cases to continuous integration, delivery, and testing
- Enable more automated testing and self-service QA capability

Who Needs to Attend

- System and software architects
- Developers
- Testers and QA teams
- Release engineers
- IT operations staff
- Site reliability engineers
- DevOps and Cloud practitioners

- DBAs and data engineering teams
- Information Security Professionals

Prerequisites

Fundamental understanding of DevOps working knowledge.

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CLASSROOM LIVE	$2,195 USD	3 Day

Classroom Live Outline

1. Containers and Container Orchestration
    - Containers
        - Docker Introduction
            - Docker Architecture and use cases
            - Managing images and containers using Docker(docker cli tool)
            - Working with Dockerfile
            - Building CI\CD pipeline with Docker
        - Lab: Build and push an Docker image from Dockerfile
        - Quiz - Quiz on Docker
    - Container Orchestration
        - Introduction to Kubernetes , kubectl command
        - Lab: Kubernetes – Hello World
        - Core Kubernetes concepts and Architecture
        - Lab: Kubernetes - Stateless web app
        - Kubernetes Features
        - Lab: Kubernetes - Guestbook app
        - Quiz: Quiz on kubernetes
2. Microservices Design and Implementation
    - Monolithic and Microservice architecture
        - Monolithic Architecture
            - Case study for Monolithic application
        - Monolithic vs Microservices
        - Service-Oriented Architecture
            - SOA - Suggested Case study
        - Microservices Architecture
        - Quiz - Quiz on Microservice and Monolithic architectures
    - Microservice Implementation
        - Uber case study
        - Domain-oriented Microservices Architecture

- ⊠ Traditional Development and Deployment Challenges
- ⊠ Deploying Microservices as Containers
- ⊠ Lab: Containerize Microservices
- ⊠ Lab: Deploy Microservices
- ⊠ Implementing CI/CD pipeline using Jenkins
- ⊠ Lab: Create a simple CI/CD pipeline using Jenkins
- ⊠ Quiz - Quiz on Microservice and Monolithic architectures implementation

3. Microservices in Production
   - Production Grade Microservices
     - ⊠ Spotify case study
     - ⊠ Service Discovery
     - ⊠ Security Concepts
     - ⊠ Lab: Kubernetes - Store database credentials in cluster
     - ⊠ Monitoring using Prometheus
     - ⊠ Managing state in Microservices
     - ⊠ Improving and Monitoring Microservices Performance
     - ⊠ Netflix Microservice – case study
     - ⊠ Kubernetes Advanced Resources
     - ⊠ Openshift/Rancher/Other PaaS platforms
     - ⊠ Lab: Customize Microservice App
     - ⊠ Lab: Scale up/down based on demand (Simulation)
     - ⊠ Review of Microservice Challenges
     - ⊠ Quiz: Quiz on Production Grade Microsercies

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VIRTUAL CLASSROOM LIVE	$2,195 USD	3 Day

Virtual Classroom Live Outline

1. Containers and Container Orchestration
   - Containers
     - Docker Introduction
       - Docker Architecture and use cases
       - Managing images and containers using Docker(docker cli tool)
       - Working with Dockerfile
       - Building CI\CD pipeline with Docker
     - Lab: Build and push an Docker image from Dockerfile
     - Quiz - Quiz on Docker
   - Container Orchestration
     - Introduction to Kubernetes , kubectl command
     - Lab: Kubernetes – Hello World
     - Core Kubernetes concepts and Architecture
     - Lab: Kubernetes - Stateless web app
     - Kubernetes Features
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   - Monolithic and Microservice architecture
     - Monolithic Architecture
       - Case study for Monolithic application
     - Monolithic vs Microservices
     - Service-Oriented Architecture
       - SOA - Suggested Case study
     - Microservices Architecture
     - Quiz - Quiz on Microservice and Monolithic architectures
   - Microservice Implementation
     - Uber case study
     - Domain-oriented Microservices Architecture

- ⬚ Traditional Development and Deployment Challenges
- ⬚ Deploying Microservices as Containers
- ⬚ Lab: Containerize Microservices
- ⬚ Lab: Deploy Microservices
- ⬚ Implementing CI/CD pipeline using Jenkins
- ⬚ Lab: Create a simple CI/CD pipeline using Jenkins
- ⬚ Quiz - Quiz on Microservice and Monolithic architectures implementation

3. Microservices in Production
   - Production Grade Microservices
     - ⬚ Spotify case study
     - ⬚ Service Discovery
     - ⬚ Security Concepts
     - ⬚ Lab: Kubernetes - Store database credentials in cluster
     - ⬚ Monitoring using Prometheus
     - ⬚ Managing state in Microservices
     - ⬚ Improving and Monitoring Microservices Performance
     - ⬚ Netflix Microservice – case study
     - ⬚ Kubernetes Advanced Resources
     - ⬚ Openshift/Rancher/Other PaaS platforms
     - ⬚ Lab: Customize Microservice App
     - ⬚ Lab: Scale up/down based on demand (Simulation)
     - ⬚ Review of Microservice Challenges
     - ⬚ Quiz: Quiz on Production Grade Microsercies

Aug 25 - 27, 2025 | 8:30 AM - 4:30 PM EDT

Oct 13 - 15, 2025 | 8:30 AM - 4:30 PM EDT

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PRIVATE GROUP TRAINING	3 Day

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