DevOpsSchool
Lets Learn, Share & Practice DevOps

Day - 1

- **Introduction to Microservices**
  - Definition of microservices architecture
  - Advantages and disadvantages of microservices
  - Comparison with monolithic architecture
  - Use cases of microservices

- **Designing Microservices**
  - Principles of microservices design
  - Domain-driven design (DDD)
  - Design patterns for microservices
  - Business capabilities identification and decomposition

- **Building and Deploying Microservices**
  - Microservices architecture and infrastructure
  - API Gateway, Service Registry and Discovery
  - Building microservices with Docker and Kubernetes
  - Testing and deploying microservices

- **Hands-on Workshop**
  - Set up a sample microservices application
  - Build and deploy microservices using Docker and Kubernetes

Day - 2

- **Microservices Communication**
  - Communication protocols
  - Synchronous and asynchronous communication
  - RESTful API and GraphQL
  - Event-driven architecture and messaging systems

- **Microservices Security and Resilience**
  - Security best practices for microservices
  - Authentication and authorization
  - Monitoring and logging
  - Fault tolerance and resiliency

- **Microservices Deployment and Operations**
  - Continuous integration and delivery (CI/CD)
  - Deployment automation
  - Container orchestration and scaling
  - Managing microservices with Kubernetes

- **Hands-on Workshop**
  - Implementing communication between microservices
  - Adding security and resilience to microservices
  - Deploying and scaling microservices with Kubernetes

...ices Testing Strategies

- o Testing microservices in isolation

- o Integration testing of microservices

- o Contract testing

- o Testing microservices in production

- **Microservices Performance Optimization**
  - o Identifying performance bottlenecks

  - o Microservices monitoring

Day - 5

- **No SQL using AWS Dynamod DB**
  - Log aggregation
  - Overview of Dynamod DB
  - Working with Dynamod DB
  - Usecase using Dynamod DB
  - Use cases
  - Demo and Lab

- **Processing big data in real time using Amazon Kinesis**
  - Overview of Amazon Kinesis
  - Working with Amazon Kinesis
  - Usecase using Amazon Kinesis
  - Use cases
  - Demo and Lab