‘Microservice and Spring Boot’ – 3 days

Day 1

Breaking Up Monoliths – Pros and Cons

Traditional Monolithic Applications and Their Place Disadvantages of

Monoliths Developer’s Woes

Architecture Modernization

Architecture Modernization Challenges Microservices Architecture is Not a

Silver Bullet! What May Help?

In-Class Discussion Summary

Microservice Development What are Microservices?

Microservices vs Classic SOA

Principles of Microservices Architecture Design Domain-Driven Design

Domain-Driven Design – Benefits Microservices and Domain-Driven Design

Designing for failure

Microservices Architecture – Pros Microservices Architecture – Cons

Docker and Microservices

Microservice Deployment with Docker – Workflow Writing Dockerfile

Kubernetes

Microservices and Various Applications Web Applications

Web Applications – Reference Architecture Web Applications – When to use?

Single Page Applications

Single Page Applications – Benefits Traditional Enterprise Application

Architecture Sample Microservices Architecture

Serverless& Event-driven Microservice

Day 2

REST Services

Many Flavors of Services Understanding REST Principles of RESTful Services

REST Example – Create

REST Example – Retrieve REST Example – Update REST Example – Delete

REST Example – Client Generated ID

What is gRPC? Protocol Buffers REST vs. gRPC

Protobuf vs. JSONHTTP/2 vs. HTTP 1.1 HTTP/2 vs. HTTP 1.1 (Contd.)

Messages vs. Resources and Verbs Streaming vs. Request-Response Strong

Typing vs. Serialization Web Browser Support

REST vs. gRPC – In a Nutshel

SPRING BOOT

Spring Boot Starters

Spring Boot Auto-configuration Spring Boot Actuators

Spring Boot MVC Spring Boot Test

- Request and Response filter

- @ Control advisor

Day 3

              - Resiliency based Design patterns (Problem and solution)

                             - Circuit breaker

                             - Bulk head pattern

                             - Rate limiter

                             - Retry

              - Scaling and Load Balancing of microservice

              - Versioning Restful service

              - Webreactive programming

              - Inter service communication - different ways and also cover using messag queue i.e. RabbitMQ or Kafka