Microservices Architectures

Neueda Training – Ericsson

July 2022

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Course Info

- Course Website:
- Instructor: darryl.greig@owerya.com
- Moderator:
- Lunch breaks: ?
- Morning/afternoon breaks: ?

Who are you and what do you want?

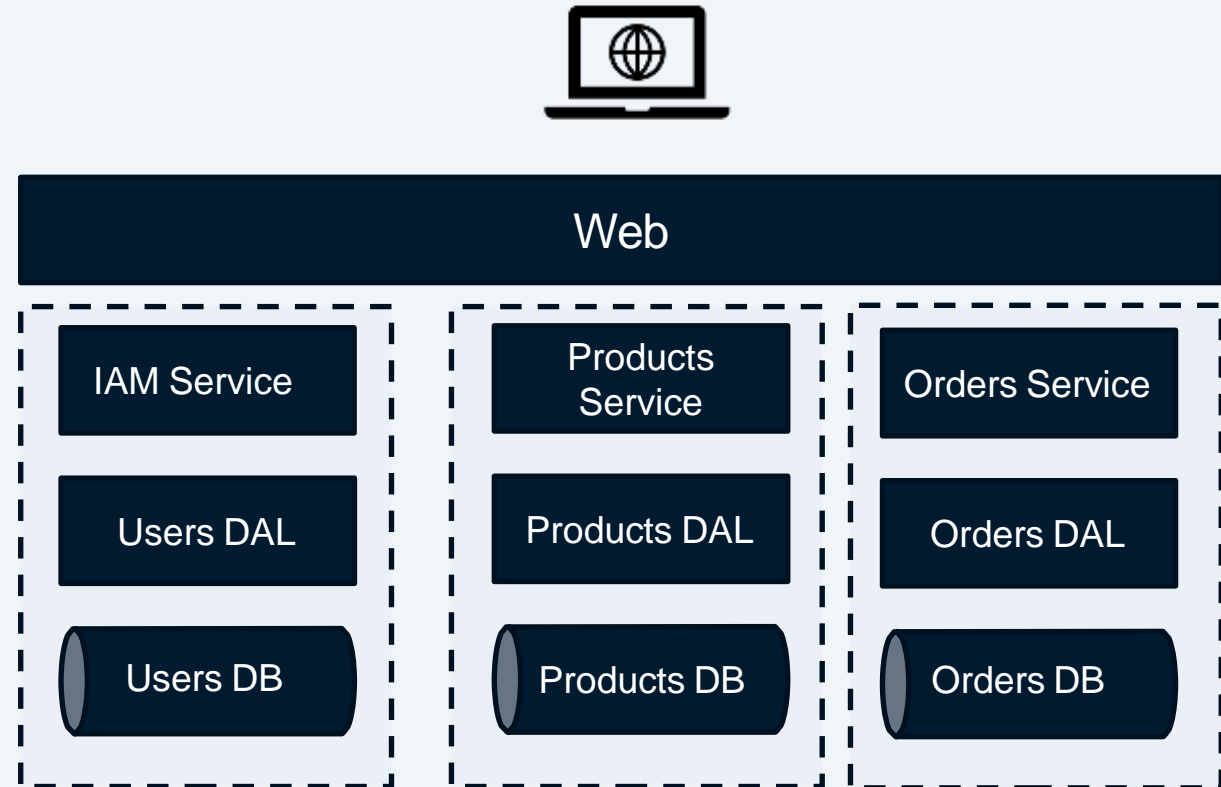… or … tell me a bit about yourself and what you hope to get from this course

Course Objectives

- Introduce microservices for cloud native systems

- Microservice Design Patterns and Pattern Language

- Familiarization with key microservices technologies
  - REST, gRPC
  - Docker
  - OpenShift
  - Istio

- Apply the content learned in a group project

Simple microservices example

Look at common microservice patterns for

- Messaging

- Persistence

- Testing

- API Gateways

- …

Topics

- Day 1 – Modern Distributed Applications
  - Introduction to Microservices with Patterns
  - Microservice Decomposition
  - Interprocess Communications I
  - Key Technologies
    - RESTful Services
    - Introduction to gRPC

Topics

- Day 2 – Container Technology
    - Container Overview
    - Working with containers
    - Container images and distribution
    - Key Technologies:
        - Docker
        - Docker Compose
        - Docker Swarm

Topics

- Day 3 – Communications, Transactions and Deployment
  - Interprocess Communications II
  - Transaction management with Sagas
  - API Queries
  - External APIs and Deployment Patterns
  - Key Technologies:
    - Apache Kafka
    - RabbitMQ
    - ActiveMQ

Topics

- Day 4 – Container Orchestration
    - Container management with Kubernetes & OpenShift
    - Key Technologies
        - Kubernetes/OpenShift
        - Helm
        - Istio

Topics

- Day 5 – Testing, Refactoring and Service Monitoring
  - Testing Microservices
  - Refactoring Monolithic Applications
  - Instana Service Monitoring
  - Project Conclusion and Presentation

Questions or Comments?