

Quality Assurance In Microservice Architectures

Krishnan Chandran Irina Barykina

Department of Informatics,
Intelligent Adaptive Systems, UHH

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Outline

- ▶ What is Quality Assurance?
- ▶ QA is easy, isn't it?
- ▶ QA on Development stage.
- ▶ QA on Deployment stage.
- ▶ QA after Release.
- ▶ Conclusion.

Introduction

Definition

Quality Assurance refers to planned and systematic production processes that provide confidence in a product's suitability for its intended purposes.

- ▶ QA must prevent bugs and failures, not identify them.
- ▶ QA is wasteful on the last stages of development cycle.

Challenges



Deployment

RAD and Deployment Pipeline

Deployment

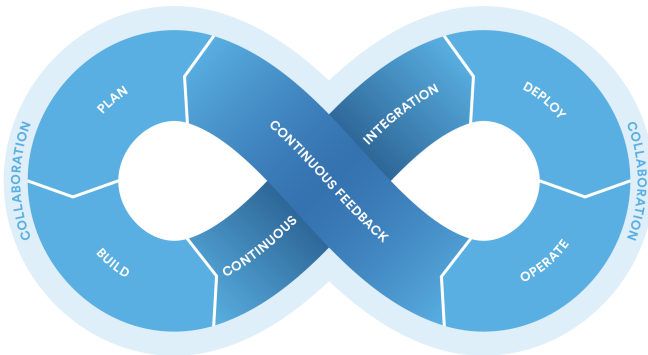
Continuous Deployment and Delivery

Deployment

DevOps Culture

DevOps Culture:

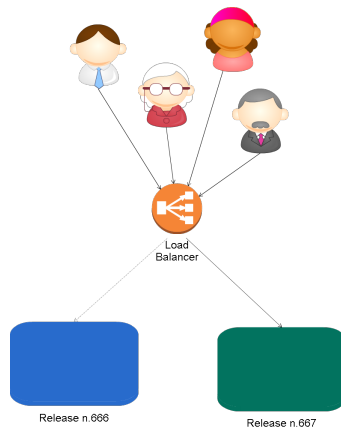
- ▶ Aim: break silos between development and later stages
- ▶ Requirements: shared responsibility and autonomy of teams



After Deployment

Smart releasing strategies

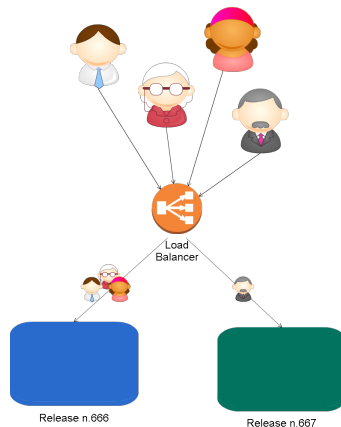
- ▶ Smoke Test Suites
- ▶ Blue/Green Deployment
- ▶ Canary releasing



After Deployment

Smart releasing strategies

- ▶ Smoke Test Suites
- ▶ Blue/Green Deployment
- ▶ Canary releasing



After Deployment Monitoring

Tools

- ▶ xUnit framework
- ▶ stubbing and mocking (on the example of Mockito)
- ▶ smart stubbing with Mountebank
- ▶ testing of data passing between services (on the example of SOAP UI)
- ▶ consumer driven testing (on the example of Pact)
- ▶ End-to-End Testing (BDD Tools, JBehave, Cucumber)

References

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