Self-Healing Microservices with Kubernetes

Self-Adaptation in Micro-Service Architectures with Kubernetes Seminar – Summer Term 2019

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Abstract: Abstract goes here.

Keywords: Self-Adaptive Systems; Self-Healing; Microservices; Cloud Computing; Kubernetes; Decentralized; Distributed; Orchestration

1 Introduction

1. self-adaptive systems
   - self-* properties
   - MAPE-K loop
   - transition to self-healing
2. self-healing
   - different levels of self-healing (architecture-based, etc.)
   - sub control loop (Detect – Analyze – Recover)
   -
3. cloud, microservices
4. deployment and orchestration → Kubernetes

2 Kubernetes

1. what is Kubernetes?
2. architecture and how it works

3 Self-healing with Kubernetes

1. How would a setup of a self-healing microservice architecture look like?
2. self-healing properties built in
3. additional configuration and tools needed

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4 Discussion

1. limitations
2. benefits
3. interesting facts and insights

5 Conclusion