

# Communication and Deployment Microservices Architecture Patterns



# Inhalt

- Motivation
- Grundbegriffe
- Synchrone Kommunikation Patterns
- Asynchrone Kommunikation Patterns
- Deployment Patterns
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- Pattern-Baum

# Motivation

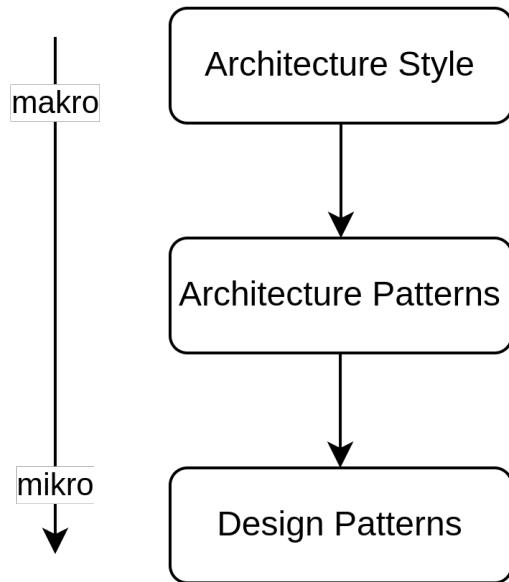
- Problem: es gibt keinen gesamt Überblick mit allen Patterns
- Übersicht über Architektur Patterns durch Literatur Review
  - Zusätzlich Kategorisierung
- Techniken: Suchen mit String, Zitate nach oben/unten

# Microservices

“A microservice is a cohesive, independent process interacting via messages.”

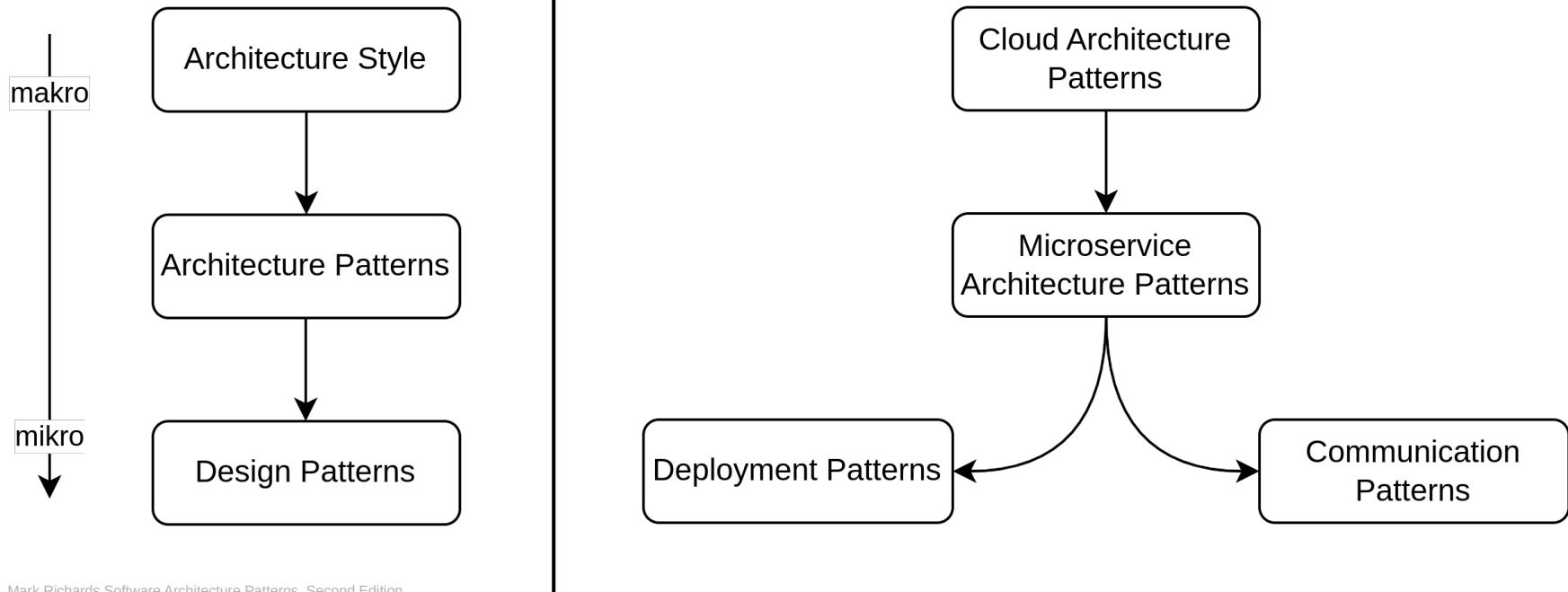
“A microservice architecture is a distributed application where all its modules are microservices.”

# Architecture Patterns



Mark Richards. Software Architecture Patterns, Second Edition.  
O'Reilly Media, 2022, isbn:9781098134273

# Architecture Patterns

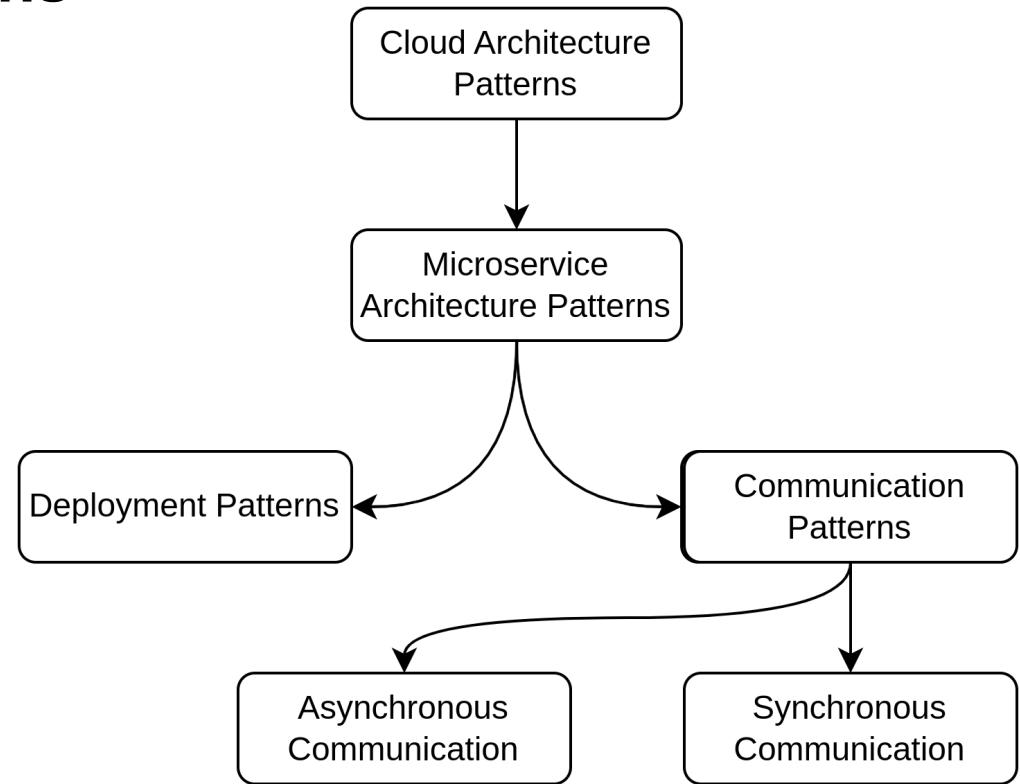
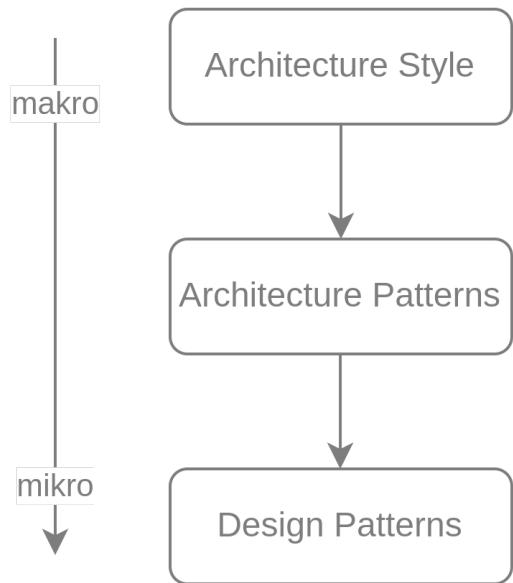


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# Qualitätsattribute

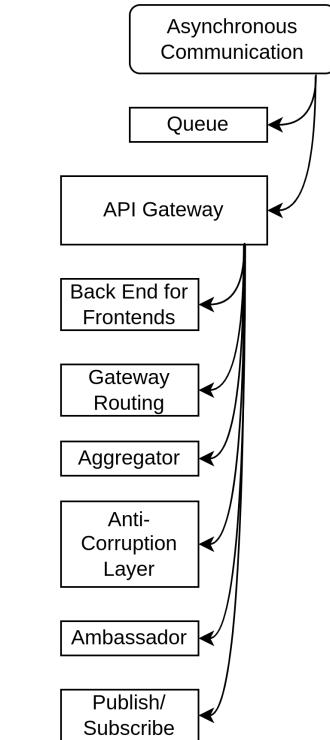
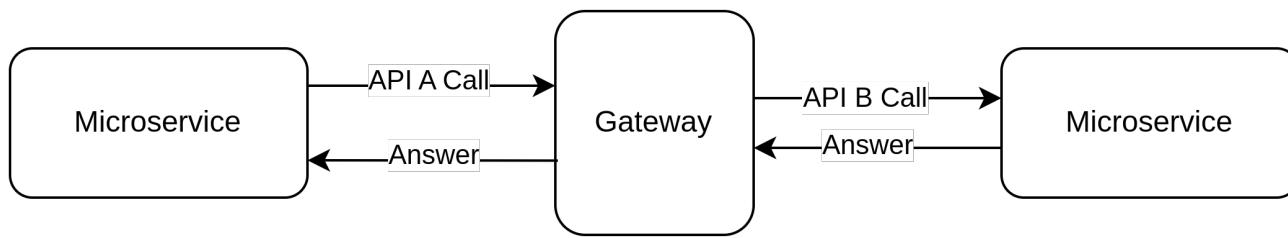
|                |                 |               |                 |
|----------------|-----------------|---------------|-----------------|
| Skalierbarkeit | Leistung        | Verfügbarkeit | Überwachbarkeit |
| Sicherheit     | Überprüfbarkeit | Wartung       | Niedrige Kosten |

# Communication Patterns

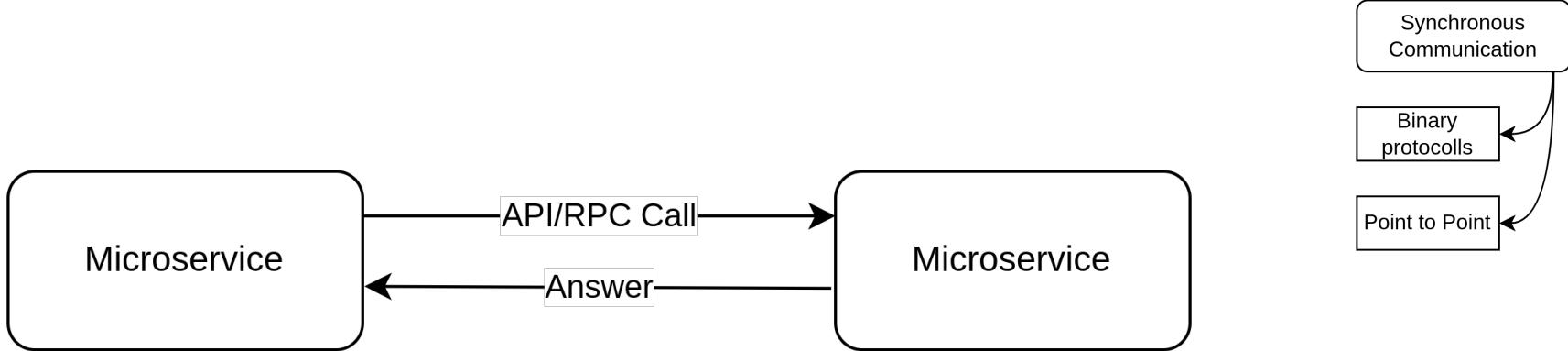


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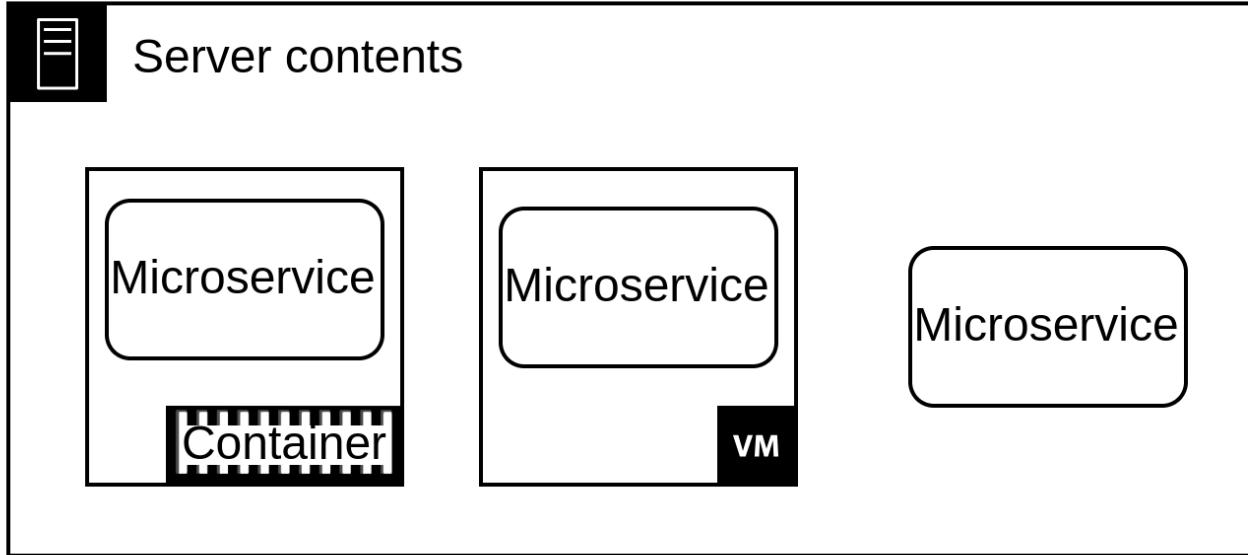
# Asynchronous Communication Patterns



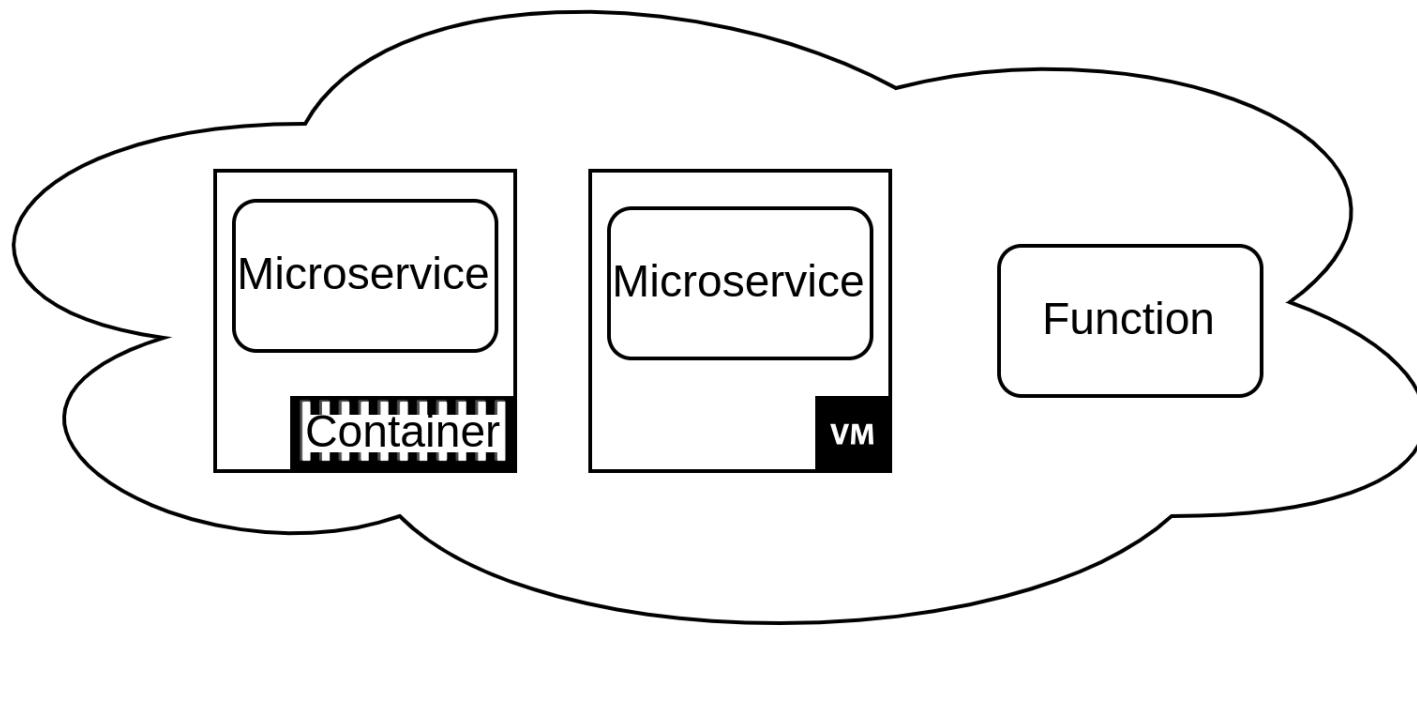
# Synchronous Communication Patterns



# Deployment Patterns



# Deployment Patterns



# FAZIT

- 37 Quellen angeschaut
  - 17 Akademische Papers
  - 5 Lehrbücher
  - 3 Paper aus der Industrie, 2 Lernmaterial aus der Industrie
  - 6 Akademische Literatur Reviews
- 20 Architektur Pattern Identifiziert
  - 6 Deployment
  - 14 Communication

# Ergebnis: Pattern-Baum

