

# Architectural Patterns for Microservices (4 Days)

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## **COURSE CONTENTS**

Microservice architecture

microservice chassis to boost productivity

organize clean & standard microservice code

communication among services : synchronous, asynchronous

service discovery

handling communication error

synchronize data & keeping data integrity on transaction which involves several distributed services

capture changed data in real time, in reliable way

querying data from multiple services

event sourcing, replaying data flow

API gateway concept

composing several API

cache

monitoring services

tracing call chain that involves several services

centralized log & exception tracking

deploy the application as docker container

- \* Decomposition patterns
  - \* Decompose by business capability
  - \* Decompose by subdomain
- \* The Database per Service pattern
- \* The API Gateway pattern
- \* The Client-side Discovery
- \* The Single Service per Host and Multiple Services per Host patterns
- \* Cross-cutting concerns patterns:
  - \* Microservice chassis pattern
  - \* Externalized configuration
- \* Testing patterns:
  - \* Service Component Test
  - \* Service Integration Contract Test
- \* Circuit Breaker
- \* Access Token
- \* Observability patterns:
  - \* Log aggregation
  - \* Application metrics
  - \* Audit logging
  - \* Distributed tracing
  - \* Exception tracking
  - \* Health check API
  - \* Log deployments and changes
- \* UI patterns:
  - \* Server-side page fragment composition
  - \* Client-side UI composition