

Cloud Architecture, Design and Implementation 4.0 Guidelines (CAD4G)

ID CAD4G Preis 2.750,- € (exkl. MwSt.) Dauer 3 Tage

Voraussetzungen

Basic understanding of fundamental IT concepts

Kursziele

- Develop a holistic understanding of modern IT architecture and development
- Familiarize oneself with Cloud technologies and services, specifically those offered by the hyperscalers AWS, Google Cloud Platform and Microsoft Azure
- Contextualize recent IT development approaches by understanding the shortcomings of previous approaches
- Learn how commonly used tools such as GitLab and Jira function, and what purpose they serve
- Discover the reasons for containerizing deployments with Docker and Kubernetes and how DevOps tools can assist in this process

Kursinhalt

Modul 1:

- Domain Driven Design
 - Terms (domain, subdomain, bounded context, ubiquitous language, aggregate, entity, value object)
 - Types of subdomains
 - Types of bounded contexts
- Event Storming
 - Method explanation
 - Similarities to DDD
 - Event Storming group exercise
- Behaviour Driven Design
 - Difference between BDD and DDD
 - Method of / Terms used in BDD

Modul 2:

- Jira, Git und Tickets
 - Terms (branch, fork, pull, push, etc.)
 - What is a ticket and how is it written?
 - What is a git repository, what are its advantages?

- DevOps
 - What is DevOps, what are its advantages, what are potential pitfalls?
- DevSecOps
 - What is DevSecOps, what is its use, what is the difference to DevOps?

Modul 3:

- Introduction to the cloud
 - What is the cloud, what does cloud native mean?
 - What are IAAS/SAAS/PAAS, what are hyperscalers?
- Cloud Services
 - What types of cloud services are there (DB services, VM services, Gateways, DNS services, etc.)?
 - What are the commonalities between the three hyperscalers' services?
 - How do different services interconnect and form a whole?
- Docker and Kubernetes
 - What is a container?
 - How does a container work?
 - What is the path to a dockerized application?
 - What is Kubernetes?
 - How does Kubernetes work?
- Application and Cloud Architecture
 - How does security in the cloud work?
 - How does it work on different application layers?
 - What can a cloud-native application look like?
 - What does an example of typical Cloud architecture look like?

Modul 4:

- Microservices
 - What is a microservice?
 - Microservice guidelines
- API Fundamentals
 - What is an API?
 - Monolith vs Microservice
 - API first vs Code first
 - REST and SOAP
- API, REST and Services

- Http and http methods
- URLs, resource naming conventions, and API versioning
- Request header and payload
- API responses
- Http errors and http status codes

Modul 5:

- Introduction to CICD
 - What is CICD?
 - Why implement CICD?
- Classical Development Strategies
 - What is the waterfall model?
 - What are the problems of classical development strategies?
- Continuous Integration
 - What is CI, what is a pipeline, what tools does a pipeline involve?
 - Tools: Gitlab, Sonarqube, Maven, Docker & Kubernetes, ELK, Docker Image Repository
- Continuous Delivery
 - What is CD, and what is the difference between delivery and deployment?
 - What does a complete deployment pipeline look like?

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