Overview

Lecture 1: Introduction

- Cloud building components

- IaaS, PaaS, SaaS

- Public vs. Private Cloud

- Basic "hosting" service vs. managed service

- Business Models: Overbooking, Pay-per-Use, Standardization & Automation

- Benefits/Risks/Regulations: Scalability, Privacy, GDPR, Safe Harbor/Privacy Shield

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Lecture 2: IaaS introduction

- The history and inner workings of virtualization

- Virtual machines as a Service

- Storage in the Cloud

- Networking in the Cloud

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Lecture 3: Beyond IaaS

- Application load balancers

- CDNs

- Object Storage

- Databases as a Service (DBaaS)

- Functions as a Service (FaaS / Lambda)

- Containers as a Service (CaaS)

- Stream processing

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- Deployment pipelines

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Lecture 4: Containers

- Containers vs. Virtual Machines

- The Dockerfile format

- Container runtimes

- Container orchestrators

- Container networking

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Lecture 5: Cloud-native software development

- Microservices

- Service meshes

- 12-factor Apps

- Frameworks and tools

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