

Agenda Cloud Infrastructure Fundamentals

1. TAG

08:30 Eintreffen der Teilnehmer im Gebäude 4 (Mensa)
Begrüßung bei Kaffee und Gipfeli

09:00 - 10:20 **Vorstellung INS-HSR**
Introduction to the Cloud Concept

- market drivers (business processes, mobility, products, TCO etc.)
- sourcing options (private, public, hybrid Clouds, managed services)
- Cloud services (applications, platforms and infrastructure)
- Cloud market players (Amazon, Google, Microsoft, Swisscom etc.)
- Multi-Cloud operations
- market forecasts
- legal aspects

Pause

10:40 - 12:30 **Cloud Architecture and Building Blocks**

- the evolution of datacenters over the last 20 years
- requirements for a Cloud-enabled architecture
 - virtualized infrastructure (network, server, storage)
 - automation and orchestration
 - service catalogue and billing
 - impact on platforms and applications
- design examples

Lab Activity 1: Interaction with real life Cloud Services

- rent an enterprise class datacenter

Mittagessen

13:30 - 15:00 **Network Virtualization Overview**

- network challenges when it comes to Cloud Computing
 - datacenter challenges (VM mobility, increasing west/east traffic, routing from/to the Cloud etc.)
 - enterprise network challenges (changing traffic flows, the new WAN)
- service provider challenges (dynamic network provisioning and control)

Pause

15:30 - 16:30 **Network Virtualization Technologies Overview**

- SDN Basics
- in the datacenter: VXLAN, LISP
- in the enterprise network: L2 and L3 VPN

16:30 - 17:15 **Lab Activity 2: Network Virtualization in action**

- VXLAN

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2. TAG

09:00 - 10:00

Introduction to Server Virtualization

- introduction to some technical terms
- the big players and its strategies (VMware, Hyper-V, KVM)

Pause

10:15 - 11:00

Docker Basics

- overview
- components
- storage
- networking
- getting started

11:00 - 12:30

Kubernetes

- overview
- storage
- networking
- services

Mittagessen

13:30 - 15:00

Lab Activity 3: Docker

Pause

15:10 - 16:00

Introduction to Storage Networks

- requirements, comparison with traditional networks
- storage technologies: SCSI, iSCSI, FC, FCoE, NFS, FCIP

Pause

16:10 - 16:30

Storage End Systems

- what are Netapp, EMC etc. doing to enable the Cloud?

16:30 - 16:45

Storage Virtualization

- file and block based virtualization

16:45 - 17:15

Where to start your transition to the cloud

- analyze/define your business requirements
- analyze your current status
- define your architectural approach
- prepare your environment
- change operation processes

17:15

Course Feedback