Cloud Computing

Winter Term 2018/2019
Tutorial Session 3

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Complex and Distributed IT-Systems

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Practical Assignment 3

- Due: 24.01.2019
- Summary:
  - Prepare 3 VMs (in public cloud or locally)
  - Deploy Kubernetes cluster using Kubespray (Ansible playbook)
  - Prepare simple Docker containers for dummy web service
  - Roll out web service in Kubernetes cluster using an own Ansible playbook
  - Evaluate the deployment with a provided test script

Kubernetes

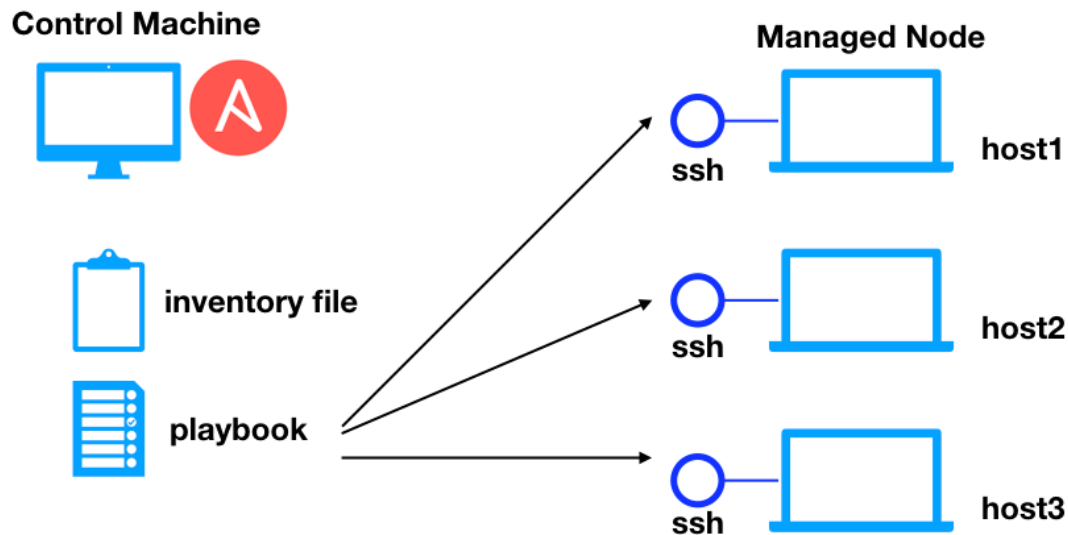- Distributed platform for orchestrating containerized applications
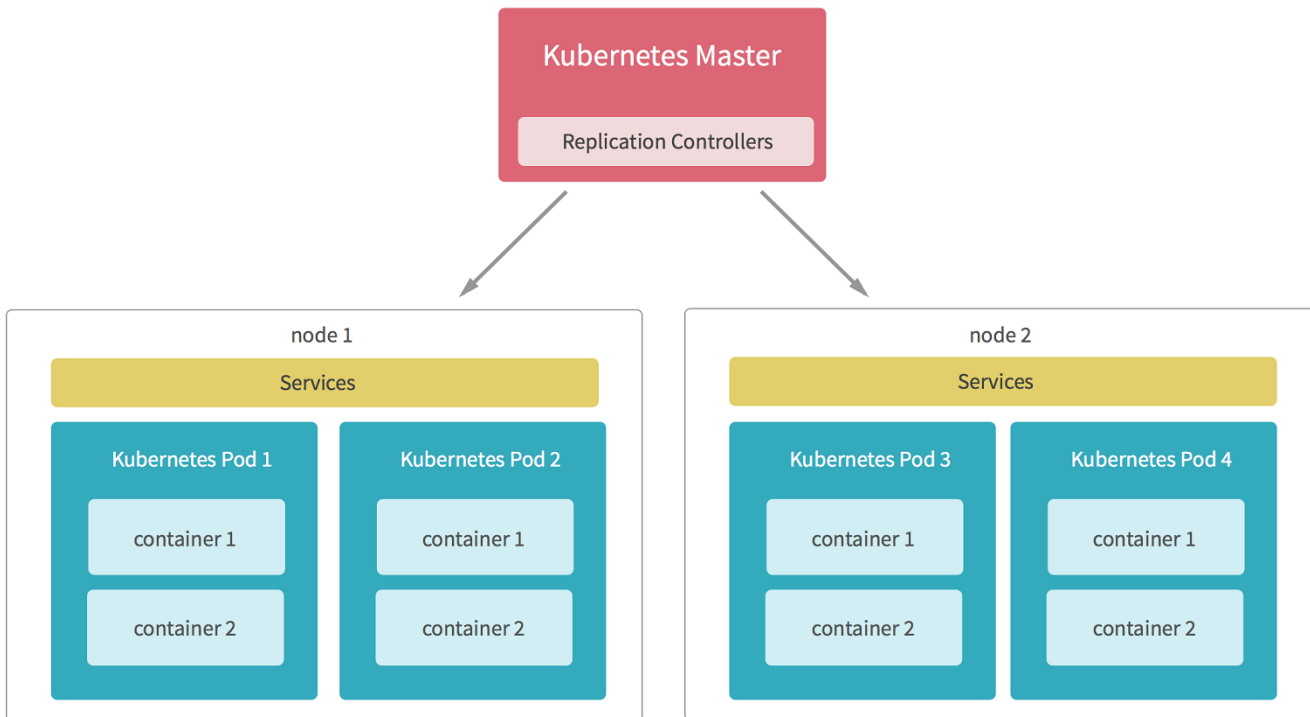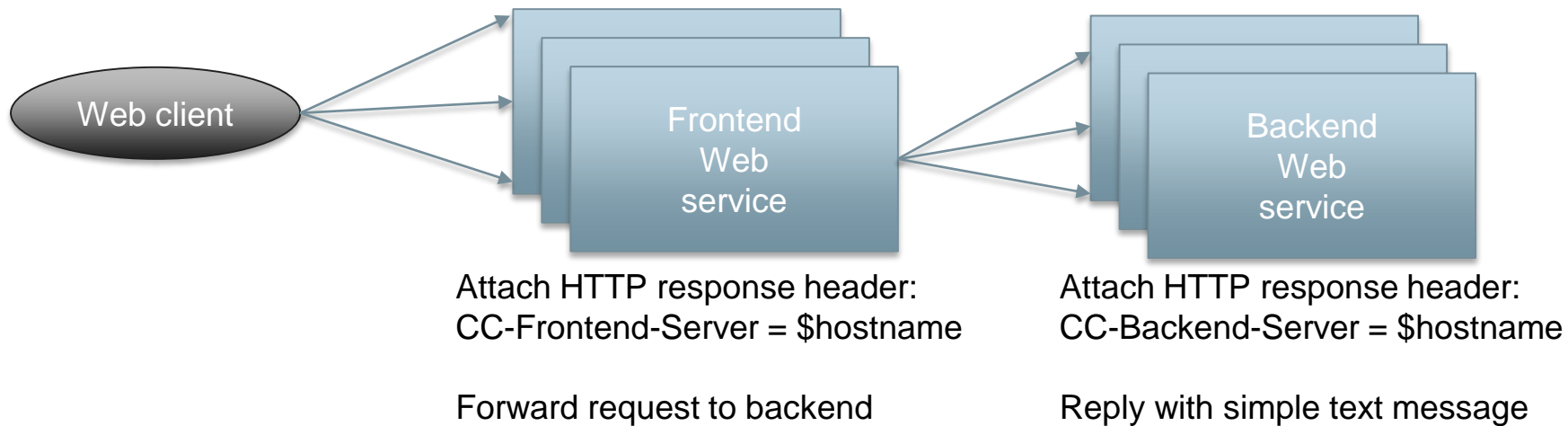
Kubernetes

- High-level concepts for powerful orchestration:

    - Pod

    - Deployment, ReplicationSet

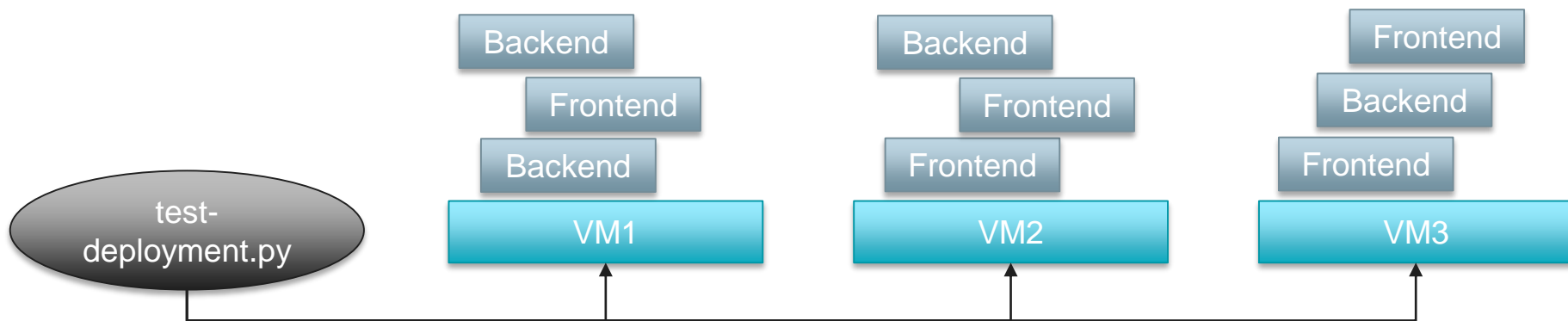   - Service, Endpoint

    - …

Ansible

- Declarative description of orchestration tasks on host level
- Idempotent "playbooks"
- Handy modules for all kinds of typical administration tasks

Target deployment

Web client

Frontend Web service

Backend Web service

Attach HTTP response header:
CC-Frontend-Server = $hostname

Forward request to backend

Attach HTTP response header:
CC-Backend-Server = $hostname

Reply with simple text message

Target deployment

Backend

Frontend

Backend

VM1

Backend

Frontend

Frontend

VM2

Frontend

Backend

Frontend

VM3

test-deployment.py

- Send many requests
- Evaluate Response headers