



OST

Eastern Switzerland
University of Applied Sciences

Distributed Systems & Blockchain (DS1)

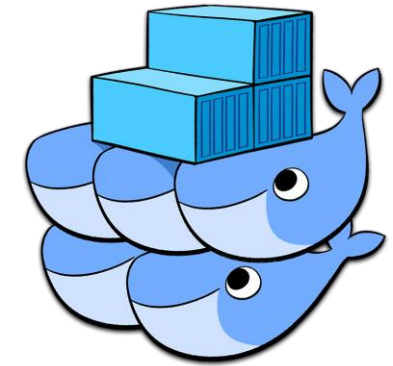
Deployment II

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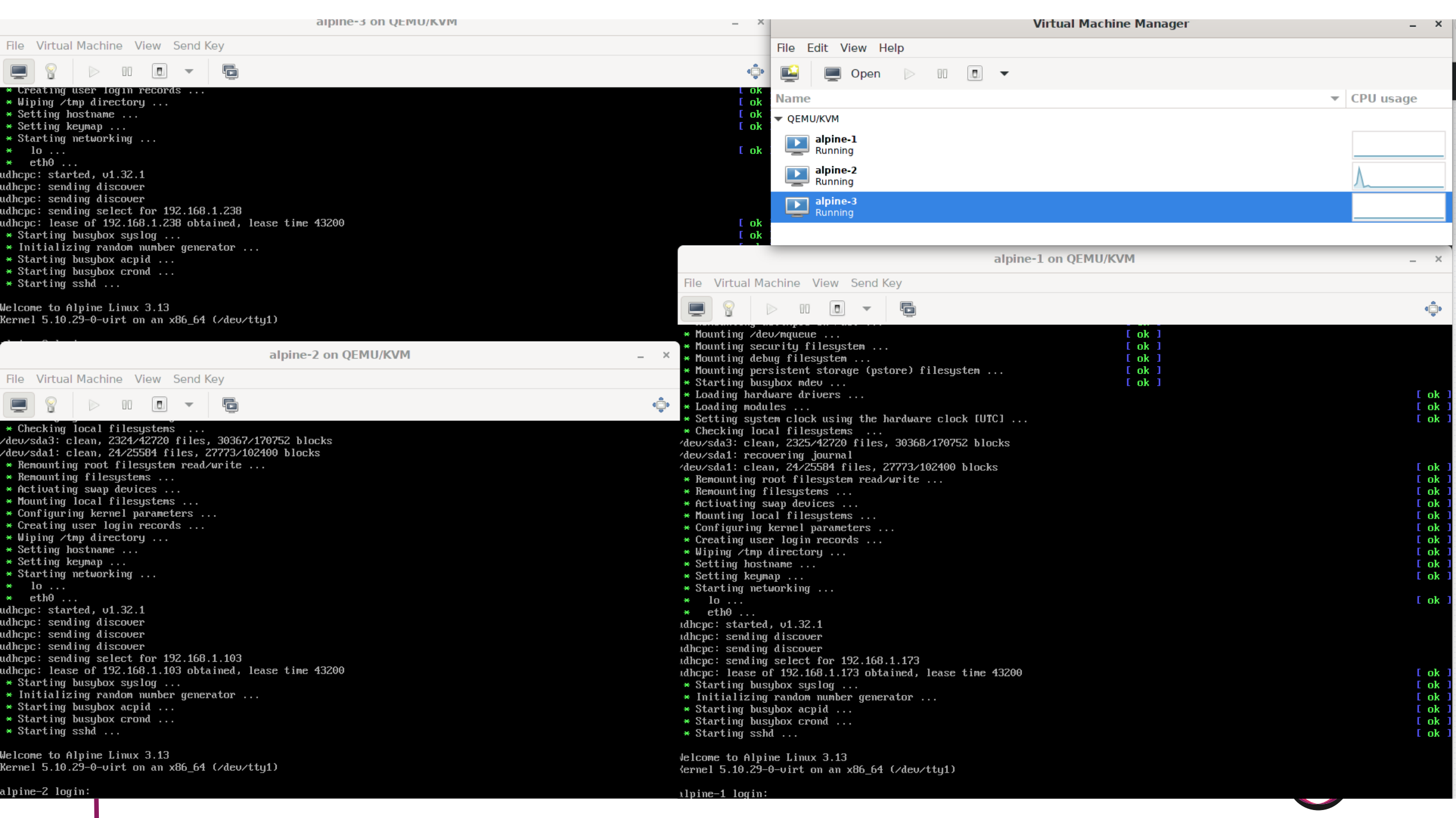
Docker Swarm

- 3 “Machines”
 - KVM instances, alpine running
 - Workers: 192.168.1.238, 192.168.1.103, 192.168.1.173
 - Manager: 192.168.1.166
- Run on manager
 - `docker swarm init --advertise-addr 192.168.1.166`
- To add a worker to this swarm, run the following command:
 - `docker swarm join --token .. 192.168.1.166`



docker swarm

- `docker info`
- `docker node ls`
- Manager are setup
- Join nodes
 - Run the `docker swarm join` command
 - `docker node ls`
- Workers are setup



Docker Swarm

- Create service
 - docker service create --name registry --publish 5000:5000 registry:2
 - Where to find the docker image
- Check service
 - docker service ls
- Many options in docker-compose
 - docker stack deploy --compose-file docker-compose.yml

```
worker:
  image: gaiadocker/example-voting-app-worker:latest
  networks:
    voteapp:
      aliases:
        - workers
  depends_on:
    - db
    - redis
  # service deployment
  deploy:
    mode: replicated
    replicas: 2
    labels: [APP=VOTING]
  # service resource management
  resources:
    # Hard limit - Docker does not allow to allocate more
    limits:
      cpus: '0.25'
      memory: 512M
    # Soft limit - Docker makes best effort to return to it
    reservations:
      cpus: '0.25'
      memory: 256M
  # service restart policy
  restart_policy:
    condition: on-failure
    delay: 5s
    max_attempts: 3
    window: 120s
  # service update configuration
  update_config:
    parallelism: 1
    delay: 10s
    failure_action: continue
    monitor: 60s
    max_failure_ratio: 0.3
  # placement constraint - in this case on 'worker' nodes only
  placement:
    constraints: [node.role == worker]
```

Kubernetes



- Shutdown
 - docker stack ls
 - docker stack rm app
- k3s
 - apk add k3s
 - curl -sfL https://get.k3s.io | sh -s - --docker
- Check nodes: sudo k3s kubectl get node
- Join as worker / agent
 - curl -sfL https://get.k3s.io |
INSTALL_K3S_EXEC="agent --server
https://192.168.1.166:6443 --token=token" sh -
- kompose convert
- kubectl create namespace app
 - We'll use default namespace
- kubectl create -f *.yaml
- Failed.. Pushing image to my local registry
192.168.1.166 - ErrImagePull