Chapter 24: Linux Virtualization

Introduction Linux Virtualization

- Importance of virtualization in cloud computing and infrastructure
- Overview of virtualization concepts: hypervisors and virtual machines (VMs)
- Role of Linux as a guest OS in virtualized environments

Types of Hypervisors

- Type 1 (Bare-metal). KVM/Xen/Hyper-V
- Type 2 (Hosted). Virtual Box/VMware workstation
- Linux can be guest or run KVM

VMs and Containers

- Difference between VMs and Containers
- VM: computing instances, block storage and networking
- Containers: Isolated, Resource usage, other use cases

Unique properties

- Change unique identifiers when cloning (hostname, mac address, ssh keys...)
- Impact on network configs and credentials when cloning

Extensions and Integration

- Guest drivers and tools (virtio drivers / Guest Tools)
- Benefits of integration: improved performance and seamless device interaction
- Managing guest tools installation and updates

System images and deployment

- Use prepared images for deployment
- Single images, OVA and OVF
- Automation scripts like cloud-init (Linux) or Sysprep (windows)

Linux guest commands

- Check environment: /proc/cpuinfo, lsmod | grep kvm
- Machine identity: /etc/machine-id