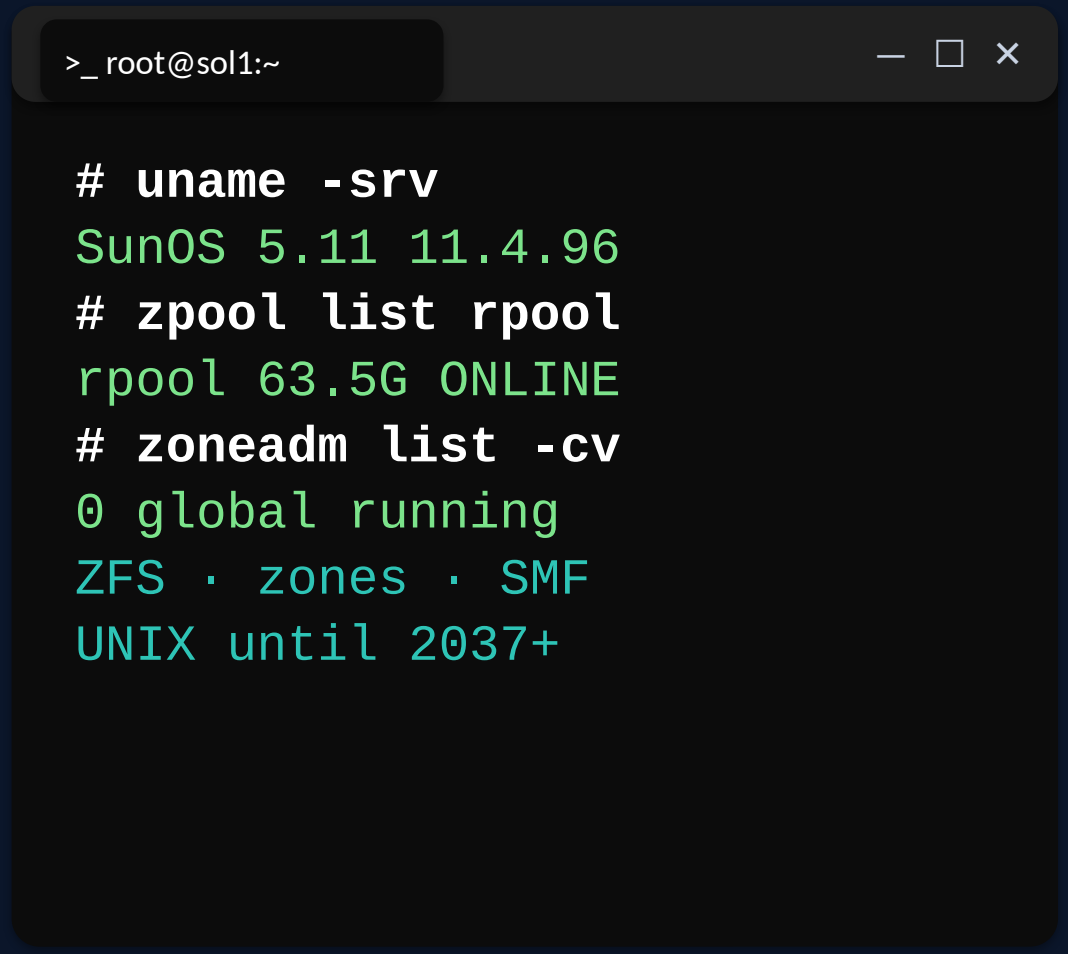


LESSON 10 OF 12

Oracle Solaris 11.4

ZFS · Zones · SMF · LDoms · OLVM

Oracle VM x86 to Oracle Linux KVM & Virtualization Manager

Full Course · Solaris 11.4 SRU96 · OVM (Nov 2026)

What You Will Learn in Lesson 10

- Why migrate: OVM x86 3.4 in Sustaining Support since July 2024
- OLVM architecture: engine, KVM hosts, VDSM, data centers, storage domains
- Lab: one engine VM + one KVM host on Oracle Linux 9 (UEK 8)
- Installing the engine: oracle-ovirt-release-45-el9, engine-setup
- Adding hosts, storage and networks; creating VMs
- Migrating OVM VMs: export OVA, import, virt-v2v
- Solaris and Oracle Linux guests on KVM

Oracle VM x86 vs OLVM

	Oracle VM Server for x86	OLVM 4.5
Hypervisor	Xen 4.4 + dom0	KVM in Oracle Linux (UEK)
Management	Oracle VM Manager (Java)	oVirt engine web portal + REST API
Support	Sustaining only (since Jul 2024)	Active; OL8 and OL9 hosts
Hardware	No new server support	Current x86 servers
Migration path	Export VMs (OVA) / convert	Import OVA; virt-v2v
Cost	Free to use; support optional	Free to use; support with Oracle Linux Premier

OLVM Architecture

Component	Role
Engine (Manager)	ovirt-engine + PostgreSQL; web Administration Portal, VM Portal, REST API
Self-hosted engine	Engine runs as a VM on the KVM hosts it manages (HA)
KVM host	Oracle Linux + UEK + VDSM agent + libvirt / QEMU
Data center / cluster	Logical groups; cluster = hosts with compatible CPUs
Storage domain	NFS, iSCSI, Fibre Channel, Gluster or local — holds VM disks
Logical network	ovirtmgmt (management) + VM networks, VLANs

Lab: Install the Engine (Oracle Linux 9)

```
# olvm-engine: OL 9.6+ Minimal, 4 vCPU, 16 GB RAM, 192.168.56.70, FQDN in DNS/hosts
[root@olvm-engine ~]# dnf install -y oracle-ovirt-release-45-el9
[root@olvm-engine ~]# dnf repolist | grep -i ovirt
[root@olvm-engine ~]# dnf install -y ovirt-engine
[root@olvm-engine ~]# engine-setup
  Configure Engine on this host (Yes, No) [Yes]:
  Host fully qualified DNS name of this server [olvm-engine.lab.local]:
  Engine admin password: ********
  ...
[ INFO  ] Execution of setup completed successfully
# Browse: https://olvm-engine.lab.local/ovirt-engine  (user admin@ovirt)
```

Prepare a KVM Host and Add It

```
# kvm1: OL 9.6+ Minimal on hardware or nested VM (VT-x/AMD-V), 192.168.56.71
[root@kvm1 ~]# dnf install -y oracle-ovirt-release-45-el9
[root@kvm1 ~]# uname -r                          # UEK 8 kernel expected
[root@kvm1 ~]# dnf install -y kernel-uek-modules-extra ; reboot
[root@kvm1 ~]# grep -cE 'vmx|svm' /proc/cpuinfo   # > 0 = virtualization ready
# Administration Portal: Compute > Hosts > New
#   Name kvm1 · Address 192.168.56.71 · root password · OK
#   Engine installs VDSM, configures ovirtmgmt bridge -> Status: Up
# Storage > Domains > New Domain: NFS 192.168.56.70:/exports/data
# Network > Networks > New: vmnet (VLAN optional)
```

Creating and Managing VMs

Task	Where / How
Upload ISO	Storage > Disks > Upload, or an ISO domain
New VM	Compute > Virtual Machines > New: OS type, memory, CPUs, disk, vNIC
Console	noVNC in browser or SPICE/VNC with remote-viewer
Templates	Make a template from a sealed VM; create many VMs fast
Live migration / HA	Move running VMs between hosts; restart on failure
Snapshots / backup	VM snapshots; backup via REST API or partner tools
Automation	REST API, Ansible ovirt collection, Terraform provider

Migrating Oracle VM x86 VMs

```
# 1. Inventory in Oracle VM Manager: OS, PV/HVM mode, disks, NICs, owners
# 2. Prepare guest: update OS; PV guests -> ensure virtio drivers (Linux: dracut)
# 3. Export: Oracle VM Manager > VM > Export to Virtual Appliance (OVA)
# 4. Copy OVA to a KVM host, e.g. /var/tmp/app01.ova
# 5a. OLVM: Compute > Virtual Machines > Import > Source: Virtual Appliance (OVA)
# 5b. Or convert with virt-v2v:
[root@kvm1 ~]# dnf install -y virt-v2v
[root@kvm1 ~]# virt-v2v -i ova /var/tmp/app01.ova -o local -os /var/tmp/out
# 6. Boot, check network names, remove Xen tools, test, then switch over
# Windows guests: install VirtIO drivers before export
```

Solaris and Oracle Linux Guests on KVM

Guest	Notes
Oracle Linux 8 / 9 / 10	Best support; virtio, qemu-guest-agent, UEK or RHCK
Oracle Solaris 11.4 x86	Supported as a KVM guest — check the current certification list
Windows Server	VirtIO drivers + guest tools; check certification
Solaris on SPARC	Stays on SPARC: LDoms (lesson 9) or Solaris zones
Containers	Oracle Linux + Podman / Kubernetes (OCNE) as another option
Cloud	OCI: Oracle Linux, Solaris images, OLVM-like features as a service

Summary and Homework

- OVM x86 (Xen) is Sustaining-only since July 2024 — plan the move
- OLVM 4.5 = oVirt engine + KVM hosts (VDSM); OL8 or OL9 (UEK 8)
- Engine: dnf install oracle-ovirt-release-45-el9 ovirt-engine; engine-setup
- Portal: add hosts, storage domains, networks; create VMs, templates
- Migration: inventory → virtio → export OVA → import / virt-v2v → test
- Homework: build olvm-engine + kvm1 (or read the docs), write a 10-VM migration plan

Thank You! 🙏

Free videos & PDFs: www.MyWebUniversity.com

Slides for this lesson: MyWebUniversity.com/presentations

YouTube: @MyWebUniversity · @MyWebUniversity-Dari

Wahidullah Lutfy — Founder and Director of IT of MyWebUniversity, and CS teacher

Book: The Direct Path to Linux Ubuntu (Amazon · Barnes & Noble)

Learn it, then pass it on.