

KVM

Installation

Install all the required for the installation of Qemu, KVM hypervisor, and Libvirt

```
# apt install qemu-system libvirt-daemon-system qemu-utils virt-manager
```

- **qemu-system**: is an open source virtualizer that provides hardware emulation for the KVM hypervisor. It acts as a virtual machine monitor together with the KVM kernel modules, and emulates the hardware for a full system such as a PC and its associated peripherals.
- **virt-manager**: Virt-Manager is a graphical user interface (GUI) tool for managing virtual machines through libvirt-daemon.
- **libvirt-daemon-system**: provides API libraries that enables GUI apps such as virt-manager to communicate with libvirtd daemon, a system service libvirtd , and a virsh CLI tool
- **qemu-utils**: Various utilities e.g. for manipulating disk images
- **virtinst**: Allows to create Virtual Machines (VMs) from the command-line.

Verify that the virtualization daemon, libvirtd-daemon, is operating before moving on. Execute the command to achieve this.

```
# systemctl status libvirtd
```

Output:

```
● libvirtd.service - Virtualization daemon
   Loaded: loaded (/lib/systemd/system/libvirtd.service; enabled; preset:
enabled)
   Active: active (running) since Sun 2023-08-06 10:57:02 CEST; 1min 30s
ago
 TriggeredBy: ● libvirtd-ro.socket
               ● libvirtd-admin.socket
               ● libvirtd.socket
   Docs: man:libvirtd(8)
         https://libvirt.org
 Main PID: 7999 (libvirtd)
   Tasks: 19 (limit: 32768)
  Memory: 15.7M
    CPU: 188ms
   CGroup: /system.slice/libvirtd.service
           └─7999 /usr/sbin/libvirtd --timeout 120
Aug 06 10:57:02 pcwerkkamer systemd[1]: Starting libvirtd.service -
Virtualization daemon...
Aug 06 10:57:02 pcwerkkamer systemd[1]: Started libvirtd.service -
Virtualization daemon.
```

Check if libvirtd service will start automatically at boot time.

```
# systemctl is-enabled libvirt
```

Output:
enabled

If disabled run the following command to have it boot automatically:

```
# systemctl enable --now libvirt
```

Use the following command to determine whether the KVM modules are loaded:

```
$ lsmod | grep -i kvm
kvm_intel          380928  0
kvm                1142784  1 kvm_intel
irqbypass         16384   1 kvm
```

In order to manage virtual machines as a regular user, that user needs to be added to the libvirt group:

```
# adduser <youruser> libvirt
```

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