

Introduction to Hypervisors and VMs, Xen or KVM, Introduction to Containers: Docker, installation and deployment.

Installation and Deployment of Hypervisor (Type 2)

A type 2 hypervisor enables users to run isolated instances of other operating systems inside a host system. As a Linux based OS, Ubuntu supports a wide range of virtualization solutions.

Aside from popular third-party apps, such as VirtualBox and VMWare, the Linux kernel has its own virtualization module called KVM (Kernel-based Virtual Machine).

Procedure:

Step 1: Install KVM Packages

1. First, update the repositories:

```
sudo apt update
```

2. Then, install essential KVM packages with the following command:

```
sudo apt install qemu-kvm libvirt-daemon-system libvirt-clients bridge-utils
```

Step 2: Authorize Users

1. Only members of the **libvirt** and **kvm** user groups can run virtual machines. Add a user to the libvirt group by typing:

```
sudo adduser 'username' libvirt
```

Replace username with the actual username.

Step 3: Install Virtual Manager

1. Type the command in the terminal

```
sudo apt install virt-manager
```

2. Type Y and press ENTER. Wait for the installation to finish

```
marko@test-machine:~$ sudo apt install virt-manager
[sudo] password for marko:
Reading package lists... Done
Building dependency tree
Reading state information... Done
0 upgraded, 33 newly installed, 0 to remove and 74 not upgraded.
Need to get 7,987 kB of archives.
After this operation, 62.5 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Step 4: Check if it is working....

`sudo virt-manager`

