

Week Report 2

The basics of virtualization

What is virtualization?

Virtualization is replication of hardware to simulate a virtual machine inside a physical machine.

Types of virtualization

1. Server-side virtualization: provides a virtual desktop to each user

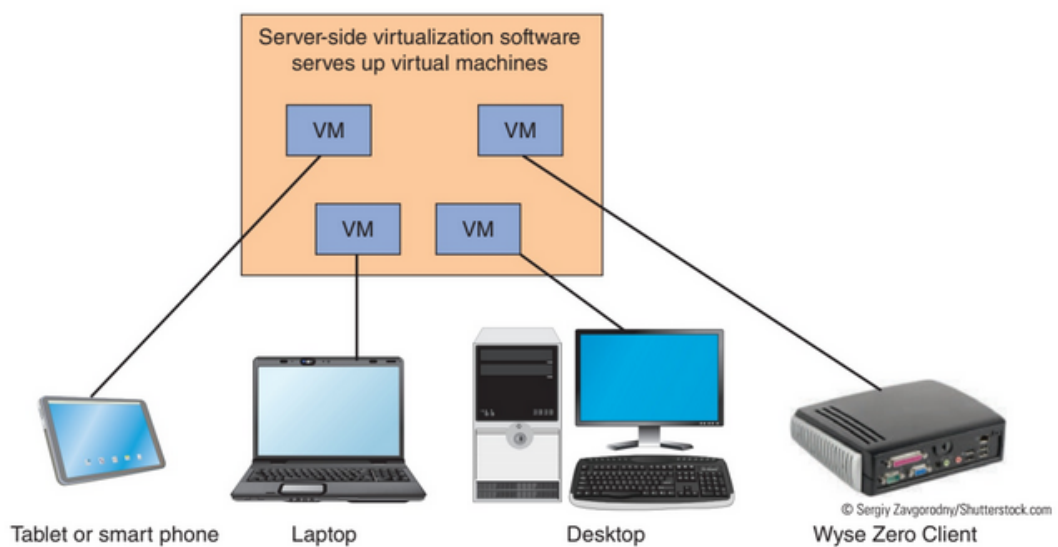


Figure 20-1 Server-side virtualization provides a virtual desktop to each user

2. Client-side virtualization: is a software installed on a computer to manage virtual machines

Client-side virtualization

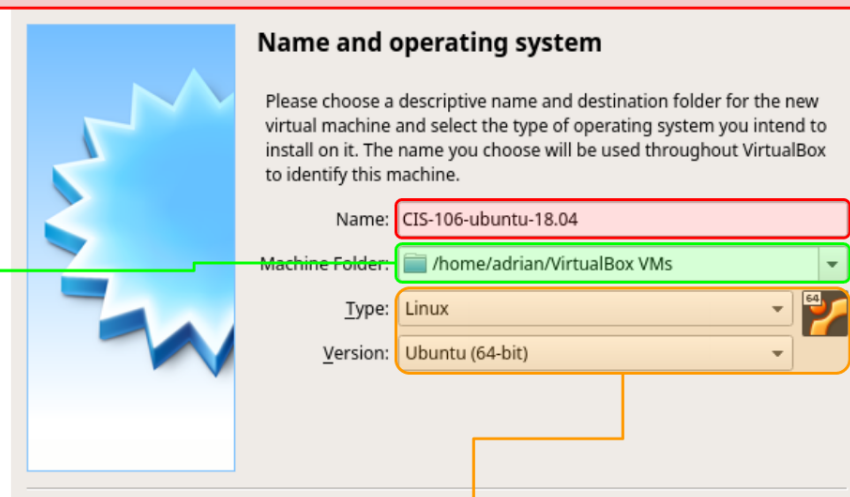
- Software installed on a computer to manage virtual machines
- Each VM has its own operating system installed
- For client-side virtualization, the computer needs:
 - A hypervisor (Software that allows the management of virtual machines)
 - Hardware support
 - capable CPU
 - Enough RAM
 - Enough storage



Installing Ubuntu in Virtualization

You can name your vm however you want but it is good practice to name it something that indicates what OS is being installed or the purpose of the vm.

This indicates where the virtual machine is located in your host machine.



Name and operating system

Please choose a descriptive name and destination folder for the new virtual machine and select the type of operating system you intend to install on it. The name you choose will be used throughout VirtualBox to identify this machine.

Name: CIS-106-ubuntu-18.04

Machine Folder: /home/adrian/VirtualBox VMs

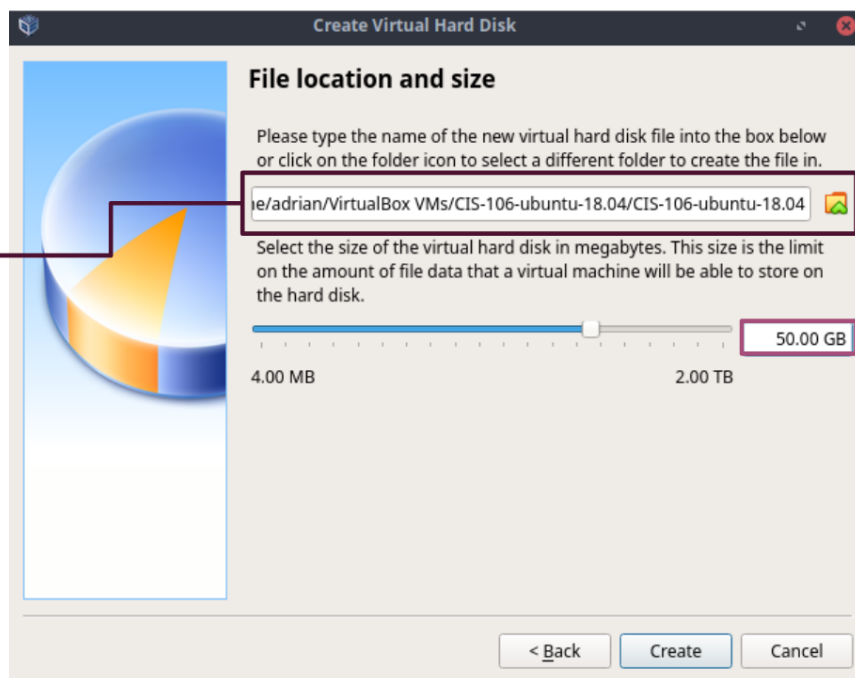
Type: Linux

Version: Ubuntu (64-bit)

This indicates the type of operating systems and the versions available. If you do not see a 64 bit version of the OS available is probably because virtualization is not enabled in your computer

3

This is the path (location) where your virtual machine will be stored in the host computer



Create Virtual Hard Disk

File location and size

Please type the name of the new virtual hard disk file into the box below or click on the folder icon to select a different folder to create the file in.

e/adrian/VirtualBox VMs/CIS-106-ubuntu-18.04/CIS-106-ubuntu-18.04

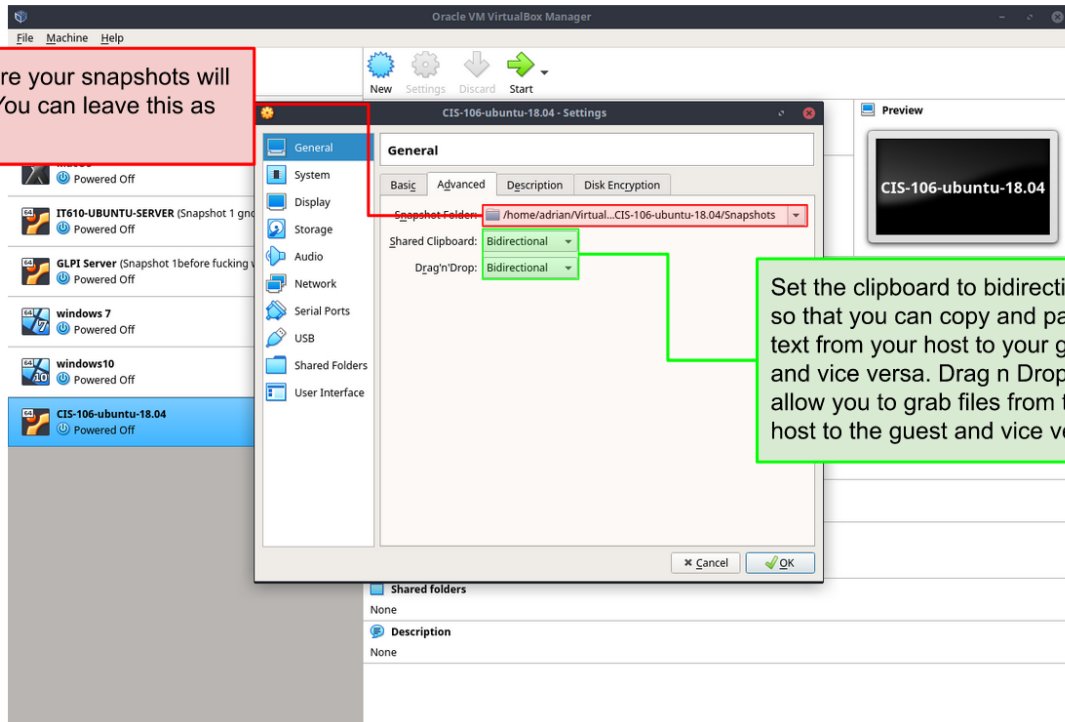
Select the size of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk.

4.00 MB 50.00 GB 2.00 TB

< Back Create Cancel

Ubuntu takes about 25 GB of disk space, but since you will be installing additional software and updates, it is good to double that space.

This is where your snapshots will be saved. You can leave this as default.



Set the clipboard to bidirectional so that you can copy and paste text from your host to your guest and vice versa. Drag'n Drop will allow you to grab files from the host to the guest and vice versa.

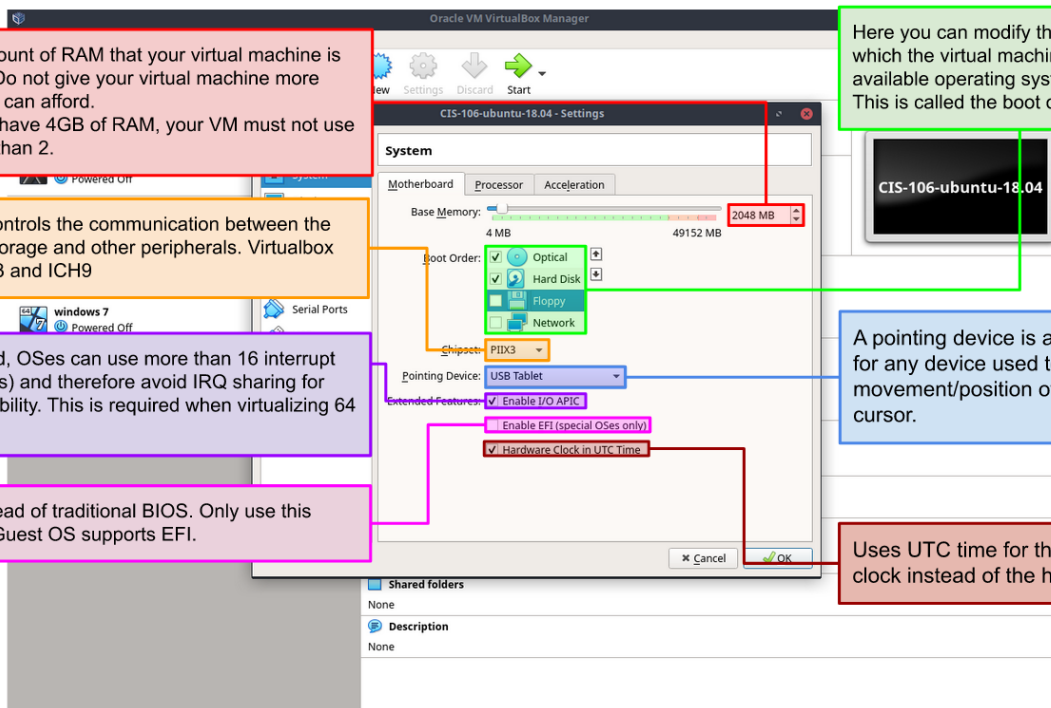
This is the amount of RAM that your virtual machine is going to use. Do not give your virtual machine more RAM than you can afford.

- If you have 4GB of RAM, your VM must not use more than 2.

The chipset controls the communication between the CPU, RAM, storage and other peripherals. Virtualbox supports: PIX3 and ICH9

When selected, OSes can use more than 16 interrupt requests (IRQs) and therefore avoid IRQ sharing for improved reliability. This is required when virtualizing 64 bit OSes.

Uses EFI instead of traditional BIOS. Only use this feature if the Guest OS supports EFI.



Here you can modify the order in which the virtual machine will look for available operating systems to boot. This is called the boot order.

A pointing device is a generic term for any device used to control the movement/position of the mouse cursor.

Uses UTC time for the hardware clock instead of the host time.

Depending on the guest OS type, a new VM includes the following storage devices:

- **IDE controller.** A virtual CD/DVD drive is attached to the secondary master port of the IDE controller.
- **SATA controller.** This is a modern type of storage controller for higher hard disk data throughput, to which the virtual hard disks are attached.

- Add new storage controller
- Remove selected storage controller
- Add new storage attachment
- Remove storage attachment

