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Week Report 2

The basics of virtualization

1. **What is virtualization** Definition of virtualization is replication of hardware to stimulate a virtual machine inside a physical machine
2. **Types of virtualization** There are two general types of virtualization, one of them is server-side virtualization

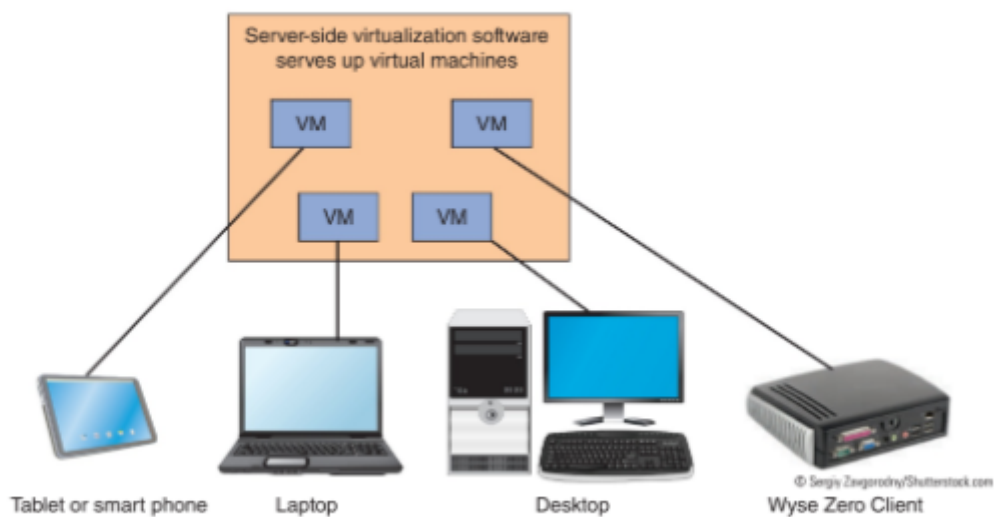


Figure 20-1 Server-side virtualization provides a virtual desktop to each user

the second one is client-side virtualization

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 Virtualbox

- Ubuntu live session

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.

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 where the virtual machine is located in your host machine.

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

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: PIIX3 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.

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Sets the size of the memory provided by the virtual graphics card available to the guest

With this setting, Oracle VM VirtualBox can provide more than one virtual monitor to a virtual machine.

Specifies the graphics adapter type used by the guest VM. Guest Additions are required for VBoxSVGA and VMSVGA.

- VBoxSVGA:** for Windows 7 or later.
- VBoxVGA:** for legacy guest OSes.
- VMSVGA:** emulate a VMware SVGA graphics device.

Enables scaling of the display size. For multiple monitor displays, you can set the scale factor for individual monitors, or globally for all of the monitors.

If a virtual machine has Guest Additions installed, you can select here whether the guest should support accelerated 3D graphics.

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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

Invalid settings detected

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To start Ubiquity, double click on the “Install Ubuntu 18.04.4 LTS” icon. This will launch the installation wizard.

Install Ubuntu 20.04.1 LTS

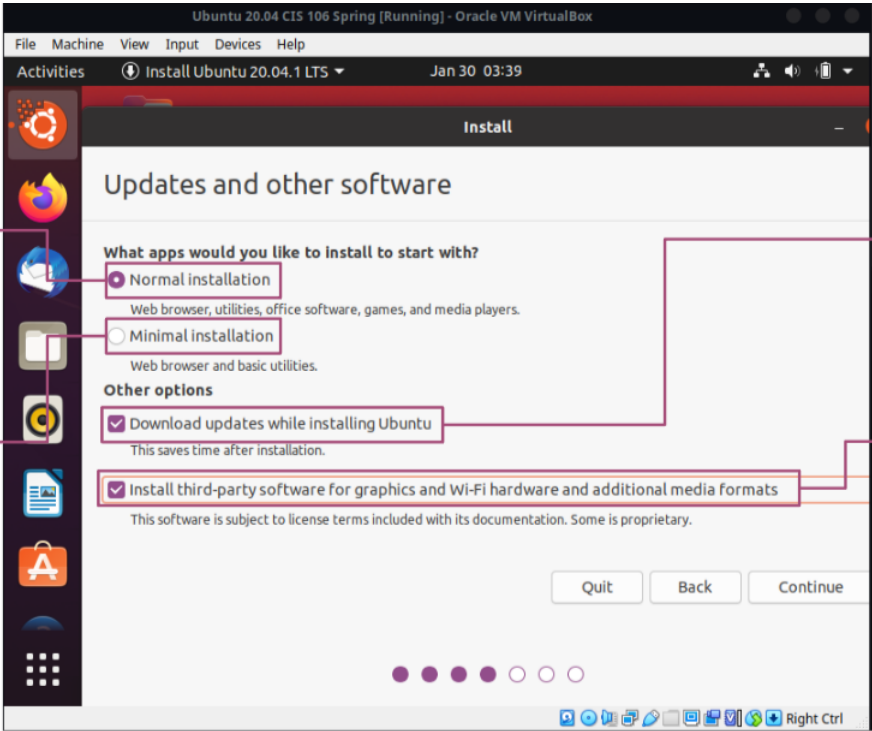
You can use the live environment as a regular computer. All ubuntu's default applications are available in this environment. However, any changes will not remain as well as any data saved in this environment

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Normal Installation installs all the default applications.

Minimal Installation installs Only basic utilities and a web browser.



Allows you to install updates during the installation process

Installs third party applications and extra drivers.

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