Module 3- WINDOWS INSTALLATION AND CONFIGURATION

1- Different part of an operating system

2- Different way to install an operating system

3- Download the OS on Microsoft website: technet.microsoft.com

4- Creating a virtual machine

5- Installing Windows server 2016

6- Adding resources

7- Hostname and system information

8- Windows server GUI overview

9- Quiz

10- Homework

1- Different part of an operating system.

- What's an operating system?

The whole package that manages our computer's resources and let us interact with it.

There are 2 main parts of an OS

The kernel is main core of the OS, it talks directly to our hardware and manages our system resources.

User space it's basically everything outside the kernel and things that we interact directly like: system programs, user interfaces etc.....

We have a lot of operating system out there but on this training we will talk about WINDOWS & LINUX.

Boot Process

- In this lesson we are going to learn how our operating system starts up.

As a system admin it's important to know the steps that an operating system takes so you can help diagnose some issues where computers won't start.

Booting a computer means to start from nothing and follow the series of steps to arrive at the fully operating system.
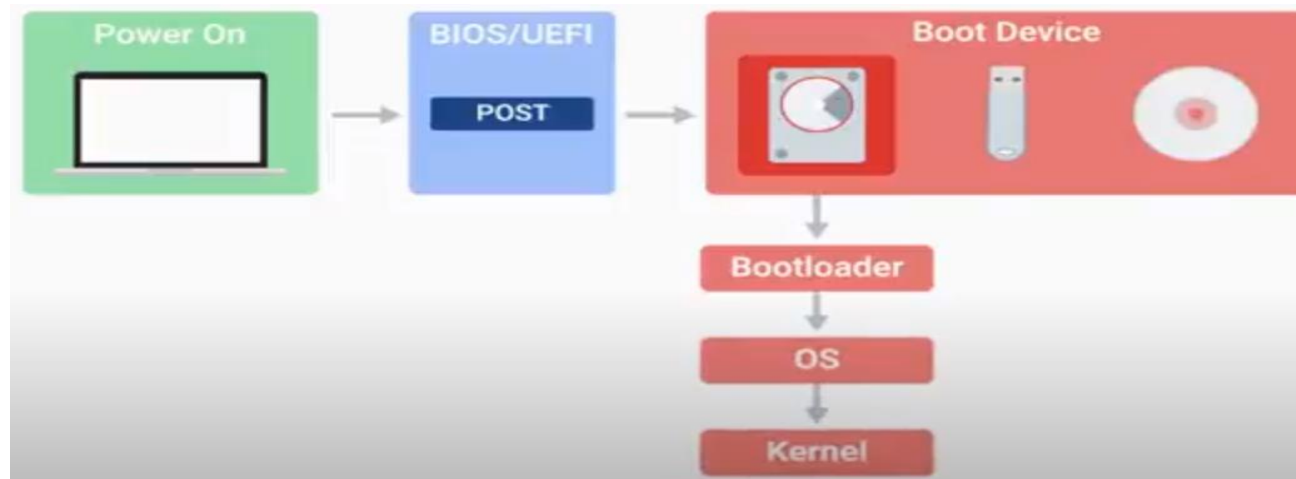
BIOS/UEFI: it's a low level software that initializes our computer hardware to make sure everything is good to go.

Bootloader it's a small program that loads the operating system.

The CPU Architecture

We have 2 different types cpu architecture:

- 32 bits

- 64 bits

The operating system will also be optimize for this architecture so make sure the cpu and os are compatible.

If you have a 64 bits cpu you should also install a 64 bits version of the operating system.

32-bit and 64-bit are commonly used to describe processor architecture or design. A 32-bit processor includes a 32-bit register, which can store 2^{32} or 4,294,967,296 values. A 64-bit processor includes a 64-bit register, which can store 2^{64} or 18,446,744,073,709,551,616 values. Therefore, a 64-bit register is not twice as large as a 32-bit register, but is 4,294,967,296 times larger

Install windows with an <u>USB key</u>

What you need

- Windows 10 install .iso or DVD

- USB flash drive with at least 5GB free space. This drive will be formatted, so make sure it doesn't have any important files on it.

- Technician PC – Windows PC that you'll use to format the USB flash drive

- Destination PC – A PC that you'll install Windows on

Step 1 - Format the drive and set the primary partition as active

1. Connect the USB flash drive to your technician PC.
2. Open Disk Management: Right-click on **Start** and choose **Disk Management**.

1. Format the partition: Right-click the USB drive partition and choose **Format**. Select the **FAT32** file system to be able to boot either BIOS-based or UEFI-based PCs.

1. Set the partition as active: Right-click the USB drive partition and click **Mark Partition as Active**.

Step 2 - Copy Windows Setup to the USB flash drive

1- Use File Explorer to copy and paste the entire contents of the Windows product DVD or ISO to the USB flash drive.

• Step 3 - Install Windows to the new PC

1.Connect the USB flash drive to a new PC.

2.Turn on the PC and press the key that opens the boot-device selection menu for the computer, such as the Esc/F10/F12 keys. Select the option that boots the PC from the USB flash drive.

3.Windows Setup starts. Follow the instructions to install Windows.

4.Remove the USB flash drive.

Installing windows with DVD

Booting to the Windows 10 Installer

Part 1

1 **Make sure your Windows 10 installation media is connected.** In order for you to install Windows 10, your Windows 10 installation file must be loaded onto a disc or flash drive, and the disc or flash drive must be inserted into your computer.

This PC

Network

Recycle Bin

2 **Open the Start menu.** Either click the Windows icon in the bottom-left corner of the screen, or press the ⊞ Win key.

Notepad

CopyTrans Control Center

Windows Defender

WinRAR

Microsoft Edge

Photos

Sunny
100°

Abu Dhabi

Phone Compa...

Twitter

File Explorer

Store

Skype video

Settings

Play and explore

Power

More ways
to play. Join
us!

All apps

New
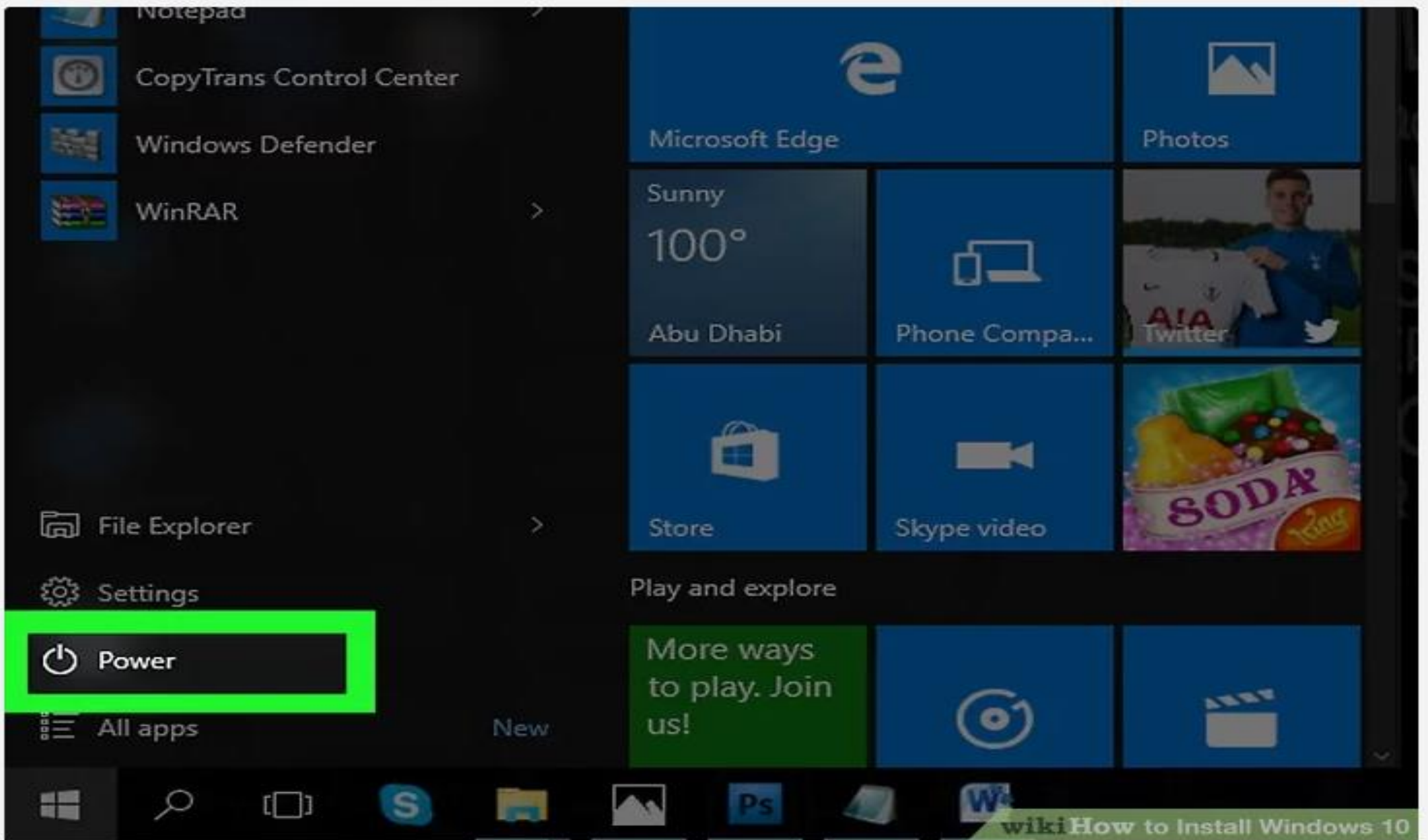
3 **Click the power icon.** This is the circle with a line through its top that's in the bottom-left corner of the Start window.

CopyTrans Control Center

Windows Defender

WinRAR >

Microsoft Edge

Photos

Sunny

100°

Abu Dhabi

Phone Compa...

Twitter

Sleep

Shut down

Restart

Store

Skype video

SODA

Play and explore

⏻ Power

≣ All apps   New

wikiHow to Install Windows 10
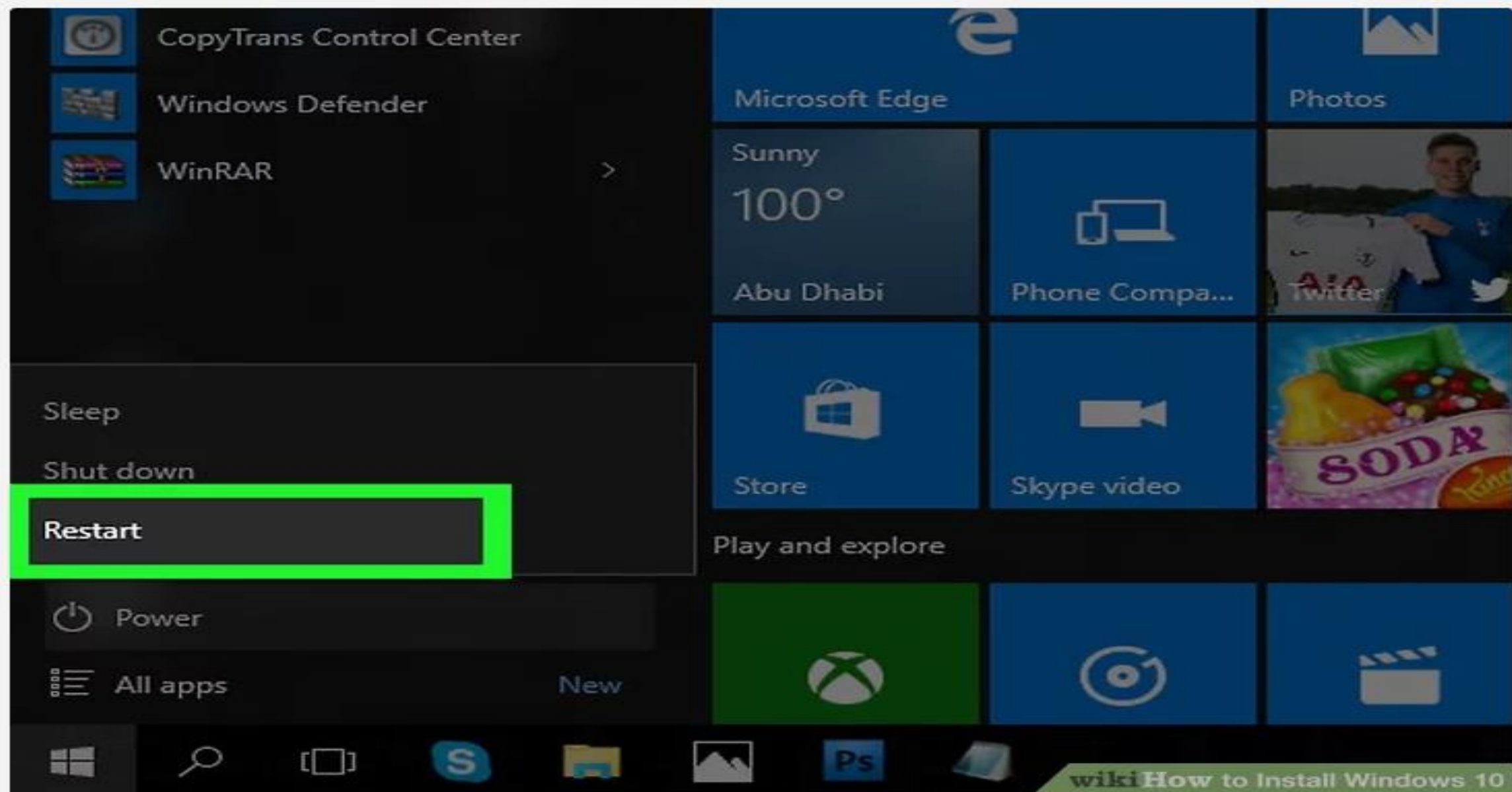
4 **Click** | **Restart** |. It's in the pop-up menu above the power icon. Doing so will restart your computer.

5 **Press and hold** Del **or** F2 **to enter setup.** This key may also be a different key—most computers will display a message on startup that says "Press [key] to enter setup" or something similar, so look for this message when your computer restarts to confirm the key you should press to access the BIOS.

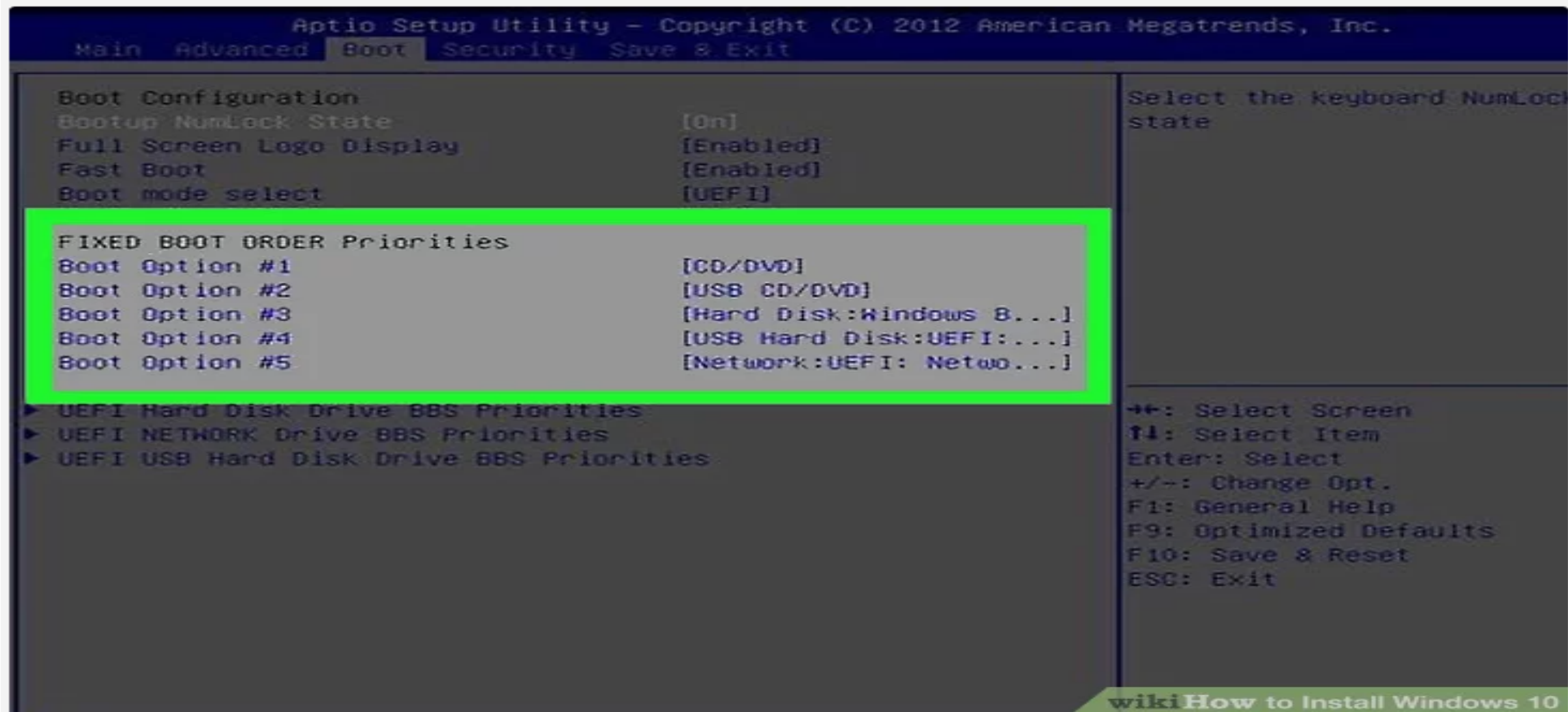- Consult your computer's manual or online support page to confirm your computer's BIOS key.

Setup Utility — Copyright (C) 2012 American Megatrends, Inc.

Main Advance Boot Security Save & Exit

Boot Configuration

Bootup NumLock State   [On]
Full Screen Logo Display   [Enabled]
Fast Boot   [Enabled]
Boot mode select   [UEFI]

FIXED BOOT ORDER Priorities

Boot Option #1   [CD/DVD]
Boot Option #2   [USB CD/DVD]
Boot Option #3   [Hard Disk:Windows B...]
Boot Option #4   [USB Hard Disk:UEFI:...]
Boot Option #5   [Network:UEFI: Netwo...]

UEFI Hard Disk Drive BBS Priorities
UEFI NETWORK Drive BBS Priorities
UEFI USB Hard Disk Drive BBS Priorities

Select the keyboard NumLock state

→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F9: Optimized Defaults
F10: Save & Reset
ESC: Exit

wikiHow to Install Windows 10

6 **Navigate to the** Boot **tab.** You'll use the arrow keys to select it.

- The **Boot** tab may instead say **Boot Options**, depending on your computer's manufacturer.

```
           Aptio Setup Utility - Copyright (C) 2012 American Megatrends, Inc.
     Main  Advanced  Boot  Security  Save & Exit

     Boot Configuration                                          Select the keyboard NumLock
     Bootup NumLock State                   [On]                 state
     Full Screen Logo Display               [Enabled]
     Fast Boot                              [Enabled]
     Boot mode select                       [UEFI]

     FIXED BOOT ORDER Priorities
     Boot Option #1                         [CD/DVD]
     Boot Option #2                         [USB CD/DVD]
     Boot Option #3                         [Hard Disk:Windows B...]
     Boot Option #4                         [USB Hard Disk:UEFI:...]
     Boot Option #5                         [Network:UEFI: Netwo...]

   ▶ UEFI Hard Disk Drive BBS Priorities                         →←: Select Screen
   ▶ UEFI NETWORK Drive BBS Priorities                           ↑↓: Select Item
   ▶ UEFI USB Hard Disk Drive BBS Priorities                     Enter: Select
                                                                 +/-: Change Opt.
                                                                 F1: General Help
                                                                 F9: Optimized Defaults
                                                                 F10: Save & Reset
                                                                 ESC: Exit
```

wikiHow to Install Windows 10

**7** **Select a device from which to boot.** You have a couple of options here:

- For a **USB flash drive**, select the **Removable Devices** option.
- For a **disc installation**, select the **CD-ROM Drive** option.
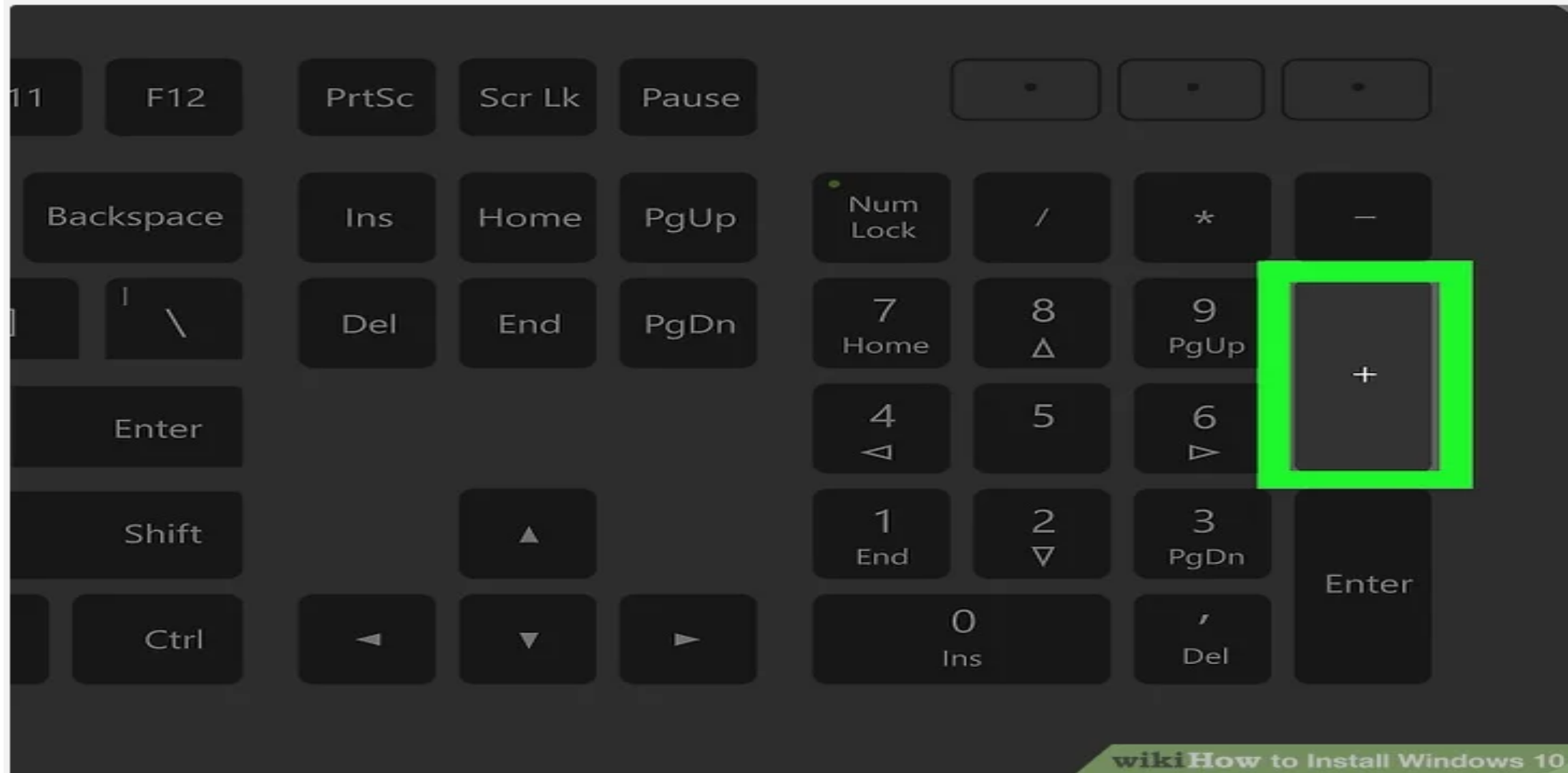
**8** **Press the** + **key until your boot option is first.** Once either **Removable Devices** or **CD-ROM Drive** is at the top of the list, your computer will select your choice as its default boot option.

- On some computers, you'll instead press one of the function keys (e.g., F5 ) to navigate an option up to the top of the menu. The key will be listed on the right side of the screen.
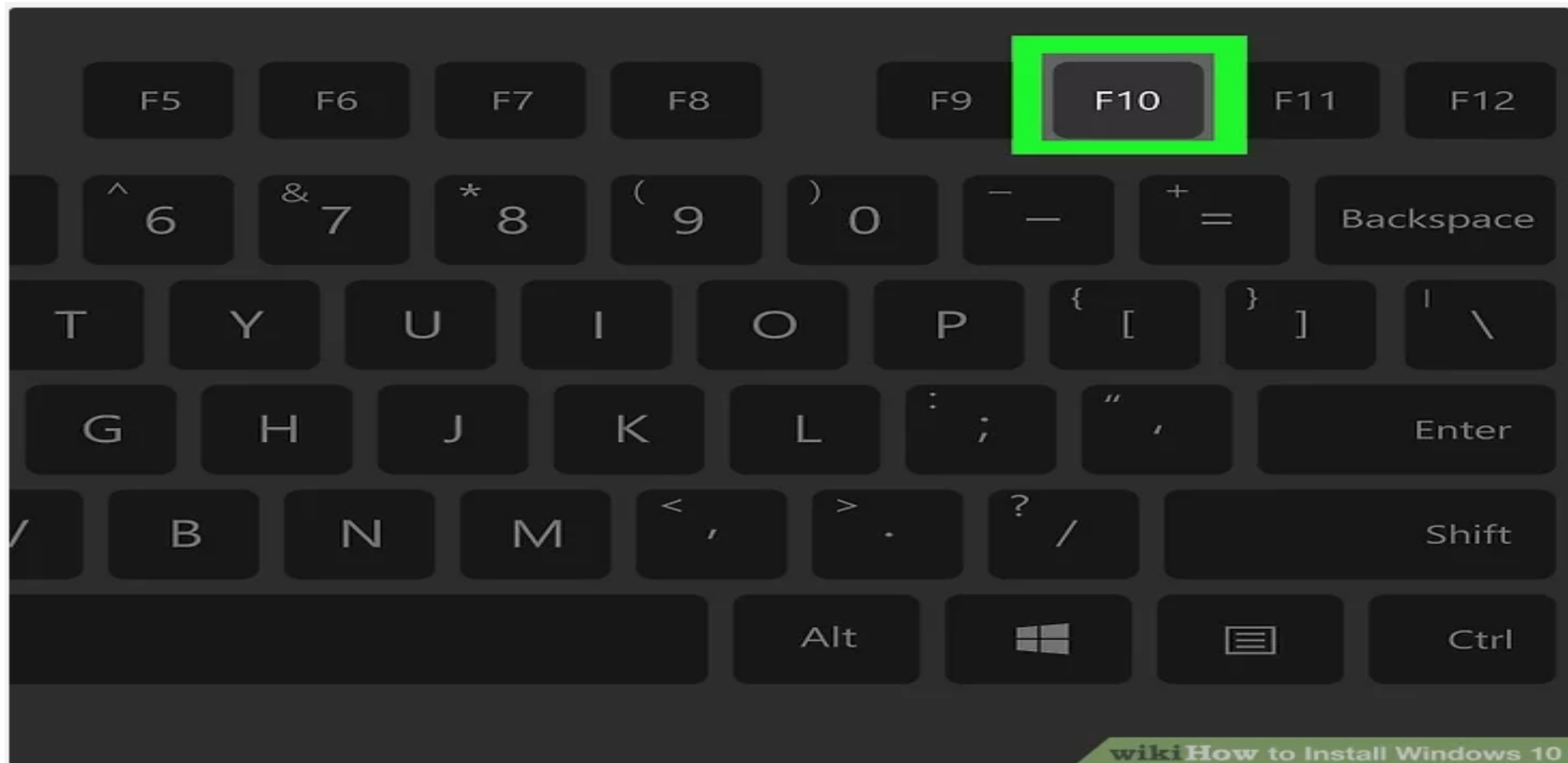
**9** **Save your settings.** You should see a key prompt (e.g., F10) at the bottom of the screen that correlates to "Save and Exit"; pressing it should save your settings and restart your computer.

- You may have to press ↵ Enter to confirm the changes.

wiki**How** to Install Windows 10
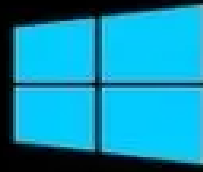
**10** **Wait for your computer to restart.** Once your computer finishes restarting, you'll see a window here with your geographical data. You're now ready to begin setting up your Windows 10 installation.

# Installing



Windows Setup

Language to install: English (United States)

Time and currency format: English (United States)

Keyboard or input method: US

Enter your language and other preferences and click "Next" to continue.

© 2016 Microsoft Corporation. All rights reserved.

Next

wikiHow to Install Windows 10

**1** **Click** ⟨Next⟩ **when prompted.** You can also change the options on this page (e.g.,
the setup language) before continuing if need be.

Setup

**Windows**

Install now

wikiHow to Install Windows 10

**2** Click Install Now . It's in the middle of the window.
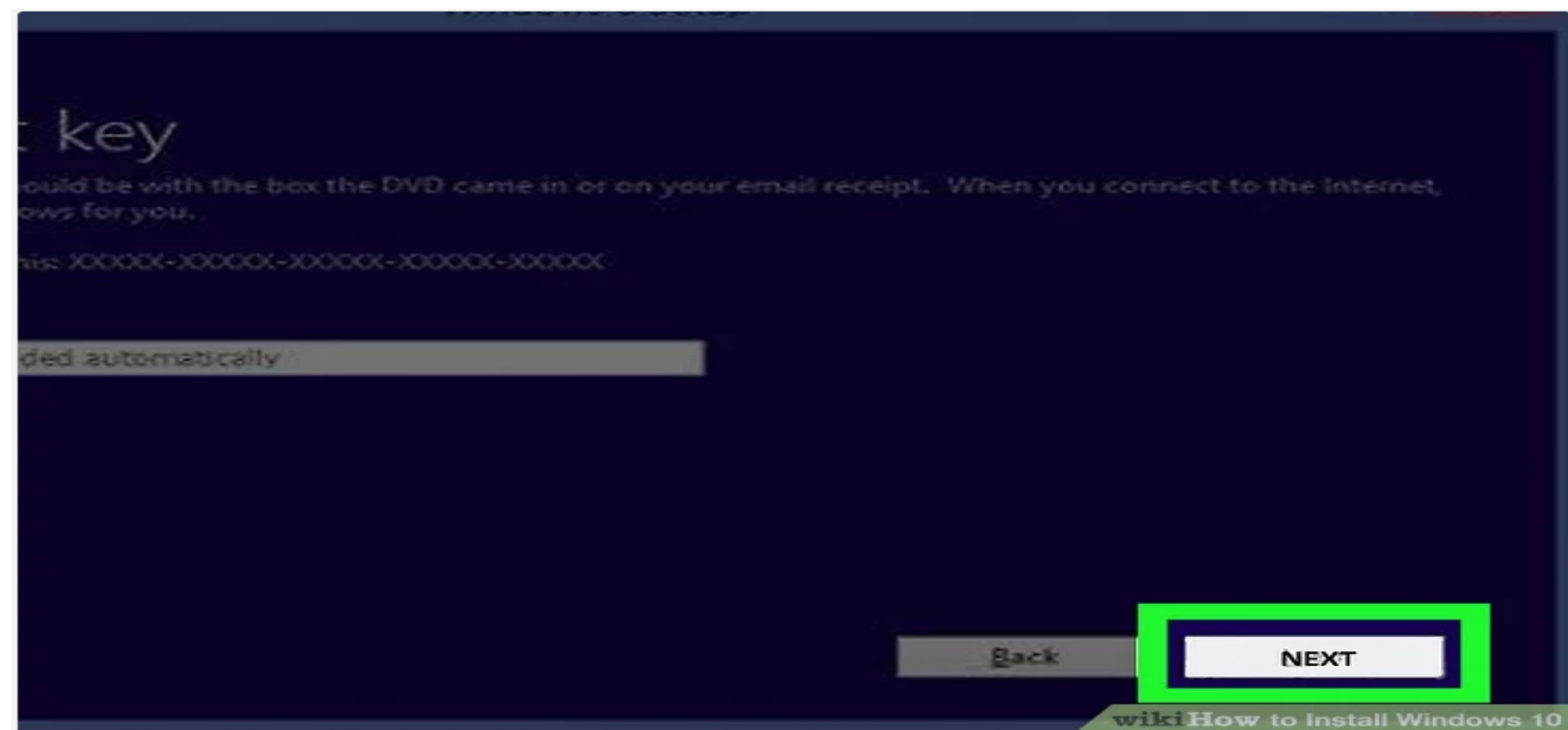
**3** **Enter your Windows 10 key, then click** Next **. If you don't have a Windows 10 key, instead click Skip in the bottom-right corner of the screen.**

**Windows Setup**

License terms

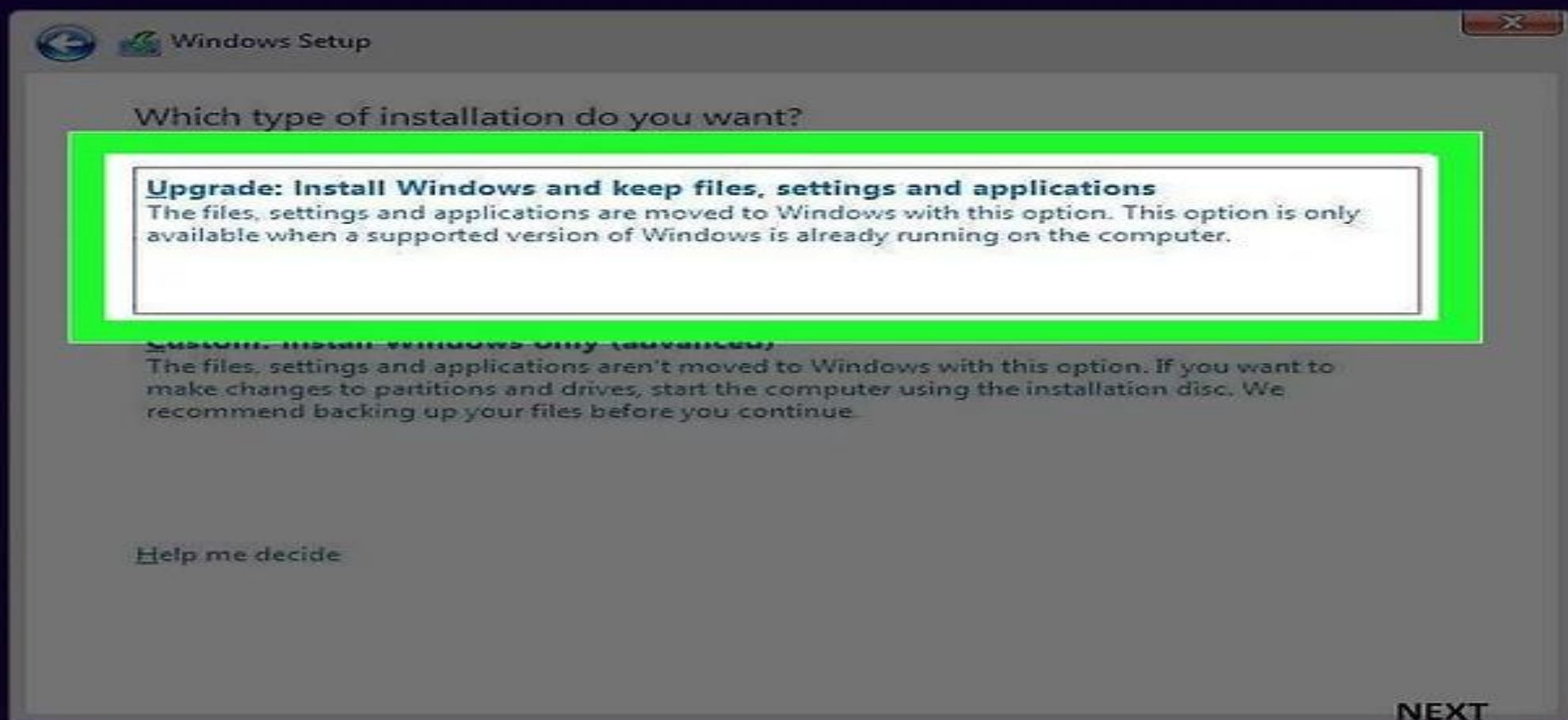MICROSOFT PRE-RELEASE SOFTWARE LICENSE TERMS

PRE-RELEASE WINDOWS OPERATING SYSTEM

IF YOU LIVE IN (OR IF A BUSINESS, YOUR PRINCIPAL PLACE OF BUSINESS IS IN) THE UNITED STATES, SECTION 1 OF THE ADDITIONAL TERMS CONTAINS A BINDING ARBITRATION CLAUSE AND CLASS ACTION WAIVER. IT AFFECTS YOUR RIGHTS TO RESOLVE A DISPUTE WITH MICROSOFT. PLEASE READ IT.

This is a license agreement between you and Microsoft Corporation (or, based on where you live, or if a business, where your principal place of business is located, one of its affiliates) that describes your rights to use the pre-release software named above. If you are entering into this agreement

☑ I accept the license terms

Next

wikiHow to Install Windows 10

**4** Click the "Accept" box and click  Next . This will indicate that you accept the terms of use.

Which type of installation do you want?

**Upgrade: Install Windows and keep files, settings and applications**
The files, settings and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already running on the computer.

~~Custom: Install Windows only (advanced)~~
The files, settings and applications aren't moved to Windows with this option. If you want to make changes to partitions and drives, start the computer using the installation disc. We recommend backing up your files before you continue.

Help me decide

NEXT

**5** Click Upgrade. It's at the top of the "Which type of installation do you want?" window. This option installs Windows 10 while preserving your files, apps, and settings.

- You can click **Custom** instead to clean install Windows 10 on your computer. Doing so will prompt you to select a partition to format before continuing.

# Other ways to install OS

- Boot from USB flash drive that has the ISO image
- Installation through applications such as kickstart, PXE boot, Windows deployment service etc.

Status

✓ Copying Windows files
**Getting files ready for installation (0%)**
Installing features
Installing updates
Finishing up

**6** **Wait for Windows 10 to install.** This process may take anywhere from half an hour to several hours, depending on your computer's previous operating system and processing speed.

- If prompted to press a key in order to boot from a CD, *do not press a key*.

**7** **Follow the on-screen setup instructions.** Once Windows 10 has been installed on your computer, you'll be able to customize its settings (e.g., your region, your preferred language, location settings, etc.). Once you finish this process, you will be taken to your computer's desktop.

- You can also click **Express Settings** to set up Windows 10 with the recommended settings.
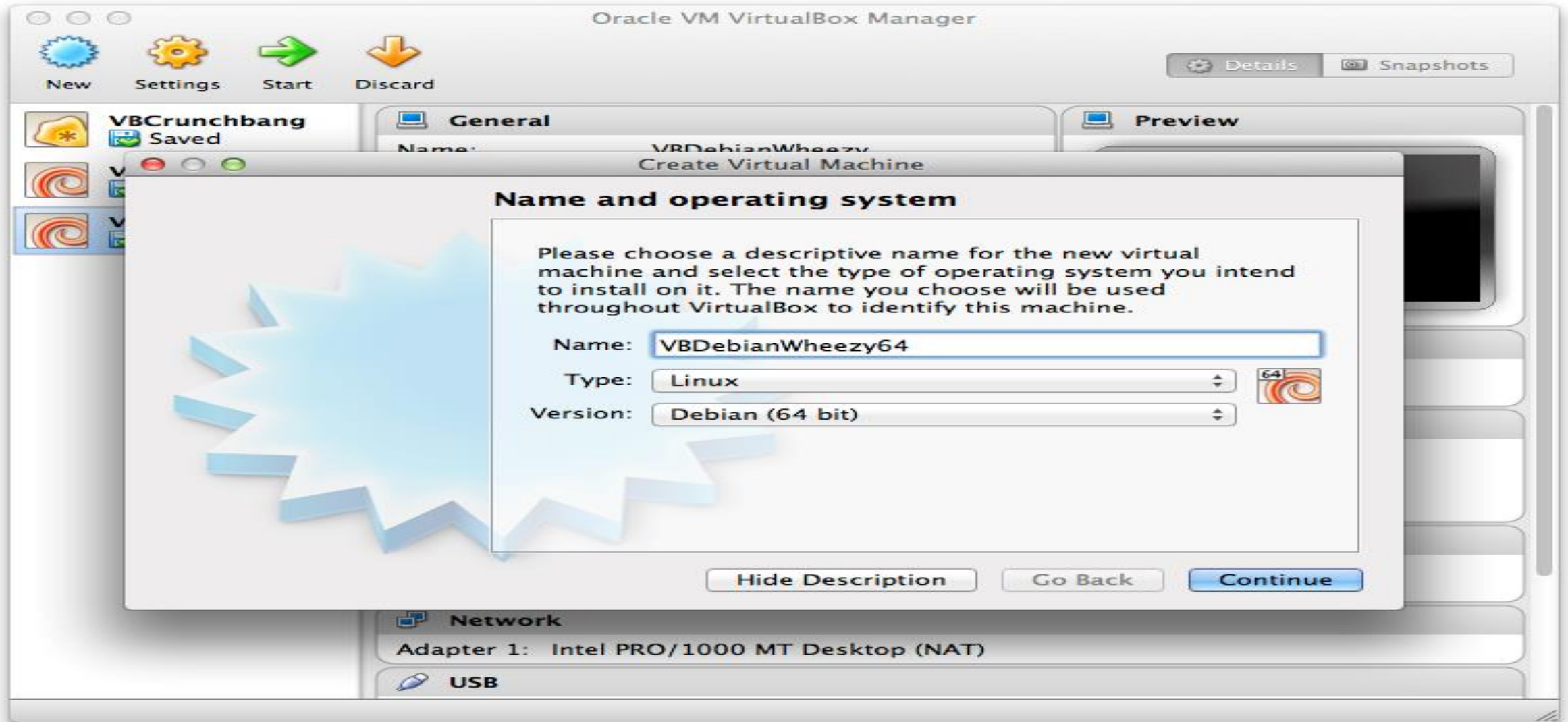
# Downloading the OS on Microsoft website

Windows server 2016

LINK: https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2016

Windows 10

https://www.microsoft.com/en-us/evalcenter/evaluate-windows-10-enterprise

# Creating virtual Machine

# Adding resources to virtual machine(VM)

- verify if you have enough resources in your physical machine.
- add cpu and memory (ram) to VM

# HOSTNAME AND SYSTEM INFORMATION

- How to change hostname

The hostname is a freely selectable name for a host. For example, you could call a server in a company network responsible for the central administration of emails "mail" or "mail123".

- Check system Information

# Windows server GUI overview

- Desktop
- Start menu
- Task bar
- Search bar

# QUIZ

1) Which one of the following is not a method to install an operating system?

a) Attached ISO

b) Run executable file in BIOS

c) Network Boot

d) Insert a CD or DVD

2) Which of the following can be pre-installed with the hardware?

a)   User application          b) Operating system      c) None of the above

3) What is the url to download Microsoft Windows Server ISO?

a) Technet.windows.com   b) Microsoft.technet.com      c) Technet.Microsoft.com

# QUIZ

4) For how many days Windows evaluation is for?

a) 172 ;   b) 190    ;     c) 180    ; d) 150

5) Which key can be use  to release mouse from the VM window?

a) Esc     b) Alt+Ctrl+Del        c) Enter    d) Right Ctrl

6) Which Windows 2016 operating system has the  most features?

a) Windows server Datacenter (Desktop experience)
b) Windows 2016 Datacenter
c) Widows 2016 standard Evaluation (Desktop experience)
d)  Windows 2016 Standard Evaluation

# QUIZ

8) Which of the following resources can be added to a VM?

a) Ram          b) Hard drive       c) CPU        d) All of the above


9) How to change Windows server hostname?

a) Server Manager then tools then computer management

b) Server Manager then Manage then Server Manager properties

c) Server Manager then tool then computer services

d) My pc then properties then change settings