



Virtual Box – Installing Ubuntu Desktop Lab

<PREREQUISITE>

- Internet Connection
- Laptop
- VirtualBox previously installed
- UBUNTU DESKTOP 16.04 LTS ISO FILE - <http://releases.ubuntu.com/14.04/ubuntu-14.04.5-desktop-amd64.iso>

WHAT IS AN ISO?

An **ISO** file, often called an **ISO image**, is **a single file** that's a perfect representation of an entire CD, DVD, or BD. The entire contents of a disc can be precisely duplicated in a single **ISO file**.

Think of an **ISO file** like a box that holds all the parts to something that needs built—like a child's toy you might buy that requires assembly. The box that the toy pieces come in does you no good as an actual toy but the contents inside of it, once taken out and put together, become what you're actually wanting to use.

An **ISO file** works in much the same way. The file itself is no good unless it can be opened, assembled and used.

What does LTS mean?

LTS = Long Term Support

GUI = Short for Graphical User Interface, a **GUI** (pronounced as either **G-U-I** or **gooey**) allows the use of icons or other visual indicators to interact with electronic devices, rather than using only text via the command line.

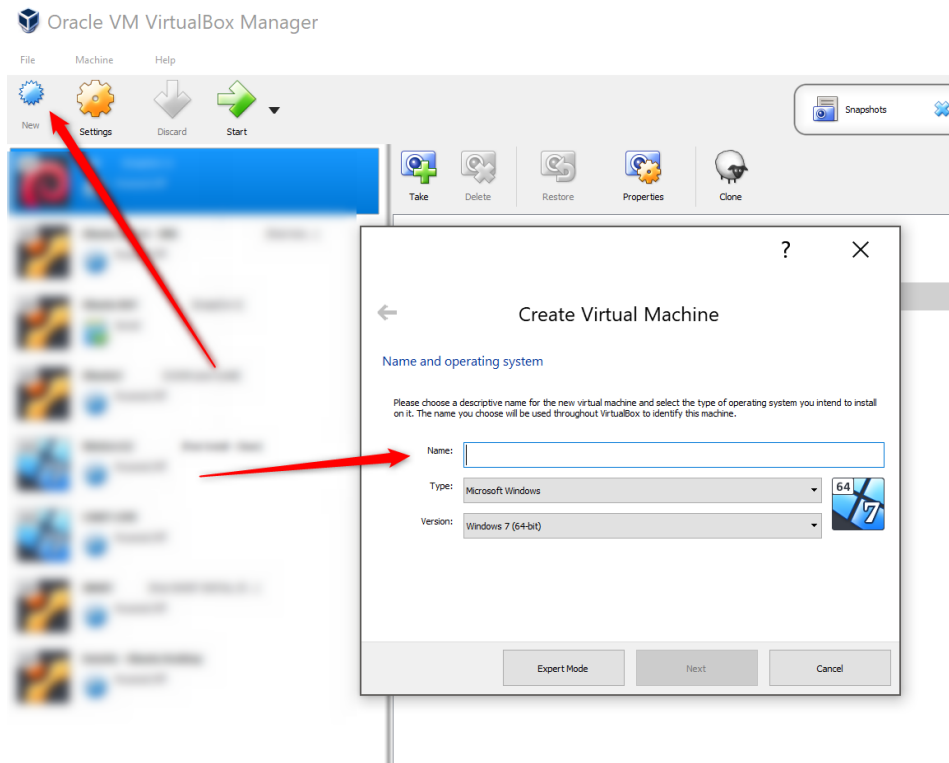
A **GUI** uses windows, icons, and menus to carry out commands, such as opening, deleting, and moving files. Although many **GUI** operating systems are navigated through the use of a mouse, the keyboard can also be utilized by using keyboard shortcuts or arrow keys.

Unlike a command line operating system or CUI, like Unix or MS-DOS, **GUI** operating systems are much easier to learn and use because commands do not need to be memorized. Additionally, users do not need to know any programming languages. Because of their ease of use, **GUI** operating systems have become the dominant operating system used by today's end-users.

LAB START

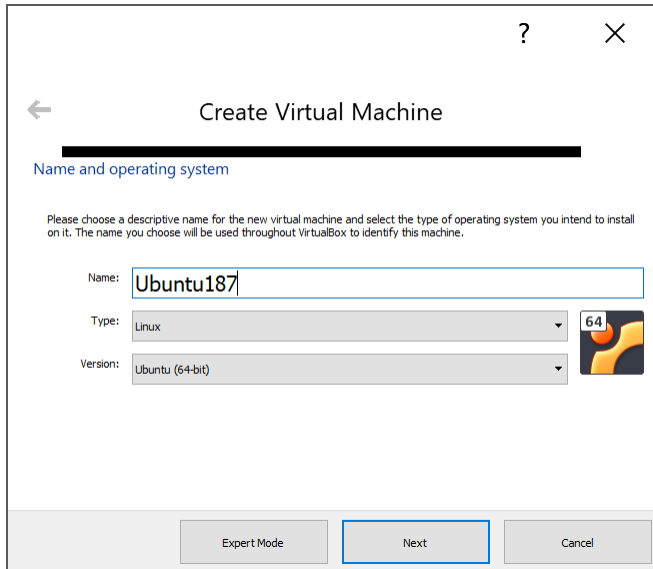
Open Virtual Box

Click on NEW to create a new Virtual Machine object.



Give your computer a name and ensure you have selected the right operating system. In this guide we will be installing UBUNTU Desktop 16.04 LTS. (This operating system has a GUI) (GUI = Graphical User Interface)

If you use the word Ubuntu, VirtualBox will autodetect what OS you are trying to install, neat eh?



The screenshot shows the 'Create Virtual Machine' window with the 'Name and operating system' step selected. The window has a title bar with a question mark and a close button. A back arrow is in the top left. The title 'Create Virtual Machine' is centered. Below it is a blue link 'Name and operating system'. A paragraph of instructions follows: 'Please choose a descriptive name 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.' There are three input fields: 'Name:' with the text 'Ubuntu187', 'Type:' with a dropdown menu showing 'Linux', and 'Version:' with a dropdown menu showing 'Ubuntu (64-bit)'. To the right of the 'Type' and 'Version' dropdowns is a small icon of a Linux distribution. At the bottom are three buttons: 'Expert Mode', 'Next' (highlighted with a blue border), and 'Cancel'.

Create Virtual Machine

Name and operating system

Please choose a descriptive name 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.

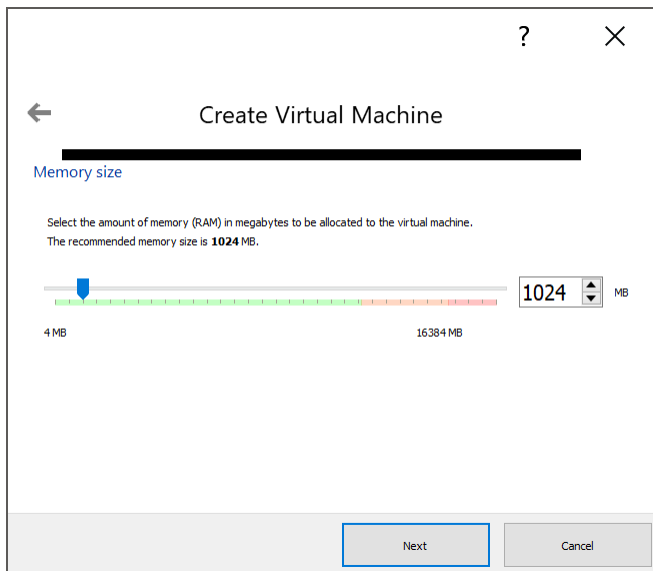
Name:

Type:

Version:

Expert Mode Next Cancel

Give it 1 GB of memory



The screenshot shows the 'Create Virtual Machine' window with the 'Memory size' step selected. The window has a title bar with a question mark and a close button. A back arrow is in the top left. The title 'Create Virtual Machine' is centered. Below it is a blue link 'Memory size'. A paragraph of instructions follows: 'Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine. The recommended memory size is 1024 MB.' There is a horizontal slider bar with a blue handle. The slider has labels '4 MB' at the left end and '16384 MB' at the right end. To the right of the slider is a text box with the value '1024' and a unit 'MB'. At the bottom are two buttons: 'Next' (highlighted with a blue border) and 'Cancel'.

Create Virtual Machine

Memory size

Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine. The recommended memory size is 1024 MB.

4 MB 16384 MB

1024 MB

Next Cancel

Go ahead and create a Virtual Hard Drive for it.

The screenshot shows the 'Create Virtual Machine' dialog box with the 'Memory size' step selected. A progress bar at the top is partially filled. The text 'Memory size' is in blue. Below it, instructions state: 'Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine. The recommended memory size is 1024 MB.' A slider bar ranges from 4 MB to 16384 MB, with a blue marker at 1024 MB. A numeric input field on the right shows '1024' MB. At the bottom are 'Next' and 'Cancel' buttons.

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← Create Virtual Machine

Memory size

Select the amount of memory (RAM) in megabytes to be allocated to the virtual machine.
The recommended memory size is 1024 MB.

4 MB 16384 MB

1024 MB

Next Cancel

Let's go with the default of VDI (VirtualBox Disk Image)

The screenshot shows the 'Create Virtual Hard Disk' dialog box with the 'Hard disk file type' step selected. A progress bar at the top is partially filled. The text 'Hard disk file type' is in blue. Below it, instructions state: 'Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.' Three radio button options are listed: 'VDI (VirtualBox Disk Image)' (selected), 'VHD (Virtual Hard Disk)', and 'VMDK (Virtual Machine Disk)'. At the bottom are 'Expert Mode', 'Next', and 'Cancel' buttons.

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← Create Virtual Hard Disk

Hard disk file type

Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.

☒ VDI (VirtualBox Disk Image)

☐ VHD (Virtual Hard Disk)

☐ VMDK (Virtual Machine Disk)

Expert Mode Next Cancel

We will leave it Dynamically allocated. Take time to read what that means.

The screenshot shows the 'Create Virtual Hard Disk' dialog box with the 'Storage on physical hard disk' step selected. The title bar has a question mark and a close button. A back arrow is in the top left. The main heading is 'Create Virtual Hard Disk'. Below it is a sub-heading 'Storage on physical hard disk'. The text explains the choice between dynamically allocated and fixed size. The 'Dynamically allocated' radio button is selected. The 'Next' button is highlighted with a blue border, and the 'Cancel' button is to its right.

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Create Virtual Hard Disk

Storage on physical hard disk

Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).

A **dynamically allocated** hard disk file will only use space on your physical hard disk as it fills up (up to a maximum **fixed size**), although it will not shrink again automatically when space on it is freed.

A **fixed size** hard disk file may take longer to create on some systems but is often faster to use.

☒ Dynamically allocated

☐ Fixed size

Next

Cancel

Let's bump it up to 20gb, depending on what you are going to use it for, you might need it, if you don't as you practice, you might want to delete this VM and create others which are larger and smaller depending on the application you are conducting on it.

The screenshot shows the 'Create Virtual Hard Disk' dialog box with the 'File location and size' step selected. The title bar has a question mark and a close button. A back arrow is in the top left. The main heading is 'Create Virtual Hard Disk'. Below it is a sub-heading 'File location and size'. The text explains where to type the file name. The text box contains 'Ubuntu187' and has a folder icon to its right. Below the text box is a slider for selecting the size of the virtual hard disk in megabytes, ranging from 4.00 MB to 2.00 TB. The slider is set to 20.00 GB. The 'Create' button is highlighted with a blue border, and the 'Cancel' button is to its right.

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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.

Ubuntu187

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

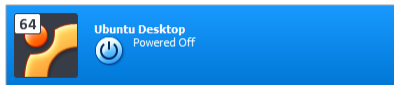
20.00 GB

2.00 TB

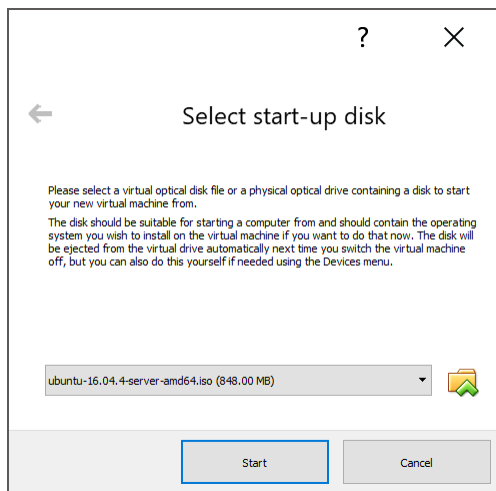
Create

Cancel

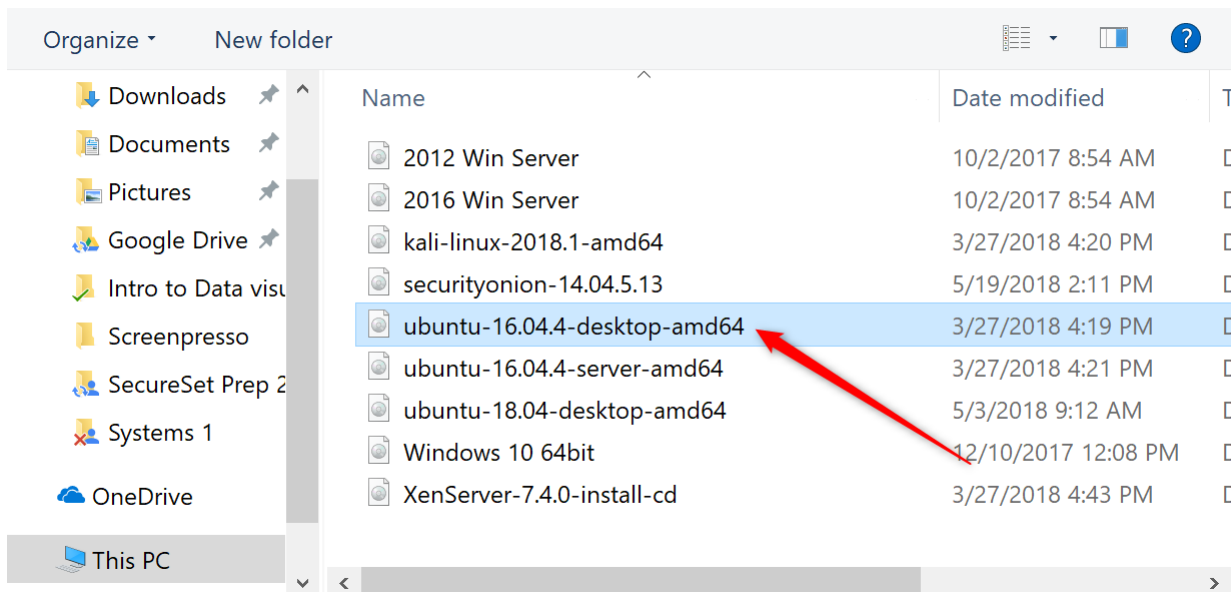
Your VM **OBJECT** has been created, you have created a virtual computer. (We use the word **object**, as the **abstraction** of a computer.) (In software engineering and computer science, abstraction is a technique for hiding complexity of computer systems. It works by establishing a level of simplicity on which a person interacts with the system, suppressing the more complex details below the current level.)



Since we haven't inserted the virtual ISO for the Ubuntu Desktop 16.04 LTS it will prompt us to do so:



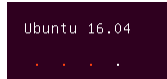
Make sure you click the folder and navigate to the DESKTOP ISO, not the SERVER ISO.



Then click on START and you should boot to the virtual ISO DISK in the virtual DVD drive.

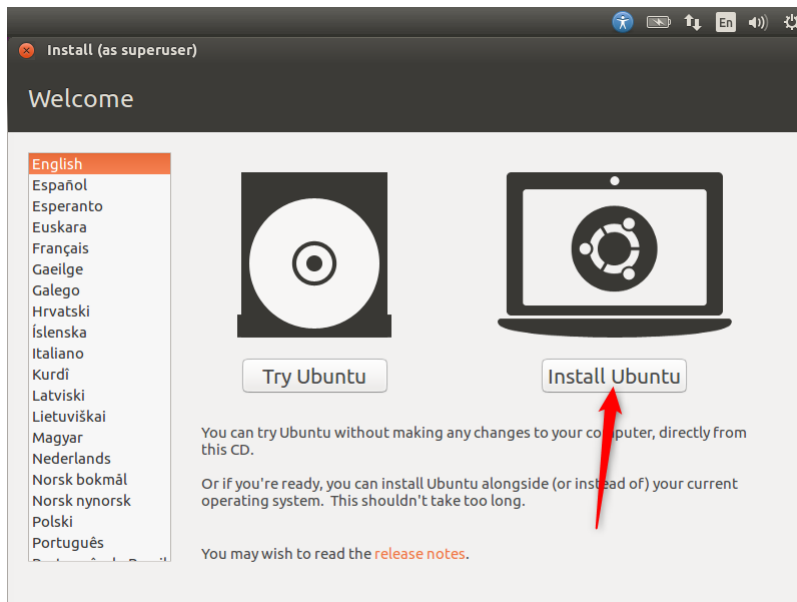
Now the computer will boot to the Virtual DVD you inserted and you can install the Operating System!

As it starts you will be presented w/ this screen.

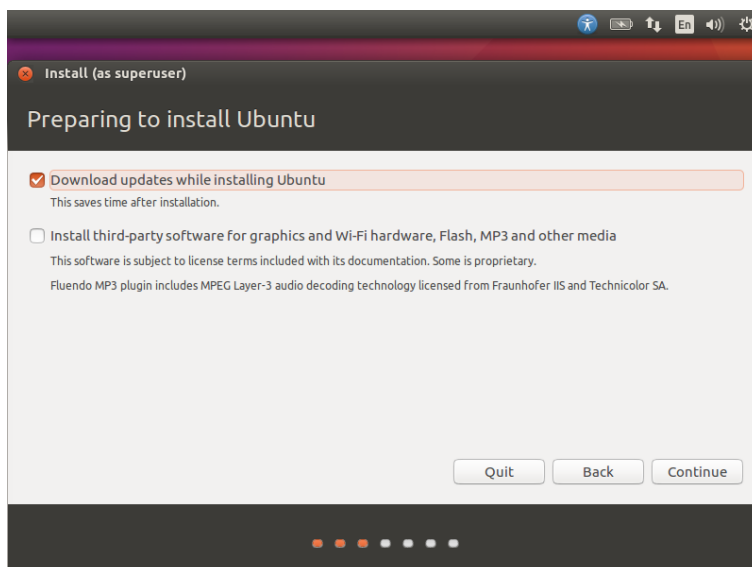


INSTALLING THE OS

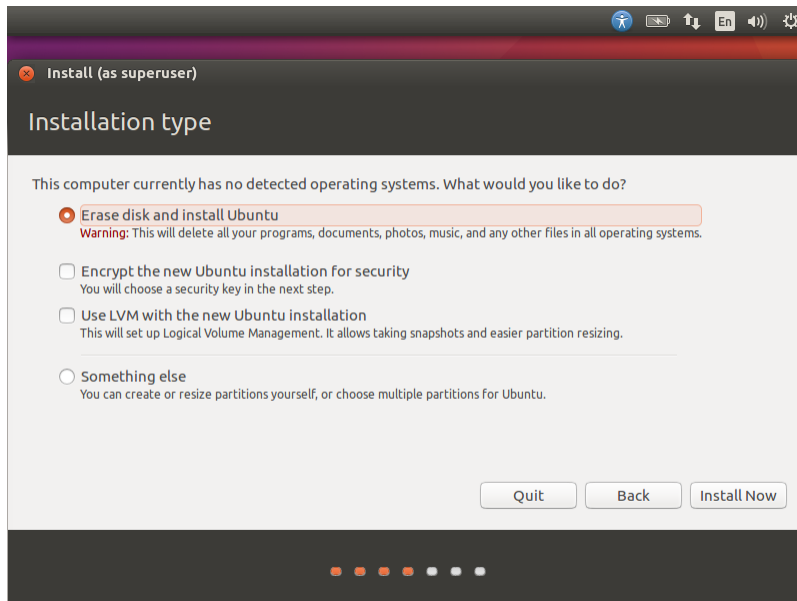
Click on INSTALL UBUNTU



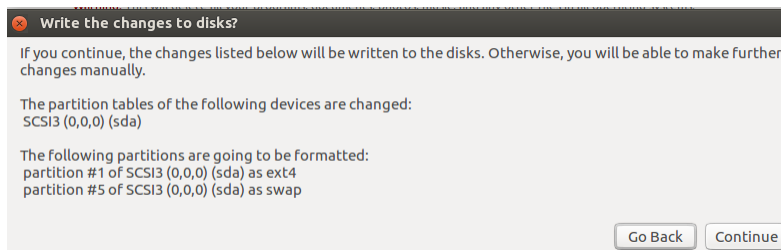
Preparing to install Ubuntu. Go ahead and select the checkbox for “Download updates while installing Ubuntu” and click on **Continue**



Just like what we did in the SERVER we need to format the drive and install the Ubuntu Desktop File system. The default settings are fine, just click on “Install Now”



It will give you failsafe step, (do you really want to do this?) we do so just go ahead and click on Continue.



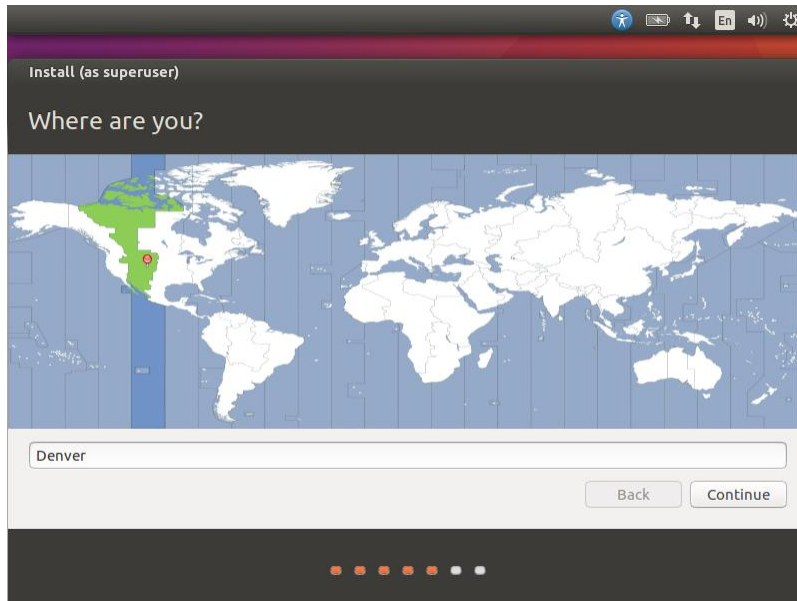
It will take some time, but you can check the activity by the blinky lights at the bottom of the window:



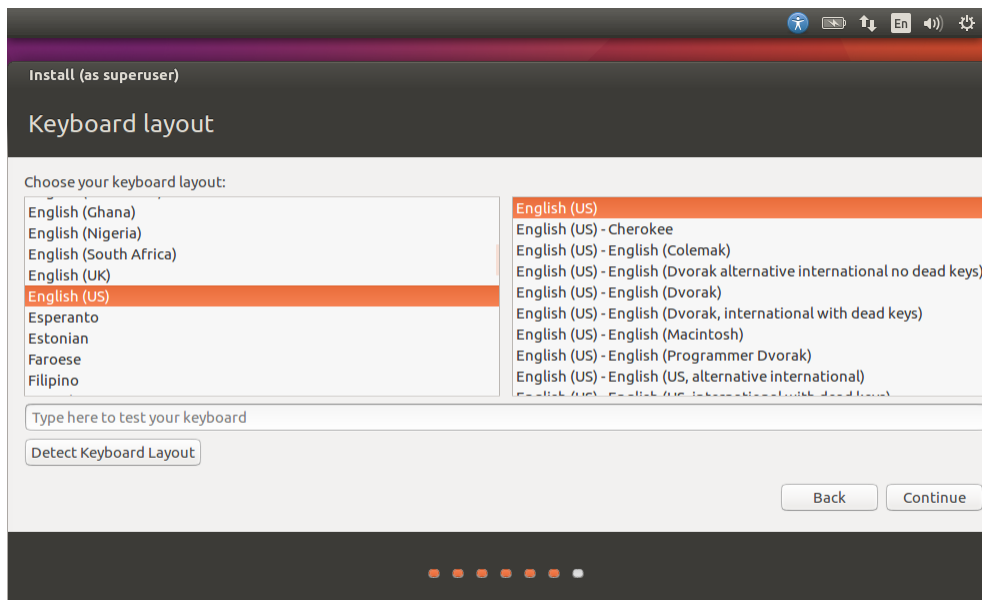
The next step will ask you what you want to do, just go ahead and hit enter to the default, which is “Install Ubuntu Server”

Next you will be presented as to your physical location on the planet, it should autodetect your location via the NTP servers and your public IP address (more on this in the Networking part of SecureSet Prep).

Go ahead and click on **Continue**.



OK, next the Ubuntu Desktop operating system wants to know your keyboard layout, go ahead and stick with English (us) and English (us). You may need to resize the window, its ok, it won't break. Go ahead and click on **Continue**.



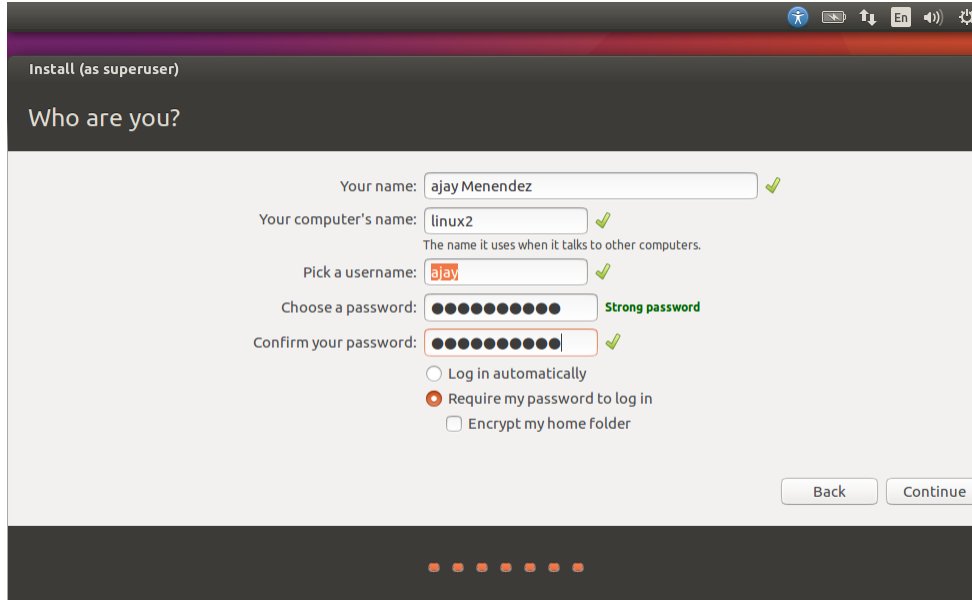
Time to drop your credentials into this new VM.

Drop a name, come up with a computer name, I did linux2 this time. Doesn't really matter, just make sure its all lower case, no spaces, no special characters.

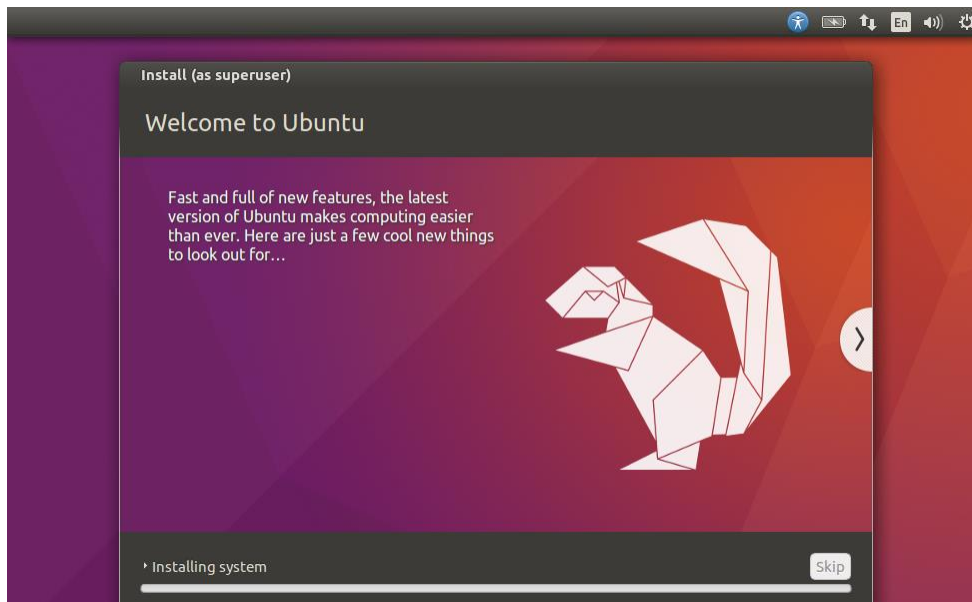
A username (again, lowercase)

And a password.

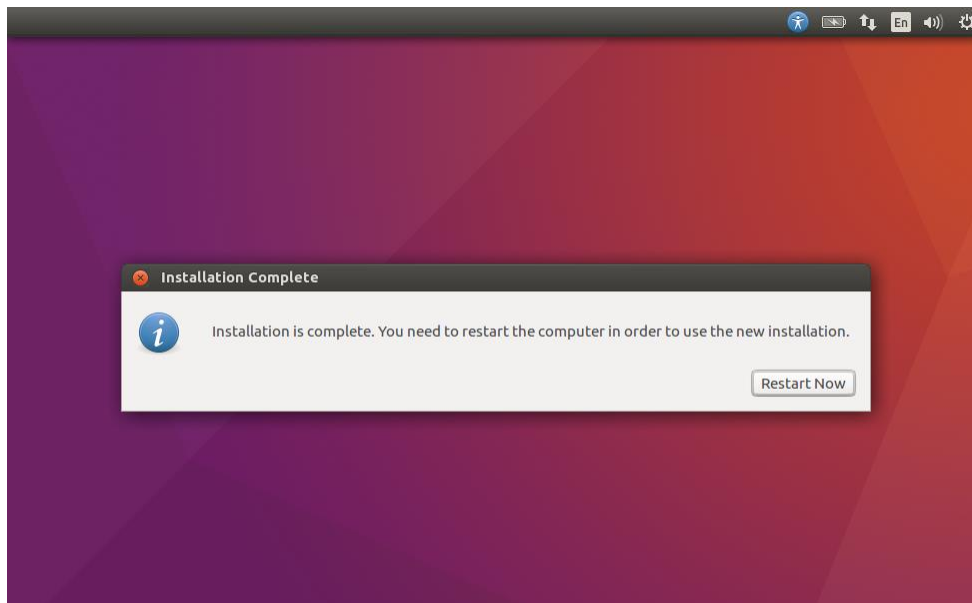
Click **Continue**.

A screenshot of the Ubuntu installer window titled "Install (as superuser)". The main heading is "Who are you?". It contains several input fields: "Your name:" with the value "ajay Menendez", "Your computer's name:" with the value "linux2", "Pick a username:" with the value "ajay", "Choose a password:" with a masked password, and "Confirm your password:" with a masked password. Each input field has a green checkmark to its right. Below the password fields, there are three radio button options: "Log in automatically" (unselected), "Require my password to log in" (selected), and "Encrypt my home folder" (unselected). At the bottom right, there are "Back" and "Continue" buttons. A progress bar at the very bottom shows six steps, with the first one highlighted.

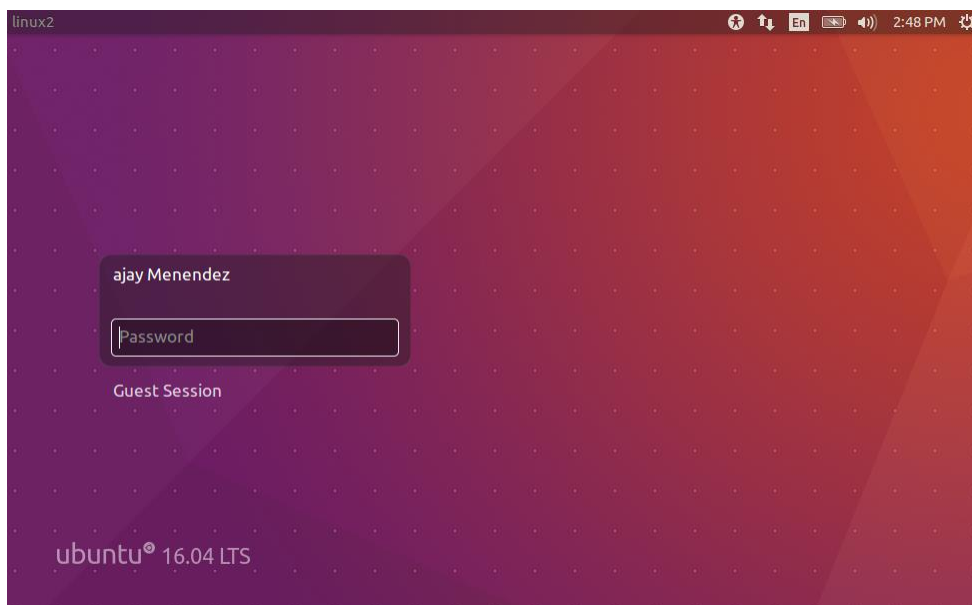
OK, its going to install the Operating System now, so it will take some time, be patient, go grab some coffee or water.



You'll be presented with the Installation complete, go ahead and click on **RESTART NOW**.

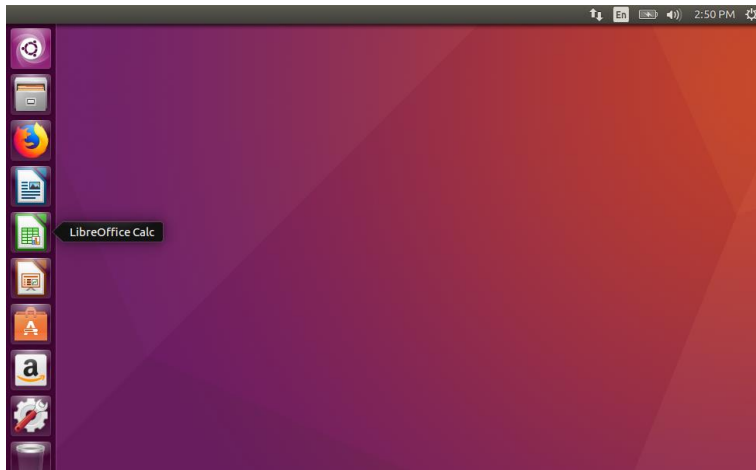


Once your Virtual Machine reboots you will be presented with a logon screen.

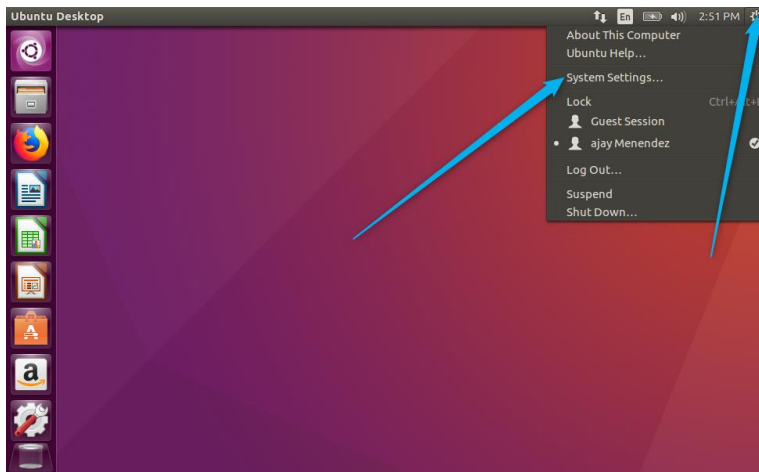


Go ahead and log in.

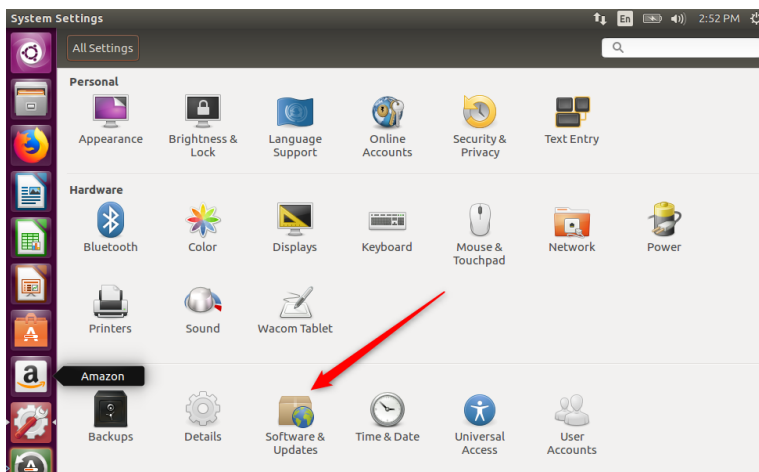
You will now be presented with the Ubuntu Desktop GUI.



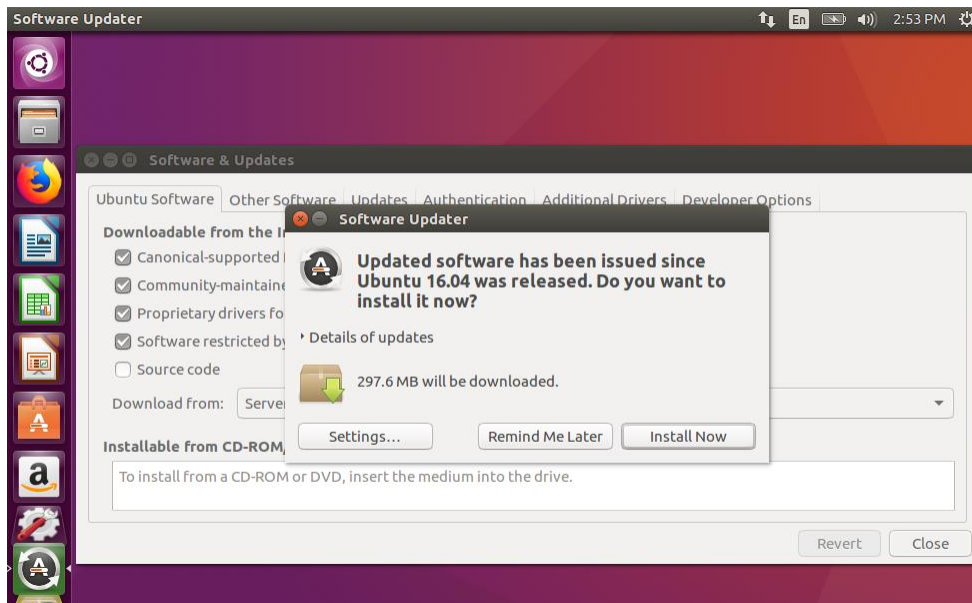
Let's go ahead and update this system. Click on the wrench in the upper right hand corner, then the System Settings.



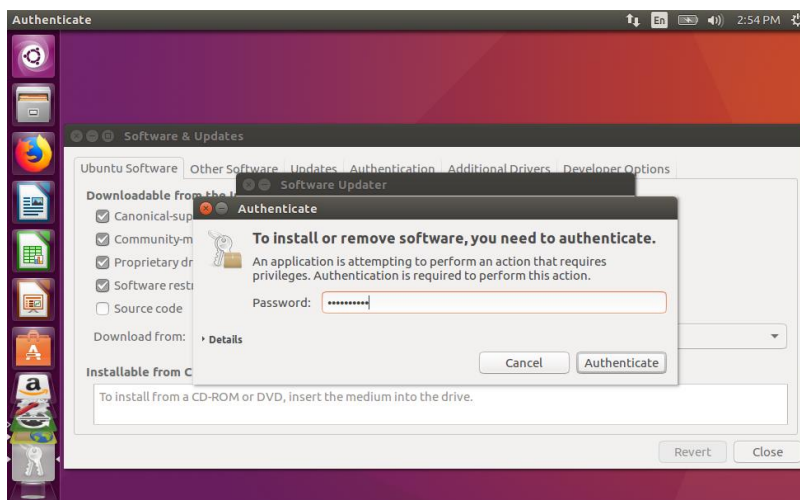
Click on "Software & Updates"



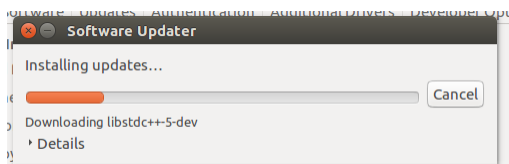
You will be presented with the following options, click on “install now”



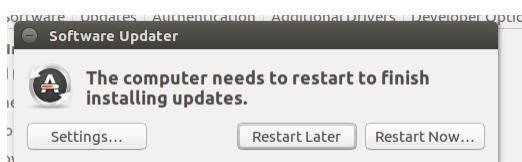
You'll need to put in your password and click **Authenticate**.



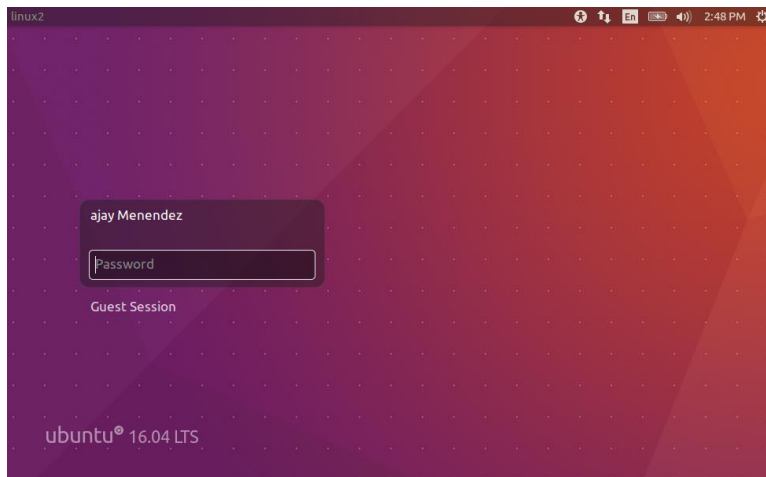
It might take some time, so some more coffee or water might be in order.



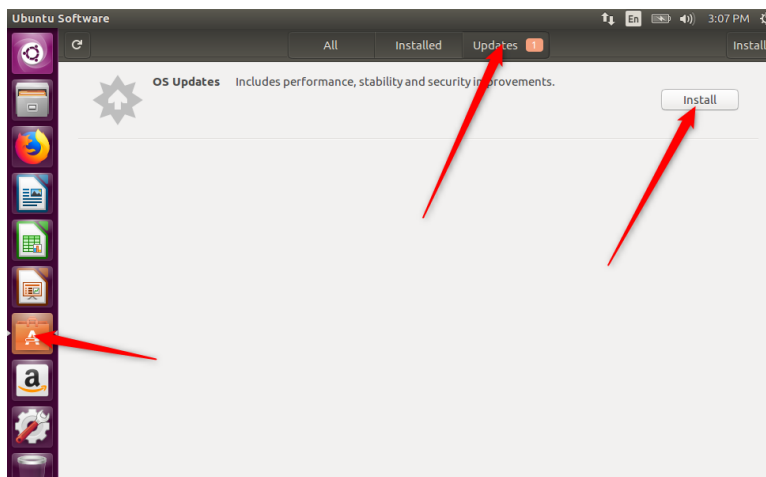
Then you will receive this prompt, go ahead and **Restart Now**.



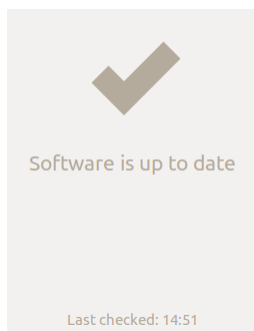
Go ahead and log back in.



Click on Ubuntu Software, select the updates tab and then click INSTALL for the OS updates.

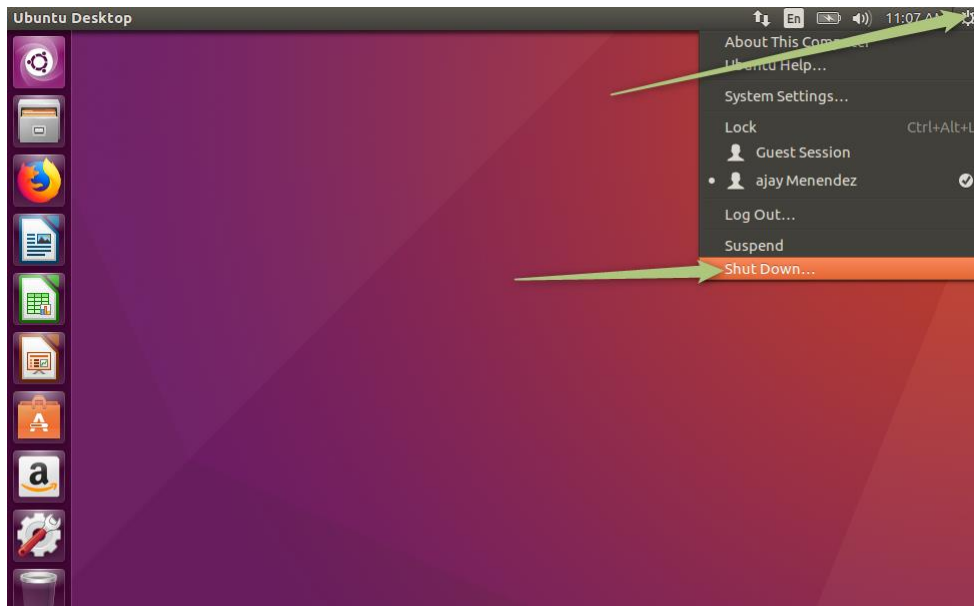


When complete you will get this message:

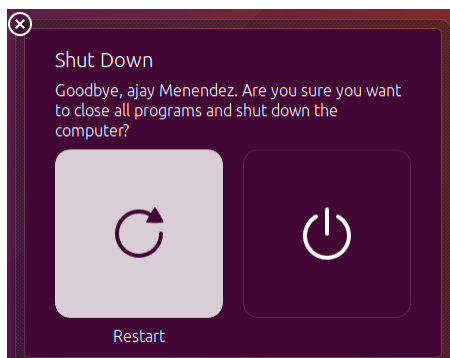


Let's review how to restart or shutdown an Ubuntu Linux Desktop Workstation:

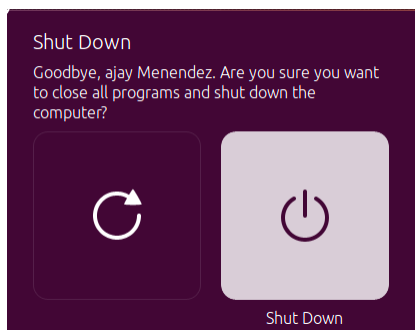
RESTART from the GUI:



Then the left restart button:



Or to Shutdown



Excellent, so now your system is for the most part, ready to go. Good job!

AUTHOR: ajay Menendez, Executive Director Hunt Analyst Program

