

1. Install Ubuntu VM in VirtualBox

January 18, 2026

Given:

You have installed the VirtualBox application — called a “hypervisor” — on your computer;
You have downloaded the Ubuntu desktop .iso to your computer.

The version of VirtualBox used in this demonstration is: 7.2.4

The version of Ubuntu Desktop being installed is: 24.04.03

In this how-to, we will go step-by-step over creating and configuring an Ubuntu virtual machine. Please note that the current version of VirtualBox allows for **unattended installation** of a virtual machine. In order to build our virtual machine with **Logical Volume Management (LVM)**, we will NOT be using unattended installation.

Start by opening the VirtualBox hypervisor. Its interface has been highly standardized across operating systems. It should look something like this:

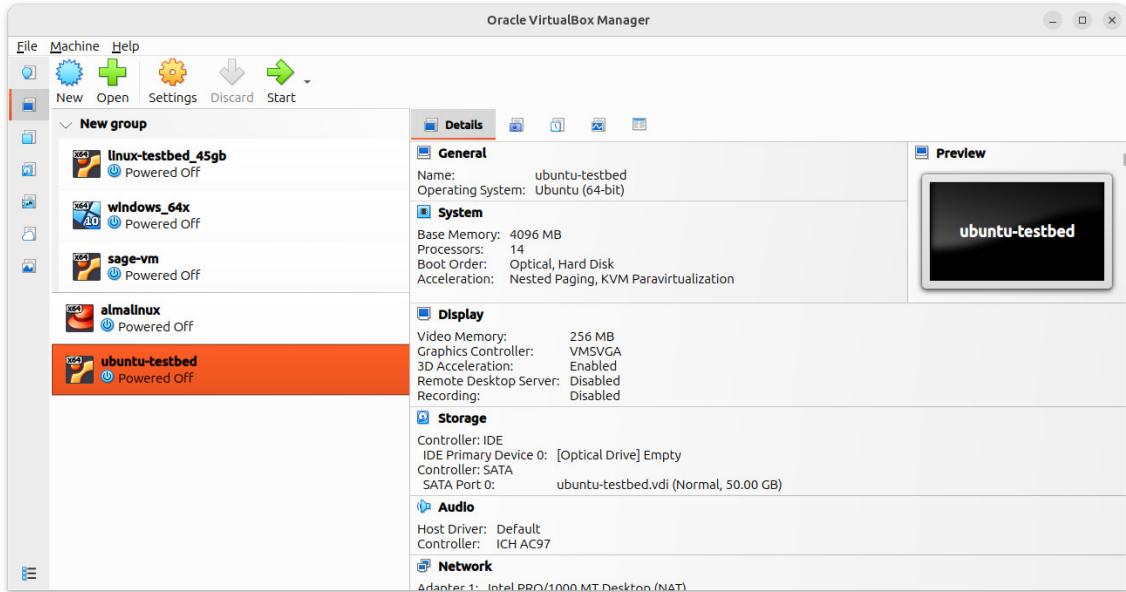


Figure 1: The VirtualBox hypervisor.

Note the virtual machines in the left-hand pane. If you are new to VirtualBox, you will have no virtual machines in the pane. I do because I have what we call a “mature” deployment.

Note the “New” button in the upper left-hand corner of the app window. We press “New” to start building a virtual machine. Please press it now.

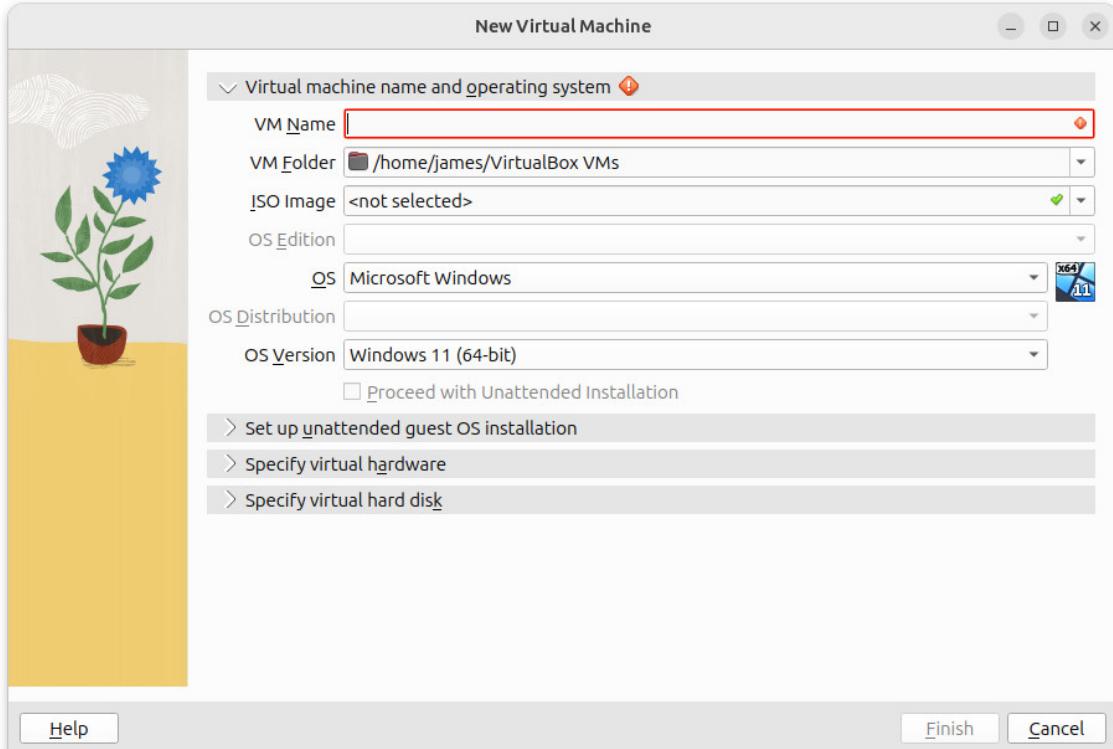


Figure 2: Configuring a new virtual machine.

Give your virtual machine a name. I'll name mine "ubuntu-vm". VirtualBox will create your virtual machine in a subdirectory named "VirtualBox VMs" under your home directory. We wish to select the ISO image of the Ubuntu Desktop installer .iso. If you downloaded the .iso using a web browser; then, if you haven't moved the .iso, it will be in your Downloads directory. Click the down button to find and select the installer .iso. The hypervisor reads the installer once selected and fills in several of the text fields. We do NOT want to proceed with unattended installation.

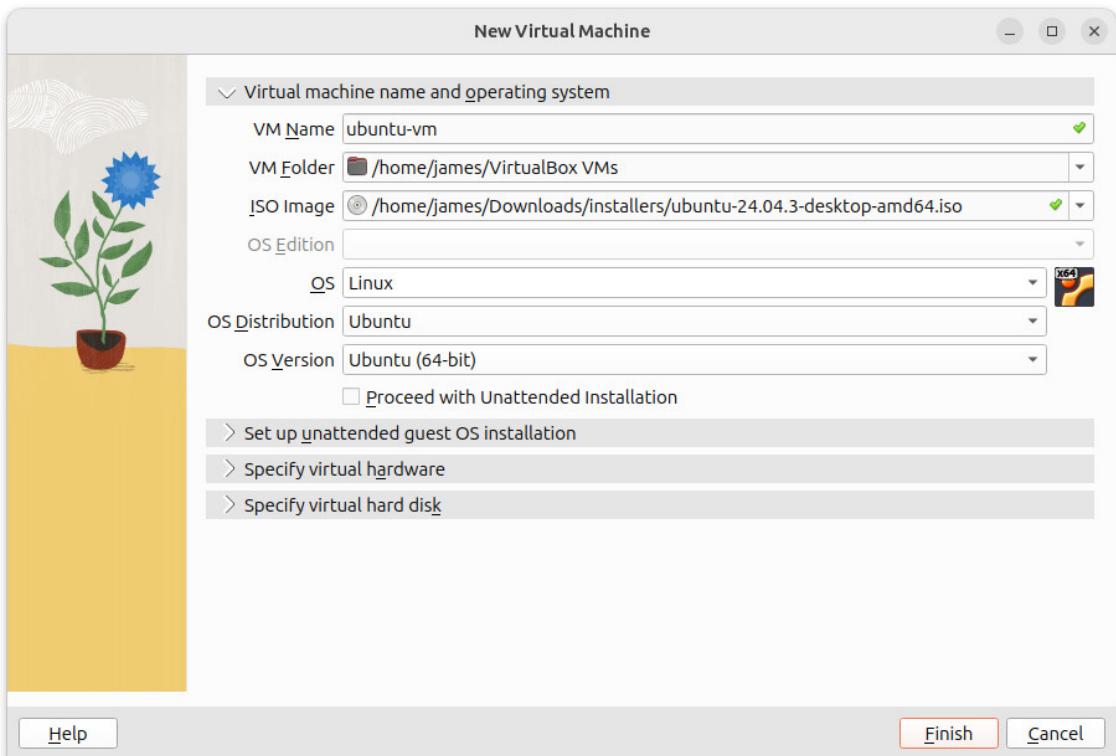


Figure 3: **Configuring a new virtual machine, Screenshot 2.**

Here, we show the text fields in the upper part of the window filled in with our selections.

Expand the section labeled **Specify virtual hardware**.

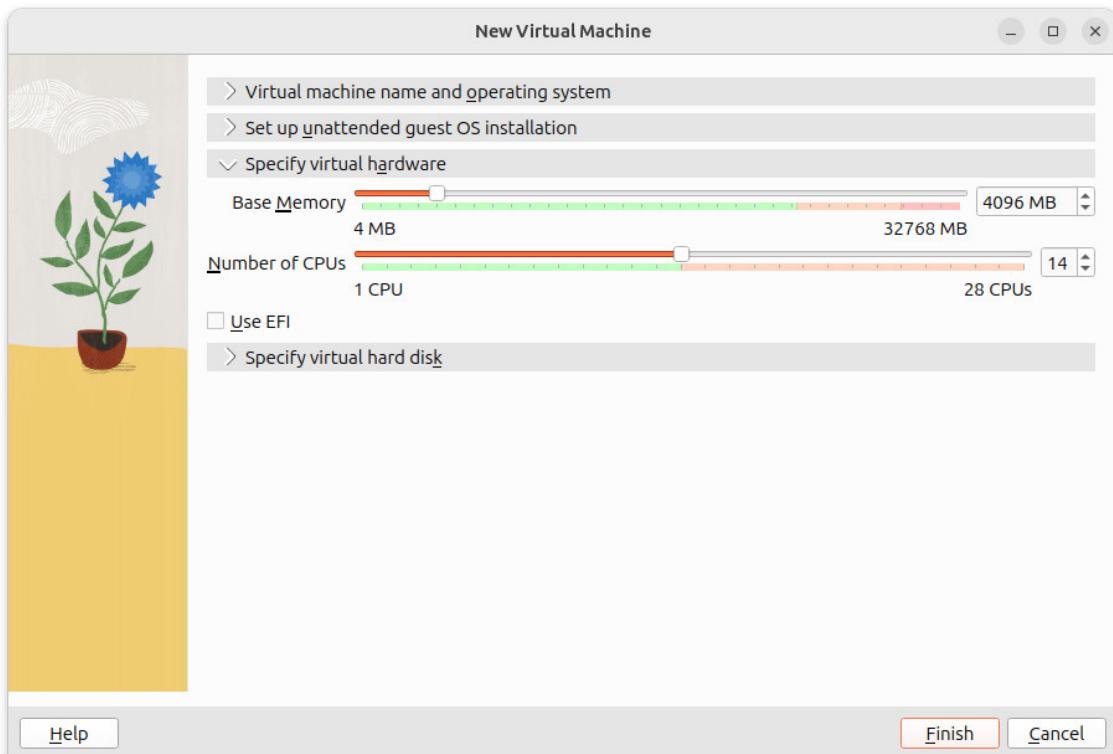


Figure 4: **Setting RAM and core count for our virtual machine.**

For most of the exercises, 4GB of RAM is sufficient.

For all the exercises except parallel programming, it is ok to set the core count to the maximum allowed.

You can adjust these two options after the virtual machine has been built. (The VM must be turned off when you adjust its RAM and core count.)

Expand the section labeled **Specify virtual hard disk**.

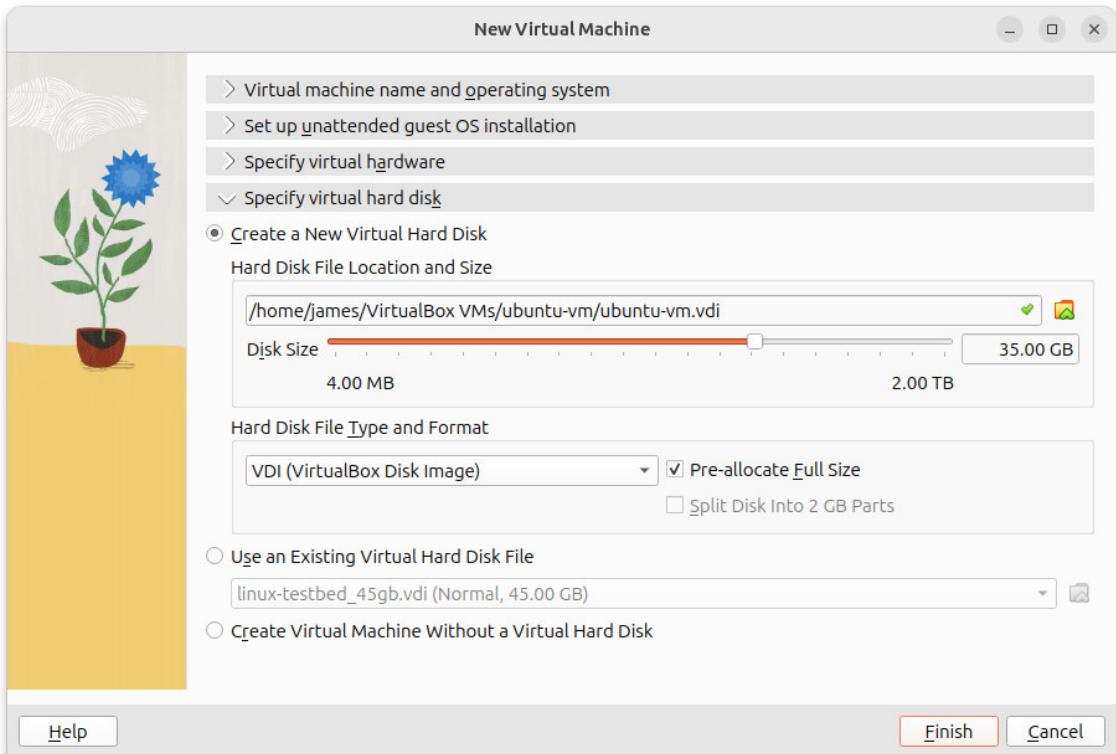


Figure 5: **Setting hard disk parameters for our virtual machine.**

The virtual machine's hard disk is just a file on our host machine's hard drive.

We'll create an initial system drive size of 35GB. Because we're going to enable LVM, if we need more space later, we can create a second hard disk, then add it to the logical volume to expand the size of the system drive.

Please note that I am pre-allocating the full 35GB of the system drive now.

Once you've finished, click the **Finish** button. You should find yourself back at the hypervisor window, which should show your new VM in the left-hand pane. Make sure that your VM is selected, then click the **Start** button to start your VM.

It will mount the installer .iso, which is bootable, and boot from the installer.



Figure 6: The VirtualBox splashscreen.

Low-level code scans attached media in sequence searching for a bootable medium. At this point, the only bootable medium available is the installer .iso

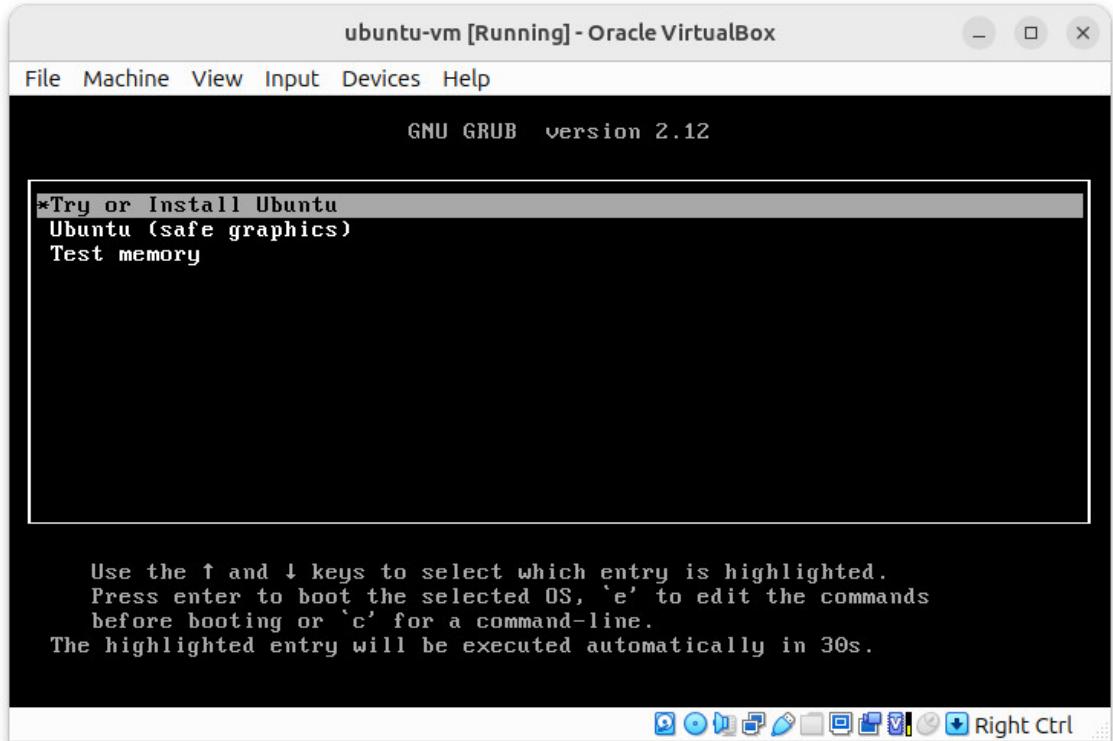


Figure 7: **GRUB options.**

The installer will offer you choices regarding video. If the installer has a graphics driver compatible with your host machine's graphics technology, graphics on the VM should come up fine on the first option.

However, if your host machine's graphics technology is too new for the installer to have a suitable driver for it, then you have the option of booting using **safe graphics**.

You can start with the default first option. If the VM comes up and stays blank, you can then try the second option.

A copy of Linux will be read from the installer into your VM's RAM. Once booting has finished, you should see a graphical desktop in the VM's window. Here, you will set options for language and keyboard, as well as how to connect to the internet (**Use wired connection**); and finally, update the installer. Close the installer when prompted.

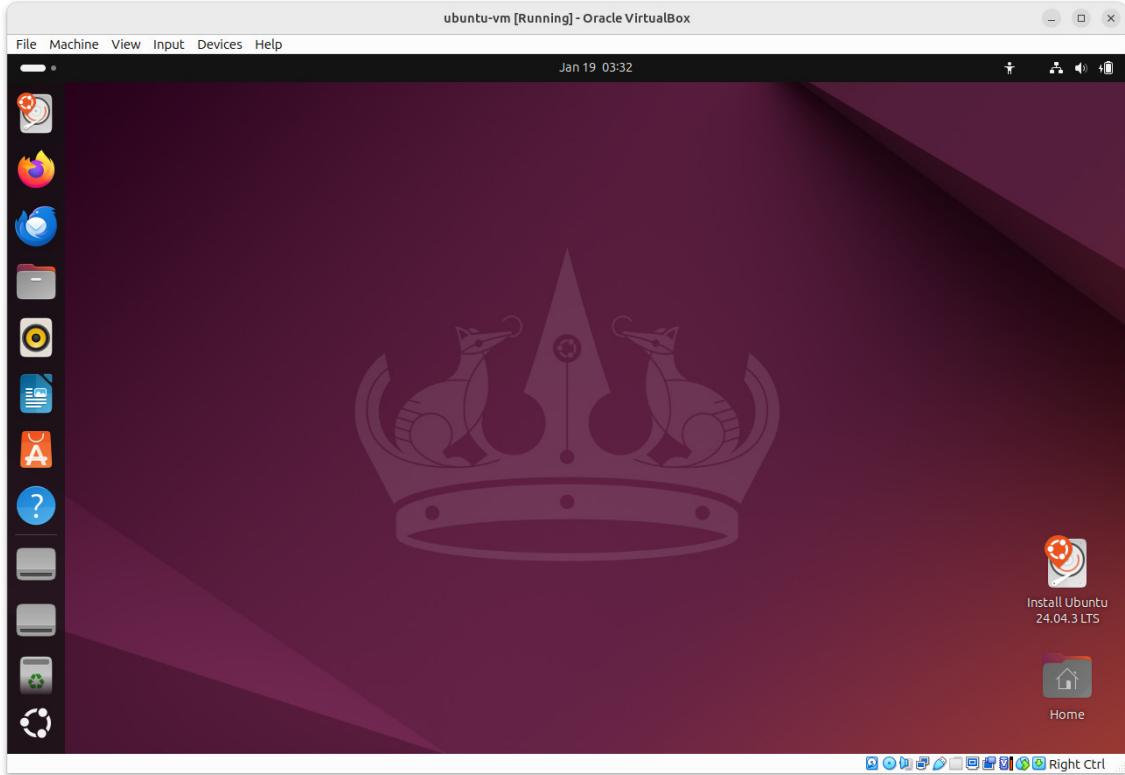


Figure 8: The installer desktop.

The installer also serves as a rescue disk. But we want to install a copy of Ubuntu on our 35GB disk.

On this desktop, you will see two copies of the same icon. Clicking either copy will start the installation.

We start by going through some of the same start-up options we went through when we booted off the installer.

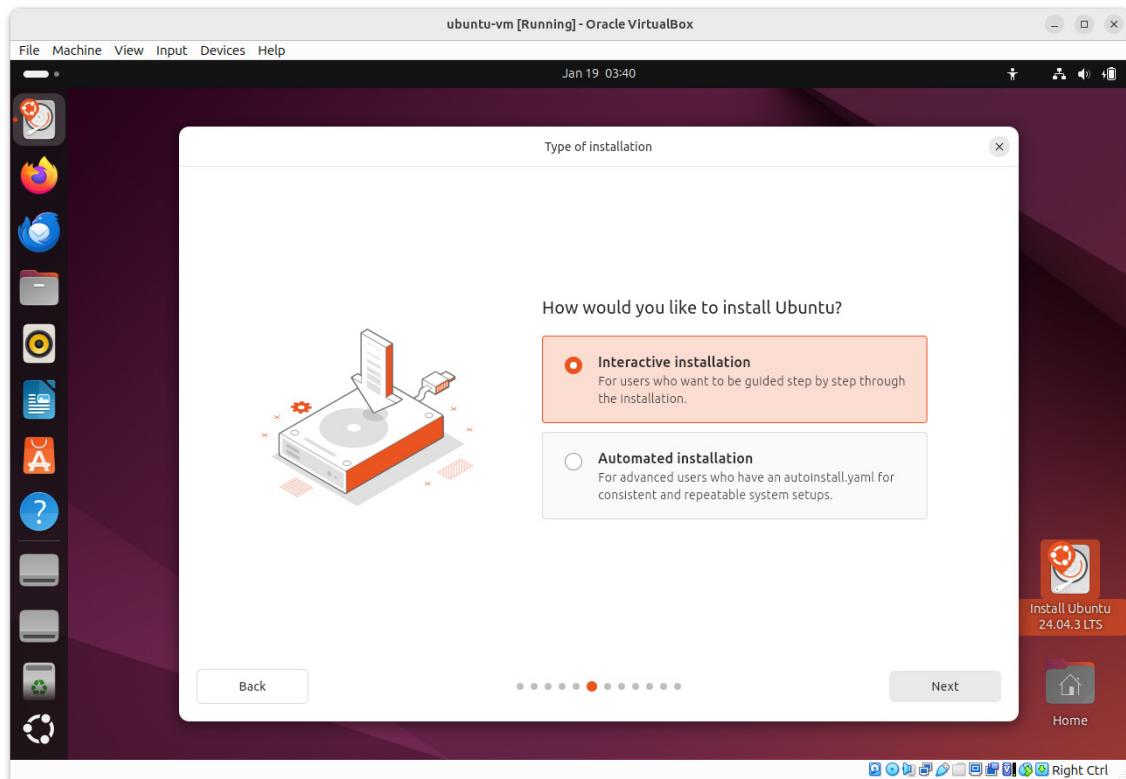


Figure 9: **Type of installation.**
Here, we choose that we want to install interactively.

Next, we choose the default selection of applications. On the following screen, we'll choose to install 3d-party software for graphics and wifi hardware.

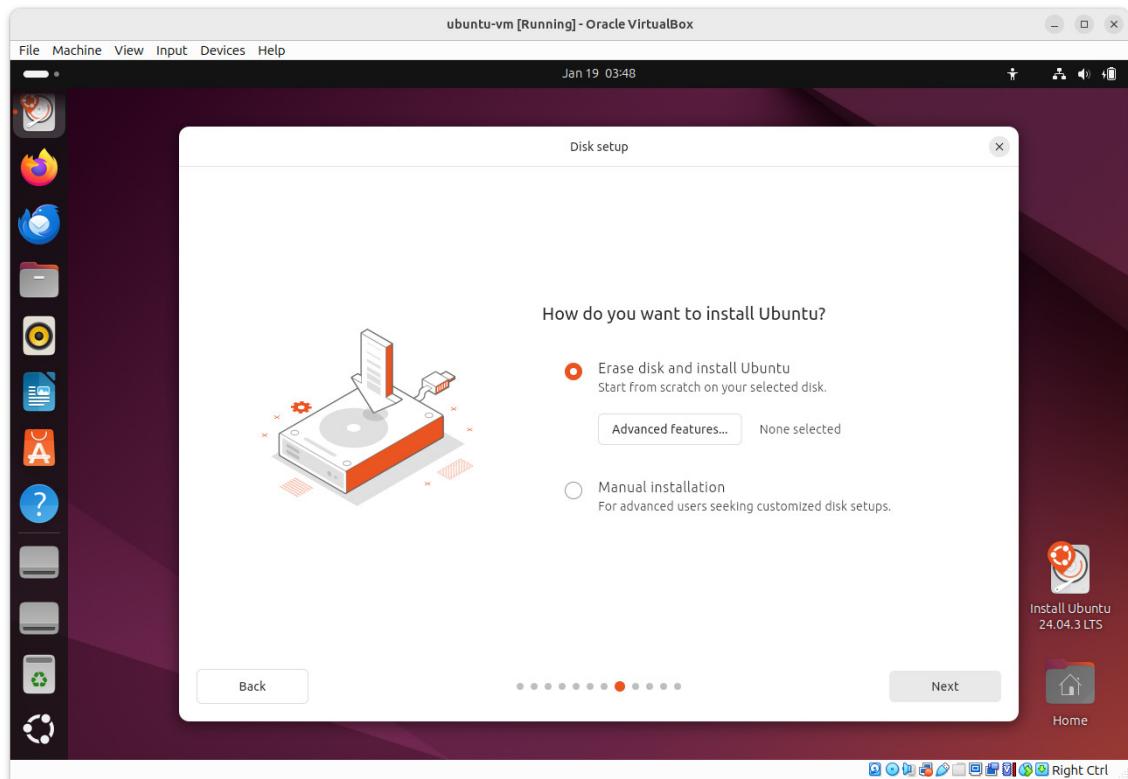


Figure 10: **Disk setup**.

Here, we go into **Advanced features** to select using **LVM**.
Click **Advanced features**.

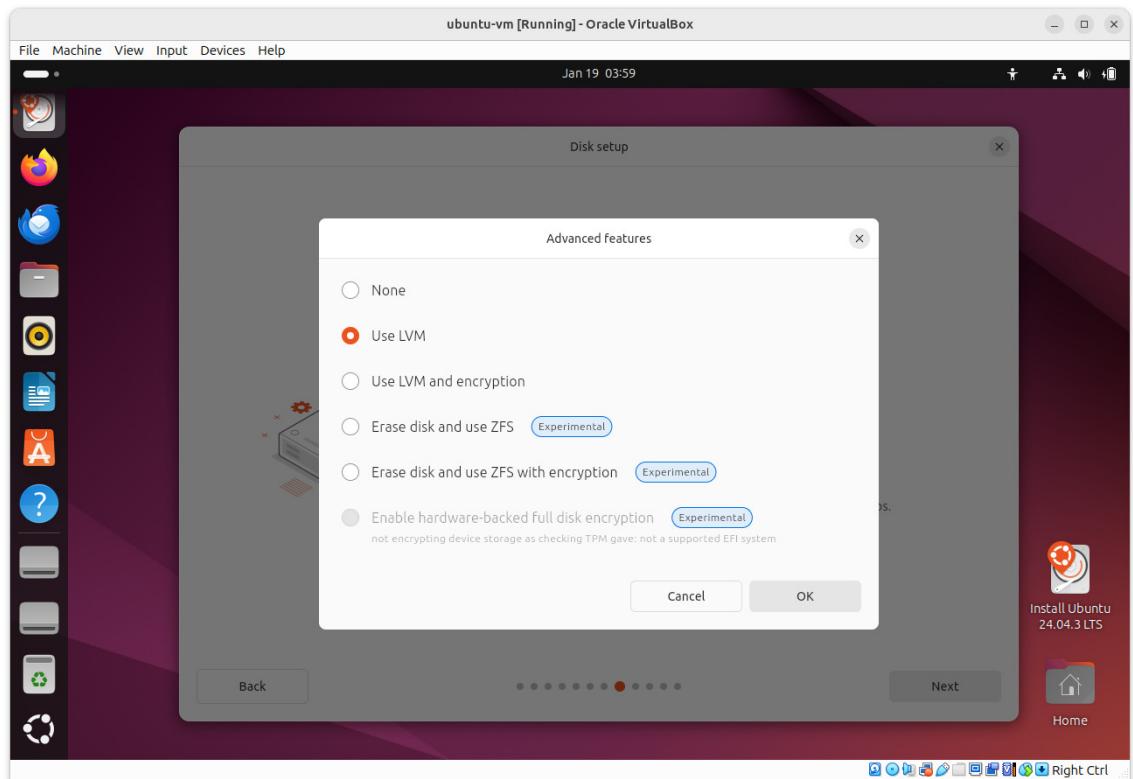


Figure 11: **Advanced features**.

Here, we select **LVM**.

Click **OK** to close the window. Then click **Next**.

The next window uses text that you input to create your account.

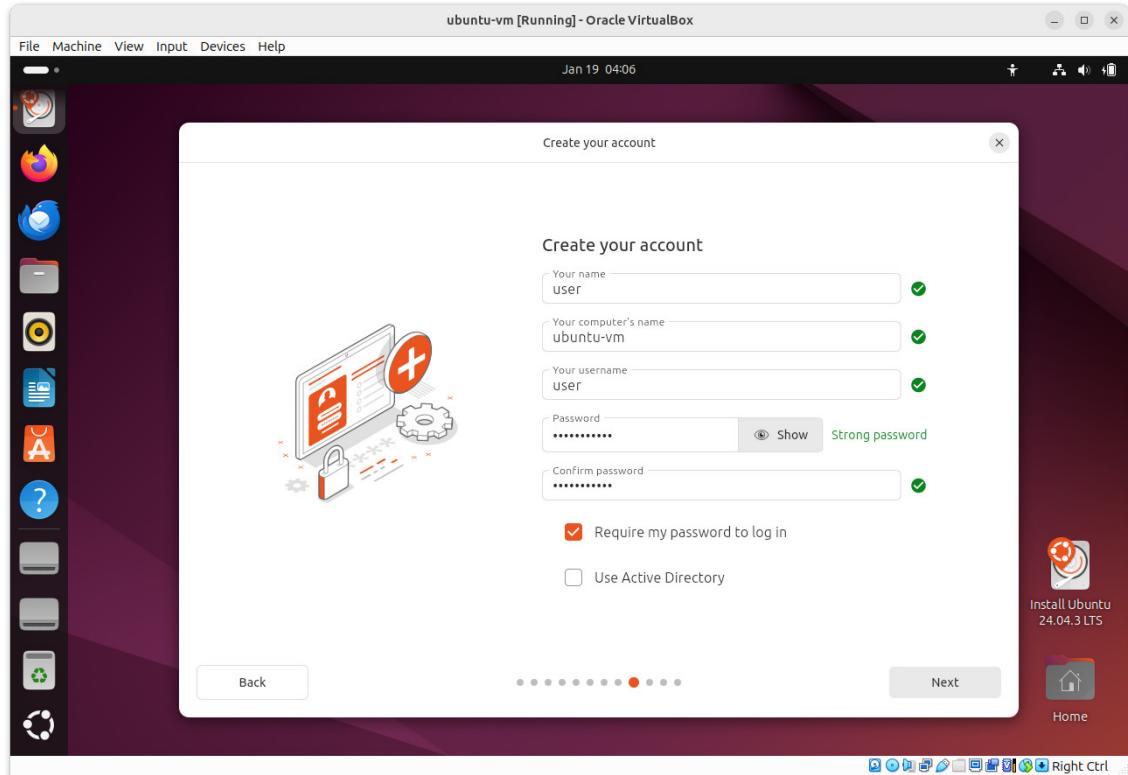


Figure 12: Create your account.

Here, you create your username, set your password, and select a name for your virtual machine.

In the next window, you select your timezone. Your VM should be able to select your timezone automatically.

In the final window, you get to review your choices, then click **Install**.

The process takes several minutes to complete. Take a break.

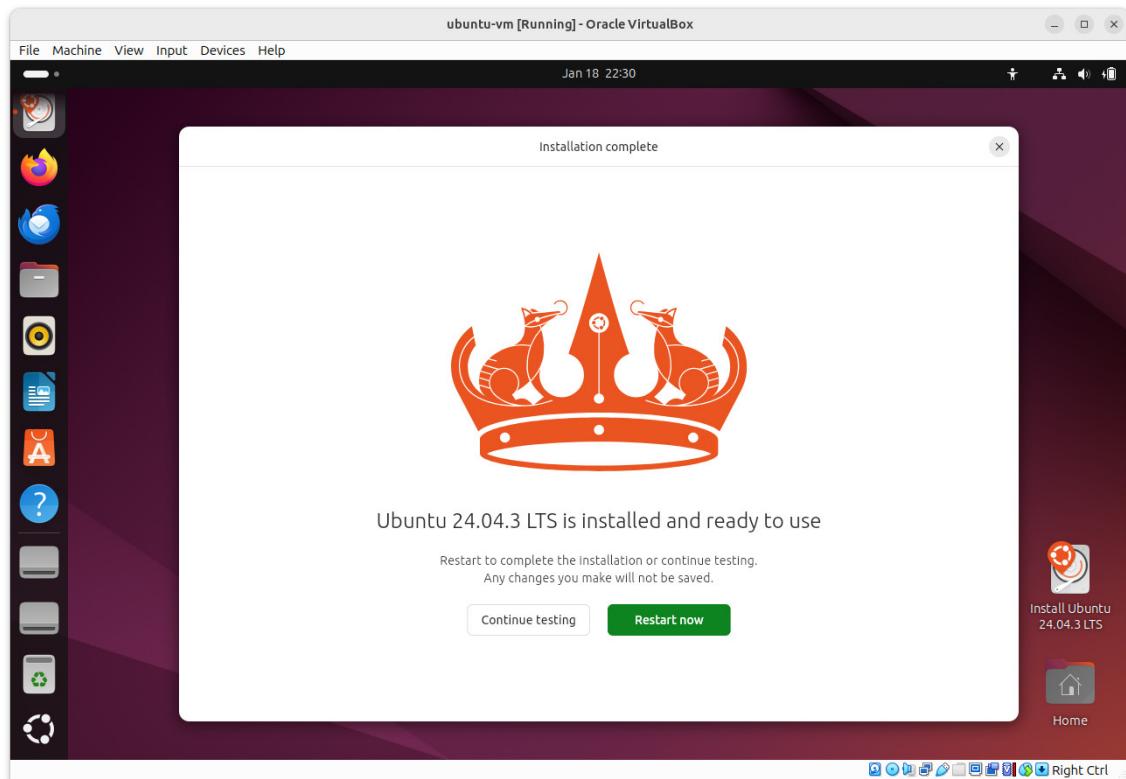


Figure 13: Installation complete.

This ends this how-to on installing an Ubuntu VM in VirtualBox.