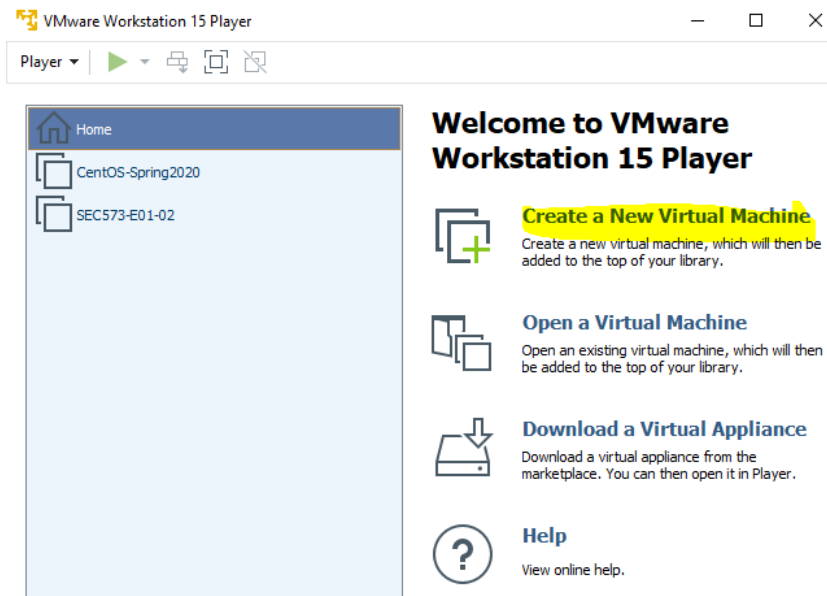
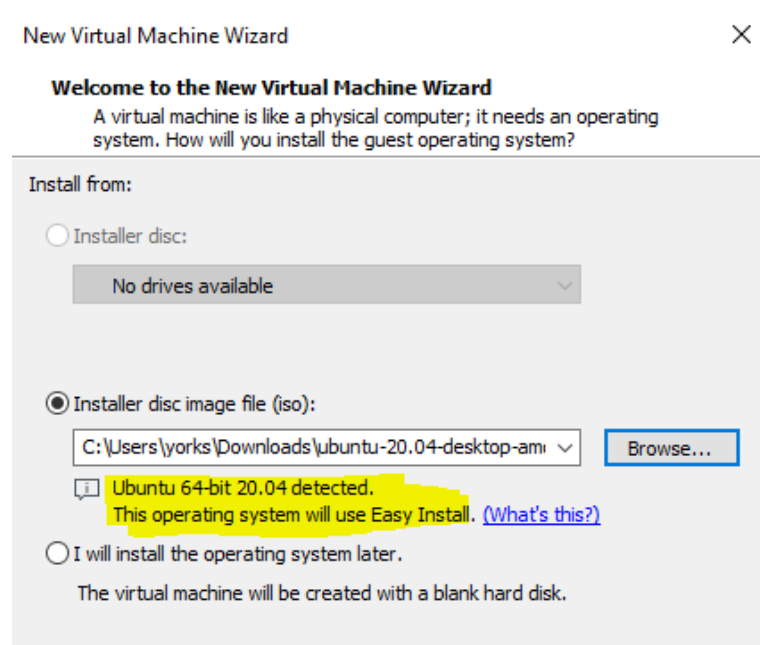


## Screenshots for installing Ubuntu 20.04 Desktop as a VMware Virtual Machine (VM)



Use the Browse... button to tell Workstation Player where the ISO file lives.

**Note:** When Workstation Player recognizes the OS it is about to install, it will offer you the choice to use “Easy Install.” This allows you to pre-enter the data the installation will need, such as computer name, user name, keyboard type, etc. It will then enter those items for you when the OS installs, which speeds the installation process. If you want to see the questions the OS asks during installation and answer them yourself, select “I will install the operating system later.” You will have to connect the VM to the installation ISO manually, and then the installation will proceed just as it does on fresh hardware.

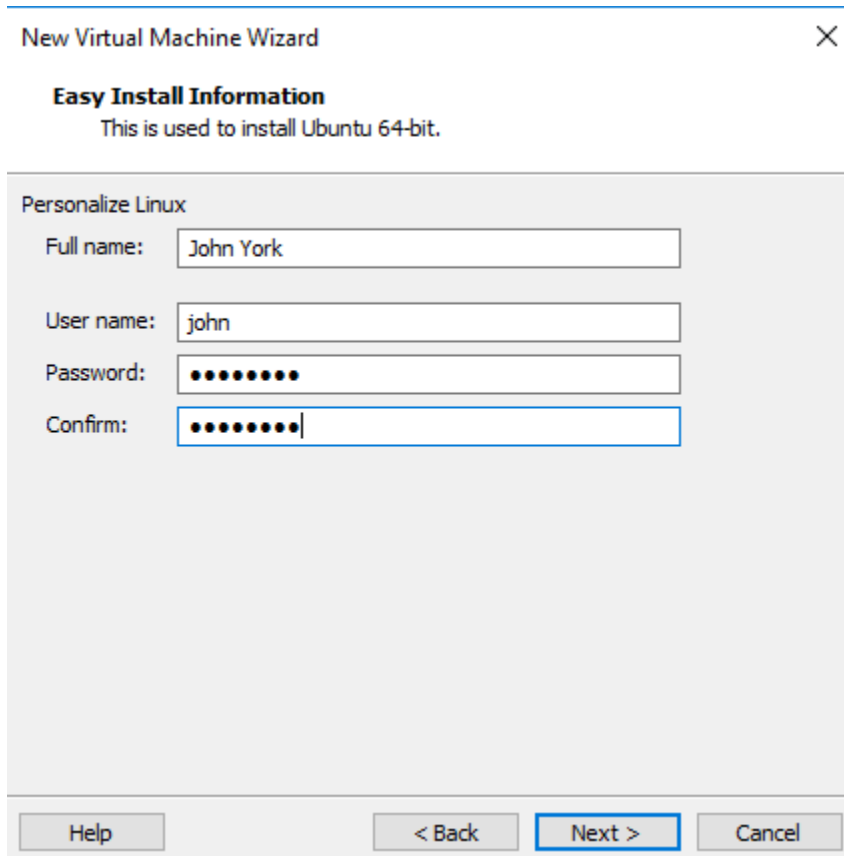


If you choose not to do the 'Easy Install', scroll down in this document to the section, "Note: If you elected not to use Easy Install, or, Installing Ubuntu the hard way."

Continuing with the Easy Install.

Linux usernames must be lower case letters. Do not forget your password!!

You can use a simple password here unless you plan to store secrets on the VM.



The screenshot shows a window titled "New Virtual Machine Wizard" with a close button (X) in the top right corner. Below the title bar, the text "Easy Install Information" is displayed, followed by "This is used to install Ubuntu 64-bit." The main area is titled "Personalize Linux" and contains four input fields: "Full name:" with the text "John York", "User name:" with the text "john", "Password:" with eight dots, and "Confirm:" with eight dots. At the bottom of the window, there are four buttons: "Help", "< Back", "Next >" (which is highlighted with a blue border), and "Cancel".

The standard location is C:\Users\[your user name]\Documents\Virtual Machines, which is fine. Give the VM any name you like, within reason.

## New Virtual Machine Wizard



### Name the Virtual Machine

What name would you like to use for this virtual machine?

Virtual machine name:

SVGS Ubuntu 20

Location:

C:\Users\yorks\Documents\Virtual Machines\SVGS Ubuntu 20

Browse...

The defaults here, 20 GB disk size and split the virtual disk into multiple files, should be fine.

## New Virtual Machine Wizard



### Specify Disk Capacity

How large do you want this disk to be?

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

Maximum disk size (GB):

Recommended size for Ubuntu 64-bit: 20 GB

- ☐ Store virtual disk as a single file
- ☒ Split virtual disk into multiple files

Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

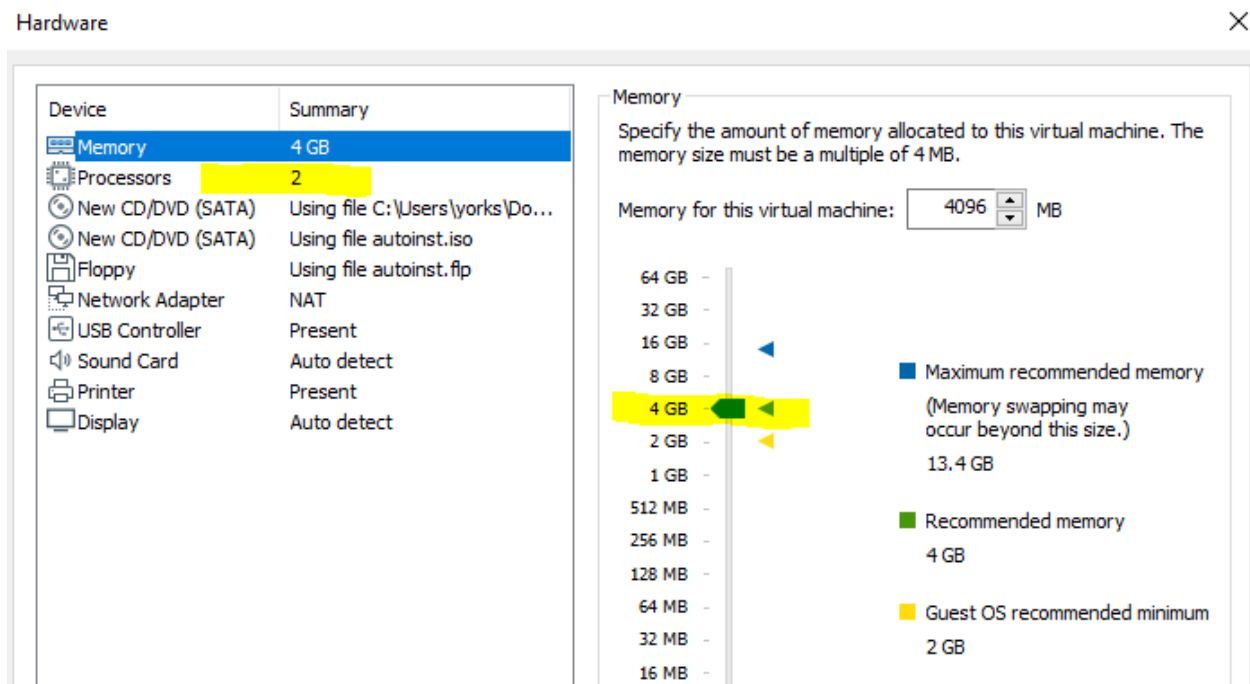
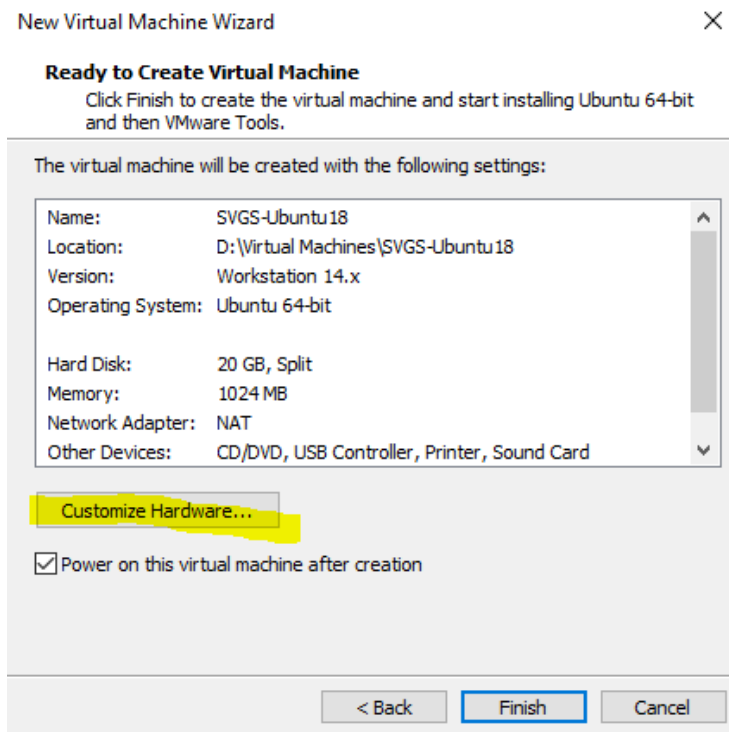
Help

< Back

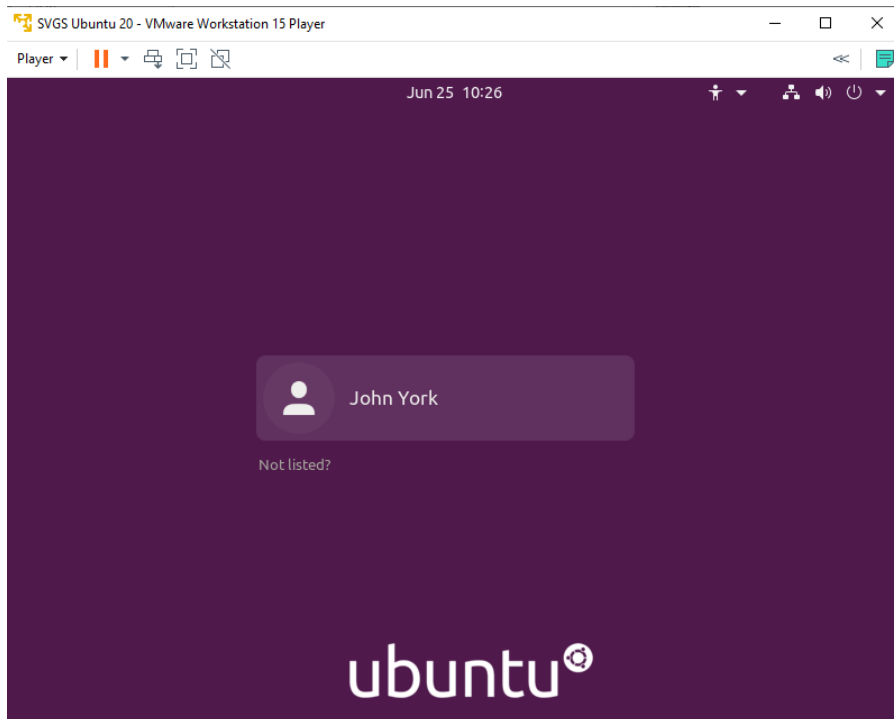
Next >

Cancel

Your VM will run better if you give it 2 CPUs and 4 GB of RAM (assuming your physical machine has 8 GB of RAM or more.) Select customize Hardware.

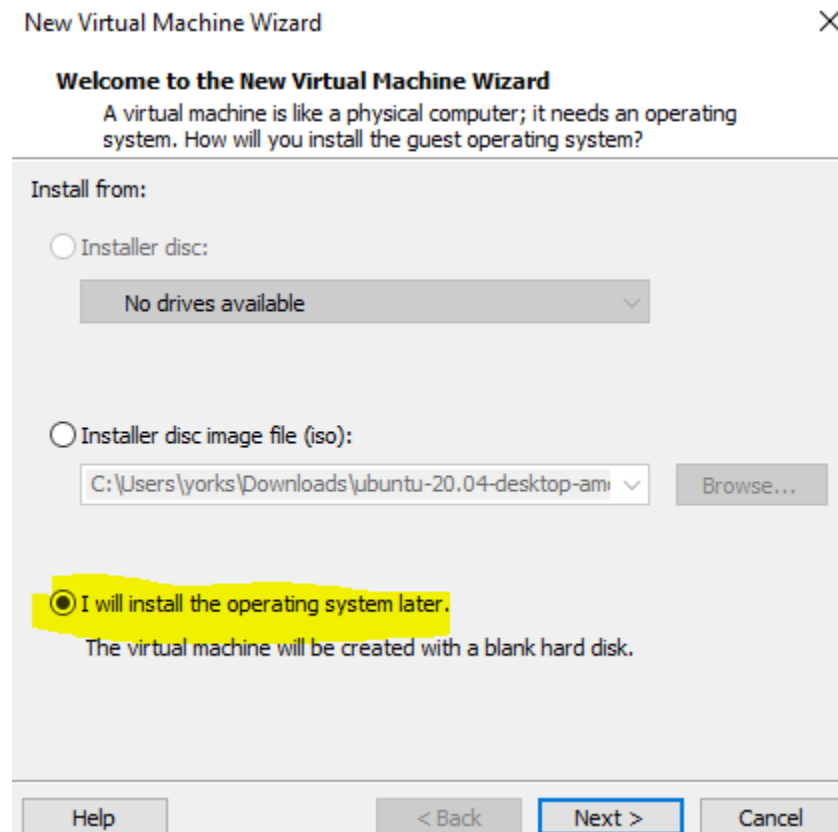


Close the hardware window, click Finish, and the installation will proceed on its own. You should eventually see an Ubuntu login screen.



## Note: If you elected not to use Easy Install, or, Installing Ubuntu the hard way

After selecting Create a New Virtual Machine, this shows what happens when I will install the operating system later is selected.



New Virtual Machine Wizard

**Welcome to the New Virtual Machine Wizard**  
A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?

Install from:

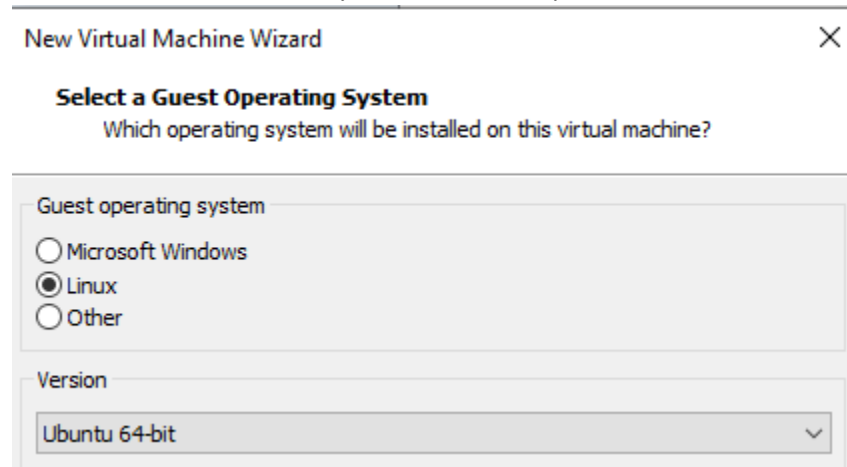
☐ Installer disc:  
No drives available

☐ Installer disc image file (iso):  
C:\Users\yorks\Downloads\ubuntu-20.04-desktop-amd64.iso Browse...

☒ I will install the operating system later.  
The virtual machine will be created with a blank hard disk.

Help < Back Next > Cancel

We can still let VMware Player know that we plan to install Linux, Ubuntu 64-bit.



New Virtual Machine Wizard

**Select a Guest Operating System**  
Which operating system will be installed on this virtual machine?

Guest operating system

☐ Microsoft Windows  
☒ Linux  
☐ Other

Version

Ubuntu 64-bit

Name the virtual machine and give it a place to live.

New Virtual Machine Wizard ✕

**Name the Virtual Machine**  
What name would you like to use for this virtual machine?

Virtual machine name:

Location:

The disk capacity can be left at the defaults.

New Virtual Machine Wizard ✕

**Specify Disk Capacity**  
How large do you want this disk to be?

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

Maximum disk size (GB):

Recommended size for Ubuntu 64-bit: 20 GB

☐ Store virtual disk as a single file

☒ Split virtual disk into multiple files

Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

If the VM has not been allocated 2 CPU cores and 4 GB of RAM, you can select Customize Hardware to change that.

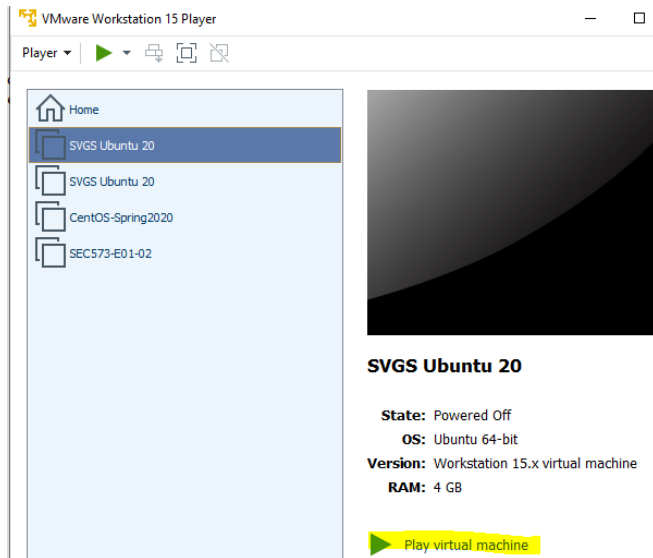
New Virtual Machine Wizard ✕

**Ready to Create Virtual Machine**  
Click Finish to create the virtual machine. Then you can install Ubuntu 64-bit.

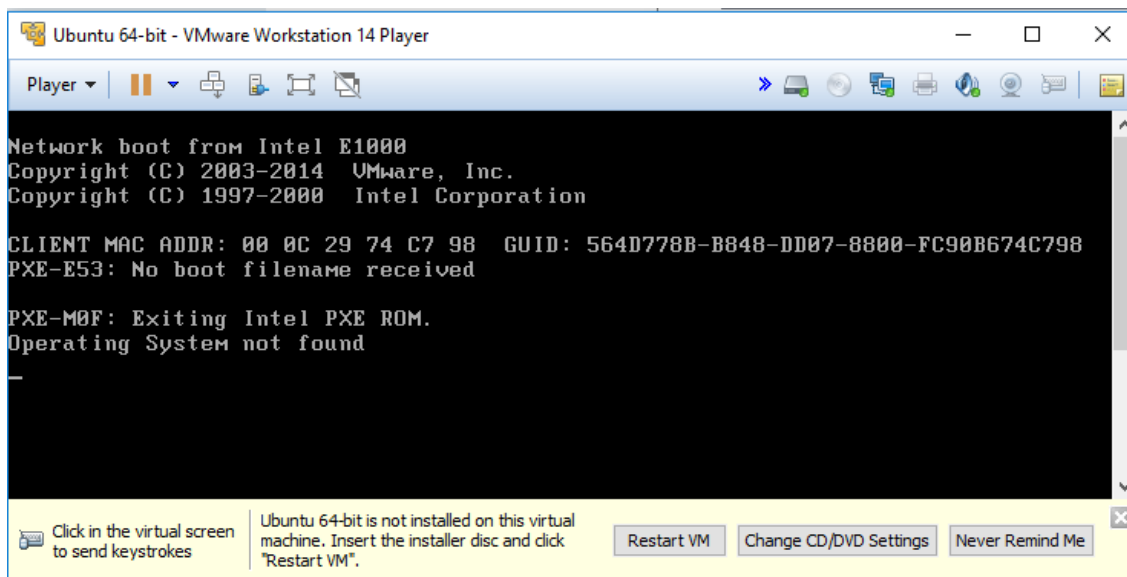
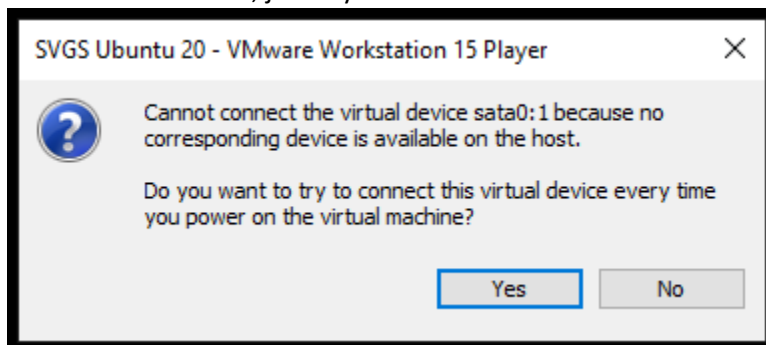
The virtual machine will be created with the following settings:

Name:	SVGS Ubuntu 20
Location:	D:\Virtual Machines\svgsf20-1
Version:	Workstation 15.x
Operating System:	Ubuntu 64-bit
Hard Disk:	20 GB, Split
Memory:	4096 MB
Network Adapter:	NAT
Other Devices:	2 CPU cores, CD/DVD, USB Controller, Printer, Sound...

If you click Play virtual machine without telling it where to find the installation ISO, you will find the VM fails to boot because it cannot find media.



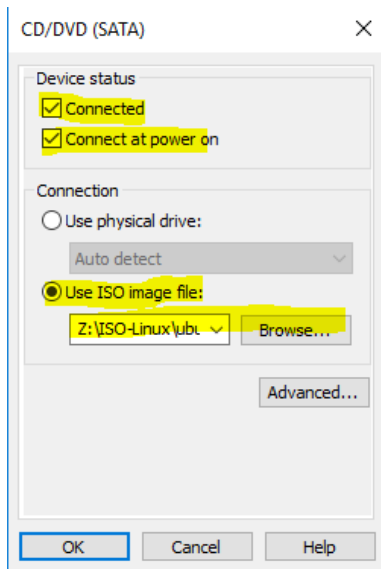
Note: This is normal, just say no.



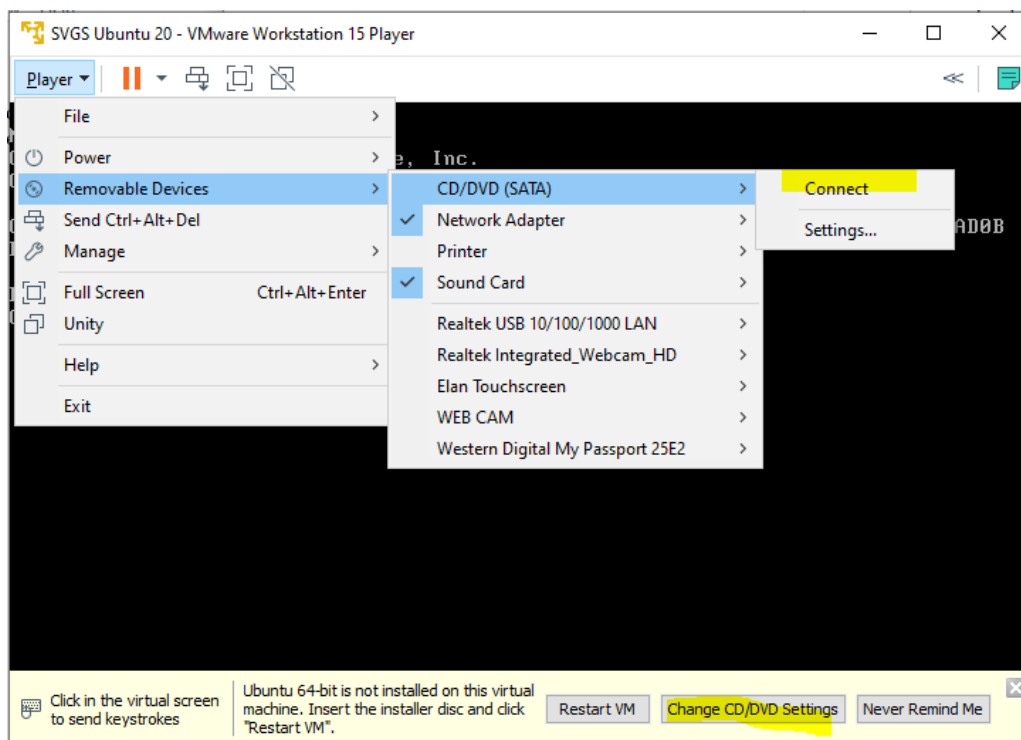


We could have avoided this error by selecting Change virtual machine settings instead of Play virtual machine, but it is good to see this error anyway. Fix the error by using the VM settings to tell the VM to boot from the installation ISO. You can click on “Change CD/DVD Settings.”

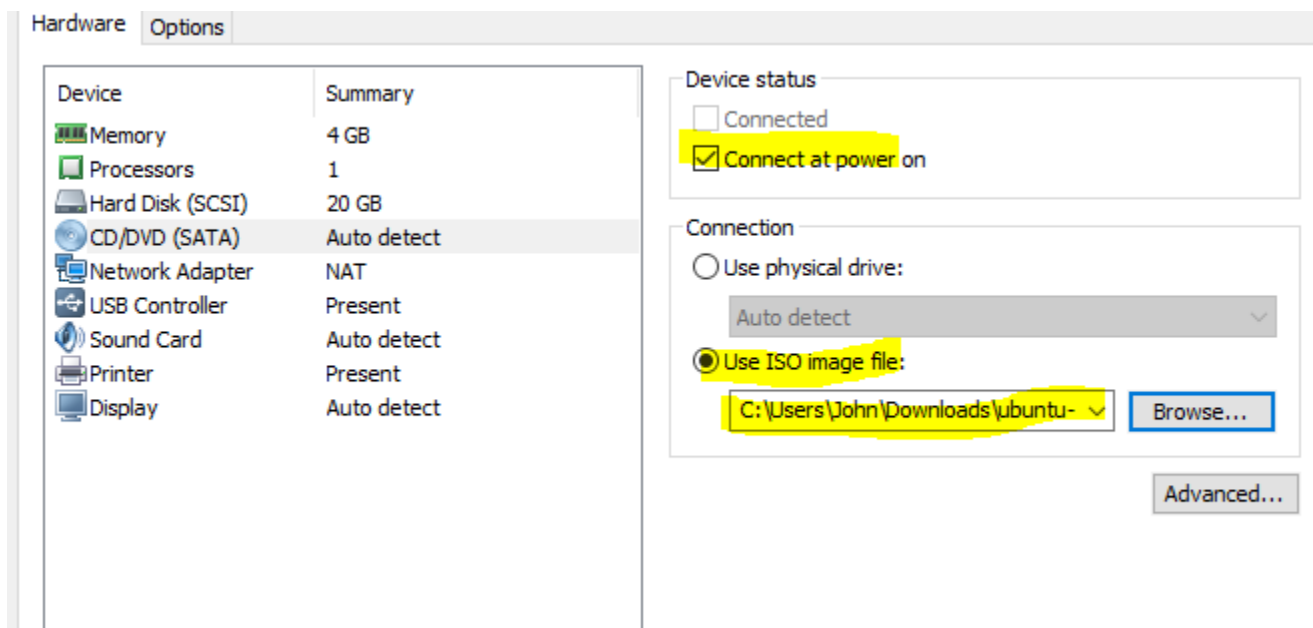
Be sure the Device status is Connected and Connect at power on. Use the browse button to find the ISO file you wish to install. Note: If the selections you want are grayed out, shut down the VM, open Player again, and select Edit virtual machine settings.



Or, you can select Player > Removable Devices > CD/DVD > Connect

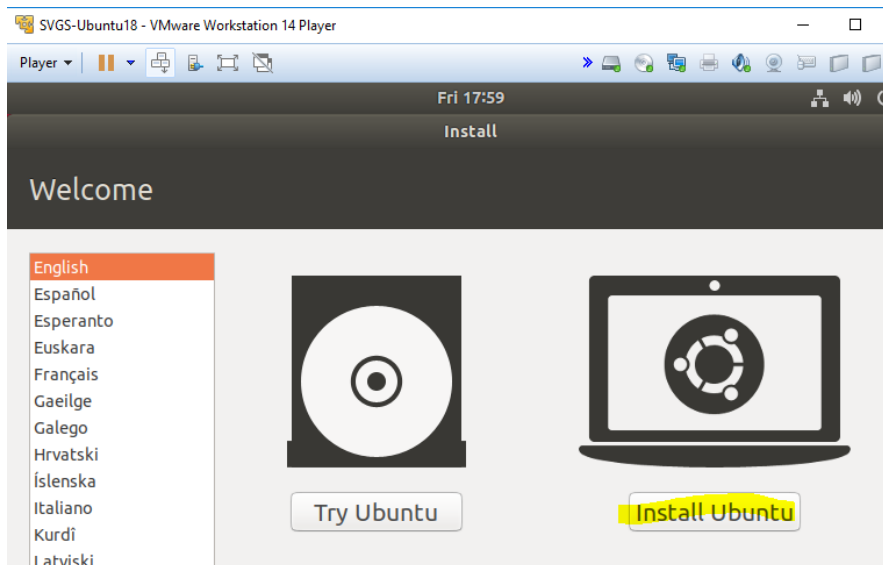


Then make the same settings as before.

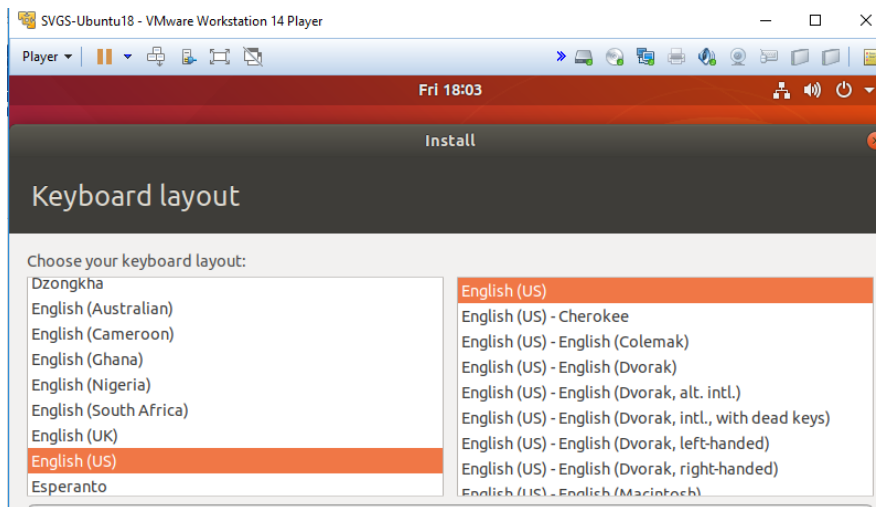


When the VM boots, it should start the installation process from the ISO file. If you select “Try Ubuntu”, the VM will boot entirely from the CD (or ISO), will always require the CD/ISO to boot, and changes you make will be lost any time the VM restarts. This is called a “Live CD” installation” and has the advantage of taking very little disc space.

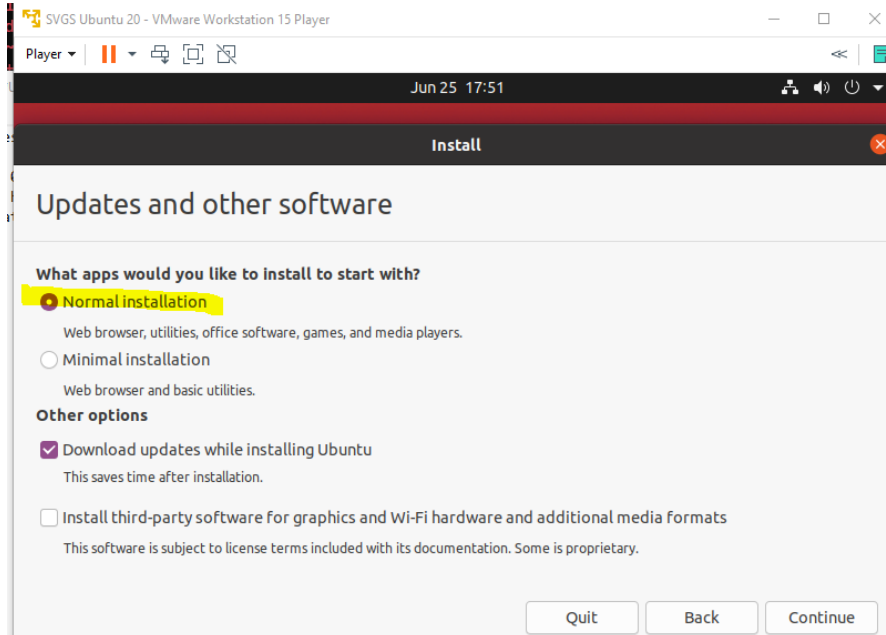
We will install our VM on the files in the VM folder so that we do not need the ISO to boot (after the installation) and any changes we make will be retained between reboots. Select Install Ubuntu.



I selected the standard US English keyboard.

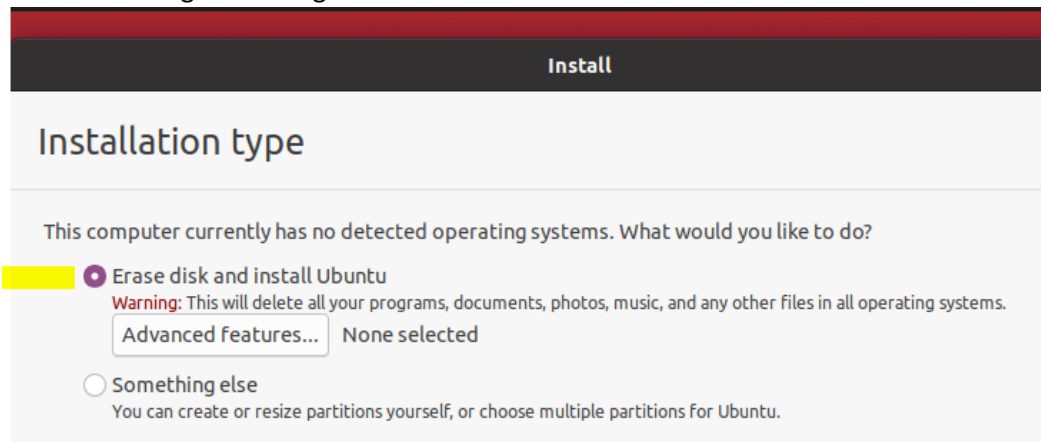


The Normal installation has a lot of software we will not use, but it does include most of what we need. Later on, you can make a VM with the Minimal installation if you like.



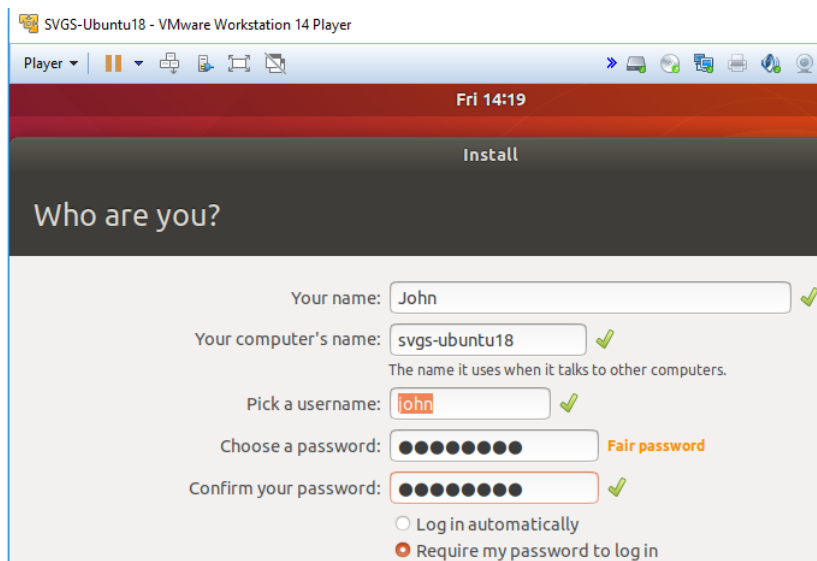
If we were installing on hardware, we would want to ensure that there is nothing important on the hard disk, as it will be overwritten. On a VM, the “hard disc” is just a file that has not been created yet so

there is no danger of losing data.

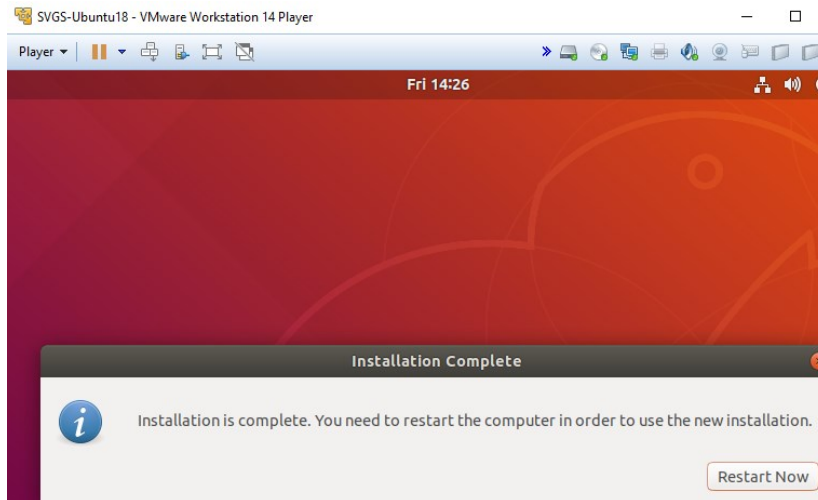


You will need to click Continue on the next screen, and then set the time zone.

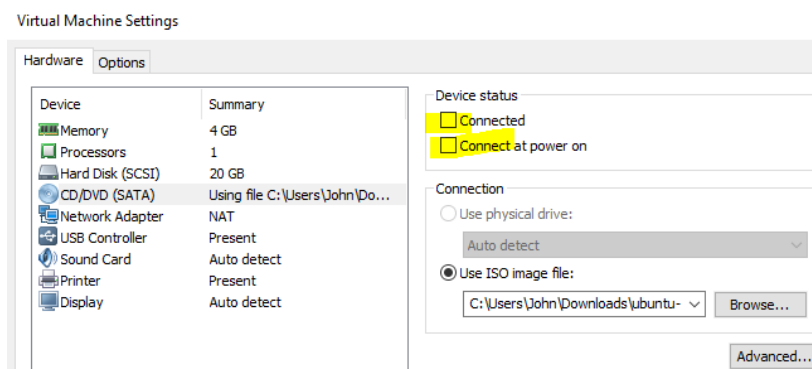
Note that Linux requires the username to be in lower case. We will not store sensitive data on this VM, but we will be entering the password a lot; you can use a short password if you like. Be sure to remember your password!



Done! (Almost)



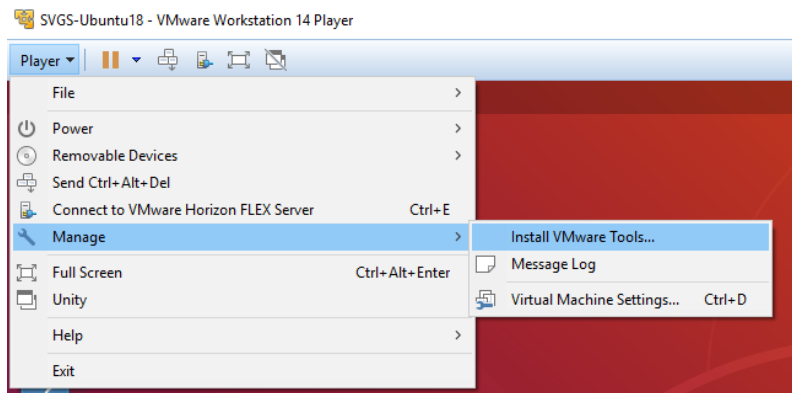
We don't want to boot from the CD/ISO anymore, so disconnect it.



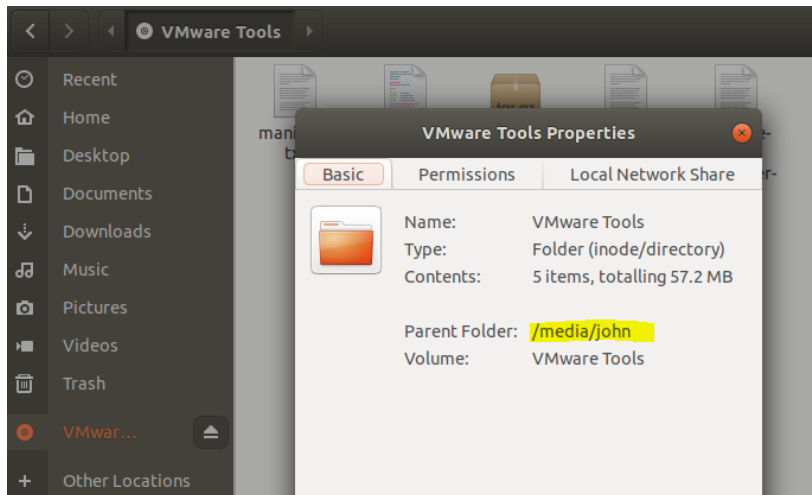
## Installing VMware Tools

VMware tools provide better drivers and software to make the OS easier to use in a VM environment. VMware Workstation Player comes with tools for several OSs, but... Let me show you the problem-- **read, but don't click for a moment.**

You can access the VMware version of the tools through the Player > Manage menu.



All it does is mount an ISO as a CDROM on your desktop. Right-click properties shows the folder the file lives in.



After going through a bunch of commands to copy it, unzip it, and run it, it tells you it does not recommend using the VMware tools that came with Player. Instead, you should use the open-vm-tools that comes with the Ubuntu distribution. Ugh.

```
john@svgs-ubuntu18:~/VMwareTools/vmware-tools-distrib$ ls -l
total 396
drwxr-xr-x  2 john john   4096 Mar 22 05:10 bin
drwxr-xr-x  5 john john   4096 Mar 22 05:10 caf
drwxr-xr-x  2 john john   4096 Mar 22 05:10 doc
drwxr-xr-x  5 john john   4096 Mar 22 05:10 etc
-rw-r--r--  1 john john 148813 Mar 22 05:10 FILES
-rw-r--r--  1 john john   2538 Mar 22 05:10 INSTALL
drwxr-xr-x  2 john john   4096 Mar 22 05:10 installer
drwxr-xr-x 15 john john   4096 Mar 22 05:10 lib
drwxr-xr-x  3 john john   4096 Mar 22 05:10 vgauth
-rwxr-xr-x  1 john john 220475 Mar 22 05:10 vmware-install.pl
john@svgs-ubuntu18:~/VMwareTools/vmware-tools-distrib$ sudo ./vmware-install.pl
[sudo] password for john:
open-vm-tools packages are available from the OS vendor and VMware recommends
using open-vm-tools packages. See http://kb.vmware.com/kb/2073803 for more
information.
Do you still want to proceed with this installation? [no]

INPUT: [no] default
john@svgs-ubuntu18:~/VMwareTools/vmware-tools-distrib$
```

**OK, now you can click, type, whatever.**

So, now we'll skip ahead and install open-vm-tools from the command line, very quickly. The command is:

```
sudo apt-get install open-vm-tools
```

```
john@svgs-ubuntu18: ~  
File Edit View Search Terminal Help  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
john@svgs-ubuntu18:~$ sudo apt-get install open-vm-tools  
[sudo] password for john:
```

Once you put in your password and tell it to install, it will be done in moments.

Note: You may find that Ubuntu has detected that you have installed it as a VM, and installed open-vm-tools already. No problem.