Lab Creating a Virtual Install of Fedora Workstation using VirtualBox

Upon completion of this lab the student will be able to:

- Choose an emulation program
- Create a virtual install of Linux Fedora Workstation
- Adjust the power settings

Overview

In this lab students, will create a virtual install of Fedora Workstation using VirtualBox. The student is free to use any emulation program of their choosing to include VMWare, and **Parallels for MAC**. Students are also free to create a physical install, but they do so at their own peril.

To begin, students will download and install VirtualBox and create a virtual install of Fedora Workstation. It is imperative that this lab is completed successfully before moving on to the course.

Caveat

This instructor nor the school is responsible for any loss of data regardless of which install chosen. Be sure to read the lab instructions carefully!

Hardware Requirements

Best practices would be to store your virtual machine onto an external source. A large thumb drive works well as does an external hard drive. You can also use the external source to store your ISO images or do as I do, move them off your network and onto a remote storage site such as Dropbox, Google Storage, or Microsoft One Drive.

If you're having issues with hardware and resources, ask yourself this; "Is this a hardware/resource issue or am I just outgrowing my current system?" Using a Hello Kitty notebook is great for checking your email and sending out tweets but not so great for running two and three virtual machines at one time. Might be time for a hardware upgrade.

Having one monitor to run all three VM's at once works but wouldn't a monitor for each VM make the learning process so much easier? This is called buy-in. If you want to work in technology, you should invest in technology.

If you experience slowness and sluggish issues with your VM's try the following.

1. Try freeing up your resources by disabling your security suite on the host and not using the machine while your VM's are running.

2. If you have 4 GB of RAM on the host, you can allocate 2 GB for your Linux VM. The RAM is only being utilized when the VM is up and running.

3. Use the defragmentation utility built into VMWare player under storage in the VM's settings. This usually improves performance.

4. Be sure to shut down your VMs as you would your host machine using the start button and then shut down. Do not just power off you're your WMWare Player with the VM running! This is no different than pulling the power cable out of the wall used to power your host machine.

Using a Download Manager

Why Use a Download Manager?

Download managers allow you schedule, start, stop, and resume a download without loss of any downloaded progress. When we are downloading gigabytes of data, being almost done, and having the download interrupted and having to start over, is very frustrating. Download managers can also reduce up your download time.

For this lab, I used a download manager called Free Download Manager.

Alternate download site: Free Download Manager

Install the download manager onto your host machine, not on your virtual machine!

Proceed on to the next step.

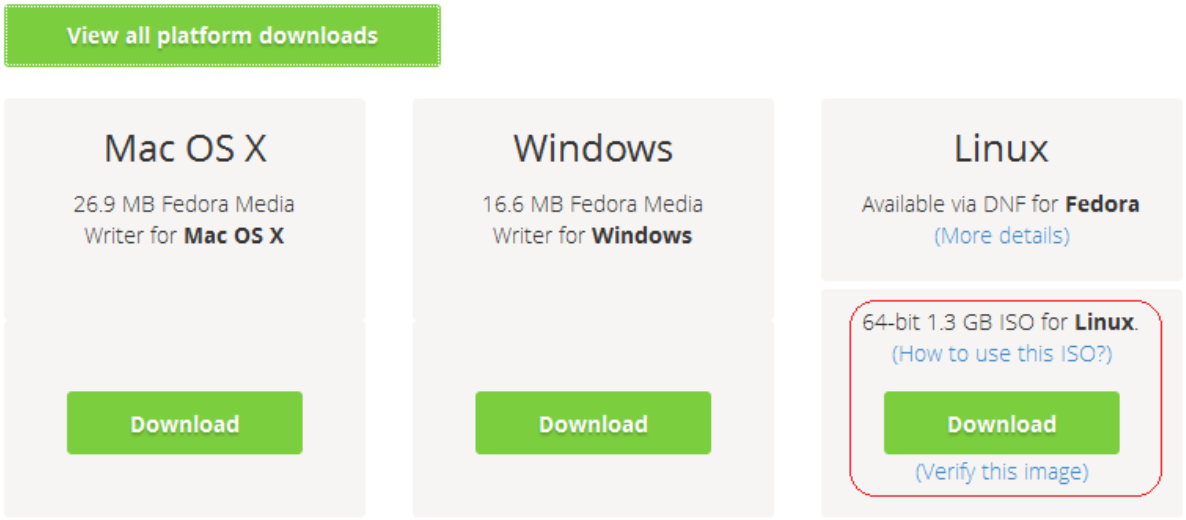
Download Fedora Workstation ISO Image

The Fedora Workstation ISO image can be downloaded several ways.

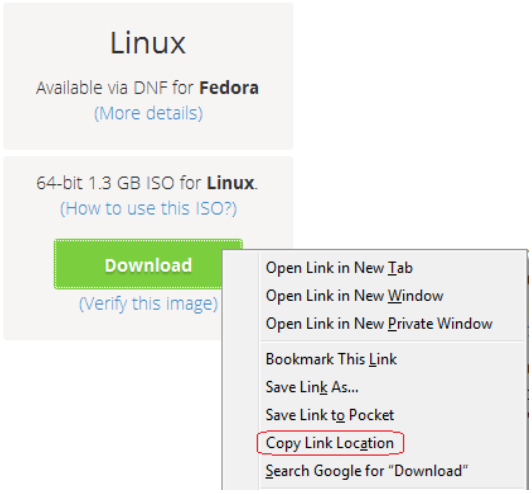
Preferred Download Method

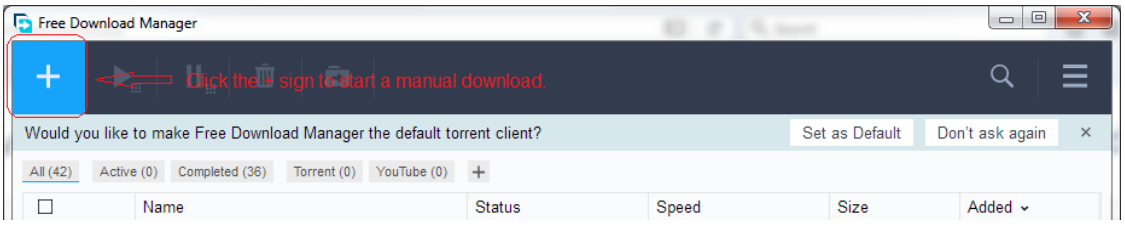
The preferred method is to use a download manager. Once we have the Free Download Manager installed and we have closed and restarted our browser, our download manager should detect a files download is in progress and automatically start the download for us.

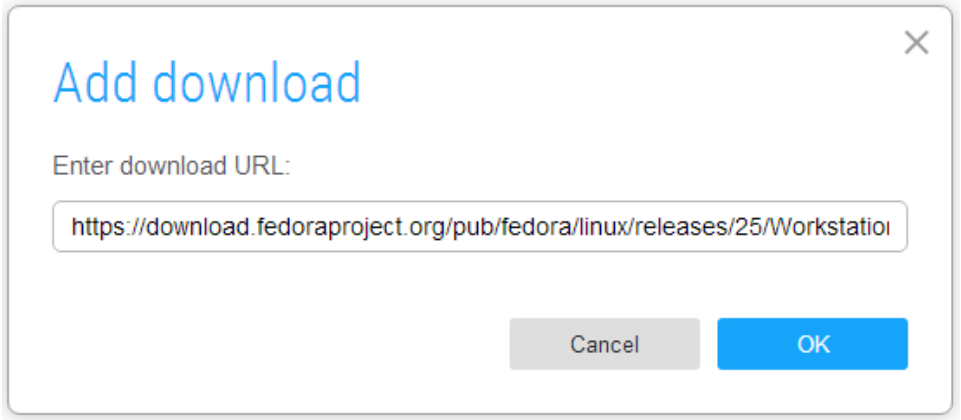
Go to the Fedora Workstation **download site**, scroll down to View All Platform Downloads, click on the download link.

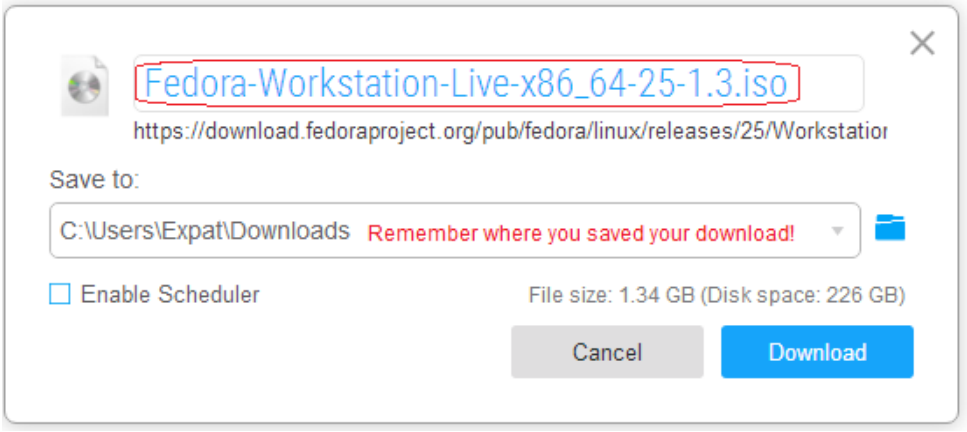


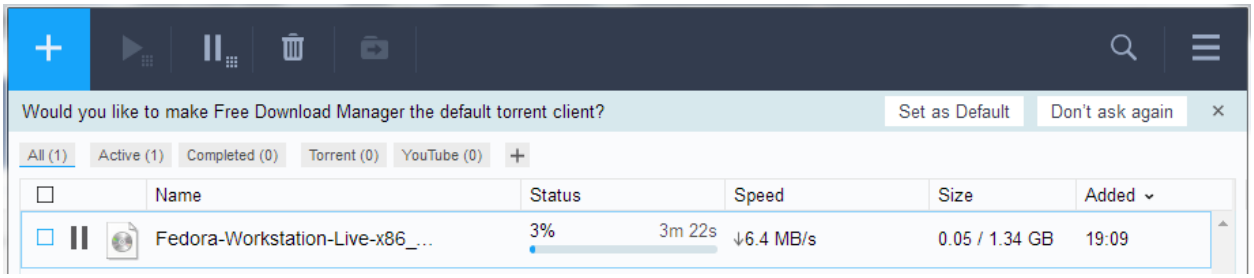
If the Free Download Manager does not detect the download, open the Free Download Manager, and initiate a manual download by clicking the '+' sign and copying and pasting the link location for the download button.











Click the download button.

1. Download and install VirtualBox

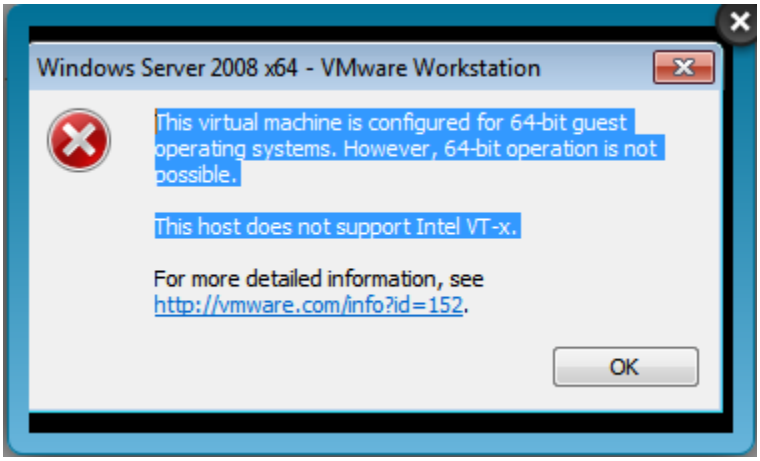
The first step is to download and install the VirtualBox software package onto the host machine chosen for your lab setup. Make sure you download the right version for your operating system and hardware architecture (32 bit vs. 64 bit). Instructions for installation on various operating systems are readily available if you run into any snags. Also, make sure to keep a handy copy of the VirtualBox user manual, which comes packaged with the software and can also be found online.

Once, downloaded, VirtualBox installs like any other software program. Find your download and begin the installing. VirtualBox is malware and crapware free. Once you install VirtualBox and run it for the first time, you'll be presented with the application's welcome prompt, which provides an orientation for the interface. Navigate through the menus to get a feel for the software.

Download here!

Verifying your BIOS has virtualization disabled

Caveat – If Your VMWare Player or Workstation errors out with a message as shown in the following image, you need need to enable emulation in your system BIOS.



Solution:

Enable virtualization in your system BIOS. This is particularly true for HP desktops and laptops as they leave the factory with virtualization disabled in the BIOS.

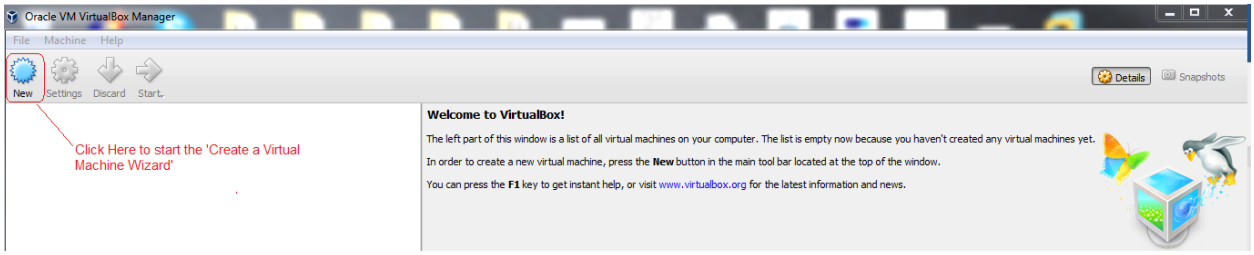
Verifying Virtualization is Enabled in the BIOS

How to Enable Intel VT-x in Your Computer's BIOS or UEFI Firmware

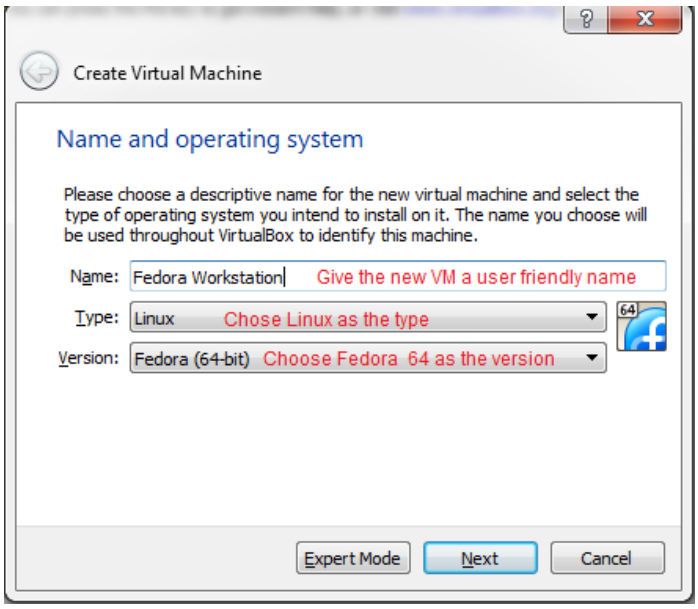
If all is well and VMWare does error, proceed with the Fedora install.

Create a Virtual install of Fedora Linux

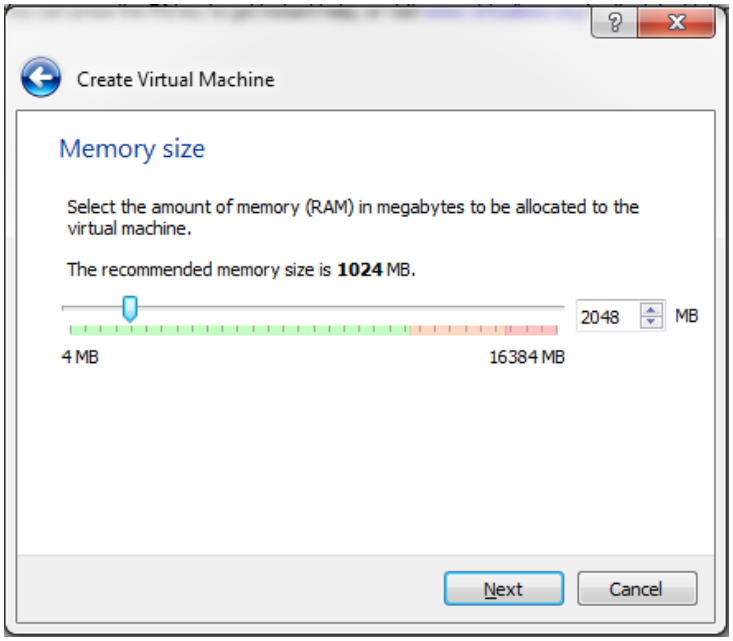
Click on the New button. This launches the new Virtual Machine Wizard.



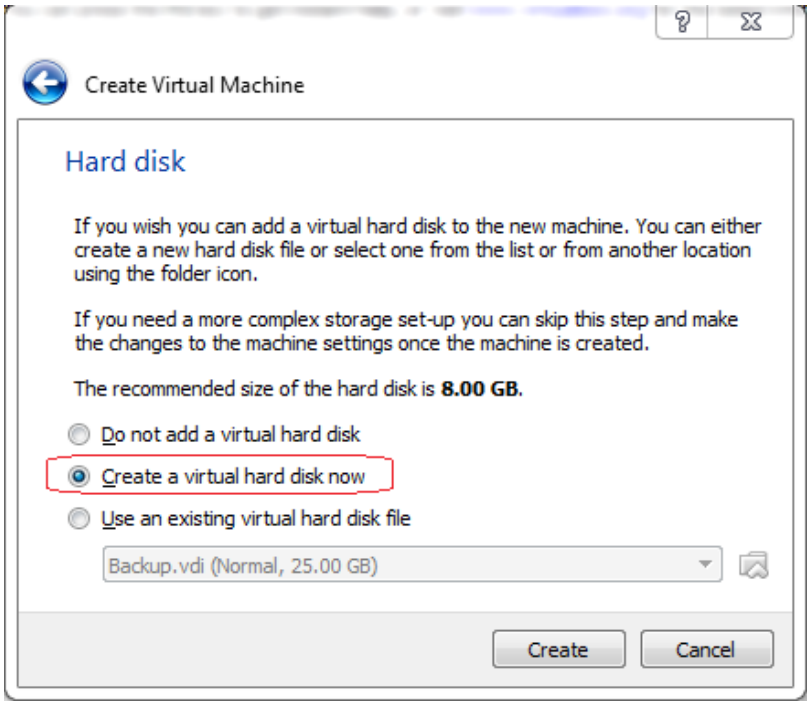
Fill the name and operating system information.



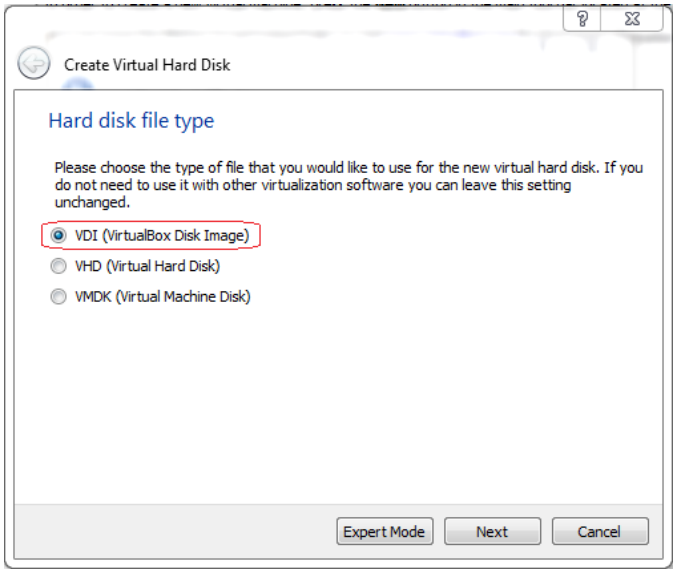
On the next window, select how much memory to allocate. Your minimum should be 1024 MB but 20148 MD is recommended.



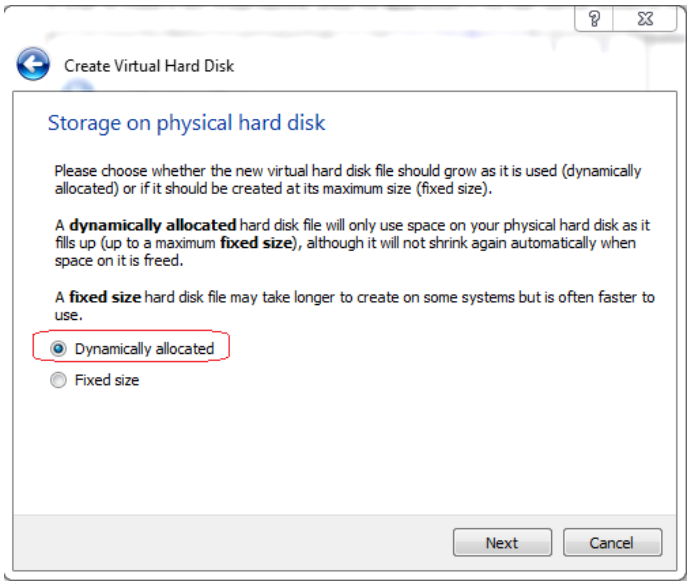
For the Hard Disk size, we will accept the default of 8 GB and change the size later to 60 GB. Click the create button.



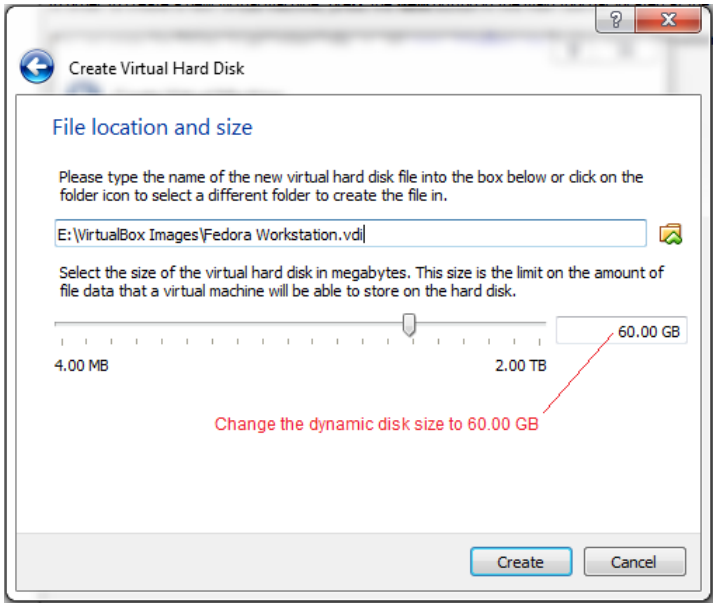
Select the default of creating VDI disk image. Click next.



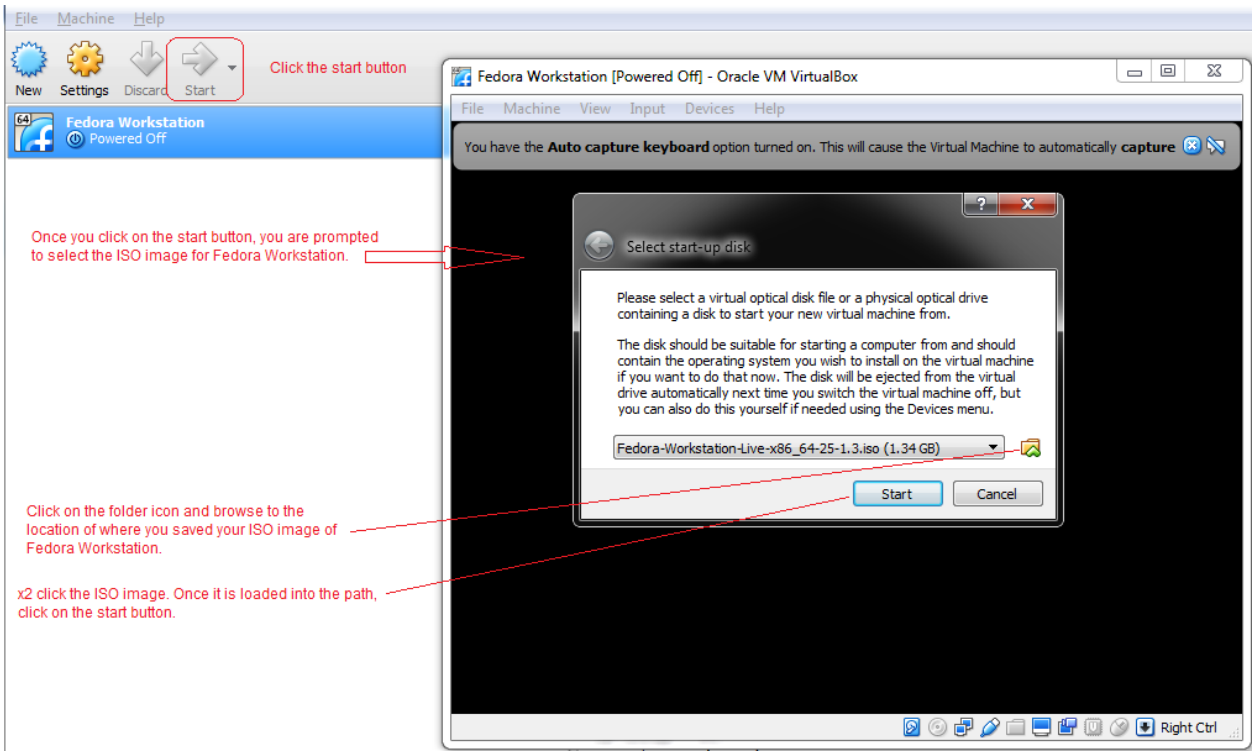
For the Storage type, we will choose Dynamically allocated.



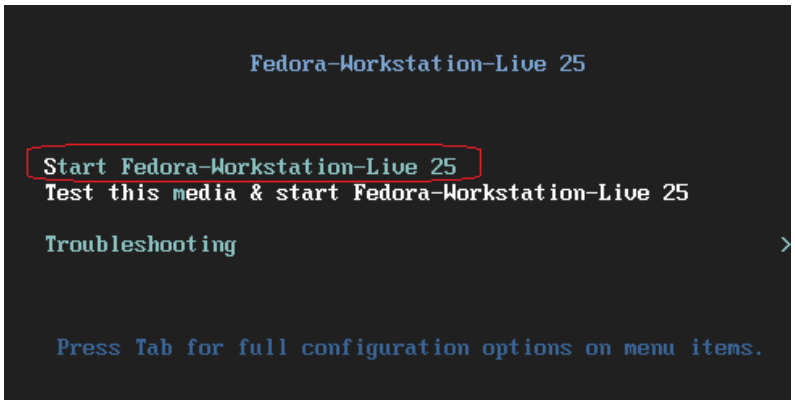
On the next screen, we change the file location and size. Highlight the number 8 and type in 60. In this example, I change the storage location to an external partition, my E:\ drive. You are free to change the location or leave it at the default. Click Create.



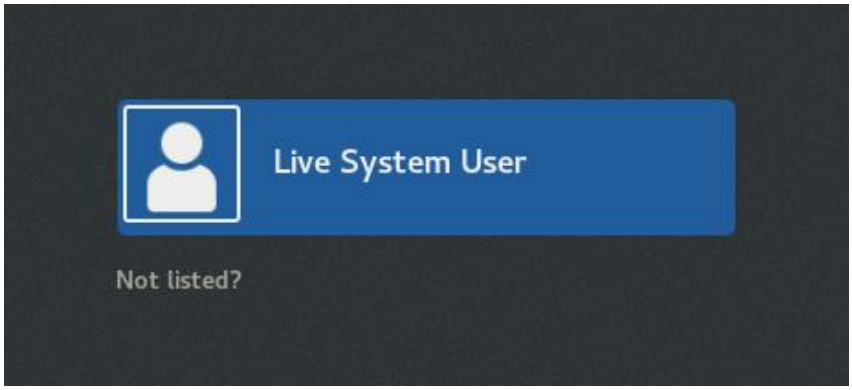
We have now created the virtual machine. Our next step is to start the machine and point it to the ISO image for the Fedora Workstation. Click the start button to begin the installation process.



At the first screen, hit enter to accept the default installation method for Fedora. Allow the installation to continue.

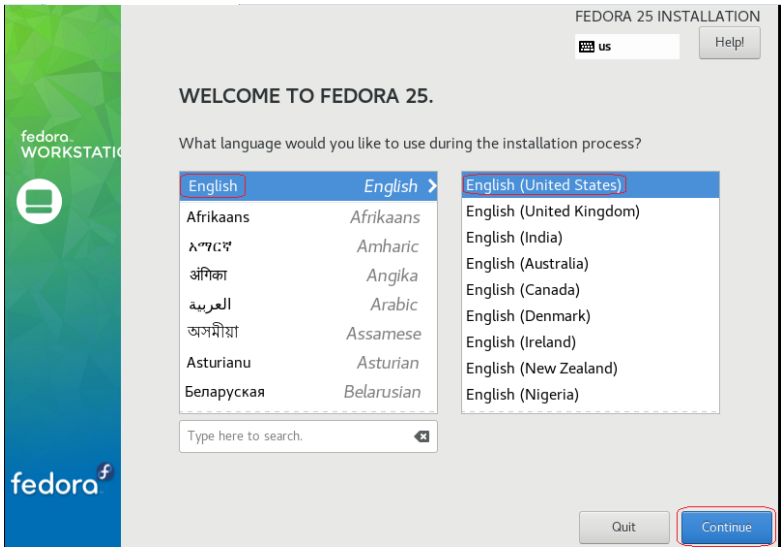


In the installation starts. Hit enter to being the installation process. Hit escape to stop the verification check. Logon as Live System User.

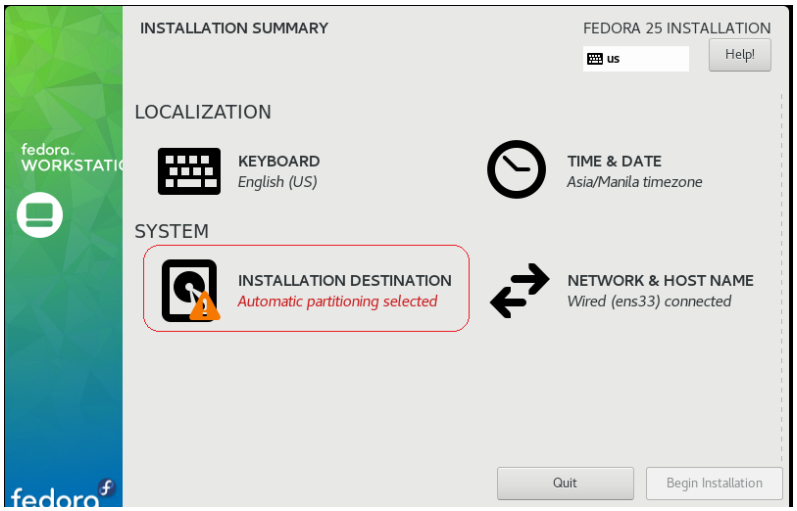


At the Welcome to Fedora screen, select the Install to Hard Drive option.

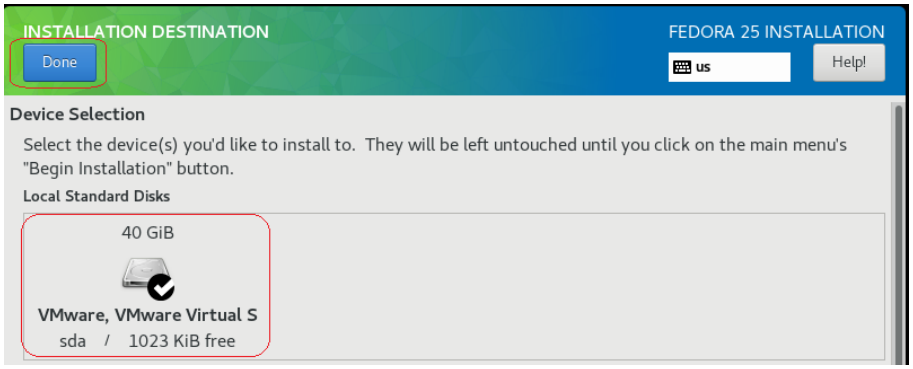
At the next Welcome screen, select your language options.

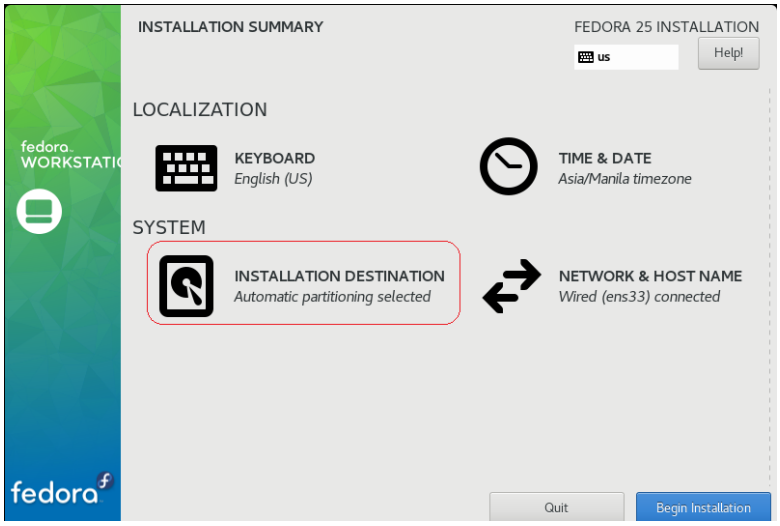


On the next screen, you will have to choose your installation destination.

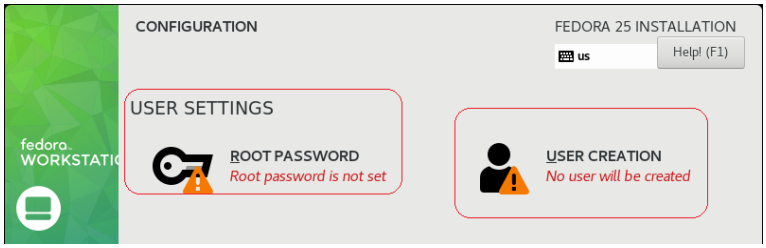


Chose the 40 GIB partition we created using the New Virtual Machine Wizard. Click done and return to the previous screen and on the Begin Installation button.

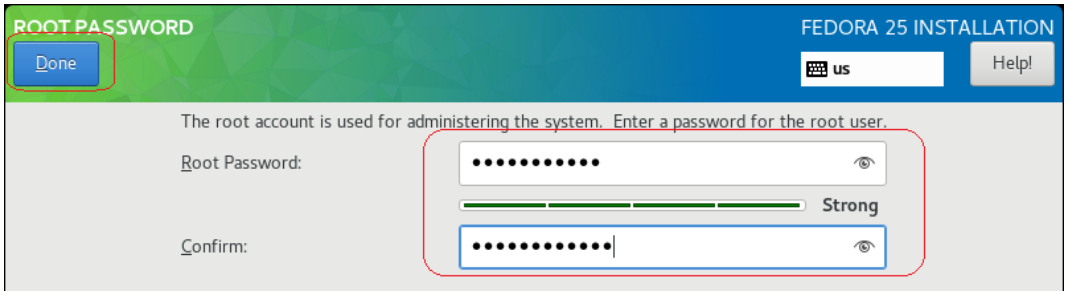




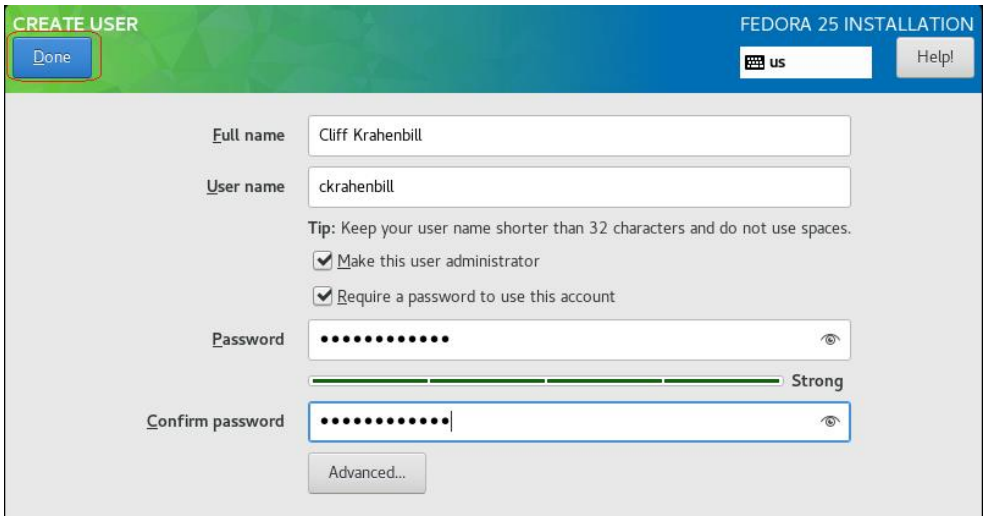
On the next window, you will need to set your root password and user account. Remember both!



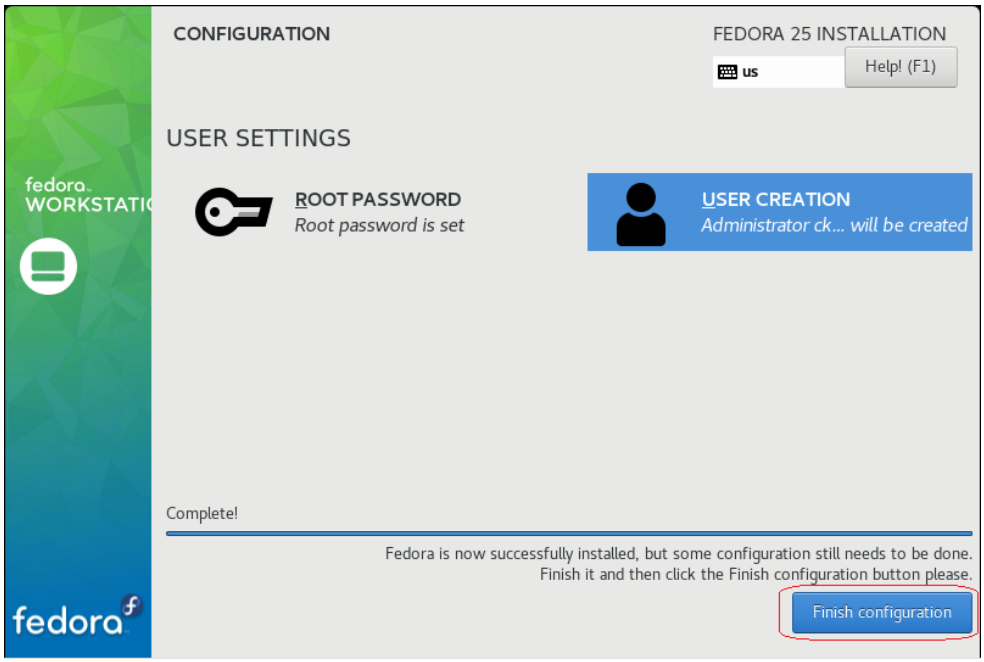
Set your Root password. Click Done.



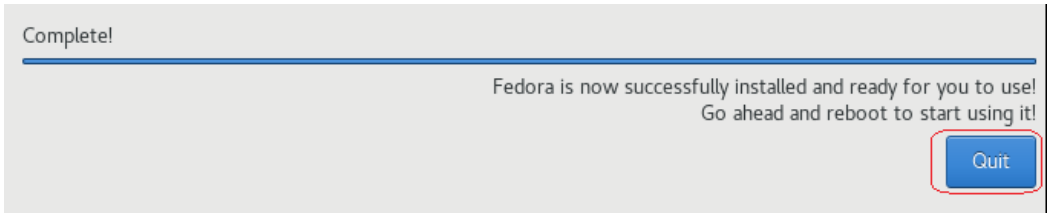
Create your User Account. Make it an administrator account., set the password for the account. Click done and return to the previous page.



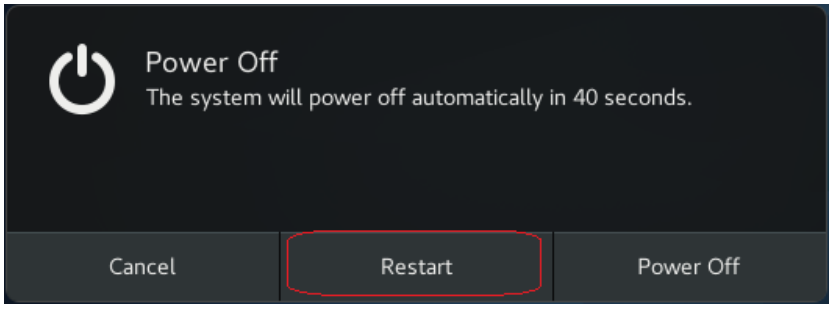
Once the initial configuration is complete, click the Finish Configuration button.



Setup completes and needs to reboot. Click the Quit button and reboot.



From the Virtual box taskbar, click on Input>keyboard>Insert Ctrl+Alt+Del.

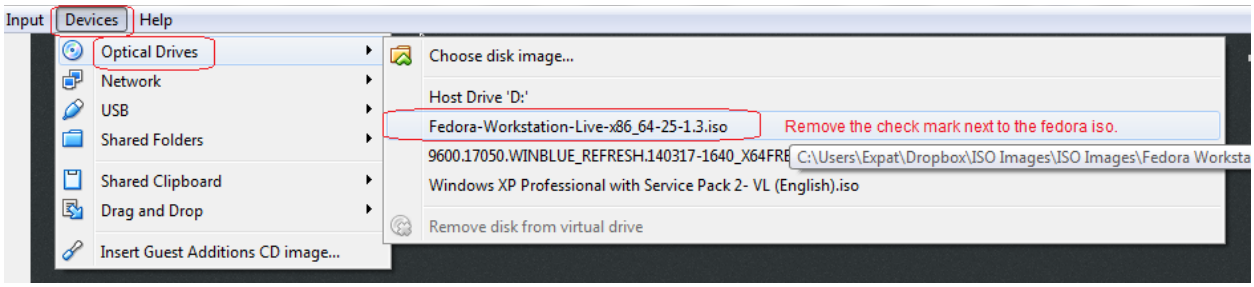


Fedora reboots. At the login screen, click your username and type in your password.

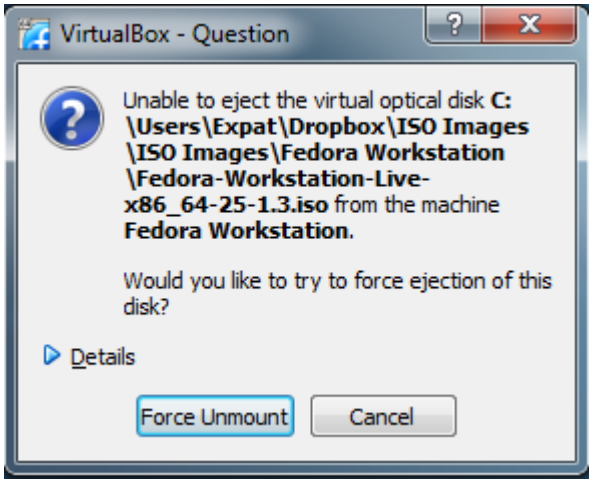
Once you successfully log on, you are presented with your desktop. Congratulation! You are now ready to install your GNOME desktop. Once we have installed to the hard disk, we need to stop Fedora from looking at the ISO image as the file source.

Prevent Fedora from wanting to reinstall after reboot

From the VirtualBox taskbar, go to devices>optical Drives and uncheck the check mark next to the Fedora-Workstation-Live ISO image. Reboot one more time and after the reboot log on as root.

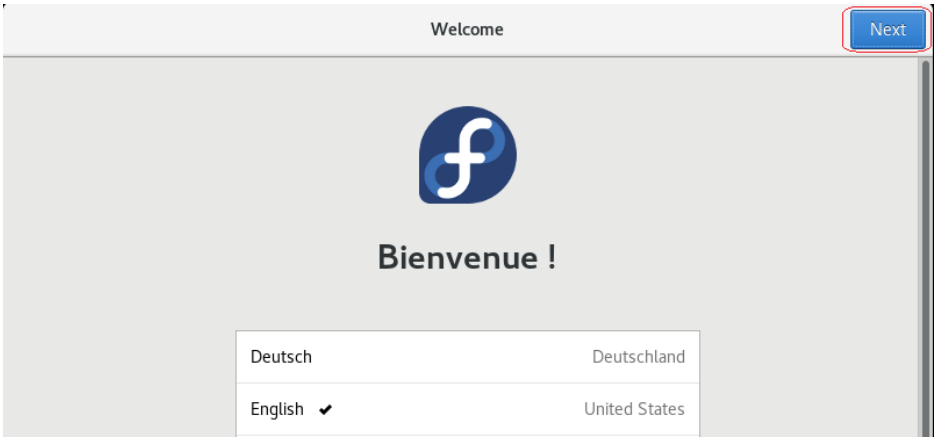


When the question box pops up, click on the button to Force Unmount.

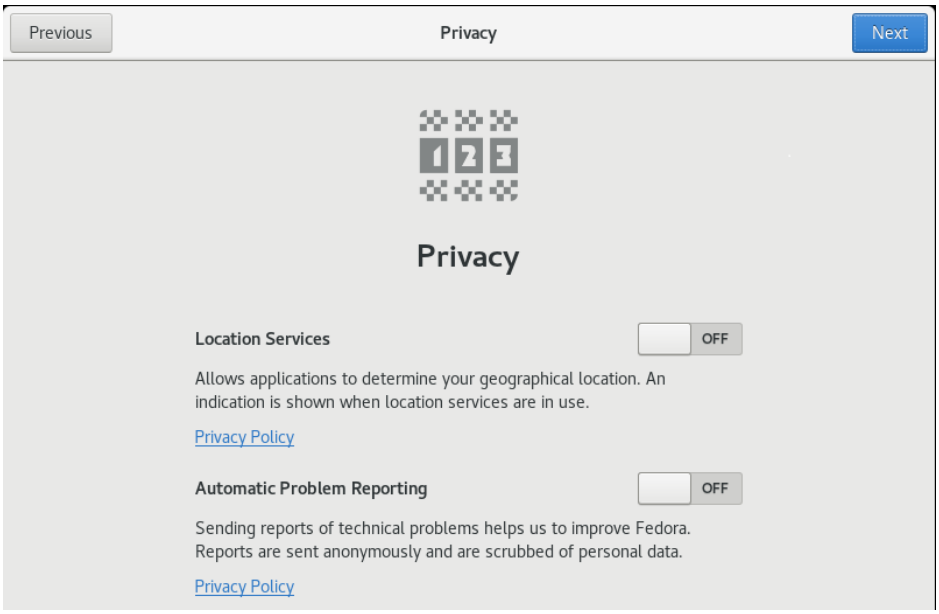


Once you have logged on as either a new user or as root, you will need to step through the profile creation wizard.

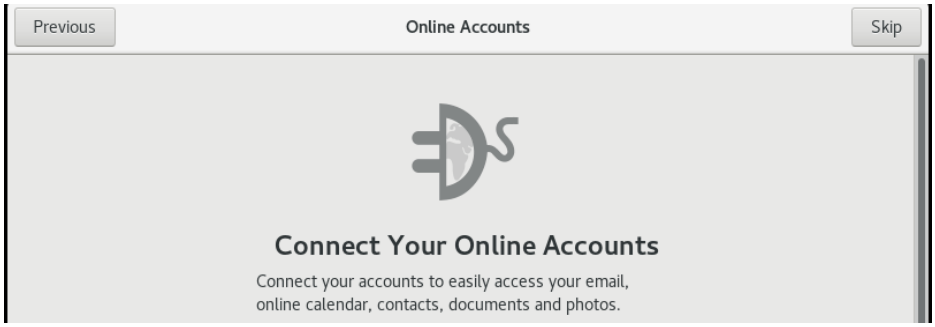
Click next to step through the installation.



For privacy settings, I chose to turn them off. Use your best judgment.



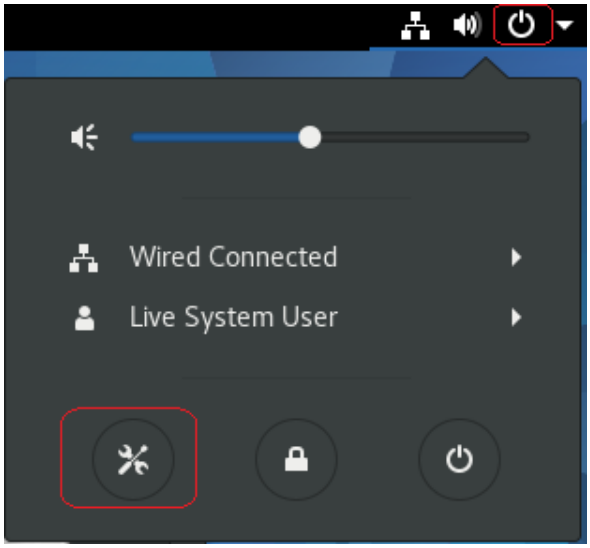
I skipped setting up any online accounts. Again, use your best judgment.



Click the Start Using Fedora button. You can step through the getting started tutorial or close the page to get back to the desktop

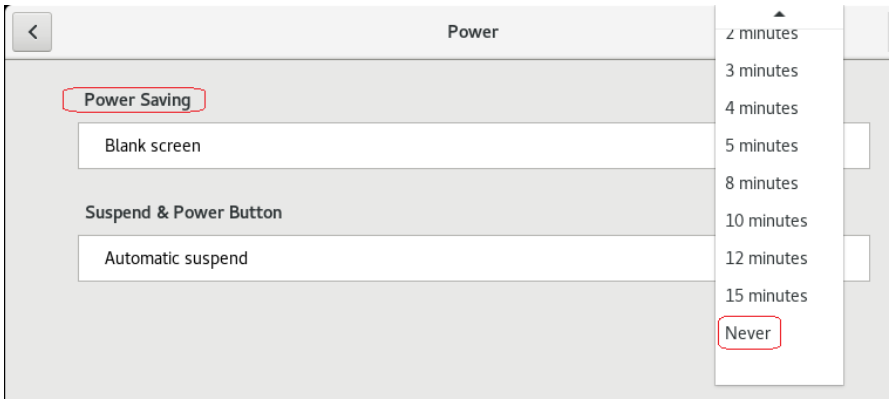
Prevent Fedora from logging you off after 5 minutes of inactivity.

From the Fedora desktop, go to the upper right corner and click on the power button. Now click on the system utilities icon in the lower left corner.

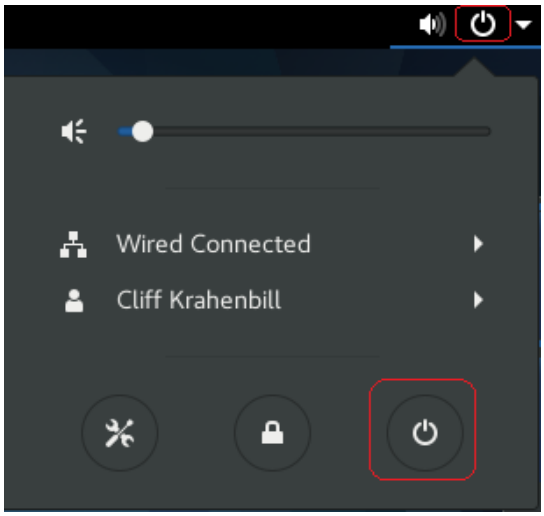


Click on the Power icon.

Click on the pull-down windows to the right of Power Savings. Go to the bottom of the window and select Never. The will keep your session from timing out if you remain idle for 5 minutes. Click on the X in the top right corner. You're welcome!



If you're ready to take a break before proceeding on to your next lab, you can shut down your Fedora Workstation using the control panel in the top right corner to access the power button. This is the only correct option for shutting your virtual machine!



If you would like to keep working, proceed on to the next Lab.

End of End 1ab!