Exercise 28.2: Using virt-manager with KVM to Install a Virtual Machine and Run it

In this exercise we will use pre-built **iso** images built by **TinyCoreLinux** (http://www.tinycorelinux.com) because they are cooked up very nicely and are quite small.

If you would like, you can substitute any installation **iso** image for another **Linux** distribution, such as **Debian**, **CentOS**, **Ubuntu**, **Fedora**, **OpenSUSE** etc. The basic steps will be identical and only differ when you get to the installation phase for building your new VM; which is no different than building any fresh installation on an actual physical machine.

We will give step-by-step instructions with screen capture images; If you feel confident, please try to just launch **virt-manager** and see if you can work your way through the necessary steps, as the **GUI** is reasonably clearly constructed.

1. Make sure **libvirtd** is running and start **virt-manager** by typing:

```
$ sudo systemctl start libvirtd
$ sudo virt-manager
```

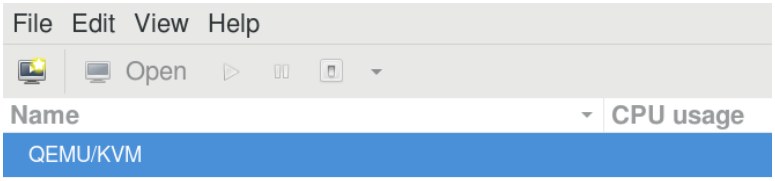

Figure 28.6: **Starting virt-manager**

2. Click on `File->Create New Machine` :

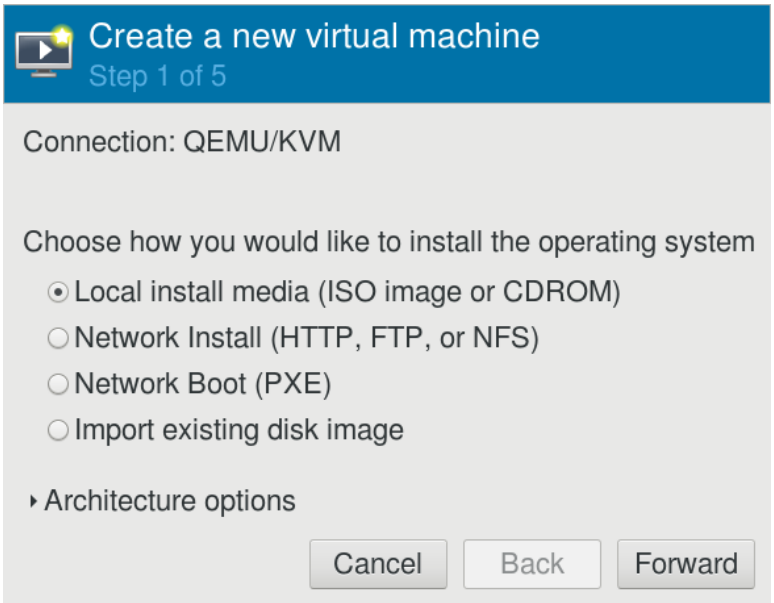

Figure 28.7: **Creating a Virtual Machine with virt-manager**

3. We have included three different **iso** install images from **TinyCoreLinux** in the `RESOURCES/s_28` directory:

   ```
   Core-current.iso
   CorePlus-current.iso
   TinyCore-current.iso
   ```

   (You can check and see if there are newer versions upstream at `http://www.tinycorelinux.com` but these should be fine.)

   CorePlus-current is largest and robust and we will use this as it will install with full graphics. The others are considerably quicker to use, however.

   Navigate through your file system and pick the desired image:

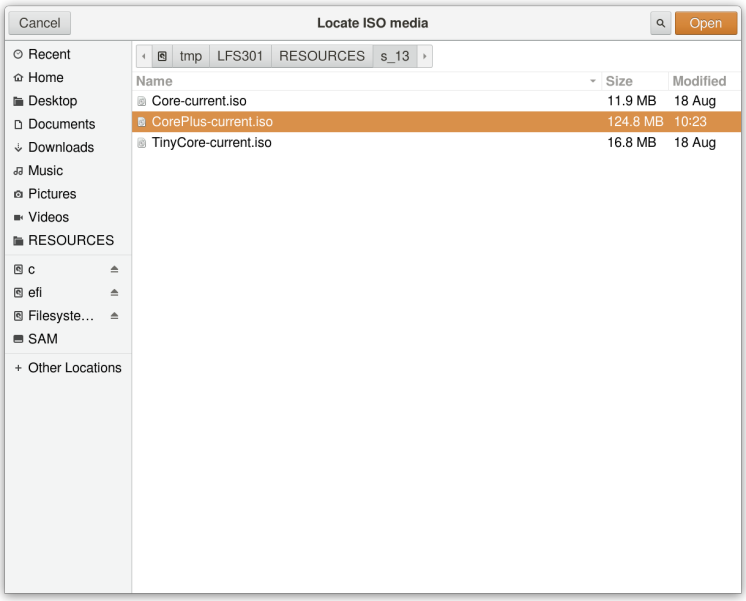

Figure 28.8: **Selecting the TinyCoreLinux iso image in virt-manager**

4. Next you have to request the amount of memory and number of **CPU**s or **cores** to use. These images are pretty minimal. A choice of `256 MB` is more than enough; you may have fun seeing how low you can go!

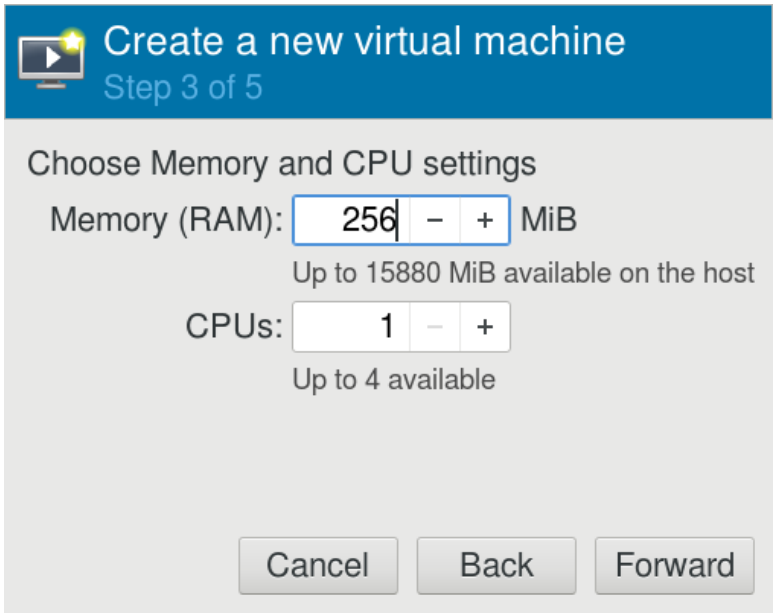

Figure 28.9: **Configuring Memory and CPUS in virt-manager**

5. Next you have to configure the location and size of the VM that is being created. You actually need very little for **TinyCoreLinux**, but the GUI will not let you choose less than `0.1 GB` (about `100 MB`.) (From the command line it is easy to configure less space.)

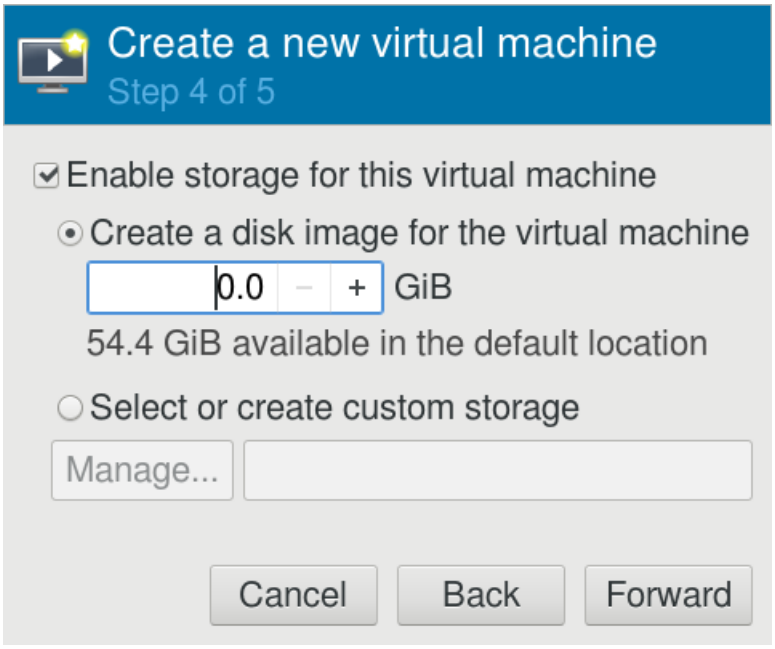

Figure 28.10: **Configuring Disk Storage in virt-manager**

If you do not click on `Select or Create custom storage` your image will be placed in `/var/lib/libvirt/images`. Since images can be quite large, you might want to configure to put it elsewhere. Or you can replace the images directory in `/var/lib/libvirt` with a symbolic link to somewhere else, as in:

```
$ sudo cd /var/lib/libvirt
$ sudo mv images images_ORIGINAL
$ sudo mkdir /tmp/images
$ sudo ln -s /tmp/images images
```

(You probably want a different location for the images files than `/tmp`, but you get the idea.)

6. You are now ready to begin installation of your own VM from the **TinyCoreLinux** installation disk:

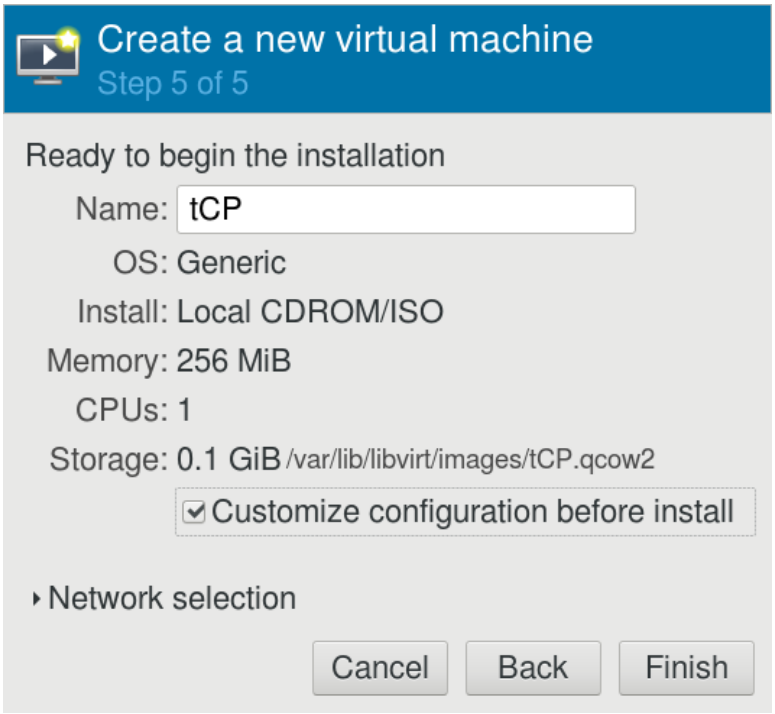

Figure 28.11: **Beginning the VM installation in virt-manager**

Please Note

We recommend clicking on **Customize** configuration before install. While you may want to make other changes, the mouse pointer is configured by default to be a **PS2** device; it is better to add a **USB tablet** input pointer.

Do this by clicking on `Add Hardware` on the next screen and then:

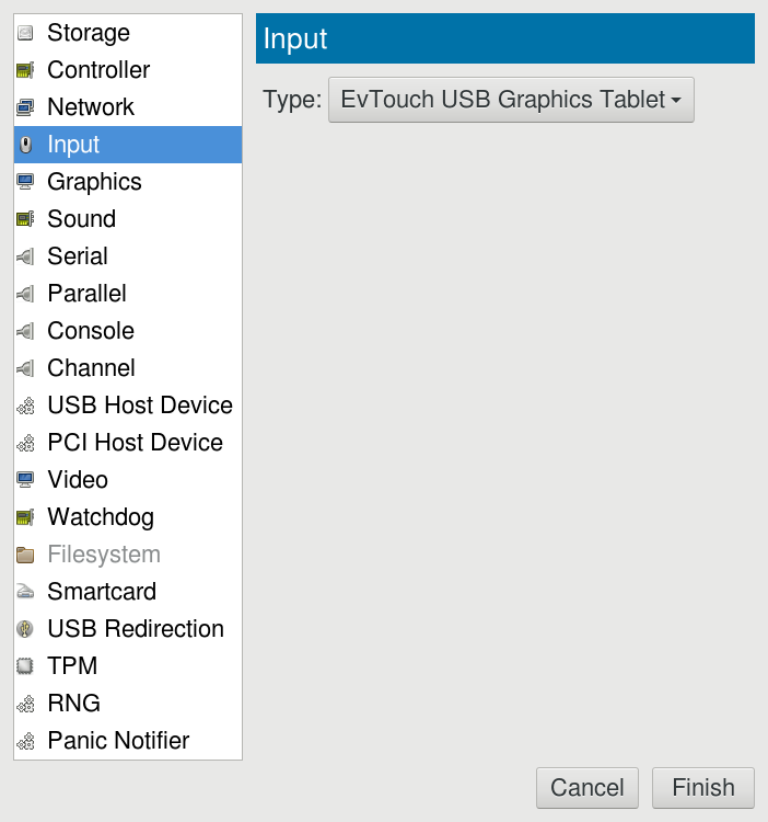

Figure 28.12: **Adding an Input Device to the VM in virt-manager**

7. Finally, we begin the installation:

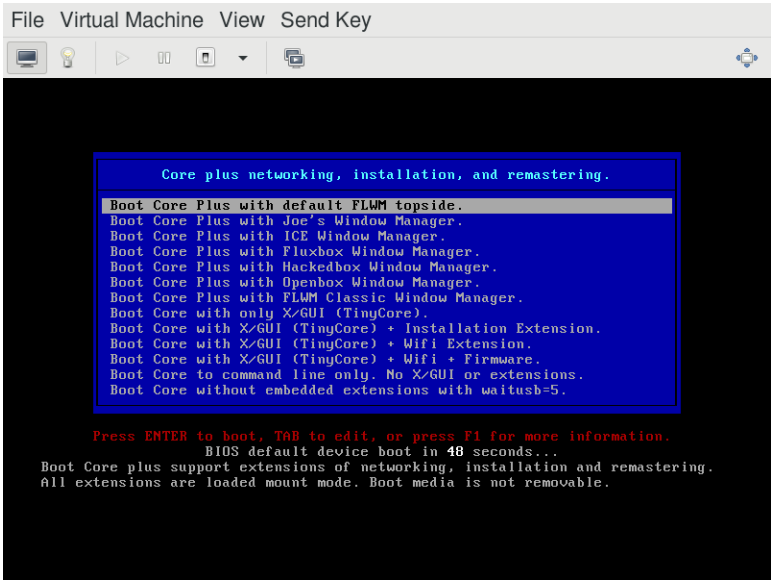

Figure 28.13: **Booting into the Installation Media with virt-manager**

You can make other choices for the graphical interface, here we just choose the first one, the default, and hit return.

8. This will take a while and eventually you will see the following screen:

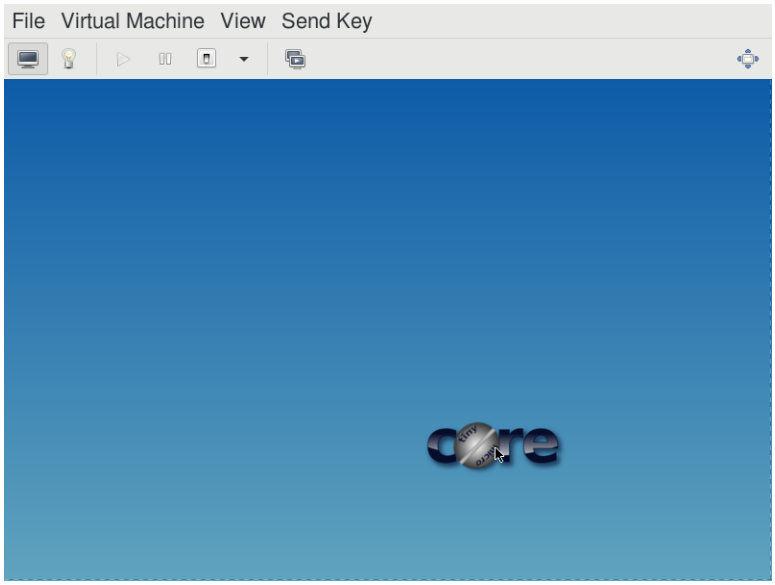

Figure 28.14: **First TinyCoreLinux Screen**

It is not obvious what to do here, but you need to see the icons at the bottom so you should resize and make the screen taller:

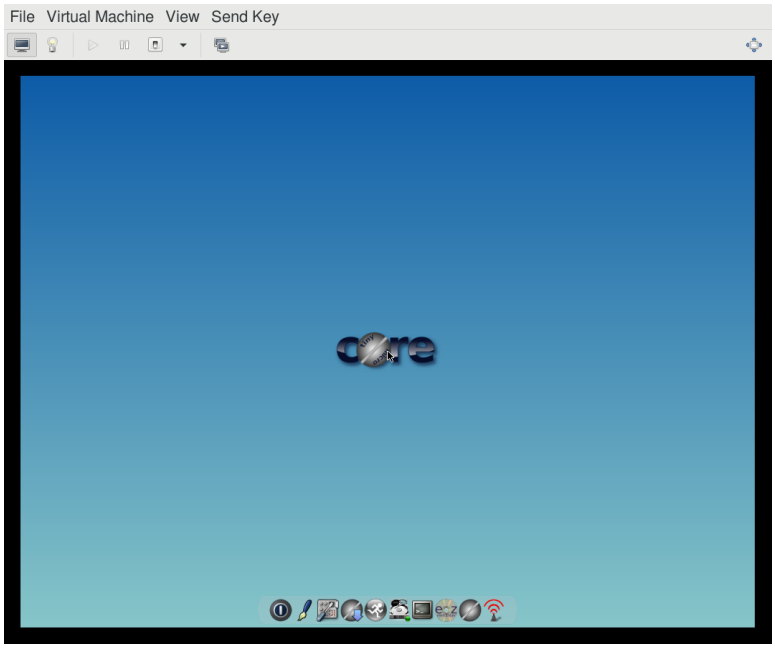

Figure 28.15: **First TinyCoreLinux Screen Resized**

9. Click on the terminal icon (or right click on the background and open up a terminal. Note the font is microscopic unfortunately. Then type

   ```
   tc-install
   ```

   in the window.

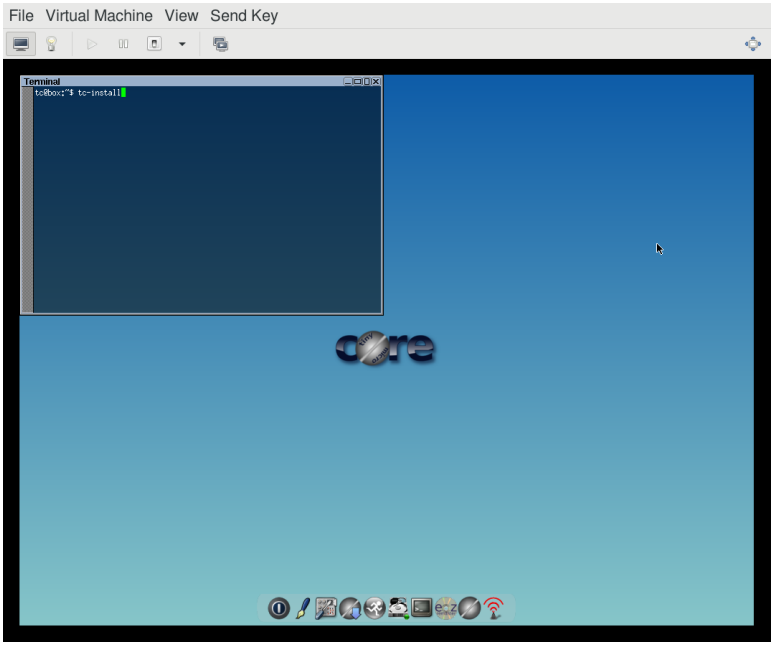

Figure 28.16: **Running tc-install**

10. Select `Whole disk` and `sda` and click the forward arrow:

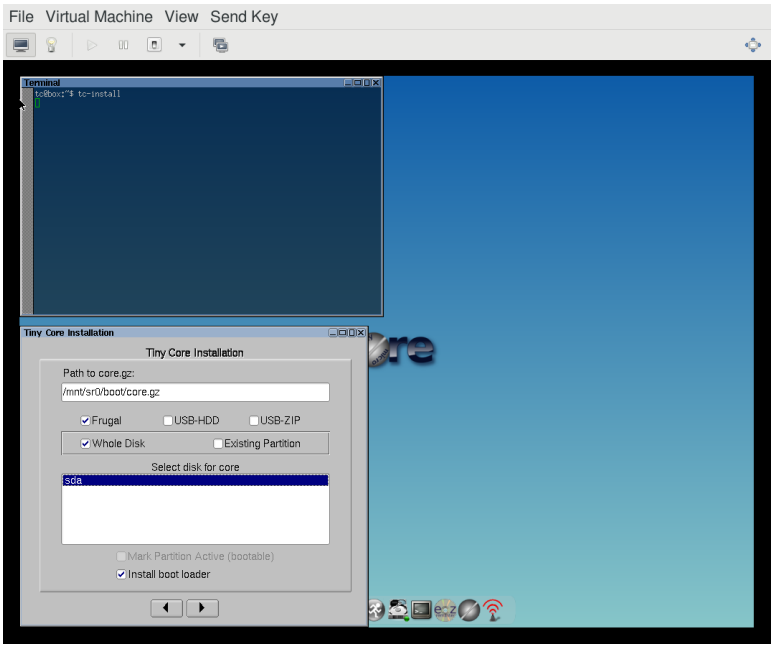

Figure 28.17: **Selecting Disk in VM**

11. Things will crank for a while and each step will be reflected in the output window.

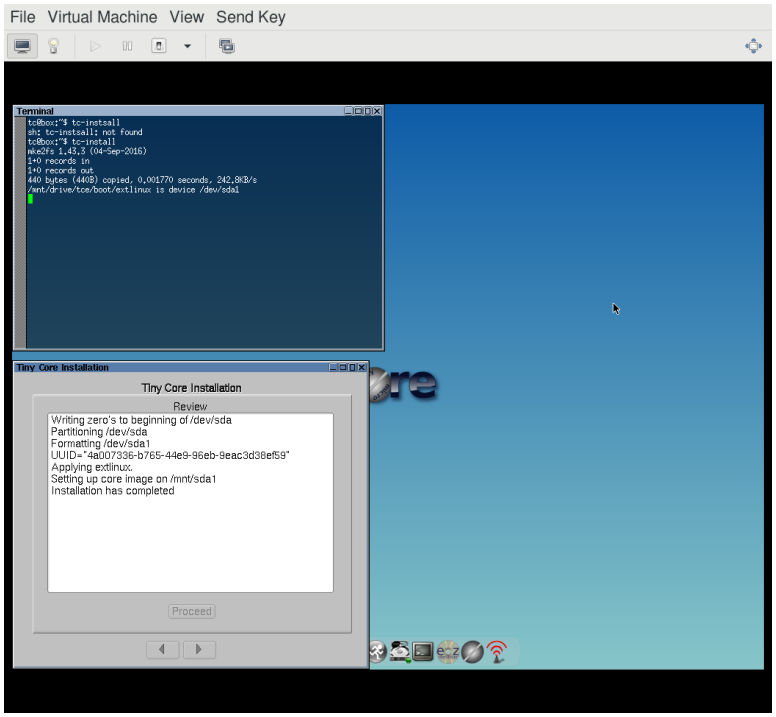

Figure 28.18: **Finishing Installation in virt-manager**

When installation is complete you can go to the `File` menu and shut down the virtual machine.

12. Start up **virt-manager** again (if you have killed it) and you should now see something like:

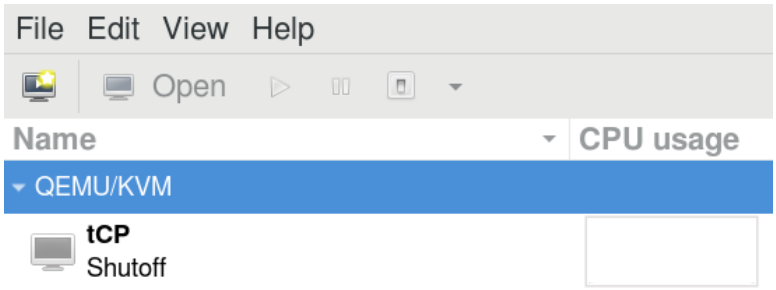

Figure 28.19: **Running the new VM in virt-manager**

Right click on the VM and `open` and `run`. Your new virtual machine should be up and running! (If you get confused and

think you are running the original install image, you can verify it is not that by noting there is no **tc-install** program in the new disk image.

