

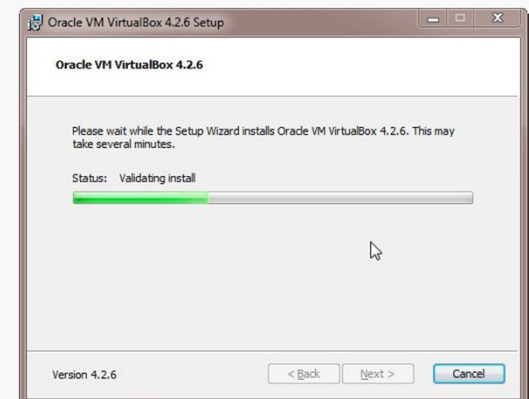
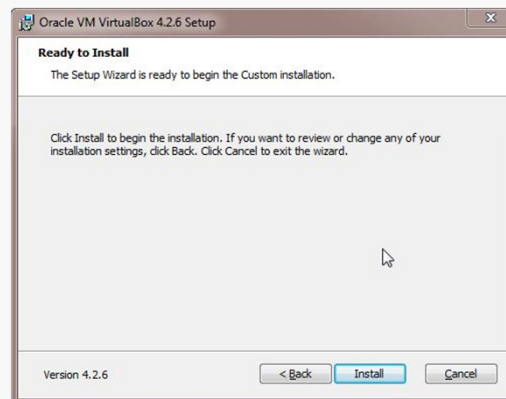
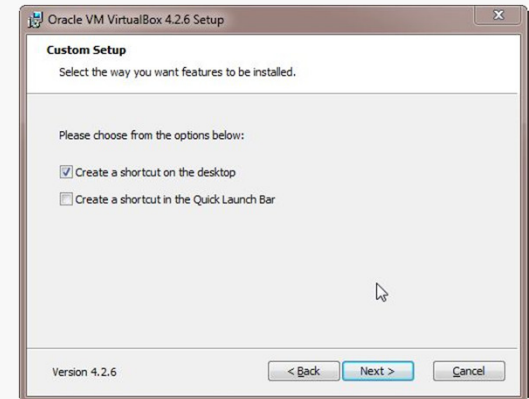
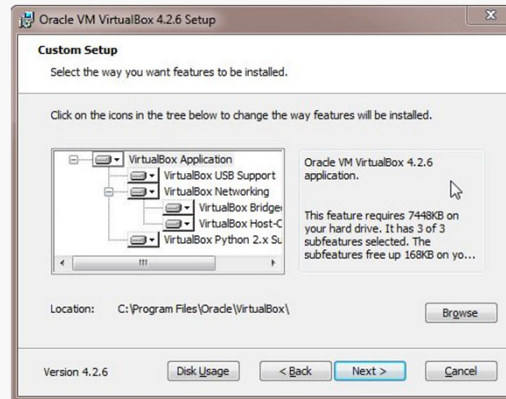
Go to www.virtualbox.org and select [Downloads](#).

Download the current release of VirtualBox for the OS on which you will install VirtualBox. In these notes, that's Windows 7.

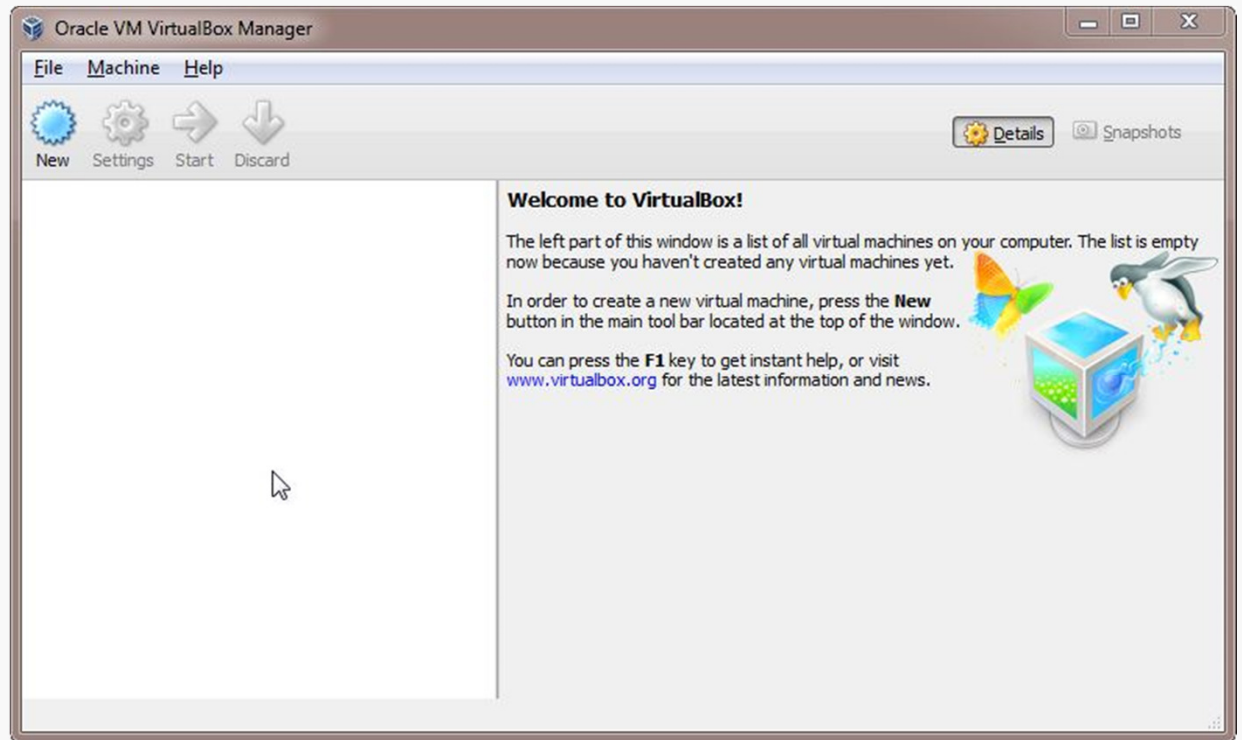
Download the VirtualBox Extension Pack.

Begin the VirtualBox Installation

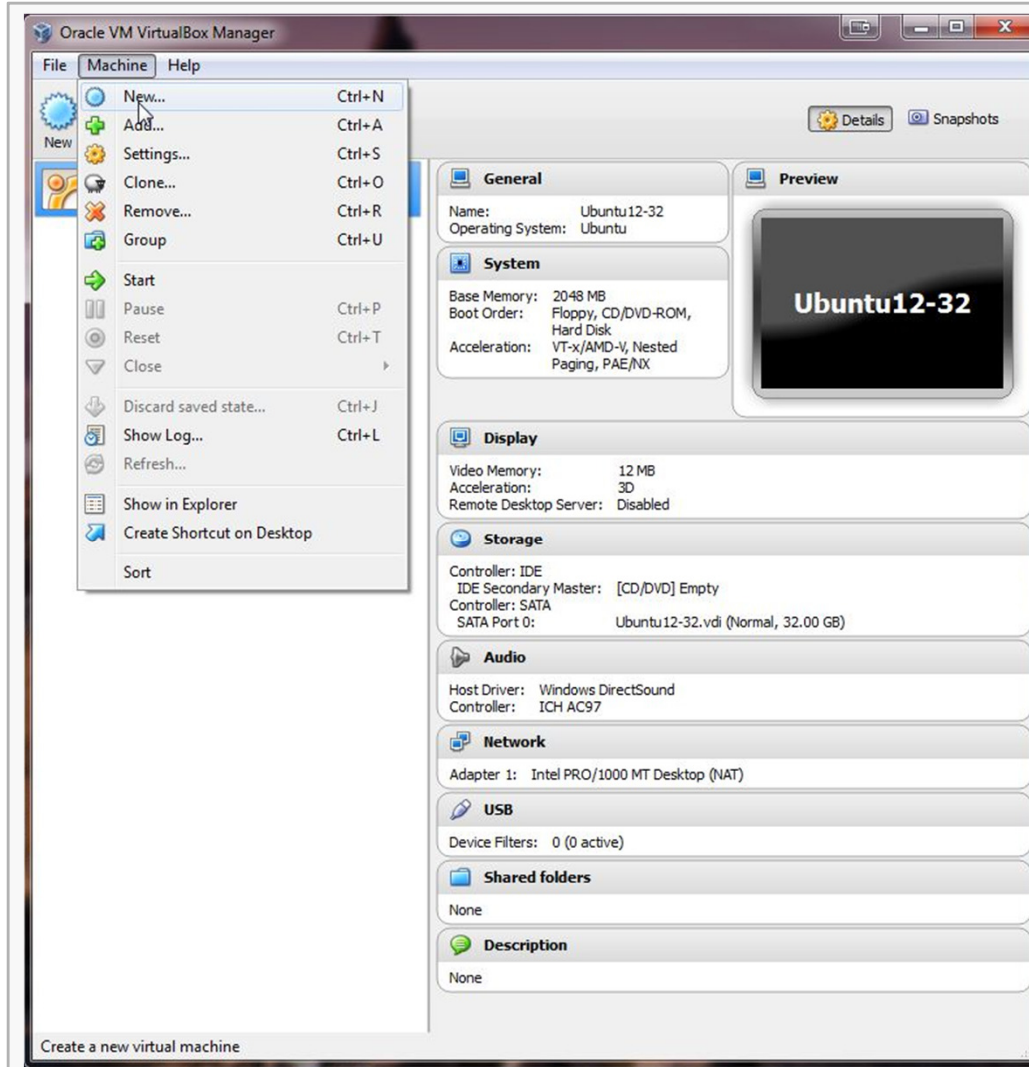
Run the VirtualBox installer. The first few screens are typical and probably do not require any changes:



When the installation completes, you can run VirtualBox for the first time:

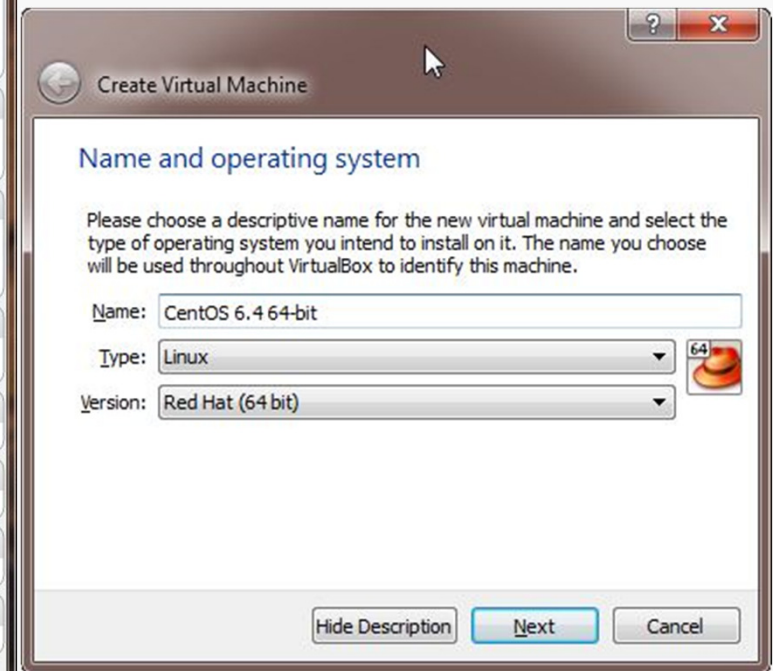


Creating a Virtual Machine



Give the new VM a descriptive name.

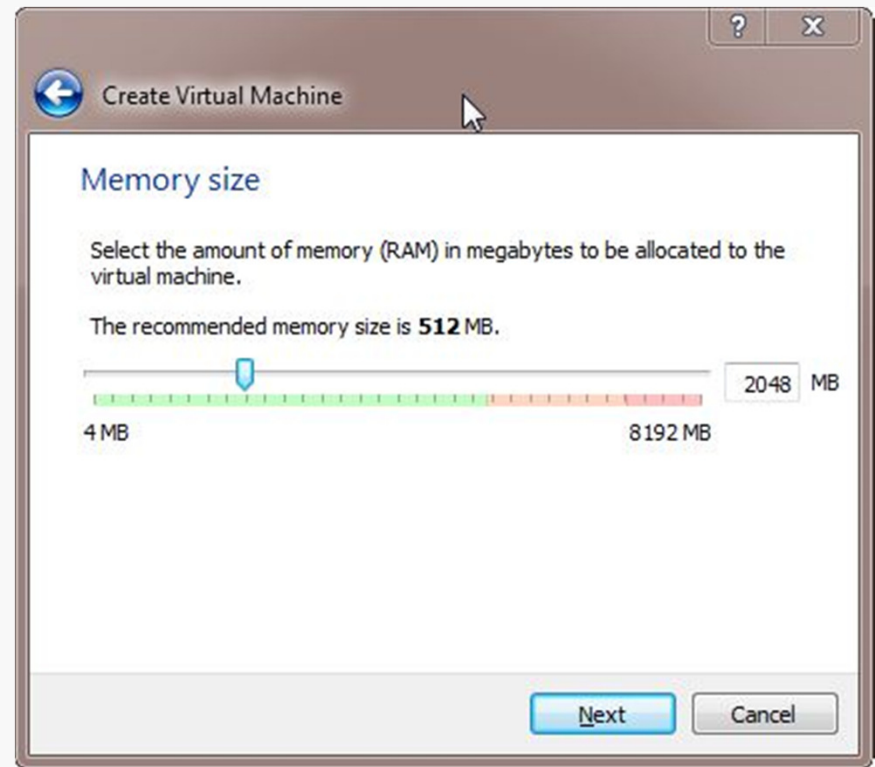
VirtualBox should auto-detect the proper OS type and version:



Configuring Memory for the VM

Specify the amount of memory you'll give the VM.

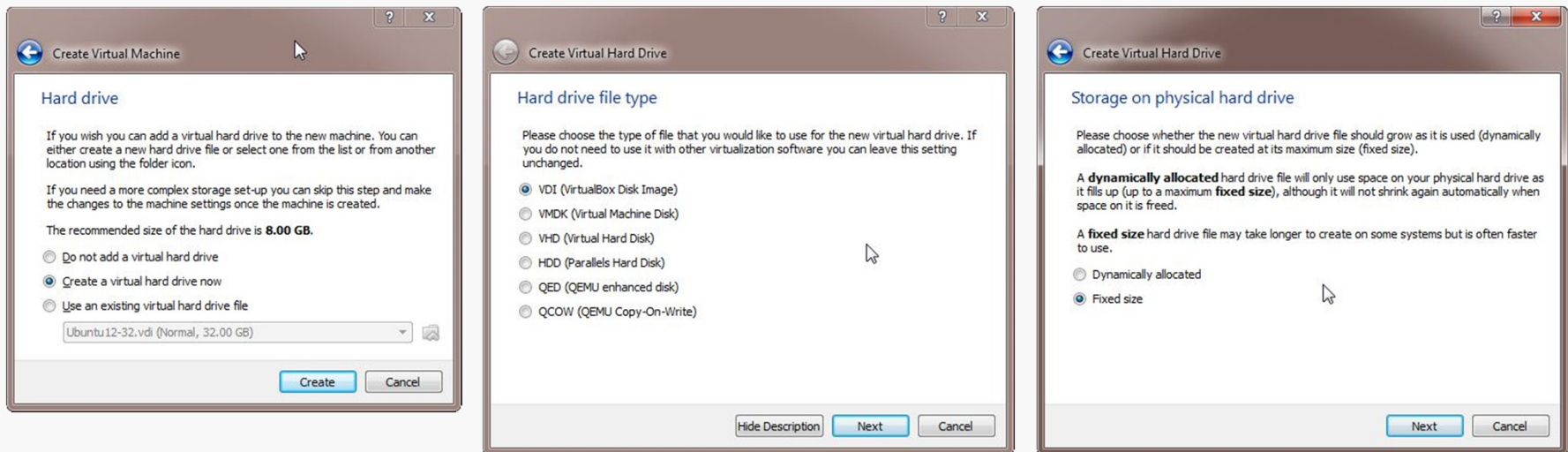
In this case, I'm installing on a host machine with 8GB of RAM; with less, I'd probably given the VM 1GB.



Configuring a Virtual Hard Disk

In the next dialog, select the option to create a new virtual hard drive now.

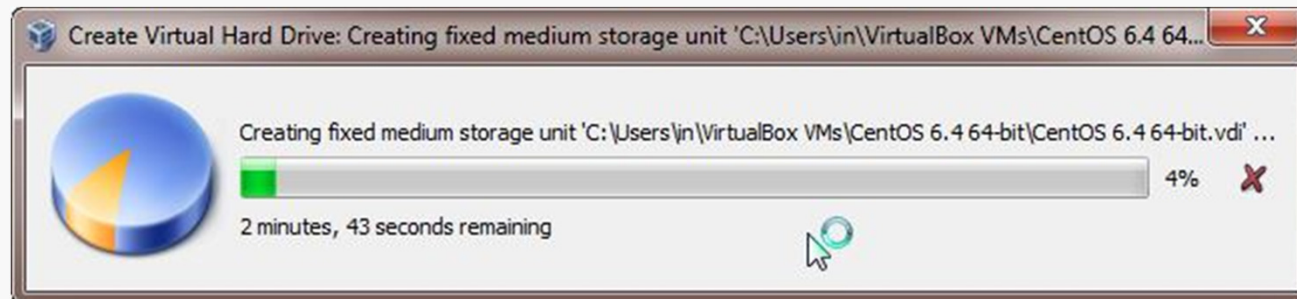
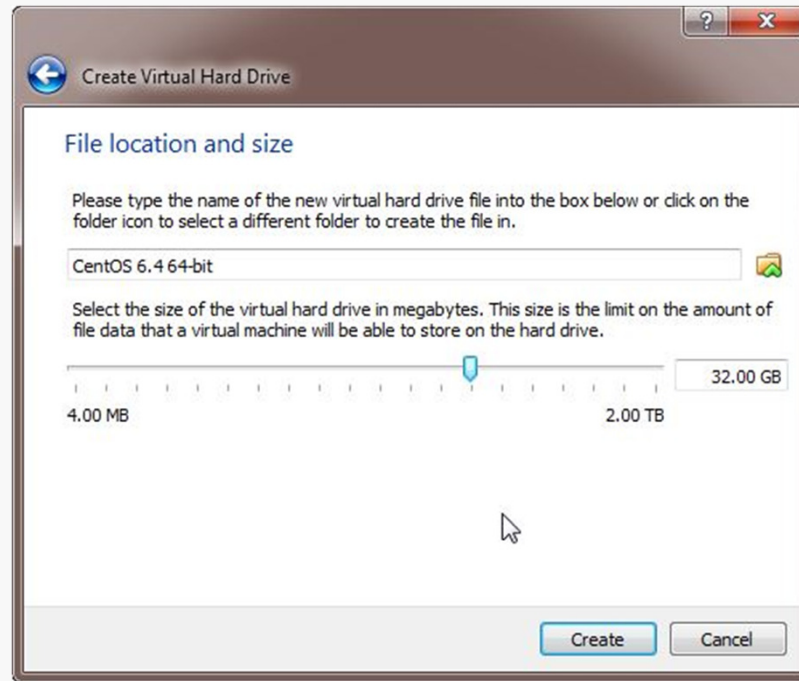
Take the default hard drive file type in the next dialog unless you're concerned about being compatible with some other virtualization tool like VMWare.



Next, I recommend choosing a fixed-size hard disk.

Configuring a Virtual Hard Disk

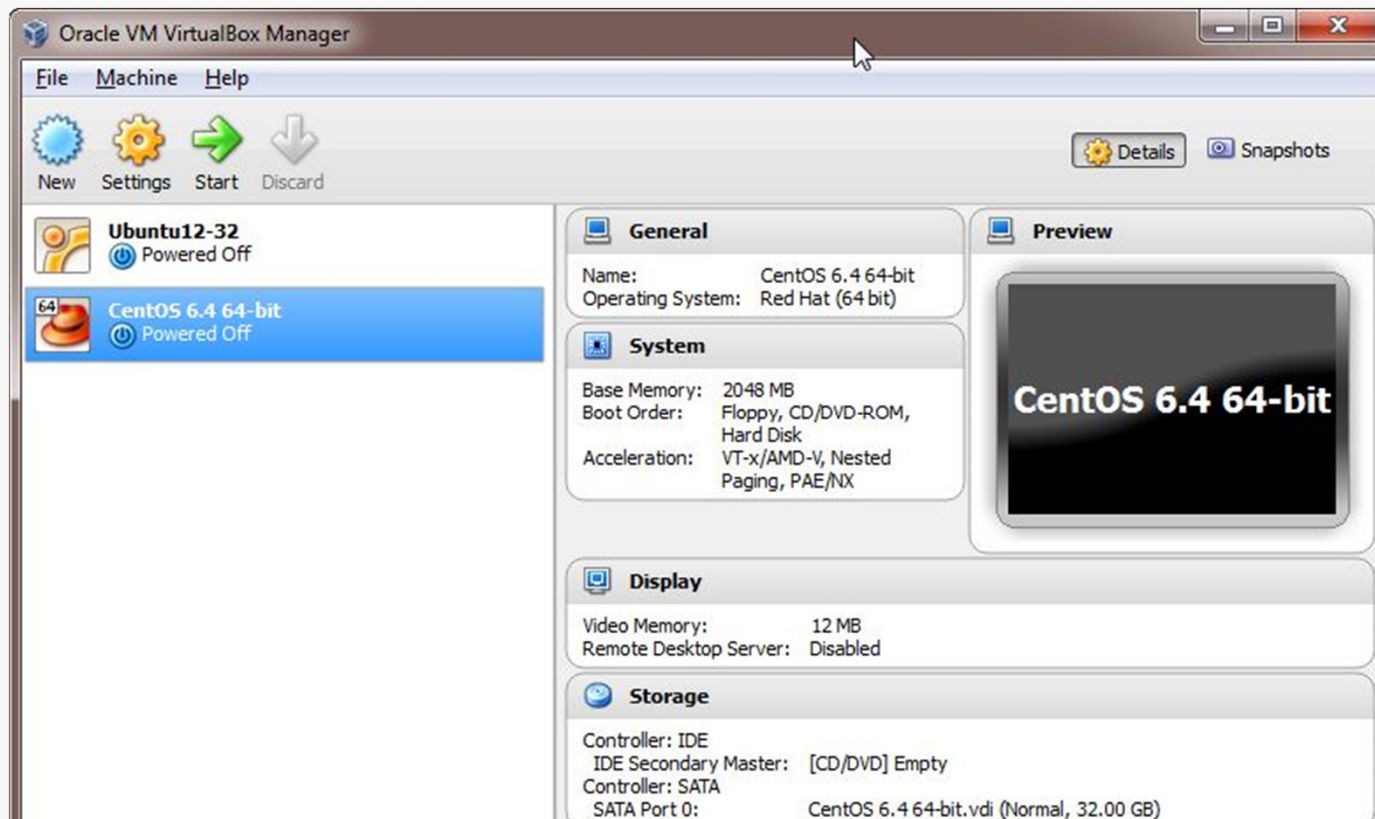
I generally make this 32GB, but make it smaller if you're short on space.



An Empty VM

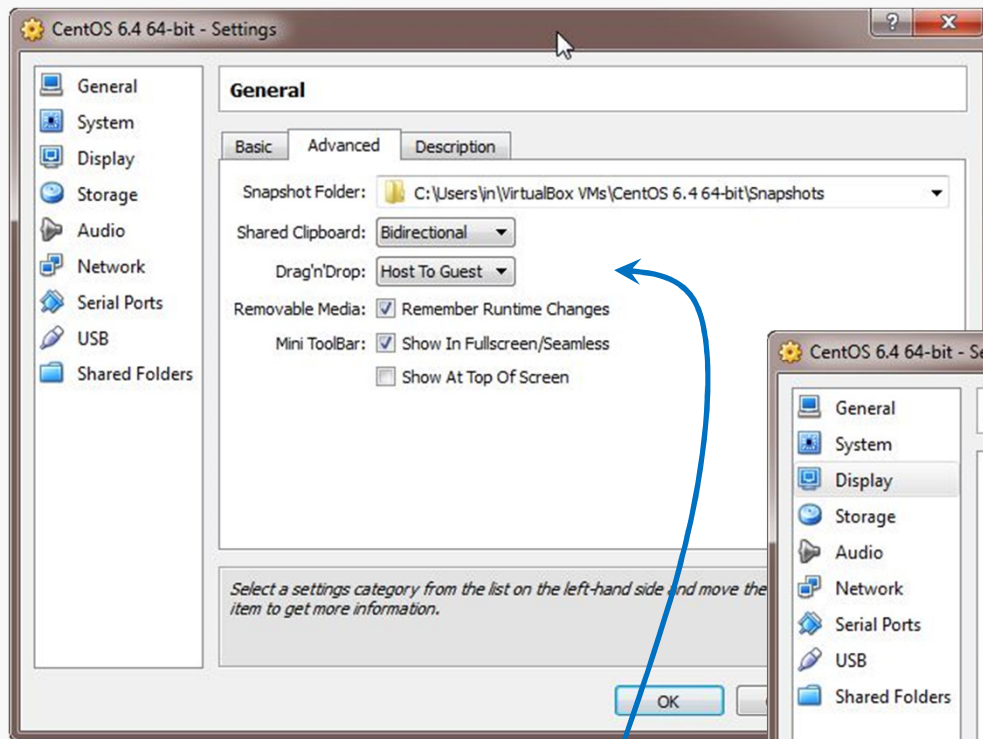
Now, you have an empty virtual machine (I already had another VM fully set up).

That is, a formatted (virtual) hard disk and no OS.

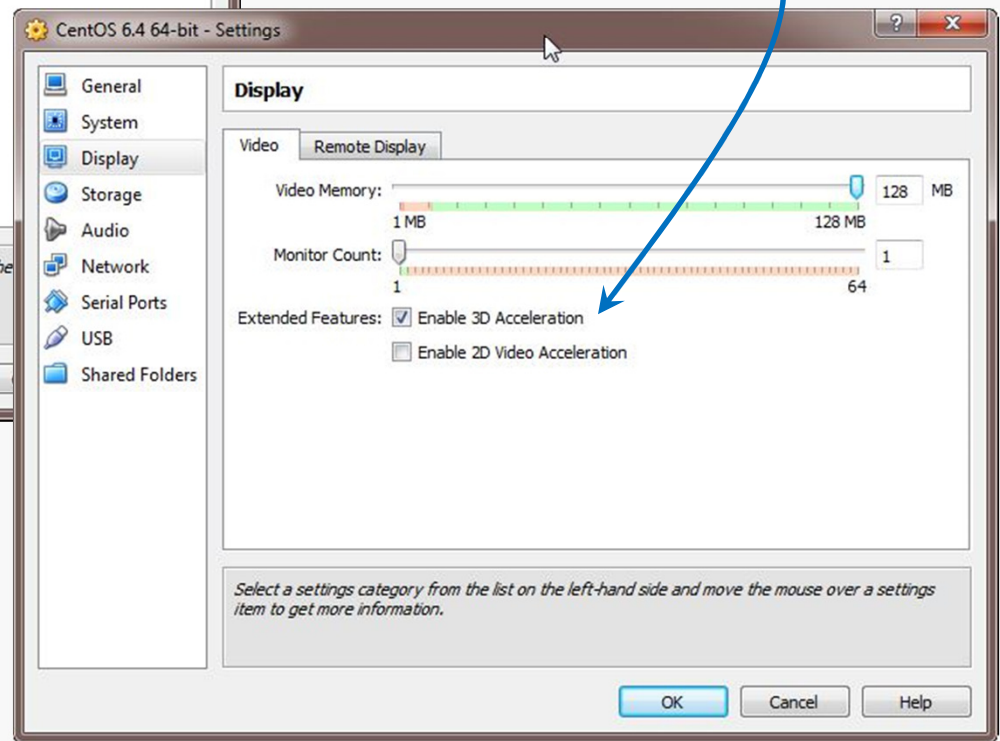


VM Settings

There are a couple of crucial VM settings; right-click on your VM and bring up the Settings dialog:



Under Display, enable 3D Acceleration.



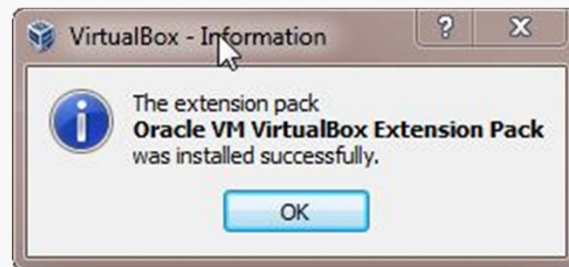
Under General/Advanced, make the shared clipboard Bidirectional, and enable Drag'n/Drop.

Install the VirtualBox Extensions

Find the file for the VirtualBox Extensions you downloaded earlier.

It should be associated with VirtualBox now.

Double-click on it and the Extensions should be installed.



Choose a Linux distribution to install. CentOS matches the department's servers, including the rlogin cluster, but any distribution should do.

You'll have to select a 32-bit or a 64-bit version.

A 64-bit version gives you a few more options, but either will be sufficient for most of the assignments in CS 2505.

If you install a 32-bit version, you won't be able to run any 64-bit code on it.

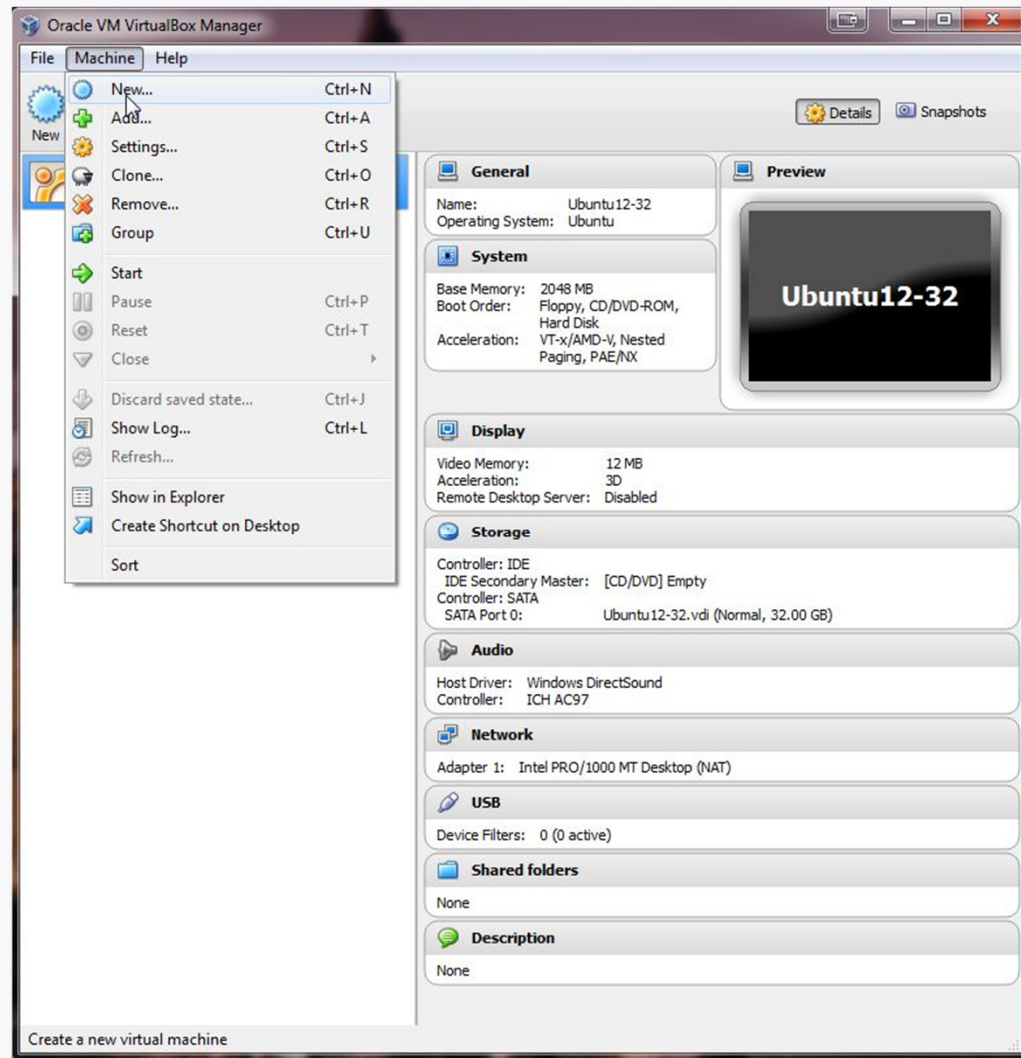
If you install a 64-bit version, you won't be able to build any 32-bit executables on it unless you install some additional packages.

Whatever you choose, download an ISO file (CD or DVD). You don't need to burn a physical disk.

Disclaimer: the following notes illustrate one session installing a particular distribution of Linux on VirtualBox 4.2.6, running on Windows 7 Enterprise, on a particular underlying hardware system. YMMV. Mine certainly has...

Beginning the Installation

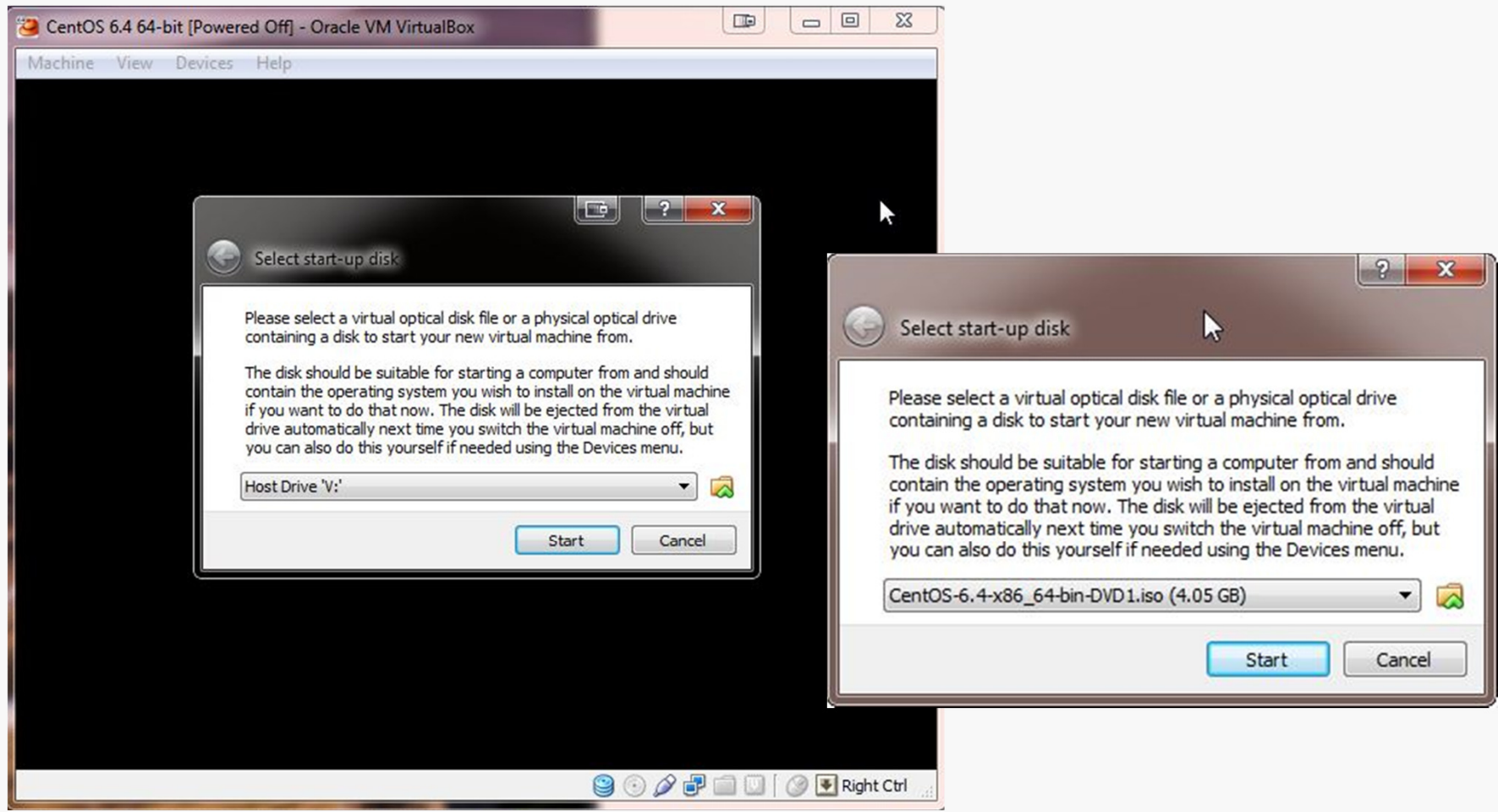
Select the VM and click Start:



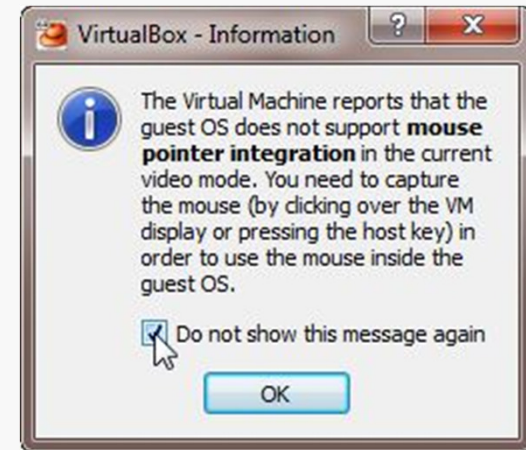
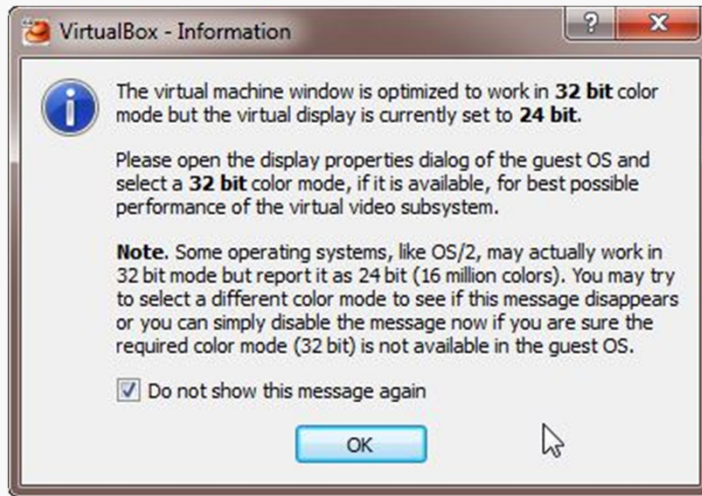
Selecting Installation Media

VirtualBox will recognize the empty system and prompt you to select an installation disk.

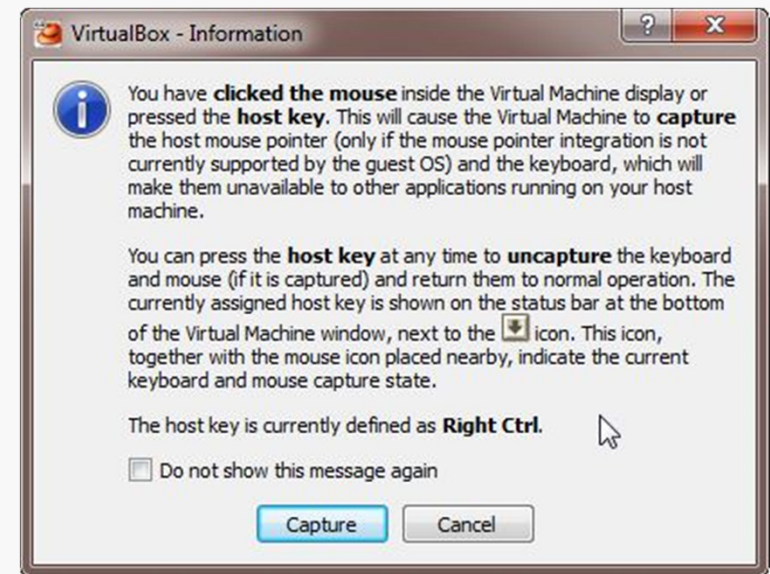
Click the folder icon and select your ISO file.



The remaining screen shots will vary considerably depending on which distro you chose to install, but the general procedure will be similar.



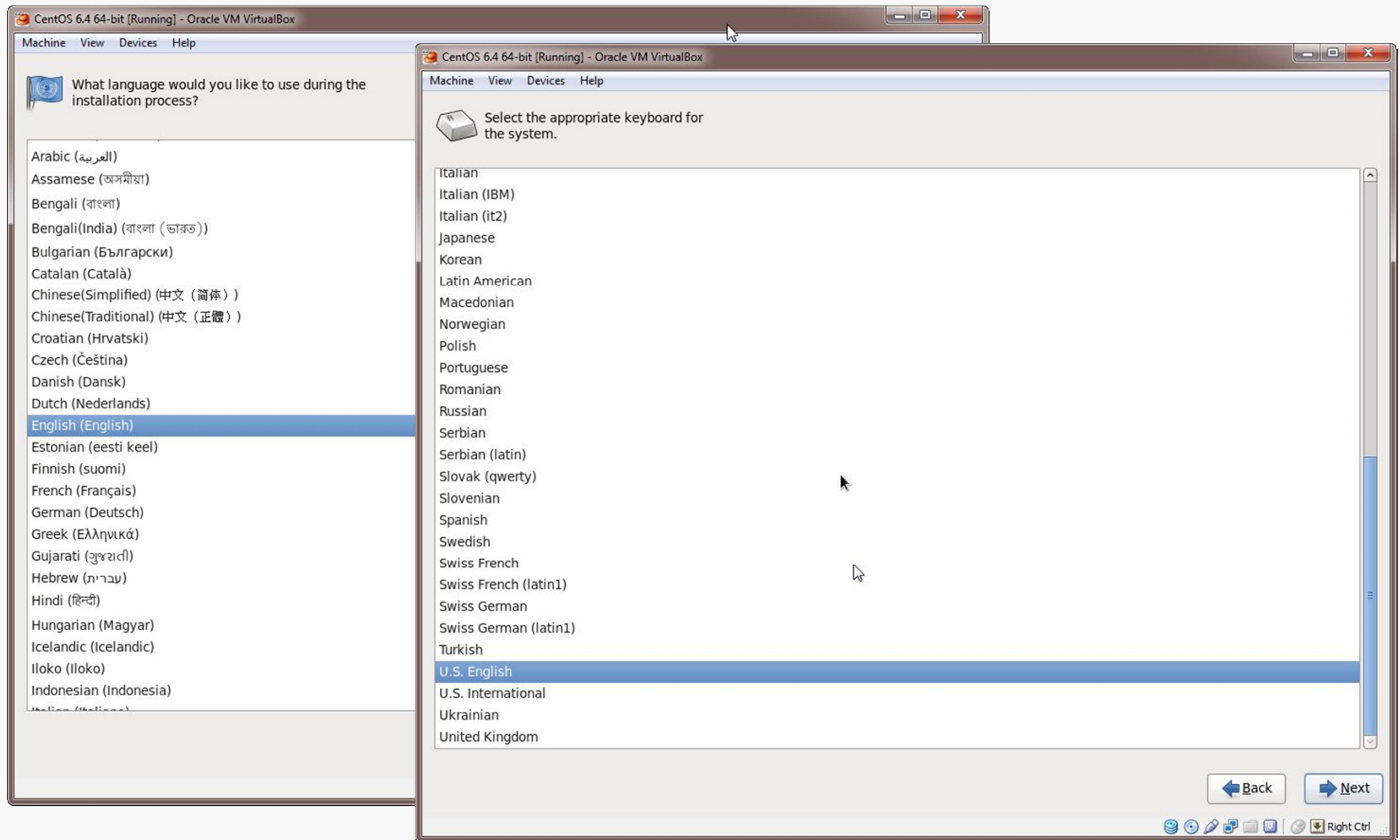
I got these three dialogs when installing CentOS... eventually I'll sort out the color depth and the mouse pointer integration.



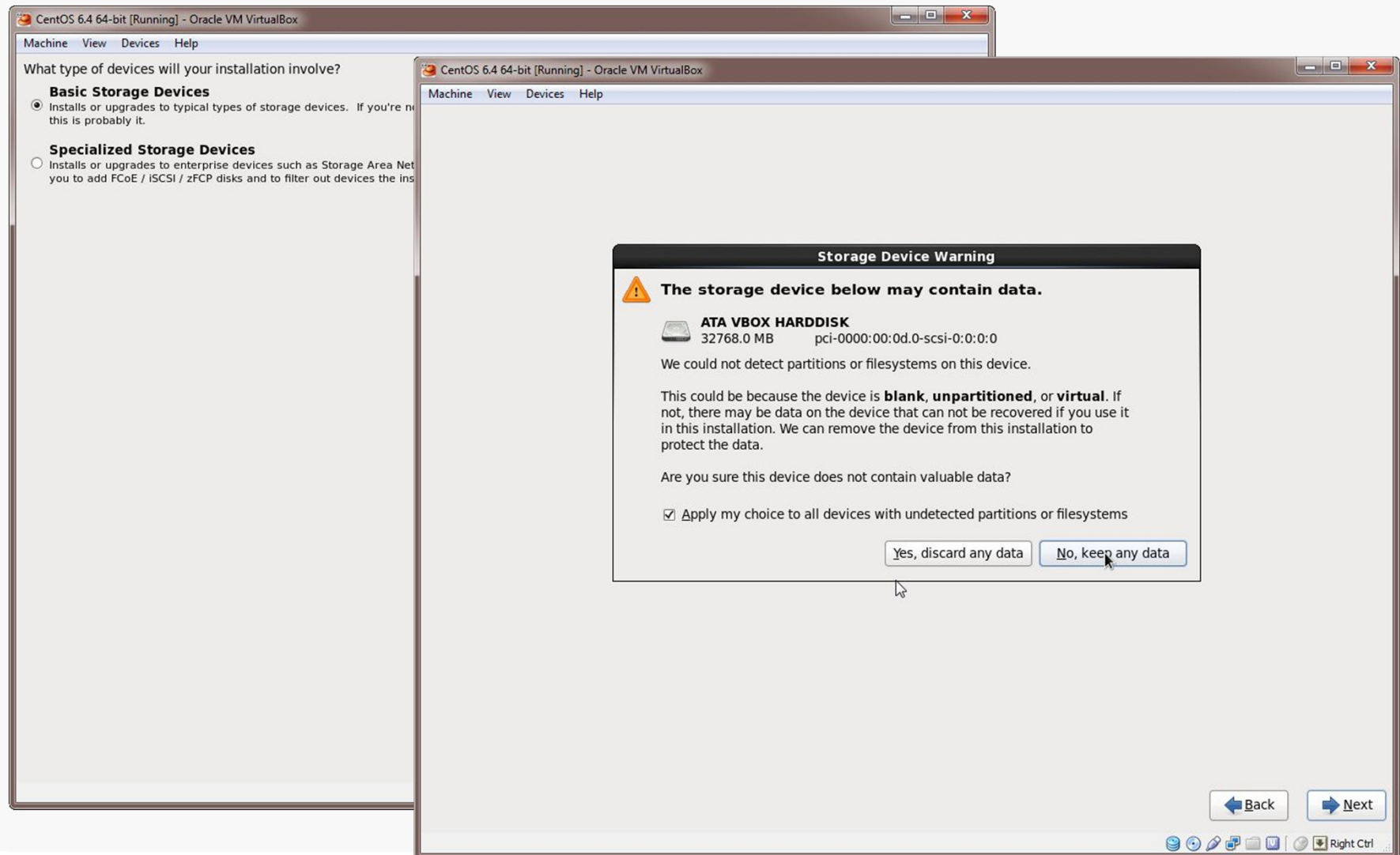
Here is the CentOS start screen:



CentOS starts with some basic language and keyboard configuration:

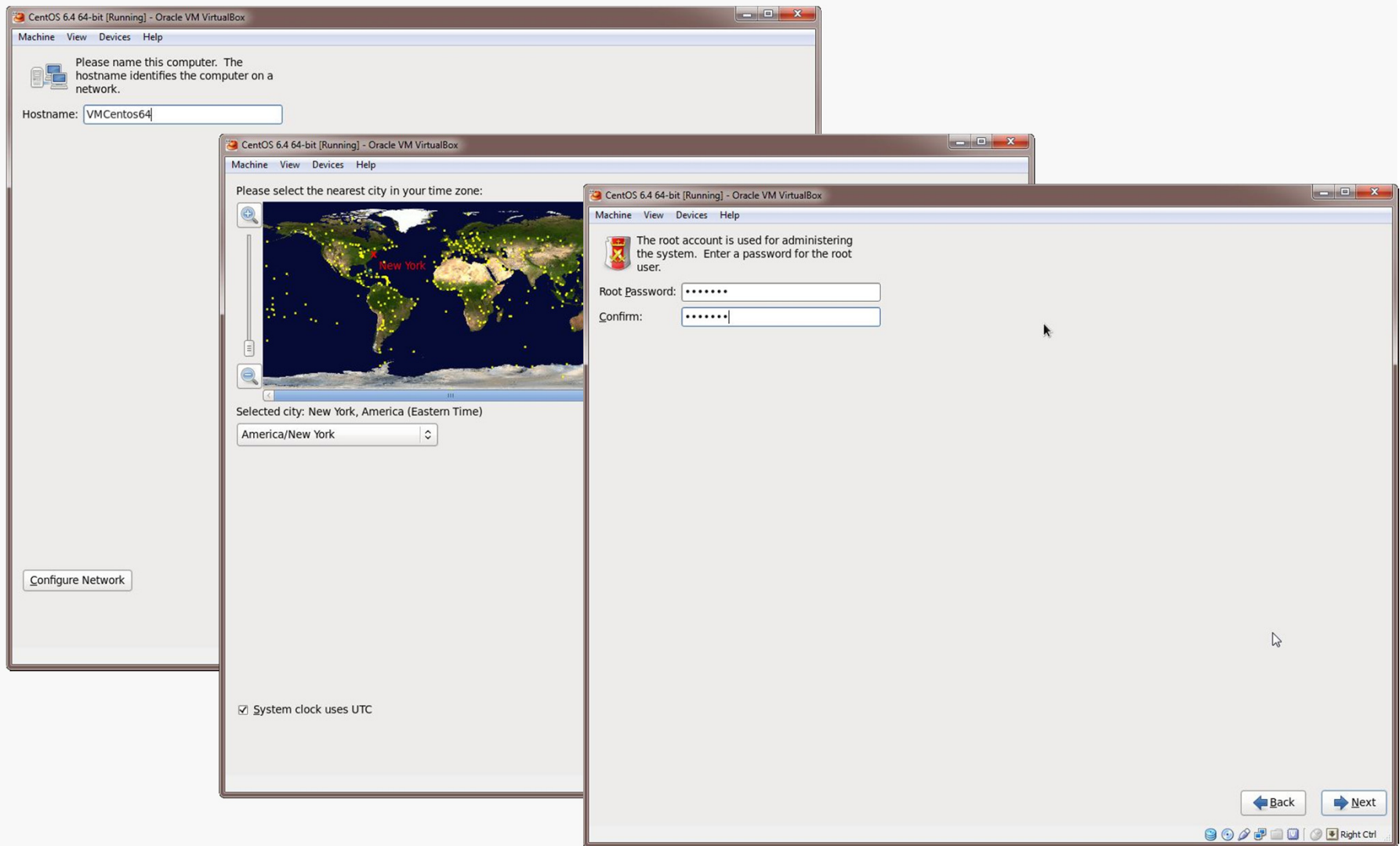


You're installing on the virtual drive, not your actual hard drive, so don't be alarmed by the second dialog.



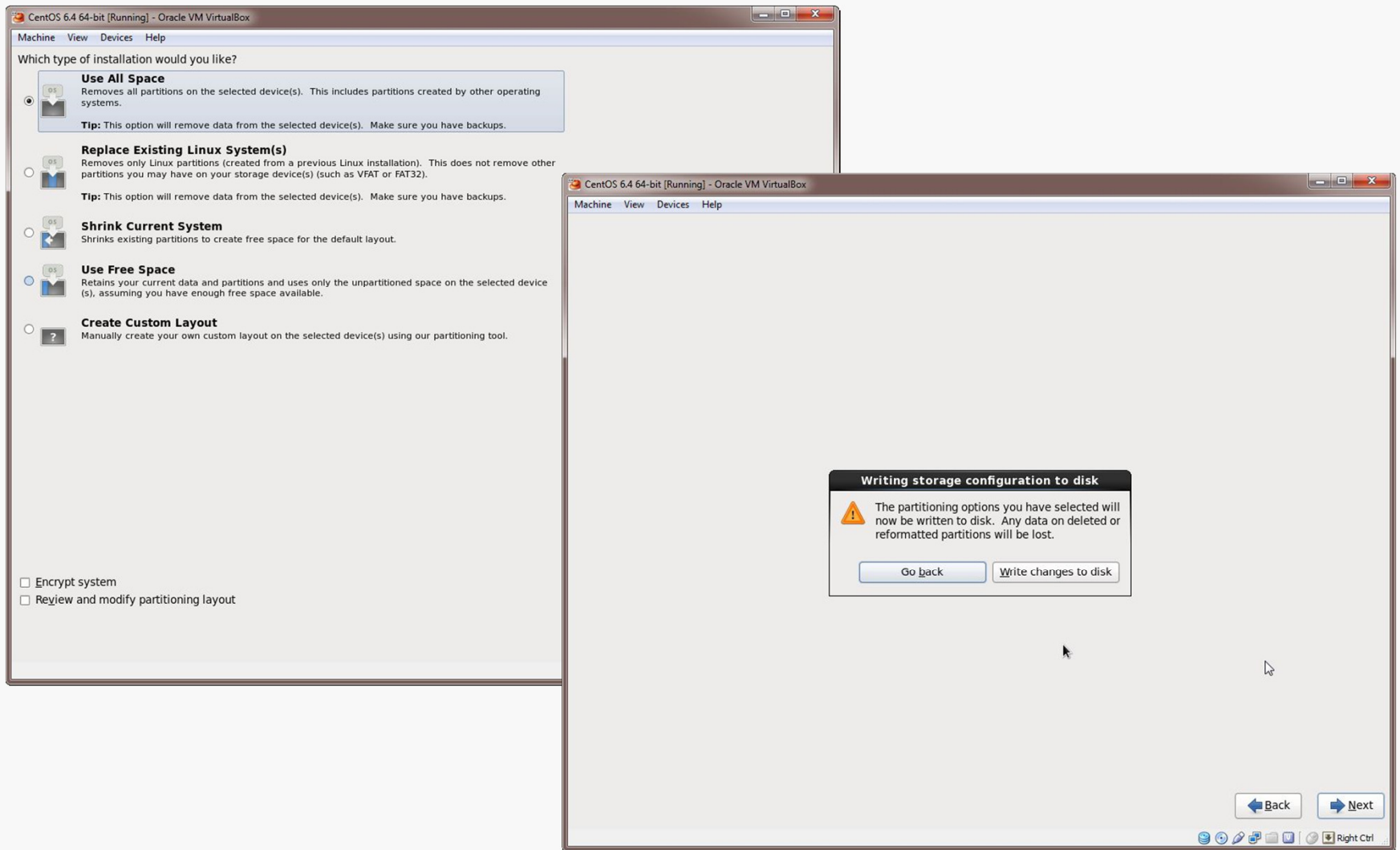
Basic Settings

Name your install, select your time zone and set the password for root:



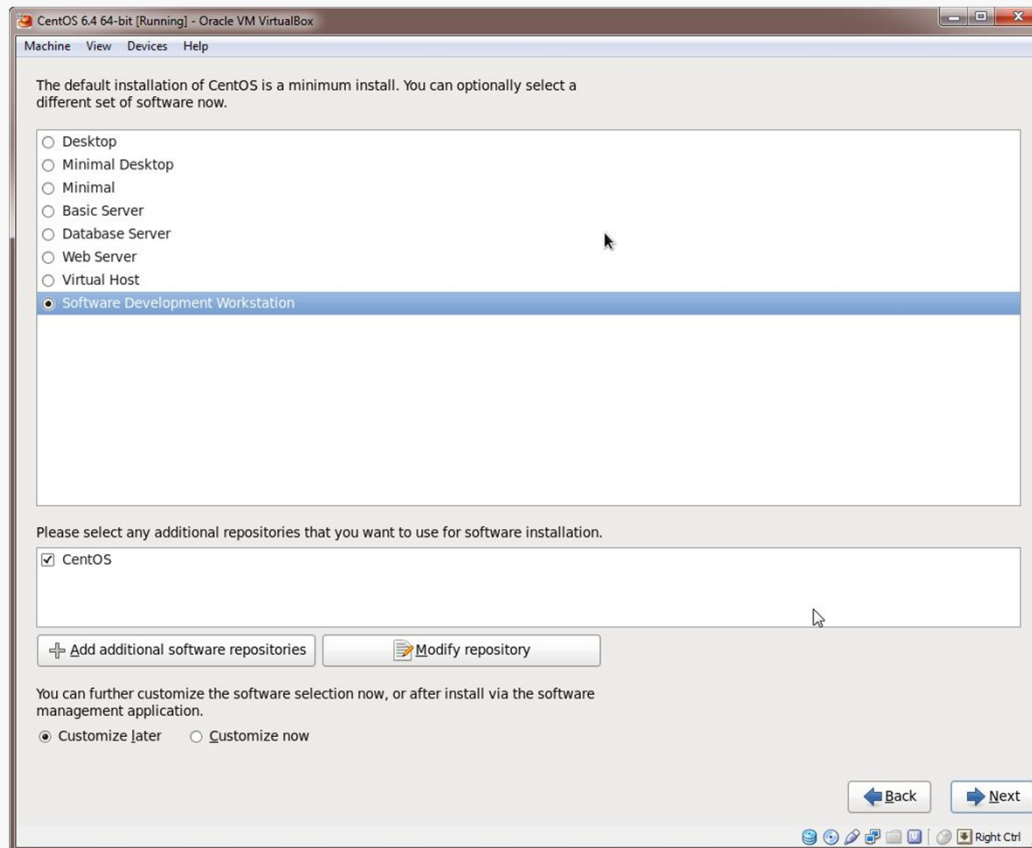
Storage Configuration

Now begin the actual installation to disk:

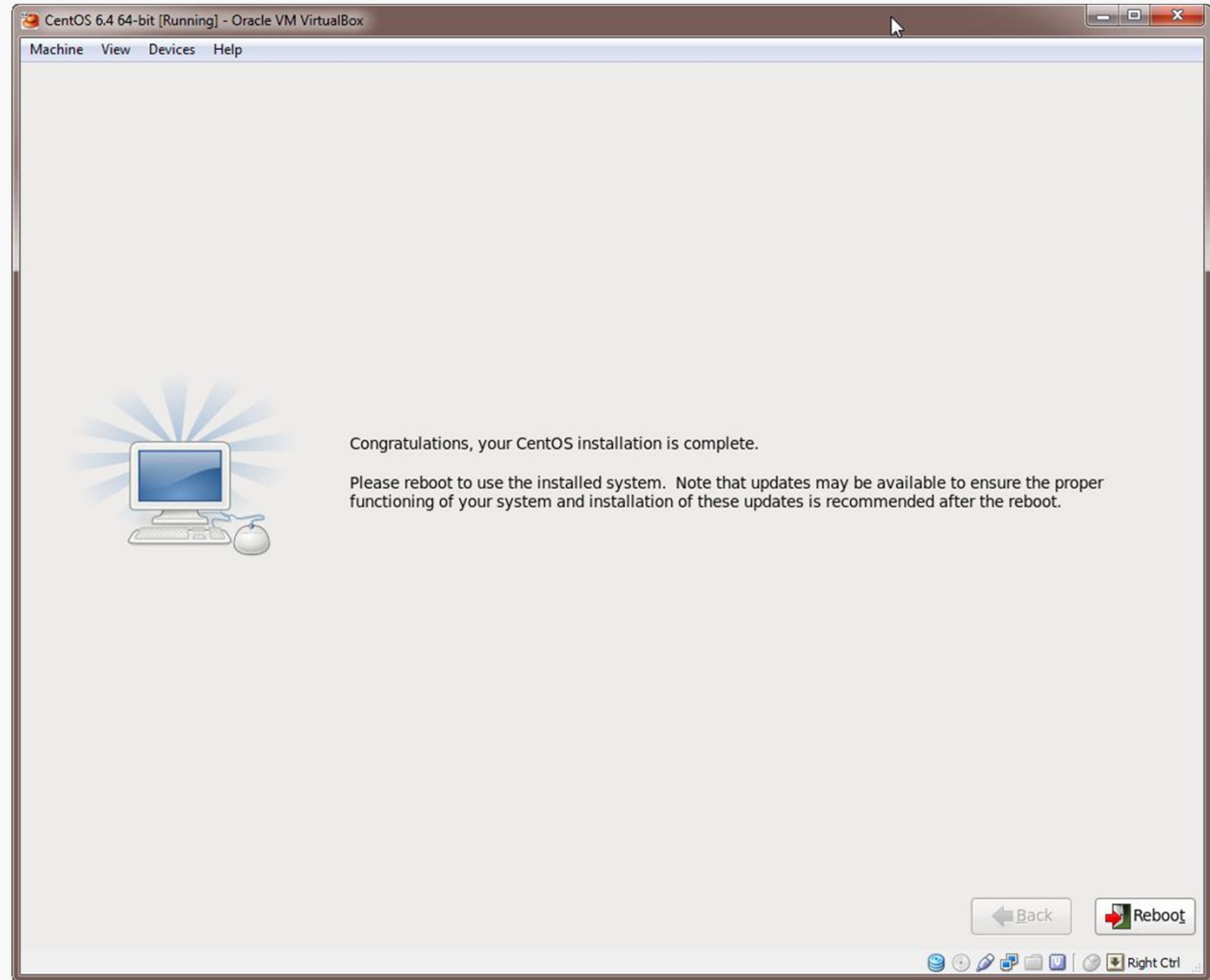


Select the general type of system you want... probably Software Development.

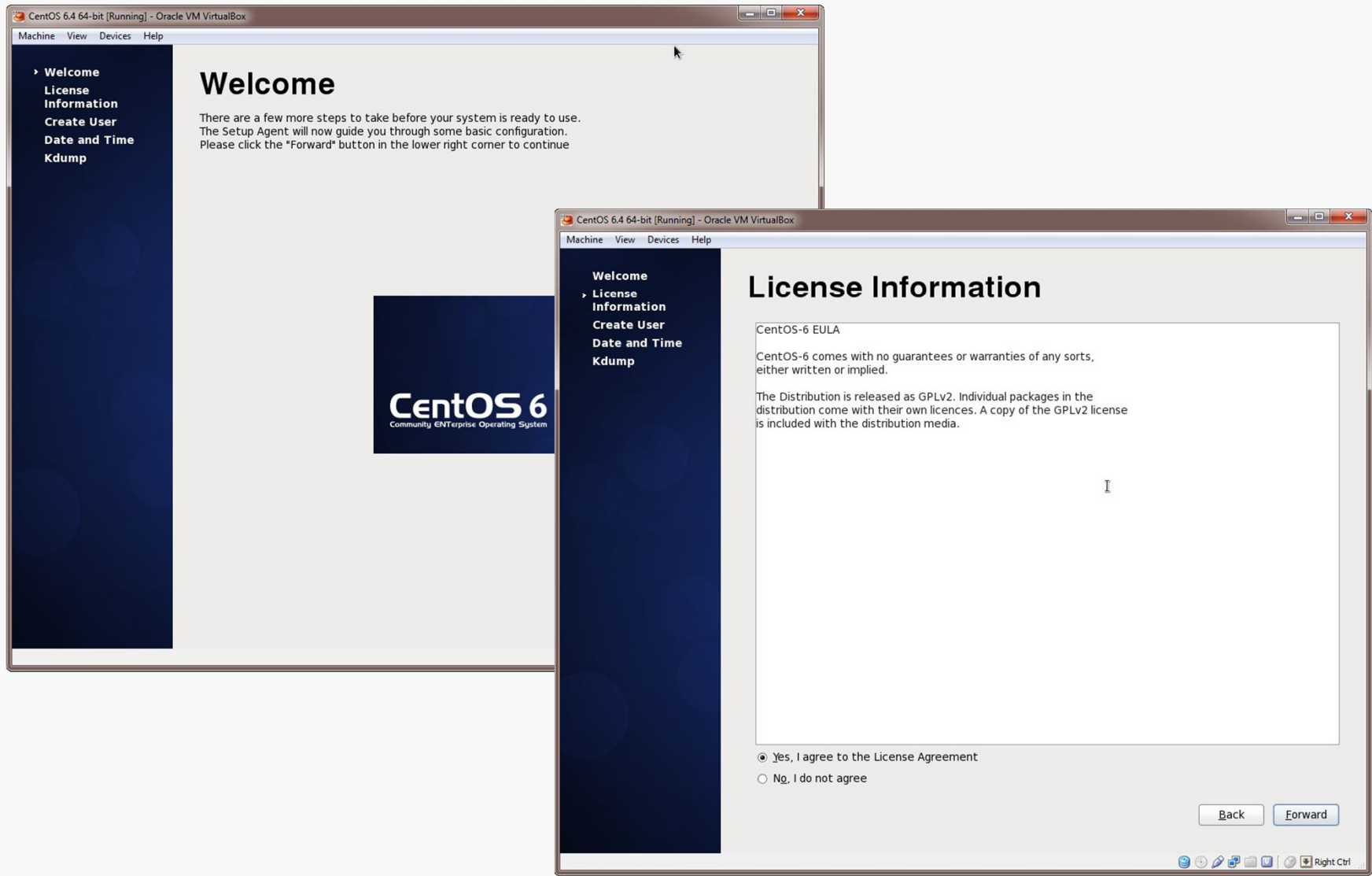
You can add additional packages later.



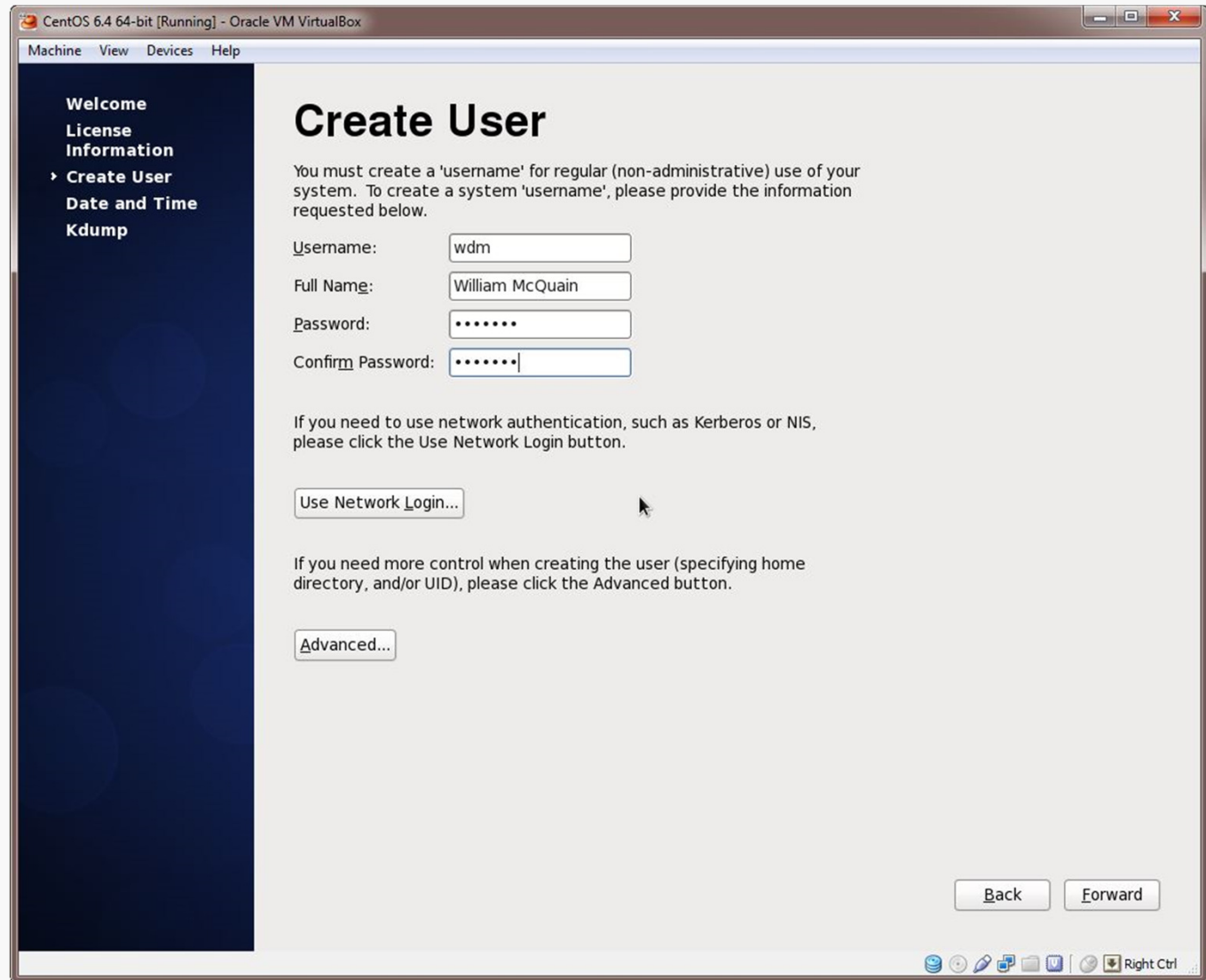
Things should proceed automatically until a restart is needed:



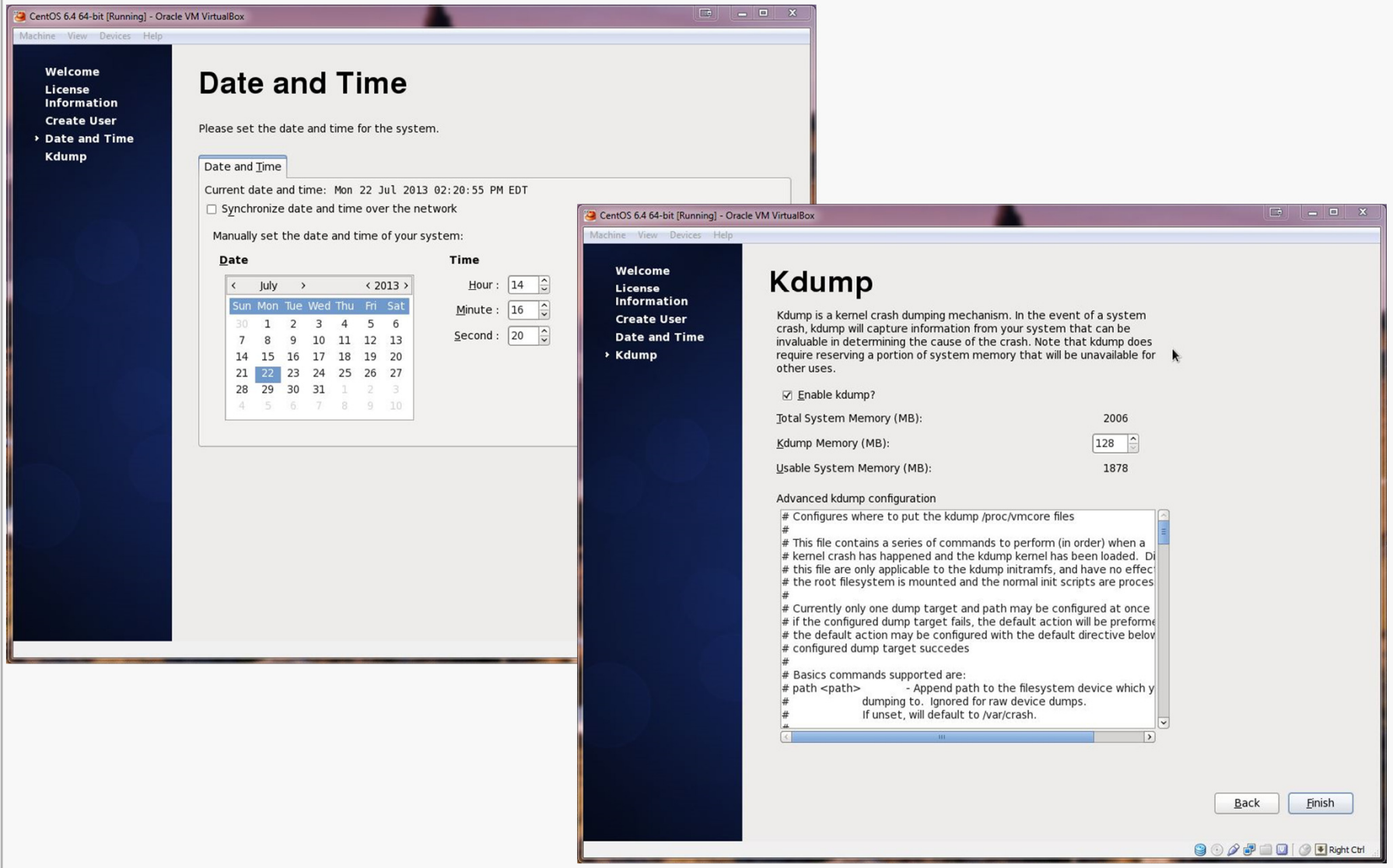
Now you'll specify account settings and so forth...



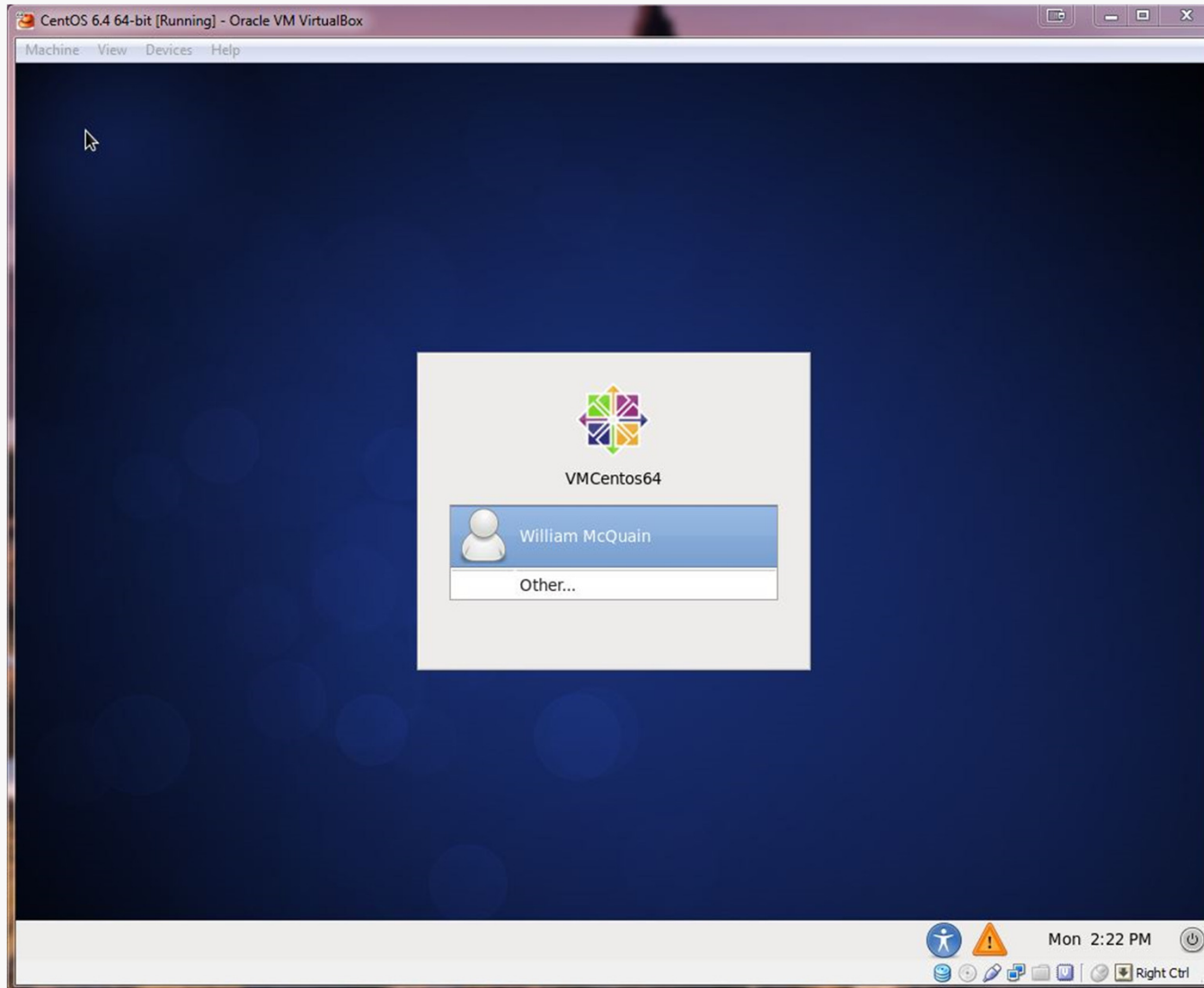
Choose settings for your user account.



Set data/time information; I'd take the default Kdump settings:

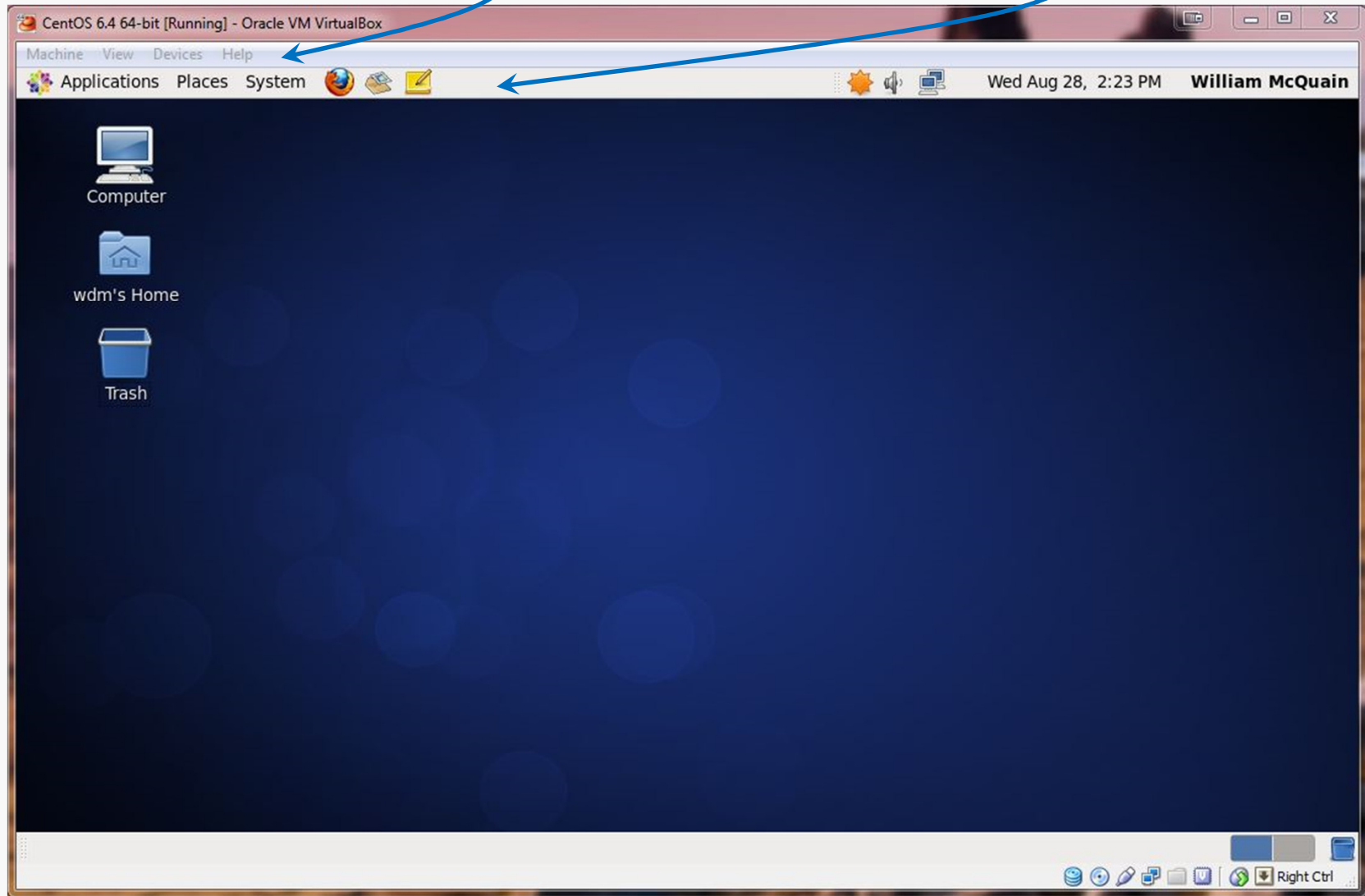


Booting up the VM



CentOS VM Desktop

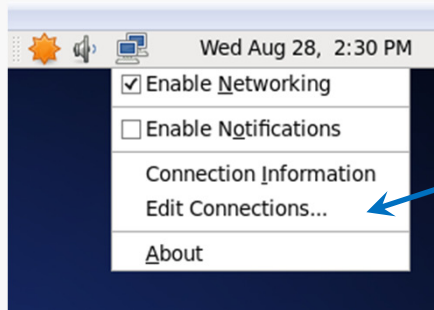
Note that there is a VirtualBox menu bar as well as a CentOS menu bar.



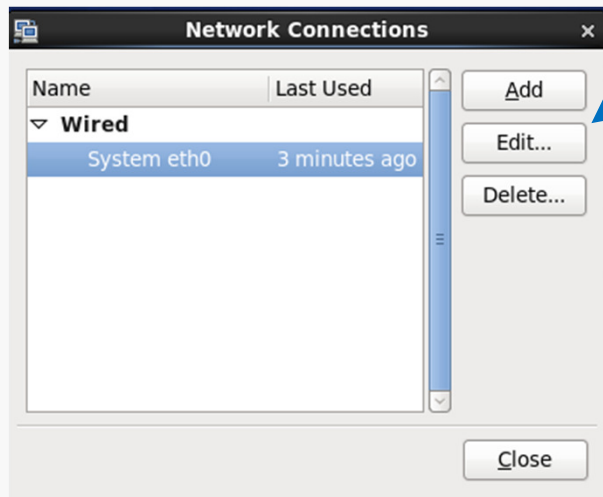
Enable CentOS Network

If you install CentOS from a DVD or ISO (as we did), networking is not enabled by default.

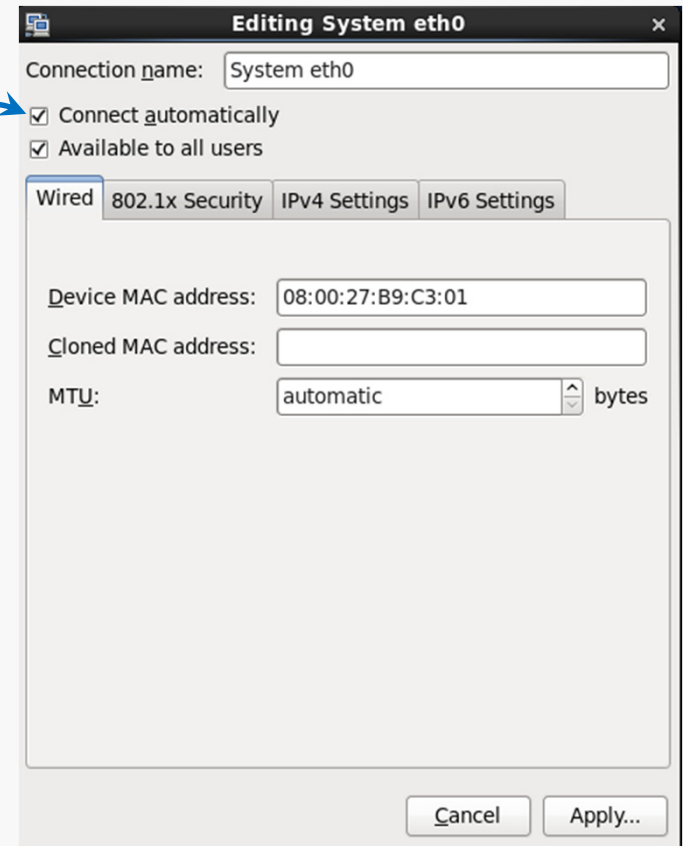
Right-click on the networking icon and select Edit Connections:



Select eth0 and Edit...



Check the box to Connect automatically

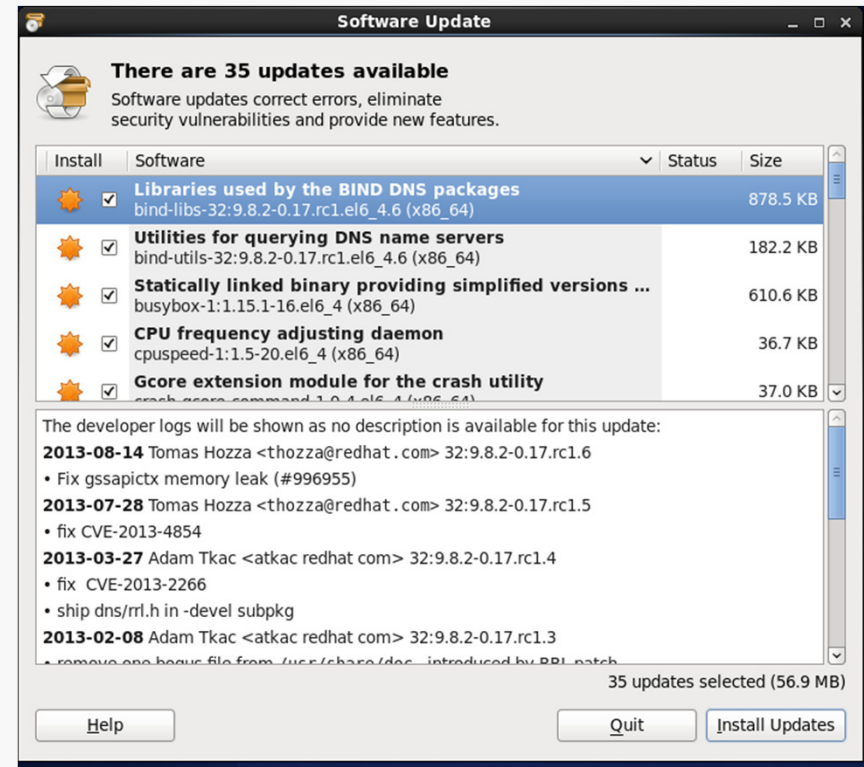


I recommend running any OS updates next.

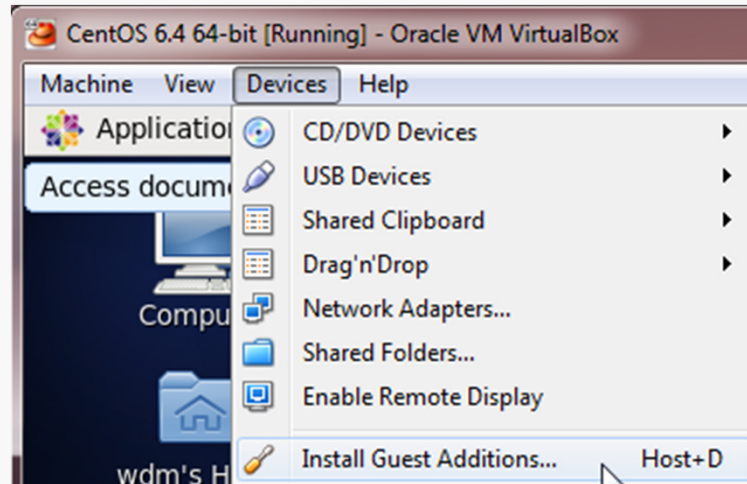
You can select the update tool from the CentOS menu bar:



It is likely that a lot of updates will be offered. It's probably OK to just accept all of them.



The VirtualBox Guest Additions provide additional functionality for your VM.

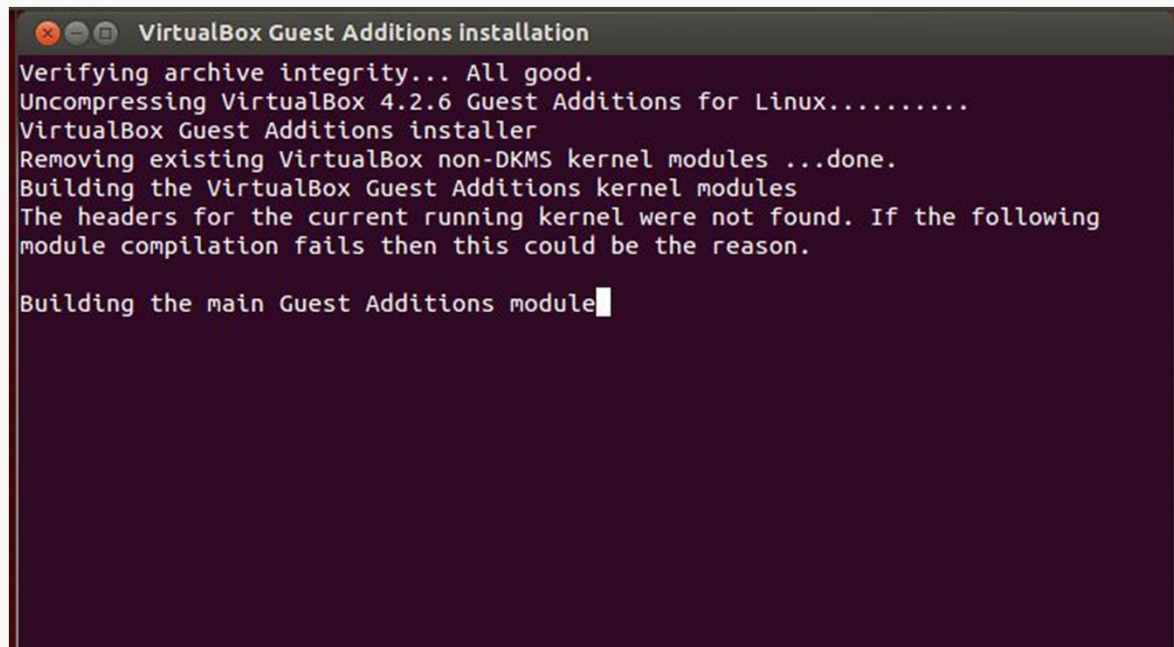


One note: until you install the VirtualBox Extension Pack (slide 10) and the Guest Additions, some things like mouse capture and scaled displays may not work.

Another note: if you run the system updater or install other software on your VM, you may have to reinstall the Guest Additions.

Pay attention to the console window during the installation.

If there are error messages, the Guest Addition may not have been installed.



```
VirtualBox Guest Additions installation
Verifying archive integrity... All good.
Uncompressing VirtualBox 4.2.6 Guest Additions for Linux.....
VirtualBox Guest Additions installer
Removing existing VirtualBox non-DKMS kernel modules ...done.
Building the VirtualBox Guest Additions kernel modules
The headers for the current running kernel were not found. If the following
module compilation fails then this could be the reason.

Building the main Guest Additions module
```