Day One

Virtual Machines and Command Line

Nate and Vanessa

MOST bioinformatics software runs on LINUX (as does the internet, NASA, etc.)

In order to use the software we need one of the following:
1. a linux machine (e.g. ubuntu).
2. a MAC (based on linux).
3. a computer running Virtual Box software and a virtual machine.

So...to get everyone on the same page:
step one
INSTALL VIRTUAL BOX (software that matches your machine).
step two
Set the bios in your computer to 'enable virtualization'
step three
download virtual disk image
step four
open virtual box software and install virtual machine

and for those of you who might be nervous, DON'T WORRY....

THIS STUFF WAS NEW FOR ME TOO.

I wasn't a big fan of computers but I managed to figure it out.

I'm sure you will also.

download virtual box

1.

- https://www.virtualbox.org/wiki/Downloads
- select the software that matches your machine (the host)
- download and install

- Let us know if this doesn't work

enable virtualization

2.

- google your computer model and "command to enter bios"
- enter bios and enable virtualization
- every computer is different so feel free to ask for help...


```
CMOS Setup Utility - Copyright (C) 1984-2009 Award
                 Advanced BIOS Features

    Internal Graphics Mode        [Disabled]
  x UMA Frame Buffer Size         128MB
  x Surround View                 Disabled                   Me
  x Onboard VGA output connect    D-SUB/DVI
    Init Display First            [PEG]                       Ha
    Virtualization                [Enabled]                   Vi
    AMD K8 Cool&Quiet control     [Auto]                      Te
  ▶ Hard Disk Boot Priority       [Press Enter]               im
    First Boot Device             [Hard Disk]                 sy
    Second Boot Device            [USB-HDD]                    Vi
    Third Boot Device             [CDROM]                      So
    Password Check                [Setup]
    HDD S.M.A.R.T. Capability     [Enabled]                   Vi
    Away Mode                     [Disabled]                  al
    Backup BIOS Image to HDD      [Enabled]                   on
```
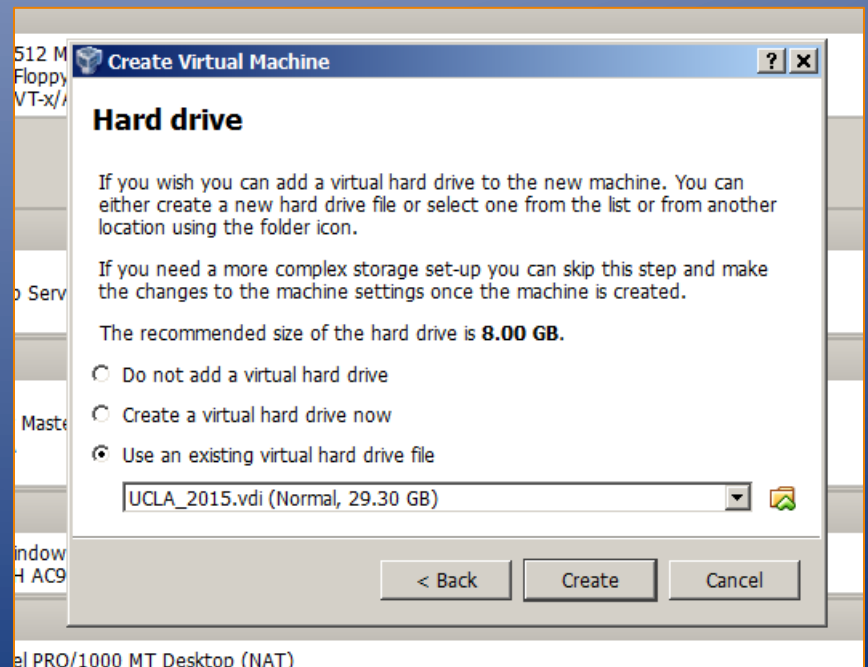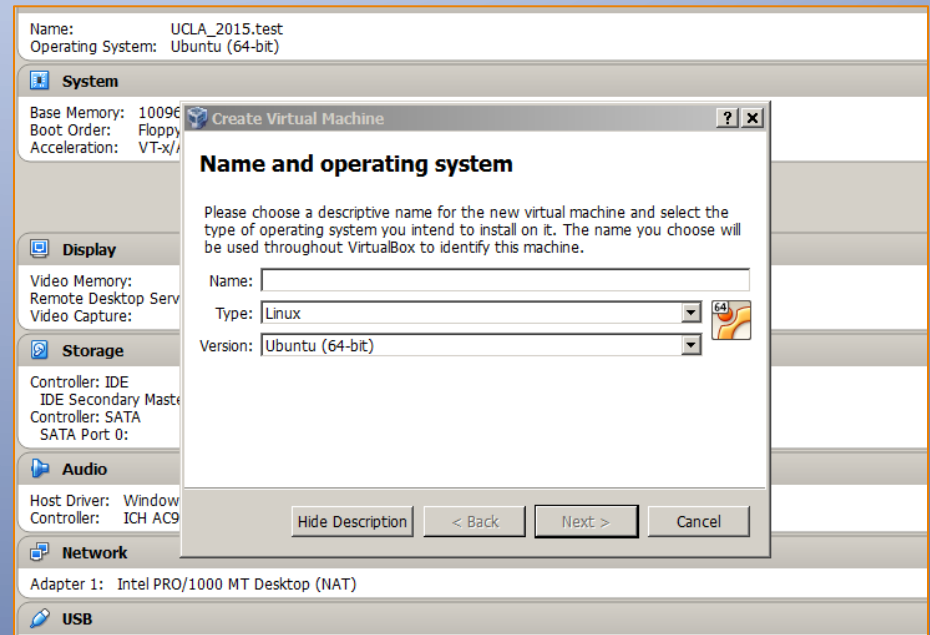
3. install UCLA_2015.vdi
from thumbdrive

4.1 open virtual box software
click "NEW" and enter name
enter linux
enter Ubuntu (64-bit)

4.2 enter memory
= your machine total minus
4GB

4.3 attach to your VDI
image

Name: UCLA_2015.test
Operating System: Ubuntu (64-bit)

System
Base Memory: 10096
Boot Order: Floppy
Acceleration: VT-x/

Display
Video Memory:
Remote Desktop Serv
Video Capture:

Storage
Controller: IDE
  IDE Secondary Maste
Controller: SATA
  SATA Port 0:

Audio
Host Driver: Window
Controller: ICH AC9

Network
Adapter 1: Intel PRO/1000 MT Desktop (NAT)

USB

Create Virtual Machine   [?][×]

Name and operating system

Please choose a descriptive name for the new virtual machine and select the
type of operating system you intend to install on it. The name you choose will
be used throughout VirtualBox to identify this machine.

Name: [   ]

Type: [Linux   ▼] [64]

Version: [Ubuntu (64-bit)   ▼]

[Hide Description] [< Back] [Next >] [Cancel]

512 M
Floppy
VT-x/

o Serv

Maste

indow
H AC9

Create Virtual Machine   [?][×]

Hard drive

If you wish you can add a virtual hard drive to the new machine. You can
either create a new hard drive file or select one from the list or from another
location using the folder icon.

If you need a more complex storage set-up you can skip this step and make
the changes to the machine settings once the machine is created.

The recommended size of the hard drive is **8.00 GB.**

○ Do not add a virtual hard drive

○ Create a virtual hard drive now

◉ Use an existing virtual hard drive file

[UCLA_2015.vdi (Normal, 29.30 GB)   ▼] 📂

[< Back] [Create] [Cancel]

el PRO/1000 MT Desktop (NAT)

turn on the new machine, it should give you this desktop

One more thing to do...

enable clipboard function shared across host and virtual machine

- go to 'devices' tab in virtual box while virtual machine is running.
- click 'insert guest additions cd image'
- run it (don't worry about warnings)
- go back to 'devices' and click 'bidirectional' on 'clipboard'
- after it completes, log out of virtual machine and restart virtual machine.

Vanessa may help you test this tool.
(e.g. try writing text in notepad++ and then cutting and pasting it into the terminal window....)