CS342 Computer Security          Handout # 7
Prof. Lyn Turbak          February 10, 2016
Wellesley College          *Revised February 17, 2016*

# Lab 3: Ubuntu VM Installation

**This is a draft of the Ubuntu VM installation instructions. Some steps are missing, but the instructions for installing Guest Additions (to get copy/paste to work between the VM and your regular window system) are complete.**

## Overview

Today we will install a virtual machine (VM) on your laptops that runs Ubuntu, a version of Linux, do some simple experimentation with this VM. Most hands-on exercises in this course going forward will involve this VM.

## Step 1: Download the Ubuntu .ova file

This step takes the longest (10 minutes to over an hour to download a file larger than 2GB), so start it first.

From `cs.wellesley.edu = tempest`, download the file `/home/cs342/download/CS342-S16-Ubuntu-VM.ova`

- On Mac, do **not** use Fetch to download this file (in my experiments, it corrupts the file). Instead, use the following:

  ```
  scp your-tempest-username@cs.wellesley.edu:/home/cs342/download/CS342-S16-Ubuntu-VM.ova .
  ```

  Be sure not to forget the `.` at the end of the command

- On Windows, use the WinSCP application (download it if you don't already have it.) In the `cs.wellesley.edu` portion of the two-paned window, you will first need to navigate to the directory `/home/cs342/download` before selecting the file `CS342-S16-Ubuntu-VM.ova`

After downloading the file, verify that it has exactly this many bytes: 2138767872. If it has a different number of bytes, the download was not successful and you'll need to try again.

## Step 2: Download and Install VirtualBox

We will use Oracle's VirtualBox application to run the Ubuntu VM.

a Begin by using a browser to download both (1) the VirtualBox application installer and (2) the extension pack from `https://www.virtualbox.org/wiki/Downloads`.

- As of this writing, version 5.0.14 is the most recent.
- To get the extension pack, click on the link labelled **All supported platforms**, which will download a `.vbox-extpack` file.
- Some students have experienced problems with Microsoft Internet Explorer in this step, so use Chrome or Firefox instead.

b If you have a previous version of the VirtualBox application, you should uninstall that. On a Mac, just drag the application to trash. On Window, use the application manager to uninstall the application.

c Execute the downloaded VirtualBox application installer (`.dmg` file for Macs, `.exe` file for Windows). This will walk you through the installation process. Note: if you get security errors from your anti-virus software, you may need to temporarily disable anti-virus scanning to complete this step.

d Launch the downloaded extension pack (`.vbox-extpack` file) to install the extension pack.

# Step 3: Import the Ubuntu VM into VirtualBox

# Step 4: Experiment with the Ubuntu VM

# Step 5: Create Your Account

# Step 6: Install Guest Additions

In order for certain VM features to work (particularly copy/paste between windows in your VM and other windows on your laptop), it is necessary to install so-called Guest Additions in your VM. Follow these steps:
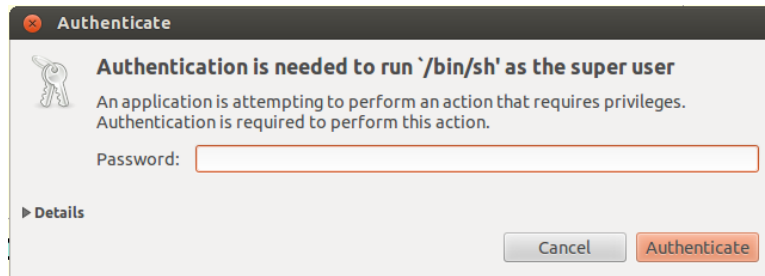
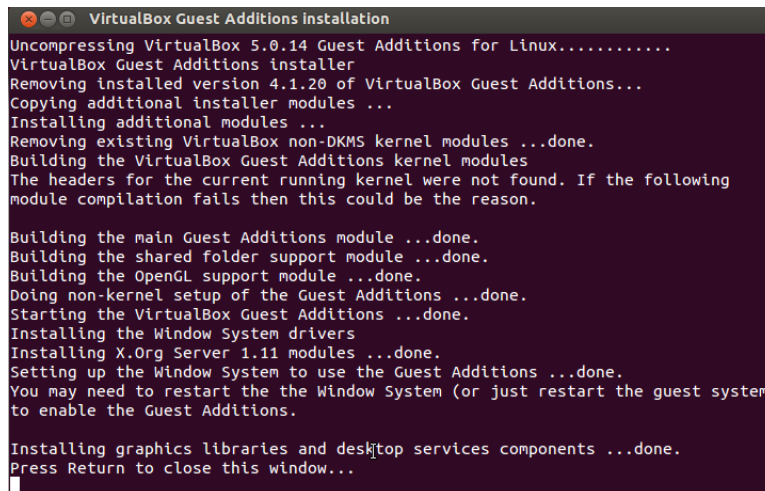a In the VirtualBox main menu, select `Devices>Insert Guest Additions CD Image`.
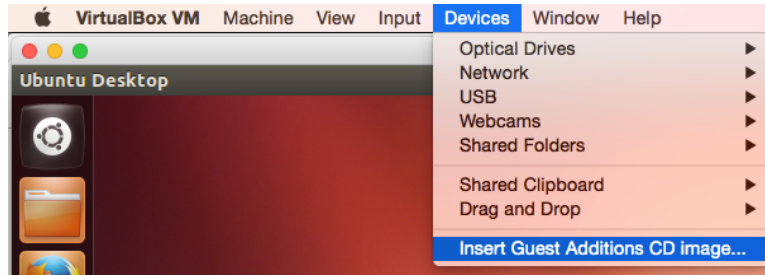
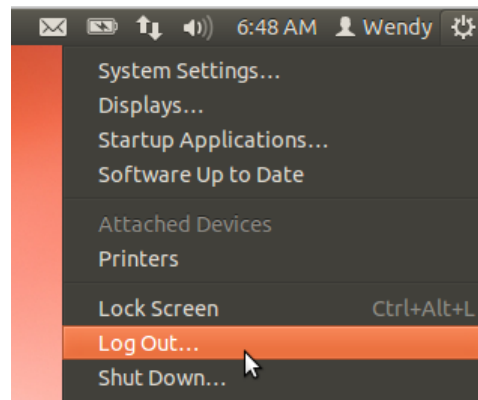b  The following window will automatically pop up. Click `Run`.
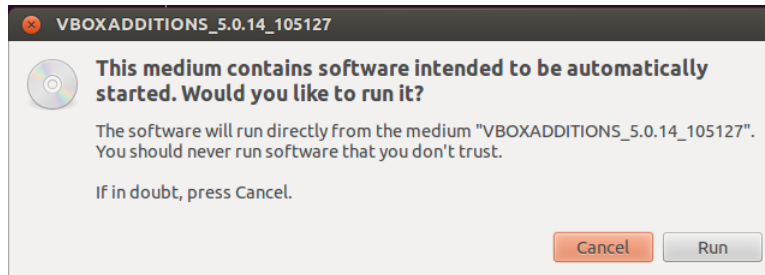


c  You will be asked to authenticate. Use `wendy`'s password `Tr0ub4dor&3`.
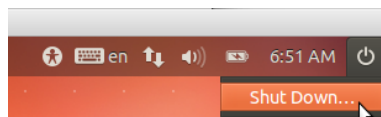


d  The following progress window will show up. Wait until it's done and press the `Return` key.

e Log out of the `Wendy` account by selecting the `Log out ...` option from the drop-down menu from the Gear in the upper right of the screen.
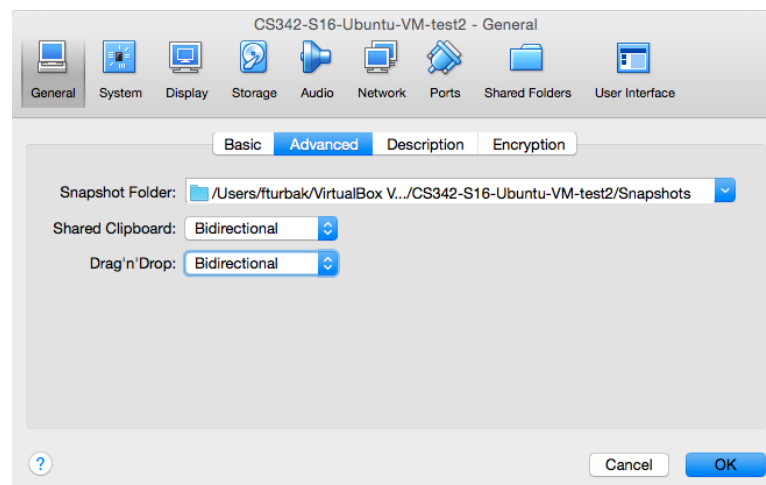


f Shut down the Ubuntu VM by pressing the power button in the upper right of the screen.



g Confirm `Shut Down` in the pop up dialog window.

h In the VirtualBox main menu, select `Machine>Settings>General>Advanced` and change Shared-Clipboard to Bidirectional. You may want to set `Drag'n'Drop` to bidirectional as well.



i Restart the Ubuntu VM and log in. You should now be able to copy text from/to windows inside the VM to/from other windows on your laptop.