SOFE 3950U / CSCI 3020U: Operating Systems

Lab #1: Setup Linux and Git

Objectives

- Learn the fundamentals of Linux
- Have Linux installed and configured on your system
- Create a GitHub account and become familiar with using Git

Important Notes

- Work in groups of **four** students
- All documents must be submitted as a PDF on blackboard
- Save the file as <lab_number>_<first student's id>.pdf (e.g. lab1_100123456.pdf)
- If you cannot submit the document on blackboard then please contact the TA with your submission at **somayyeh.aghababaei@uoit.net**

Setup

Notice

If you would prefer to dual boot Linux rather than use it within a virtual machine environment, then please download the following latest version of Xubuntu. It is recommended that you follow the instructions in the guide in the link below before attempting to install Xubuntu as the install process can **erase all of your existing data** if done incorrectly. If you are not comfortable with installing Linux then it is recommended that you do not try to dual boot Linux, and rather follow the instructions below using Linux in a virtual machine.

http://mirror.csclub.uwaterloo.ca/xubuntu-releases/15.04/release/xubuntu-15.04-desktop-amd64.iso
http://www.pcsteps.com/961-install-ubuntu-linux-windows/

If you are able to install Linux as a dual boot then please see step 7 in the virtual machine instructions for the post-installation script to execute which will install all of the needed tools for the course.

Virtual Machine Instructions

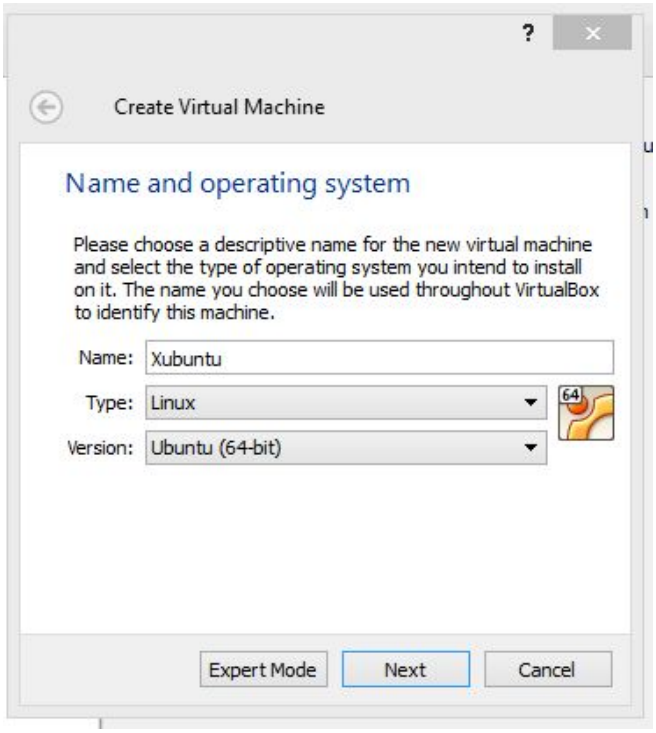
1. Make sure that you have the following two files downloaded.

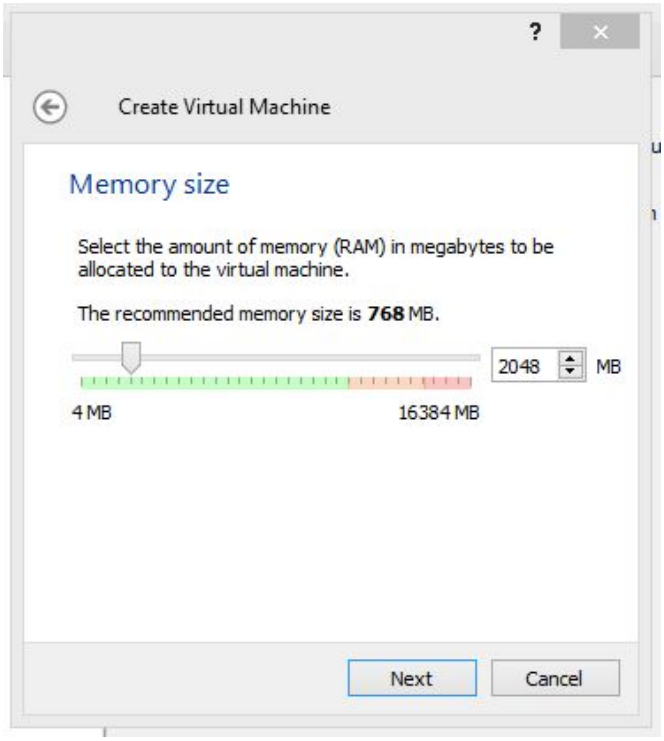
   http://download.virtualbox.org/virtualbox/5.0.4/VirtualBox-5.0.4-102546-Win.exe
   http://sourceforge.net/projects/osboxes/files/vms/vbox/Xubuntu/15.04/Xubuntu_15.04-64bit.7z/download

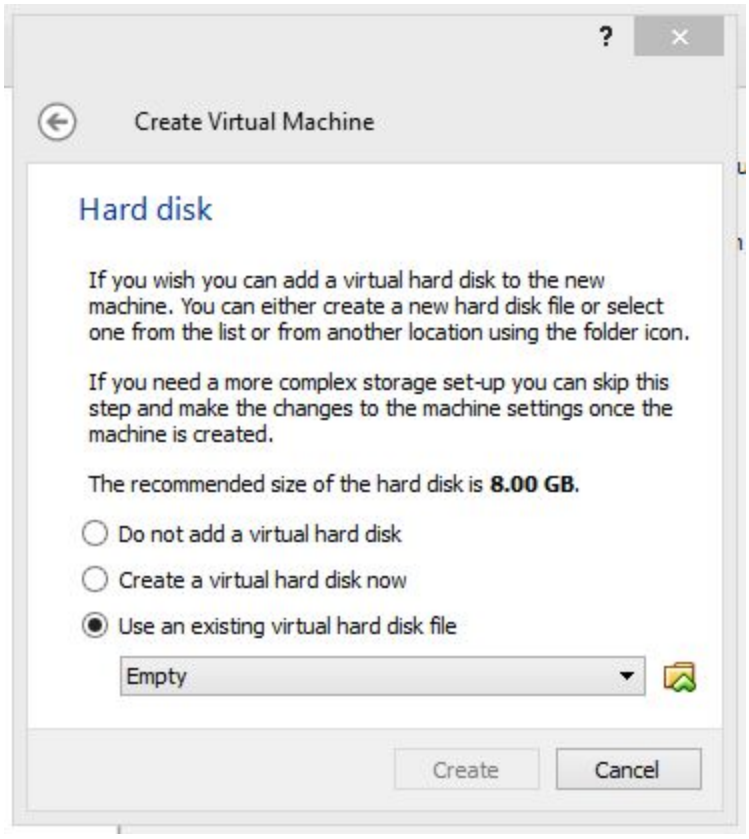
2. Install virtualbox just with the default installation options, make sure when prompted that you install the drivers.

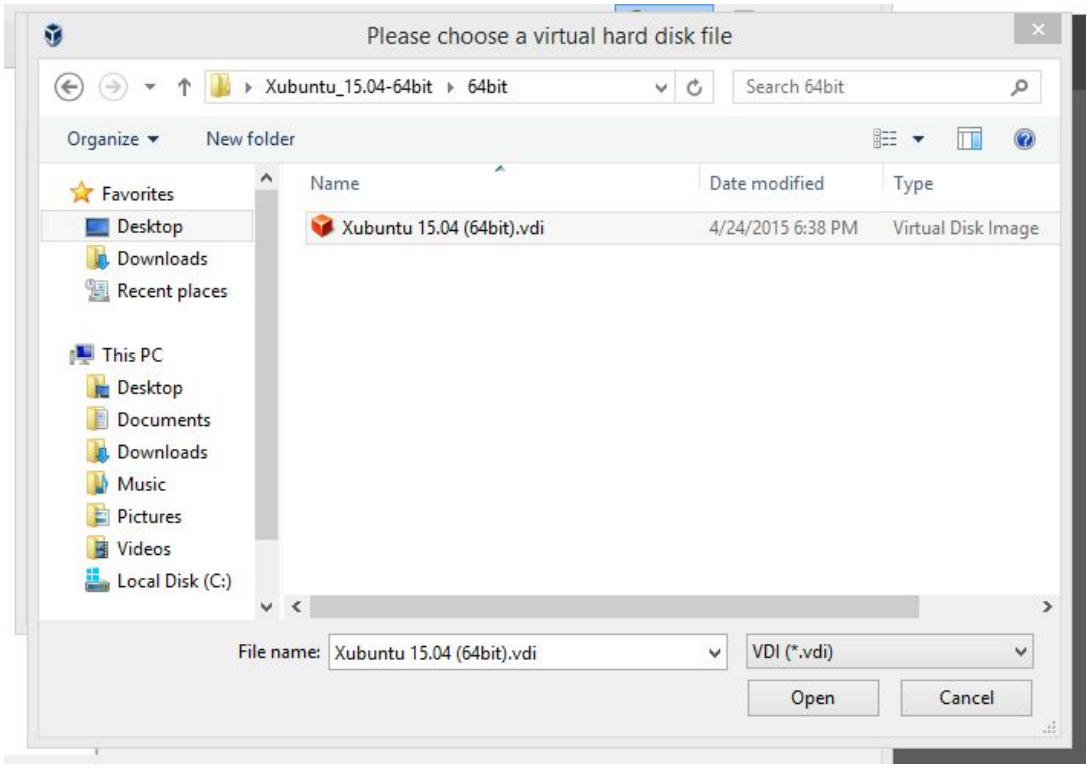
3. Extract the virtualbox Xubuntu image using 7zip, use the right click context menu in Windows on the file to bring up 7zip option to extract the file.

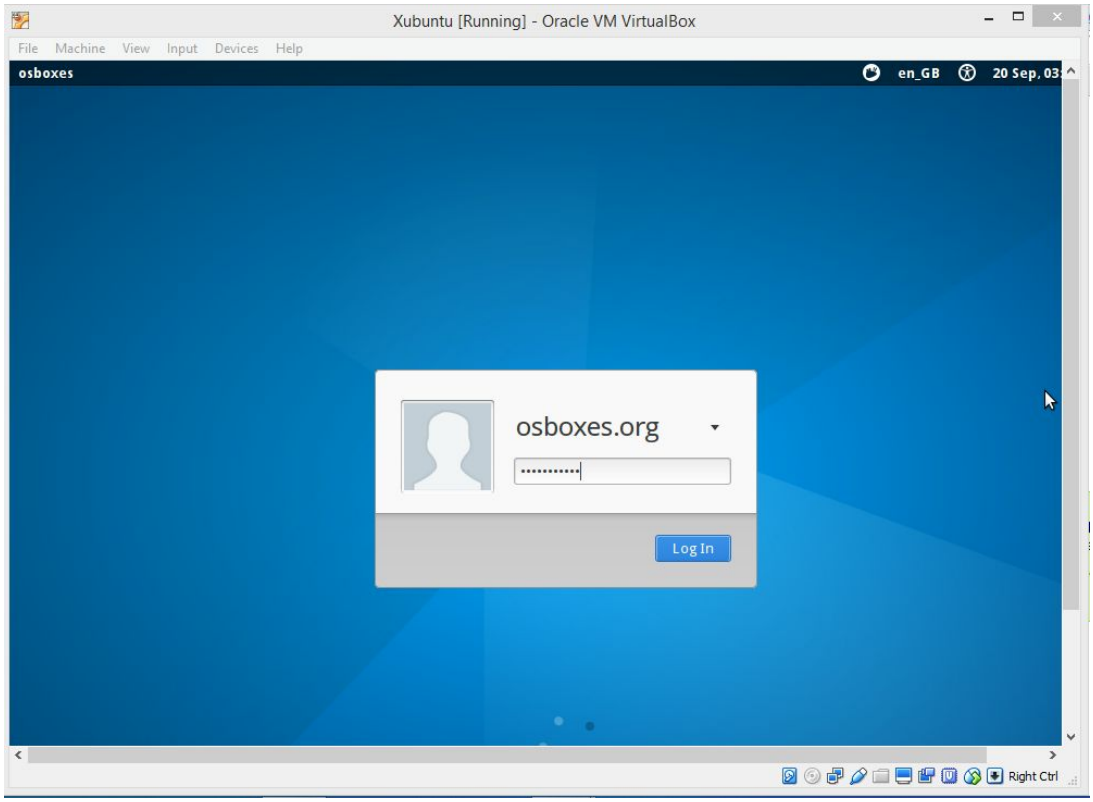
4. Follow the instructions in the images below to configure and use the pre-configured Xubuntu image.






Create Virtual Machine
Hard disk
If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk 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 disk is 8.00 GB.
Do not add a virtual hard disk
Create a virtual hard disk now
Use an existing virtual hard disk file
Empty
Create
Cancel


Please choose a virtual hard disk file
Xubuntu_15.04-64bit ▸ 64bit
Search 64bit
Organize
New folder
Favorites
Desktop
Downloads
Recent places
This PC
Desktop
Documents
Downloads
Music
Pictures
Videos
Local Disk (C:)
Name
Date modified
Type
Xubuntu 15.04 (64bit).vdi
4/24/2015 6:38 PM
Virtual Disk Image
File name: Xubuntu 15.04 (64bit).vdi
VDI (*.vdi)
Open
Cancel



5. If you're having issues with the 64 bit virtual machine see the following for more details

   http://www.fixedbyvonnie.com/2014/11/virtualbox-showing-32-bit-guest-versions-64-bit-host-os/

6. The password for the login is **osboxes.org**, this is also the password to use for the "sudo" command.

7. Execute the following commands to finish the setup and installation of the system, you will be required to enter the sudo password, which is **osboxes.org**. This script will install Sublime Text and Eclipse in ~/eclipse/.

   ```
   wget http://git.io/vnnT1 -O setup.sh
   chmod +x setup.sh
   ./setup.sh
   ```

Git Setup

1. For the labs and assignments in this course it is recommended that you become familiar with version control systems, in particular Git as it will be very beneficial for your collaborative work in this course and other courses.

2. If you haven't already create an account at https://github.com **make sure to use your uoit.net account.** After creating your account you will receive an email from GitHub to verify your email to complete the signup.

3. After you've created your GitHub account and verified your email you can apply for the student pack, which gives you access to a **plethora of software and services all for free!** (github premium account, domain names, $100 in free hosting on digital ocean, etc.).

   https://education.github.com/discount_requests/new

4. Next, go through the following two tutorials in order to familiarize yourself with GitHub and git, you can execute these on your linux system.

   https://help.github.com/articles/set-up-git/#platform-windows
   https://try.github.io

5. If you would like to learn more about git the following are all excellent resources, git immersion is great if you wish to become more familiar with the commands.

   http://git-scm.com/docs/gittutorial
   http://gitref.org/
   http://gitimmersion.com/

Deliverables

Notice

Please complete the deliverables and include whatever screenshots and other work is necessary to demonstrate that you have completed the deliverables in your lab submission on Blackboard. All lab report submissions are due on Blackboard prior to the start of the next lab.

1. Demonstrate that you have have completed the installation of Linux as either a dual boot or using VirtualBox and that you are able to login and use the Linux system on your computer.

2. Complete the installation of the C compiler dependencies, as well as the text editors and IDE software tools using the script provided in step 7. Demonstrate in your submission that you have Eclipse and Sublime Text running on your system.

3. Complete the installation of the git software for version control and demonstrate that you have completed the following in your submission.
    - Created an account on GitHub
    - Created a repository on GitHub for the Operating Systems course
    - Completed the **trygit** tutorial