



SINGAPORE UNIVERSITY OF
TECHNOLOGY AND DESIGN

Established in collaboration with MIT

Computer System Engineering

50.005

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Week 1:

Objective: Preparing the environment for CSE course

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Introduction

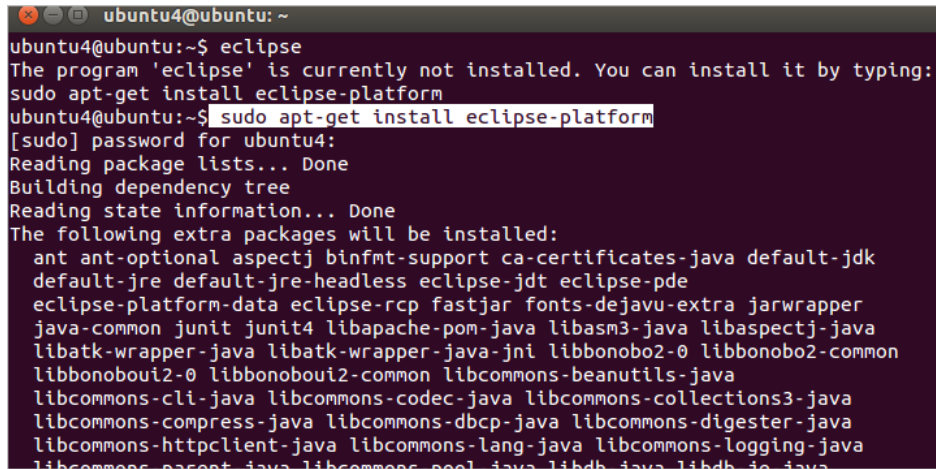
- In this course, we highly recommend Ubuntu virtual machine for the labs.
- Each student can choose between Java and C to solve programming activities in the labs
- This slides will help you to get your environment ready for the labs, please do all the steps before coming to the first lab!
- Three important steps are needed by you:
 1. Download and Install Vmware or Vbox.
 2. Install Ubuntu machine in your laptop, either by importing it in Vmware or Vbox
 3. Install JDK compiler for the student who wants to use JAVA (IDE: eclipse), OR
Install GCC compiler for the students who wants to use C

Vmware/VBox and Ubuntu Installation

- To download and install **Vmware** or VBox in your laptop, please check the following link, but before that you need to download the iso image for Ubuntu to be able to do step 8 in the link!
 - Vmware:
<http://www.wikihow.com/Install-VMware-and-Use-VMware-to-Install-Ubuntu>
 - VBox
<http://www.wikihow.com/Install-Ubuntu-on-VirtualBox>
- To download the iso image for Ubuntu, there are many websites: check the correct image based on your laptop specification (i.e. 32bits vs 64bits, Vmware vs Vbox and etc...)
 - <http://www.osboxes.org/ubuntu/>
 - https://www.virtualbox.org/wiki/Linux_Downloads

Eclipse

- After your Ubuntu machine gets ready to be used, install Eclipse by:
 1. Open your terminal by typing (Ctrl+Alt+t):
 2. `sudo apt-get update`
 3. `sudo apt-get install eclipse-platform`(or you can install it from the software center directly)

A terminal window with a dark purple background and white text. The prompt is 'ubuntu4@ubuntu: ~'. The user enters 'eclipse', and the system responds that it is not installed and suggests using 'apt-get'. The user then enters 'sudo apt-get install eclipse-platform'. The system prompts for a password, which is entered. It then shows the package lists being read and the dependency tree being built. Finally, it lists the extra packages that will be installed along with the requested package.

```
ubuntu4@ubuntu: ~  
ubuntu4@ubuntu:~$ eclipse  
The program 'eclipse' is currently not installed. You can install it by typing:  
sudo apt-get install eclipse-platform  
ubuntu4@ubuntu:~$ sudo apt-get install eclipse-platform  
[sudo] password for ubuntu4:  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following extra packages will be installed:  
  ant ant-optional aspectj binfmt-support ca-certificates-java default-jdk  
  default-jre default-jre-headless eclipse-jdt eclipse-pde  
  eclipse-platform-data eclipse-rcp fastjar fonts-dejavu-extra jarwrapper  
  java-common junit junit4 libapache-pom-java libasm3-java libaspectj-java  
  libatk-wrapper-java libatk-wrapper-java-jni libbonobo2-0 libbonobo2-common  
  libbonoboui2-0 libbonoboui2-common libcommons-beanutils-java  
  libcommons-cli-java libcommons-codec-java libcommons-collections3-java  
  libcommons-compress-java libcommons-dbc-java libcommons-digester-java  
  libcommons-httpclient-java libcommons-lang-java libcommons-logging-java  
  libcommons-parent-java libcommons-pool-java libdb-java libdb-java
```

Now, you should be able to compile your JAVA code using Eclipse.

C

- After your Ubuntu machine gets ready to be used, install C by:
 1. Open your terminal by typing (Ctrl+Alt+t):
 2. `sudo apt-get update`
 3. `sudo apt-get upgrade`
 4. `sudo apt-get install build-essential`
 5. `gcc -v`
 6. `make -v`

Now, you should be able to compile software using C compilers.

NOTES:

- If you have any problem in the installation, please email us before starting with lab1.
- We have no time to fix your Ubuntu, Eclipse or GCC installing problems in the lab! We will start programming by the first lab.
- Don't hesitate to ask for help from the teachers by email, we can have small meeting to fix your problems if needed!
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- Good Luck! ☺