Introduction to Eclipse

CO7205 Advanced System Design

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Lab sheet and materials

http://www.cs.le.ac.uk/srml/





- Login into Ubuntu
 - Your password is different from CFS account,
 - (Note: default password for new account is 'changeme')
 - Use either GNOME or KDE desktop.
 - How to reset my Linux password?
 - Open a **Terminal window** from

Application->Accessories->Terminal and type passwd

 Ubuntu is a Debian based Linux distribution, it is free and open source, more information please visit <u>http://www.ubuntu.com/</u>





Introduction to Eclipse

- A multi-language software development environment comprising an IDE (Integrated Development Environment) and a plug-in system to extend it.
- Written primarily in Java and can be used to develop applications in various modelling and programming language
- Start Eclipse
 - Open a terminal window then type: eclipse34



Eclipse@home

- Q: How to install Eclipse on my Laptop?
 - Step I
 - Install JDK (Java Development Kit) 1.6 from <u>http://java.sun.com/javase/downloads/index.jsp</u>,

(Mac OS X user may skip this step as Mac OS X has build-in JDK installed.

- Step 2
 - Download Eclipse 3.4 from
 <u>http://www.eclipse.org/downloads/packages/release/gany</u>
 <u>mede/sr2</u>
 - Select this release : Eclipse Modeling Tools (includes Incubating components)



- Q: How to install Eclipse plugins?
 - A: Eclipse plugins can be installed from eclipse update sites. To add a update site to repository, goes to Menu->Help->Software Updates >Availables Software->add Site, type the update site URL and click install.

type filter text	~	Install
Name	Version	
III 4 http://download.eclipse.org/technology/emft/updates/		Properties
Add Site	0	
	Local	Add Site
Location: http://www.cs.le.ac.uk/srml/milestone/update/site	e.xm	Manage Sites
	Archive	
	c.	Defeat
с 🧊 Ок	Cancel	Refresh
Show only the latest versions of available software		
Include items that have already been installed		



Eclipse@home

- Q: What plugins do I need for this module? Where are these update sites?
- A:You will need to install the following plug-ins for your eclipse:

OpenArchitectureware 4.3.1

http://www.openarchitectureware.org/updatesite/milestone/site.xml

SRML Modelling Environment 1.4.9

http://www.cs.le.ac.uk/srml/milestone/update/site.xml

*Please refer to appendix for installation guide

Getting Start with Eclipse

A workspaces is an area allocated for someone to work in, a folder in which related software and data can be manipulated or developed in isolation from others.

e Workspace Launcher	0
Select a workspace	
Eclipse Platform stores your projects in a folder called a workspace. Choose a workspace folder to use for this session.	
Workspace: /home/hongyi/workspaceIntroduction	
▶ <u>C</u> opy Settings	
workspaces	
OK Cancel	

• e.g. "workspacesIntroduction"

Create a New Project

We can use eclipse to create different kinds of projects (e.g. Java Project, UML Project, Plug-in Development Project, SRML Modelling

Project etc.). Let's create a simple Java project :

File->New->Java project

<u>File E</u> dit <u>S</u> ource Re	efac <u>t</u> or <u>N</u> avigate Search Project <u>R</u> un <u>W</u> indow <u>H</u> elp	
<u>N</u> ew Open File <u>.</u>	Shift+Alt+N > 🈕 Java Project	
Close	🔄 New Java Project	00
– C <u>l</u> ose All	Create a Java Project	
Save As	Create a Java project in the workspace or in an external location.	
Sav <u>e</u> All Rever <u>t</u>	Project name: CO7205_Lab1	
	Contents Create new project in <u>w</u> orkspace Create project from existing service	
	Create project from existing source	

Use "CO7205_Lab1" as project name



Write a HelloWorld Java program with Eclipse

File Edit Source Refactor Navigate Search Project Run Window ☐ ➡ ♥ ■ ■ ■ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥	 (1) Right click on <i>src</i> node (source code folder) and select <i>New->Class</i>
🖻 🔄 🧊 🌫 Project folder	
 ✓ CO7205_Lab1 <i>[™]</i> src ▶ IRE System Library [java-6-sup-1.6] 	(2) Type <i>MyFirstEclipse</i> as class name and enter the following simple java code
Source code folder	Public class MyFirstEclipse {
Library folder	Public static void main(String[] args){ System.out.println("My first CO7205 Lat } }

(3)Run the code from *Menu->Run->Run*, you should be able to see the output.



- Eclipse UML2 plug-in can be used to draw UML diagram including:
 - UML Class diagram
 - UML Use Case diagram
 - UML Activity diagram
 - UML State machine



e.g. To draw a UML Use Case Diagram File->New->Other->UML UseCase Diagram



Eclipse Practices (Java)

 Task I: Use Eclipse IDE to write a simple Java console application which prints the sum of all prime numbers ranging from 1 to 100.

Question: 2+3+5+7+11+ 89+97 =?



Eclipse Practices (UML)

• Task I: Draw the followingUML Use Case Diagram with Eclipse.



Eclipse Practices (UML)

• Task 2: Draw the following UML State machine with Eclipse.









- Ubuntu Tutorial
 - <u>http://ubuntu-tutorials.com/</u>
- Eclipse Online Tutorial
 - <u>http://www.vogella.de/articles/Eclipse/article.html</u>
- Eclipse FAQ
 - <u>http://wiki.eclipse.org/index.php/Eclipse_FAQs</u>



SRML Modelling Environment Installation

SRML Modeling Environment is an Eclipse plugin thus can be installed and run on any platforms (windows/Linux)

- **Step I** download Eclipse 4.3 from (Eclipse 3.4 SR2 (Ganymede)
- http://www.eclipse.org/downloads/packages/release/ganymede/sr2
 - * Please download this release: "Eclipse Modeling Tools (includes Incubating components))
- Step 2 install openArchitectureWare 4.3.1 for Eclipse 3.4/SDE from <u>http://www.openarchitectureware.org/updatesite/milestone/site.xml</u> (Menu: Help->Software Updates->Availables Software->add Site)



SRML Modelling Environment Installation

Step 3 install SRML Modeling Environment from

http://www.cs.le.ac.uk/srml/milestone/update/site.xml

• (Menu: Help->Software Updates->Availables Software->add Site)

