



Developing Data Structures with Open Source Tools

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Module Two – The Eclipse Environment

Part A – About Eclipse



- What is Eclipse?
- History
- Goals
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- Installing
- Welcome to Eclipse



What is Eclipse?

From www.Eclipse.org:

Eclipse is . . .

- a kind of universal tool platform - an open extensible IDE for anything and nothing in particular.
- an Open Source project dedicated to providing a robust, full-featured, commercial-quality, industry platform for the development of highly integrated tools.

Eclipse ...

- provides building blocks and a foundation for constructing and running integrated software-development tools.
- allows tool builders to independently develop tools that integrate with other people's tools so seamlessly you can't tell where one tool ends and another starts.



History of Eclipse

Eclipse began its life as teams from IBM and OTI (Object Technology International) worked on various IBM IDE products

- VisualAge/Smalltalk (Smalltalk IDE)
- VisualAge/Java and VisualAge/Micro Edition (Java IDEs)

An early implementation of Eclipse came in the form of WebSphere Workbench and Site Developer, later bundled as WebSphere Studio.

IBM transformed the development effort into an Open Source project in November 2001 by donating the code base and forming Eclipse.org.

On February 2, 2004 , the Eclipse Board of Stewards announced Eclipse's reorganization into a not-for-profit corporation making Eclipse an independent body to drive the platform's evolution to benefit the providers of software development offerings and end-users. All technology and source code provided to this fast-growing ecosystem remains openly available and royalty-free.



Goals of the Eclipse Project

From www.Eclipse.org:

Provide open platform for application development tools

- Run on a wide range of operating systems
- GUI and non-GUI

Language-neutral

- Permit unrestricted content types
- HTML, Java, C, C++, C#, JSP, EJB, XML, XHTML, . . .

Facilitate seamless tool integration

- At UI and deeper
- Add new tools to existing installed products

Attract community of tool developers

- Including independent software vendors (ISVs)
- Capitalize on popularity of Java for writing tools



Downloading Eclipse

A note about Java

- Before Eclipse will do you any good, you'll need Java. If you don't already have it, get the full Java 2 platform Standard Edition (J2SE) version 1.3 or 1.4 at java.sun.com. Download and install it.

From the Eclipse.org main page, click on the “download” menu.

- The Windows version of the latest build of Eclipse is usually available right from that page. Look for “Download Now”.
- If you want Eclipse for another platform, and if it's not listed right on the download page, click on the “Other downloads” link. There are Eclipse builds for at least the following platforms:
 - Five flavors of Linux
 - Two dialects of Solaris
 - AIX
 - HP UX
 - Mac OS X
 - and more...



Downloading Eclipse

When you click on the link to download Eclipse you may be asked to “select a mirror”. Pick one.

- If everybody was trying to download Eclipse from the same site, that server (or group (or “farm”) of servers) would be quickly overloaded.
- Mirrors are other places with the same content, thus facilitating speedier distribution.

You will be prompted to save the file locally. Do so.

- It’s a large file. Give it some time. Go have some green tea.
- Don’t forget where you parked it. (On your disk.)



Installing Eclipse

Open the downloaded Eclipse file in whatever tool is appropriate for it.

- Eclipse for Windows is distributed in a ZIP file. Use PkZip or WinZip or something like that to open it.
- Eclipse for Linux is distributed in a .tar.gz file. GNU zip (gzip) or Tar tools will do.

Extract the files on to your local disk

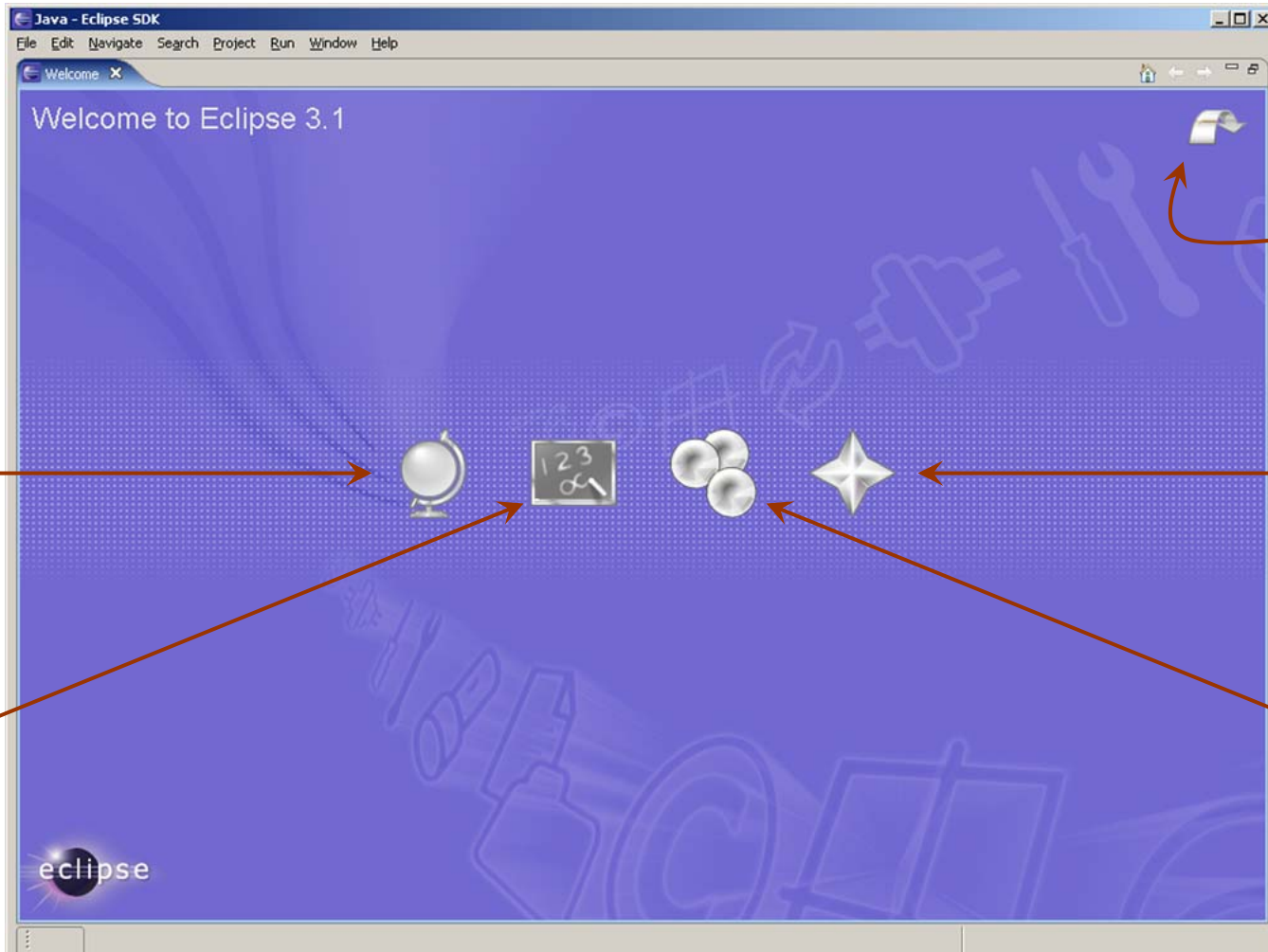
- It won't hurt to put them in the default directory, but feel free to drop it wherever you like as long as you don't change the internal directory structure.

Run it

- Simply run the Eclipse executable in the top level Eclipse directory.
- You should see the Eclipse IDE and graphics that look a lot like the ones used in these slides.
 - You may be asked to select a workspace. Again, feel free to take the default or change it to another locale on your local drive.
- If it doesn't start, it's likely that JRE cannot be located to run Eclipse. Make sure that it is properly installed.
 - It may also help to set the JAVA_HOME environment variable to the J2SE (or JDK) directory.

Welcome to Eclipse

Eclipse starts with the welcome screen. Avail yourself of its resources.



Proceed to the work-bench
Press this when done.

Overview

What's New

Tutorials

Samples



Resources to Explore

www.Eclipse.org

www.Eclipse.org/documentation/main.html

Download and save the following manuals

- Workbench User Guide
- Java Developer User Guide

Eclipse interactive on-line help: help.eclipse.org/help31/index.jsp





Self-review



What does “IDE” stand for?

What development platforms are available on Eclipse other than Java?

What’s a “mirror” in the context of downloading software?

What were the goals of the Eclipse project?



Discussion Topics



Many people use Eclipse as a Java IDE. (We will.) But a stated goal of the Eclipse project is for it be a “kind of universal tool platform - an open extensible IDE for anything and nothing in particular.” Comment on this.

Is such a goal a problem?

Isn't focus good?

What about the “jack of all trades, master of none” danger?

– or –

Isn't flexibility powerful?

Customizability is good, right?

Can there be one tool to rule them all?



Homework

Download and install Eclipse.

Spend a long time exploring the environment.

- Read through all four topics on the welcome screen.
- Familiarize yourself with all the menus and screens.
- Play with the options.

Create some text files in the resource editor (at right) and practice saving and loading them. (This may not be as easy as it sounds.)

- Can you find your saved file on your local disk outside of Eclipse?

2a1 - Tell me, how did Eclipse get its name?

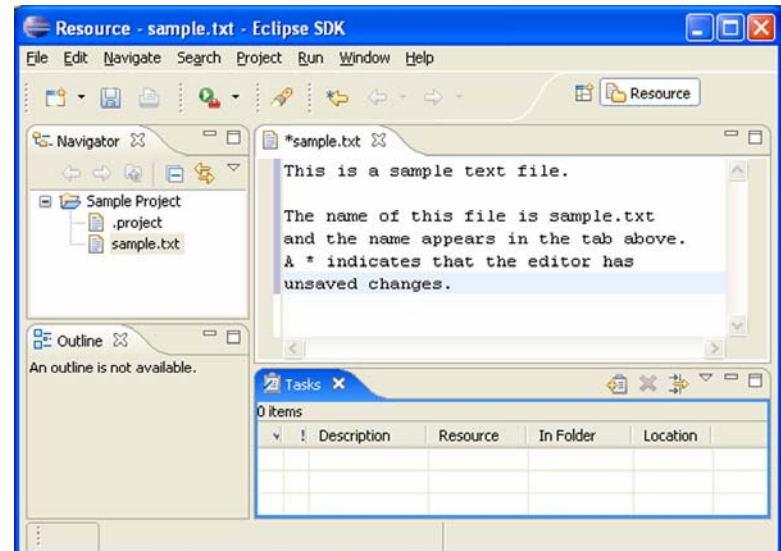


Image from the Eclipse on-line documentation (<http://help.eclipse.org/help31>)



Coming Attractions



Code editing, perspectives, and other entertainment in the Eclipse environment.