Eclipse as an IDE Platform for Integrated Development

Eclipse

Built as a general tools integration platform via a "Plug-in" architecture

Backed by wide consortium of industry leaders.

Leading projects:

- **Java IDE**
- **C/C++ IDE**

Lots of other plug-ins:

CVS, Search aids, UML modeling, perforce, games…

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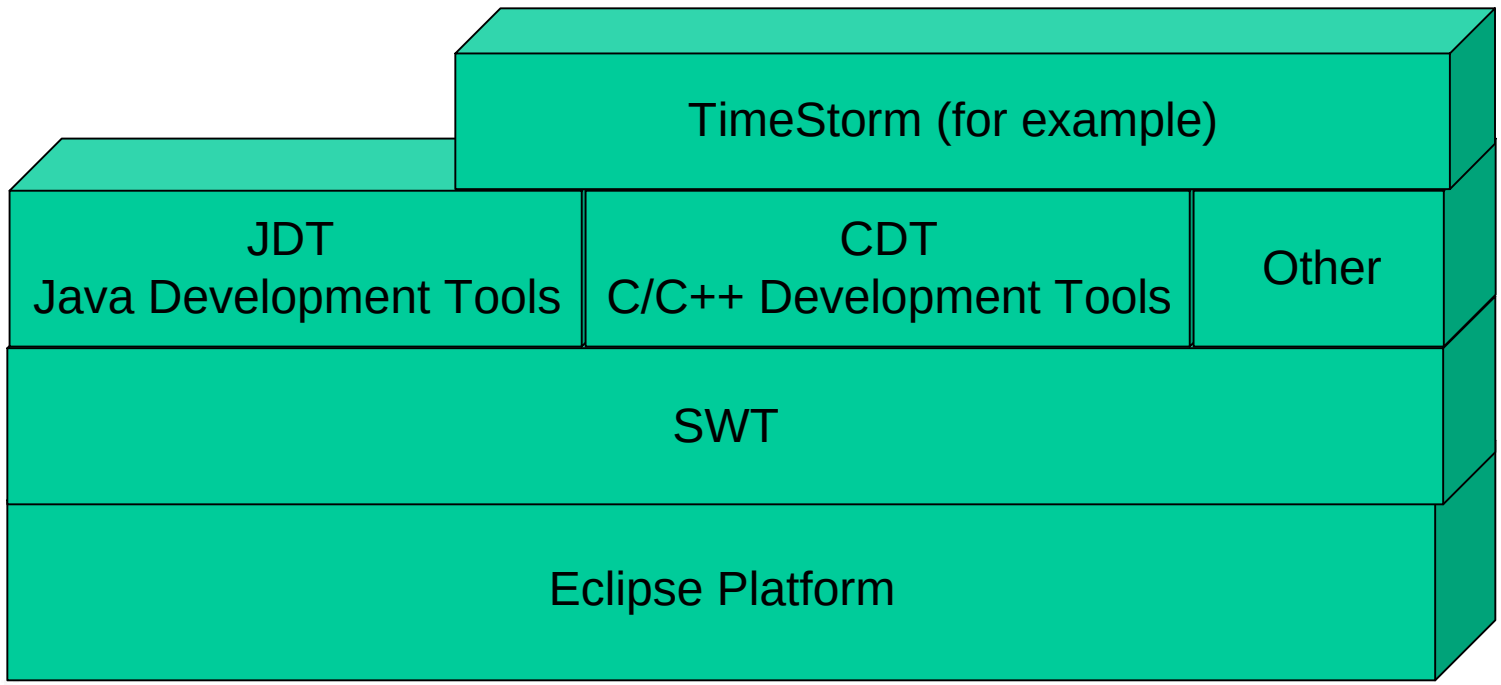
Eclipse General Architecture

Plug-ins work together, through the Eclipse platform. System configuration determined at run-time.



You can think of Eclipse as an operating system for Eclipse Plug-ins.

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Eclipse Platform Functionality

Plug-in management

- What's present
- Features

Plug-in lifecycle:

- Dependency resolution
- Loading
- Garbage Collection

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A Homage to SWT

- **This is the toolkit that introduces a layer between the host GUI toolkit and the programmer**
- **Presents the user with a look and feel conforming to the GUI toolkit, while giving the developer a consistent interface.**

General IDE Requirements/Expectations

Editor

Integrated debugger

Project management

Build Management **(compatible with nightly builds)**

Content assist

Source Librarian integration

Extendibility

Configurable GUI Environment

Eclipse does well in these areas, lets look at the differentiators

Eclipse does well in these areas,

let's focus on the differentiators

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Eclipse Concepts

- **Project Natures**
- **Views & Perspectives**
- **Launch/Debug Configurations**
- **Plug-in Centric**

Project Nature

Not directly user visible.

A marker you can put on a project advertising its type.

Projects get natures (usually) when created by the wizard.

- **All projects get their start from wizards**
- **Wizards create projects in “working state”**

Determine what options appear in context menus and what views this project participates in.

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Views and Perspectives

- Views allow the user a peek into one area of the system.
- Views represent themselves to the user as a window on the desktop.

- A collection of views (arranged by the user) is a perspective. The user has complete control over the views in a perspective
- Eclipse ships with several pre-configured perspectives.

Launch and Debug Perspectives

- Describe what software to run or debug
- Typically (but not always) a Debug and Launch configuration share the same data.
- Associated with projects that have a certain nature: you cannot create a Java debug launch configuration with a C project.

Plug-in Centric

- Plug-ins are no different than other modular software designs.
- The platform is open by nature, very easy to add/update modular content.
- Large (and growing) ecosystem of third party suppliers exist for specialty needs.
- Product ships with very easy to use tools to create plug-ins.

Hotel swimming pool (or name your amenity) effect

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Obtaining Eclipse

Visit:

- www.eclipse.org/downloads

for third party plug-ins:

- **http://eclipse-plugins.2y.net**
- **http://www.eclipseplugincentral.com/**

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Thank you!

Questions/Comments?

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