

# Crash course on Eclipse

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## Outline

- Platform
  - Motivation
  - Basic Services
- Java Development Tooling
- Plug-in Development Environment
- What's next?

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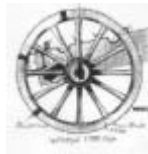
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## Motivation

- Extensible platform
  - Rich, reusable
  - Consistent behaviour, UI
- Guaranteed reliability
  - Open Source
- Promoted innovations
  - Plug-ins
  - No need to reinvent the wheel...



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## And so what?

- For your developments
  - Specialization training
  - Course-specific projects
  - Master thesis
- For your developments
  - Java Development Tooling
  - C#, Claire, Prolog, Google, UML...
  - AspectJ, CVS, Jad, JProbe, JProfiler...

4/21

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## Platform

(1/3)

- A language-independent platform
  - At first, everything is a resource
- A set of frameworks
  - Basic services
  - Graphic framework
- An Open Source project
  - Common Public License

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## Platform

(2/3)

- Published APIs
  - Developer community
- Plug-in mechanism
  - Extensibility
- Repositories
  - CVS
- Java, SWT, JFace, GEF, EMF...
  - Support, performance

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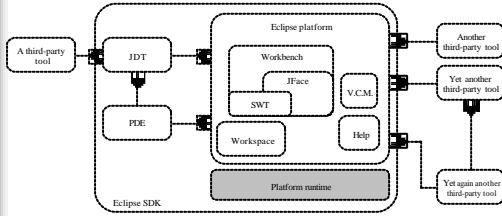
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# Platform

(3/3)



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# Basic services

(1/2)

- Resources
  - Workspace, projects
  - Directories, files
- Modification
  - Deltas
- Natures
  - Builders
- Sharing resources

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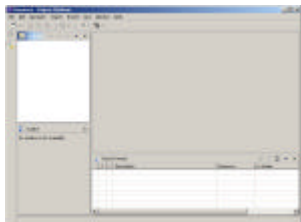
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# Basic services

(2/2)

## Demo?



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## Java Development Tooling (1/5)

- Java IDE
  - VisualAge for Java (?)
- Perspectives
  - Java, Java Browsing
  - Debug...
- Views
  - Package explorer, Hierarchy
  - Outline...

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## JDT (2/5)

- Incremental compilation
- Refactorings
- Extension points
  - [http://download.eclipse.org/downloads/documentation/2.0/html/plugins/org.eclipse.jdt.doc.isv/topics\\_reference.html](http://download.eclipse.org/downloads/documentation/2.0/html/plugins/org.eclipse.jdt.doc.isv/topics_reference.html)

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## JDT (3/5)

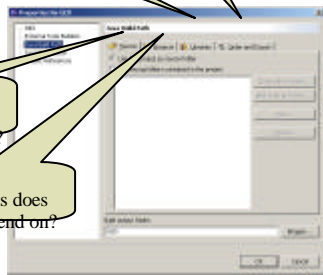
- Multiple
  - Java SDK

In the project,  
where is the source?

Which projects does  
this project depend on?

Which are the  
required libraries?

Order?  
Export?



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JDT (4/5)

- Multiple – JVM

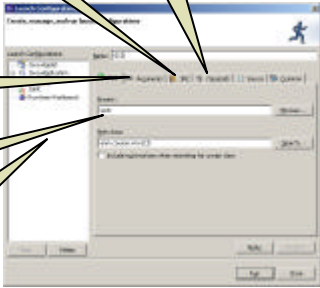
Runtime JVM

Runtime class-path

Runtime arguments

Runtime information

Applet, Program, JUnit, Eclipse



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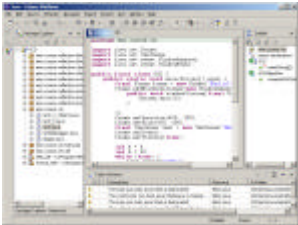
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JDT (5/5)

Demo?



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Plug-in Development Environment (1/5)

- Everything (almost) is a plug-in
  - Lazy loading and initialization
- Controlled extensibility
  - Explicit dependencies
  - Extension point definitions
  - Extension point addition – not replacement
- Extensions of Plug-ins
  - Fragments

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## PDE

(2/5)

- Runtime
- Workspace (resources)
- Workbench
- Team
- Help
- Many more

[http://download.eclipse.org/downloads/documentation/2.0/html/plugins/org.eclipse.platform.doc.isv/topics\\_Reference.html](http://download.eclipse.org/downloads/documentation/2.0/html/plugins/org.eclipse.platform.doc.isv/topics_Reference.html)

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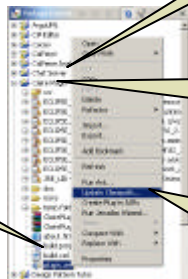
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## PDE

(3/5)

- Nature
  - Java
  - Plug-in

The plug-in manifest file



A plug-in project

A sub-folder containing the source

The PDE handles the class-path

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## PDE

(4/5)

```
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
<plugin
  id="ClairePlugin"
  name="ClairePlugin"
  version="0.1.1"
  provider-name="Yann-Gaël Guéhenec"
  class="fr.ann.claire.ClairePlugin">
  <requires>
    <import plugin="org.eclipse.core.resources" />
    <import plugin="org.eclipse.core.runtime" />
    <import plugin="org.eclipse.ui" />
  </requires>
  <runtime>
    <library name="ClairePlugin.jar" />
  </runtime>
  <extension
    point="org.eclipse.ui.editors">
    <editor
      name="Claire Editor"
      icon="icons/ClaireFile.gif"
      extension="*"
      contributorClass="fr.ann.claire.editors.ClaireEditorActionContributor"
      class="fr.ann.claire.editors.ClaireEditor"
      id="fr.ann.claire.editors.ClaireEditor">
    </editor>
  </extension>
</plugin>
```

Plug-in identification,  
version, main class, ...

Dependencies,  
dynamic classpath

Local classpath

Extension points  
extended by this plug-in

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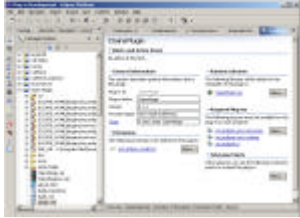
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# Demo?



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## What's next?

- Eclipse as your *incremental* and *integrated* development environment
- Eclipse as a target for your developments

*Let's go make some plug-ins!*

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## That's all folks!

- Thank you so much for your attention!
- Questions?
- Comments?

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