

# Integrated Development Environments (IDEs) Eclipse

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## Outline

- Common knowledge: what is IDE
- 1 slide on the roots
- Your view, your needs
- Eclipse + Java and all these “Beans”
- AspectJ (closing lecture)

## IDE

- Integrated development environmen
- Integrated design environment
- Integrated debugging environment

## IDE

- More than vi, emacs, or make

## IDE

- Source code editor
- Compiler and/or interpreter
- Automation tools (e.g., code completion)
- Debugger
- Version control
- Various tools/views to assist
  - Class browser, object inspector, class hierarchies

Any history behind?

## History

- Console development vs. flowcharts, coding forms, and keypunches
- BASIC - the first language with an IDE in mind
  - Dartmouth Time Sharing System
    - first large-scale time-sharing system
    - Dartmouth college, 1963
    - Student team under the direction of John Kemeny and Thomas Kurtz
- Visual programming
  - UML
  - Development costs?

## IDE Costs

- High development costs
- Extremely competitive market
- Solution: Make it Open Source
- Open Economy

## IDE should:

- Simplify (language) learning
- Assist in programming
- Navigate the programmer
- Carry out (advance) routine tasks
  - Code generation
    - Declarative specifications, XDoclet
  - Static analysis

Challenging and controversial issues...

## IDEas and key problems

- Assist the programmer vs. replace the programmer
- Reasoning
  - Modular
  - Real life problems (acceptance by industry)
  - Control and data flow
- Integration
- Too many standards too many restrictions
  - OO restricts concern-based modular programming
- New ways to program

## IDEas and key problems (your view):

- What do you think?
- How much help would you like to have?
  - Help vs. machines writing code

## IDE Examples

- Multi language vs. Language specific
- Free vs. proprietary
- There is quite a number....
  - **Eclipse**
  - NetBeans
  - Xcode
  - Visual ...
  - etc.

## Eclipse

- Eclipse Foundation

The purpose of Eclipse Foundation Inc., (the "Eclipse Foundation"), is to advance the creation, evolution, promotion, and support of the Eclipse Platform and to cultivate both an open source community and an ecosystem of complementary products, capabilities, and services.

## Eclipse Corp.

- Industry leaders **Borland, IBM, MERANT, QNX Software Systems, Rational Software, Red Hat, SuSE, TogetherSoft and Webgain** formed the initial **eclipse.org** Board of Stewards in November **2001**.
- By the end of 2003, this initial consortium had grown to over 80 members. Now over **115**.
- On Feb 2, 2004 converted into a **non-profit corporation**

How does it function?

## Eclipse non-profit corp.

- Board of Directors
  - Membership
    - Strategic Developers
    - Strategic Consumers
    - Add-in Providers
    - Open Source Project Leaders
  - Annual dues
- Developers

Ericsson, HP, IBM, Intel,  
MontaVista Software,  
QNX, SAP, Serena Software,  
Actuate