



# Software Tools for UML

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## Readings

- **UML course textbook**
  - Chapter 16 on Software Tools for UML

## Overview

- UML and Modelling Tools
- Features of UML Modelling Tools
- Supporting Cooperative Work



## UML and Modelling Tools

- CASE (Computer Assisted Software Engineering or Computer Aided Software Engineering) tools
- Programming-Language Independence
- Strong correspondence between Object-Oriented Languages and UML
- Extensibility

## Features of UML Modelling Tools

- UML Diagrams
- Compliance to UML Standards
- The Repository (e.g., objects, attributes, operations, states, etc.)
- Shared Access to the Repository
- Integrity of the Repository
- Version Control
- Traceability and Change Management
- Code Generations
- Model Interchange between Tools (e.g., XMI)
- Document Generation

Other features are:

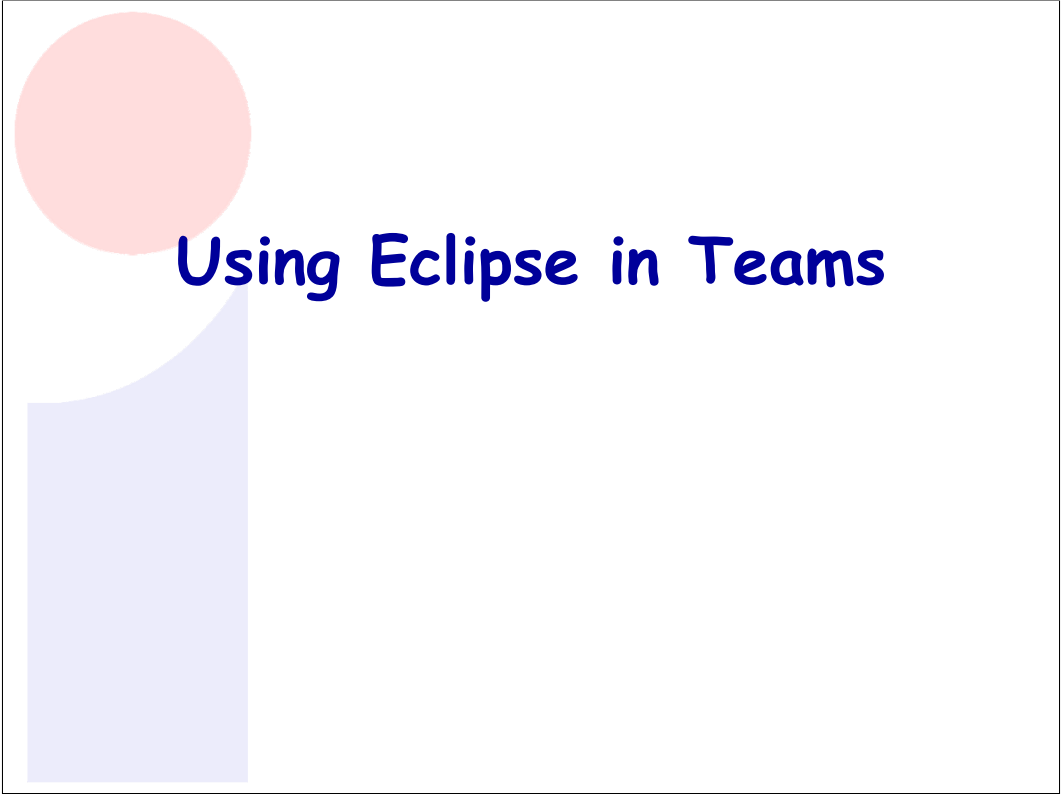
- Tagged Values
- Icons
- Relationship between Tools
- Method Support and Enforcement
- Framework and Patterns
- OCL
- Profiles

CVS provides mechanisms that support the shared access to the repository, maintain its integrity and support version control.

## UML Tools (Programming Environments)

UML features	ArgoUML 0.24	Eclipse 3.3/3.2.2	NetBeans 5.5.1	StarUML 5.0.2.1570
Plugins	No	Yes ArgoUML Omondo	Yes NetBeans UML	No
Compliance	1.4	1.4 / 2.0	2.0	2.0
Java Code Generation	Yes	Yes	Yes	Yes
Document Generation	No	Yes	No(?)	Yes
Testing Support	No	Yes	Yes	No
Refactoring	Yes	Yes	Yes	Yes
CVS	No	Yes	Yes	No
Model Interchange	Yes	Yes	Yes	Yes

Other tools for UML: IdeogramicUML, Objecteering, Rational Rose Suite, Rhapsody, System Architect, Tau, Together, Visio.



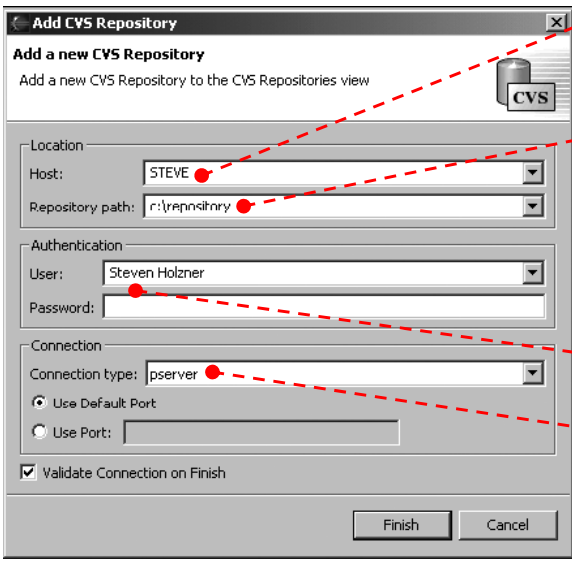
# Using Eclipse in Teams

## Overview

- Connecting Eclipse to a CVS Repository
- Examining the CVS Repository
- CVS Branches
- Storing a Project in a CVS Repository
- Other CVS operations
- Team Synchronizing view in Eclipse



# Connecting Eclipse by CVS



The screenshot shows the 'Add CVS Repository' dialog box in Eclipse. The dialog is titled 'Add a new CVS Repository' and contains the following fields and options:

- Location:**
  - Host: STEVE
  - Repository path: r:repository
- Authentication:**
  - User: Steven Holzner
  - Password: (empty)
- Connection:**
  - Connection type: pserver
  - Use Default Port
  - Use Port: (empty)
  - Validate Connection on Finish

Annotations with red dashed lines point to specific fields:

- Host: cvs.inf.ed.ac.uk
- Repository path: /disk/cvs/<seoc??>  
seoc01, seoc02, seoc03, seoc04 seoc05, seoc06
- Your DICE authentication
- Connection type: extssh

Buttons: Finish, Cancel

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There are six SEOC repositories seoc01, seoc02, seoc03, seoc04, seoc05, seoc06 with their group memberships, respectively.

To access them you need to setup your environment as follows:

```
export CVS_RSH=ssh
export CVSROOT="<username>@cvs.inf.ed.ac.uk:/disk/cvs/<seoc??>"
```

You do not need the CVSROOT line if you are going to specify it on the command line, e.g.:

```
cvs -d <username>@cvs.inf.ed.ac.uk:/disk/cvs/<seoc??> checkout .
```

You should then be able to access the repository using cvs.

If you are new to CVS, there is some good help available at

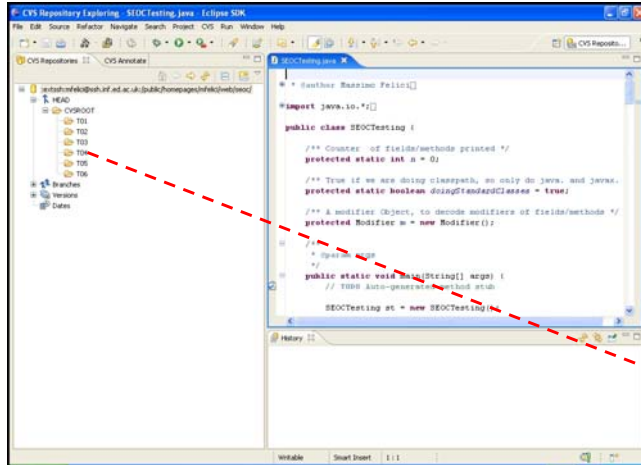
<http://www.cvshome.org/docs/>



# Examining CVS Repositories

Open this perspective by selecting:

1. Window
2. Open Perspective
3. Other...
4. CVS Repository Exploring



**CVS Branches  
(e.g., S, L, A)**

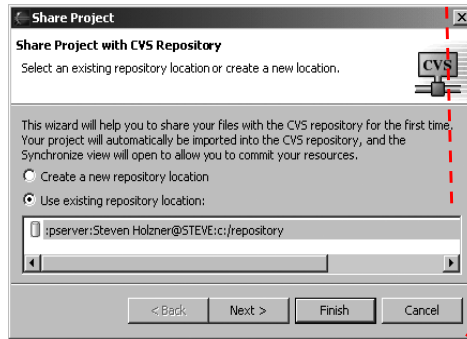
## CVS Branches

- CVS also enables you to create new branches in your code's development tree
- Such branches can act as alternate streams of development for your code
  - you might want to develop a new version of your code that uses prompts in another language
  - You might want to organize you development in different teams/groups, e.g., **S**, **L** and **A**

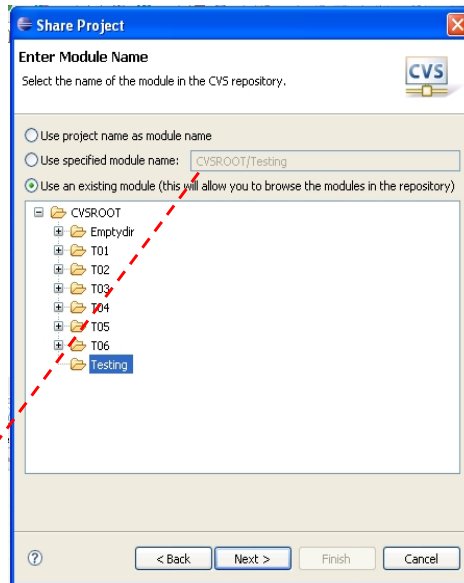


# Storing Projects

Use existing repository location:  
/disk/cvs/<seoc??>



Use an existing module, e.g., "L".

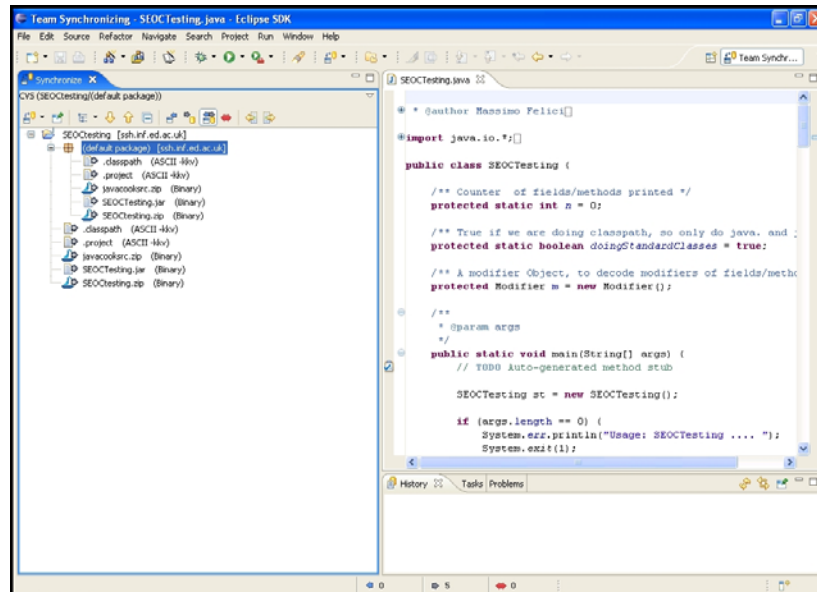


## Other CVS operations

- Committing files
- Checking projects out of a CVS repository
- Updating you code from a CVS repository
- Synchronizing your code with the CVS repository



# Team Synchronizing view in Eclipse



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## Summary

- Software Tools for UML
  - UML and Modelling Tools
  - Features of UML Modelling Tools
  - Supporting Cooperative Work
- Using Eclipse in Teams

