Section 2:
Developer tools and you

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Outline

- Introductions
- IDEs – Eclipse
- Source control – SVN
- Demo + questions

What is Eclipse?

- Integrated development environment (IDE)
- Allows for software development from start to finish
  - Type code with syntax highlighting, warnings, etc.
  - Run code straight through or with breakpoints (debug)
  - Break code
- Mainly used for Java
  - Supports C, C++, JavaScript, PHP, Python, Ruby, etc.
- Alternatives
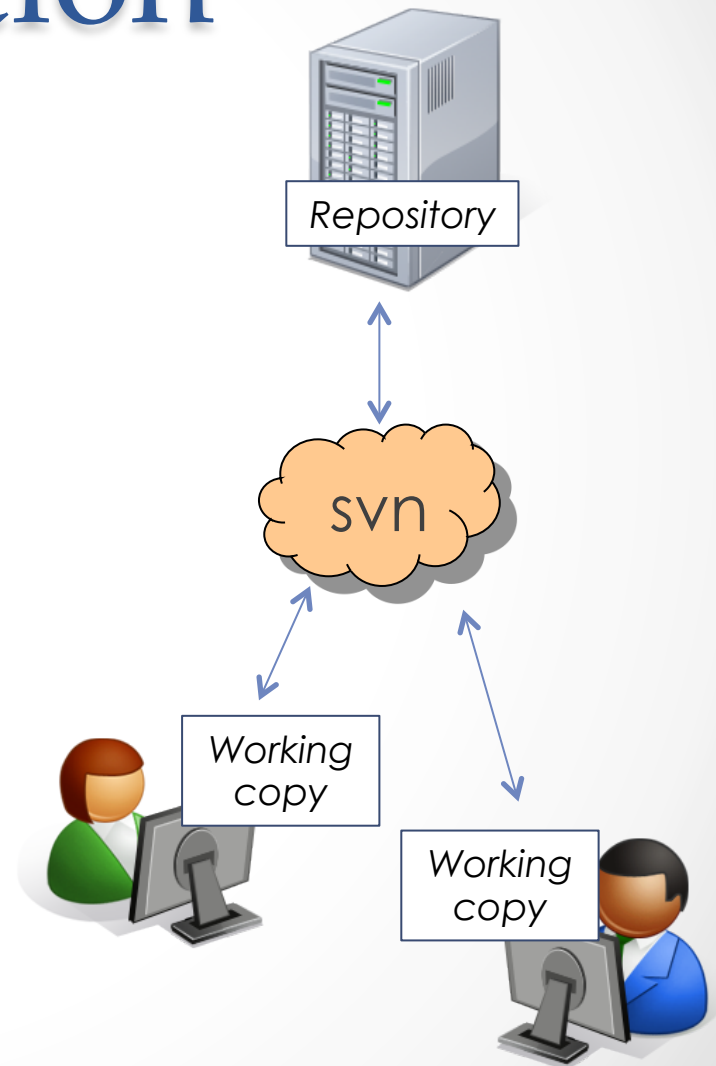 - NetBeans, Visual Studio, IntelliJIDEA

What is Subversion?

- Source/version/revision control
- System for tracking changes to code
    - o Software for developing software
- Essential for managing projects
    - o See a history of changes
    - o Revert back to an older version
    - o Back up your work
    - o Merge changes from multiple sources
- Alternatives
    - ✓ Git, Mercurial, CVS
    - × Email, Dropbox, USB sticks
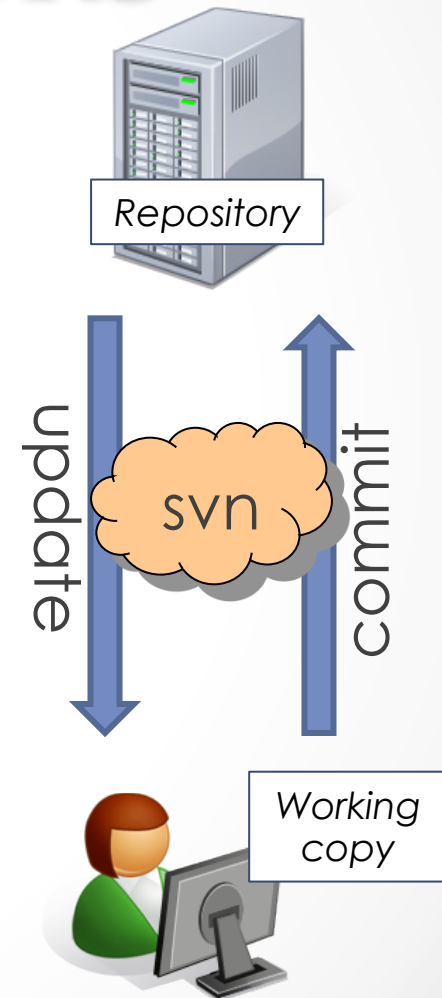
Source control organization

- A *repository* stores the master copy of the project
  - Someone creates the repo for a new project
  - Then nobody touches this copy directly
  - Lives on a server everyone can access

- Each person *checks out* her own *working copy*
  - Makes a local copy of the repo
  - You'll always work off of this copy
  - The version control system syncs the repo and working copy (with your help)

Repository

svn

Working copy

Working copy

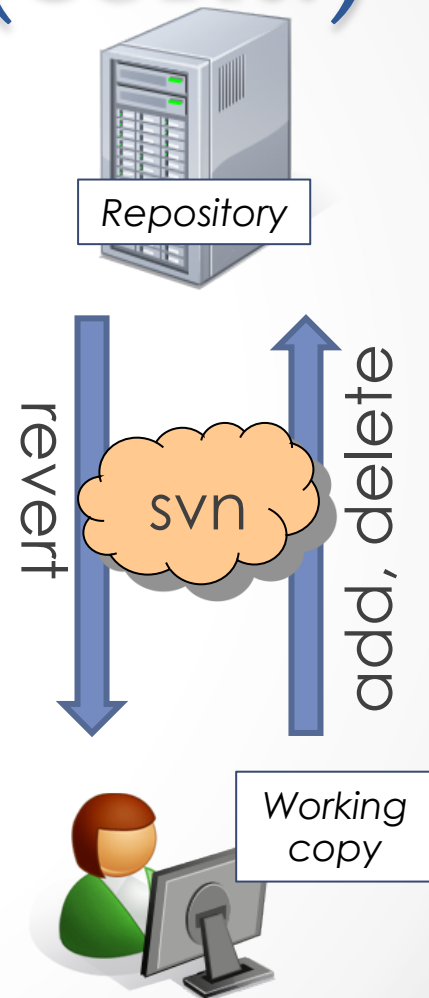# Source control common actions

Most common commands:

- ### Commit / checkin
  - o integrate changes *from* your working copy *into* the repository

- ### Update
  - o integrate changes *into* your working copy *from* the repository

Source control common actions (cont.)

More common commands:

- ## Add, delete
  - o add or delete a file in the repository
  - o just putting a new file in your working copy
  - o does not add it to the repo!

- ## Revert
  - o wipe out your local changes to a file

- ## Resolve, diff, merge
  - o handle a conflict – two users editing the same code

Repository

revert

svn

add, delete

Working copy

How to use Subversion

- Eclipse plugin: Subclipse
- GUI interface: TortoiseSVN, NautilusSVN
- Command line

This Quarter

- Use Subversion for your homework assignments
- We distribute starter code by adding it to your **repo**
- You turn in your files by **adding** them to the repo and **committing** your changes

DEMO TIME

http://www.cs.washington.edu/education/courses/
cse331/13au/tools/versioncontrol.html

Eclipse shortcuts

Shortcut	Purpose
Ctrl + D	Delete an entire line
Alt + Shift + R	Refactor (rename)
Ctrl + Shift + O	Clean up imports
Ctrl + /	Toggle comment