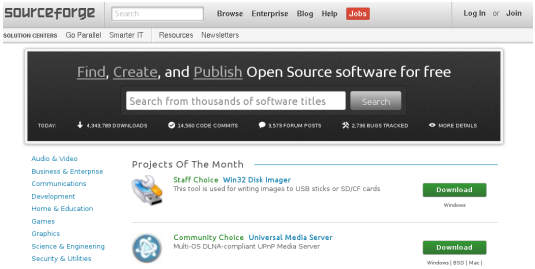
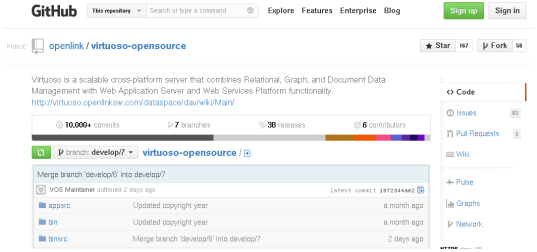
Version Control Systems





- Source Forge, Google Code (shelved), Github

Version Control Systems (cont.)

Version Control Systems

- A software tool that can store source code @ a central location
- Keeps a record of changes that have been made from time to time
- Keeps a record of who did what changes from time to time
- Can be used as a backup if something goes wrong in your code.

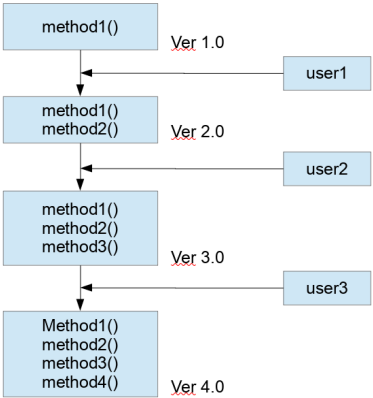
Individual Code Developer

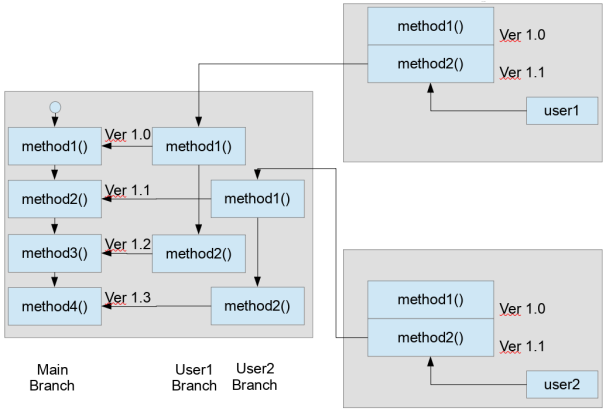
- Can use version control as a backup tool
- Knows that the recent version is the live code
- Can maintain branches, e.g. developer branch, like branch, test branch, etc. etc. (Branches also known as Trunks)

Team Developers

- Each developer on a separate branch
- Developers can be in different parts of the world
- *upstream* can merge branches of two developers to do a version increment.

Centralized vs Distributed Version Control Systems





Centralized vs Distributed Version Control Systems (cont.)

Popular Version Control Systems

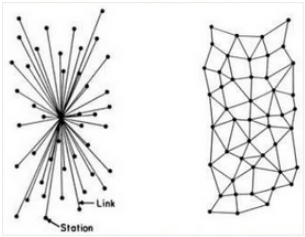
- SVN; Sub-version (Centralized)
- GIT (Distributed)
- Bazaar
- Mercurial
- ...

SVN (Centralized)

- Corruption risk. Will effect everybody
- Won't work on low network speeds
- Not scalable if users are too much
- Stores Complete Files

Git (Distributed)

- Corruption will only affect a local server
- Support for Load Balancing.
- Stores Partial Files.



Partial Storage

- Version 1.0
  - public class test {
    public static void main(String[] args) {
    }
    }
- Version 2.0
  - public class test {
    public test() {
    }
    public static void main(String[] args) {
    new test();
    }
    }

Stores This

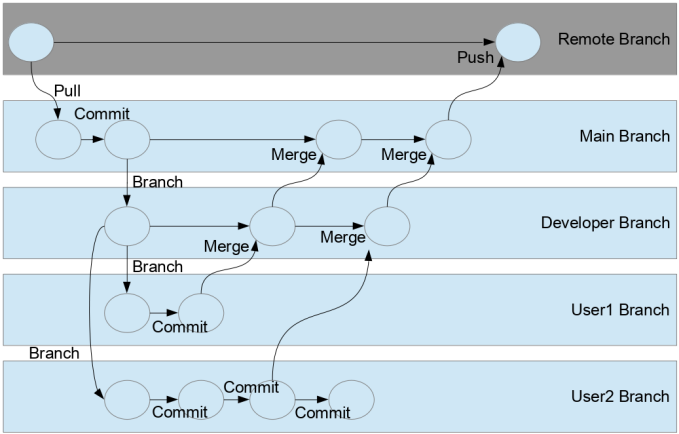
Stores This

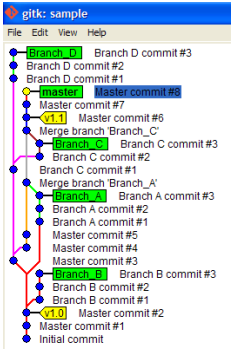
and This

Version 1.0

Version 2.0

Git Workflow





Git Workflow (cont.)

How to Work with these Workflows?

- Built-into Eclipse (no need to install anything else)
- Built-into Netbeans (no need to install anything else)
- Via Commands on the Command Line
- Via Clients: GitHub (browser), Gitlab (Browser), SourceTree, Git-Cola, Git-Eye, SmartGit, GitG (Linux), Giggle, ...
- Hosting your own Git: gitolite