Git Cheat Sheet

The Big Picture

Some Remote Repository

- master branch
  - commits
    - 736f6d6574[...]
    - 776b8e7465[...]
    - 09f11029d[...]
    - 1f7e399708[...]
- bar branch
- baz branch

Your Working Repository

- master branch
  - commits
    - 68692b7468[...]
    - 6769742b72[...]
    - 09f11029d[...]
    - 1f7e339708[...]
- origin branch
- quux branch
- foo branch

Branches

- push
- commit
- reset
- merge
- checkout

Getting started

New to the trade:
1. This cheat sheet is not a tutorial. Read one!
2. Since I already mentioned tutorials: the Git website has a lot of documentation.

Switching from another system:
3. Interoperability tools exist: Arch, CVS, SVN
4. add/commit work differently than in most other SCM systems: add schedules changes for committing, commit records them. commit -a does both.
5. Every working tree contains a full repository, unlike as in CVS or SVN.

Useful Tools

- git
  - Has all the standard operations as subcommands, e.g. branch, checkout, clone, commit, fetch, merge and so on.
- git-gui
  - A graphical user interface for Git (Tk). Offers commands to commit, branch, merge etc.
- gitk
  - Git's standard repository browser. Visualizes commits and such.
- git-web
  - A web interface for viewing a Git repository. Ships with Git.

Resources

- Git website
  - http://git.or.cz/
- Cheat Sheet website
  - http://jan-krueger.net/git

Terminology

Branch

A line of development to which changes can be made. Merging branches means that changes performed in one branch are transported into another. The most recent commit of a branch is called its tip and it can be referenced to a head. The default name of the development branch is master.

Commit (a.k.a.: revision, version)

A specific state in the branch's history. Each commit can be identified by a SHA hash and contains the hashes of its parents, i.e. the commit(s) it is based on, along with author information, a timestamp, and similar things. As a verb: record specific changes made to the working tree in the associated branch as a new state.

Merge

Transport changes in a branch into the current one. To merge from a remote branch, a copy of it must first be fetched. The combination of fetch and merge is called pull.

Origin

Indicates the default upstream repository, i.e. the (possibly remote) repository you cloned your local repository from. (This is actually called origin, i.e. no capital "o").

Push

Transport local changes to a remote repository

Repository

A combination of a working tree (not usually accessible from the outside) and a set of branches, some of which may be copies of remote branches. On a physical level, a repository is a directory containing a .git directory with repository metadata, and the files you are currently working on.

Tag

A name for a specific commit that never changes. This can be used to mark interesting versions of a branch, e.g. releases.

This is version 2.0 of Jan Krüger's Git cheat sheet. You can contact the author by e-mail at: <jk@jk.gs>.