Git Overview

Contents

1 Git Overview

1.1 What is Git?

From Linus Torvalds:

> Git is an open source distributed version control system originally
> developped by Linus Torvalds to support the development of the linux
> kernel. Every Git working directory is a full-fledged repository with
> complete history and full version tracking capabilities, not dependent
> on network access or a central server.

You can find out more about Git here:

https://help.ubuntu.com/lts/serverguide/git.html

A few other popular version control systems include:

- RCS
- CVS
- Subversion
- Mercurial
- Bitkeeper (proprietary, led Linus to create Git)

1.2   How we use git

NSRC staff and contractors often work with Git in a read/write fashion - or "pull/push/pull".

For this workshop we provide you with read access to our repositories. The are all located at:

https://git.nsrc.org/

Each of you have a username and a password to access this service.

1.3   How to access NSRC Git repositories

Projects or groups of files are called repositories. Repositories include a complete history of all changes to content with comments and who made the changes. All objects are stored in git as hashes of their filenames.

We will access NSRC Git repositories in two ways:

1.3.1   Method One: https://git.nsrc.org/

- Obtain username and password for https://git.nsrc.org/
- Log in and peruse repositories and files. You can download ZIP files of repositories.
- Clone a repository on the Linux or Mac OS X command line using syntax like:

```
$ git clone https://git.nsrc.org/git/repo-name.git
```

You will be prompted for a user name and password and then the entire repository will be downloaded to your machine in a directory named repo-name.

A GUI client is available at http://sourcetreeapp.com/

Installing git is simple under Linux, harder under Mac OS X.

1.3.2   Method Two: Local copy

We are mirroring some of our repositories on http://kit1.lab.nsrc.org/. This allows us to copy over large repositories on our local network. Some of our repositories are 100's of Megabytes in size, or even several Gigabytes.

Our local git server has a singer user and password. These are:

```
user: nsrc
password: <ASK_INSTRUCTOR>
```

We will clone our workshop-kit.git repository shortly by doing the following on your MacMinis:

```
git clone http://nsrc@kit1.lab.nsrc.org/git/workshop-kit.git
```

You'll be promped for a password, then there will be no progress on the screen and eentually you'll have the workshop-kit Git repository available.