GIT Installation and Configuration Notes

Installing GIT from source

Git-scm.com is the new home for git. Download the source code and install in /usr/local

Gitosis is a tool to manage Git repositories. Obtain the latest copy from the repository:

```
git clone git://eagain.net/gitosis
```

Installing GIT on RHEL from RPMs

Install the following RPMs:

- git-all: perl_Git, git-email, emacs-git,git-cvs,git-svn,gitk, git-gui,git
- gitosis
- gitweb,
- qgit,
- stgit
- git-daemon
- xinetd
- curl-devel # needed for installing gitweb.cgi from git source

The README.rst included with gitosis and Chapter 11 of Pragmatic Version Control Using Git explain how to install it. On RHEL/CentOS, the gitosis user is created using

```
useradd --shell /bin/sh --create-home --comment 'git version control'  \
--home /usr/local/lib/gitosis gitosis
```

Note: after running

```
python setup.py install
```

Make sure to run

```
chmod +x  /usr/local/lib/gitosis/gitosis/repositories/gitosis-admin.git/hooks/post-update
```

Otherwise, gitosis will not correctly add each user's public key to ~git/.ssh/authorized_keys

Configuring git daemon

git-daemon can be run by xinetd, by creating the file /etc/xinetd.d/git

```
# default: off
# description: The git dæmon allows git repositories to be exported using
#        the git:// protocol.

service git
{
        disable                 = no
        socket_type     = stream
        wait            = no
        user            = gitosis
        server          = /usr/bin/git-daemon
        server_args     = --base-path=/usr/local/lib/gitosis/repositories --export-all  --syslog --inetd --
verbose
        log_on_failure  += USERID
# xinetd doesn't do this by default. bug #195265
        flags                = IPv6
}
```

Configuring GitWeb

Using a Virtual Host

create a DNS cname (alias) for a hostname that will be used for GitWeb. Using a Virtual Host seems to be the preferred method of configuring Apache to work with gitweb.cgi

/etc/httpd/conf.d/git.conf

```
Options +FollowSymLinks

<VirtualHost *:80>
        ServerName eol-git.guest.ucar.edu
        SetEnv GITWEB_CONFIG /etc/gitweb.conf
        ServerAlias eol-git.guest.ucar.edu

        DocumentRoot /var/www/git

        <Directory /var/www/git>
                Options +ExecCGI
                AddHandler cgi-script cgi

                DirectoryIndex gitweb.cgi

                RewriteEngine On
                RewriteBase /git
                RewriteCond %{REQUEST_FILENAME} !-f
                RewriteCond %{REQUEST_FILENAME} !-d
                RewriteRule ^.* /gitweb.cgi/$0 [L,PT]
        </Directory>
</VirtualHost>
```

eol-git.guest.ucar.edu:/etc/gitweb.conf contains:

```
# Include the global configuration, if found.
# do "/etc/gitweb.conf" if \-e "/etc/gitweb.conf";
# Point to projects.list file generated by gitosis.
# Here gitosis manages the user "git", who has a
# home directory of /srv/example.com/git
$projects_list = "/usr/local/lib/gitosis/repositories";
# Where the actual repositories are located.
$projectroot = "/usr/local/lib/gitosis/repositories";
# By default, gitweb will happily let people browse any repository
# they guess the name of. This may or may not be what you wanted.  I
# choose to allow gitweb to show only repositories that git-daemon
# is already sharing anonymously.
$export_ok = "git-daemon-export-ok";
# Alternatively, you could set these, to allow exactly the things in
# projects.list, which in this case is the repos with gitweb=yes
# in gitosis.conf. This means you don't need daemon=yes, but you
# can't have repositories hidden but browsable if you know the name.
# And note gitweb already allows downloading the full repository,
# so you might as well serve git-daemon too.
# $export_ok = "";
# $strict_export = "true";
# A list of base urls where all the repositories can be cloned from.
# Easier than having per-repository cloneurl files.
@git_base_url_list = ('git://eol-git.guest.ucar.edu');
# allow snapshots
$feature{'snapshot'}{'default'} = \[1\];
$feature{'blame'}{'default'} = \[1\];
$feature{'pathinfo'}{'default'} = \[1\];
```

gitosis.conf needs to enable daemon access for each repository:

```
[gitosis]
gitweb.snapshot = tbz2,tgz

[group gitosis-admin]
writable = gitosis-admin
owner = vanandel
members = vanandel dennisf


[group chill_par_rec]
writable = chill_par_rec
members = vanandel dennisf
description = CSU CHILL radar data aquisition
owner = vanandel
gitweb = yes
daemon = yes

[repo chill_par_rec]
daemon = yes
gitweb = yes
```

Without a Virtual Host

gitweb.cgi is installed in /var/www/_git_cgi-bin/

The remaining gitweb support files are installed in /var/www/_gitweb

/etc/httpd/conf.d/git.conf

```
# map /git/* to call the CGI

ScriptAlias /git "/var/www/_git_cgi-bin/gitweb.cgi"

<Directory "/var/www/_git_cgi-bin">
    Options ExecCGI
    AllowOverride None
    Order allow,deny
    Allow from all
</Directory>

SetEnv      GITWEB_CONFIG   /etc/gitweb.conf

# map references to _gitweb to /var/www/_gitweb - this is where our icons and stylesheets live

Alias /_gitweb/ "/var/www/_gitweb/"
<Directory "/var/www/_gitweb">
    Options None
    AllowOverride None
    Order allow,deny
    Allow from all
</Directory>
```

/etc/gitweb.conf

```
$projectroot = '/usr/local/git/repositories/';
$GIT = '/opt/local/bin/git';
$logo_url = "http://git-scm.com";
$my_uri = "/git";
$favicon = "_gitweb/git-favicon.png";
$logo = "_gitweb/git-logo.png";
$stylesheet = "_gitweb/gitweb.css";
$projects_list = "/usr/local/git/repositories";
```

Modifications to gitweb.cgi

The GITWEB_CONFIG environment variable does not seem to be set by Apache, so we must modify the getweb.cgi script

```
our $GITWEB_CONFIG = $ENV{'GITWEB_CONFIG'} || "/etc/gitweb.conf";
```

Resources

Pragmatic Version Control Using Git