We need to have 3 machines to test own Git Server with Gitolite and Gitweb

1. Server : on which we will install Git, Gitolite and Gitweb
2. Git-admin : from this sever we will manage git server
3. Testing desktop machine:

In My case hostname & IP address are as :

1. Server : hostname: server

IP address : 192.168.111.110

1. Git-admin : hostname: git-admin

IP address: 192.168.111.108

1. Testing Desktop : hostname :desktop

IP address: 192.168.111.109

**Server**

#### ****Step 1:** Login into your server and become superuser root**

**ubuntu@server:~$ sudo -i**

**[sudo] password for ubuntu:**

**root@server:~#**

#### ****Step2: I**nstall git and gitolite**

apt-get update

apt-get install git-core python-setuptools gitolite

#### **Step3: Add user gitolite & set password**

root@server:~# adduser gitolite

Adding user `gitolite' ...

Adding new group `gitolite' (1001) ...

Adding new user `gitolite' (1001) with group `gitolite' ...

The home directory `/home/gitolite' already exists. Not copying from `/etc/skel'.

Enter new UNIX password:

Retype new UNIX password:

passwd: password updated successfully

Changing the user information for gitolite

Enter the new value, or press ENTER for the default

Full Name []: gitolite

Room Number []:

Work Phone []:

Home Phone []:

Other []:

Is the information correct? [Y/n] Y

root@server:~#

#### ****Step4:** Create the .ssh directory to contain the remote client’s public keys**

root@server:~# su - gitolite

gitolite@server:~$ mkdir $HOME/.ssh/

gitolite@server:~$ ls -la

total 52

drwxr-xr-x 4 gitolite gitolite 4096 May 11 10:45 .

drwxr-xr-x 4 root root 4096 May 11 08:58 ..

-rw------- 1 gitolite gitolite 208 May 11 10:45 .bash\_history

-rw-r--r-- 1 gitolite gitolite 220 May 11 08:58 .bash\_logout

-rw-r--r-- 1 gitolite gitolite 3486 May 11 08:58 .bashrc

drwx------ 2 gitolite gitolite 4096 May 11 09:02 .cache

-rw-r--r-- 1 gitolite gitolite 8445 May 11 08:58 examples.desktop

-rw-r--r-- 1 gitolite gitolite 4217 May 11 09:02 .gitolite.rc

-rw-r--r-- 1 gitolite gitolite 675 May 11 08:58 .profile

-rw------- 1 gitolite gitolite 0 May 11 09:10 projects.list

drwxrwxr-x 2 gitolite gitolite 4096 May 11 10:45 .ssh

gitolite@server:~$

**Git-admin** (Now login into your Linux system or pc from where you want to manage the Git Server as Git-Admin.)

#### **Step5: Goto git admin box**

#### ****Step6: install git****

**apt-get install git**

#### ****Step7 :** Create the gitadmin user as git administrator ( Set password also)**

**root@git-admin:~# useradd -m gitadmin -s /bin/bash**

**root@git-admin:~# passwd gitadmin**

**Enter new UNIX password:**

**Retype new UNIX password:**

**passwd: password updated successfully**

#### **Step8 : Create ssh key for gitadmin user (press the {Enter} key as answer to every question)**

root@git-admin:~# su - gitadmin

gitadmin@git-admin:~$

gitadmin@git-admin:~$ ssh-keygen -t rsa

Generating public/private rsa key pair.

Enter file in which to save the key (/home/gitadmin/.ssh/id\_rsa):

Created directory '/home/gitadmin/.ssh'.

Enter passphrase (empty for no passphrase):

Enter same passphrase again:

Your identification has been saved in /home/gitadmin/.ssh/id\_rsa.

Your public key has been saved in /home/gitadmin/.ssh/id\_rsa.pub.

The key fingerprint is:

7a:cd:3a:1d:71:76:7e:3a:73:03:1a:36:6e:1c:e5:1c gitadmin@git-admin

The key's randomart image is:

gitadmin@git-admin:~$

#### ****Step 9 :** Transfer the git administrator’s public key to gitolite ~/.ssh/ directory in server**

**gitadmin@git-admin:~$ cat ~/.ssh/id\_rsa.pub | ssh gitolite@192.168.111.110 'cat >~/.ssh/gitadmin.pub'**

**The authenticity of host '192.168.111.110 (192.168.111.110)' can't be established.**

**ECDSA key fingerprint is da:98:7e:d0:ba:46:f9:bc:cb:08:8c:0b:d5:8f:58:32.**

**Are you sure you want to continue connecting (yes/no)? yes**

**Warning: Permanently added '192.168.111.110' (ECDSA) to the list of known hosts.**

**gitolite@192.168.111.110's password:**

#### **Step 10: Create the GIT repositories base directory**

**gitadmin@git-admin:~$ mkdir ~/gitrepos**

**gitadmin@git-admin:~$ cd ~/gitrepos/**

**gitadmin@git-admin:~/gitrepos$**

**================ Back in GIT server as gitolite user ===============**

#### ****Step 11:** Setup gitolite with the gitadmin pub key**

gitolite@server:~$ gl-setup $HOME/.ssh/gitadmin.pub

creating gitolite-admin...

Initialized empty Git repository in /home/gitolite/repositories/gitolite-admin.git/

creating testing...

Initialized empty Git repository in /home/gitolite/repositories/testing.git/

[master (root-commit) cbd60fc] start

2 files changed, 6 insertions(+)

create mode 100644 conf/gitolite.conf

create mode 100644 keydir/gitadmin.pub

**================ in your get-admin box as gitadmin user ===============**

#### ****Step 12 :** Clone the gitolite control repo into your local work space**

gitadmin@git-admin:~$ cd ~/gitrepos/

gitadmin@git-admin:~/gitrepos$ git clone ssh://gitolite@192.168.111.110/gitolite-admin

Cloning into 'gitolite-admin'...

remote: Counting objects: 6, done.

remote: Compressing objects: 100% (4/4), done.

remote: Total 6 (delta 0), reused 0 (delta 0)

Receiving objects: 100% (6/6), 725 bytes, done.

gitadmin@git-admin:~/gitrepos$

#### ****Step13: Adding the first normal git user called ‘rupesh’ in testing desktop****

**Goto testing desktop**

1. **As root install git**

**root@desktop:~# apt-get install git**

1. **Create user Rupesh**

**root@desktop:~# adduser rupesh**

**Adding user `rupesh' ...**

**Adding new group `rupesh' (1001) ...**

**Adding new user `rupesh' (1001) with group `rupesh' ...**

**Creating home directory `/home/rupesh' ...**

**Copying files from `/etc/skel' ...**

**Enter new UNIX password:**

**Retype new UNIX password:**

**passwd: password updated successfully**

**Changing the user information for rupesh**

**Enter the new value, or press ENTER for the default**

**Full Name []:**

**Room Number []:**

**Work Phone []:**

**Home Phone []:**

**Other []:**

**Is the information correct? [Y/n]**

1. **Login as Rupesh**

**root@desktop:~# su – rupesh**

1. **Create ssh key for rupesh user**

**rupesh@desktop:~$ ssh-keygen -t rsa**

**Generating public/private rsa key pair.**

**Enter file in which to save the key (/home/rupesh/.ssh/id\_rsa):**

**Created directory '/home/rupesh/.ssh'.**

**Enter passphrase (empty for no passphrase):**

**Enter same passphrase again:**

**Your identification has been saved in /home/rupesh/.ssh/id\_rsa.**

**Your public key has been saved in /home/rupesh/.ssh/id\_rsa.pub.**

**The key fingerprint is:**

**51:d1:6a:17:1e:b6:8c:3c:49:78:2a:88:5b:a5:19:ba rupesh@desktop**

**The key's randomart image is:**

1. Transfer rupesh’s ssh public key to the Git-admin

**rupesh@desktop:~$ cat ~/.ssh/id\_rsa.pub | ssh gitadmin@192.168.111.108 'cat > ~/gitrepos/gitolite-admin/keydir/rupesh.pub'**

**gitadmin@192.168.111.108's password:**

**rupesh@desktop:~$**

#### ****Step**** 14: **================ Back to the gitadmin ===============**

Configuring gitolite to allow martin to be able to read/write/push in **testrepo1** repo

**gitadmin@git-admin:~$ vi ~/gitrepos/gitolite-admin/conf/gitolite.conf**

Content:  
repo gitolite-admin  
RW+ = gitadmin  
#  
repo testrepo1  
RW+ = rupesh  
#  
repo public-repo  
RW+ = @all

This above configuration means:(RW+=Read Write Push)

gitadmin can RW+ on gitolite-admin repo  
rupesh can RW+ on testrepo1 repo  
everybody can RW+ on public-repo

**Step15 :** Update the new config to the master git server

**gitadmin@git-admin:~$ cd ~/gitrepos/gitolite-admin/**

**gitadmin@git-admin:~/gitrepos/gitolite-admin$ git add keydir/\***

**gitadmin@git-admin:~/gitrepos/gitolite-admin$ git commit -am "added rupesh access to testrepo1 repo"**

**\*\*\* Please tell me who you are.**

**Run**

**git config --global user.email "you@example.com"**

**git config --global user.name "Your Name"**

**to set your account's default identity.**

**Omit --global to set the identity only in this repository.**

**fatal: empty ident <gitadmin@git-admin.(none)> not allowed**

**gitadmin@git-admin:~/gitrepos/gitolite-admin$ git config --global user.email "gitadmin@gitadmin.com"**

**gitadmin@git-admin:~/gitrepos/gitolite-admin$ git config --global user.name "gitadmin"**

**gitadmin@git-admin:~/gitrepos/gitolite-admin$ git commit -am "added rupesh access to testrepo1 repo"**

**[master 3c0a060] added rupesh access to testrepo1 repo**

**3 files changed, 5 insertions(+)**

**create mode 100644 keydir/martin.pub**

**create mode 100644 keydir/rupesh.pub**

**gitadmin@git-admin:~/gitrepos/gitolite-admin$ git push**

**Counting objects: 10, done.**

**Compressing objects: 100% (5/5), done.**

**Writing objects: 100% (6/6), 824 bytes, done.**

**Total 6 (delta 0), reused 0 (delta 0)**

**remote: creating testrepo1...**

**remote: Initialized empty Git repository in /home/gitolite/repositories/testrepo1.git/**

**remote:**

**remote: \*\*\*\*\* WARNING \*\*\*\*\***

**remote: the following users (pubkey files in parens) do not appear in the config file:**

**remote: martin(martin.pub)**

**To ssh://gitolite@192.168.111.110/gitolite-admin**

**cbd60fc..3c0a060 master -> master**

**gitadmin@git-admin:~/gitrepos/gitolite-admin$**

#### **Step16:** Working on the ****testrepo1**** repo from testing desktop

**================ In testing desktop as rupesh user ===============**

rupesh@desktop:~$ mkdir gitrepos

rupesh@desktop:~$ cd gitrepos/

rupesh@desktop:~/gitrepos$ git clone ssh://gitolite@192.168.111.110/testrepo1

Cloning into 'testrepo1'...

warning: You appear to have cloned an empty repository.

**Now make changes in the repo**

rupesh@desktop:~/gitrepos$

rupesh@desktop:~/gitrepos$ cd testrepo1

rupesh@desktop:~/gitrepos/testrepo1$ echo "content1" >testfile1.txt

rupesh@desktop:~/gitrepos/testrepo1$ git add testfile1.txt

rupesh@desktop:~/gitrepos/testrepo1$ git commit -am 'First commit to repo'

\*\*\* Please tell me who you are.

Run

git config --global user.email "you@example.com"

git config --global user.name "Your Name"

to set your account's default identity.

Omit --global to set the identity only in this repository.

fatal: empty ident <rupesh@desktop.(none)> not allowed

rupesh@desktop:~/gitrepos/testrepo1$ git config --global user.email "rupesh@testing-dekstop.com"

rupesh@desktop:~/gitrepos/testrepo1$ git config --global user.name "rupesh"

rupesh@desktop:~/gitrepos/testrepo1$ git commit -am 'First commit to repo'

[master (root-commit) de437df] First commit to repo

1 file changed, 1 insertion(+)

create mode 100644 testfile1.txt

rupesh@desktop:~/gitrepos/testrepo1$ git push origin master

Counting objects: 3, done.

Writing objects: 100% (3/3), 227 bytes, done.

Total 3 (delta 0), reused 0 (delta 0)

To ssh://gitolite@192.168.111.110/testrepo1

\* [new branch] master -> master

Second testing

rupesh@desktop:~/gitrepos/testrepo1$ echo "second file" > testfile2.txt

rupesh@desktop:~/gitrepos/testrepo1$ git add testfile2.txt

rupesh@desktop:~/gitrepos/testrepo1$ git commit -am 'Second commit to repo'

[master e880162] Second commit to repo

1 file changed, 1 insertion(+)

create mode 100644 testfile2.txt

rupesh@desktop:~/gitrepos/testrepo1$ git push

Counting objects: 4, done.

Compressing objects: 100% (2/2), done.

Writing objects: 100% (3/3), 289 bytes, done.

Total 3 (delta 0), reused 0 (delta 0)

To ssh://gitolite@192.168.111.110/testrepo1

**Now your gitolte & git configured & tested**

**Set up of gitweb**

**Go to git server**

#### **Step 1:** Install gitweb

**root@server:~# apt-get install gitweb**

**Reading package lists... Done**

**Building dependency tree**

**Reading state information... Done**

**Suggested packages:**

**git-doc**

**The following NEW packages will be installed:**

**gitweb**

**0 upgraded, 1 newly installed, 0 to remove and 710 not upgraded.**

**Need to get 0 B/10.3 kB of archives.**

**After this operation, 506 kB of additional disk space will be used.**

**Selecting previously unselected package gitweb.**

**(Reading database ... 142450 files and directories currently installed.)**

**Unpacking gitweb (from .../gitweb\_1%3a1.7.9.5-1ubuntu0.1\_all.deb) ...**

**Setting up gitweb (1:1.7.9.5-1ubuntu0.1) ...**

**\* Reloading web server config apache2 apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1 for ServerName**

**[ OK ]**

**root@server:~#**

#### ****Step 2**: This one is important ,now edit /etc/gitweb.conf file and change the given below two lines only**

root@ubuntu:~# vi /etc/gitweb.conf

$projectroot = "/home/gitolite/repositories/";

$projects\_list = $projectroot;

#### ****Step 3 :** Set the Apache user to be allowed to read the repositories which has only access by gitolite user**

**root@server:~# vi /etc/apache2/envvars**

Change:  
export APACHE\_RUN\_USER=www-data  
TO  
export APACHE\_RUN\_USER=gitolite

#### ****Step 4**: Now restart the apache2 and open the web browser and type **http://git-server-ip/gitweb** . In my practical case I will type http://192.168.111.110/gitweb**

**Note:** gitweb apache config file is located in /etc/apache2/conf.d/gitweb

root@server:~# service apache2 restart

\* Restarting web server apache2 apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1 for ServerName

... waiting /var/lock/apache2 already exists but is not a directory owned by www-data.

Please fix manually. Aborting.

[fail]

root@server:~# rm -rf /var/lock/apache2

root@server:~# service apache2 restart

\* Restarting web server apache2 apache2: Could not reliably determine the server's fully qualified domain name, using 127.0.1.1 for ServerName

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