

# VE482 Lab 3

Liu Yihao 515370910207

## 1 Simple git

- Search what is `git`

Git is a fast, scalable, distributed revision control system with an unusually rich command set that provides both high-level operations and full access to internals.

- Install a git client.

```
1 apt-get install git
```

- Search the use of the following git commands:

- help Display help information about Git.
- init Create an empty Git repository or reinitialize an existing one.
- checkout Switch branches or restore working tree files.
- branch List, create, or delete branches.
- push Update remote refs along with associated objects.
- pull Fetch from and integrate with another repository or a local branch.
- merge Join two or more development histories together.
- add Add file contents to the index.
- diff Show changes between commits, commit and working tree, etc.
- tag Create, list, delete or verify a tag object signed with GPG.
- log Show commit logs.
- fetch Download objects and refs from another repository.
- commit Record changes to the repository.
- clone Clone a repository into a new directory.
- reset Reset current HEAD to the specified state.

- Setup your git repository on the VE482 server.

Edit the config file `~/.ssh/config`

```
1 Host ve482
2   HostName 202.120.43.199
3   Port 2482
4   IdentityFile ~/.ssh/id_rsa
```

Run the script in my project folder

```

1  git init
2  git add .
3  git commit -m 'Initial Commit'
4  git remote add ve482 git@ve482:515370910207/p1
5  git push ve482

```

## 2 Git game

Will be shown on Lab.

## 3 Working with source code

### 3.1 The rsync command

- In Minix 3 install the `rsync` software

```
1  pkgin install rsync
```

- Install `rsync` on you Linux system

```
1  apt-get install rsync
```

- Read `rsync` manpage

```
1  man rsync
```

- Create an exact copy of the directory `/usr/src` into the directory `/usr/src_orig`

```
1  cp -r /usr/src /usr/src_orig
```

- If you have altered Minix 3 source code during homework 2 remove your changes from `/usr/src_orig`

- Create an exact copy of the Minix 3 directory `/usr/src_orig` into your Linux system, using `rsync` and `ssh` (note that the `ssh` server must be activated under Linux)

```
1  rsync -avz minix:/usr/src_orig/ ~/minix
```

### 3.2 The diff and patch commands

- Read the manpages of `diff` and `patch`

```

1  man diff
2  man patch

```

- Using the `diff` command, create a patch corresponding to your changes in homework 2

```

1  cd
2  diff -rc /usr/src_orig /usr/src

```

- Retrieve your patch on your Linux system

```
1  rsync -avz minix:/root/data ~/minix_patch
```

- Apply your patch to the copy of `/usr/src_orig` on your Linux system

```
1 cd ~/minix
2 patch -p3 ../minix_patch
```

- Revert the patch

```
1 cd ~/minix
2 patch -RE -p3 ../minix_patch
```