

Introduction to version control with Git

Brain Leke Betetchouh & 'Wole Solana

April 6, 2015

ThoughtWorks®

What is Git?

What is Git?

- Git is a **version control** system (VCS) that allows you to keep track of changes made to a file, so you can recall specific versions of the file over time.

What is Git?

- Git is a **version control** system (VCS) that allows you to keep track of changes made to a file, so you can recall specific versions of the file over time.
- Other version control systems include centralized VCSs such as Subversion and distributed VCSs like Mercurial.

Setup

Setup

■ Installing Git

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

Setup

■ Installing Git

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

■ Configuring your settings

```
1 git config --global user.name "Your Name"  
git config --global user.email your@emailaddress.com
```

Setup

■ Installing Git

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

■ Configuring your settings

```
1 git config --global user.name "Your Name"  
  git config --global user.email your@emailaddress.com
```

■ Initializing a local repo

```
git init
```


Tracking changes I

■ Checking the status of your repo

```
1 git status
```

■ Undoing changes to files

■ Single file:

```
1 git checkout filename
```

■ Multiple files:

```
1 git checkout .
```

Tracking changes II

■ Staging and Unstaging files

■ Single file:

```
1 git add filename
```

■ Multiple files:

```
1 git add .
```

■ Committing your files

■ Single file:

```
1 git commit filename
```

Tracking changes III

■ Multiple files:

```
1 git commit .
```

■ Ignoring files

- Create a file `'.gitignore'` and add the filenames (or file patterns) you wish to ignore

```
1 touch '.gitignore'
```

■ Amending a commit

```
1 git commit --amend
```

Tracking changes IV

■ Commit History

```
1 git log
```

Remote repositories

■ Initializing from a remote repo

```
1 git clone [remote_url]
```

Remote repositories

- Initializing from a remote repo

```
1 git clone [remote_url]
```

- Setting up a repo on GitHub, BitBucket, etc.

Remote repositories

- Initializing from a remote repo

```
1 git clone [remote_url]
```

- Setting up a repo on GitHub, BitBucket, etc.

- Adding a remote repo manually

```
1 git remote add [remote_name] [remote_url]
```

Remote repositories

■ Initializing from a remote repo

```
1 git clone [remote_url]
```

■ Setting up a repo on GitHub, BitBucket, etc.

■ Adding a remote repo manually

```
1 git remote add [remote_name] [remote_url]
```

■ Pulling from a remote

```
1 git fetch [remote_name]  
git pull [remote_name]
```


Remote repositories

■ Initializing from a remote repo

```
1 git clone [remote_url]
```

■ Setting up a repo on GitHub, BitBucket, etc.

■ Adding a remote repo manually

```
1 git remote add [remote_name] [remote_url]
```

■ Pulling from a remote

```
1 git fetch [remote_name]  
git pull [remote_name]
```

■ Pushing your work

```
git push [remote_name]
```

ThoughtWorks®

Just getting started

■ Branching

Just getting started

- Branching
- Merging and merge conflicts

Just getting started

- Branching
- Merging and merge conflicts
- Working with multiple remotes

Questions and Exercises

Questions and Exercises

- Register yourself at `bitbucket.com` (if you don't have an account set up)

Questions and Exercises

- Register yourself at `bitbucket.com` (if you don't have an account set up)
- Email your user name to `wole@aims.ac.tz`

Questions and Exercises

- Register yourself at `bitbucket.com` (if you don't have an account set up)
- Email your user name to `wole@aims.ac.tz`
- Using the commands introduced earlier, set up a git repo in a folder titled `TW_AIMS_Exercises`

Questions and Exercises

- Register yourself at `bitbucket.com` (if you don't have an account set up)
- Email your user name to `wole@aims.ac.tz`
- Using the commands introduced earlier, set up a git repo in a folder titled `TW_AIMS_Exercises`
- Clone from this remote url:
`https://wolesolana@bitbucket.org/wolesolana/aims-tz-student-exercises.git`

Questions and Exercises

- Register yourself at `bitbucket.com` (if you don't have an account set up)
- Email your user name to `wole@aims.ac.tz`
- Using the commands introduced earlier, set up a git repo in a folder titled `TW_AIMS_Exercises`
- Clone from this remote url:
`https://wolesolana@bitbucket.org/wolesolana/aims-tz-student-exercises.git`
- Modify the file named `Participants.txt` by adding your name and email address in the format of the previous entries

Questions and Exercises

- Register yourself at `bitbucket.com` (if you don't have an account set up)
- Email your user name to `wole@aims.ac.tz`
- Using the commands introduced earlier, set up a git repo in a folder titled `TW_AIMS_Exercises`
- Clone from this remote url:
`https://wolesolana@bitbucket.org/wolesolana/aims-tz-student-exercises.git`
- Modify the file named `Participants.txt` by adding your name and email address in the format of the previous entries
- Commit your changes with a good commit message

Questions and Exercises

- Register yourself at `bitbucket.com` (if you don't have an account set up)
- Email your user name to `wole@aims.ac.tz`
- Using the commands introduced earlier, set up a git repo in a folder titled `TW_AIMS_Exercises`
- Clone from this remote url:
`https://wolesolana@bitbucket.org/wolesolana/aims-tz-student-exercises.git`
- Modify the file named `Participants.txt` by adding your name and email address in the format of the previous entries
- Commit your changes with a good commit message
- Push your changes

Further Reading



Scott Chacon.
Pro git.
Apress, 2009.