

Basic Version Control Operations

Objectives

- Start to track files with GIT
- Basic Operations
 - Add
 - Diff
 - Commit
 - Ignore
- Inspecting and checking status

We have created a git repository and have also cloned it to a working copy. Lets now start adding some content and manage it with git.

Create a File

```
$ cd learn/git/myapp
```

```
$ vim README
```

[Edit README]

README

```
This is a README for sample application.█
```

```
~  
~  
~  
~  
~  
~
```

```
-- INSERT --
```


Add file to git

```
$ git add README
```


Using `git add`, makes git aware about the file and adds it to the staging area.

However, it does not get reflected in the repository unless and until it is committed.

Staging Area

- Staging area or index holds the changes till they are pushed to repository
- This allows you to create more than different commits for different logical changes
- Also allows you to make amends to commits before the changes are pushed.

Checking Status

```
$ git status
```

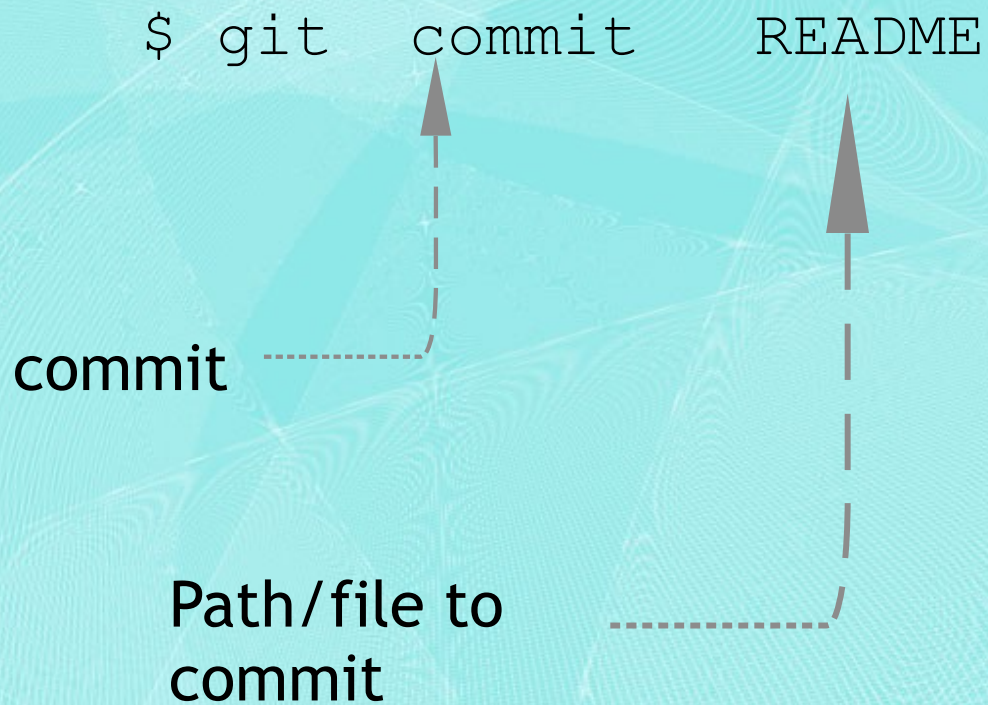
```
$ git status
On branch master

Initial commit

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)

    new file:   README
```


Commit



Commit Message

```
adding README for myapp
```

```
# Please enter the commit message for your changes. Lines starting  
# with '#' will be ignored, and an empty message aborts the commit.  
# Explicit paths specified without -i or -o; assuming --only paths...  
# On branch master  
#  
# Initial commit  
#  
# Changes to be committed:  
#   new file:   README  
#
```

commit message

changes to be committed

output

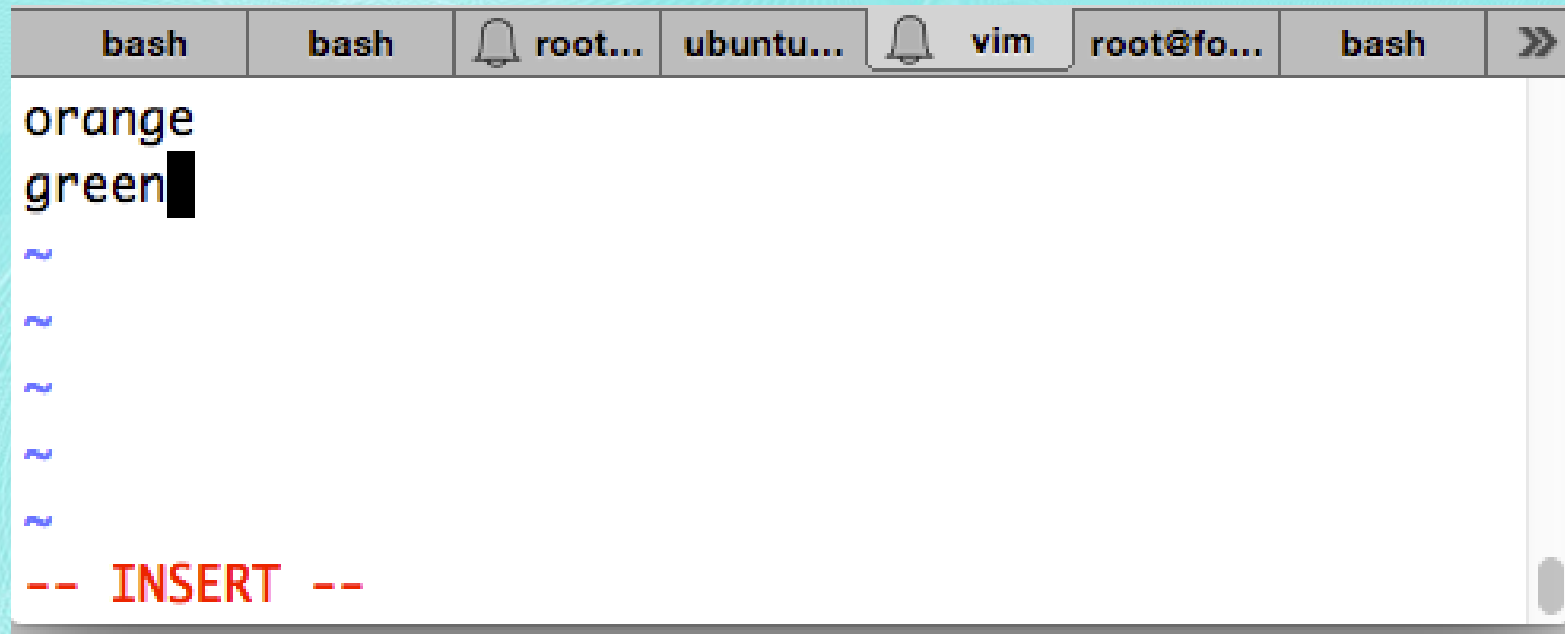
```
[master (root-commit) f6af533] adding README for myapp  
1 file changed, 2 insertions(+)  
create mode 100644 README
```


Create another file

```
$ vim file1
```

[Edit file1]

file1



The image shows a terminal window with a taskbar at the top. The taskbar contains several tabs: 'bash', 'bash', 'root...' (with a bell icon), 'ubuntu...' (with a bell icon), 'vim' (with a bell icon), 'root@fo...', and 'bash'. The 'vim' tab is currently active. The main area of the terminal shows the contents of a file named 'file1'. The file contains two lines: 'orange' and 'green'. The cursor is positioned at the end of the 'green' line. Below the file content, there are five tilde (~) characters, likely representing a list of files or directories. At the bottom of the terminal, the text '-- INSERT --' is displayed in red, indicating that the editor is in insert mode.

```
bash bash root... ubuntu... vim root@fo... bash >>
orange
green
~
~
~
~
~
-- INSERT --
```


Add and commit

```
$ git add file1
```

```
$ git status
```

```
$ git commit -a -m "adding file1"
```


Making Changes to File

```
$ vim file1
```

[Edit file1]

file1



A diagram illustrating file updates. On the left, a list of colors is shown: orange, red, green, and yellow. A black cursor is positioned at the end of the 'yellow' line. Two orange arrows point from the word 'updates' to the 'red' and 'green' lines, indicating that these lines are being updated or modified.

```
orange  
red  
green  
yellow
```

updates

[save and exit vim using :wq]

Inspecting Changes

```
$ git diff
```

```
diff --git a/file1 b/file1
index c0e55a0..d58692c 100644
--- a/file1
+++ b/file1
@@ -1,2 +1,4 @@
  orange
+red
  green
+yellow
```


Commit Changes

```
$ git commit -a -m "file1 update1"  
$ git diff
```


Examine Commits

```
$ git log
```

```
commit 93ac48b03abaca2aa3271b3f367dc82b4cf623f9
```

```
Author: Gourav Shah <gs@initcron.org>
```

```
Date: Sun Jun 14 14:00:30 2015 +0530
```

```
file1 update1
```

commit id



```
commit 57f68db8453db913acb625bf248e8cad3cad1e36
```

```
Author: Gourav Shah <gs@initcron.org>
```

```
Date: Sun Jun 14 13:51:40 2015 +0530
```

```
adding file1
```

```
commit f6af53337ac1ee343c4b9e7c7deade82c90991d4
```

```
Author: Gourav Shah <gs@initcron.org>
```

```
Date: Sun Jun 14 13:45:30 2015 +0530
```

```
adding README for myapp
```


Who did what ?

```
$ git blame file1
```

```
57f68db8 (Gourav Shah 2015-06-14 13:51:40 +0530 1) orange  
93ac48b0 (Gourav Shah 2015-06-14 14:00:30 +0530 2) red  
57f68db8 (Gourav Shah 2015-06-14 13:51:40 +0530 3) green  
93ac48b0 (Gourav Shah 2015-06-14 14:00:30 +0530 4) yellow
```