**Head in git**

<https://stackoverflow.com/questions/2304087/what-is-head-in-git>

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1(release/learn-git)

$ cd .git

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1/.git (GIT\_DIR!)

$ cat HEAD

ref: refs/heads/release/phase1Branch

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1/.git (GIT\_DIR!)

$ cd refs/heads

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1/.git/refs/heads (GIT\_DIR!)

$ ls -la

total 1

drwxr-xr-x 1 DeenJ 1049089 0 Sep 25 09:11 ./

drwxr-xr-x 1 DeenJ 1049089 0 Sep 13 16:41 ../

drwxr-xr-x 1 DeenJ 1049089 0 Sep 13 16:53 feature/

-rw-r--r-- 1 DeenJ 1049089 41 Sep 13 16:41 master

drwxr-xr-x 1 DeenJ 1049089 0 Sep 25 13:07 release/

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1/.git/refs/heads (GIT\_DIR!)

$ cat master

9f5ab48105ace8bb7f8751d42491615bb7dac9c1

This commit points to last commit at master

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1/.git/refs/heads (GIT\_DIR!)

$ cat release/phase1Branch

c40063b9d84e447046575c7ff628672ca9a8fafd

This commit points to last commit at phase1Branch

**Viewing changes in indexed stage vs working repo with diff**

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/phase1Branch

Your branch is up to date with 'origin/release/phase1Branch'.

Changes not staged for commit:

(use "git add <file>..." to update what will be committed)

(use "git checkout -- <file>..." to discard changes in working directory)

modified: package.json

no changes added to commit (use "git add" and/or "git commit -a")

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git diff

**diff --git a/package.json b/package.json**

**index 13284ec..ffc29aa 100644**

**--- a/package.json**

**+++ b/package.json**

@@ -1,6 +1,6 @@

{

"name": "Game1",

- "version": "2.0.1",

+ "version": "2.0.2",

"description": "",

"private": true,

"repository": {

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$

**Viewing only staged changes**

Git add package.json

$ git status

On branch release/phase1Branch

Your branch is up to date with 'origin/release/phase1Branch'.

Changes to be committed:

(use "git reset HEAD <file>..." to unstage)

modified: package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1(release/learn-git)

$ git diff --staged

**diff --git a/package.json b/package.json**

**index 13284ec..ffc29aa 100644**

**--- a/package.json**

**+++ b/package.json**

@@ -1,6 +1,6 @@

{

"name": "Game1",

- "version": "2.0.1",

+ "version": "2.0.2",

"description": "",

"private": true,

"repository": {

**Deleting files**

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Untracked files:

(use "git add <file>..." to include in what will be committed)

toDelete.txt

nothing added to commit but untracked files present (use "git add" to track)

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git add toDelete.txt

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Changes to be committed:

(use "git reset HEAD <file>..." to unstage)

new file: toDelete.txt

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git commit -m "to delete"

[release/learn-git 369d91c] to delete

1 file changed, 1 insertion(+)

create mode 100644 toDelete.txt

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git rm toDelete.txt

rm 'toDelete.txt'

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Changes to be committed:

(use "git reset HEAD <file>..." to unstage)

deleted: toDelete.txt

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git commit -m "dlete a file"

[release/learn-git 4033cc1] dlete a file

1 file changed, 1 deletion(-)

delete mode 100644 toDelete.txt

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

nothing to commit, working tree clean

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$

**Moving and renaming files**

**Writing commit messages**

Git add -m “message”

**Log Commit**

Git log

Git log -n

Git log –since =date

Git log –until =date

Git log –author = name

Git log –grep =”searchcriteria text”

$ git log --pretty=oneline

$ git log --graph --pretty=format:'%Cred%h%Creset -%C(yellow)%d%Creset %s %Cgreen(%cr) %C(bold blue)<%an>%Creset' --abbrev-commit

git show 4388eab (to see the changes in commit file)

**Amending commits**

**Find history of file changed**

git log --name-status --follow package.json

**Undoing working directory changes**

Git checkout – file

Ex : git checkout package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Changes not staged for commit:

(use "git add <file>..." to update what will be committed)

(use "git checkout -- <file>..." to discard changes in working directory)

modified: package.json

no changes added to commit (use "git add" and/or "git commit -a")

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git checkout package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

nothing to commit, working tree clean

**Unstaging files**

<https://git-scm.com/docs/git-reset#git-reset-Resetasinglefileintheindex>

Git reset HEAD file

Ex : $ git reset HEAD package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Changes to be committed:

(use "git reset HEAD <file>..." to unstage)

modified: package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git reset HEAD package.json

Unstaged changes after reset:

M package.json

**Amending commits**

Only last commit is amendable

One can amend the commit message or file

Package.json has changed from ver 2.0.1 to 2.0.2

I want to amend my last commit package.json file from v2.0.2 to 2.0.3

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Changes not staged for commit:

(use "git add <file>..." to update what will be committed)

(use "git checkout -- <file>..." to discard changes in working directory)

modified: package.json

no changes added to commit (use "git add" and/or "git commit -a")

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git add package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Changes to be committed:

(use "git reset HEAD <file>..." to unstage)

modified: package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git commit --amend -m "update commit message2"

[release/learn-git 676be02] update commit message2

Date: Tue Sep 25 15:54:02 2018 +0200

1 file changed, 1 insertion(+), 1 deletion(-)

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

nothing to commit, working tree clean

**Retrieving old versions**

The current branch is pointing at commit 676be02 , which we want to revert

(release/learn-git)> 676be02 > c40063b

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git checkout c40063b -- package.json

i.e change the package.json to same as it was at the time of c40063b

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Changes to be committed:

(use "git reset HEAD <file>..." to unstage)

modified: package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git diff --staged

**diff --git a/package.json b/package.json**

**index 94a7c4f..13284ec 100644**

**--- a/package.json**

**+++ b/package.json**

@@ -1,6 +1,6 @@

{

"name": "Game1",

- "version": "2.0.3",

+ "version": "2.0.1",

"description": "",

"private": true,

"repository": {

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git commit -m "this commit reverts commit 676be02"

[release/learn-git fd75764] this commit reverts commit 676be02

1 file changed, 1 insertion(+), 1 deletion(-)

# Reverting a commit

Put git in exact opposite changes of last commit but retain commit history

Commit fc08381 has package.json changed to 2.0.2

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git revert fc08381

[release/learn-git 4388eab] this Revert "commit test"

1 file changed, 1 insertion(+), 1 deletion(-)

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git log

commit 4388eabde23943b84050c65897f65ede5562d14e (HEAD -> release/learn-git)

Author: Deen john <deen.john@derivco.co.za>

Date: Tue Sep 25 16:46:39 2018 +0200

this Revert "commit test"

This reverts commit fc08381f5d35c73e44fcad0ccd9fbcb0fbbc8d3c.

commit fc08381f5d35c73e44fcad0ccd9fbcb0fbbc8d3c

Author: Deen john <deen.john@derivco.co.za>

Date: Tue Sep 25 16:42:49 2018 +0200

commit test

https://stackoverflow.com/questions/17563726/how-to-see-the-changes-in-a-git-commit

$ git show --color --pretty=format:%b $COMMIT

This reverts commit fc08381f5d35c73e44fcad0ccd9fbcb0fbbc8d3c.

**diff --git a/package.json b/package.json**

**index ffc29aa..13284ec 100644**

**--- a/package.json**

**+++ b/package.json**

@@ -1,6 +1,6 @@

{

"name": "Game1",

- "version": "2.0.2",

+ "version": "2.0.1",

"description": "",

"private": true,

"repository": {

**Removing an unpushed commit**

**--soft (safest option)**

**-Doesn’t change staging index or working dir**

$ git reset --soft c40063b (package.json updated to v2.0.2 by commit c40063b)

Soft reset puts the last commit changes to staging index

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git diff --staged

**diff --git a/package.json b/package.json**

**index 13284ec..ffc29aa 100644**

**--- a/package.json**

**+++ b/package.json**

@@ -1,6 +1,6 @@

{

"name": "Game1",

- "version": "2.0.1",

+ "version": "2.0.2",

"description": "",

"private": true,

"repository": {

We can move the head back to same last commit too (keep last commit id save somewhere)

**Git revert –commit id**

**--mixed**

**-Changes staging index to match repo**

**- doesn’t change working dir**

**All changes goes to working directory**

**Current commit is** 12eee5b

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git reset --mixed c40063b

Unstaged changes after reset:

M package.json

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

Changes not staged for commit:

(use "git add <file>..." to update what will be committed)

(use "git checkout -- <file>..." to discard changes in working directory)

modified: package.json

no changes added to commit (use "git add" and/or "git commit -a")

We can move the head back to same last commit too (keep last commit id save somewhere)

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git reset --mixed 12eee5bd

**--hard**

**-changes staging index and working dir to match repo**

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git reset --hard c40063b

HEAD is now at c40063b fix for Mobile - an 'unable to load game' error on load yet game loads in background Defect ID: 368028

DeenJ@FPRICBROM1 MINJ /d/GitRepos/design1 (release/learn-git)

$ git status

On branch release/learn-git

nothing to commit, working tree clean

You can still go back to lost commit , the commit from where you reset.