

Git Branching

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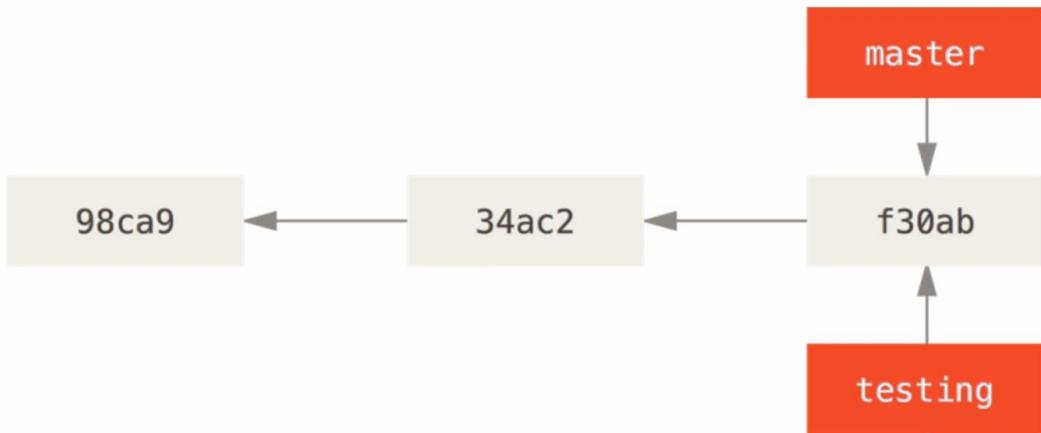
AGENDA

Today we will learn:

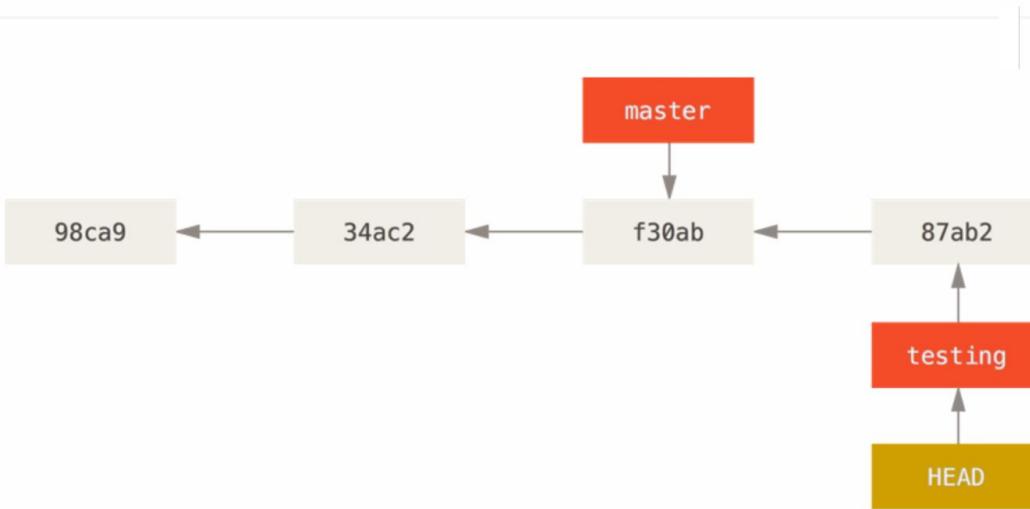
- How commits are stored in git in a nutshell
- What is a branch
- What is a HEAD pointer
- Create new branch
- git log for the specific branch
- git checkout
- git switch
- git branch
- Switch branches
- Detached HEAD state
- Basic linux terminal commands (cd, touch, ls)



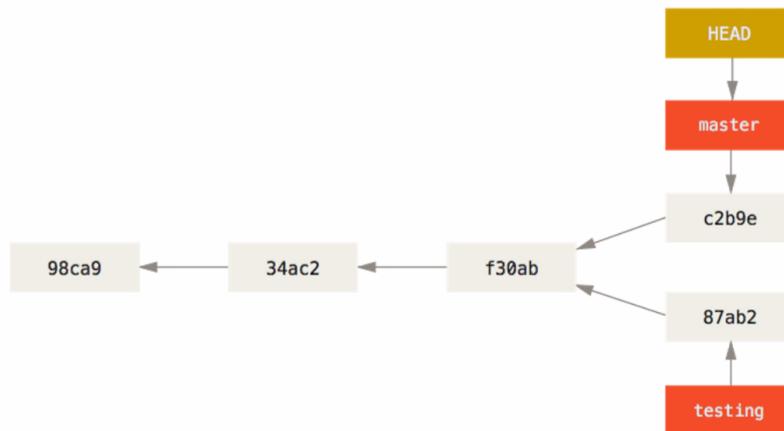
New Branch



New Commit



Diverged Branches



Creating new branches and switching to new branch

```
MINGW64:/c/Users/Andrii_Piatakha/Desktop/Lern IT - Git
Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git (master)
$ git branch TA0001

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git (master)
$ git branch
TA0001
* master

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git (master)
$
```

but this method of creating new branch is not recommended. Use “git checkout –b branchName” instead

```
MINGW64:/c/Users/Andrii_Piatakha/Desktop/Lern IT - Git
Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git (master)
$ git branch TA0001

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git (master)
$ git branch
TA0001
* master

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git (master)
$ git branch -r
origin/master

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git (master)
$
```

“git branch –r” means branches which are present on remote and use “**git branch –a**” to show all local and remote branches.

How to switch to a particular commit

```
$ git log -3
commit 979f1caaa4a955127e17f5d52c1c4dc3961e6ac7 (HEAD -> master, origin/master, TA0001)
Author: Andrii Piatakha <andrii.piatakha@example.com>
Date:   Wed Oct 14 22:45:46 2020 +0300

    test SSH connection

commit 720fd02cd628098e573caeb70a7bcab9d21d4f4c
Author: Andrii Piatakha <andrii.piatakha@example.com>
Date:   Thu Oct 8 00:02:46 2020 +0300

    vi editor test - Added .gitignore and removed bin/ from staging

commit 06d1bd2f4fc4cdddb78fc0e217fc18955b71c7ab
Author: Andrii Piatakha <andrii.piatakha@example.com>
Date:   Mon Oct 5 19:14:06 2020 +0300

    new changes

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (master)
$ git checkout 06d1b

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -c with the switch command. Example:

    git switch -c <new-branch-name>

or undo this operation with:

    git switch -

Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at 06d1bd2 new changes

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src ((06d1bd...))
$ |
```

It is not recommended to commit while we are in previous commit

How to delete a branch

```
MINGW64/c/Users/Andrii_Piatakha/Desktop/Lern IT - Git/src
scount_calculation)
$ git branch -a
TA0001
* TA0001_discount_calculation
  master
  remotes/origin/TA0001_discount_calculation
  remotes/origin/master

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (TA0001_
scount_calculation)
$ git branch -d TA0001
Deleted branch TA0001 (was 979f1ca).

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (TA0001_
scount_calculation)
$ git push origin --delete TA0001_discount_calculation
To github.com:AndriiPiatakha/learnit_git.git
 - [deleted]          TA0001_discount_calculation

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (TA0001_
scount_calculation)
$
```

To switch to any other branch (already created)

```
MINGW64/c/Users/Andrii_Piatakha/Desktop/Lern IT - Git/src (TA0001_scount_calculation)
$ git switch master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (master)
$
```

Udemy

New branch

```
MINGW64/c/Users/Andrii_Piatakha/Desktop/Lern IT - Git/src (TA0001_scount_calculation)
$ git switch master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (master)
$ git switch -c new_branch
Switched to a new branch 'new_branch'

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (new_branch)
$ |
```

Udemy

For master

```
MINGW64:/c/Users/Andrii_Piatakha/Desktop/Lern IT - Git/src
Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (TA0001_
scount_calculation)
$ git switch master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (master)
$ git switch -c new_branch
Switched to a new branch 'new_branch'

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (new_bra
h)
$ git switch -
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

Andrii_Piatakha@EPUAKHAW1357 MINGW64 ~/Desktop/Lern IT - Git/src (master)
$
```