

**GIT**

# High-level

## Main

add	merge
am	mv
archive	notes
bisect	pull
branch	push
bundle	range-diff
checkout	rebase
cherry-pick	reset
citool	restore
clean	revert
clone	rm
commit	shortlog
describe	show
diff	sparse-checkout
fetch	stash
format-patch	status
gc	submodule
grep	switch
gui	tag
init	worktree
log	gitk
maintenance	scalar

## Ancillary

config	count-objects
fast-export	diagnose
fast-import	difftool
filter-branch	fsck
mergetool	help
pack-refs	instaweb
prune	merge-tree
reflog	rerere
remote	show-branch
repack	verify-commit
replace	verify-tag
annotate	version
blame	whatchanged
bugreport	gitweb

## Interacting

archimport	p4
cvsexportcommit	quiltimport
cvsimport	request-pull
cvsserver	send-email
imap-send	svn

# Low-level

## Manipulation

apply	multi-pack-index
checkout-index	pack-objects
commit-graph	prune-packed
commit-tree	read-tree
hash-object	symbolic-ref
index-pack	unpack-objects
merge-file	update-index
merge-index	update-ref
mktag	write-tree
mtree	

## Interrogation

cat-file	merge-base
cherry	name-rev
diff-files	pack-redundant
diff-index	rev-list
diff-tree	rev-parse
for-each-ref	show-index
for-each-repo	show-ref
get-tar-commit-id	unpack-file
ls-files	var
ls-remote	verify-pack
ls-tree	

## Syncing

daemon  
fetch-pack  
http-backend  
send-pack  
update-server-info  
http-fetch  
http-push  
receive-pack  
shell  
upload-archive  
upload-pack

## Internal

check-attr	hook
check-ignore	interpret-trailers
check-mailmap	mailinfo
check-ref-format	mailsplit
column	merge-one-file
credential	patch-id
credential-cache	sh-i18n
credential-store	sh-setup
fmt-merge-msg	strip-space

**Gdzie są  
pliki?**

```
[sem@Asgard git]$ git init
Initialized empty Git repository in /home/sem/git/.git/
```

```
[sem@Asgard git]$ tree
├── README
└── src
    └── foo.py
```

```
[sem@Asgard git]$ git add .
```

```
[sem@Asgard git]$ git commit -m 'First commit'
```

```
[master (root-commit) 6af604d] First commit
```

```
2 files changed, 2 insertions(+)
```

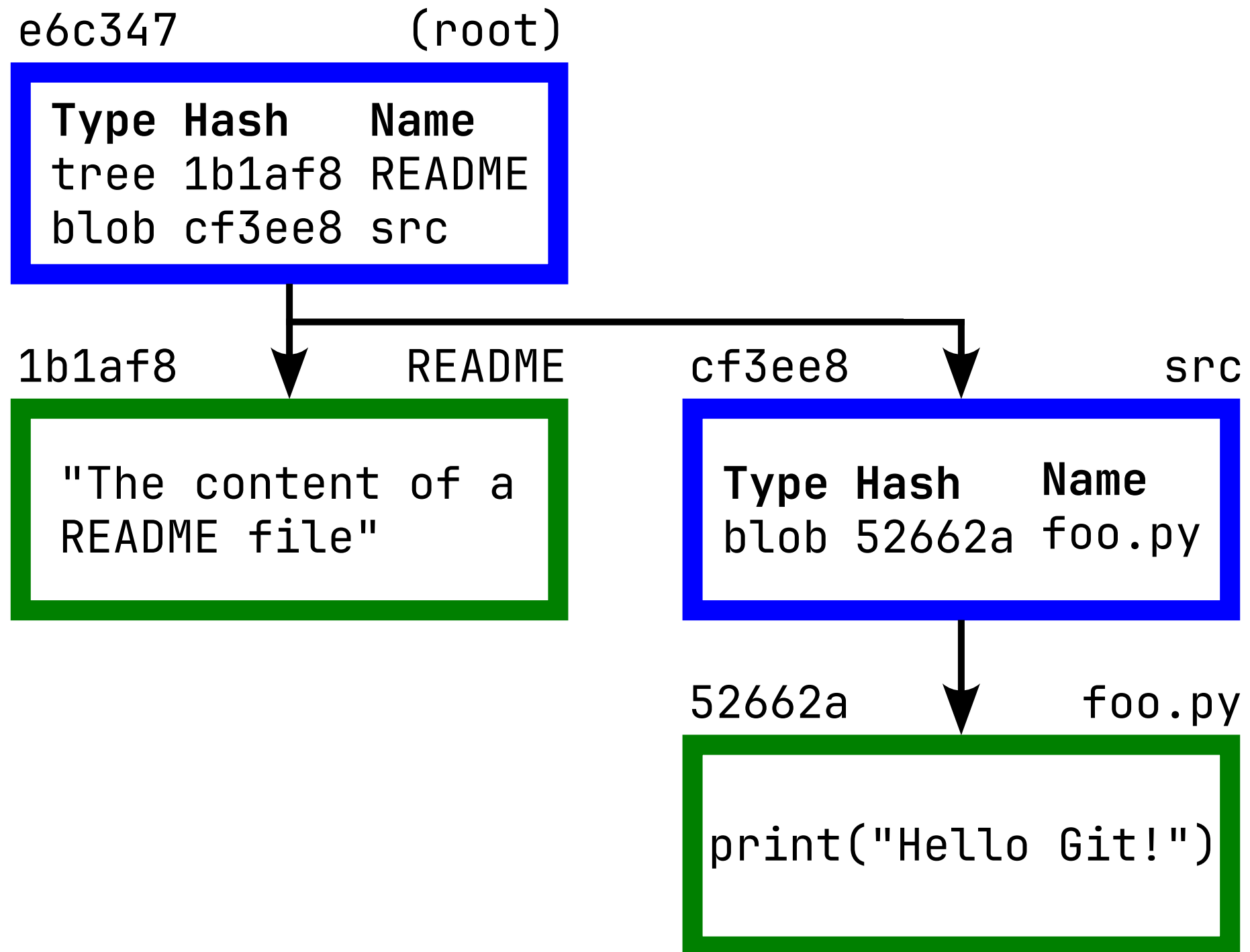
```
create mode 100644 README
```

```
create mode 100644 src/foo.py
```

```
[sem@Asgard git]$ git tag 1st
```

```
[sem@Asgard git]$ git tag -a -m "Annotated tag" 1st-ann
```

# Drzewa i bloby



# Tree (root)

```
tree 64\0
```

```
100644 blob 1b1af8f4e72cbac8d7a2b150b5d07f0d6e128263 README
```

```
040000 tree cf3ee8b06badb3628979f611a150476ba1784b56 src
```



# Tree (root)

```
tree 64\0
```

```
100644 blob 1b1af8f4e72cbac8d7a2b150b5d07f0d6e128263 README
```

```
040000 tree cf3ee8b06badb3628979f611a150476ba1784b56 src
```

# Blob (README)

```
blob 29\0The content of a README file
```

# Hash

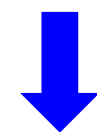
Nagłówek

`blob 29\0`

+

Zawartość pliku "README"

`The content of a README file`



sha1

`1b1af8f4e72cbac8d7a2b150b5d07f0d6e128263`



# Commit object

6af604d012827643236053efc53eca72caee3e08

```
commit 181\0tree e6c347e18c26ec11290ba262c7fea1a593731163
author 261761 <261761@student.pwr.edu.pl> 1700652487 +0100
committer 261761 <261761@student.pwr.edu.pl> 1700652487 +0100
```

First commit

8ee5f2fd0fbc87ec3d81d27c46fc55c54a25d855

```
commit 230\0tree 98431bc73686dd1ea00960a2c1d8820d40ca5955
parent 6af604d012827643236053efc53eca72caee3e08
author 261761 <261761@student.pwr.edu.pl> 1700655532 +0100
committer 261761 <261761@student.pwr.edu.pl> 1700655532 +0100
```

Second commit

# Referencje

## Branch

`.git/refs/heads/master → 8ee5f2fd0fbc87ec3d81d27c46fc55c54a25d855`

## HEAD

`.git/HEAD → ref: refs/heads/master`

## Lightweight tag

`.git/refs/heads/1st → 6af604d012827643236053efc53eca72caee3e08`

## Annotated tag

`.git/refs/heads/1st-ann → 3ca64633f60a899998da85001dcfb0081ed8855d`

# Tag object

3ca64633f60a899998da85001dcfb0081ed8855d

```
tag 146\0object 6af604d012827643236053efc53eca72caee3e08
type commit
tag 1st-ann
tagger 261761 <261761@student.pwr.edu.pl> 1700661048 +0100
```

Annotated tag

# Linki

- [wildlyinaccurate.com/a-hackers-guide-to-git/#remotes](https://wildlyinaccurate.com/a-hackers-guide-to-git/#remotes)
- [jvns.ca/blog/2023/09/14/in-a-git-repository--where-do-your-files-live-/](https://jvns.ca/blog/2023/09/14/in-a-git-repository--where-do-your-files-live-/)
- [jvns.ca/blog/2023/11/01/confusing-git-terminology/](https://jvns.ca/blog/2023/11/01/confusing-git-terminology/)
- [git-scm.com/book/en/v2/Git-Branching-Branched-in-a-Nutshell](https://git-scm.com/book/en/v2/Git-Branching-Branched-in-a-Nutshell)
- [gitster.livejournal.com/39629.html](https://gitster.livejournal.com/39629.html)