Git LFS Large files in Git

CONCEPTS

> Track a pattern before you add the files: git lfs track only affects files added afterwards, and the rule lives in .gitattributes, which you must commit.

Large file in working tree
↓ `git add (clean)`
Pointer file tiny text in Git
↓ `git push (pre-push)`
LFS server real contents
↓ `checkout (smudge)`
Working tree real file again

> Git itself stores only a small pointer; the contents are uploaded on push and downloaded on checkout.

> A file that shows a few lines starting with 'version https://git-lfs' is an unfetched pointer: run git lfs pull.

SETUP

`git lfs install`
Set up LFS filters for your user

`git lfs install --local`
Set up LFS in this repo only

`git lfs install --skip-smudge`
Clone with pointers, no download

`git lfs version`
Show the installed version

`git lfs env`
Show endpoint, paths and config

TRACKING

`git lfs track "<pattern>"`
Track files matching a pattern

`git lfs track`
List tracked patterns

`git lfs untrack "<pattern>"`
Stop tracking a pattern

`git lfs track --filename <file>`
Track one exact filename

.gitattributes entry

```
*.psd filter=lfs diff=lfs merge=lfs -text
```

INSPECT

`git lfs ls-files`
List LFS files in this checkout

`git lfs ls-files -s`
Include object sizes

`git lfs ls-files -a`
Files from all history

`git lfs ls-files <ref>`
List LFS files at a ref

`git lfs status`
LFS files changed or not yet pushed

`git lfs status --porcelain`
Script-friendly status

`git lfs migrate info`
Size summary by file type

TRANSFER

`git lfs pull`
Fetch objects and update files

`git lfs fetch`
Download objects, keep files as is

`git lfs fetch --all`
Download every referenced object

`git lfs fetch --recent`
Also fetch recent branches

`git lfs pull -I "<paths>"`
Only fetch matching paths

`git lfs checkout`
Write fetched content into files

`git lfs push origin <branch>`
Upload objects for a branch

`git lfs push --all origin`
Upload all local history

`git lfs push --dry-run origin`
Show what would be uploaded

MIGRATE

`git lfs migrate import --include="<patterns>"`
Convert history to LFS

`git lfs migrate import --include="<patterns>" --everything`
Convert all refs

`git lfs migrate import --no-rewrite <files>`
Convert without rewriting history

MIGRATE (cont.)

`git lfs migrate export --include="<patterns>"`
Convert LFS files back to Git

> Migrate import/export rewrite history and change commit hashes. Commit or stash first, check the result, then force-push and tell collaborators to re-clone.

CLEAN UP

`git lfs prune`
Delete old local LFS objects

`git lfs prune --dry-run`
Preview what would be deleted

`git lfs fsck`
Check LFS objects for corruption

LOCKING

`git lfs lock <path>`
Lock a file against other users

`git lfs locks`
List current locks

`git lfs unlock <path>`
Release your lock

`git lfs unlock --force <path>`
Break someone else's lock

RECIPES

Start tracking a file type

```
git lfs install
git lfs track "*.psd"
git add .gitattributes design.psd
git commit -m "Track PSD files in LFS"
git push
```

Move existing history to LFS

```
git lfs migrate info --everything
git lfs migrate import --include="*.zip" --everything
git lfs ls-files
git push --force-with-lease --all
```

Clone without big files, fetch later

```
GIT_LFS_SKIP_SMUDGE=1 git clone <url>
cd <repo>
git lfs pull -I "assets/**"
```

Diagnose pointer files in the tree

```
git lfs ls-files   # '-' marks pointers
git lfs env
git lfs pull
```