git-crypt Transparent repo encryption

START HERE

`git-crypt init`
Set up this repo

`echo 'secrets/** filter=git-crypt diff=git-crypt' >> .gitattributes`
Choose files to encrypt

`git-crypt status`
What is encrypted?

`git-crypt add-gpg-user <user-id>`
Share with a GPG key

`git-crypt export-key <file>`
Export a shared key

`git-crypt unlock`
Decrypt a clone (GPG)

`git-crypt unlock <keyfile>`
Decrypt with a key file

`git-crypt lock`
Re-encrypt the working tree

Working tree plain text → `git add (clean filter)` → **Repository** encrypted blobs → `git push` → **Remote** ciphertext only

CONCEPTS

Files are encrypted only when committed; your working tree stays plain text while the repo is unlocked.

Rules must exist before the files are added; earlier commits stay readable in history.

Not encrypted: file names, commit messages, symlink targets. Access cannot be revoked once shared.

SETUP

`git-crypt init`
Generate a key and prepare the repo

`git-crypt init -k <name>`
Create a named extra key
Use with filter=git-crypt-<name> in .gitattributes to give groups separate files.

`git-crypt help [<command>]`
Show help for a command

`git-crypt version`
Print the installed version

CHOOSING FILES

`<path> filter=git-crypt diff=git-crypt`
One .gitattributes rule: encrypt a file

`secrets/** filter=git-crypt diff=git-crypt`
Encrypt a whole directory tree
/dir/ alone does nothing and dir/ skips subdirectories.*

CHOOSING FILES (cont.)

`*.key filter=git-crypt diff=git-crypt`
Encrypt by pattern

`.gitattributes !filter !diff`
Keep .gitattributes itself plain
A wildcard that matches .gitattributes breaks the repo.

`git add .gitattributes && git commit`
Commit the rules before the secrets

`git check-attr filter -- <file>`
Check whether a file matches a rule

STATUS

`git-crypt status`
List files and their encryption state

`git-crypt status -e`
Only encrypted files

`git-crypt status -u`
Only unencrypted files

`git-crypt status -f`
Encrypt files committed in plain text
Fixes files added before init or before the rule existed.

`git diff`
Plain-text diff while unlocked (diff=git-crypt)

SHARING ACCESS

`git-crypt add-gpg-user <user-id>`
Grant a GPG key access and commit
The id may be a key ID, fingerprint or email.

`git-crypt add-gpg-user -n <user-id>`
Grant access without committing

`git-crypt add-gpg-user --trusted <user-id>`
Skip the GPG web-of-trust check

`git-crypt add-gpg-user -k <name> <user-id>`
Grant access to a named key

`git-crypt export-key <file>`
Write the symmetric key to a file
Share it over a secure channel; no GPG needed.

`git-crypt export-key -k <name> <file>`
Export a named key

`gpg --import <pubkey>`
Import a colleague's public key first

LOCK AND UNLOCK

`git-crypt unlock`
Decrypt using your GPG key

`git-crypt unlock <keyfile>`
Decrypt using an exported key

`git-crypt lock`
Re-encrypt files in the working tree

LOCK AND UNLOCK (cont.)

`git clone <url> && cd <repo> && git-crypt unlock`
Clone, then unlock
Before unlocking, encrypted files show as binary.

`git-crypt lock --force`
Lock despite local changes

RECIPES

New encrypted repo

```
git init
git-crypt init
echo 'secrets/** filter=git-crypt diff=git-crypt'
> .gitattributes
echo '.gitattributes !filter !diff' >> .gitattributes
git add .gitattributes && git commit -m 'Add git-crypt rules'
# now add and commit files under secrets/
git-crypt status -e
```

Add a teammate

```
gpg --import colleague.pub
git-crypt add-gpg-user colleague@example.com
git push
# colleague then runs:
git clone <url> && cd <repo> && git-crypt unlock
```

Key file for CI

```
git-crypt export-key ../repo.key
# store the file as a CI secret, then in the job:
git-crypt unlock "$KEY_FILE"
```

Encrypt files committed by mistake

```
# add the rule to .gitattributes, commit it, then:
git-crypt status -f
git commit -m 'Encrypt secrets'
# old history still holds the plain text
```