age Simple file encryption

START HERE

`age-keygen -o key.txt`
Make a key pair

`age -R <recipients.txt> <file>`
Encrypt to many keys

`age -r <recipient> -o <out> <file>`
Encrypt to a public key

`age -a -r <recipient> <file>`
Text-safe armored output

`age -d -i key.txt <file>.age`
Decrypt with your key

`age -R ~/.ssh/id_ed25519.pub <file>`
Encrypt to an SSH key

`age -p <file>`
Encrypt with a passphrase

`age-keygen -y key.txt`
Show the public key

Plaintext stdin or file → `age -r / -p` → **Encrypted** .age file → `age -d -i` → **Plaintext** stdout or -o

CONCEPTS

Encrypt with the public key (recipient, age1...); decrypt with the secret key in an identity file.

age reads stdin and writes stdout by default, so it slots into pipes.

Keep the identity file secret and backed up: without it the files cannot be decrypted.

KEYS

`age-keygen -o <file>`
Generate a key pair into a file
The public key is printed to the terminal and kept in the file as a comment.

`age-keygen -y <file>`
Print the public key of an identity
Redirect to a file to build a recipients list.

`age-keygen -pq -o <file>`
Generate a post-quantum key
Needs age 1.3 or later; recipients are about 2000 characters long.

`age-keygen | age -p > key.age`
Generate a key, protect it with a passphrase

`age-inspect <file>`
Show recipient types without decrypting

`age-inspect --json <file>`
Machine-readable inspection

ENCRYPT

`age -r <recipient> -o <out> <file>`
Encrypt to a public key

`age -r <recipient> < <file> > <out>`
Encrypt stdin to stdout

`age -r <r1> -r <r2> <file>`
Encrypt to several recipients
Any one of the listed keys can decrypt.

`age -R <recipients.txt> <file>`
Encrypt to recipients from a file
One recipient per line; blank lines and # comments are ignored.

`age -a -r <recipient> <file>`
Armored (PEM text) output

`age -p <file>`
Encrypt with a passphrase
Leave the prompt empty and age generates a strong passphrase.

`age -e -i <identity> <file>`
Encrypt to an identity file
Needs the explicit -e flag.

`age -R - <file>`
Read recipients from stdin

DECRYPT

`age -d -i <identity> <file>.age`
Decrypt with an identity file

`age -d -i <identity> -o <out> <file>.age`
Decrypt to a named file

DECRYPT (cont.)

`age -d <file>.age`
Decrypt a passphrase file
age detects passphrase files and prompts.

`age -d -i <id1> -i <id2> <file>.age`
Try several identity files
Unused identities are ignored.

`age -d -i - <file>.age`
Read the identity from stdin

`age -d -i <key.age> <file>.age`
Use a passphrase-protected identity
age asks for the passphrase while decrypting.

SSH KEYS

`age -R <id_ed25519.pub> <file>`
Encrypt to an SSH public key
ssh-ed25519 and ssh-rsa keys work.

`age -d -i <id_ed25519> <file>.age`
Decrypt with the SSH private key
ssh-agent is not supported; keys on YubiKeys cannot decrypt.

`age -r "ssh-ed25519 AAAA..." <file>`
Give an SSH key inline

`curl <url>/<user>.keys | age -R - <file>`
Encrypt to a GitHub user's keys
Use https://github.com/<user>.keys as the URL.

PIPELINES

`tar cz <dir> | age -r <recipient> > <out>.tar.gz.age`
Archive and encrypt in one go

`age -d -i <identity> <f>.tar.gz.age | tar xz`
Decrypt and unpack

`age -p < <file> | base64`
Passphrase-encrypt to pasteable text

`age -d -i <identity> <file>.age | less`
Read an encrypted file without saving it

RECIPES

Set up and round-trip

```
age-keygen -o key.txt
# note the printed age1... public key
age -r age1... -o notes.txt.age notes.txt
age -d -i key.txt -o notes.txt notes.txt.age
```

Encrypted backup to two people

```
tar cz ~/data | age -R team.txt > data.tar.gz.age
age -d -i key.txt data.tar.gz.age | tar xz
```

Send a file to a GitHub user

```
curl https://github.com/<user>.keys | age -R - -a report.pdf > report.pdf.age
```

Passphrase-protected secret key

```
age-keygen | age -p > key.age
age -d key.age | grep 'public key'
age -d -i key.age secrets.age
```