



OCA Days

Liège 2024

Making Odoo mightier, together

GIT Insides

- technical -

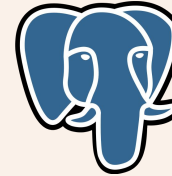
Pierre Verkest



OCA Days
Liège 2024

Making Odoo mightier, together

Together, we design your business tools, tailored and integrated into your ecosystem.



Pierre Verkest



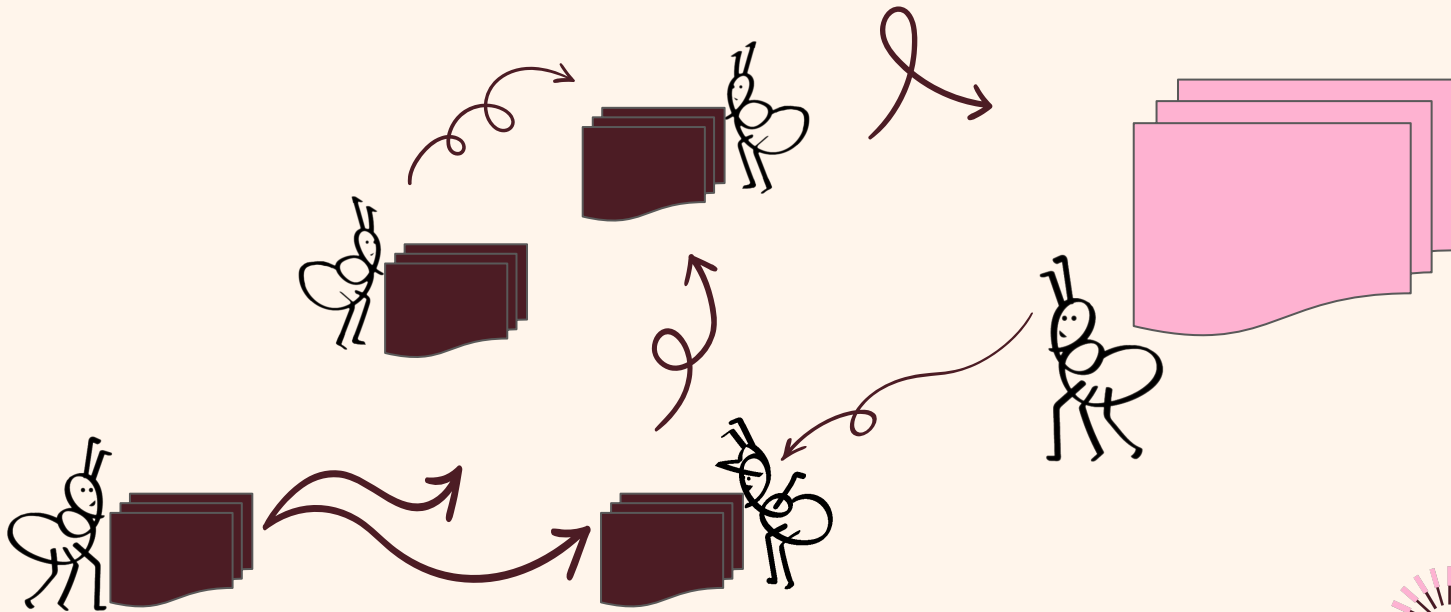
*gh: petrus-v
in: pierre-verkest
pierre@verkest.fr*



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DVCS: Distributed Version Control System



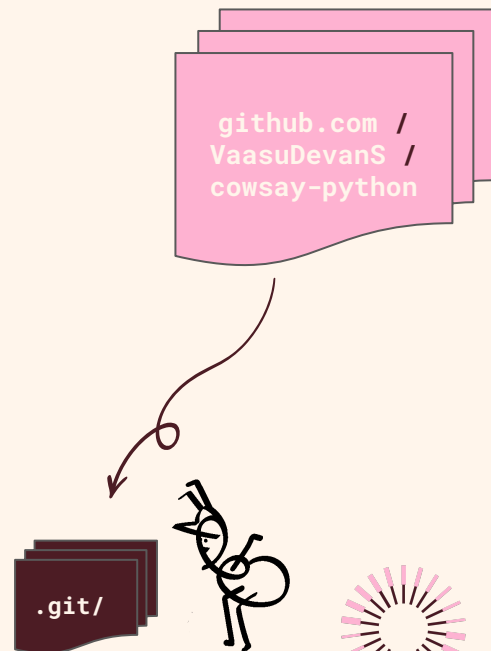


git clone: Get my own copy

```
$ git clone https://github.com/VaasuDevanS/cowsay-python
Clonage dans 'cowsay-python'...
remote: Enumerating objects: 473, done.
remote: Counting objects: 100% (192/192), done.
remote: Compressing objects: 100% (89/89), done.
remote: Total 473 (delta 108), reused 159 (delta 91), pack-reused 281
(from 1)
Réception d'objets: 100% (473/473), 277.85 Kio | 6.04 Mio/s, fait.
Résolution des deltas: 100% (239/239), fait.
```

```
$ tree cowsay-python/
cowsay-python/
├── CHANGELOG.md
├── CONTRIBUTING.md
├── cowsay
│   ├── characters.py
│   ├── __init__.py
│   ├── __main__.py
│   ├── main.py
│   └── tests
│       ├── __init__.py
│       ├── solutions.py
│       ├── test_api.py
│       └── test_output.py
├── LICENSE
├── pyproject.toml
└── README.md
```

```
$ ls -l cowsay-python/.git/
d branches
d hooks
d info
d logs
d objects
d refs
- COMMIT_EDITMSG
- config
- description
- HEAD
- index
- packed-refs
```





Cowsay

```
$ cowsay -t "Welcome to OCA Days 2024"
```

```
| Welcome to OCA Days 2024 |
```

```
-----  
 \  /  
  ^__^  
 (oo)\_____  
 (--)\/        )\/\  
    ||----w |  
    ||     ||
```

```
$ cowsay -t "Welcome to OCA Days 2024" -c tux
```

```
| Welcome to OCA Days 2024 |
```

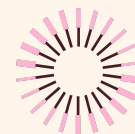
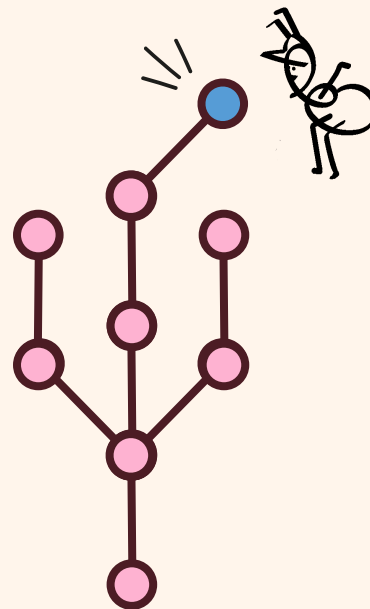
```
-----  
 \  /  
  .--.  
 |o_o |  
 |:_/ |  
 //   \\  
 (|   |)  
 /' \_ _/ \  
 \___)=(___/  
    ||     ||
```





git commit: Save your work and make a snapshot of the current state

```
$ git commit -am "[ADD] tiny ant character"  
[feat-add-ants feb16b6] [ADD] tiny ant character  
1 file changed, 12 insertions(+), 1 deletion(-)
```

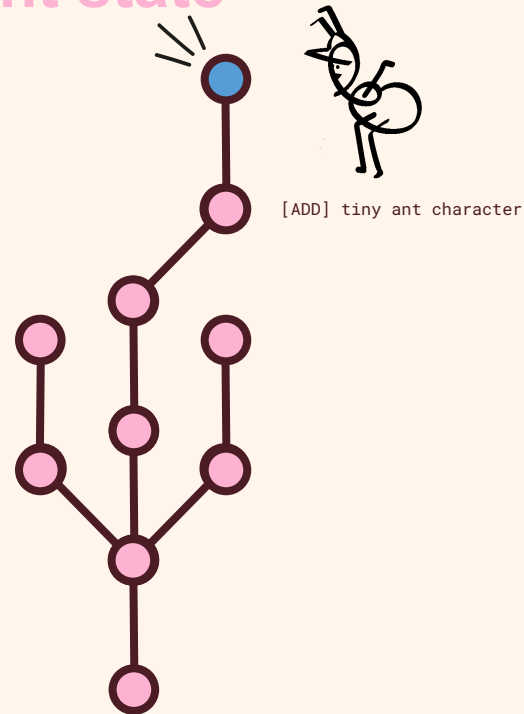




git commit: Save your work and make a snapshot of the current state

```
$ git commit -am "[ADD] tiny ant character"  
[feat-add-ants feb16b6] [ADD] tiny ant character  
1 file changed, 12 insertions(+), 1 deletion(-)
```

```
[...]  
$ git commit -am "[ADD] OCA ant character"  
[feat-add-ants feb16b6] [ADD] tiny ant character  
1 file changed, 12 insertions(+), 1 deletion(-)
```

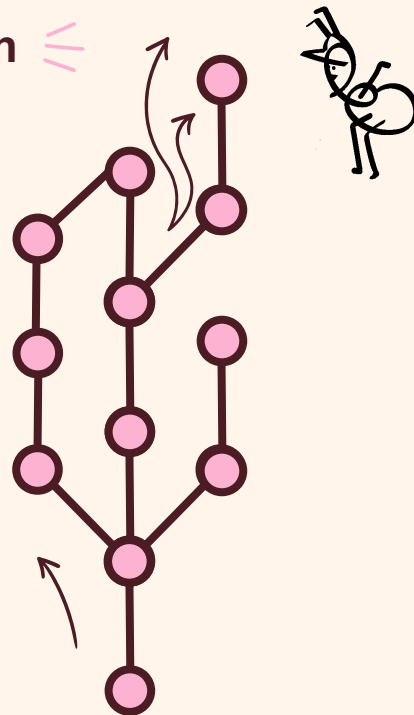




git log: look for history

⇒ DAG: Directed Acyclic Graph ⇒

```
$ git log --oneline --graph --decorate
* 99f30bc (HEAD -> feat-add-ants) [ADD] OCA ant character
* feb16b6 [ADD] tiny ant character
* 3db622c (origin/main, origin/HEAD, main) Update README.md
* 4a8fe1d pyproject.toml instead of setup.py
* 433a213 pytests's capsys instead of sys
* 75c3023 3.12 final version in actions
*   d5e9eb1 Merge pull request #28 from VaasuDevanS/bump-urllib3-2.0.6
|\
| * 4cd31cb Bump urllib3 from 2.0.4 to 2.0.6
|/
*   acec907 Merge remote-tracking branch 'origin/main'
|\
| * fe3ce5a Rename LICENSE.txt to LICENSE
* | 5e5f013 removed .idea
|/
* 9b627e1 (tag: v6.1) added python requires in setup.py
* b6ec91b changed to 3.12.0-rc.3
* e5b4860 test for 3.12
```



Dive into the `.git/` directory

```
$ git log --oneline --graph --decorate
* 99f30bc (HEAD -> feat-add-ants) [ADD] OCA ant character
* feb16b6 [ADD] tiny ant character
* 3db622c (origin/main, origin/HEAD, main) Update
README.md
* 4a8fe1d [pyproject.toml] instead of setup.py
* 433a213 [pytests] capsys instead of sys
* 75c3023 3.12 final version in actions
* d5e9eb1 Merge pull request #20 from
VeevaDevOps/hump_urllib3_2_0_6
```

```
$ git cat-file 857526a -p
100644 blob a93c13d CHANGELOG.md
100644 blob f63e8ec CONTRIBUTING.md
100644 blob f288702 LICENSE
100644 blob 5e54742 README.md
040000 tree e9e5f8a cowsay
100644 blob 8ac28c8 pyproject.toml
```

```
* e5b4860 test for 3.12
```

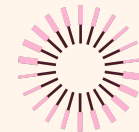
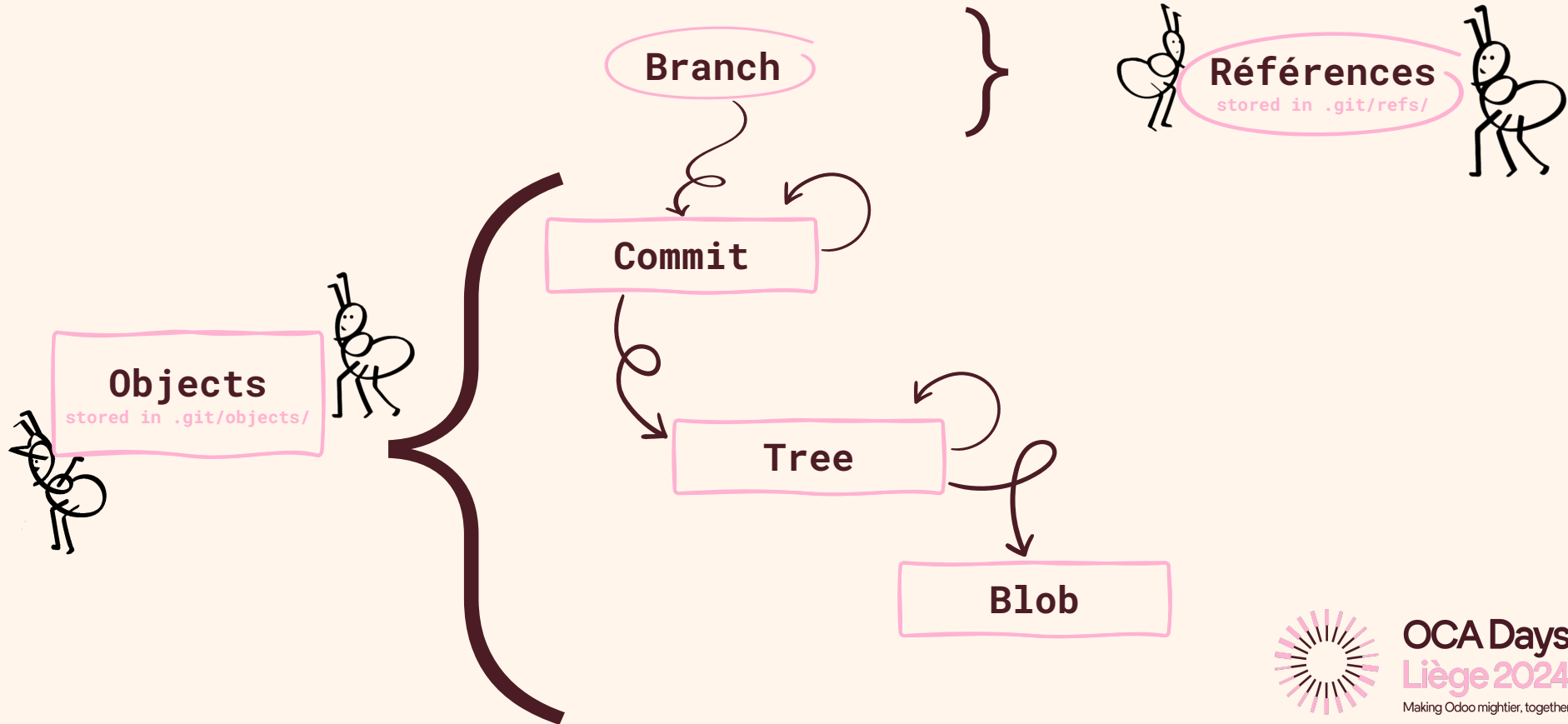
```
$ cat .git/refs/heads/feat-add-ants
```

```
$ git cat-file e9e5f8a -p
100644 blob bee5b82 __init__.py
100644 blob 5280a24 __main__.py
100644 blob 16a5c7d characters.py
100644 blob b923f87 main.py
040000 tree c2ec465 tests
```

```
$ git cat-file 99f30bc -t
commit
```

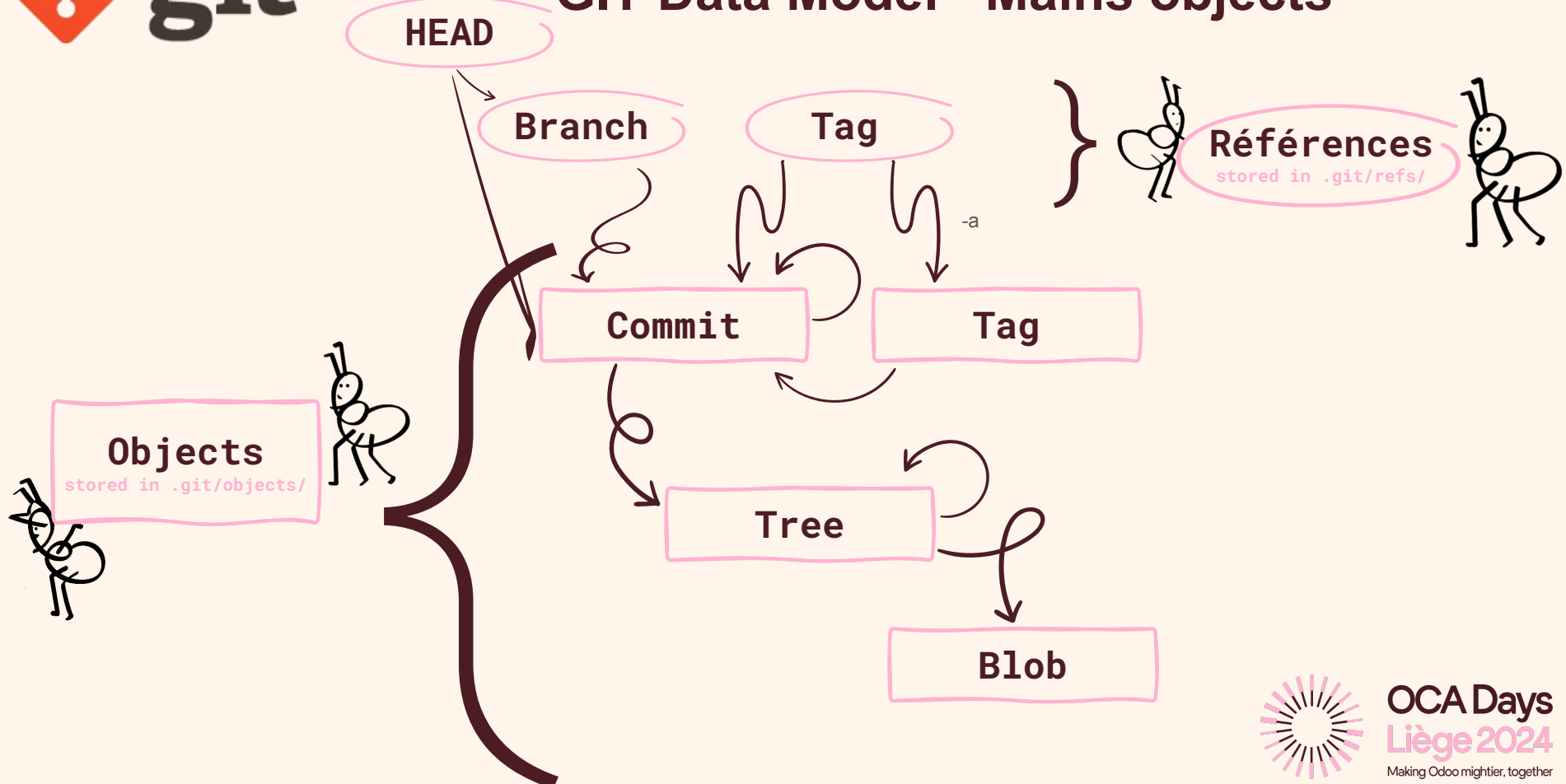
```
$ git cat-file 16a5c7d -p
CHARS = {
    "oca": r'''\
[... Content of the file at commit 99f30bc ...]
}
```

GIT Data Model - Mains objects



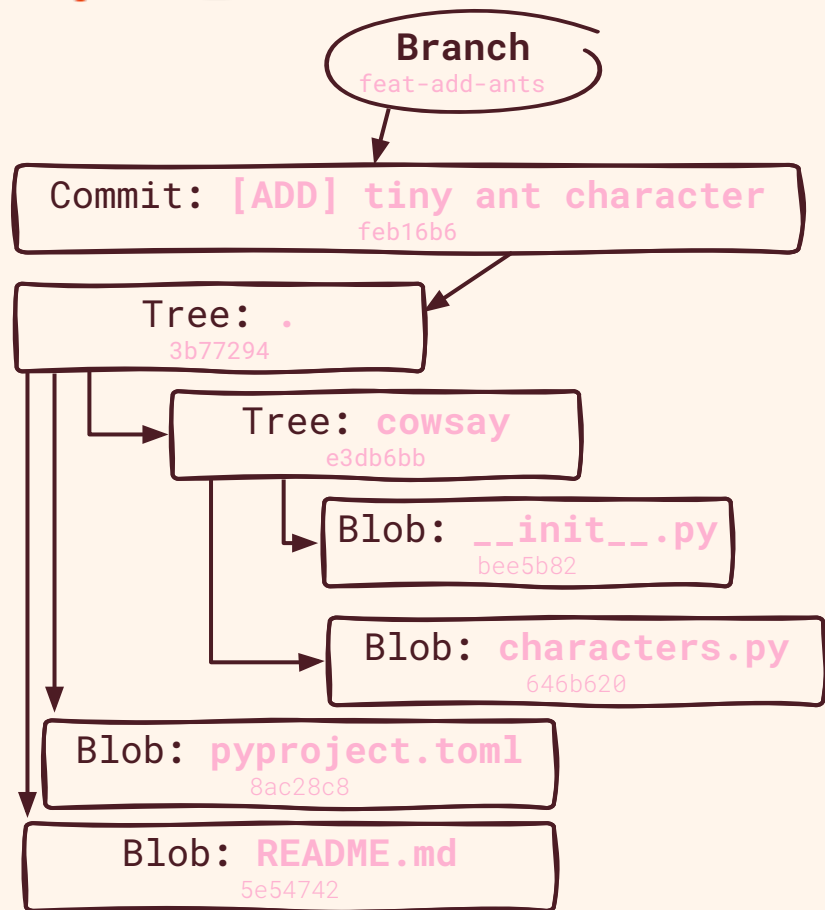


GIT Data Model - Mains objects





Snapshot management



```
tree 3b77294
├── tree e3db6bb
│   ├── blob bee5b82
│   ├── blob 646b620
│   ├── blob b923f87
│   └── tree c2ec465
├── pyproject.toml blob 8ac28c8
└── README.md blob 5e54742
```





Snapshot management

Branch
feat-add-ants

```
tree 857526a
| tree e9e5f8a
| blob bee5b82
| blob 5280a24
| blob 646b620
| blob b923f87
| tree c2ec465
| blob 8ac28c8
| blob 5e54742
|--- cowsay
|   |-- __init__.py
|   |-- __main__.py
|   |-- characters.py
|   |-- main.py
|   |-- tests/
|   |-- pyproject.toml
|   |-- README.md
```

```
| tree 857526a
| tree e9e5f8a
| blob bee5b82
| blob 5280a24
| blob 646b620
| blob b923f87
| tree c2ec465
| blob 8ac28c8
| blob 5e54742
```

Commit: [ADD] tiny ant character
feb16b6

Tree: .
3b77294

Commit: [ADD] OCA ant character
99f30bc

Tree: cowsay
e3db6bb

Tree: .
857526a

Blob: __init__.py
bee5b82

Tree: cowsay
e9e5f8a

Blob: characters.py
646b620

Blob: pyproject.toml
8ac28c8

Blob: characters.py
646b620

Blob: README.md
5e54742





git in practice



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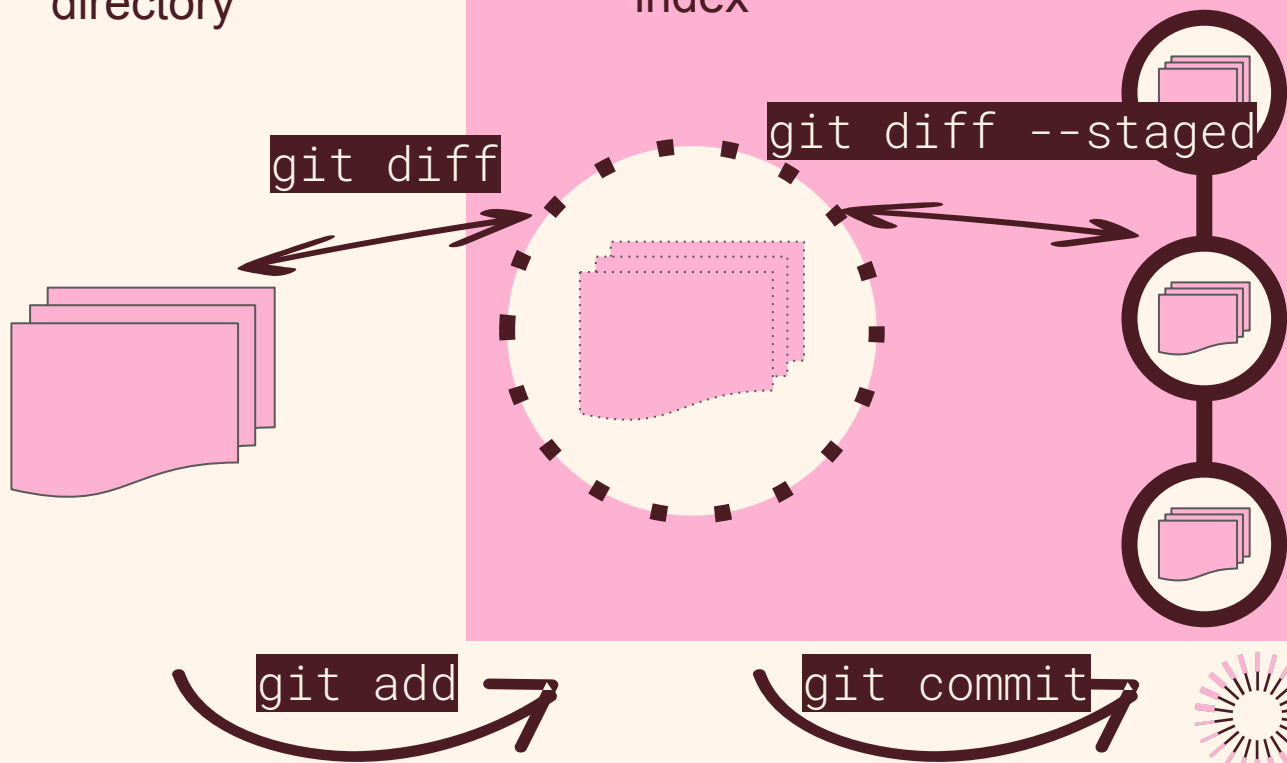
3 AREAS

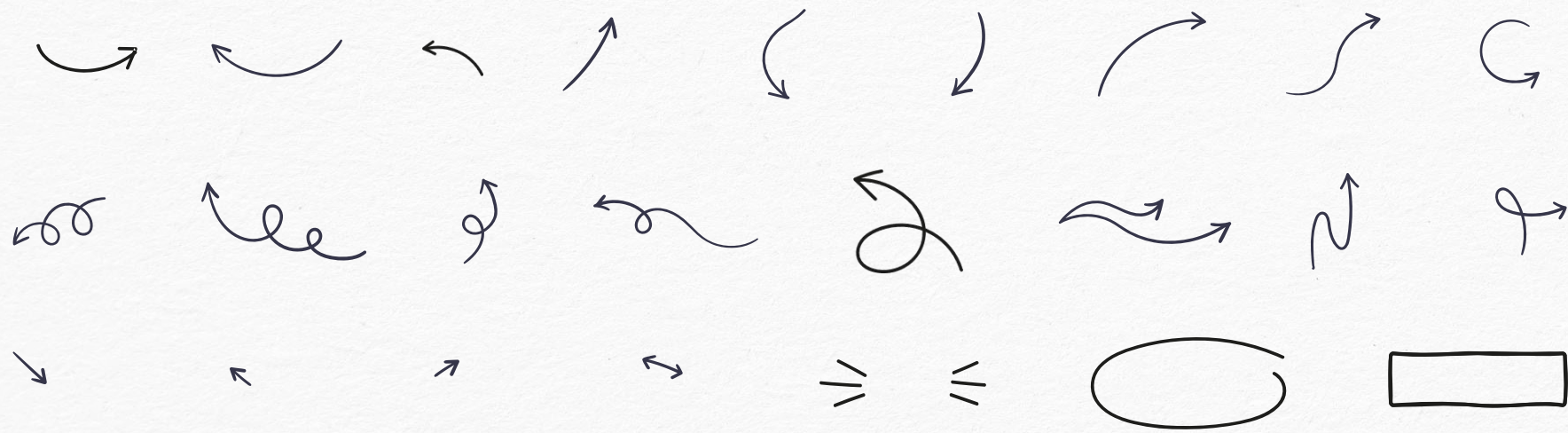
Working directory

`.git/`

Staging area or index

Local repository

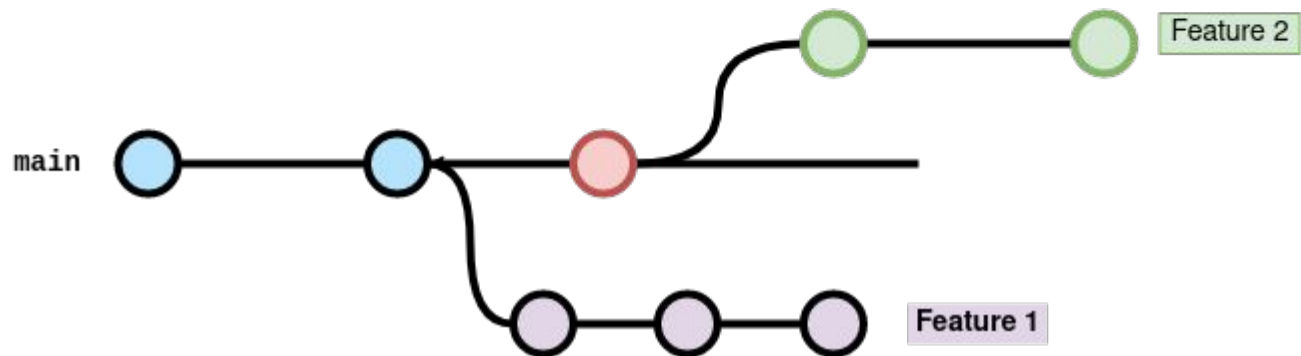
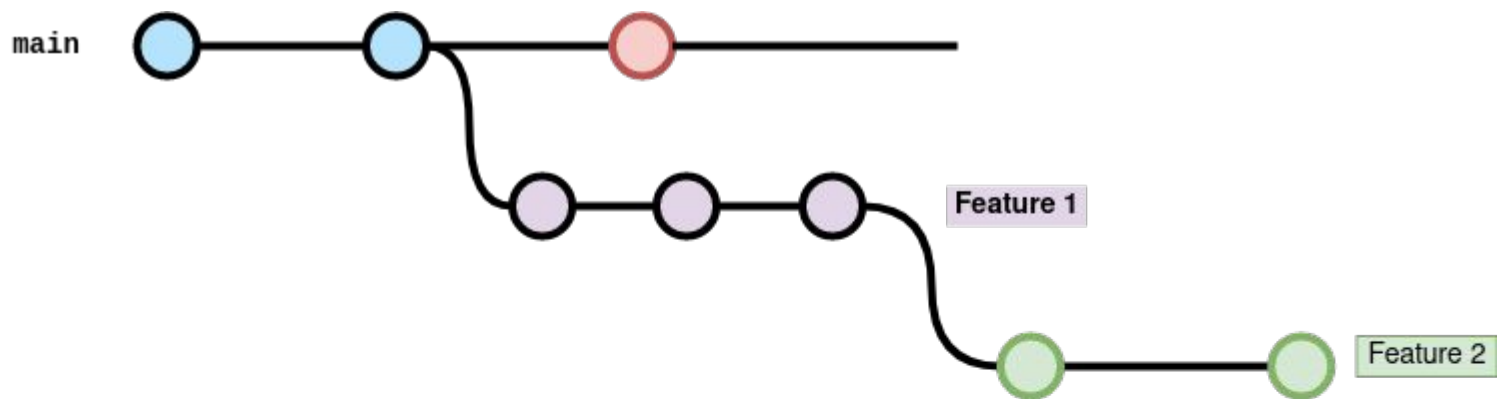






`git rebase:` **Rebase, re-works, re...**

Rebase





```
git reset: - -
```



`git reflog`: reference to recent commits



`git bisect`: finding the culprit in your code!



Thanks



Any questions ?



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