

# GrimoireLab: free software for software development analytics

*Lightning talk at FOSDEM*

*Jesus M. Gonzalez-Barahona*

*Brussels, Belgium, Feb 4th 2018*

[speakerdeck.com/jgbarah](https://speakerdeck.com/jgbarah)

@jgbarah



/me



My two hats:

Like six years ago I  
was having coffees  
with the gang of  
Bitergia founders

Involved in the  
company since  
then

[bitergia.com](http://bitergia.com)

I work at  
Universidad Rey  
Juan Carlos...

...researching about  
software  
development

[gsyc.es/~jgb](http://gsyc.es/~jgb)



# CHA<sup>O</sup>SS



...

*Produce integrated, open source software  
for analyzing software development*

....

# GrimoireLab



Software development analytics with  
free, open source software



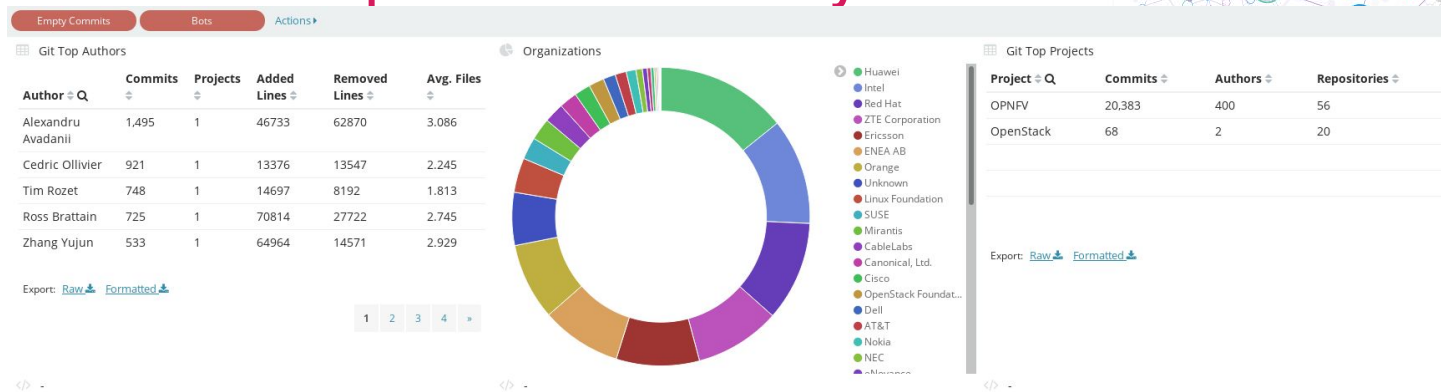
(a CHAOSS project)

[grimoirelab.github.io](https://grimoirelab.github.io)

[grimoirelab.gitbooks.io/tutorial](https://grimoirelab.gitbooks.io/tutorial)

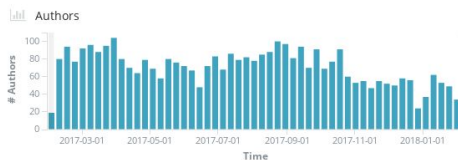
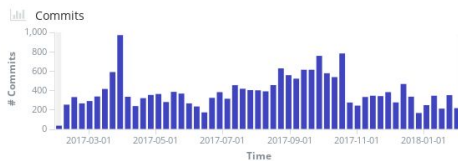
CHAOSS

# Software development analytics

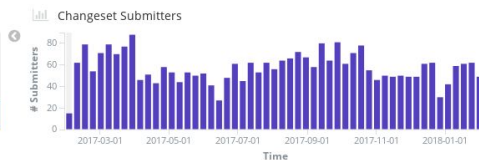
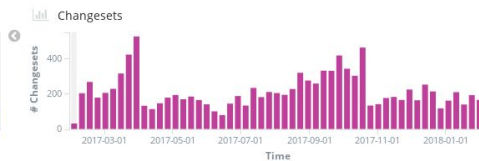


[opnfv.biterg.io](http://opnfv.biterg.io)

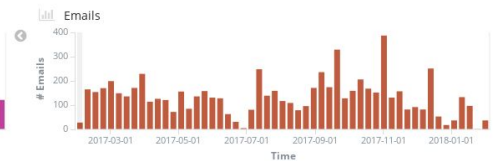
## Git



## Gerrit



## Mailing Lists

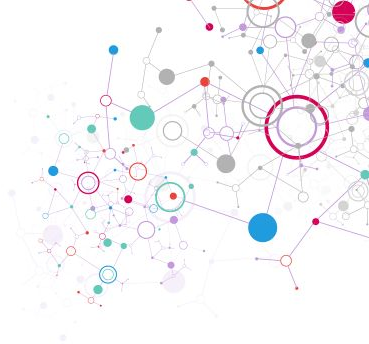


Try it!!

credentials.cfg:

[github]

api-token = XXX



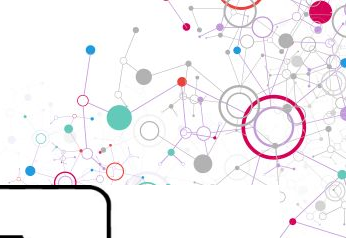
---

docker run -p 5601:5601

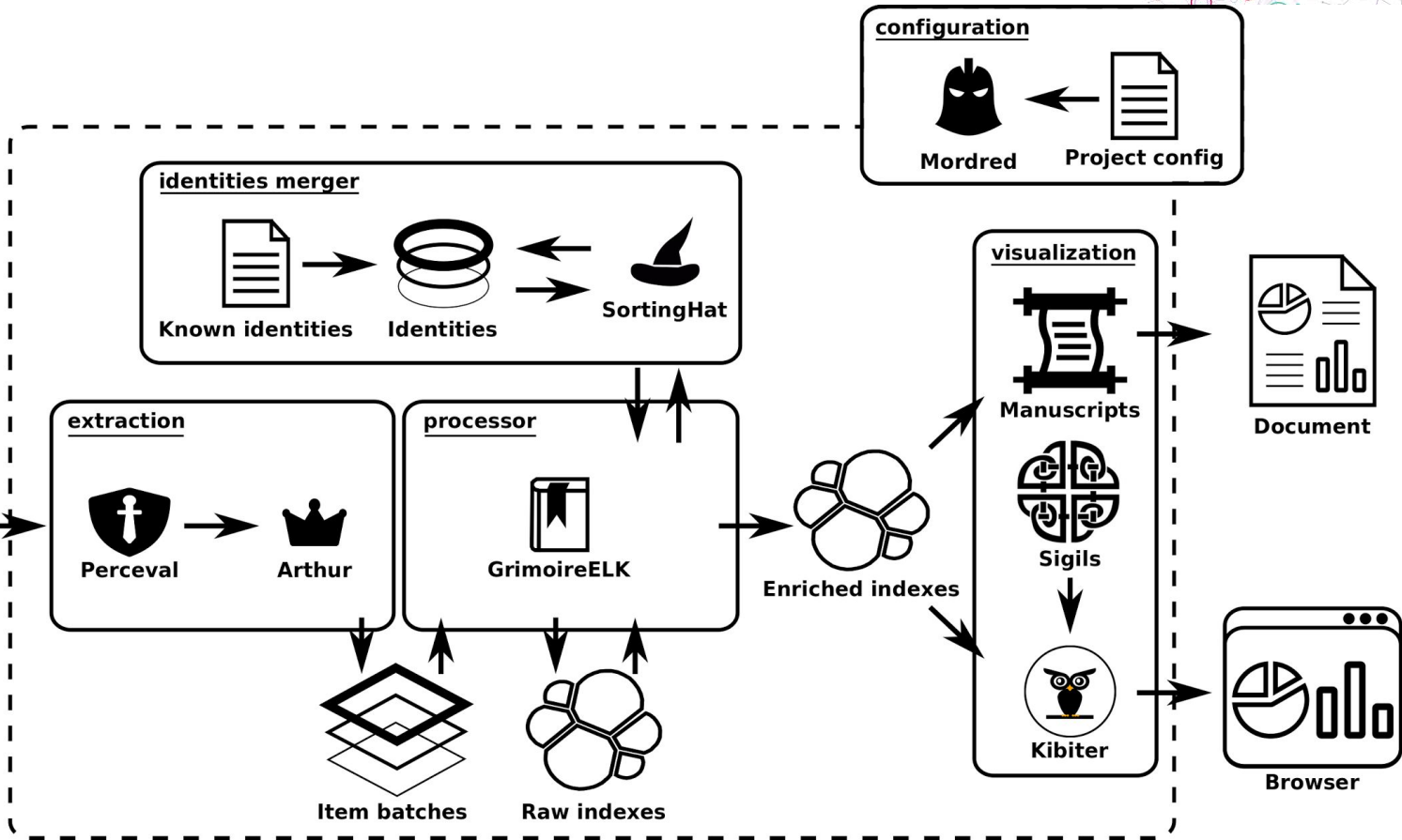
-v \$(pwd)/credentials.cfg:/mordred-override.cfg

-t grimoirelab/full

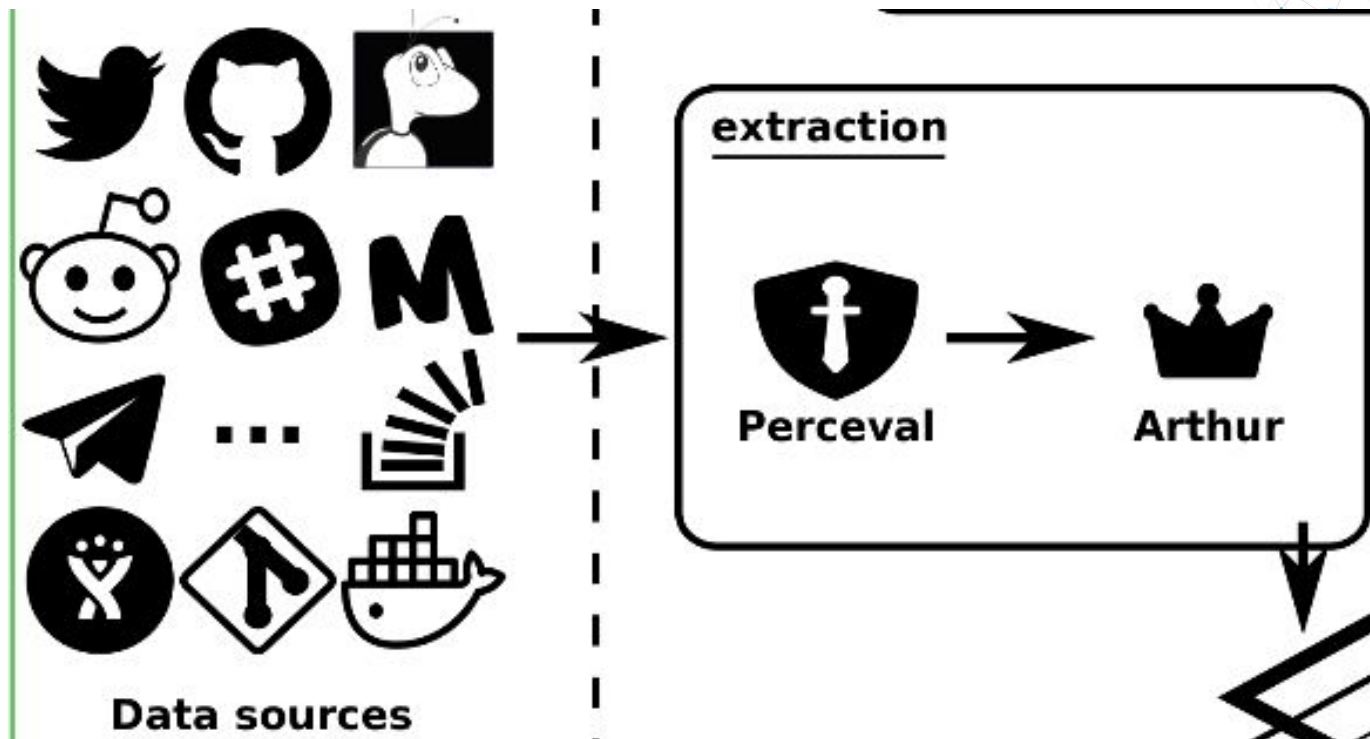
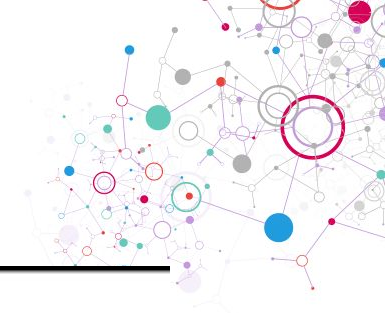
# GrimoireLab architecture



Data sources

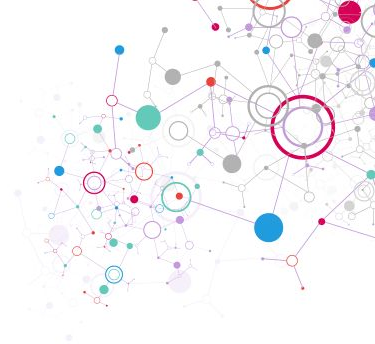


# Architecture: extraction





# Example: Perceval



```
$ python3 -m venv /tmp/gl
```

```
$ source /tmp/gl/bin/activate
```

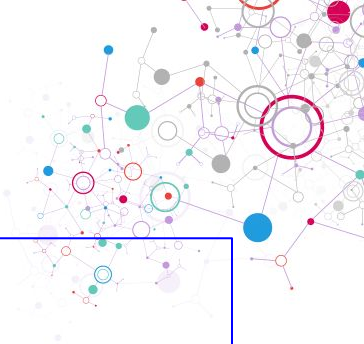
```
(gl) $ pip install perceval
```

```
(gl) $ perceval git https://github.com/grimoirelab/perceval
```

```
(gl) $ perceval github grimoirelab perceval --sleep-for-rate  
-t XXXXX
```

```
...
```

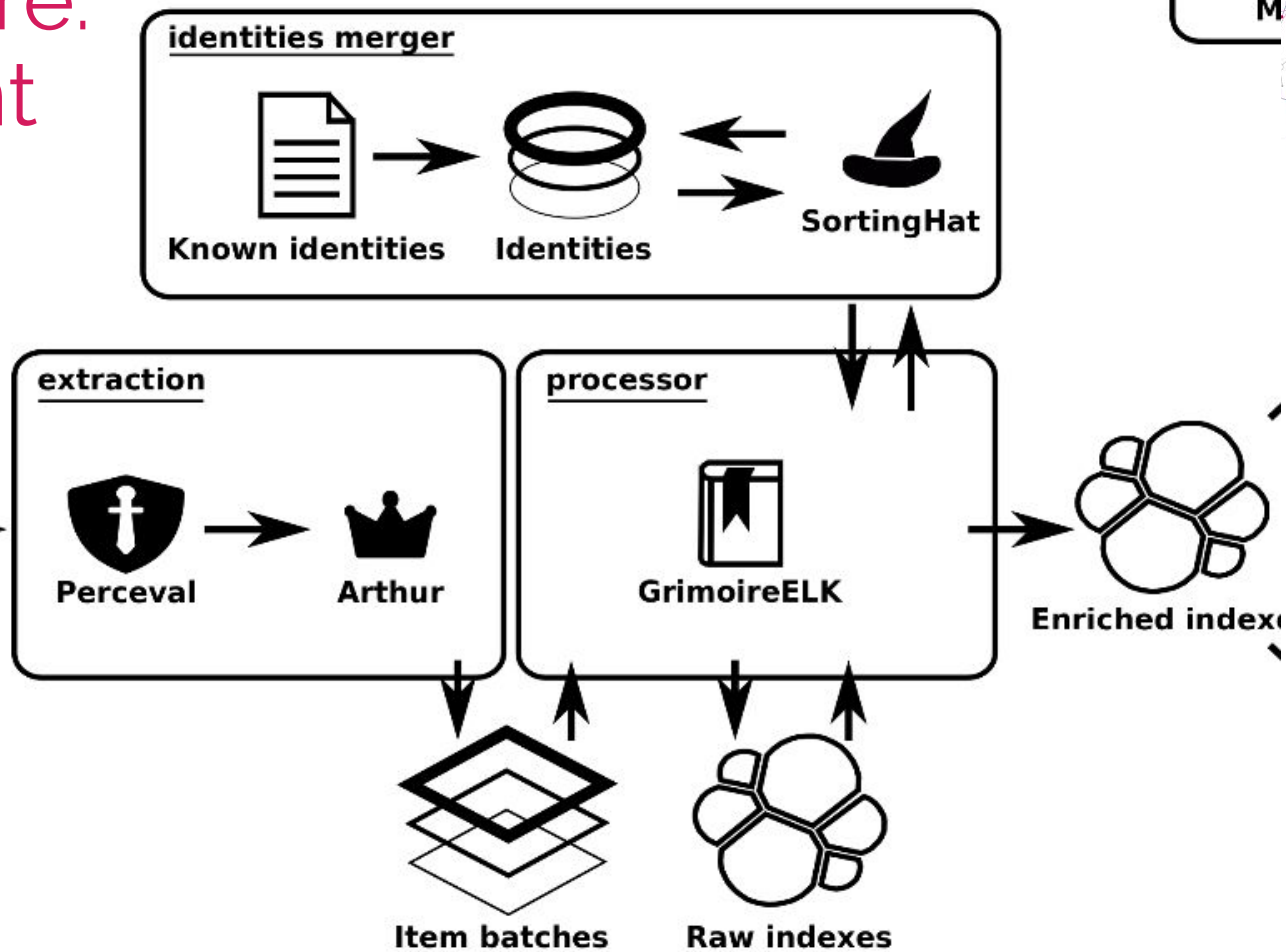
# Example: Perceval



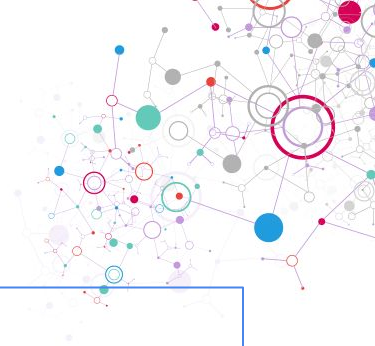
```
from perceval.backends.core.git import Git
repo_url =
'http://github.com/grimoirelab/perceval.git'
repo_dir = '/tmp/perceval.git'

repo = Git(uri=repo_url, gitpath=repo_dir)
for commit in repo.fetch():
    print(commit['data']['commit'])
```

# Architecture: enrichment



# Example: GrimoireELK



```
(gl) $ pip install grimoire-elk
```

```
(gl) $ p2o.py --enrich --index git_raw --index-enrich git \  
-e http://localhost:9200 --no_inc --debug \  
git https://github.com/grimoirelab/perceval.git
```

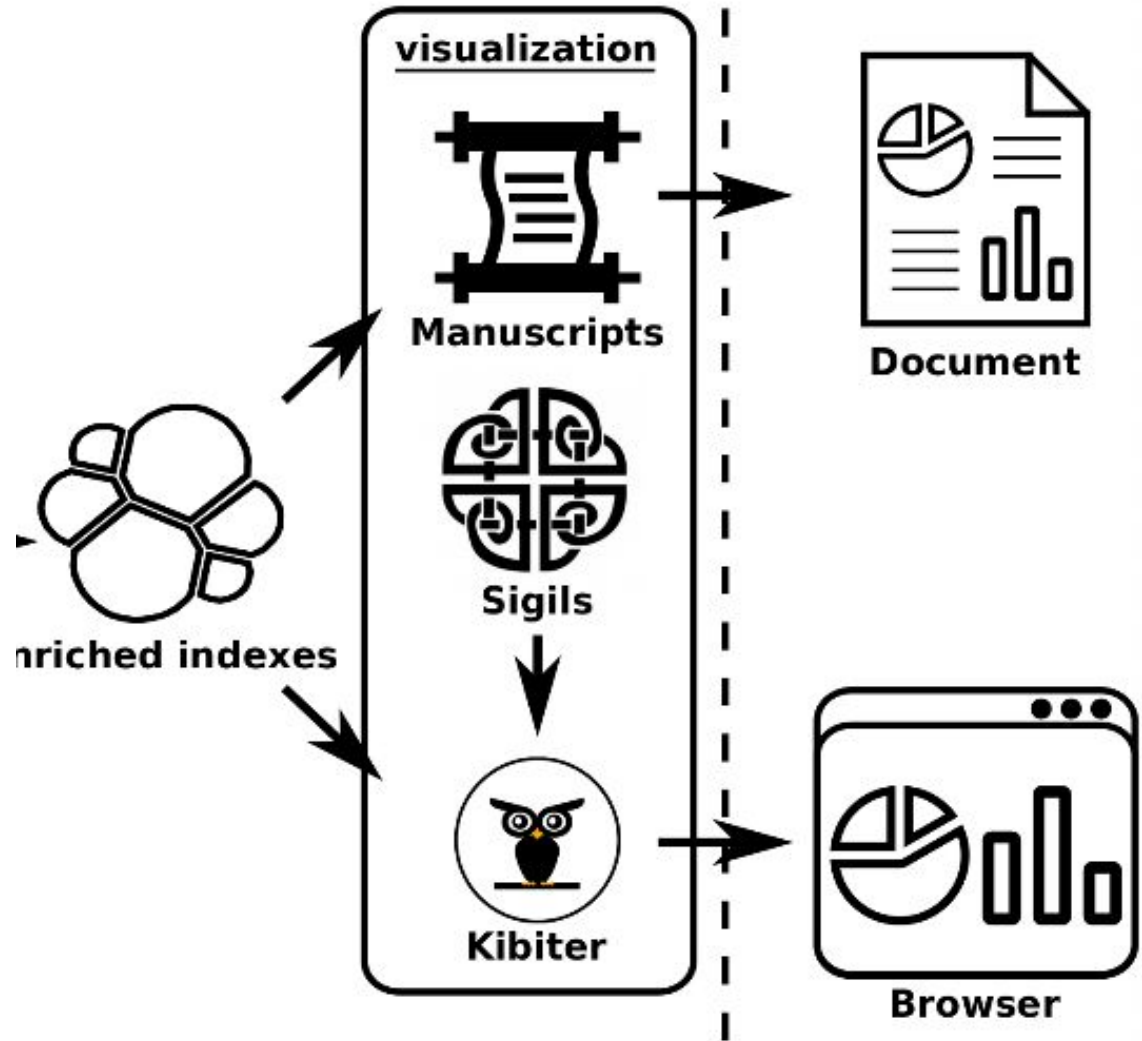
(assumes Elasticsearch at <http://localhost:9200>)

# Example: GrimoireELK



```
{
  "_index": "git_grimoirelab",
  "_type": "items",
  "_id": "34a30200a149354032326ba517d278d7804e8f7e",
  "_version": 167,
  "_score": null,
  "_source": {
    "metadata__enriched_on": "2018-02-03T22:56:57.610440",
    "author_date": "2018-02-02T13:12:10",
    "utc_commit": "2018-02-02T12:12:10",
    "Author_user_name": "",
    "hash_short": "9e6ae8",
    "lines_added": 0,
    "author_id": "75fc28ef4643de5323e89fb26e4e67c97b24f507",
    "project": "grimoire",
    "author_max_date": "2018-02-02T12:12:10.000Z",
    "uuid": "34a30200a149354032326ba517d278d7804e8f7e",
    "Author_id": "75fc28ef4643de5323e89fb26e4e67c97b24f507",
    "message": "Merge branch 'fix-bs4' of 'https://github.com/jgbarah/perceval",
    "metadata__gelk_version": "0.30.23",
    "files": 0,
  }
}
```

# Architecture: exploitation



# Example: producing a dashboard

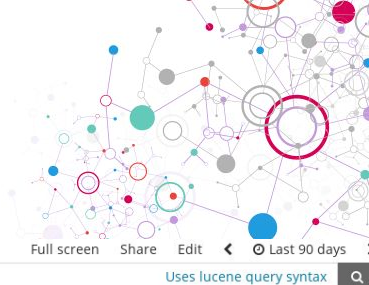
```
(es) $ pip install grimoire-mordred
```

```
(es) $ mordred -c mordred.cfg
```

(assumes Elasticsearch at <http://localhost:9200>,  
Kibiter at <http://localhost:5601> )

Needs: mordred.cfg, projects.json, identities.yaml, menu.yaml

# Example: producing a dashboard



Dashboard / Overview

\*

Full screen Share Edit Last 90 days

Uses lucene query syntax

NOT Empty Commits NOT Bots Add a filter +

Actions

Git Top Authors

Author	Commits	Projects	Added Lines	Removed Lines	Avg. Files
Alvaro del Castillo	311	1	16296	3818	1.936
Valerio Cosentino	112	1	8792	4944	1.955
Jesus M. Gonzalez-Barahona	86	1	6692	2870	6.872
Santiago Dueñas	30	1	1362	333	2.067

Organizations



- Bitergia
- Unknown
- BBVA Data & Analytics

Git Top Projects

Project	Commits	Authors	Repositories
grimoire	568	13	13

Export: Raw Formatted

Git

568 # Commits 13 # Authors 13 # Repositories

Commits



Authors



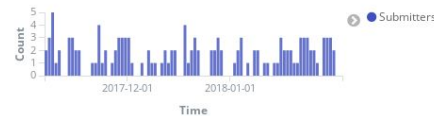
GitHub Pull Requests

276 # Pull Requests 12 # Submitters 13 # Repositories

Pull Requests



Pull Request Submitters



Grimoire Dashboard

GrimoireLab

- Overview
- Git
- Git Demographics
- GitHub Pull Requests
- GitHub Backlog
- GitHub Pull Requests
- GitHub Issues
- GitHub Issues Timing
- Data Status
- About



# Try GrimoireLab with a single line!!

---

```
credentials.cfg:  
[github]  
api-token = XXX
```



```
$ docker run -p 5601:5601  
-v $(pwd)/credentials.cfg:/mordred-override.cfg  
-t grimoirelab/full
```



<http://localhost:5601>

[grimoirelab.github.io](http://grimoirelab.github.io)

[grimoirelab.gitbooks.io/tutorial](http://grimoirelab.gitbooks.io/tutorial)