

# MÉTRIQUES ANSIBLE DANS PROMETHEUS

```
< Why not ? >
-----
  \      ^  ^
  \      (oo)\_____
      (___)\          )\ /\
          ||-----w  ||
          ||             ||
```

ANSIBLE MONTRÉAL, NOVEMBRE 2023

DAVID MOREAU SIMARD ([FOSSTODON.ORG/@RFC2549](https://fosstodon.org/@RFC2549))

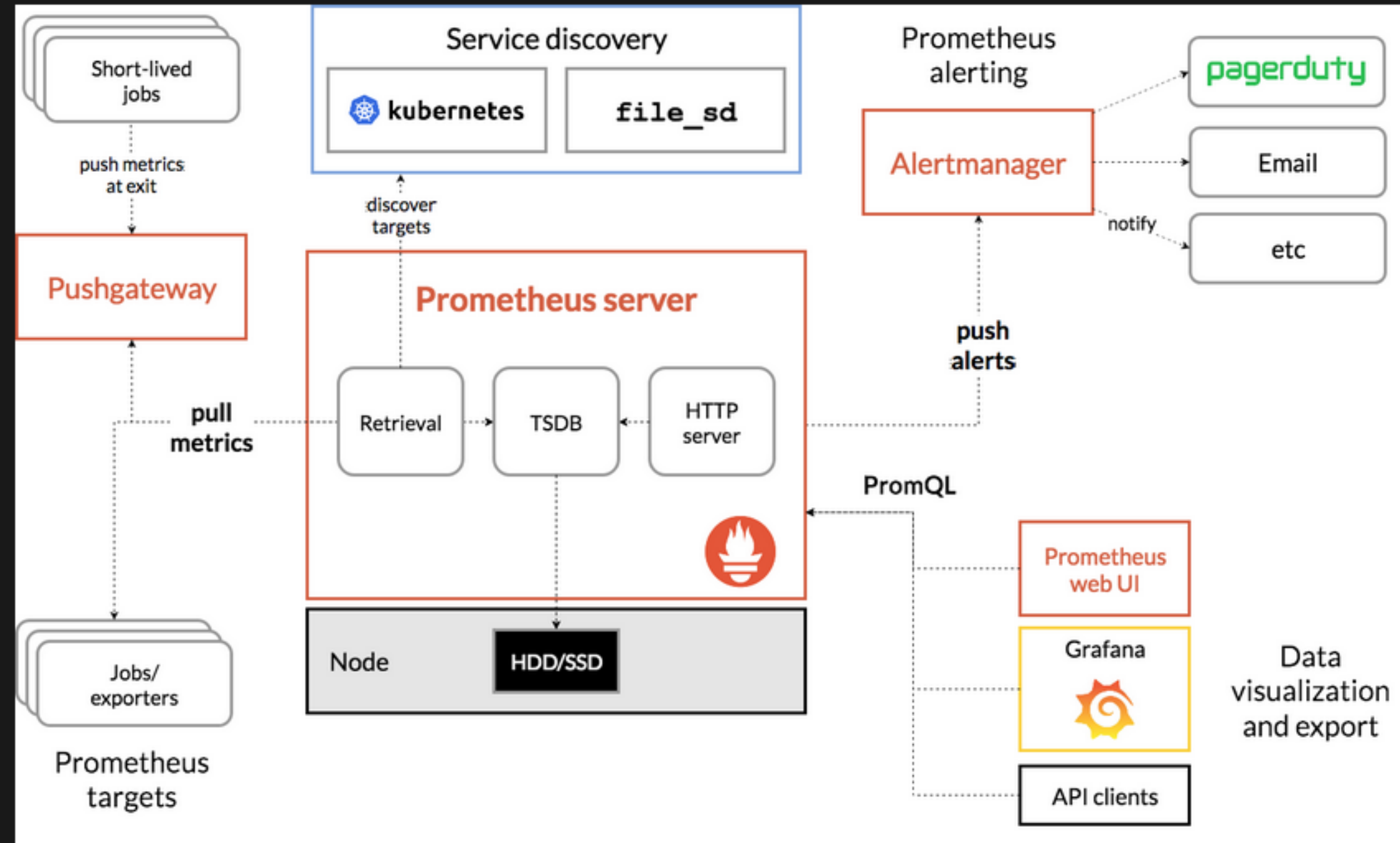
# \$ cat whoami.yml

```
---  
- name: David Moreau Simard  
  hosts:  
    - dmsimard:matrix.org  
    - fosstodon.org/@rfc2549  
  vars:  
    profile: ['sysadmin', 'dev/ops', 'CI/CD', 'SRE']  
  roles:  
    - Utilisateur d'Ansible depuis la version ~1.8 (2014?)  
    - Créé ara en 2016 pour me faciliter la vie  
    - Était dans l'équipe Ansible community chez Red Hat  
    - Contributeur à temps partiel (entre dev ops et dad ops)
```

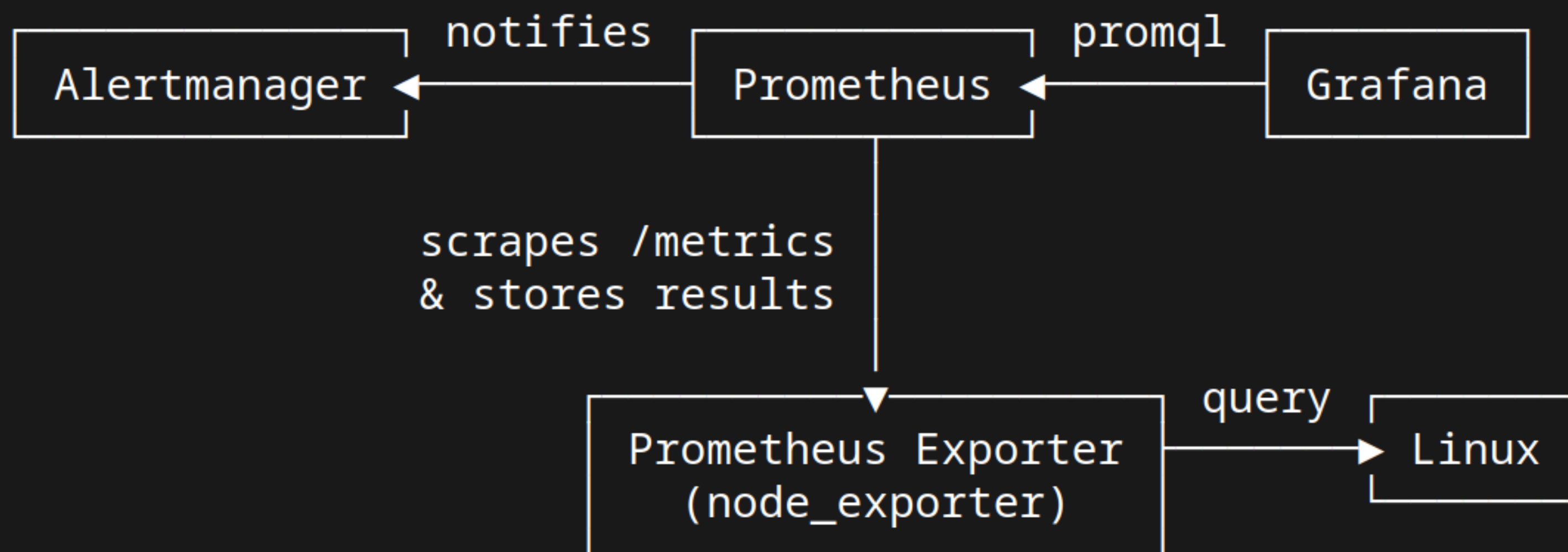
Utilisez-vous Prometheus ou Grafana ?

0/

# C'EST QUOI PROMETHEUS ?



# TL;DR



# DES GRAPHIQUES



<https://grafana.com/grafana/dashboards/1860-node-exporter-full/>

# DES ALERTES

```
- alert: HostOutOfDiskSpace
  expr: ((node_filesystem_avail_bytes * 100) / node_filesystem_size_bytes < 10 and ON (
  for: 2m
  labels:
    severity: warning
  annotations:
    summary: Host out of disk space (instance {{ $labels.instance }})
    description: "Disk is almost full (< 10% left)\n  VALUE = {{ $value }}\n  LABELS =
```

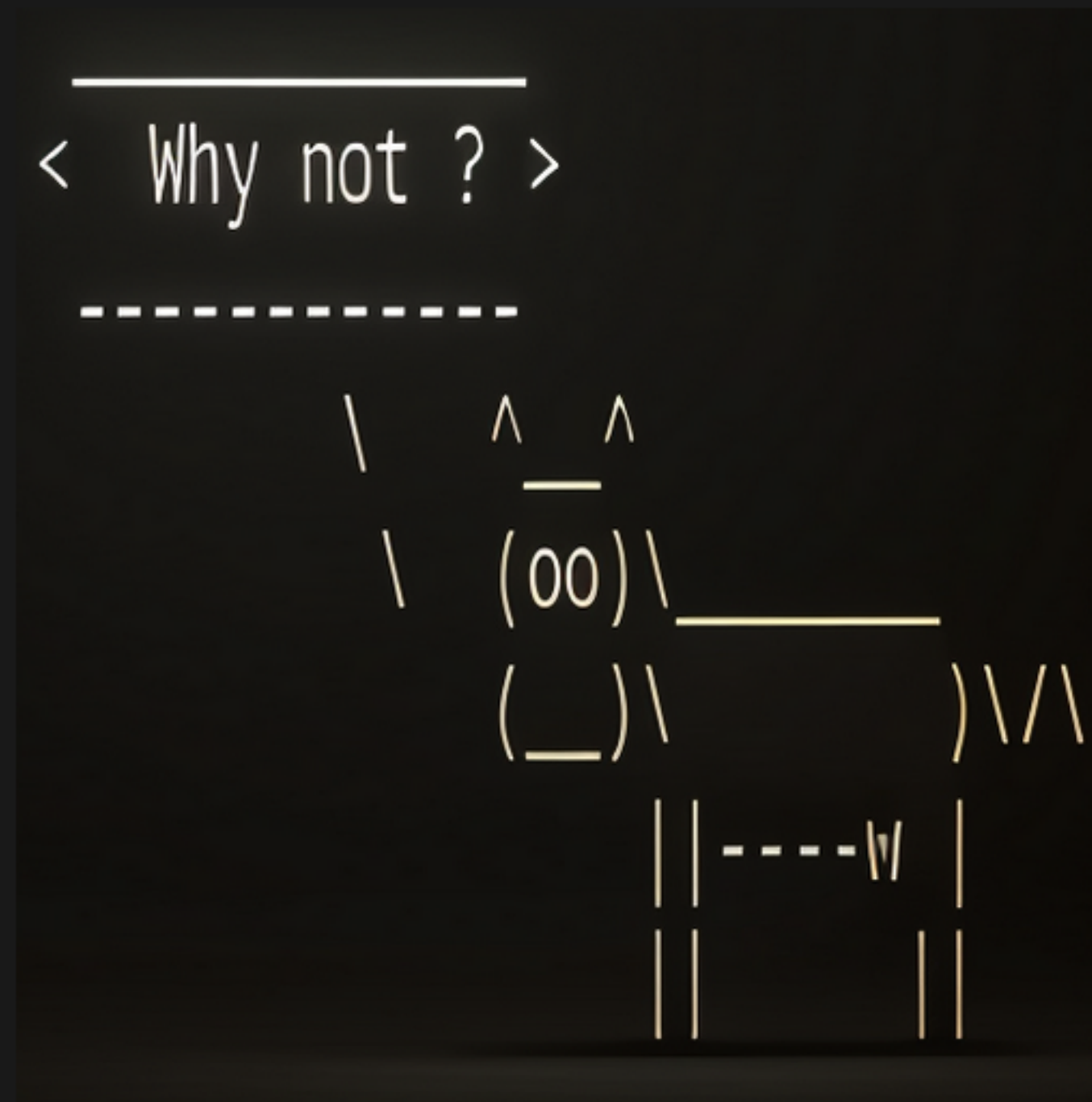
---

```
- alert: HostHighCpuLoad
  expr: (sum by (instance) (avg by (mode, instance) (rate(node_cpu_seconds_total{mode!=
  for: 10m
  labels:
    severity: warning
  annotations:
    summary: Host high CPU load (instance {{ $labels.instance }})
    description: "CPU load is > 80%\n  VALUE = {{ $value }}\n  LABELS = {{ $labels }}"
```

---

<https://samber.github.io/awesome-prometheus-alerts/rules.html>

# Est-ce qu'on peut faire ça avec Ansible ?



*stable diffusion img2img with controlnet: a plain text cow saying why not, studio lighting*



# DÉPLOIEMENT AVEC ANSIBLE

The screenshot shows the GitHub interface for the 'prometheus-community/ansible' repository. At the top, there are navigation tabs for 'Code', 'Issues' (24), 'Pull requests' (19), 'Actions', 'Projects', and 'Security'. Below this, the repository path 'ansible / roles' is shown with a search bar and 'Add file' button. A commit by 'prombot' is highlighted, with a message 'patch: automated upstream release update' and a commit hash 'e7bb0da' from '3 days ago'. Below the commit information is a table listing various roles and their commit details.

Name	Last commit message	Last commit date
..		
alertmanager	Fix role name	last week
blackbox_exporter	Fix typo	last week
chrony_exporter	skip_changelog: Fixup install task names	3 months ago
mysqld_exporter	skip_changelog: Fixup install task names	3 months ago
node_exporter	skip_changelog: Fixup install task names	3 months ago
prometheus	patch: automated upstream release update	3 weeks ago
pushgateway	patch: automated upstream release update ...	2 months ago
smartctl_exporter	feat: add smartctl_exporter role (#229)	last week
smokeping_prober	skip_changelog: Fixup install task names	3 months ago
snmp_exporter	patch: automated upstream release update ...	2 months ago
systemd_exporter	patch: automated upstream release update	3 days ago

# Métriques d'exécution Ansible

Est-ce que ça existe déjà ?

- \(\psi) / -

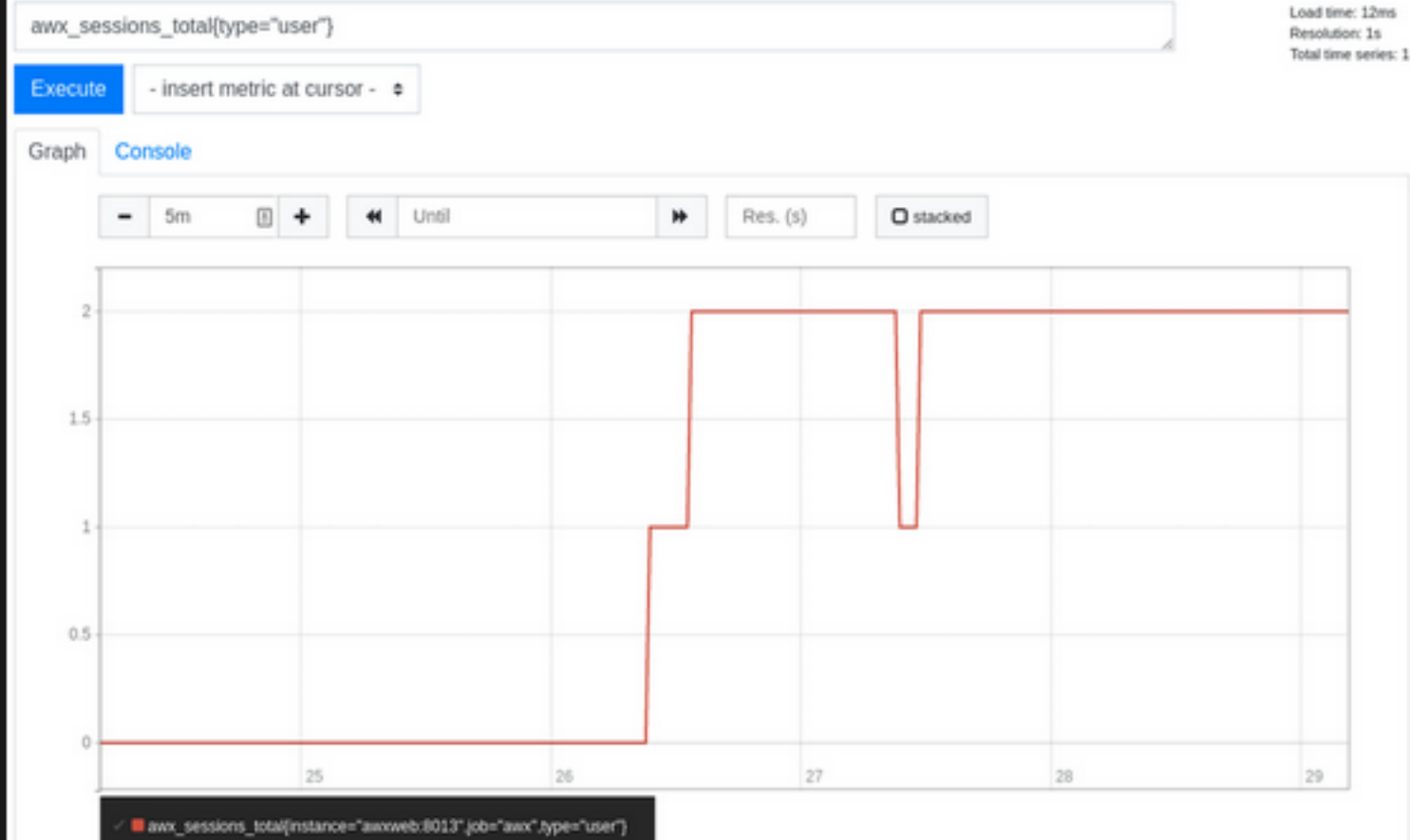
# AWX ?

```
scrape_configs
- job_name: 'tower'
  tls_config:
    insecure_skip_verify: true
  metrics_path: /api/v2/metrics
  scrape_interval: 5s
  scheme: https
  bearer_token: <token_value>
  # basic_auth:
  #   username: admin
  #   password: password
  static_configs:
  - targets:
    - <tower_host>
```

For help configuring other aspects of Prometheus, such as alerts and service discovery configurations, refer to the [Prometheus configuration docs](#)

If Prometheus is already running, you must restart it in order to apply the configuration changes by making a **POST** to the reload endpoint, or by killing the Prometheus process or service.

2. Use a browser to navigate to your graph in the Prometheus UI at [http://your\\_prometheus:9090/graph](http://your_prometheus:9090/graph) and test out some queries. For example, you can query the current number of active Tower user sessions by executing: `awx_sessions_total(type="user")`.



<https://docs.ansible.com/ansible-tower/latest/html/administration/metrics.html>

<https://github.com/ansible/awx/blob/devel/awx/main/analytics/metrics.py>

# MÉTRIQUES CÔTÉ SERVEUR

The screenshot shows the GitHub repository page for `django-prometheus`. The main content area on the left contains the repository's README, including sections for Features, Usage, Requirements, and Installation. The right sidebar provides additional statistics: 'Used by 2.5k' with a row of user avatars and '+ 2,454' more users; 'Contributors 50' with a row of contributor avatars and '+ 39 contributors' more; and 'Languages' showing a bar chart where Python accounts for 93.9% and HTML for 6.1%.

README.md

## django-prometheus [↗](#)

Export Django monitoring metrics for Prometheus.io

chat [on gitter](#)

pypi package **2.3.1** CI **passing** coverage **73%** python **3.7 | 3.8 | 3.9 | 3.10 | 3.11** code style **black**

### Features [↗](#)

This library provides Prometheus metrics for Django related operations:

- Requests & Responses
- Database access done via [Django ORM](#)
- Cache access done via [Django Cache framework](#)

### Usage [↗](#)

### Requirements [↗](#)

- Django >= 3.2
- Python 3.7 and above.

### Installation [↗](#)

Install with:

```
pip install django-prometheus
```

Used by **2.5k**

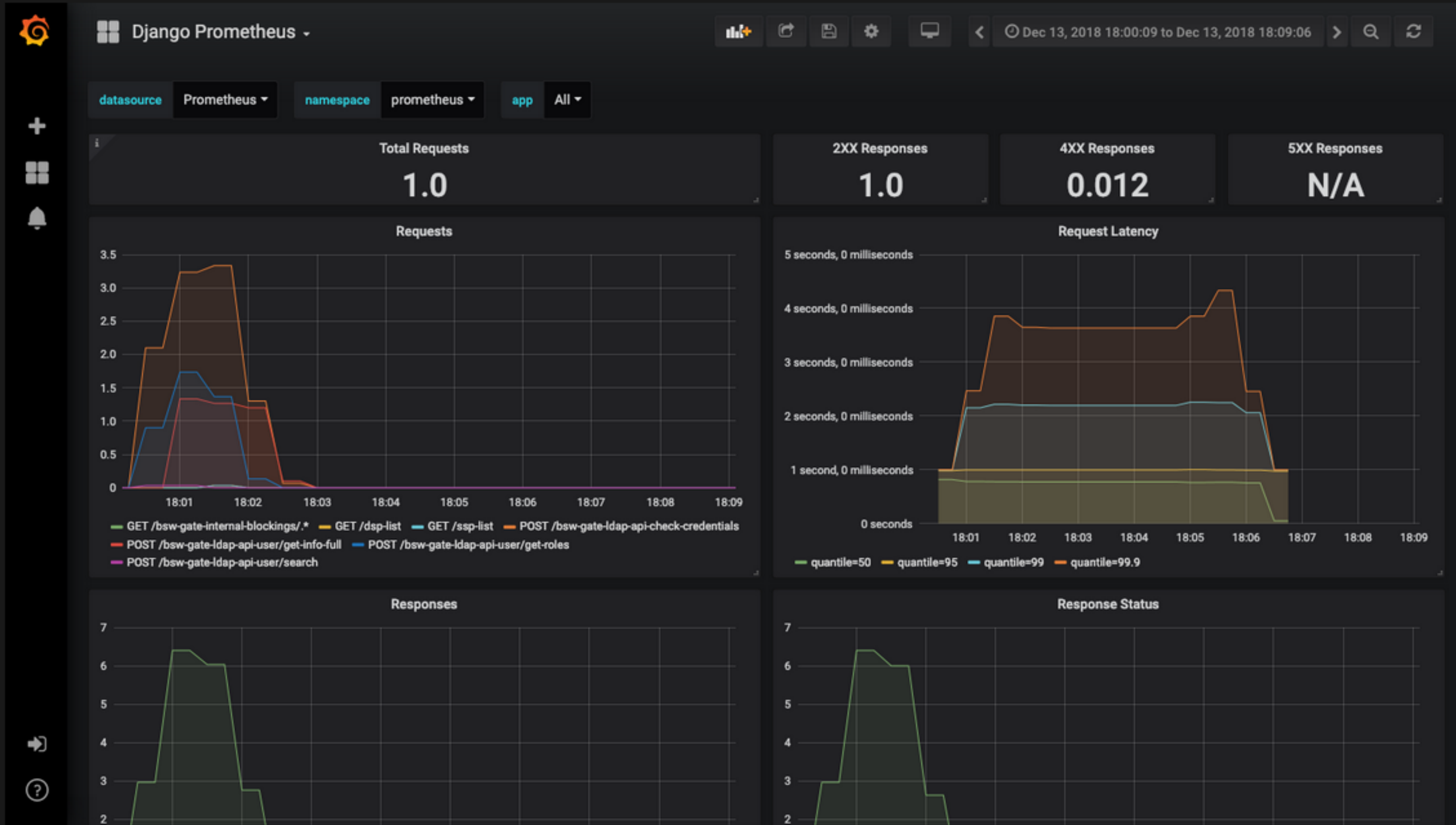
+ 2,454

### Contributors **50**

+ 39 contributors

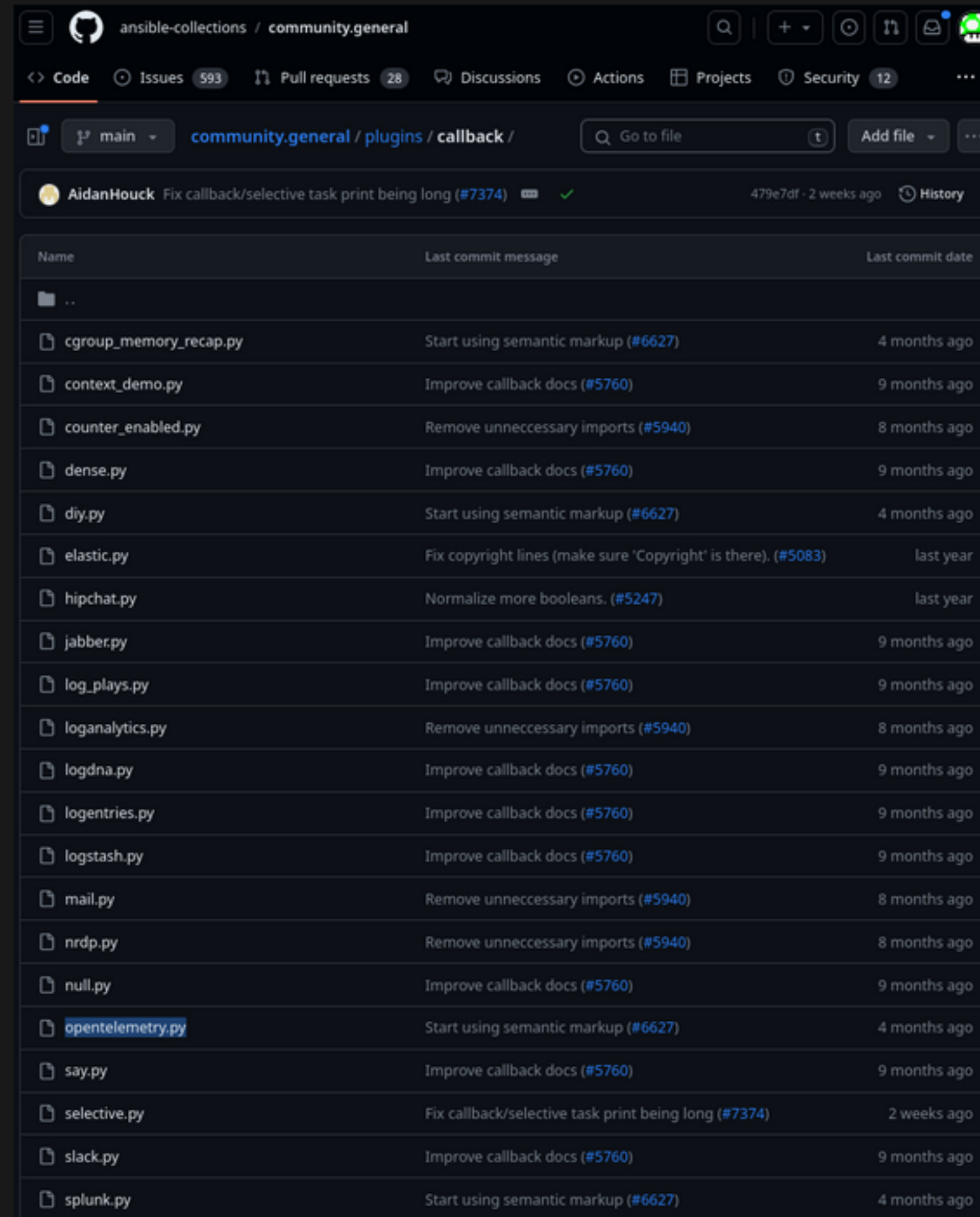
### Languages

Python 93.9% HTML 6.1%



<https://grafana.com/grafana/dashboards/?search=django>

# AVEC UN CALLBACK ANSIBLE ?



ansible-collections / community.general

Code Issues 593 Pull requests 28 Discussions Actions Projects Security 12

main community.general / plugins / callback /

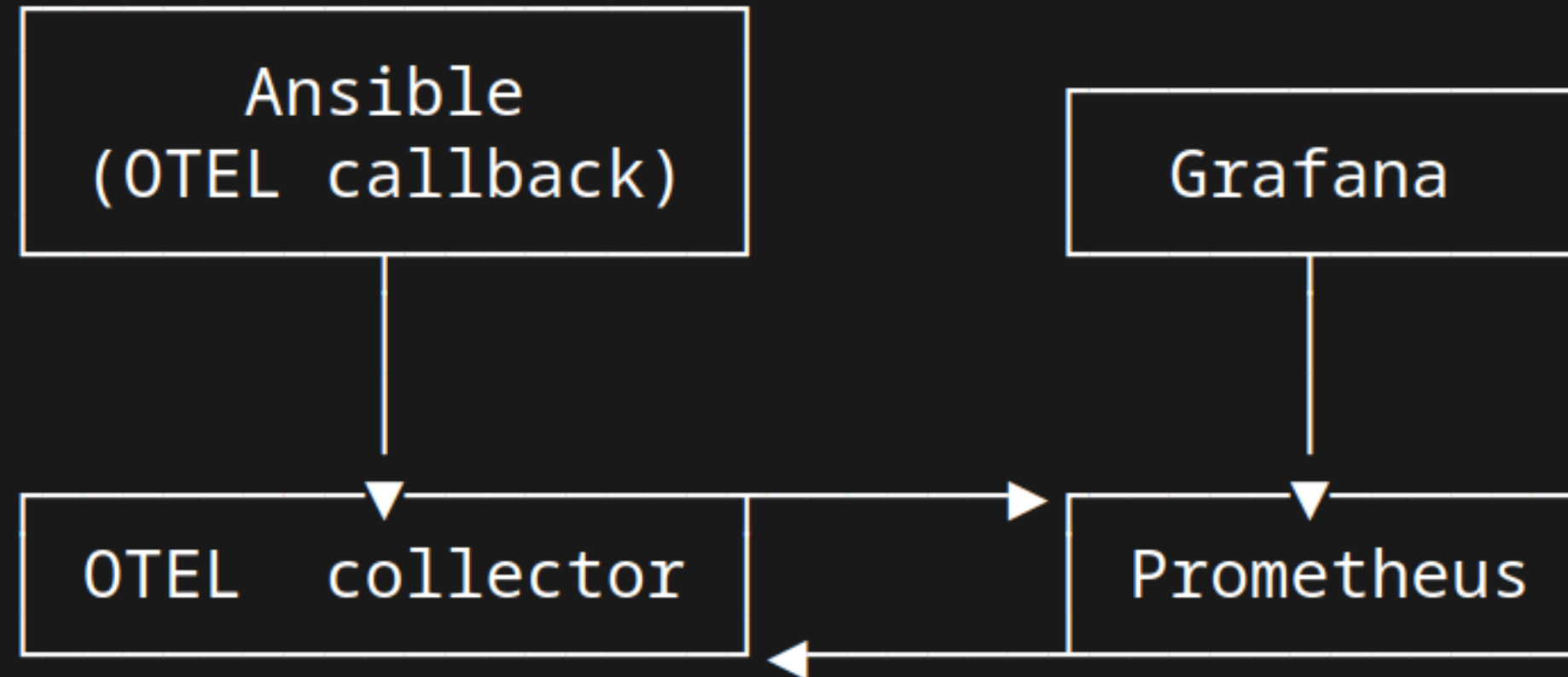
AidanHouck Fix callback/selective task print being long (#7374) 479e7df · 2 weeks ago History

Name	Last commit message	Last commit date
..		
cgroup_memory_recap.py	Start using semantic markup (#6627)	4 months ago
context_demo.py	Improve callback docs (#5760)	9 months ago
counter_enabled.py	Remove unnecessary imports (#5940)	8 months ago
dense.py	Improve callback docs (#5760)	9 months ago
diy.py	Start using semantic markup (#6627)	4 months ago
elastic.py	Fix copyright lines (make sure 'Copyright' is there). (#5083)	last year
hipchat.py	Normalize more booleans. (#5247)	last year
jabber.py	Improve callback docs (#5760)	9 months ago
log_plays.py	Improve callback docs (#5760)	9 months ago
loganalytics.py	Remove unnecessary imports (#5940)	8 months ago
logdna.py	Improve callback docs (#5760)	9 months ago
logentries.py	Improve callback docs (#5760)	9 months ago
logstash.py	Improve callback docs (#5760)	9 months ago
mail.py	Remove unnecessary imports (#5940)	8 months ago
nrdp.py	Remove unnecessary imports (#5940)	8 months ago
null.py	Improve callback docs (#5760)	9 months ago
opentelemetry.py	Start using semantic markup (#6627)	4 months ago
say.py	Improve callback docs (#5760)	9 months ago
selective.py	Fix callback/selective task print being long (#7374)	2 weeks ago
slack.py	Improve callback docs (#5760)	9 months ago
splunk.py	Start using semantic markup (#6627)	4 months ago

<https://github.com/ansible-collections/community.general/tree/main/plugins/callback>

# COMMUNITY.GENERAL.OPENTELEMETRY ?

En théorie:



[https://docs.ansible.com/ansible/latest/collections/community/general/opentelemetry\\_callback.html](https://docs.ansible.com/ansible/latest/collections/community/general/opentelemetry_callback.html)  
<https://github.com/ansible-collections/community.general/blob/main/plugins/callback/opentelemetry.py>  
<https://opentelemetry.io/docs/collector/>

# TRACING AVEC OPENTELEMETRY

```
#...
Span #5
  Trace ID      : 634741b983a374f1661d92a93ff48921
  Parent ID     : bfd533a8ef4b7b64
  ID            : 3004acb296337744
  Name          : Ping
  Kind          : Internal
  Start time    : 2023-10-21 18:00:49.809834256 +0000 UTC
  End time      : 2023-10-21 18:00:50.067565576 +0000 UTC
  Status code   : Ok
  Status message :
Attributes:
  -> ansible.task.module: Str(ping)
  -> ansible.task.message: Str(success)
  -> ansible.task.name: Str([host1] ARA Hosts test play: Ping)
  -> ansible.task.result: Int(0)
  -> ansible.task.host.name: Str(host1)
  -> ansible.task.host.status: Str(ok)
  -> ansible.task.args.name: Slice([])
  -> ansible.task.args.value: Slice([])
Events:
SpanEvent #0
  -> Name: {"changed": false, "ping": "pong"}
# ...
```



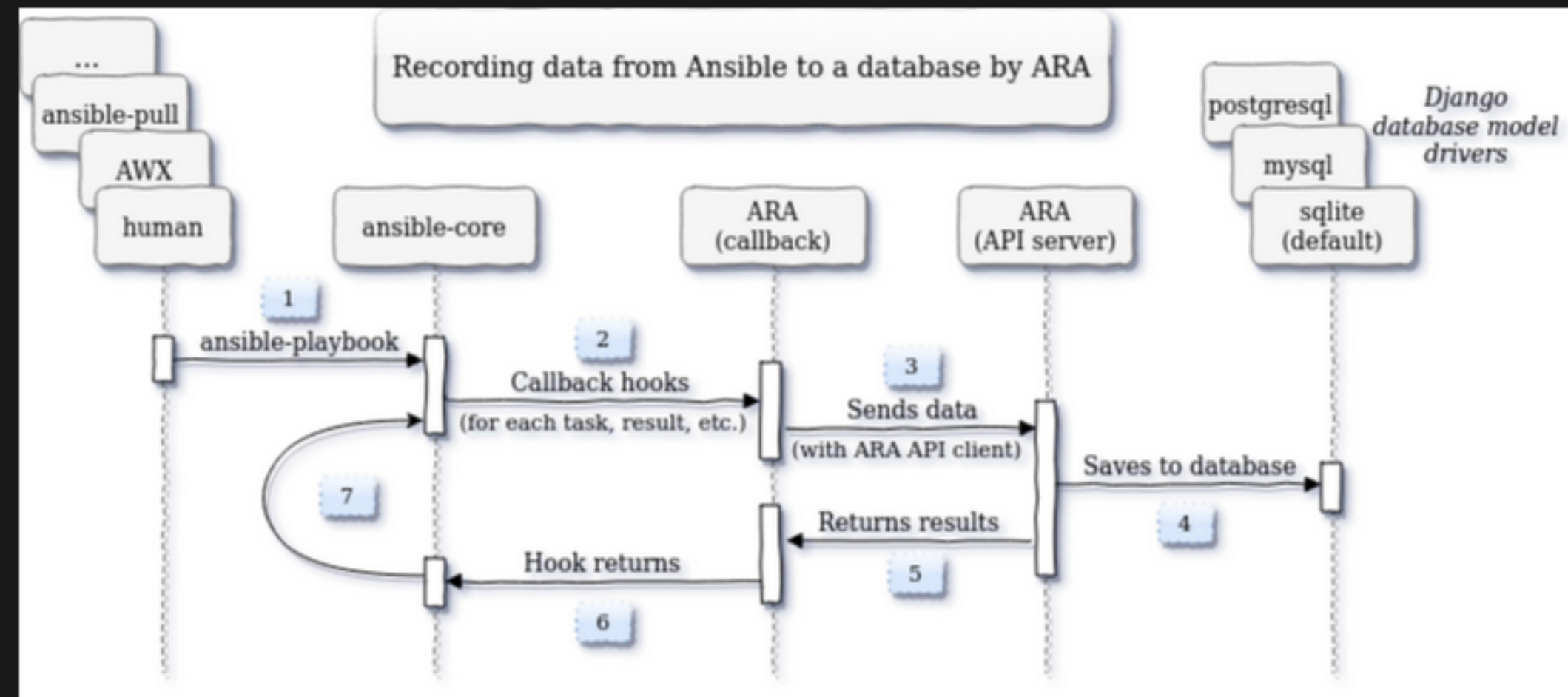


# AVEC ARA ?

The screenshot displays the ARA web interface. At the top left is the 'ara' logo and navigation links for 'Playbooks', 'Hosts', 'Tasks', and 'API'. At the top right are utility icons and links for 'Documentation' and 'About'. A green search bar with the text 'Search and filter playbooks' is centered below the navigation. Below the search bar is a pagination control showing 'First', '«', '1-100 of 3887', '»', and 'Last'. The main content is a table with the following columns: Report, Status, CLI, Date, Duration, Name (or path), Ansible, Controller, User, Hosts, Tasks, Results, and Labels. The table lists ten entries, all with a 'Success' status (green checkmark). Each entry includes a report link, a CLI icon, a date and time with offset, a duration, a path to the playbook, the Ansible version, the controller name, the user, the number of hosts, tasks, and results, and a 'Labels' column containing 'check:False' and various tags.

Report	Status	CLI	Date	Duration	Name (or path)	Ansible	Controller	User	Hosts	Tasks	Results	Labels
<a href="#">Report</a>	Success		09 Sep 2023 23:06:34 +0000	00:06:12.75	...share/kolla-ansible/ansible/site.yml	2.13.11	primary	zuul	4	255	545	check:False tags:all
<a href="#">Report</a>	Success		09 Sep 2023 23:06:25 +0000	00:00:06.00	...share/kolla-ansible/ansible/post-deploy.yml	2.13.11	primary	zuul	1	6	6	check:False tags:all
<a href="#">Report</a>	Success		09 Sep 2023 23:04:32 +0000	00:01:51.53	...share/kolla-ansible/ansible/site.yml	2.13.11	primary	zuul	4	67	163	check:False tags:keystone
<a href="#">Report</a>	Success		09 Sep 2023 22:53:55 +0000	00:04:06.46	...share/kolla-ansible/ansible/site.yml	2.13.11	primary	zuul	2	172	172	check:False tags:all
<a href="#">Report</a>	Success		09 Sep 2023 22:53:43 +0000	00:00:09.44	...share/kolla-ansible/ansible/post-deploy.yml	2.13.11	primary	zuul	1	6	6	check:False tags:all
<a href="#">Report</a>	Success		09 Sep 2023 22:51:33 +0000	00:02:07.89	...share/kolla-ansible/ansible/site.yml	2.13.11	primary	zuul	2	69	68	check:False tags:keystone
<a href="#">Report</a>	Success		09 Sep 2023 22:46:43 +0000	00:17:46.23	...share/kolla-ansible/ansible/site.yml	2.13.11	primary	zuul	4	516	1569	check:False tags:all
<a href="#">Report</a>	Success		09 Sep 2023 22:46:09 +0000	00:00:30.96	...kolla-ansible/ansible/rabbitmq-reset-state.yml	2.13.11	primary	zuul	3	6	18	check:False tags:all
<a href="#">Report</a>	Success		09 Sep 2023 22:44:04 +0000	00:02:03.75	...share/kolla-ansible/ansible/site.yml	2.13.11	primary	zuul	3	32	96	check:False tags:rabbitmq
<a href="#">Report</a>	Success		09 Sep 2023 22:40:48 +0000	01:37:03.12	...playbooks/setup-openstack.yml	2.13.8	aio1.openstack.local	root	16	2334	2339	check:False tags:all

# COMMENT ÇA FONCTIONNE ?



```
# Install ansible (or ansible-core) with ara (including API server dependencies)
python3 -m pip install --user ansible "ara[server]"
```

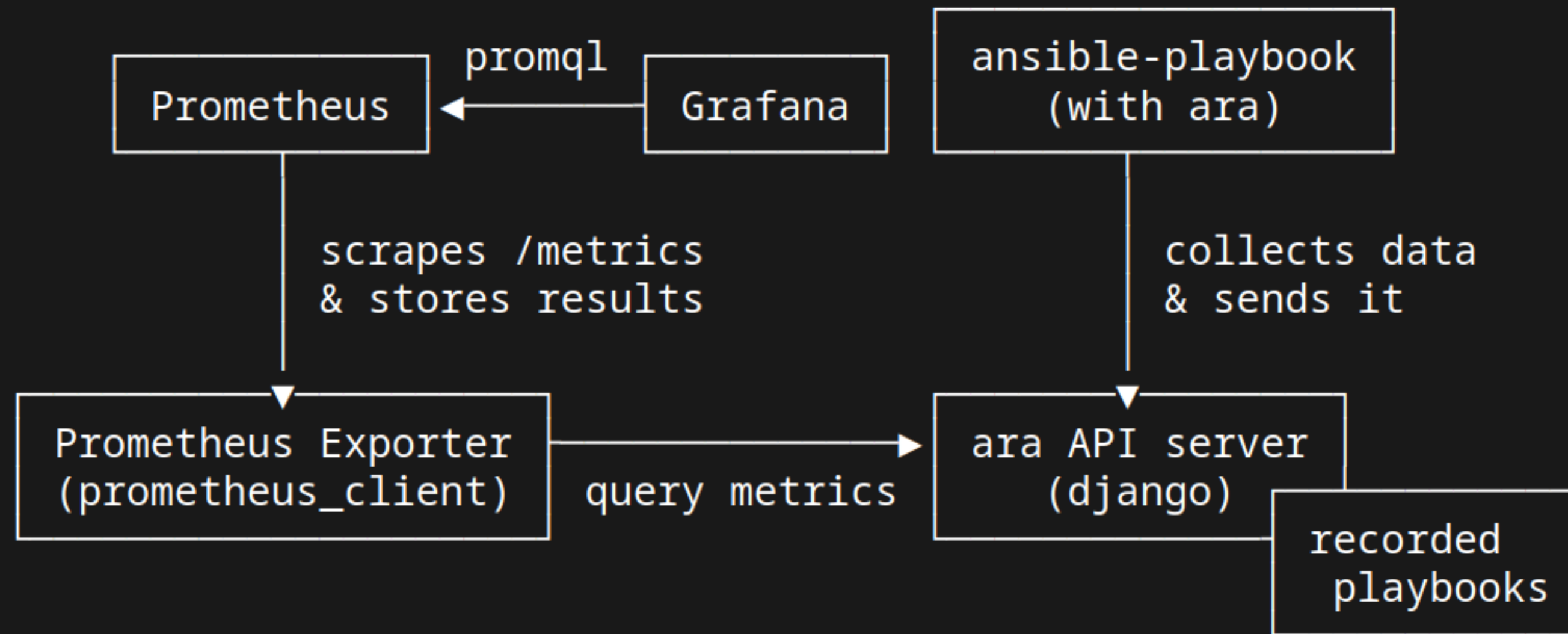
```
# Configure Ansible to enable ara
export ANSIBLE_CALLBACK_PLUGINS="$(python3 -m ara.setup.callback_plugins)"
```

```
# Run an Ansible playbook as usual
ansible-playbook playbook.yml
```

```
# Check out the CLI
ara playbook list
ara host list
```

```
# or the UI at http://127.0.0.1:8000
ara-manage runserver
```

# COMMENT ENVOYER ÇA À PROMETHEUS ?



Démo !

<https://github.com/ansible-community/ara/pull/483>

## EN RÉSUMÉ

- Simple et utile
- Métriques sur les playbooks, les tasks et les hosts
- N'importe quel serveur, n'importe où
- Il y a encore du travail: votre aide est appréciée!

# EN RÉSUMÉ

## MUST HAVE:

- Ne pas dé-doubler les métriques
- Confirmer le format des métriques (histogram, gauges, etc.)
- Mise à jour de métriques (ex: running -> completed)

## NICE TO HAVE:

- Filtrage par recherche (ex: status, path, user, controller)
- De meilleurs graphiques
- Règles intéressantes pour alertmanager

# MERCI !

## QUESTIONS ?



Pour plus d'infos:

- <https://github.com/ansible-community/ara>
- <https://ara.recordsansible.org/blog>
- <https://fosstodon.org/@ara>
- <https://ara.readthedocs.io>