ara

Une nouvelle API pour les résultats de vos playbooks Ansible

Avril 2019

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https://ara.recordsansible.org

$ whoami

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- Dev/Ops et CI/CD: OpenStack, RDO, Ansible et Zuul
- <3 oiseaux

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Ansible is a radically simple IT automation platform that makes your applications and systems easier to deploy.

Avoid writing scripts or custom code to deploy and update your applications — automate in a language that approaches plain English, using SSH, with no agents to install on remote systems.

https://github.com/ansible/ansible

$ ansible --help

./hosts

```
# Simple static Ansible inventory
webserver ansible_host=172.29.239.10 ansible_user=ansible
```

```
# Update all packages on webserver
$ ansible -i hosts -m package -a "name=* state=latest" webserver
webserver | SUCCESS => {
    "ansible_facts": {
        "pkg_mgr": "dnf"
    },
    "changed": false,
    "msg": "Nothing to do",
    "rc": 0,
    "results": []
}
```

$ ansible-playbook --help

update-packages.yaml

```yaml
- name: Update packages on all servers
  hosts: all
  gather_facts: yes
  tasks:
    - name: Update packages
      become: yes
      package:
        name: "*"
        state: latest
      register: updates

    - name: Send an email if there are updates
      mail:
        to: ops@example.org
        subject: "Package updates: {{ ansible_hostname }}"
        body: "{{ updates.stdout }}"
      when: updates is changed
```

$ ansible-playbook --help

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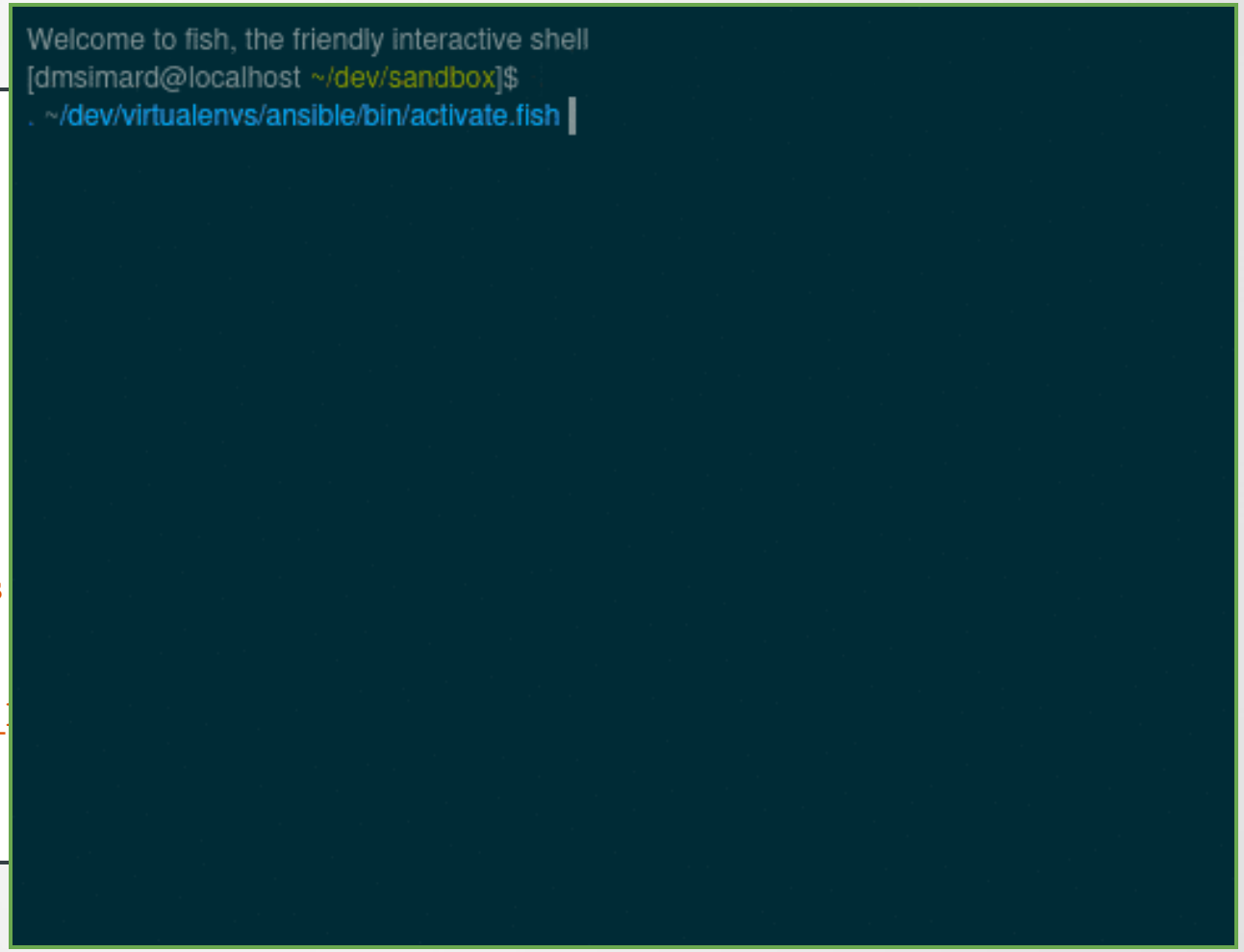

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ara

TL;DR

ARA Records Ansible records Ansible playbooks.
It makes them easier to understand and troubleshoot.

https://ara.recordsansible.org

ara Quickstart (v0.x)


```
# Installer ARA depuis PyPi
$ pip install ara

# Configurer Ansible pour utiliser ARA
$ export ANSIBLE_CALLBACK_PLUGINS=$(python -m ara.setup.callback_plugins)

# Exécutez votre playbook
$ ansible-playbook playbook.yml

# Démarrez le serveur web de développement
$ ara-manage runserver

# Naviguez à http://127.0.0.1:9191
```

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ara Quickstart (v1.0)

```
GET /api/v1/results/3

HTTP 200 OK
Allow: GET, PUT, PATCH, DELETE, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept

{
    "id": 3,
    "playbook": {
        "id": 1,
        "duration": "19.713072",
        "started": "2019-03-20T19:45:51
        "ended": "2019-03-20T19:46:11.5
        "name": "Smoke tests",
        "status": "failed",
```

```
# Installer ARA 1.0 depuis PyPi
$ pip install --pre ara

# Configurer Ansible pour utiliser ARA
$ export ANSIBLE_CALLBACK_PLUGINS=$(python -m ara.setup.callback_plugin

# Exécutez votre playbook
$ ansible-playbook playbook.yml

# Démarrez le serveur web de développement
$ ara-manage runserver

# Naviguez à http://127.0.0.1:8000/api/v1/
```

Api Root

OPTIONS GET

The default basic root view for DefaultRouter

```
GET /api/v1/

HTTP 200 OK
Allow: GET, HEAD, OPTIONS
Content-Type: application/json
Vary: Accept

{
    "labels": "http://127.0.0.1:8000/api/v1/labels",
    "playbooks": "http://127.0.0.1:8000/api/v1/playbooks",
    "plays": "http://127.0.0.1:8000/api/v1/plays",
    "tasks": "http://127.0.0.1:8000/api/v1/tasks",
    "hosts": "http://127.0.0.1:8000/api/v1/hosts",
    "results": "http://127.0.0.1:8000/api/v1/results",
    "files": "http://127.0.0.1:8000/api/v1/files",
    "records": "http://127.0.0.1:8000/api/v1/records",
    "info": "http://127.0.0.1:8000/api/v1/info"
}
```

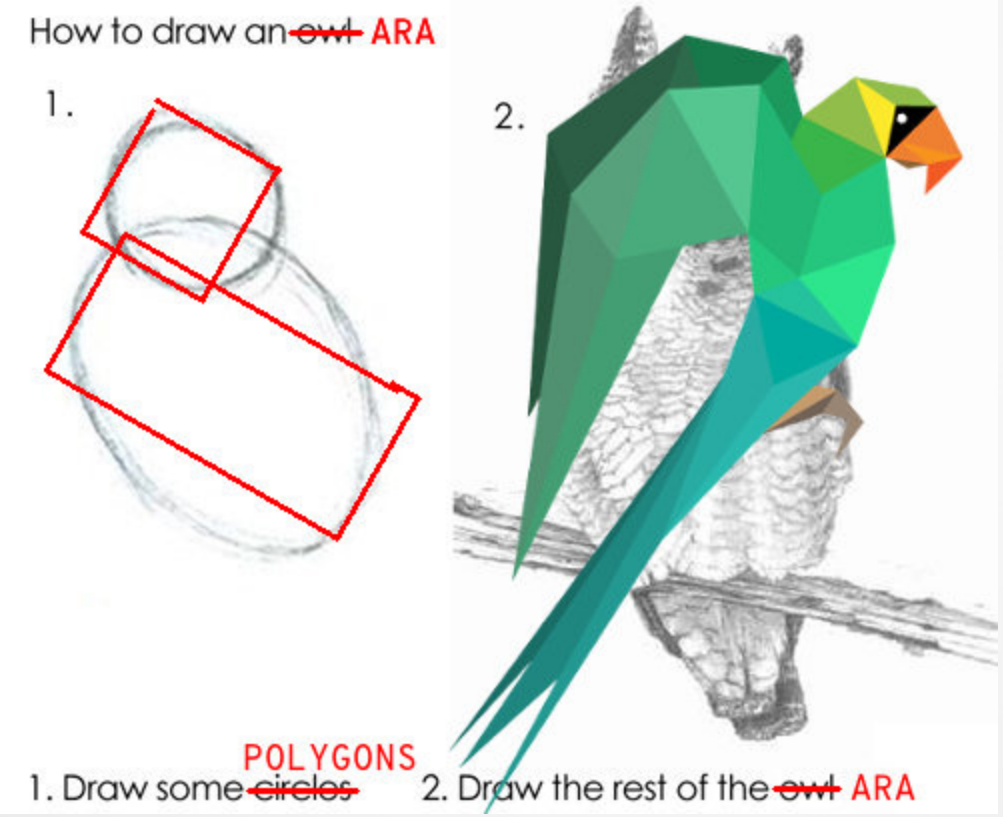
https://ara.recordsansible.org

La simplicité est une feature

> https://ara.readthedocs.io/en/latest/manifesto.html

1) Simplicity is fundamental
2) Do one thing and do it well
3) Empower users to get their work done
4) Don’t require users to change their workflows
5) De-centralized, offline and standalone by default

Comment ça marche ?



https://ara.recordsansible.org

ARA fourni un callback plugin Ansible

```
# https://github.com/ansible/ansible/blob/devel/lib/ansible/plugins/callback
def v2_on_any(self, *args, **kwargs):
def v2_runner_on_failed(self, result, ignore_errors=False):
def v2_runner_on_ok(self, result):
def v2_runner_on_skipped(self, result):
def v2_runner_on_unreachable(self, result):
def v2_playbook_on_start(self, playbook):
def v2_playbook_on_task_start(self, task, is_conditional):
def v2_playbook_on_handler_task_start(self, task):
def v2_playbook_on_play_start(self, play):
def v2_playbook_on_stats(self, stats):
def v2_playbook_on_include(self, included_file):
[...]
```

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ARA fourni un callback plugin Ansible

```
def v2_playbook_on_start(self, playbook):
    path = os.path.abspath(playbook._file_name)

    # Potentially sanitize some user-specified keys
    for argument in self.ignored_arguments:
        if argument in cli_options:
            cli_options[argument] = "Not saved by ARA as configured by 'ignored_arguments'"

    # Create the playbook
    self.playbook = self.client.post("/api/v1/playbooks",
        ansible_version=ansible_version,
        arguments=cli_options,
        status="running",
        path=path
    )
```

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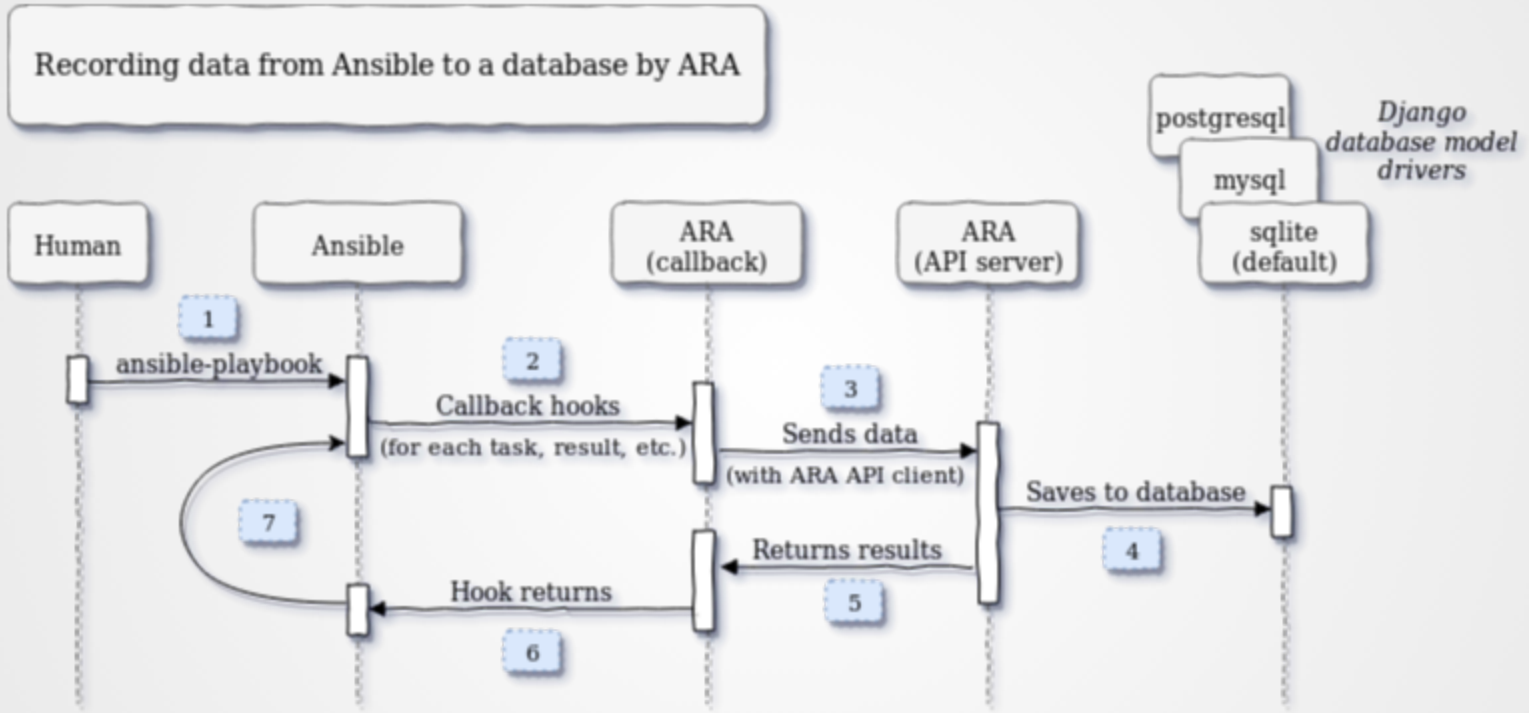
À haut niveau



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À haut niveau

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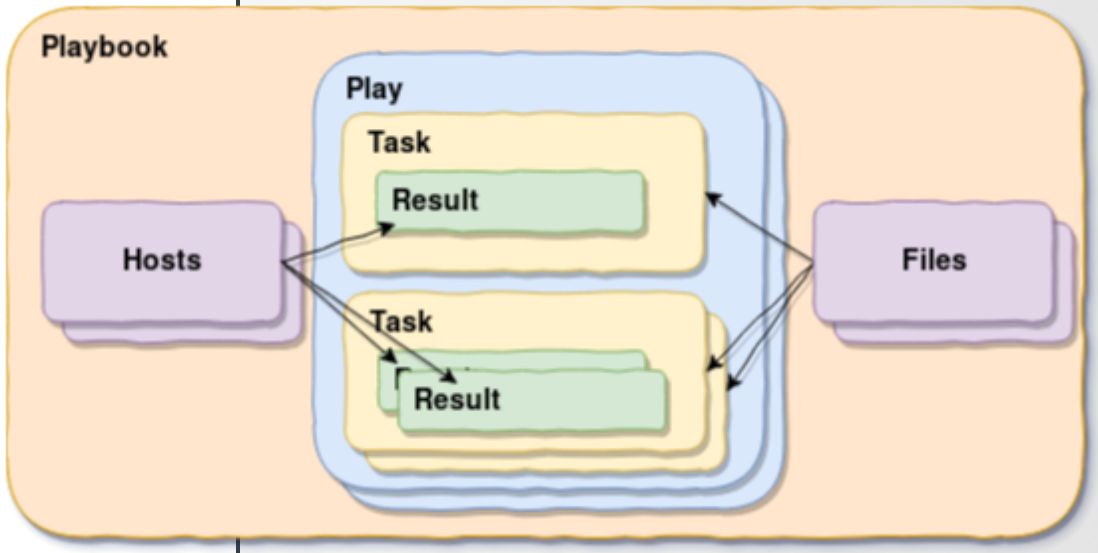
        body: "{{ updates.stdout }}"
      when: updates is changed
```



https://ara.recordsansible.org

Utilisation de l'API

example.py

```python
#!/usr/bin/env python3
# Different ways to get the ARA API client
import os
from ara.clients.offline import AraOfflineClient
from ara.clients.http import AraHttpClient
from ara.clients import utils as client_utils

offline_client = AraOfflineClient()
http_client = AraHttpClient(endpoint="https://api.demo.recordsansible.org")

api_client = os.environ.get("ARA_API_CLIENT", "offline")
api_server = os.environ.get("ARA_API_SERVER", "http://127.0.0.1:8000")
api_timeout = os.environ.get("ARA_API_TIMEOUT", 30)
client = client_utils.get_client(client=api_client, endpoint=api_server, timeout=api_timeout)
```

Utilisation de l'API

example.py

```python
#!/usr/bin/env python3
# Import the client
from ara.clients.http import AraHttpClient

# Instanciate the HTTP client with an endpoint where an API server is listening
client = AraHttpClient(endpoint="https://api.demo.recordsansible.org")

# Get a list of failed playbooks
# /api/v1/playbooks?status=failed
playbooks = client.get("/api/v1/playbooks", status="failed")

# If there are any results from our query, get more information about the
# failure and print something helpful
template = "{timestamp}: {host} failed '{task}' ({task_file}:{lineno})"
for playbook in playbooks["results"]:
    # Get a detailed version of the playbook that provides additional context
    detailed_playbook = client.get("/api/v1/playbooks/%s" % playbook["id"])
```

Utilisation de l'API

```
$ python example.py
2019-03-20T19:46:02.902819: localhost failed 'smoke-tests : Record with no key' (tests/integra
2019-03-20T19:46:03.780885: localhost failed 'smoke-tests : Record with no value' (tests/inte
2019-03-20T19:46:04.578299: localhost failed 'smoke-tests : Record with invalid type' (tests/i
2019-03-20T19:46:06.180167: localhost failed 'smoke-tests : Return false' (tests/integration/i
2019-03-20T19:46:33.570741: localhost failed 'fail' (tests/integration/failed.yaml:22)
```

https://ara.recordsansible.org

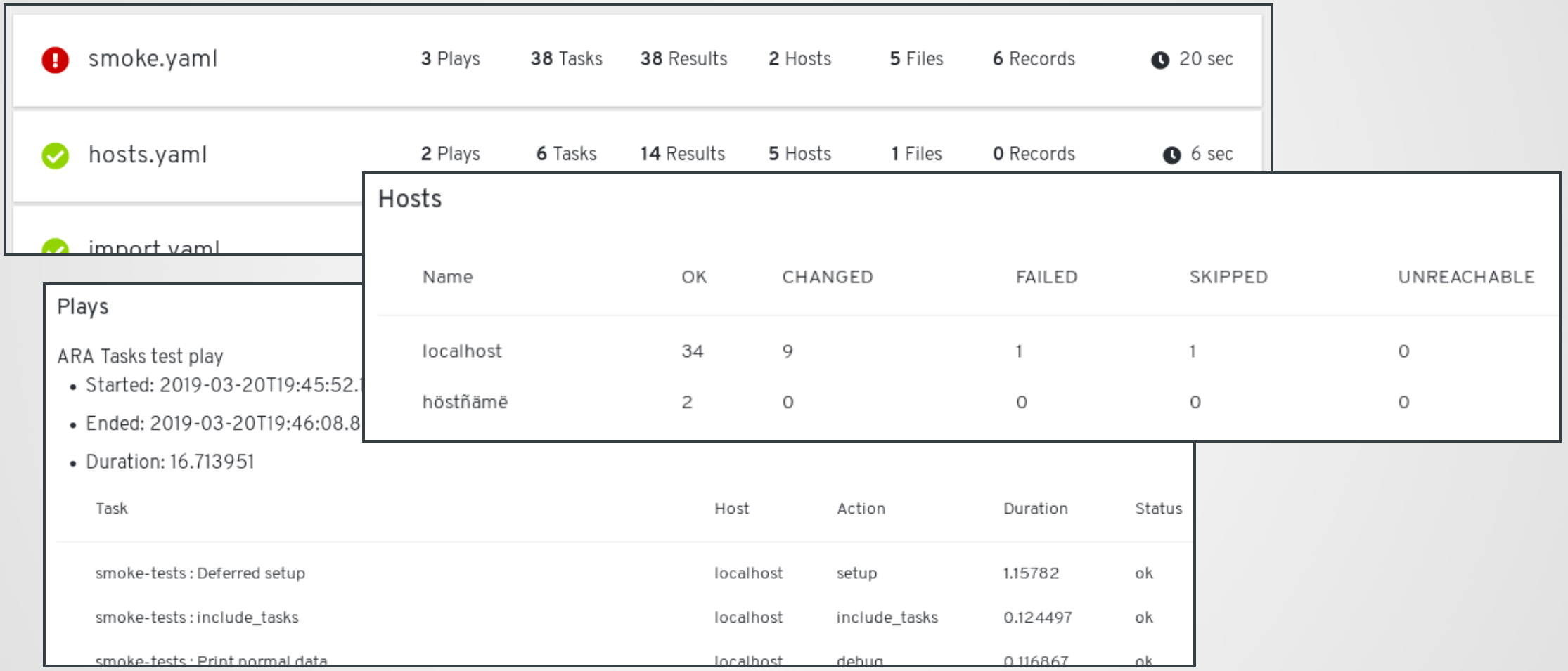
Utilisation de l'API

```
37  +            <div className="pf-c-card__body">
38  +              <table class="pf-c-table pf-m-compact pf-m-grid-md" role="grid">
39  +                  <thead>
40  +                  <tr>
41  +                      <th>Name</th>
42  +                      <th>OK</th>
43  +                      <th>CHANGED</th>
44  +                      <th>FAILED</th>
45  +                      <th>SKIPPED</th>
46  +                      <th>UNREACHABLE</th>
47  +                  </tr>
48  +                  </thead>
49  +                  <tbody>
50  +                  {playbook.hosts.map(host => (
51  +                      <tr key={host.id}>
52  +                      <td data-label="Name">{host.name}</td>
53  +                      <td data-label="OK">{host.ok}</td>
54  +                      <td data-label="CHANGED">{host.changed}</td>
55  +                      <td data-label="FAILED">{host.failed}</td>
56  +                      <td data-label="SKIPPED">{host.skipped}</td>
57  +                      <td data-label="UNREACHABLE">{host.unreachable}</td>
58  +                      </tr>
59  +                  ))}
60  +                  </tbody>
61  +              </table>
62  +            </div>
63  +          </div>
```

```
    68  +            {playbook.plays.map(play => (
36  69                <div className="pf-c-card__body">
37      -               <TasksContainer playbook={playbook} />
    70  +               <h2>{play.name}</h2>
    71  +               <List>
    72  +                   <ListItem>Started: {play.started}</ListItem>
    73  +                   <ListItem>Ended: {play.ended}</ListItem>
    74  +                   <ListItem>Duration: {play.duration}</ListItem>
    75  +               </List>
    76  +               <table class="pf-c-table pf-m-compact pf-m-grid-md" role="grid">
    77  +                   <thead>
    78  +                   <tr>
    79  +                       <th>Task</th>
    80  +                       <th>Host</th>
    81  +                       <th>Action</th>
    82  +                       <th>Duration</th>
    83  +                       <th>Status</th>
    84  +                   </tr>
    85  +                   </thead>
    86  +                   <tbody>
    87  +                   {play.tasks.map(task =>
    88  +                       task.results.map(result =>
    89  +                       <tr key={result.id}>
    90  +                       <th data-label="Task">{task.name}</th>
    91  +                       <th data-label="Host">{result.host.name}</th>
    92  +                       <th data-label="Action">{task.action}</th>
    93  +                       <th data-label="Duration">{result.duration}</th>
    94  +                       <th data-label="Status">{result.status}</th>
    95  +                       </tr>
    96  +                   ))}
    97  +                   </tbody>
    98  +               </table>
38  99                </div>
   100  +            ))}
```

https://ara.recordsansible.org

Utilisation de l'API



https://ara.recordsansible.org

API: Use cases

- Reporting
- Troubleshooting
- Monitoring
- Benchmarking / Profiling
- CI / CD
- Intégration avec d'autres systèmes (logstash, grafana, etc.)

¯_(ツ)_/¯

Live demos

https://api.demo.recordsansible.org/

https://web.demo.recordsansible.org/

Live demos

ansible-community / **ara-infra**

Code | Issues 0 | Pull requests 0 | Projects 0 | Insi

Branch: **master** ara-infra / playbooks / **live-demo.yaml**

dmsimard Require authentication for write requests on api.demo.recordsansible.org

1 contributor

24 lines (23 sloc) | 756 Bytes

```yaml
- name: Provision demo.recordsansible.org
  hosts: demo.recordsansible.org
  gather_facts: yes
  vars:
    # ara_api
    ara_api_write_login_required: true
    ara_api_fqdn: api.demo.recordsansible.org
    ara_api_frontend_server: nginx
    ara_api_frontend_vhost: api.demo.recordsansible.org.conf.j2
    ara_api_wsgi_server: gunicorn
    ara_api_allowed_hosts:
      - api.demo.recordsansible.org
    ara_api_cors_origin_whitelist:
      - web.demo.recordsansible.org
      - logs.openstack.org
    # ara_web
    ara_web_fqdn: web.demo.recordsansible.org
    ara_web_api_endpoint: "https://api.demo.recordsansible.org"
    ara_web_frontend_server: nginx
    ara_web_frontend_vhost: web.demo.recordsansible.org.conf.j2
  roles:
    - ara_api
    - ara_web
```

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Avec les roles Ansible inclus

ara_api : Include installation of ARA	fedora-29	include_tasks	0:00:22	0:00:00	OK
ara_api : Prepare git repository for ara	fedora-29	git	0:00:22	0:00:01	CHANGED
ara_api : Install ara	fedora-29	pip	0:00:25	0:00:25	CHANGED
ara_api : Prefix the virtualenv bin directory to PATH	fedora-29	set_fact	0:00:50	0:00:00	OK

https://ara.readthedocs.io/en/feature-1.0/ansible-role-ara-api.html

ara_web : Install nodejs	ubuntu-bionic	package	0:00:24	0:00:06	CHANGED
ara_web : Include ara-web installation	ubuntu-bionic	include_tasks	0:00:31	0:00:00	OK
ara_web : Ensure libselinux-python is installed for Red Hat derivatives	ubuntu-bionic	package	0:00:31	0:00:00	SKIPPED
ara_web : Ensure git is installed	ubuntu-bionic	package	0:00:31	0:00:01	OK
ara_web : Prepare git repository for ara-web	ubuntu-bionic	git	0:00:33	0:00:01	CHANGED
ara_web : Install ara-web npm dependencies	ubuntu-bionic	npm	0:00:34	0:01:34	CHANGED
ara_web : Configure ara-server API endpoint for ara-web	ubuntu-bionic	copy	0:02:09	0:00:02	CHANGED

https://ara.readthedocs.io/en/feature-1.0/ansible-role-ara-web.html

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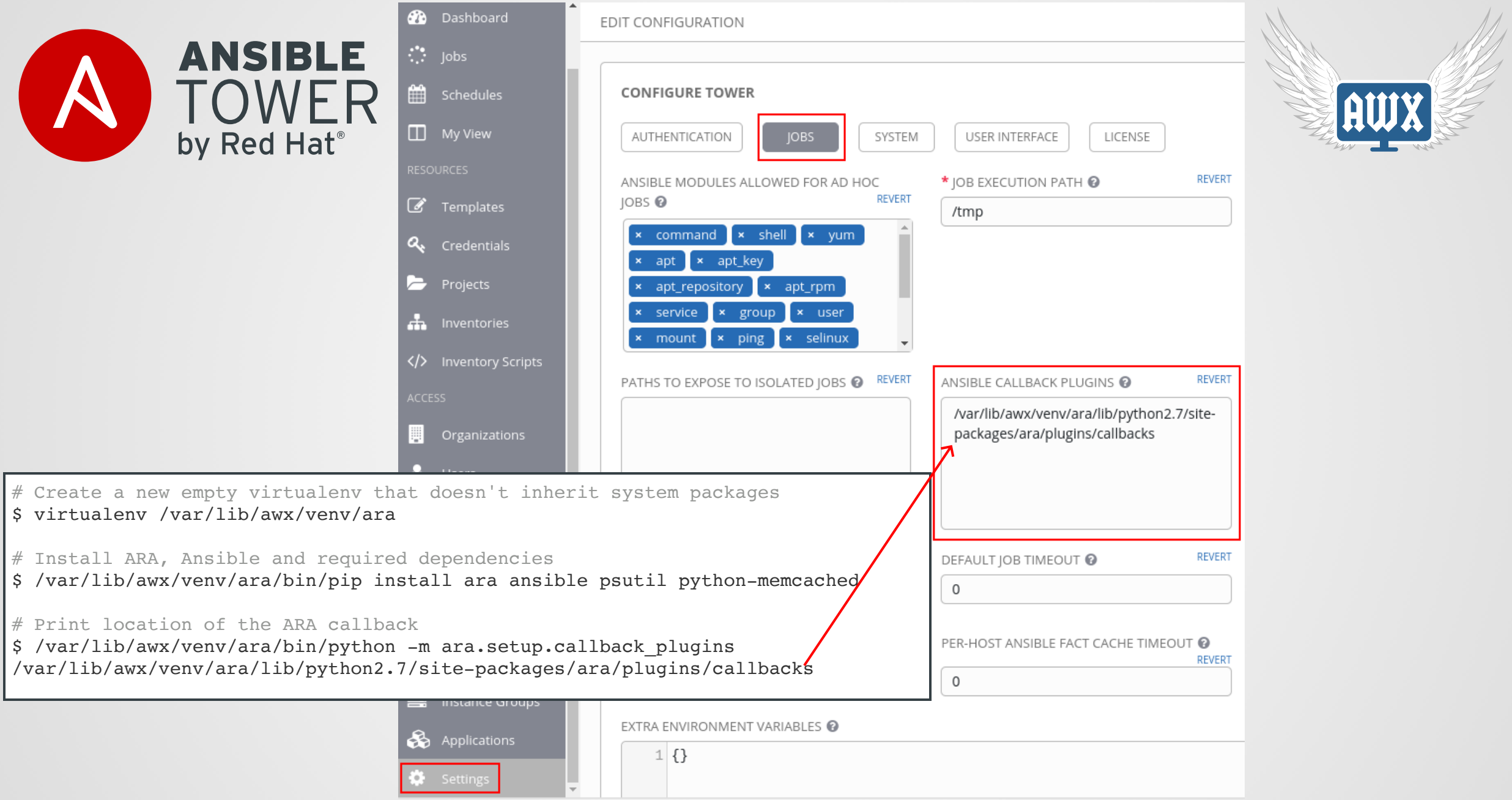
Avec Ansible Tower ou AWX ?

En théorie ...




```
# Create a new empty virtualenv that doesn't inherit system packages
$ virtualenv /var/lib/awx/venv/ara

# Install ARA, Ansible and required dependencies
$ /var/lib/awx/venv/ara/bin/pip install ara ansible psutil python-memcached

# Print location of the ARA callback
$ /var/lib/awx/venv/ara/bin/python -m ara.setup.callback_plugins
/var/lib/awx/venv/ara/lib/python2.7/site-packages/ara/plugins/callbacks
```

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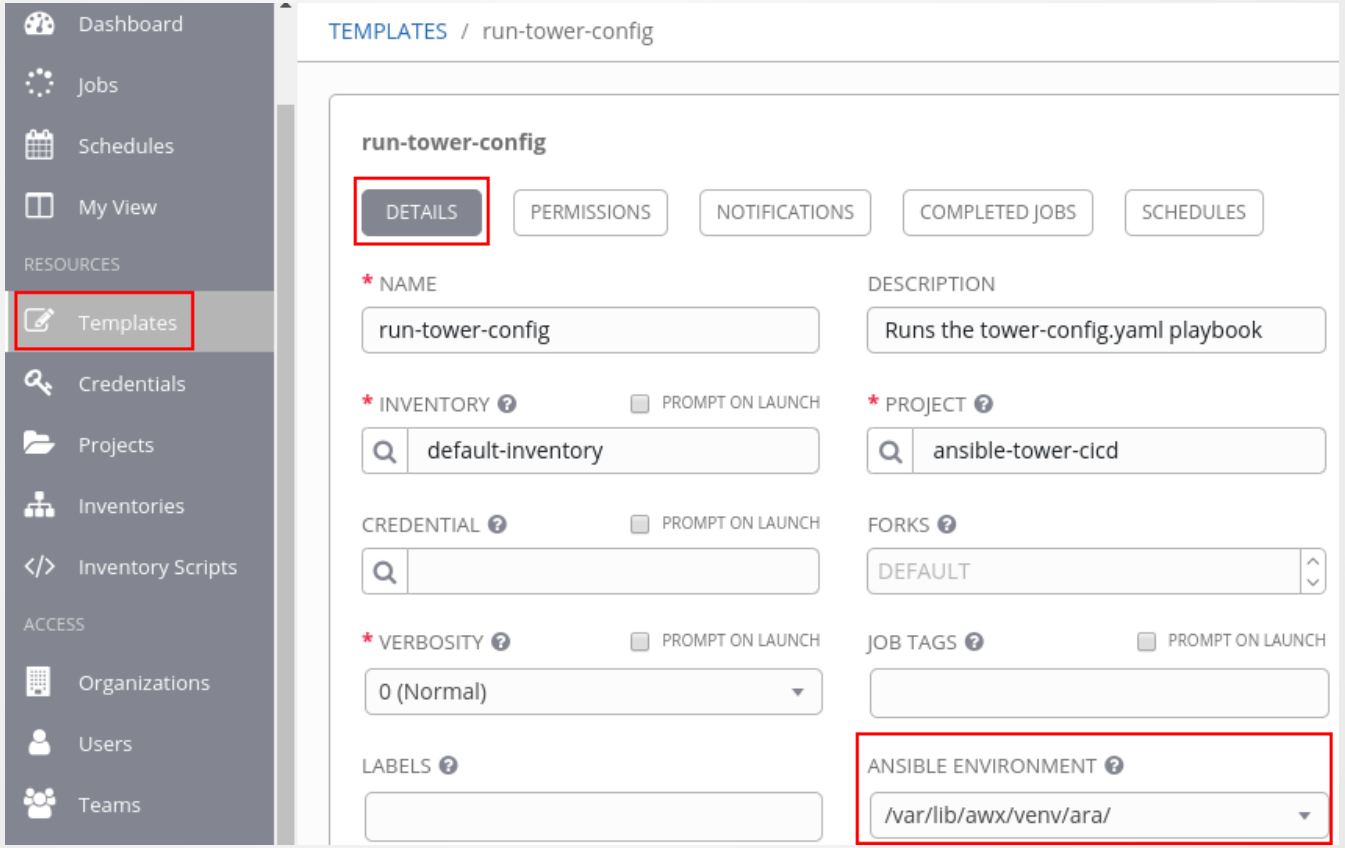

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Communauté

https://ara.recordsansible.org

Communauté

- GitHub: https://github.com/ansible-community/ara
- IRC: #ara sur freenode
- Slack: ARecordsAnsible.slack.com
- Twitter: @ARecordsAnsible

Contactez moi si vous aimeriez contribuer !

ara

Merci !

Questions ?

- GitHub: https://github.com/ansible-community/ara
- IRC: #ara sur freenode
- Slack: ARecordsAnsible.slack.com
- Twitter: @ARecordsAnsible
- Docs: ara.readthedocs.org