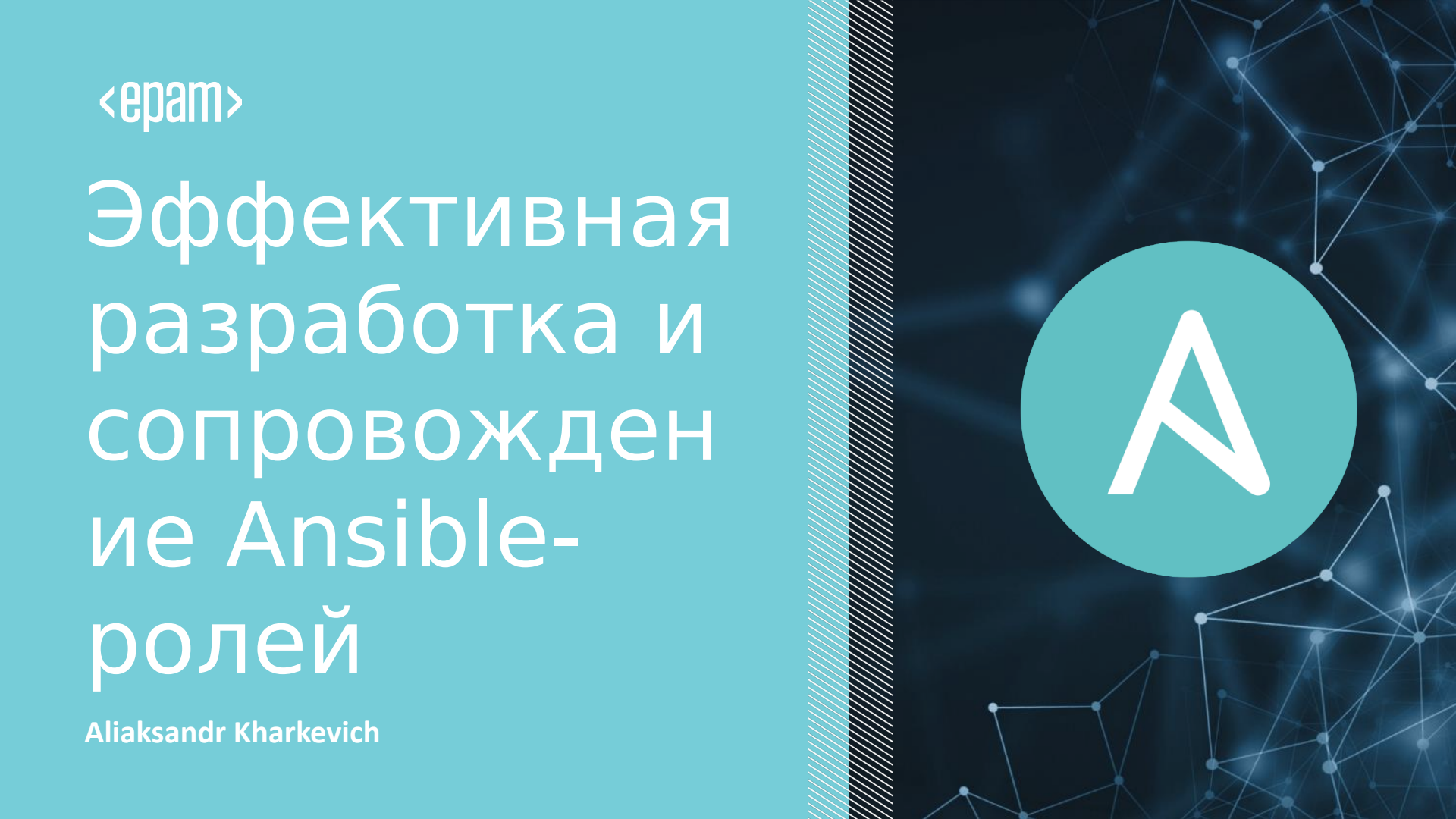

epam
Эффективная разработка и сопровождение Ansible-ролей
Aliaksandr Kharkevich

Ansible in a nutshell

- Configuration managements
- Released in 2012
- Acquired by Red Hat in 2015
- Developed in Python
- DSL – YAML
- Templates – Jinja
- Web-UI, central management – Ansible Tower

Ansible in a nutshell

- **Inventory**
- Task
- Handlers
- Template
- Playbook
- Role

```
---
all:
  hosts:
    mail.example.com:
  children:
    webservers:
      hosts:
        foo.example.com:
        bar.example.com:
    dbservers:
      hosts:
        one.example.com:
        two.example.com:
        three.example.com:
```

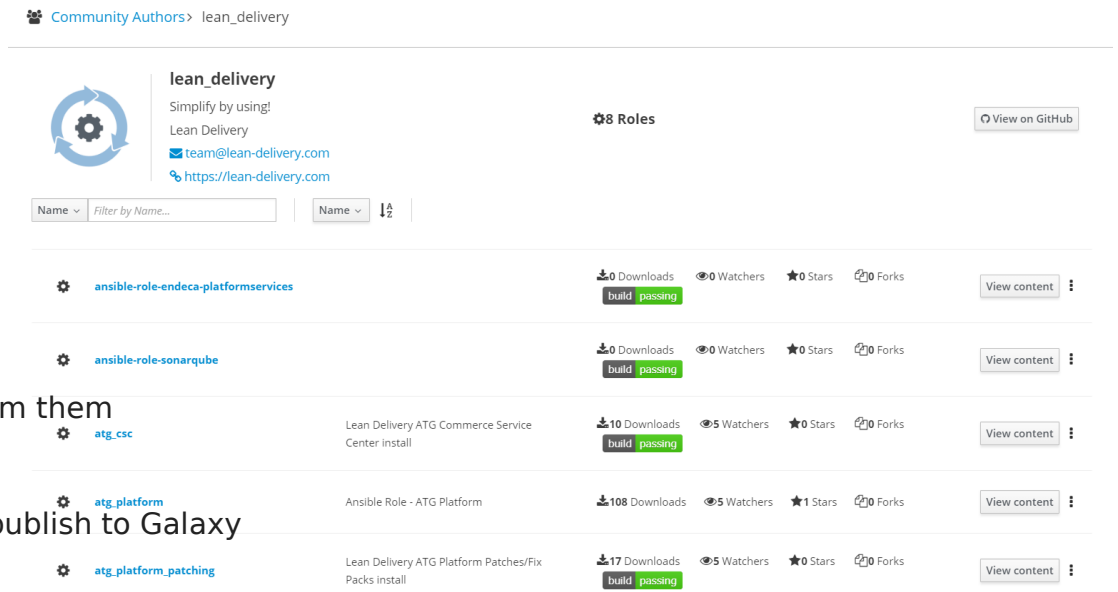
Ansible in a nutshell

- Inventory
- Task
- Handlers
- Template
- **Playbook**
- Role

```
---
- hosts: webservers
  tasks:
  - name: ensure apache is installed
    yum:
      name: httpd
      state: present
  - name: write the apache config file
    template:
      src: /srv/httpd.j2
      dest: /etc/httpd.conf
    notify:
    - restart apache
  handlers:
    - name: restart apache
      service:
        name: httpd
        state: restarted
```

Life, the Galaxy and Everything

- Ansible role
- Role sources
  - From Galaxy
  - From SCM (include private SCM)
- Create your own



- Describe galaxy and how to install role from them
- Get example how to get role from SCM
- Get example how to create new role and publish to Galaxy

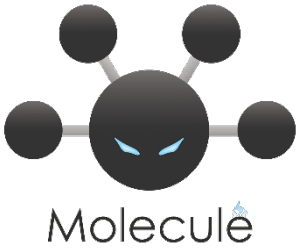
New role initialization with using **ansible-galaxy**

```
$ ansible-galaxy init ansible-role-demo
```

```
.
├── defaults
│   └── main.yml
├── files
├── handlers
│   └── main.yml
├── meta
│   └── main.yml
├── README.md
├── tasks
│   └── main.yml
├── templates
├── tests
│   ├── inventory
│   └── test.yml
└── vars
    └── main.yml
```

Molecule, Lint and Testinfra

- 150 roles in support -> migration to GitHub
- YAML lint
- Ansible lint
- Custom Ansible lint rules
- Molecule
- Molecule drivers: Azure, Delegated, Docker, EC2, GCE, LXC, LXD, Openstack, Vagrant
- Molecule stages (lint, destroy, dependency, syntax, create, prepare, converge, idempotence, side_effect, verify, destroy)

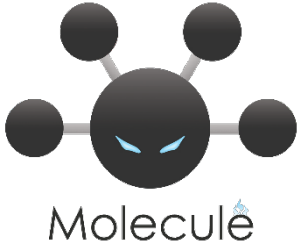


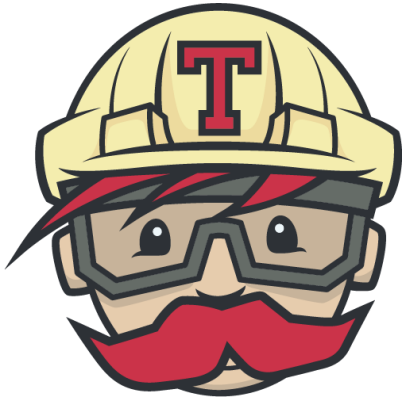
New role initialization with using **molecule**

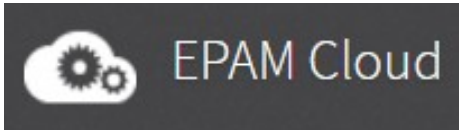
```
$ molecule init role -r ansible-role-demo
        .
        ├── defaults
        │   └── main.yml
        ├── handlers
        │   └── main.yml
        ├── meta
        │   └── main.yml
        ├── molecule
        │   └── default
        │       ├── Dockerfile.j2
        │       ├── molecule.yml
        │       ├── playbook.yml
        │       └── tests
        │           └── test_default.py
        ├── README.md
        ├── tasks
        │   └── main.yml
        └── vars
            └── main.yml
```

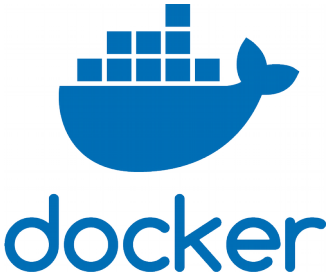
Travis-CI, GitLab CI, Whatever CI

- CI using Travis-CI and molecule + docker as engine (and web hook for galaxy publishing)
- GitLab CI for GitHub
- GitLab CI private runners
- EPAM Cloud Ansible Module



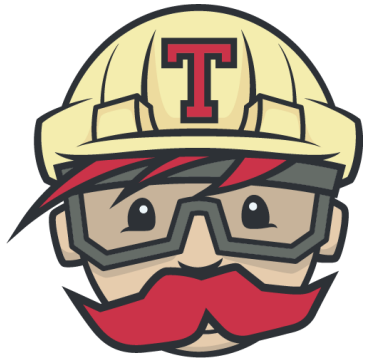






.travis.yml

```
---
dist: xenial
sudo: required
language: python
python:
  - "2.7"
services:
  - docker
install:
  - pip install --upgrade ansible==2.5.7 ansible-lint docker-py molecule
script:
  - ansible-lint -c .ansible-lint `find . -regex ".*\.\(yml\)"`
  - molecule test -s default
notifications:
  webhooks: https://galaxy.ansible.com/api/v1/notifications/
```

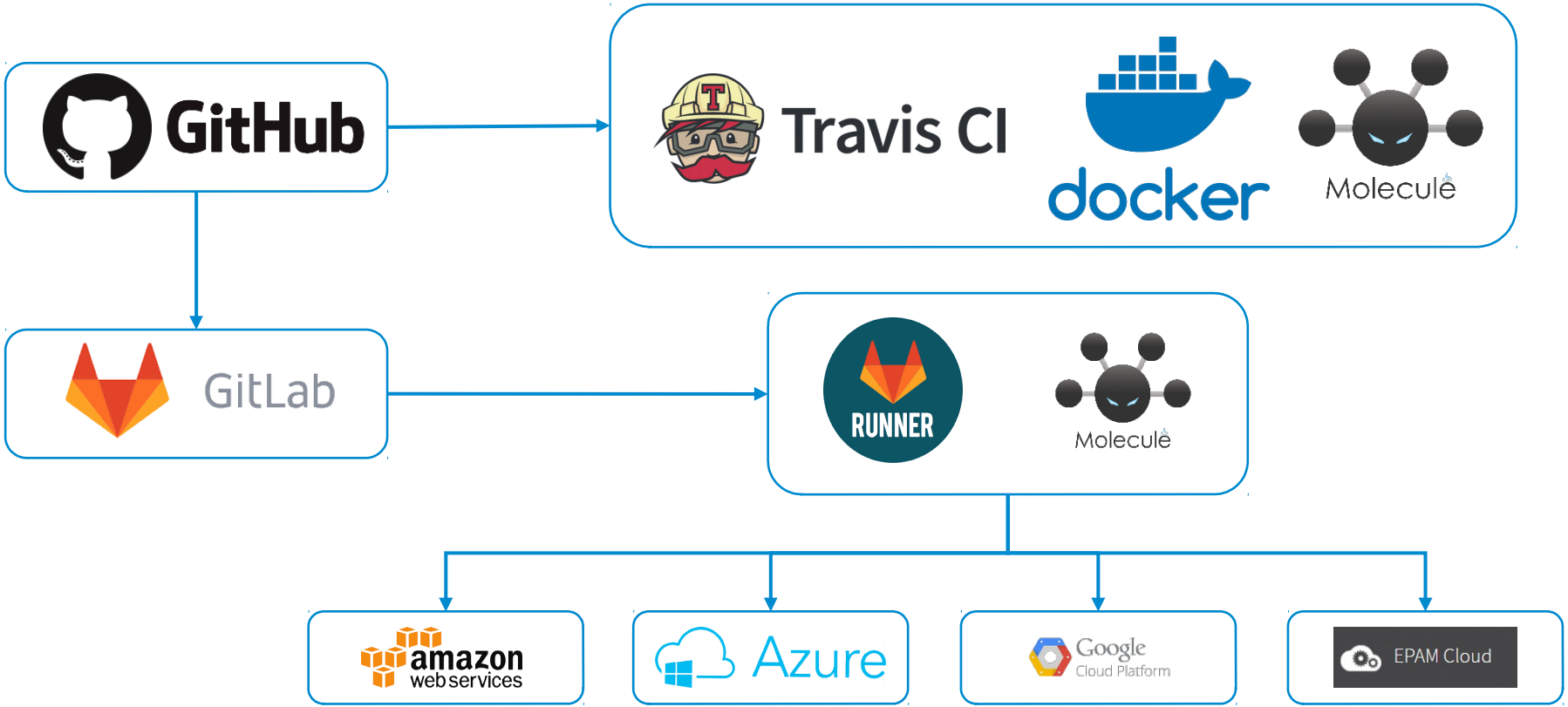


.gitlab-ci.yml

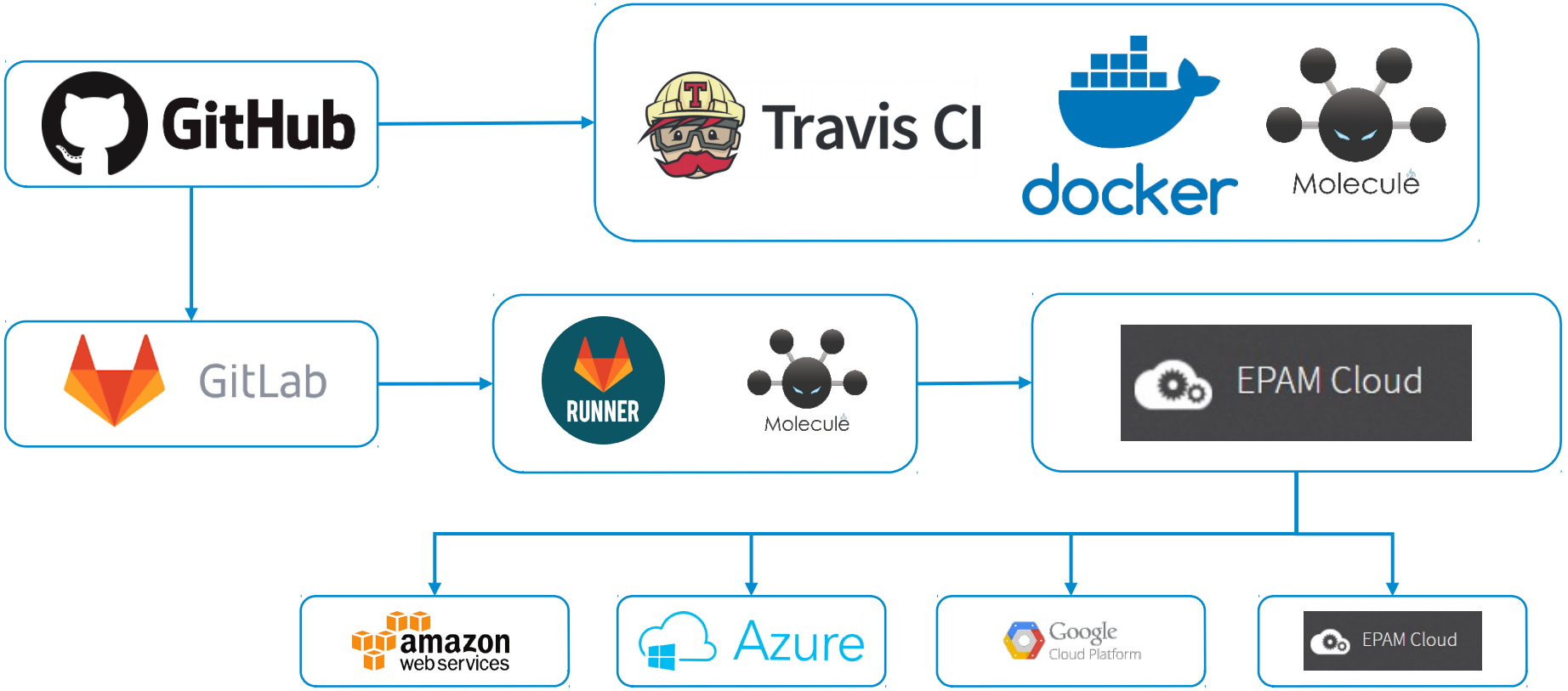
```
---
stages:
  - deployment test
variables:
  GET_SOURCES_ATTEMPTS: "5"
AWS:
  variables:
    EPC_REGION: AWS-EUCENTRAL
  stage: deployment test
  script:
    - molecule test -s cloud-aws-delegated
  tags:
    - delegated
```

Short CI

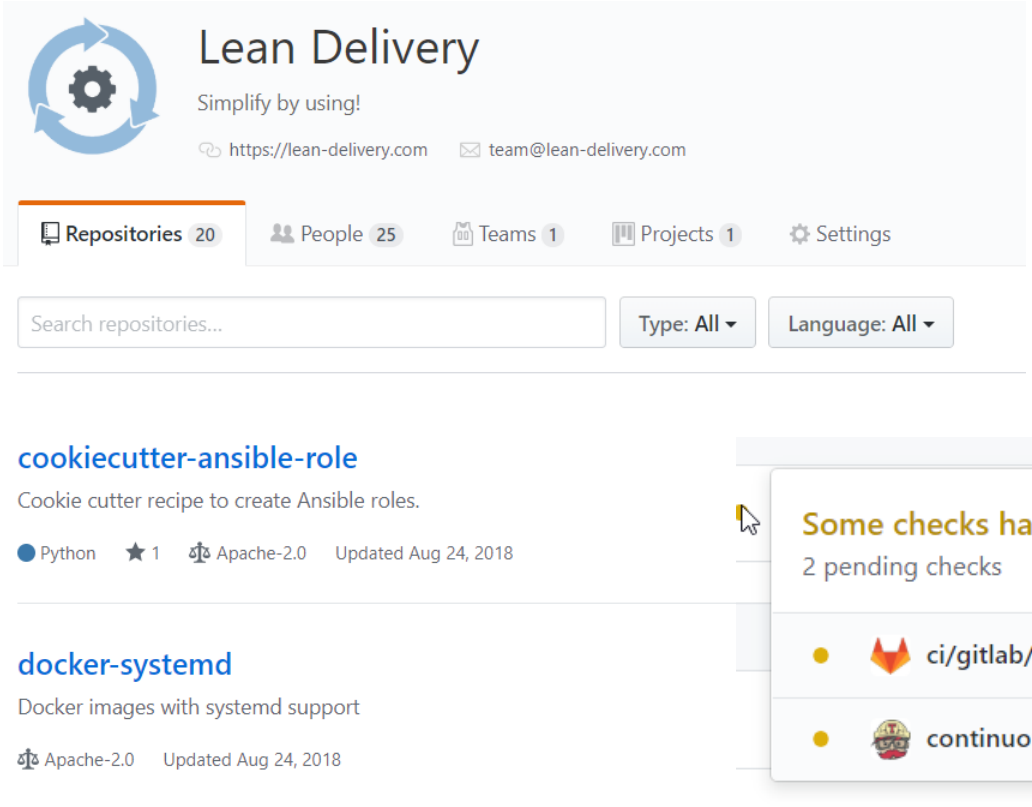
Full CI


GitHub
Travis CI
docker
Molecule
GitLab
RUNNER
Molecule
amazon
web services
Azure
Google
Cloud Platform
EPAM Cloud

Full CI


GitHub
Travis CI
docker
Molecule
GitLab
RUNNER
Molecule
EPAM Cloud
amazon web services
Azure
Google Cloud Platform
EPAM Cloud

CI



https://github.com/lean-delivery/

https://galaxy.ansible.com/lean_delivery/

New role initialization with using **cookiecutter**

```
$ cookiecutter --url https://github.com/lean-delivery/cookiecutter-ansible-role
```

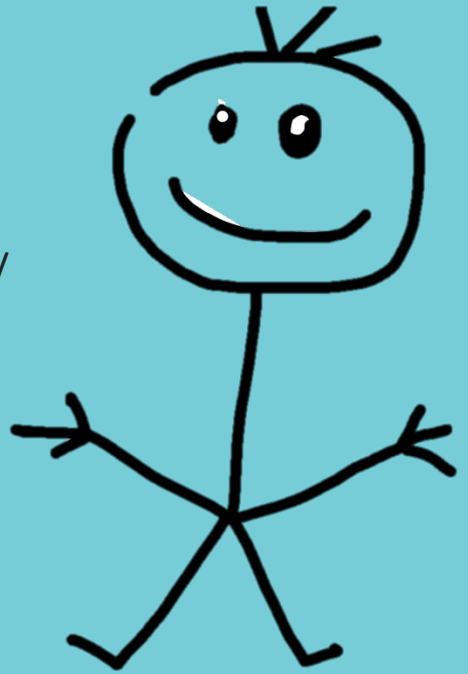
```
.
├── .ansible-lint
├── defaults
│   └── main.yml
├── .github
│   └── ISSUE_TEMPLATE
│       ├── bug_report.md
│       ├── documentation_report.md
│       └── feature_request.md
├── .gitignore
├── .gitlab-ci.yml
├── handlers
│   └── main.yml
├── LICENSE
├── meta
│   └── main.yml
```

```
.
├── molecule
│   ├── cloud-aws-delegated
│   │   ├── molecule.yml
│   │   └── playbook.yml
│   ├── cloud-epc-delegated
│   │   ├── molecule.yml
│   │   └── playbook.yml
│   ├── default
│   │   ├── Dockerfile.j2
│   │   ├── molecule.yml
│   │   └── playbook.yml
│   └── resources
│       └── provisioning
│           ├── create.yml
│           ├── destroy.yml
│           └── prepare.yml
```

```
.
├── README.md
├── tasks
│   └── main.yml
├── templates
│   └── .gitkeep
├── .travis.yml
├── vars
│   └── main.yml
└── .yamllint
```

https://github.com/kharkevich/
https://github.com/lean-delivery/

https://galaxy.ansible.com/kharkevich/
https://galaxy.ansible.com/lean_delivery/



team@lean-delivery.com