

Continuous testing with Molecule, Ansible, and GitHub Actions

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The earlier you catch defects, the cheaper they are to fix

David Farley

`whoami`

Jeff Geerling (geerlingguy)

- Ansible user since 2012
- Wrote a book: Ansible for DevOps
- Writing another book: Ansible for Kubernetes
- OSS maintainer:
 - 200+ projects
 - 27,000 stars
 - 14,000 forks



Molecule and GitHub Actions CI

The example used in this presentation is based on an example in chapter 13 of Ansible for DevOps, which you can get at www.ansiblefordevops.com

```
1 ---
2 - hosts: all
3   become: true
4
5   handlers:
6     - name: restart apache
7       service:
8         name: httpd
9         state: restarted
10
11   tasks:
12     - name: Ensure Apache is installed.
13       package:
14         name: httpd
15         state: present
16
17     - name: Copy a web page.
18       copy:
19         content: |
20           <html>
21             <head><title>Hello world!</title></head>
22             <body>Hello world!</body>
23           </html>
24         dest: "/var/www/html/index.html"
25         mode: 0664
26         notify: restart apache
27
28     - name: Ensure Apache is running and starts at boot.
29       service:
30         name: httpd
31         state: started
32         enabled: true
```

Set up Molecule

(In Playbook directory)

1. Install Molecule:

```
pip3 install molecule[docker]
```

2. Create a default scenario:

```
molecule init scenario
```

3. Modify the scenario to run this playbook.

molecule/default/molecule.yml

```
1  ---
2  dependency:
3    name: galaxy
4  driver:
5    name: docker
6  lint: |
7    set -e
8    yamllint .
9    ansible-lint
10 platforms:
11   - name: instance
12     image: geerlingguy/docker-centos8-ansible:latest
13     command: ""
14     volumes:
15       - /sys/fs/cgroup:/sys/fs/cgroup:ro
16     privileged: true
17     pre_build_image: true
18 provisioner:
19   name: ansible
20 verifier:
21   name: ansible
```



molecule/default/converge.yml

```
1  ---
2  - name: Converge
3    hosts: all
4
5  - import_playbook: ../../main.yml
```


molecule/default/verify.yml

```
1  ---
2  ▼ - name: Verify
3      hosts: all
4
5      tasks:
6  ▼ - name: Verify Apache is serving web requests.
7  ▼     uri:
8          url: http://localhost/
9          status_code: 200
```

15:46:07 Ansible/AnsibleFest Virtual 2020/playbook

\$

GitHub Actions Integration

Set up GitHub Actions

(In Playbook directory)

1. Create a GitHub 'workflows' directory:

```
mkdir -p .github/workflows
```

2. Create a CI workflow:

```
touch .github/workflows/ci.yml
```


```
1  ---
2  name: CI
3  'on':
4    pull_request:
5    push:
6      branches:
7        - master
8
9  jobs:
10
11    test:
12      name: Molecule
13      runs-on: ubuntu-latest
14
15      steps:
16        - name: Check out the codebase.
17          uses: actions/checkout@v2
18
19        - name: Set up Python 3.
20          uses: actions/setup-python@v2
21          with:
22            python-version: '3.x'
23
24        - name: Install test dependencies.
25          run: pip3 install molecule[docker] yamllint ansible-lint
26
27        - name: Run Molecule tests.
28          run: molecule test
29          env:
30            PY_COLORS: '1'
31            ANSIBLE_FORCE_COLOR: '1'
```

github.com/geerlingguy/ansiblefest-virtual-2020/actions

🔔

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Complete Example is on GitHub

Also includes example of testing on two different operating systems:

<https://github.com/geerlingguy/ansible-for-devops/tree/master/molecule>

#DevOpsHaiku

It's impossible
to maintain many projects
without good CI

Jeff Geerling

Thank you

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