How to Teach Old Apps New Tricks with Ansible-based Operators: Part 2

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PART TWO

- Part One Recap
- Ansible-based Operators in Kubernetes
- How Can Ansible-based Operators Bring Apps To Openshift
- Resources
PART ONE RECAP
STATELESS IS EASY, STATEFUL IS HARD
ANSIBLE-BASED OPERATORS IN KUBERNETES
ANSIBLE-BASED OPERATORS

operator-sdk new motd-operator --type ansible --api-version motd.example.com/v1 --kind MOTD

cd motd-operator/roles/motd
watches.yaml

---
- version: v1
group: motd.example.com
kind: MOTD
role: /opt/ansible/roles/roles/motd
HOW CAN ANSIBLE-BASED OPERATORS BRING APPS TO KUBERNETES
ANSIBLE MANAGING STATE

```yaml
---
- name: Save the STATE
  copy:
    dest: /root/motd.{{ ansible_date_time.iso8601_micro }}
    src: /etc/motd
  owner: root
  group: root
  mode: 644
  remote_src: true
- name: Deploy Fresh MOTD
  template:
    src: motd.j2
    dest: /etc/motd
```
ANSIBLE GALAXY MANAGING STATE
RED HAT ANSIBLE TOWER MANAGING STATE
BUILD ANSIBLE-BASED OPERATOR

# operator-sdk new motd-operator --type ansible
   --api-version motd.example.com/v1 --kind MOTD

# cd motd-operator

# oc create -f deploy/crds/motd_v1_motd_crd.yaml
BUILD ANSIBLE-BASED OPERATOR

# vi build/Dockerfile

RUN ansible-galaxy install chris-short.ansible_role_motd

# operator-sdk build
quay.io/chrisshort/motd-operator:v0.0.1

# podman push
quay.io/chrisshort/motd-operator:v0.0.1
DEPLOY ANSIBLE-BASED OPERATOR

# oc create -f deploy/service_account.yaml
# oc create -f deploy/role.yaml
# oc create -f deploy/role_binding.yaml
# oc create -f deploy/operator.yaml
ANSIBLE MANAGING STATE IN K8S

https://github.com/derailed/k9s
RESOURCES
Why Build Operators with Ansible?

Ansible Fits naturally into a Kubernetes Environment. Both use YAML to describe the desired state of the world. Both Ansible and OpenShift have vibrant communities working to solve common problems. Combining Ansible and Kubernetes frees up application engineers to minimize the new skill sets required to maximize time to delivery.

The same tried and trusted Ansible tooling lets you Automate and Orchestrate your applications across both new and existing platforms allowing teams to transition without having to learn new skills. With the k8s module, an Ansible user can manage applications on Kubernetes, on existing IT or across both with one simple language.

FEATURED WEBINAR

Operators for Ansible people

In this webinar Red Hat provides an overview of Ansible Operators. Highlights include:

- Why use Ansible with Kubernetes
- Extending Kubernetes API
- Advanced patterns

Watch video

SPEAKERS

Michael Hlinsak
Principal Software Engineer, Red Hat
ANSIBLE ECOSYSTEM

Red Hat® Ansible® Automation is a universal language, unraveling the mystery of how work gets done. Turn tough tasks into repeatable playbooks.

Ansible is an open source community project sponsored by Red Hat, it's the simplest way to automate IT. Ansible is the only automation language that can be used across entire IT teams from systems and network administrators to developers and managers.
OPERATOR ECOSYSTEM

**OperatorHub.io**: OperatorHub.io is a new home for the Kubernetes community to share Operators. Find an existing Operator or list your own today.

**learn.openshift.com**: Our Interactive Learning Scenarios provide you with a pre-configured OpenShift® instance, accessible from your browser without any downloads or configuration.

**Operator Framework**: An open source toolkit to manage Kubernetes native applications, called operators, in an effective, automated, and scalable way.
artifacts

https://github.com/chris-short/ansible-role-motd: Ansible Role to manage /etc/motd to simulate managing state

https://galaxy.ansible.com/chris-short/ansible_role_motd: Above Ansible Role available from Ansible Galaxy

https://github.com/chris-short/motd-operator: Ansible-based Kubernetes Operator Using ansible_role_motd from Ansible Galaxy as an example from managing state in a Kubernetes cluster
THANK YOU

linkedin.com/company/Red-Hat
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