Leverage Event Driven Ansible to manage containers in a better way

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Red Hat

TOC

Event-Driven Ansible

Leverage EDA for containers management

Takeaways

About me

- Working in IT since 2004, mostly in operations roles
- Ansible user since 2013
- Author of 5 books, 4 of which on Ansible
- EMEA Principal Specialist Solution Architect for Ansible @ Red Hat

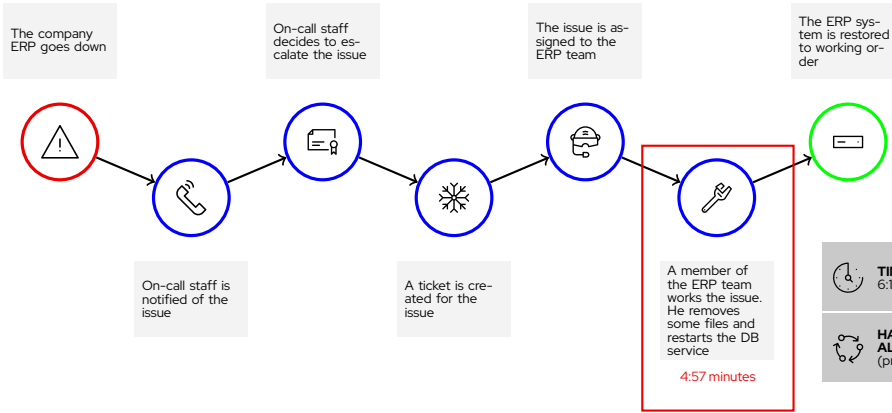
Disclaimer

Everything we will discuss today is fully Open Source.

It works in the same way on both Community and Enterprise editions.


PowerEdge R300

What happened



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Event-Driven Ansible

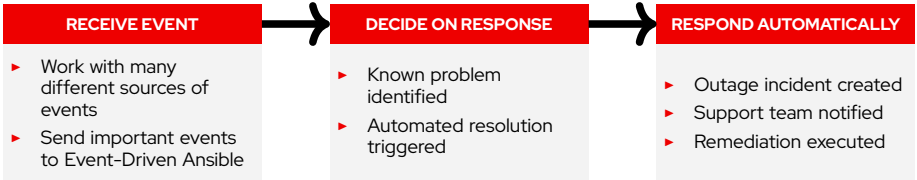
Ansible

- Suite of Infrastructure as Code tools
- Open Source
- Mainly push mode (agent-less)
- Infrastructure as Data (in YAML format)
- Very gentle learning curve
- Very readable code
- Collections to support code-reusability
- Ecosystem

Ansible Playbook

```
---
 - hosts: all
   become: True
   tasks:
     - name: Ensure httpd is installed
       ansible.builtin.package:
         name: httpd
         state: latest
     - name: Ensure httpd is started
       ansible.builtin.service:
         name: httpd
         state: started
```

Automate event workflow



WORK ACROSS MULTI-DOMAIN AND MULTI-VENDOR IT OPERATIONS

Work flexibly and well with multi-domain and multi-vendor monitoring and other solutions across the event driven architecture with appropriate approvals, controls and awareness

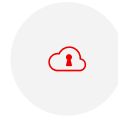
Event-Driven Ansible advantages

Flexible event-driven automation

Flexible from source to rule to action with multiple event sources. Create and change automation easily.

IT environment friendly

Automate any IT use case quickly and simply. Jumpstart with many content collections available.

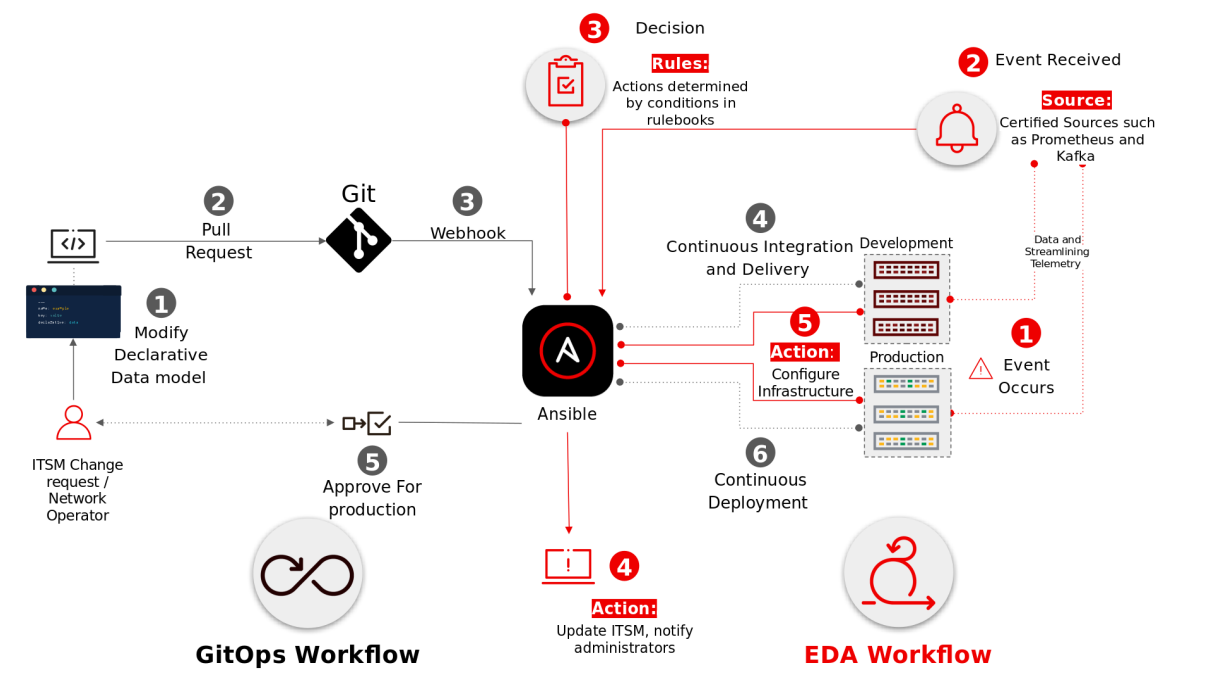


Robust automation handling

Scalable decisioning and implementation with flexible actions.

Single automation platform

Choose your automation style, leverage existing automation content and extend skills.

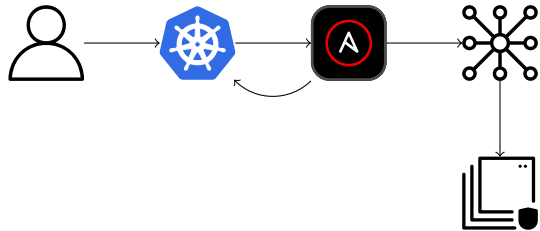

3
Decision
Rules:
Actions determined by conditions in rulebooks
2
Event Received
Source:
Certified Sources such as Prometheus and Kafka
Git
2
Pull Request
3
Webhook
4
Continuous Integration and Delivery
Development
Data and Streamlining Telemetry
1
Modify Declarative Data model
5
Action:
Configure Infrastructure
Production
1
Event Occurs
Ansible
ITSM Change request / Network Operator
5
Approve For production
6
Continuous Deployment
4
Action:
Update ITSM, notify administrators
GitOps Workflow
EDA Workflow

Leverage EDA for containers management

k8s: ConfigMap to configure external resources

- Many organization would like to manage out-of-cluster resources from k8s clusters (eg: Crossplane)
- Examples: certificates, routes, non-k8s app components, etc.
- Advantages:
  - More flexibility
  - Not tied to standard APIs
- Disadvantages:
  - Need to write integration

k8s: ConfigMap to configure external resources

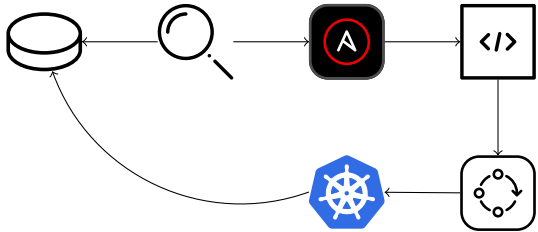


https://www.ansible.com/blog/kubernetes-meets-event-driven-ansible/

k8s: Extend PVC via GitOps

- What do you do when a Persistent Volume fills up?
- How do you ensure GitOps is respected?
- What about KubeVirt machines, etc?

k8s: Extend PVC via GitOps



https://github.com/zaskan/ocp-event-driven/

Takeaways

Takeaways

- Triggering automation from events can help reduce the outages time
- Event-Driven Ansible can reuse the Ansible code you already have
- Event-Driven Ansible can interact with many different systems
- Event-Driven Ansible can simplify Containers-related processes

Q&A

Feedback

Slides

Let’s continue the conversation:

- Fediverse: @fale@fale.io
- Email: fale@redhat.com

Thank you

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