

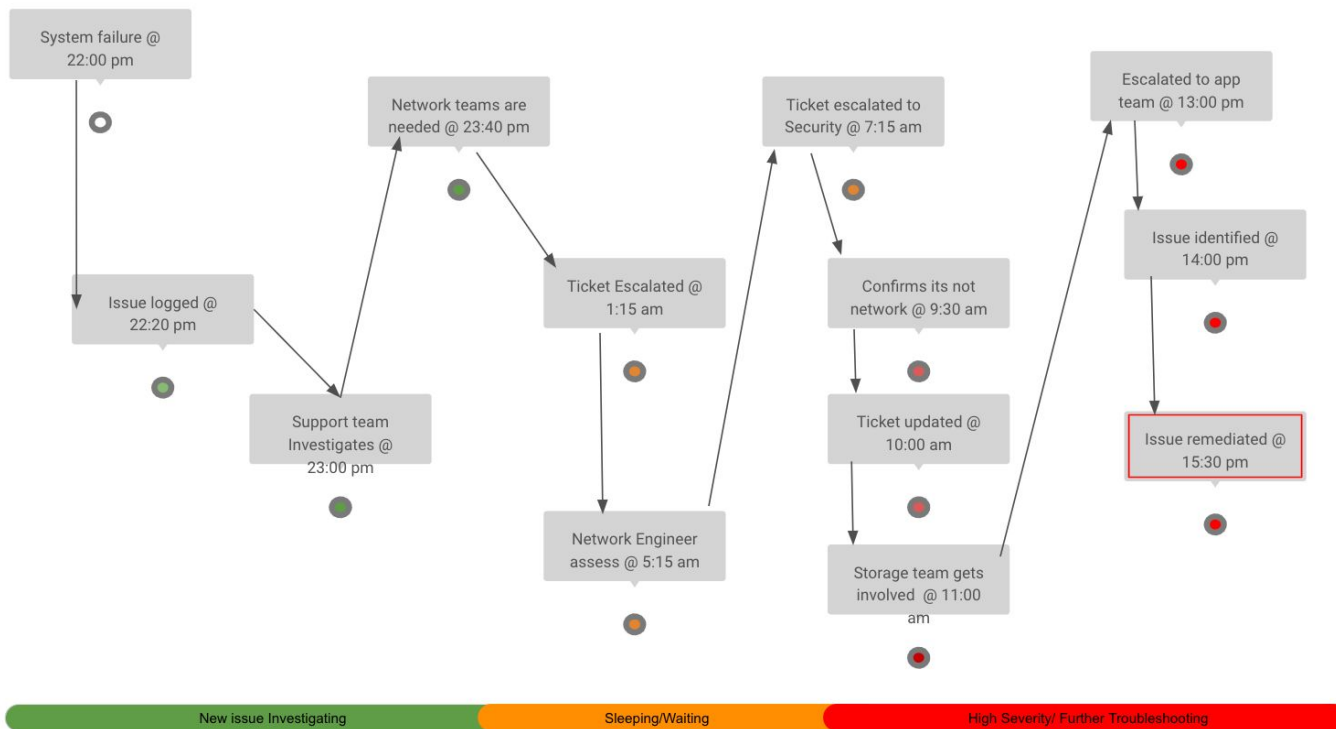
Event Driven Ansible

Introduction and Lab

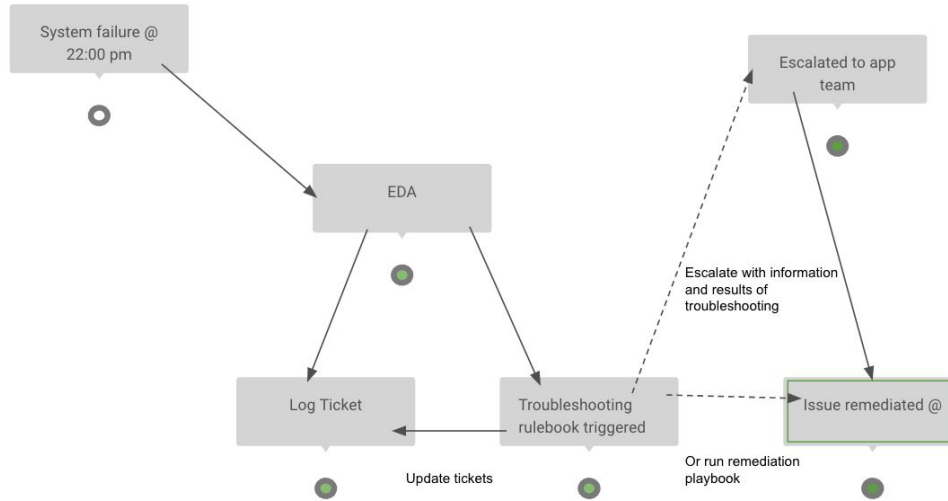
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Event Driven Ansible (EDA)



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New issue Investigating

Sleeping/Waiting

High Severity/ Further Troubleshooting

New for EDA: Rulebooks

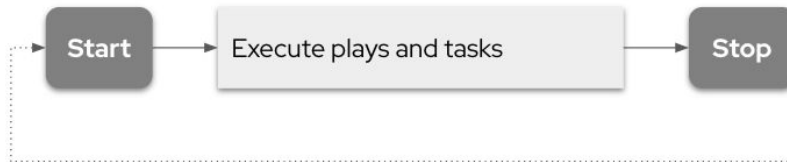
- ▶ Similar to Ansible playbooks
 - YAML
 - If-this-then-that style
 - Monitor one or more **sources**
 - Include one or more **rules**
 - Trigger one or more **actions**

```
---  
- name: Listen for events on a webhook  
  hosts: all  
  
  ## Define our source for events  
  
  sources:  
    - ansible.eda.webhook:  
      host: 0.0.0.0  
      port: 5000  
  
  ## Define the conditions we are looking for  
  
  rules:  
    - name: Say Hello  
      condition: event.payload.message == "Ansible  
is super cool!"  
  
  ## Define the action we should take should the  
condition be met  
  
  action:  
    run_playbook:  
      name: say-what.yml  
  
...
```

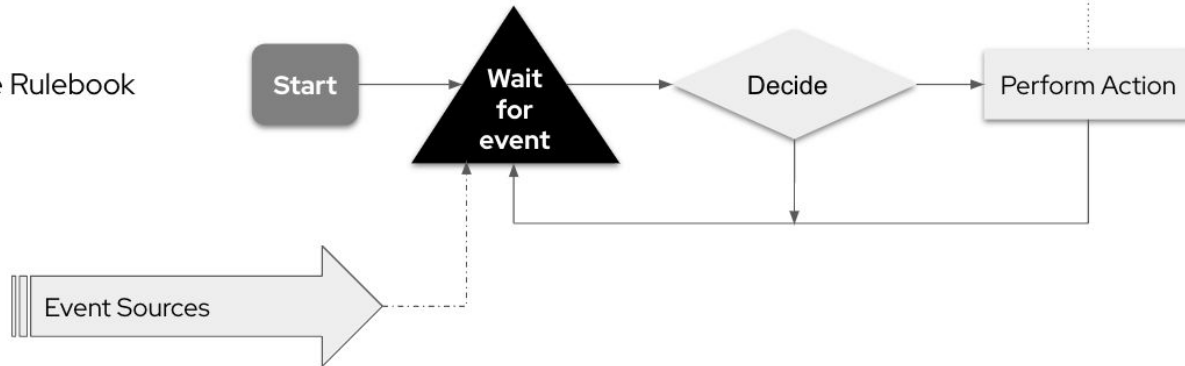
Rulebooks vs Playbooks



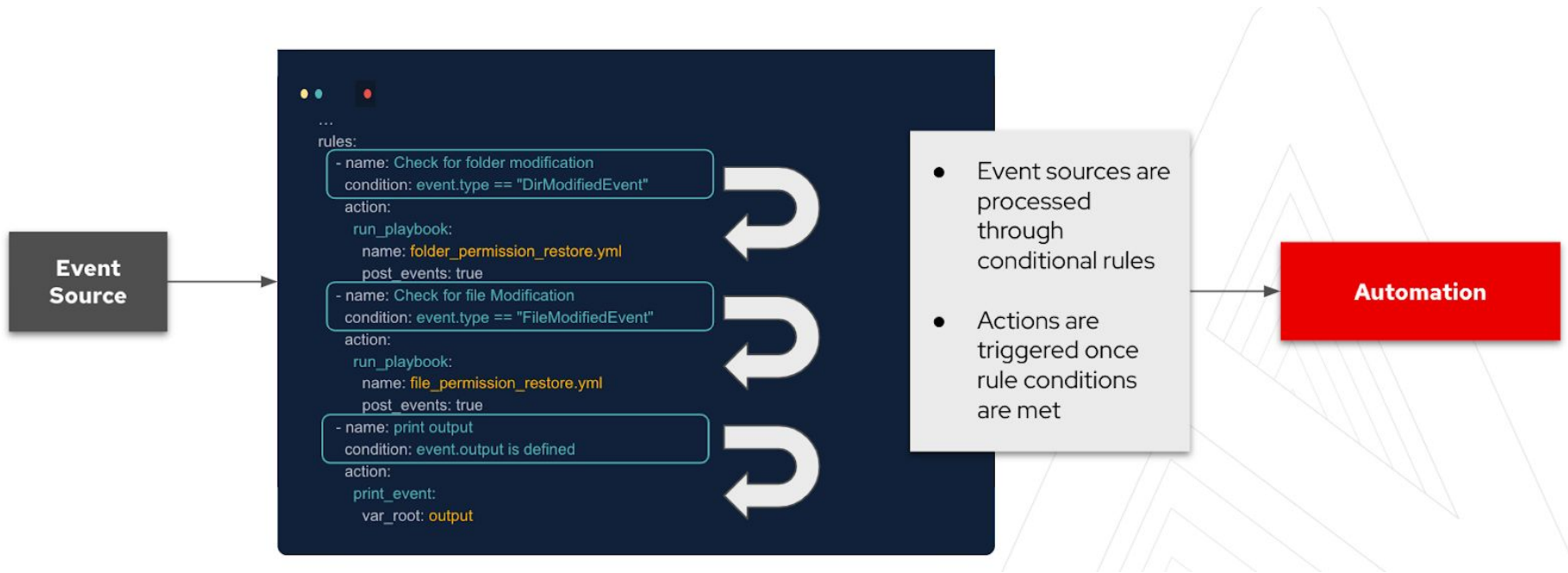
Ansible Playbook



Ansible Rulebook



Ansible Rulebooks



Rulebooks - Sources

► Sources

- Define event source
- From source plugins
- For example
 - webhook
 - Kafka
 - Azure service bus
 - file changes
 - alertmanager
 - url_check
 - tick
 - file
 - range
 - (more to come)
 - [Write your own](#)

```
sources:  
  - ansible.eda.webhook:  
    host: 0.0.0.0  
    port: 5000
```

Rulebooks - Rules

- ▶ **Rules**

- Conditionals to match from event source
- If met trigger an action

```
rules:  
  - name: Say Hello  
    condition: event.payload.message == "Ansible is super cool!"
```

- ▶ Single Boolean
- ▶ Multiple with **all:**
- ▶ Multiple with **any:**

Rulebooks - Actions

▶ Actions

- Trigger should a condition be met
- Current actions
 - run_playbook
 - run_module
 - run_job_template
 - run_workflow_template
 - set_fact
 - post_event
 - retract_fact
 - print_event
 - shutdown
 - debug
 - none

```
action:  
  run_playbook:  
    name: say-what.yml
```

Rulebook Environment Installation

- ▶ Prerequisites:
 - Python \geq 3.9
 - Python 3 pip
 - Java development kit \geq 17
 - Maven
- ▶ Set Java Home: `JAVA_HOME=/usr/lib/jvm/jre-17-openjdk`
- ▶ `# pip install ansible-rulebook`
- ▶ `# ansible-galaxy collection install ansible.eda`
- ▶ For full details see <https://ansible.readthedocs.io/projects/rulebook/en/stable/installation.html>

Rulebook Execution (standalone)

```
root@ansible-rulebook:/root# ansible-rulebook --rulebook webhook-example.yml -i inventory.yml
--verbose

ansible_rulebook.app - INFO - Starting sources
ansible_rulebook.app - INFO - Starting rules
ansible_rulebook.engine - INFO - run_ruleset
drools.ruleset - INFO - Using jar:
/usr/local/lib/python3.12/site-packages/drools/jars/drools-ansible-rulebook-integration-runtime-
1.0.5-SNAPSHOT.jar
ain] INFO org.drools.ansible.rulebook.integration.api.rulesengine.AbstractRulesEvaluator - Start
automatic pseudo clock with a tick every 100 millise
ansible_rulebook.engine - INFO - ruleset define: {"name": "Listen for events on a webhook",
"hosts": ["all"], "sources": [{"EventSource": {"name": "an
ansible_rulebook.engine - INFO - load source
ansible_rulebook.engine - INFO - load source filters
ansible_rulebook.engine - INFO - loading eda.builtin.insert_meta_info
```

Rulebook waiting

```
...
ansible_rulebook.engine - INFO - Calling main in ansible.eda.webhook
ansible_rulebook.engine - INFO - Waiting for all ruleset tasks to end
ansible_rulebook.rule_set_runner - INFO - Waiting for actions on events from Listen for events on
a webhook
ansible_rulebook.rule_set_runner - INFO - Waiting for events, ruleset: Listen for events on a
webhook [rools-async-evaluator-thread] INFO
org.drools.ansible.rulebook.integration.api.io.RuleExecutorChannel - Async channel connected
```

Simulate Trigger

```
# curl -H 'Content-Type: application/json' -d "{\"message\": \"Ansible is super cool\"}"  
127.0.0.1:5000/endpoint
```

Event Triggered

```
ansible rulebook.rule_set_runner - INFO - call action run playbook
ansible_rulebook.rule_set_runner - INFO - substitute_variables [{'name': 'say-what.yml'}] [{'event': {'payload': {'message': 'Ansible
is super cool'}, 'meta': {'endpoint': 'endpoint', 'headers': {'Host': '127.0.0.1:5000', 'User-Agent': 'curl/8.2.1', 'Accept': '*/*',
'Content-Type': 'application/json', 'Content-Length': '36'}, 'source': {'name': 'ansible.eda.webhook', 'type':
'ansible.eda.webhook'}, 'received_at': '2023-12-13T21:27:24.069115Z', 'uuid': '5190bc18-6904-4990-a22a-112154487e8b'}}]]

ansible rulebook.rule_set_runner - INFO - action args: {'name': 'say-what.yml'}
ansible rulebook.action.run_playbook - INFO - ruleset: Listen for events on a webhook, rule: Say Hello
ansible_rulebook.action.run_playbook - INFO - Calling Ansible runner

PLAY [say what] *****

TASK [Gathering Facts] *****
ok: [localhost]

TASK [say something] *****
ok: [localhost] => {
  "msg": "It certainly is!"
}

PLAY RECAP *****
localhost                : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

ansible rulebook.action.runner - INFO - Ansible runner Queue task cancelled
ansible rulebook.action.run_playbook - INFO - Ansible runner rc: 0, status: successful
ansible rulebook.rule_set_runner - INFO - Task action::run_playbook::Listen for events on a webhook::Say Hello finished, active
actions 1
ansible_rulebook.rule_set_runner - INFO - Task Task-12 finished, active actions 0
```

Product Documentation

- ▶ Getting Started With Event Driven Ansible

https://access.redhat.com/documentation/en-us/red_hat_ansible_automation_platform/2.4/html/getting_started_with_event-driven_ansible_guide/

- ▶ EDA Controller User Guide

https://access.redhat.com/documentation/en-us/red_hat_ansible_automation_platform/2.4/html/event-driven_ansible_controller_user_guide/

- ▶ EDA e-book

<https://www.redhat.com/en/engage/build-innovation-automation-20230414>

Lab Time!

red.ht/nyrhug-eda



Thank you!

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