ZABBIX

Reacting to Zabbix Events with Event Driven Ansible

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What are we going to discuss today?

ZABBIX

How it works?

Rulebooks

How to configure?

Actions and conditions

Examples

Why is this integration needed?

- Automate your IT processes
- React to non-scheduled events
- Managing your IT infrastructure

How it works?

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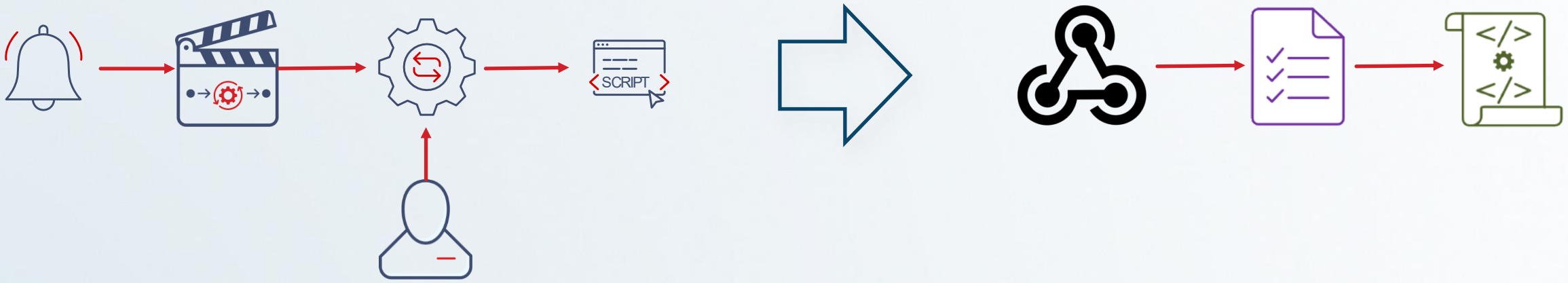
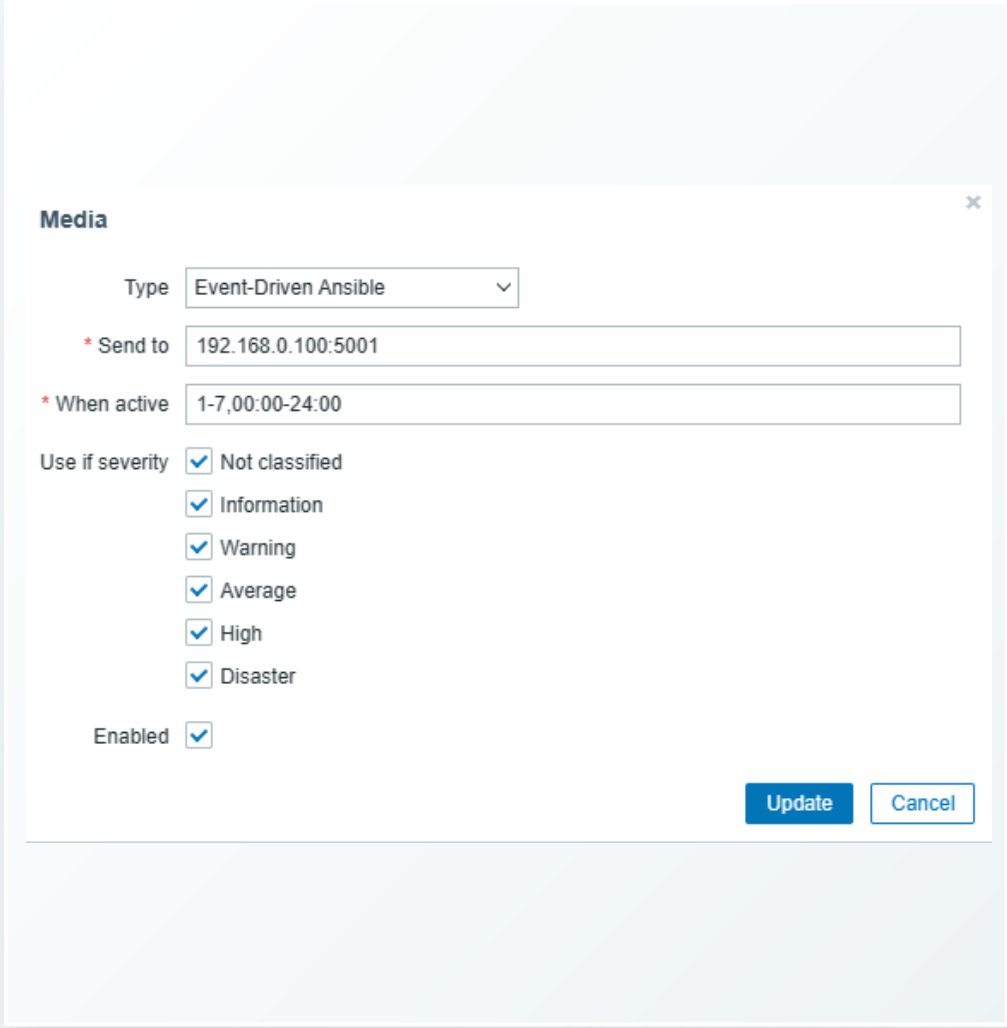
ANSIBLE



How to configure in Zabbix?

- Import the media type
  - ✓ Zabbix GIT
  - ✓ Integrations page
- Create a service user
  - ✓ Select type “Event-Driven Ansible”
  - ✓ Specify address of EDA Server
- Configure an action to send notifications
  - ✓ Specify sending via “Event-Drive Ansible.”
  - ✓ Specify the service user



https://www.zabbix.com/integrations/ansible

How to configure in Ansible?

- Install
  - ✓ Eda-server
  - ✓ Ansible-rulebook
  - ✓ Ansible collections “ansible.eda”
    - ansible-galaxy collection install ansible.eda
- Create a rulebook
- Run “ansible-rulebook”
  - ✓ ansible-rulebook my-first-rulebook.yaml

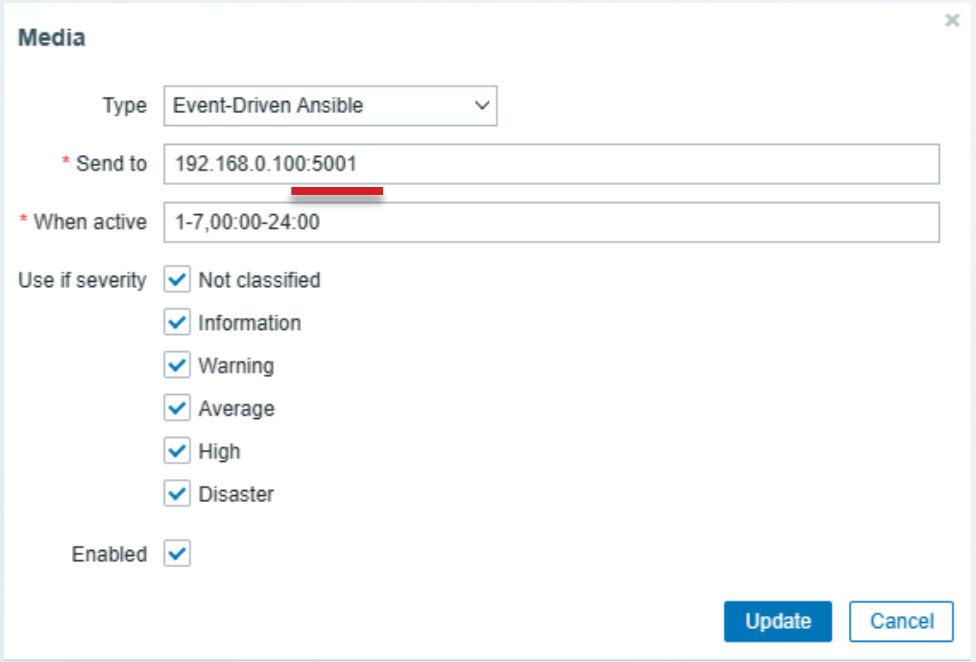
```yaml
---
- name: My first rulebook
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: debug
      condition: event.payload is defined
      action:
        debug:
          msg: It works!
```

https://github.com/ansible/eda-server/blob/main/docs/deployment.md

https://ansible.readthedocs.io/projects/rulebook/en/stable/installation.html

Ports must match!

Make sure you are using the same port as specified in user settings.

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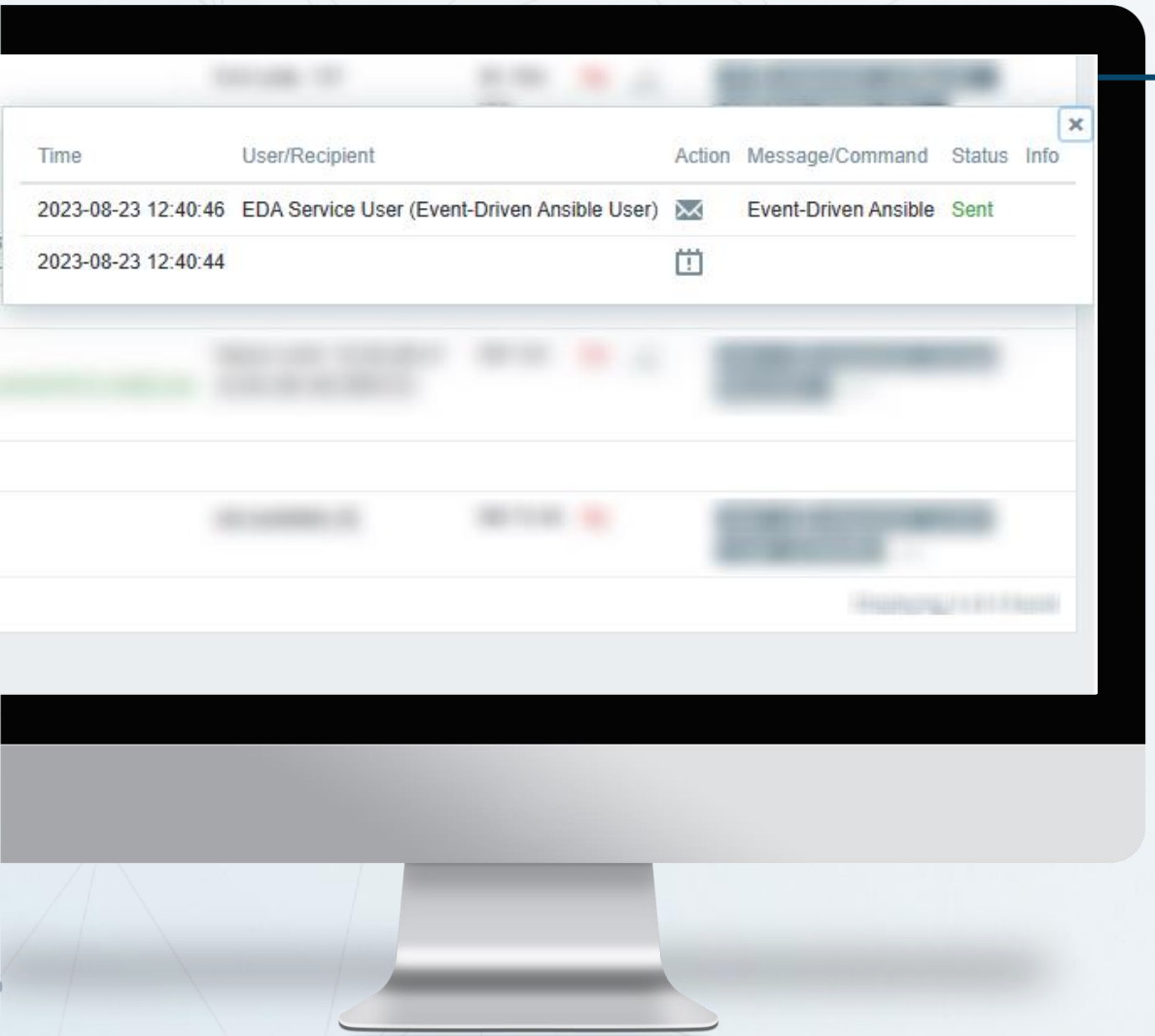
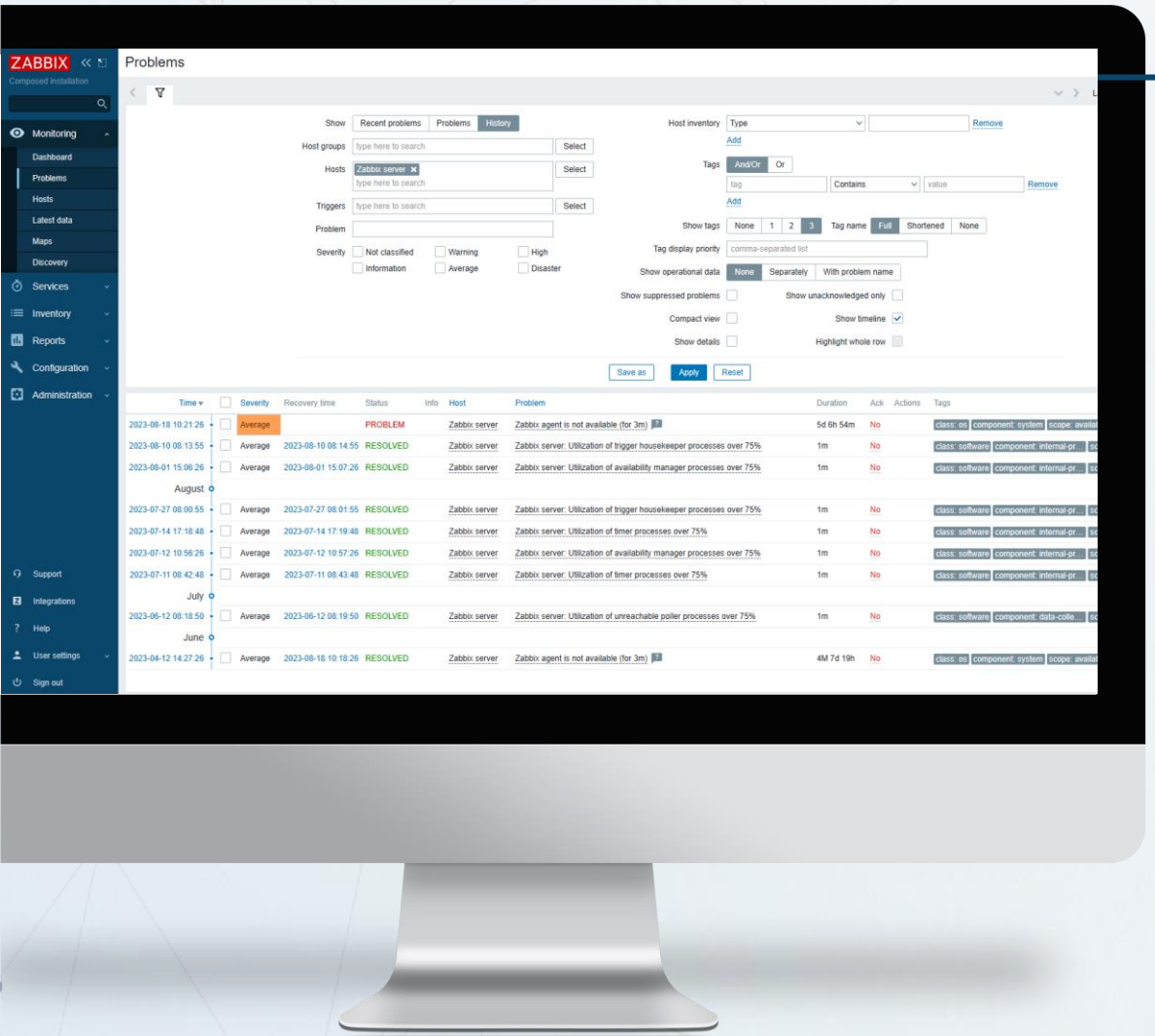
      action:
        debug:
          msg: It works!
```

Event has status “Sent”



If the event is marked as sent, it doesn’t mean that rulebook has taken action!

Only problem events



Only trigger-based problem events will be sent

What data will be sent?

- acknowledged
- endpoint
- event_date
- event_datetime_timestamp
- event_id
- event_name
- event_nseverity
- event_object
- event_severity
- event_source
- event_tags
- event_time
- event_value
- host_groups
- host_host
- host_id
- host_ip
- host_port
- monitoring_source
- operation_data
- send_to
- Subject
- trigger_description
- trigger_id
- trigger_name

Most interesting fields

Tags

- Location: Berlin
- Location: Central office
- container: /web_portal
- scope: security
- component: configuration

```
{
    ...
    "event_tags": {
        "Location": ["Berlin", "Central office"],
        "component": ["configuration"],
        "container": ["/web-portal"],
        "scope": ["security"]
    }
    ...
}
```

Host groups

- Berlin
- Linux servers
- Web servers

```
{
    ...
    "host_groups": [
        "Berlin",
        "Linux servers",
        "Web servers"
    ]
    ...
}
```

Most interesting fields

- event_nseverity
- event_severity
- acknowledged
- event_name
- trigger_name

```
{
    ...
    "event_nseverity": 4,
    "event_severity": "High",
    "acknowledged": "No",
    "event_name": "Container '/web-portal': Container has been stopped with error code",
    "trigger_name": "Container '/web-portal: Container has been stopped with error code"
    ...
}
```

How to view value?

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- print_event

```yaml
---
- name: Print all variables
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: print event
      condition: event.payload is defined
      action:
        print_event:
          pretty: true
```

- debug

```yaml
---
- name: Print all variables
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: print event
      condition: event.payload is defined
      action:
        debug:
```


```json
{
    "payload": {
        "HTTPProxy": "",
        "acknowledged": "No",
        "endpoint": "/endpoint",
        "event_date": "2023.08.23",
        "event_datetime_timestamp": 1692817297,
        "event_id": 448,
        "event_name": "Container '/web-portal': Container has been stopped with error code",
        "event_nseverity": 4,
        "event_object": 0,
        "event_severity": "High",
        "event_source": 0,
        "event_tags": {"Location": ["Berlin", "Central office"],
                       "component": ["configuration"],
                       "container": ["/web-portal"],
                       "scope": ["security"]},
        "event_time": "22:01:37",
        "event_value": 1,
        "host_groups": ["Berlin", "Linux servers", "Web servers"],
        "host_host": "Web portal",
        "host_id": 10559,
        "host_ip": "127.0.0.1",
        "host_port": "10050",
        "monitoring_source": "Zabbix sever",
        "operation_data": "Exit code: 137",
        "send_to": "192.168.56.102:5001",
        "subject": "Event ID: 448, Host: Web portal, Problem: Container '/web-portal': Container has been stopped with error  code",
        "trigger_description": "",
        "trigger_id": 23133,
        "trigger_name": "Container '/web-portal': Container has been stopped with error code"
    }
}
```

Rulebooks

Similar to Ansible Playbooks, but more oriented to “if-then” scenarios

- Sources
- Rules
  - ✓ condition
  - ✓ action

The order of the rules is important for the rulebook

```yaml
---
- name: Print all variables
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: print event
      condition: event.payload is defined
      action:
        debug:
```

Rule conditions

- in
- contains
- is defined
- is search(pattern ,ignorecase=true)
- is regex(pattern, ignorecase=true)
- is select(operator, value)
- and / or

```yaml
---
- name: Debug condition
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: Debug condition
      condition: >-
        event.payload.host_groups is select("==","Web servers") and
        event.payload.host_groups is select("==","Berlin") and
        event.payload.event_tags.component is select("==","configuration")
      action:
        debug:
          msg: 'It works!'
```

https://ansible.readthedocs.io/projects/rulebook/en/stable/conditions.html

Examples of conditions

```
{
    ...
    "event_tags": {
        "Location": ["Berlin", "Central office"],
        "component": ["configuration"],
        "container": ["/web-portal"],
        "scope": ["security"]
    }
    ...
}
```

```
---
- name: Debug condition
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: Debug condition
      condition: event.payload.event_tags.component is select("==","configuration")
      action:
        debug:
          msg: 'It works!'
```

event.payload

- event.payload.event_tags.component is select("==","configuration")
- event.payload.event_tags.Location contains "Central office“
- event.payload.event_tags.scope is defined
- event.payload is defined

Examples of conditions

```
{
    ...
    "host_groups": [
        "Berlin",
        "Linux servers",
        "Web servers"
    ]
    ...
}
```

```
---
- name: Debug condition
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: Debug condition
      condition: event.payload.host_groups is select("==","Web servers")
      action:
        debug:
          msg: 'It works!'
```

- event.payload.host_groups is select("==","Web servers")
- event.payload.host_groups contains "Web servers“

Examples of conditions

```
{
    ...
    "event_nseverity": 4,
    "event_severity": "High",
    "acknowledged": "No",
    "event_name": "Container '/web-portal': Container has been stopped with error code",
    "trigger_name": "Container '/web-portal: Container has been stopped with error code"
    ...
}
```

```
---
- name: Debug condition
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: Debug condition
      condition: >-
        event.payload.event_nseverity > 3 and
        event.payload.acknowledged == 'No' and
        event.payload.event_name is regex(".*Container has been stopped with error code")
      action:
        debug:
          msg: 'It works!'
```

- event.payload.event_nseverity > 3
- event.payload.acknowledged == 'No’
- event.payload.event_name is regex(".*Container has been stopped with error code")

Rules actions

- run_playbook
- run_module
- run_job_template
- run_workflow_template
- set_fact
- post_event
- retract_fact
- print_event
- shutdown
- debug
- none

```yaml
---
- name: Debug condition
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: Debug condition
      condition: >-
        event.payload.event_nseverity > 3 and
        event.payload.acknowledged == 'No'
      action:
        run_playbook:
          name: /root/ansible/playbooks/playbook_zabbix_example.yml
```

https://ansible.readthedocs.io/projects/rulebook/en/stable/actions.html

Use data from event

```yaml
---
- name: Zabbix -- Print the value
  hosts: localhost
  gather_facts: false
  tasks:

  - name: Print container name
    ansible.builtin.debug:
      msg: "{{ ansible_eda.event.payload.event_tags.container }}"
```

"{{ ansible_eda.event.payload }}"

Complex example

Tags

- target: nginx
- class: software
- component: configuration

Host groups

- Berlin
- Linux servers
- Web servers

```yaml
---
- name: Debug condition
  hosts: all
  sources:
    - ansible.eda.webhook:
        host: 0.0.0.0
        port: 5001
  rules:
    - name: Debug condition
      condition: >-
        event.payload.host_groups is select("==","Web servers") and
        event.payload.host_groups is select("==","Berlin") and
        event.payload.event_tags.component is select("==","configuration")
      action:
        run_playbook:
          name: /root/ansible/playbooks/reload_nginx.yml
```

```json
{
    ...
    "event_tags": {
        "target": ["nginx"],
        "class": ["software"],
        "component": ["configuration"]
    },
    "host_groups": ["Berlin", "Linux servers", "Web servers"]
    ...
}
```

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Thank you!

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