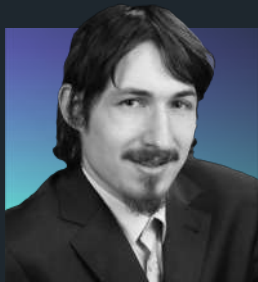


From Alerts to Action

Self-Healing with Checkmk and Event-Driven Ansible



René Koch

Owner, DI (FH) René Koch



Who is René Koch?

- ◆ Self-employed consultant for:
 - ◇ Red Hat Ansible (Automation Platform)
 - ◇ Red Hat Enterprise Linux
 - ◇ Red Hat Satellite
 - ◇ Red Hat Identity Management (IPA)
- ◆ Experienced monitoring user (Nagios, Icinga, Checkmk)
- ◆ <https://www.linkedin.com/in/rk-it-at>



Why self-healing?



Why wake up the on-call engineer instead of fixing it automatically?



Automation happens when
one person meets a problem
they never want to solve again

What is Ansible?

- ◆ Automates anything Checkmk can monitor:
 - ◆ **Provisioning**
 - ◆ **Application deployment**
 - ◆ **Configuration management**
- ◆ Works out of the box: with SSH, WinRM and APIs
- ◆ **Ansible Automation Platform** provides enterprise add-ons like support, Web-UI, API, RBAC, Integrations and more

What is Event-Driven Ansible?

- ◆ **EDA is automation that reacts to events**, not schedules
- ◆ Events can come from monitoring, webhooks, message queues, logs or cloud services
- ◆ Rules decide **when** to run Ansible actions
- ◆ Automation teams write rulebooks for **their remediation** and store in Git together with playbook
- ◆ Result: **faster response** and **consistent remediation**

What is Event-Driven Ansible?

Rulebook Activations ?

Rulebook activations manage the configuration and enabling of rulebooks that govern automation logic triggered by events.

Name

<input type="checkbox"/>	ID	Name	Status	Number of rules	Fire count	Restart count	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
▶	<input type="checkbox"/>	29	[NETWORK] Reinstall Checkmk agent on Ubiquiti devices (@main)	Running	2	3	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶	<input type="checkbox"/>	28	[LINUX] Restart all IPA services (@main)	Running	3	1	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶	<input type="checkbox"/>	27	[INFRA] Create update or close Gitlab issue (@main)	Running	4	11	12	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶	<input type="checkbox"/>	25	[LINUX] Restart named on IPA (@main)	Running	1	0	11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶	<input type="checkbox"/>	24	[SATELLITE] Restart Satellite service (@main)	Running	1	0	10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶	<input type="checkbox"/>	22	[LINUX] Reboot backup server (@main)	Stopped	1	0	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Event-Driven Ansible workflow



CRIT

Alert Trigger Notifications



Event-Driven Ansible workflow



CRIT

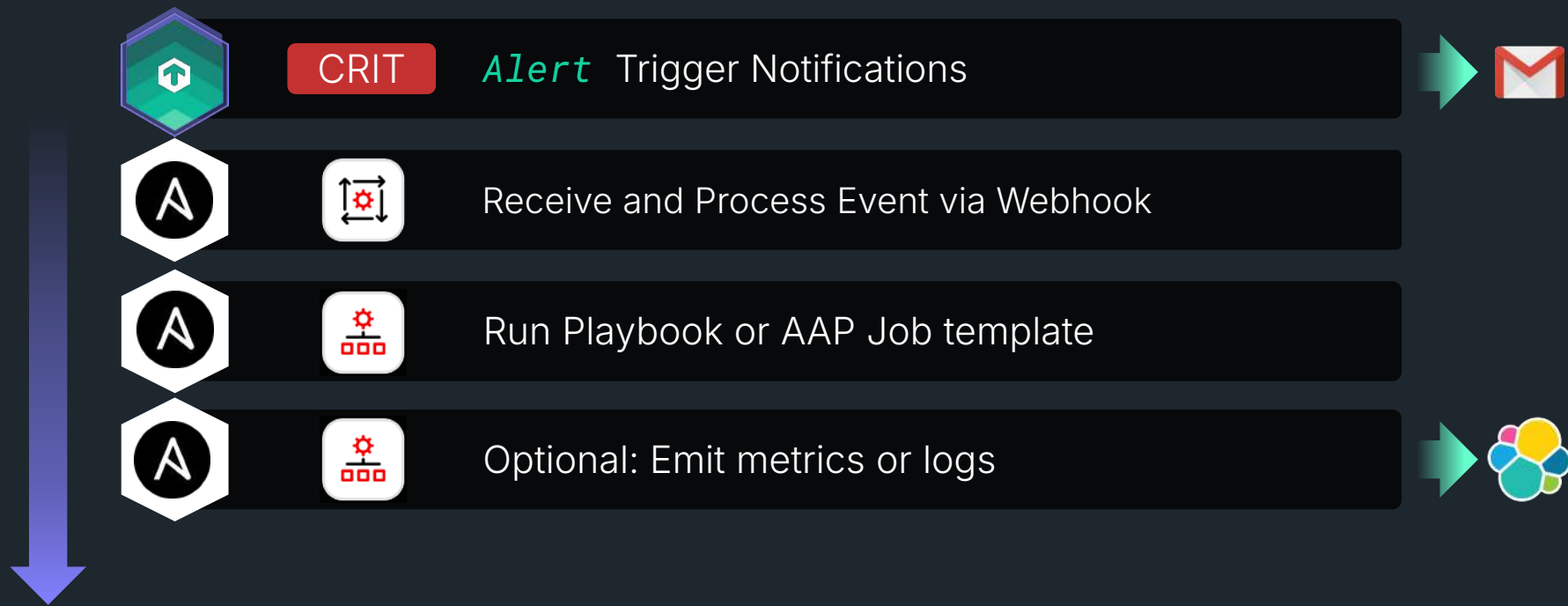
Alert Trigger Notifications



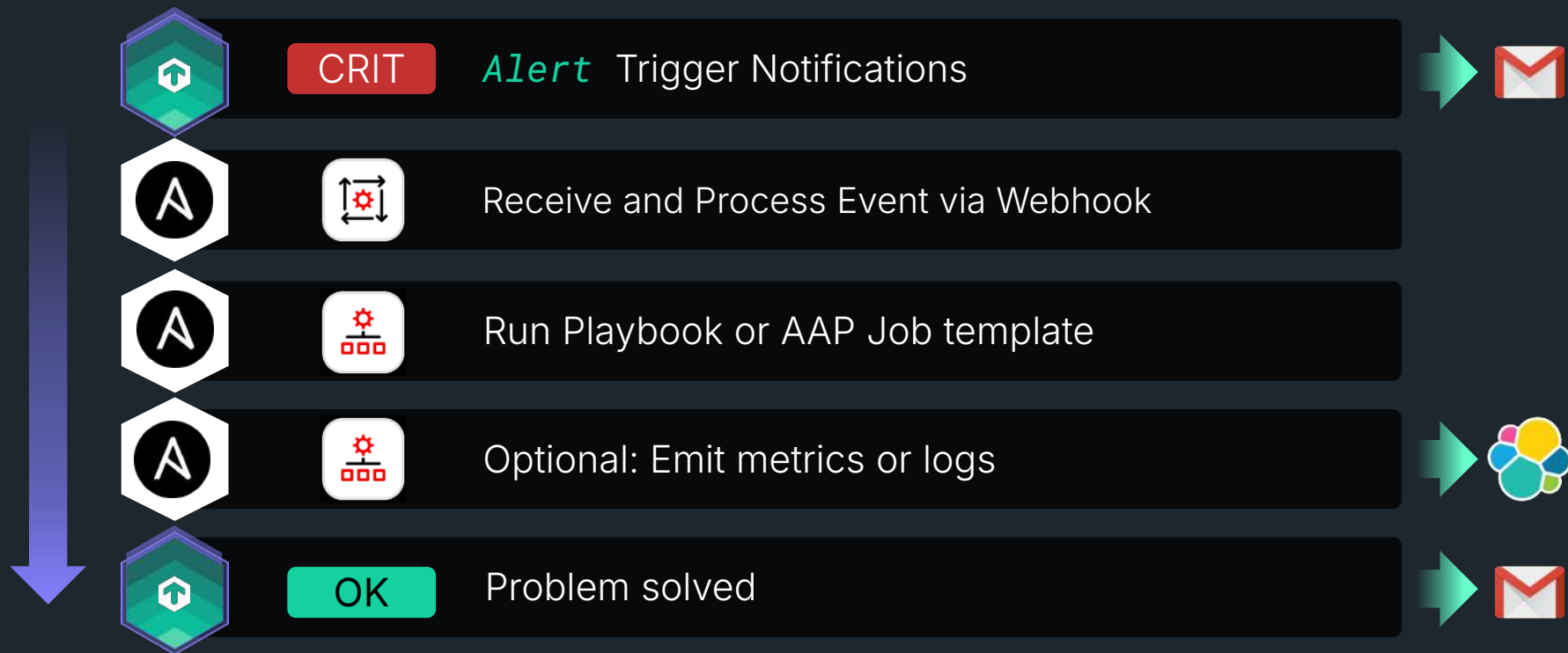
Receive and Process Event via Webhook



Event-Driven Ansible workflow



Event-Driven Ansible workflow



Checkmk notification script



```
#!/usr/bin/env bash
TOKEN="X-Checkmk-Token: ${NOTIFY_PARAMETER_1}"
URL="${NOTIFY_PARAMETER_2}"
JSON=`cat <<EOF
{
  "hostname": "${NOTIFY_HOSTNAME}",
  "hostoutput": "${NOTIFY_HOSTOUTPUT}",
  "hoststate": "${NOTIFY_HOSTSTATE}",
  ...
}
EOF
`
curl -X POST -H "Content-Type: application/json" \
  -H "${TOKEN}" -d "${JSON}" ${URL}
exit $?
```

Ansible rulebook 1/2



```
---  
- name: Restart named on IPA server  
  hosts: all  
  gather_facts: false  
  
  sources:  
    - name: Listen on port 5000 for Checkmk events  
      ansible.eda.webhook:  
        port: 5000
```

Ansible rulebook 2/2



rules:

- **name:** Restart named

condition: >-

```
event['payload']['servicename'] == "DNS int.rk-it.at" and  
event['payload']['servicestate'] == "CRITICAL"
```

action:

run_job_template:

```
name: "[LINUX] Restart named on IPA [@production] - Prompt"
```

```
organization: "Rene Koch IT"
```

job_args:

```
limit: "{{ event.payload.hostname }}"
```

Ansible playbook



```
---  
- name: Restart named on IPA  
  hosts: all  
  become: true  
  gather_facts: true  
  
  tasks:  
    - name: Restart named  
      ansible.builtin.service:  
        name: named  
        state: restarted
```



- Overview
- Automation Execution
 - Automation Controller
- Jobs**
- Templates
- Schedules
- Projects
- Infrastructure
 - Topology View
 - Inventories
 - Hosts
 - Instance Groups
 - Instances
 - Execution Environments
 - Credentials
 - Credential Types
- Administration

Jobs > [LINUX] Restart named on IPA [@production] - Prompt > Output

[LINUX] Restart named on IPA [@production] - Prompt

🔄 Relaunch job ⏹️ Cancel job ⋮

◀ Back to Jobs Output Details

[LINUX] Restart named on IPA [@production] - Prompt ✔ Success Plays 1 Tasks 2 Hosts 1 Elapsed 00:00:11

🔍 Search Enter search

■ Changed 100%

```

0 Identity added: /runner/artifacts/18132/ssh_key_data (
1 Vault password:
2 [WARNING]: Invalid characters were found in group names but not replaced, use
3 -vvvv to see details
4
5 PLAY [Restart named on IPA] ***** 9:36:41 PM
6
7 TASK [Gathering Facts] ***** 9:36:41 PM
8 Wednesday 18 February 2026 20:36:41 +0000 (0:00:00.033) 0:00:00.033 ****
9 ok: [ipa-prod-09111111111111111111]
10
11 TASK [Restart named] ***** 9:36:45 PM
12 Wednesday 18 February 2026 20:36:45 +0000 (0:00:04.291) 0:00:04.325 ****
13 changed: [ipa-prod-09111111111111111111]
14
15 PLAY RECAP *****
  
```

Self-healing succeeded



Why use EDA instead of built-in notifications?



Monitoring != System Owner

Why use EDA instead of built-in notifications?



Monitoring != System Owner


Monitoring = Alerting

Remediation = System Owner

Thank you!
Vielen Dank!

René Koch

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Checkmk #12

Conference