

# Automate Checkmk with Ansible

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Checkmk Conference #11, 22.05.2025

# About me

- René Koch
- Self employed consultant for:
  - Red Hat Ansible (Automation Platform)
  - Red Hat Enterprise Linux
  - Red Hat Satellite
  - Red Hat Identity Management (IPA)
  - (previously) Icinga 2

# About me

- René Koch
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  - <https://github.com/rk-it-at>
  - <https://github.com/scrat14>



# Please introduce yourself

# Time table

- 09:00 – 10:30: Workshop
- 10:30 – 10:45: Break
- 10:45 – 12:30: Workshop
- 12:30 – 13:45: Lunch break
- 13:45 – 15:30: Workshop
- 15:30 – 15:45: Break
- 15:45 – 17:15: Workshop

# Table of content

- Prepare LAB environment
- Installation of Checkmk server
- Installation of Checkmk agents
- Checkmk server configuration
- Fetching information with lookup plugins
- Using Checkmk as Ansible Inventory
- Demo: Self healing with Checkmk, Ansible Automation Platform and Rule books

# Preparing the LAB environment

# Preparing the LAB environment

- Create LAB environment
  - Ansible control node =  
Checkmk server =  
Checkmk agent
  - Use local connection
  - Configure sudo for privileged access





# Preparing the LAB environment

- Slides and code are available on Github:  
[https://github.com/rk-it-at/checkmk\\_conference\\_2025](https://github.com/rk-it-at/checkmk_conference_2025)

- Optional: Install and clone Repository:

```
$ git clone
```

```
https://github.com/rk-it-at/checkmk\_conference\_2025.git
```

# Preparing the LAB environment

- Available VMs (if you don't have your own)
- Passwords: **AnsibleW0rkshop2025!**



# Preparing the LAB environment

- Configure sudo for privileged access

```
$ su -
```

```
# <EDITOR> /etc/sudoers.d/ansible
```

```
<USERNAME> ALL=(ALL) NOPASSWD: ALL
```



**Use user root to run this command!**



Replace <EDITOR> with vi, nano or your favorite editor



Replace <USERNAME> with your system user



# LAB 1: Configure sudo

# LAB 1: Configure sudo

- Configure sudo for privileged access

```
$ su -
```

```
# <EDITOR> /etc/sudoers.d/ansible
```

```
<USERNAME> ALL=(ALL) NOPASSWD: ALL
```



**Use user root to run this command!**



Replace <EDITOR> with vi, nano or your favorite editor



Replace <USERNAME> with your system user



# Install Ansible

# Install Ansible

- Most Linux distributions ship 2 versions:
  - **ansible-core**: Ansible binary + minimal set of collections
  - **ansible**: Ansible and selected collections

# Install Ansible - RHEL

- Install Ansible on RHEL 9

```
# subscription-manager repos --enable  
codeready-builder-for-rhel-9-$(arch)-rpms  
# dnf install https://dl.fedoraproject.org  
/pub/epel/epel-release-latest-9.noarch.rpm  
# dnf install ansible
```



# Install Ansible – RHEL derivatives

- Install Ansible on AlmaLinux, Rocky Linux 9

```
# dnf config-manager --set-enabled crb  
# dnf install epel-release  
# dnf install ansible
```



Source: [https://commons.wikimedia.org/wiki/File:AlmaLinux\\_Icon\\_Logo.png](https://commons.wikimedia.org/wiki/File:AlmaLinux_Icon_Logo.png)

# Install Ansible – openSUSE

- Install Ansible on openSUSE 15.5

```
# zypper install ansible
```



Source: <http://kuboosoft.blogspot.com/2012/12/opensuse-123-milestone-2-esta-aqui.html>

# Install Ansible – Ubuntu

- Install Ansible on Ubuntu 24.04

```
# apt update
```

```
# apt install ansible
```



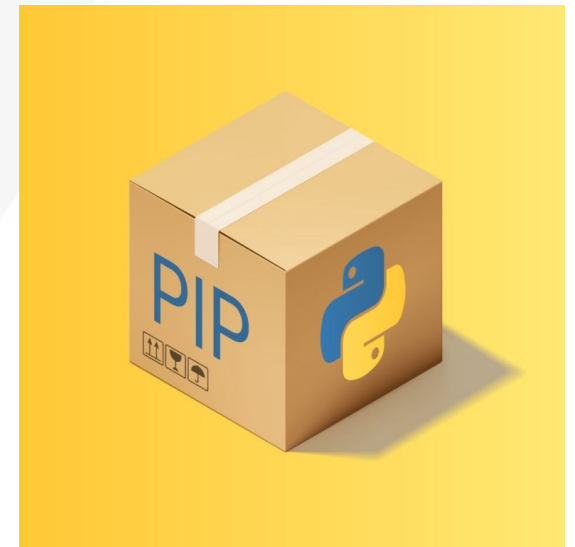
ubuntu

Source: <https://windytheplaneh.deviantart.com/art/with-speedvideo-Ubuntu-logo-vector-1-599350984>

# Install Ansible – pip

- Install Ansible with pip

```
$ pip install ansible
```



Source: <https://sefiks.com/2020/03/21/publishing-python-packages-on-pip-and-pypi/>



# LAB 2: Install Ansible

# LAB 2: Install Ansible

- Ensure Ansible is installed

```
$ ansible --version  
ansible [core 2.14.17]
```



Depending on your operating system the Ansible version can be different



# Prepare Ansible inventory

# Prepare Ansible inventory

- Create folder for your Ansible code

```
$ mkdir playbooks
```

```
$ cd playbooks
```

```
$ <EDITOR> hosts
```

```
cmk-server ansible_connection=local
```

```
cmk-agent ansible_connection=local
```



Replace <EDITOR> with vi, nano or your favorite editor



# Test connection to target server

- Make sure your target server is reachable

```
$ ansible all -i hosts -m ping
```

```
cmk-server | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
cmk-agent | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false
  "ping": "pong"
}
```



Ansible does not send an ICMP ping to test the connection, it tries to log into the target machine.

# LAB 3: Add target to Ansible inventory

# LAB 3: Add target to Ansible inventory

- Make sure your target server is reachable

```
$ ansible all -i hosts -m ping
```

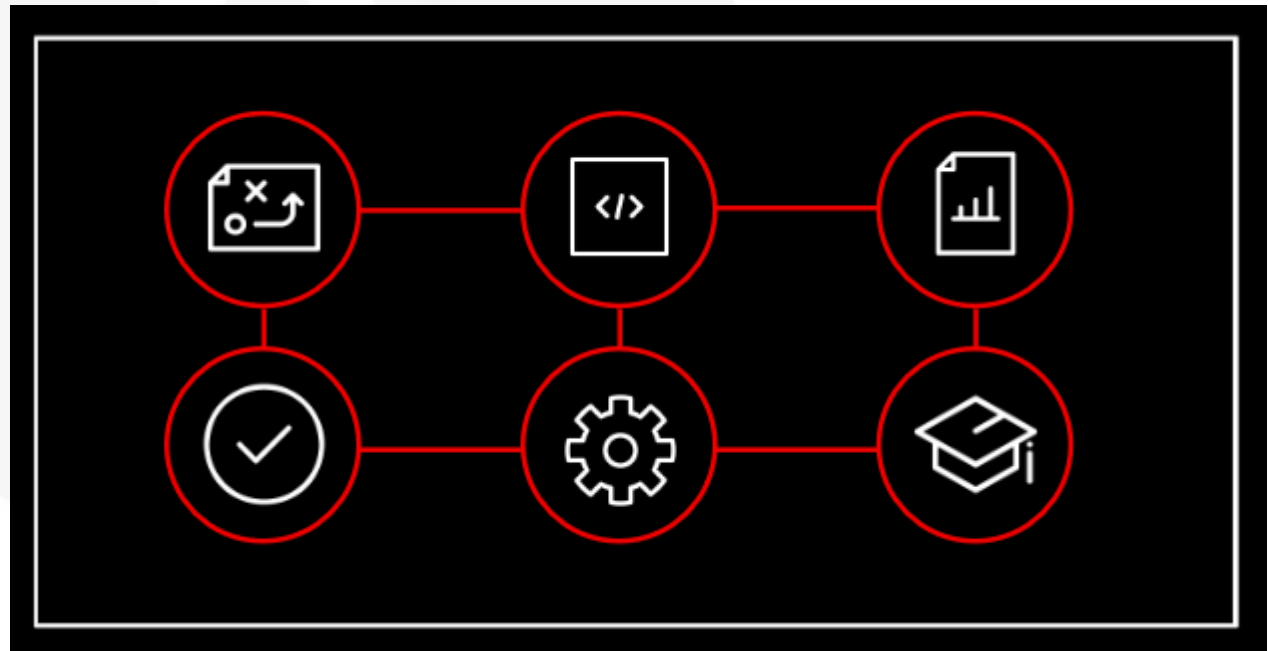
```
cmk-server | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
cmk-agent | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python3"
  },
  "changed": false,
  "ping": "pong"
}
```



# Install Checkmk Collection

# Install Checkmk Collections

- Simplified and consistent content delivery
- Collections contains:
  - Modules
  - Playbooks
  - Roles
  - Plugins
  - Docs
  - Tests



Source: [https://github.com/ansible/workshops/blob/devel/decks/ansible\\_rhel.pdf](https://github.com/ansible/workshops/blob/devel/decks/ansible_rhel.pdf)

# Install Checkmk Collection

- Development:  
<https://github.com/Checkmk/ansible-collection-checkmk.general>
- Hosted at Galaxy:  
<https://galaxy.ansible.com/ui/repo/published/checkmk/general>
- Install Collection:  
  
**\$ ansible-galaxy collection install  
checkmk.general**

# Installation of Checkmk server

# Installation of Checkmk server

- Can be installed with provided role **server**
- Strongly suggest to write own role to fit into own Ansible environment and coding guidelines!
- Documentation for role:  
<https://galaxy.ansible.com/ui/repo/published/checkmk/general/content/role/server/>





# Installation of Checkmk server

- Create playbook

```
$ <EDITOR> cmk_server.yml
```



# Installation of Checkmk server

---

- **name: Install Checkmk server**  
**hosts: cmk-server**  
**connection: local**  
**become: true**  
  
**roles:**
  - **checkmk.general.server**

# Installation of Checkmk server

- Create required variables

```
$ mkdir host_vars
```

```
$ <EDITOR> host_vars/cmkn-server.yml
```



# Installation of Checkmk server

---

```
checkmk_server_version: "2.4.0"
checkmk_server_edition: "cre"
checkmk_admin_pw: "AnsibleW0rkshop2025!"
checkmk_server_sites:
  - name: "master"
    version: "{{ checkmk_server_version }}"
    update_conflict_resolution: "abort"
    state: started
    admin_pw: "{{ checkmk_admin_pw }}"
```

# LAB 4: Install Checkmk server

# LAB 4: Install Checkmk server

- Ensure Checkmk server is installed

```
$ ansible-playbook -i hosts cmk_server.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk server] *****
```

```
TASK [Gathering Facts] *****
```

```
ok: [cmk-server]
```

```
...
```

```
TASK [checkmk.general.server : Flush Handlers.] *****
```

```
PLAY RECAP *****
```

```
cmk-server      : ok=20    changed=8    unreachable=0    failed=0    skipped=21  
rescued=0       ignored=0
```

# Installation of Checkmk server

- Ensure HTTPS is configured

```
$ <EDITOR> cmk_server.yml
```



# Installation of Checkmk server

...

## tasks:

- name: Install mod\_ssl for https access  
ansible.builtin.dnf:  
  name: mod\_ssl  
  state: installed  
  notify: Restart httpd

## handlers:

- name: Restart httpd  
ansible.builtin.service:  
  name: httpd  
  state: restarted



# LAB 5: Secure Checkmk server

# LAB 5: Secure Checkmk server

- Ensure Checkmk server is listening to HTTPS

```
$ ansible-playbook -i hosts cmk_server.yml
```

## PLAY RECAP

```
*****
cmk-server      : ok=17   changed=3   unreachable=0   failed=0
skipped=25      rescued=0   ignored=0
```

- Access your server: `https://<ip_address>/master`
- Username: **cmkadmin**
- Password: **AnsibleW0rkshop2025!**





# Installation of Checkmk agent



# Installation of Checkmk agent

- Can be installed with provided role **agent**
- Strongly suggest to write own role to fit into own Ansible environment and coding guidelines!
- Documentation for role:  
<https://galaxy.ansible.com/ui/repo/published/checkmk/general/content/role/agent/>

# Installation of Checkmk agent

- Create playbook

```
$ <EDITOR> cmk_agent.yml
```



# Installation of Checkmk agent

---

- name: Install Checkmk agent  
hosts: cmk-agent  
connection: local  
become: true  
  
pre\_tasks:
  - name: Install required Python packages  
ansible.builtin.dnf:
    - name: python3-netaddr
    - state: installed  
roles:
  - checkmk.general.agent

# Installation of Checkmk agent

- Create required variables

```
$ mkdir host_vars
```

```
$ <EDITOR> host_vars/cmke-agent.yml
```





# Installation of Checkmk agent

---

```
checkmk_agent_version: "2.4.0"  
checkmk_agent_edition: "cre"  
checkmk_agent_server: localhost  
checkmk_agent_server_validate_certs: "false"  
checkmk_agent_site: "master"  
checkmk_agent_user: "cmkadmin"  
checkmk_agent_pass: "AnsibleW0rkshop2025!"
```

# LAB 6: Install Checkmk agent

# LAB 6: Install Checkmk agent

- Ensure Checkmk agent is installed

```
$ ansible-playbook -i hosts cmk_agent.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk agent] *****
```

```
TASK [Gathering Facts] *****
ok: [cmk-agent]
```

```
...
```

```
TASK [checkmk.general.agent : Update monitored services and labels on host.] *****
ok: [cmk-agent]
```

```
PLAY RECAP *****
cmk-agent          : ok=19   changed=3   unreachable=0   failed=0   skipped=25
rescued=0         ignored=0
```

# Checkmk server configuration

# Checkmk server configuration: Folders

# Checkmk configuration: Folders

- Create 2 folders - **/linux** and **/linux/checkmk**
- Add **Label** to folder linux and ensure **Checkmk agent** is used for monitoring

```
$ <EDITOR> host_vars/cmkn-server.yml
```



# Checkmk configuration: Folders

...

```
checkmk_folders:
```

```
- path: /linux
```

```
  attributes:
```

```
    labels:
```

```
      os: almalinux
```

```
      tag_agent: "cmk-agent"
```

```
- path: /linux/checkmk
```



Create folder in WebUI first,  
and access API to get  
syntax for attributes!

# Checkmk configuration: Folders

- Create 2 folders - **/linux** and **/linux/checkmk**
- Add **Label** to folder linux and ensure **Checkmk agent** is used for monitoring
- Append new task to existing ones

```
$ <EDITOR> cmk_server.yml
```



# Checkmk configuration: Folders

...

- name: Create folder
- ```
checkmk.general.folder:  
  name: "{{ item['name'] | default(omit) }}"  
  path: "{{ item['path'] }}"  
  attributes: "{{ item['attributes'] | default(omit) }}"  
  state: present  
  server_url: "https://localhost"  
  site: "master"  
  automation_user: "cmkadmin"  
  automation_secret: "{{ checkmk_admin_pw }}"  
  validate_certs: false  
  notify: "Activate Checkmk changes"  
  loop: "{{ checkmk_folders }}"
```

# Checkmk configuration: Folders

- Append new handler

...

- name: Activate Checkmk changes  
checkmk.general.activation:  
    server\_url: "https://localhost"  
    site: "master"  
    automation\_user: "cmkadmin"  
    automation\_secret: "{{ checkmk\_admin\_pw }}"  
    validate\_certs: false  
    force\_foreign\_changes: true  
run\_once: true

# LAB 7: Checkmk configuration: Folders

# LAB 7: Checkmk configuration: Folders

- Ensure folder is created

```
$ ansible-playbook -i hosts cmk_server.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk server] *****
```

```
TASK [Gathering Facts] *****
ok: [cmk-server]
```

```
...
```

```
PLAY RECAP *****
cmk-server          : ok=19   changed=3   unreachable=0   failed=0   skipped=25
rescued=0           ignored=0
```

# Checkmk server configuration: Hosts

# Checkmk configuration: Hosts

- Create host **cmk-agent** in folder **/linux/checkmk** with ip **127.0.0.1**

```
$ <EDITOR> host_vars/cmk-agent.yml
```



# Checkmk configuration: Hosts

...

```
checkmk_host_settings:  
  folder: /linux/checkmk  
  attributes:  
    ipaddress: "127.0.0.1"
```



Create host in WebUI first,  
and access API to get  
syntax for attributes!

# Checkmk configuration: Hosts

- Create host **cmk-agent** in folder **/linux/checkmk** with ip **127.0.0.1**
- Add new task

```
$ <EDITOR> cmk_agent.yml
```





# Checkmk configuration: Hosts

...

## tasks:

- name: Create host

checkmk.general.host:

name: "{{ inventory\_hostname }}"

folder: "{{ checkmk\_host\_settings['folder'] | default(omit) }}"

attributes: "{{ checkmk\_host\_settings['attributes'] | default(omit) }}"

state: present

server\_url: "https://localhost"

site: "master"

automation\_user: "cmkadmin"

automation\_secret: "{{ checkmk\_agent\_pass }}"

validate\_certs: false

notify: "Activate Checkmk changes"

loop: "{{ checkmk\_host\_settings | dict2items }}"

# Checkmk configuration: Hosts

- Append new handler

...

handlers:

- name: Activate Checkmk changes  
checkmk.general.activation:  
  server\_url: "https://localhost"  
  site: "master"  
  automation\_user: "cmkadmin"  
  automation\_secret: "{{ checkmk\_agent\_pass }}"  
  validate\_certs: false  
  force\_foreign\_changes: true  
run\_once: true

# LAB 8: Checkmk configuration: Hosts

# LAB 8: Checkmk configuration: Hosts

- Ensure host is created

```
$ ansible-playbook -i hosts cmk_agent.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk agent] *****
```

```
TASK [Gathering Facts] *****
```

```
ok: [cmk-agent]
```

```
...
```

```
PLAY RECAP *****
```

```
cmk-agent      : ok=21   changed=2   unreachable=0   failed=0   skipped=25  
rescued=0      ignored=0
```

# Checkmk server configuration: Service discovery

# Checkmk configuration: Discovery

- Run service discovery and add **unmonitored** services
- Append task to existing ones

```
$ <EDITOR> cmk_agent.yml
```



# Checkmk configuration: Discovery

...

- name: Run service discovery  
checkmk.general.discovery:
  - host\_name: "{{ inventory\_hostname }}"
  - state: new
  - server\_url: "https://localhost"
  - site: "master"
  - automation\_user: "cmkadmin"
  - automation\_secret: "{{ checkmk\_agent\_pass }}"
  - validate\_certs: false
- notify: "Activate Checkmk changes"

# LAB 9: Checkmk configuration: Service discovery



# LAB 9: Checkmk configuration: Discovery

- Ensure services are monitored

```
$ ansible-playbook -i hosts cmk_agent.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk agent] *****
```

```
TASK [Gathering Facts] *****
ok: [cmk-agent]
```

```
...
```

```
PLAY RECAP *****
cmk-agent      : ok=21   changed=2   unreachable=0   failed=0   skipped=25
rescued=0     ignored=0
```



# Checkmk server configuration: Users

# Checkmk configuration: Users

- Create user **cmkuser** with email address **cmkuser@localhost** and member of contact group **Everything** and role **Normal user**

```
$ <EDITOR> host_vars/cmk-server.yml
```

# Checkmk configuration: Users

- ...

checkmk\_users:

- name: cmkuser  
password: "AnsibleW0rkshop2025!"  
email: "cmkuser@localhost"  
fullname: "Checkmk user"  
auth\_type: password  
contactgroups:
  - "all"
- roles:
  - "user"

# Checkmk configuration: Users

- Create user **cmkuser** with email address **cmkuser@localhost** and member of contact group **Everything**
- Add new task after existing ones

```
$ <EDITOR> cmk_server.yml
```



# Checkmk configuration: Users

- ...

- name: Create user  
checkmk.general.user:  
  name: "{{ item['name'] }}"  
  password: "{{ item['password'] | default(omit) }}"  
  email: "{{ item['email'] | default(omit) }}"  
  fullname: "{{ item['fullname'] | default(omit) }}"  
  auth\_type: "{{ item['auth\_type'] }}"  
  contactgroups: "{{ item['contactgroups'] | default(omit) }}"  
  roles: "{{ item['roles'] | default(omit) }}"  
  state: present  
  server\_url: "https://localhost"  
  site: "master"  
  automation\_user: "cmkadmin"  
  automation\_secret: "{{ checkmk\_admin\_pw }}"  
  validate\_certs: false  
  notify: "Activate Checkmk changes"  
  loop: "{{ checkmk\_users }}"

# LAB 10: Checkmk configuration: Users



# LAB 10: Checkmk configuration: Users

- Ensure user is created

```
$ ansible-playbook -i hosts cmk_server.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk server] *****
```

```
TASK [Gathering Facts] *****
```

```
ok: [cmk-server]
```

```
...
```

```
PLAY RECAP *****
```

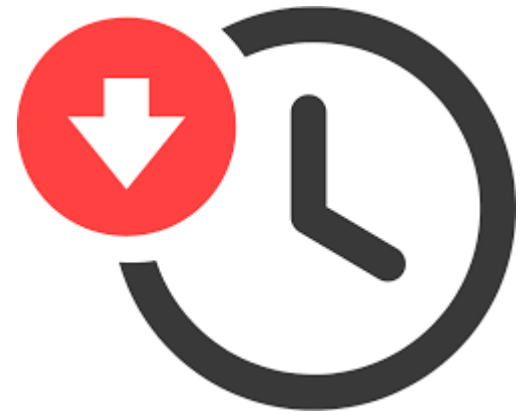
```
cmk-server      : ok=19   changed=3   unreachable=0   failed=0   skipped=25  
rescued=0       ignored=0
```

# Checkmk server configuration: Downtimes

# Checkmk configuration: Downtimes

- Create downtime for **15 minutes**

```
$ <EDITOR> cmk_downtime.yml
```



# Checkmk configuration: Downtimes

---

```
- name: Configure Checkmk downtime
  hosts: cmk-agent
  connection: local
  become: true

tasks:
  - name: Create downtime
    checkmk.general.downtime:
      host_name: "{{ inventory_hostname }}"
      end_after:
        minutes: 15
      state: present
      server_url: "https://localhost"
      site: "master"
      automation_user: "cmkadmin"
      automation_secret: "{{ checkmk_agent_pass }}"
      validate_certs: false
      notify: "Activate Checkmk changes"
```

# Checkmk configuration: Downtimes

...

handlers:

- name: Activate Checkmk changes  
checkmk.general.activation:  
  server\_url: "https://localhost"  
  site: "master"  
  automation\_user: "cmkadmin"  
  automation\_secret: "{{ checkmk\_agent\_pass }}"  
  validate\_certs: false  
  force\_foreign\_changes: true  
run\_once: true

# LAB 11: Checkmk configuration: Downtimes

# LAB 11: Checkmk configuration: Downtimes

- Ensure downtime is created

```
$ ansible-playbook -i hosts cmk_downtime.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Configure Checkmk downtime] *****
```

```
TASK [Gathering Facts] *****
```

```
ok: [cmk-agent]
```

```
...
```

```
PLAY RECAP *****
```

```
cmk-agent      : ok=3    changed=1    unreachable=0    failed=0    skipped=0
rescued=0      ignored=0
```

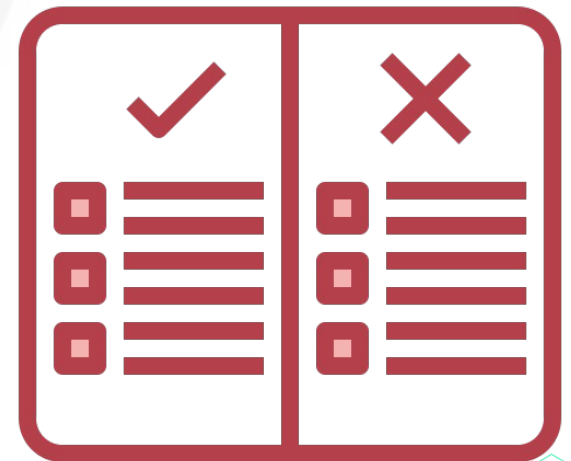
# Checkmk server configuration: Rules



# Checkmk configuration: Rules

- Create a rule which set's **Check\_MK Agent** Check to **warning** if version is **different** from master, and **critical** if **TLS is not activated**

```
$ <EDITOR> host_vars/cmkn-server.yml
```



# Checkmk configuration: Rules

...

```
checkmk_rules:
- ruleset: "checkgroup_parameters:agent_update"
  rule:
    properties:
      description: "Checkmk Agent version"
    location:
      folder: "/linux"
    value_raw: "{ 'agent_version': ('site', {}),
'agent_version_mismatch': 1, 'legacy_pull_mode': 2}"
```



Create rule in WebUI first,  
and access API to get  
syntax for rule values!

# Checkmk configuration: Rules

- Create a rule which set's **Check\_MK Agent** Check to **warning** if version is **different** from master, and **critical** if **TLS** is **not activated**
- Add task after existing tasks

```
$ <EDITOR> cmk_server.yml
```

# Checkmk configuration: Rules

...

- name: Create rule  
checkmk.general.rule:  
  rule: "{{ item['rule'] }}"  
  ruleset: "{{ item['ruleset'] }}"  
  state: present  
  server\_url: "https://localhost"  
  site: "master"  
  automation\_user: "cmkadmin"  
  automation\_secret: "{{ checkmk\_admin\_pw }}"  
  validate\_certs: false  
  notify: "Activate Checkmk changes"  
  loop: "{{ checkmk\_rules }}"

# LAB 12: Checkmk configuration: Rules

# LAB 12: Checkmk configuration: Rules

- Ensure rule for agent monitoring is created

```
$ ansible-playbook -i hosts cmk_server.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk server] *****
```

```
TASK [Gathering Facts] *****
```

```
ok: [cmk-server]
```

```
...
```

```
PLAY RECAP *****
```

```
cmk-server      : ok=20    changed=3    unreachable=0    failed=0    skipped=25  
rescued=0      ignored=0
```

# Checkmk server configuration: Passwords

# Checkmk configuration: Passwords

- Create a password for site **authenticationtest.com**

```
$ <EDITOR> host_vars/cmkn-server.yml
```





# Checkmk configuration: Passwords

...

```
checkmk_passwords:  
- name: authenticationtest_com  
  title: authenticationtest.com  
  password: pass
```

# Checkmk configuration: Passwords

- Create a password for site **authenticationtest.com**
- Add tasks **before Create rule task!**

```
$ <EDITOR> cmk_server.yml
```

# Checkmk configuration: Passwords

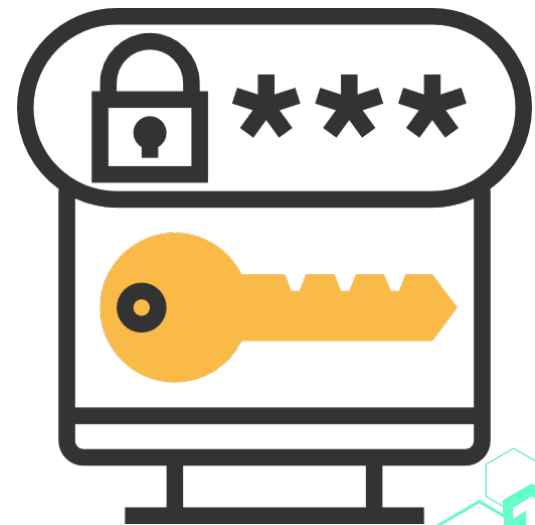
...

- name: Create password  
checkmk.general.password:  
  name: "{{ item['name'] }}"  
  title: "{{ item['title'] | default(omit) }}"  
  password: "{{ item['password'] }}"  
  state: present  
  server\_url: "https://localhost"  
  site: "master"  
  automation\_user: "cmkadmin"  
  automation\_secret: "{{ checkmk\_admin\_pw }}"  
  validate\_certs: false  
  notify: "Activate Checkmk changes"  
  loop: "{{ checkmk\_passwords }}"

# Checkmk configuration: Passwords

- Create a password for site **authenticationtest.com**
- Add rule to existing rules

```
$ <EDITOR> host_vars/cmkn-server.yml
```



# Checkmk configuration: Passwords

...

checkmk\_rules:

...

```
- ruleset: "active_checks:httpv2"
  rule:
    properties:
      description: "authenticationtest.com"
      location:
        folder: "/"
        value_raw: "{ 'endpoints': [{ 'service_name': { 'prefix': 'auto', 'name':
'HTTPAuth'}, 'url': 'https://authenticationtest.com/HTTPAuth/' }],
'standard_settings': { 'connection': { 'method': ('get', None), 'auth':
('user_auth', { 'user': 'user', 'password': ('cmk_postprocessed',
'stored_password', ('authenticationtest_com', ''))}) } } } } }"
      conditions:
        host_name:
          match_on:
            - cmk-agent
          operator: one_of
```



Create rule in WebUI first,  
and access API to get  
syntax for rule values!

# LAB 13: Checkmk configuration: Passwords

# LAB 13: Checkmk configuration: Passwords

- Ensure rule and password for web monitoring is created

```
$ ansible-playbook -i hosts cmk_server.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk server] *****
```

```
TASK [Gathering Facts] *****
ok: [cmk-server]
```

```
...
```

```
PLAY RECAP *****
cmk-server      : ok=21   changed=4   unreachable=0   failed=0   skipped=25
rescued=0      ignored=0
```







# Fetching information from Checkmk with lookup plugins

# Checkmk lookup

- Print **server version** of Checkmk server
- Add task after existing tasks

```
$ <EDITOR> cmk_server.yml
```



# Checkmk lookups

...

- name: Print Checkmk server version

ansible.builtin.debug:

```
msg: "Checkmk server version is {{ lookup('checkmk.general.version',  
server_url='https://localhost',  
site='master',  
automation_user='cmkadmin',  
automation_secret=checkmk_admin_pw,  
validate_certs=false)  
}}"
```



# LAB 14: Checkmk lookups

# LAB 14: Checkmk lookups

- Print Checkmk server version

```
$ ansible-playbook -i hosts cmk_server.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk server] *****
```

```
TASK [Gathering Facts] *****
ok: [cmk-server]
```

```
...
```

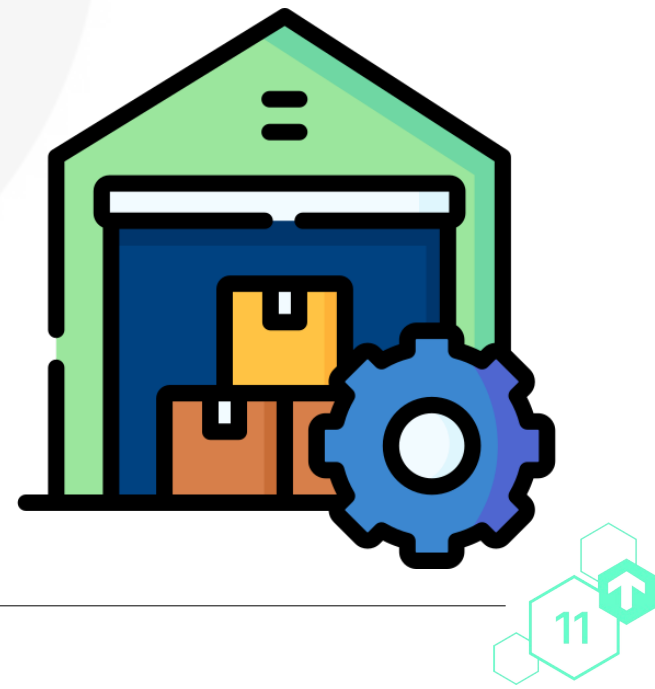
```
TASK [Print Checkmk server version] *****
ok: [cmk-server] => {
  "msg": "Checkmk server version is 2.4.0.cre"
}
```

```
PLAY RECAP *****
cmk-server          : ok=22   changed=3    unreachable=0    failed=0    skipped=25
rescued=0           ignored=0
```

# Using Checkmk as Ansible inventory

# Checkmk as Ansible inventory

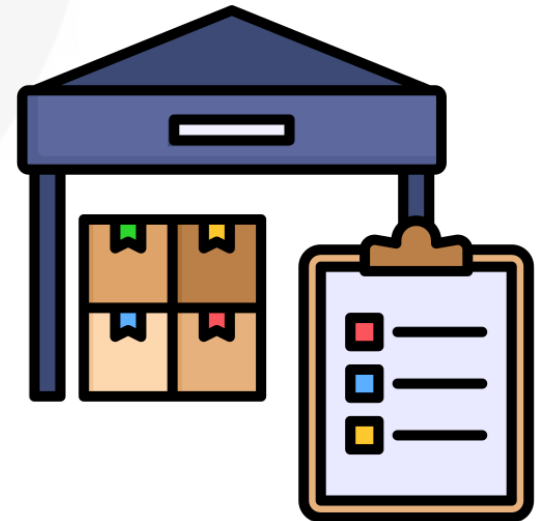
- Checkmk *should* be aware of all hosts
- Can be a good source for Ansible
- Most likely requires configuration of tags



# Checkmk as Ansible inventory

- Create tags for **test** and **production** hosts

```
$ <EDITOR> host_vars/cmkn-server.yml
```





# Checkmk as Ansible inventory

...

```
checkmk_tag_groups:  
  - name: lifecycle_environment  
    title: Lifecycle Environment  
    tags:  
      - id: production  
        title: Production  
      - id: testing  
        title: Testing
```

# Checkmk as Ansible inventory

- Create tags for **test** and **production** hosts
- Add task after existing tasks

```
$ <EDITOR> cmk_server.yml
```



# Checkmk as Ansible inventory

...

- name: Create tag group  
checkmk.general.tag\_group:  
  name: "{{ item['name'] }}"  
  title: "{{ item['title'] }}"  
  tags: "{{ item['tags'] }}"  
  state: present  
  server\_url: "https://localhost"  
  site: "master"  
  automation\_user: "cmkadmin"  
  automation\_secret: "{{ checkmk\_admin\_pw }}"  
  validate\_certs: false  
  notify: "Activate Checkmk changes"  
  loop: "{{ checkmk\_tag\_groups }}"

# Checkmk as Ansible inventory

- Create inventory config for Checkmk

```
$ <EDITOR> checkmk.yml
```



Inventory plugin must end with  
checkmk.yml or checkmk.yaml!

# Checkmk as Ansible inventory

---

```
plugin: checkmk.general.checkmk
server_url: https://localhost
site: master
automation_user: cmkadmin
automation_secret: "AnsibleW0rkshop2025!"
validate_certs: false
groupsources:
  - hosttags
  - sites
```

# LAB 15: Checkmk as Ansible inventory

# LAB 15: Checkmk as Ansible inventory

- Ensure tag groups are created

```
$ ansible-playbook -i hosts cmk_server.yml
```

```
[WARNING]: Collection checkmk.general does not support Ansible version 2.14.17
```

```
PLAY [Install Checkmk server] *****
```

```
TASK [Gathering Facts] *****  
ok: [cmk-server]
```

```
...
```

```
PLAY RECAP *****  
cmk-server          : ok=23   changed=4   unreachable=0   failed=0   skipped=25  
rescued=0   ignored=0
```

# LAB 15: Checkmk as Ansible inventory

- Print all hosts and groups

```
$ ansible-inventory -i checkmk.yml --graph
```

```
@all:
  |--@ungrouped:
  |--@tag_criticality_prod:
  |   |--cmk-agent
  ...
  |--@tag_lifecycle_environment_production:
  |   |--cmk-agent
  |--@tag_lifecycle_environment_testing:
  ...
  |--@tag_lifecycle_environment_production:
  |   |--cmk-agent
  |--@tag_lifecycle_environment_testing:
```



# LAB 15: Checkmk as Ansible inventory

- Print host details

```
$ ansible-inventory -i checkmk.yml -host cmk-agent
```

```
{
  "checkmk_agent_edition": "cre",
  "checkmk_agent_pass": "AnsibleW0rkshop2025!",
  "checkmk_agent_server": "localhost",
  "checkmk_agent_server_validate_certs": "false",
  "checkmk_agent_site": "master",
  "checkmk_agent_user": "cmkadmin",
  "checkmk_agent_version": "2.4.0",
  "checkmk_host_settings": {
    "attributes": {
      "ipaddress": "127.0.0.1"
    },
    "folder": "/linux/checkmk"
  },
  "folder": "/linux/checkmk",
  "ipaddress": "127.0.0.1"
}
```

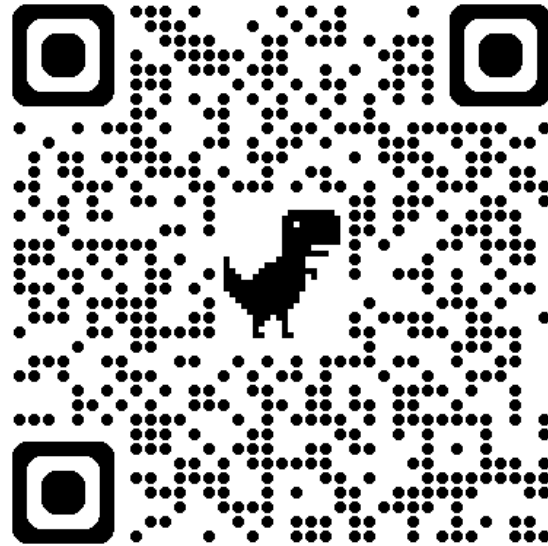
# Demo: Self healing with Checkmk, Ansible Automation Platform and Rule books



**Feedback**

# Feedback

- <https://forms.gle/ki6KjQF9KS6BavmU8>





**Thanks a lot for  
your participation**

DI (FH) René Koch  
Freelancer

The Checkmk Conference #11, 22.05.2025