

Automate Your Monitoring

CHECKMK CONFERENCE #5 – MUNICH, APRIL 30⁹, 2019

Automate your monitoring!

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Agenda

1. INTRODUCTION TO AUTOMATION

2. AUTOMATION WITH ANSIBLE

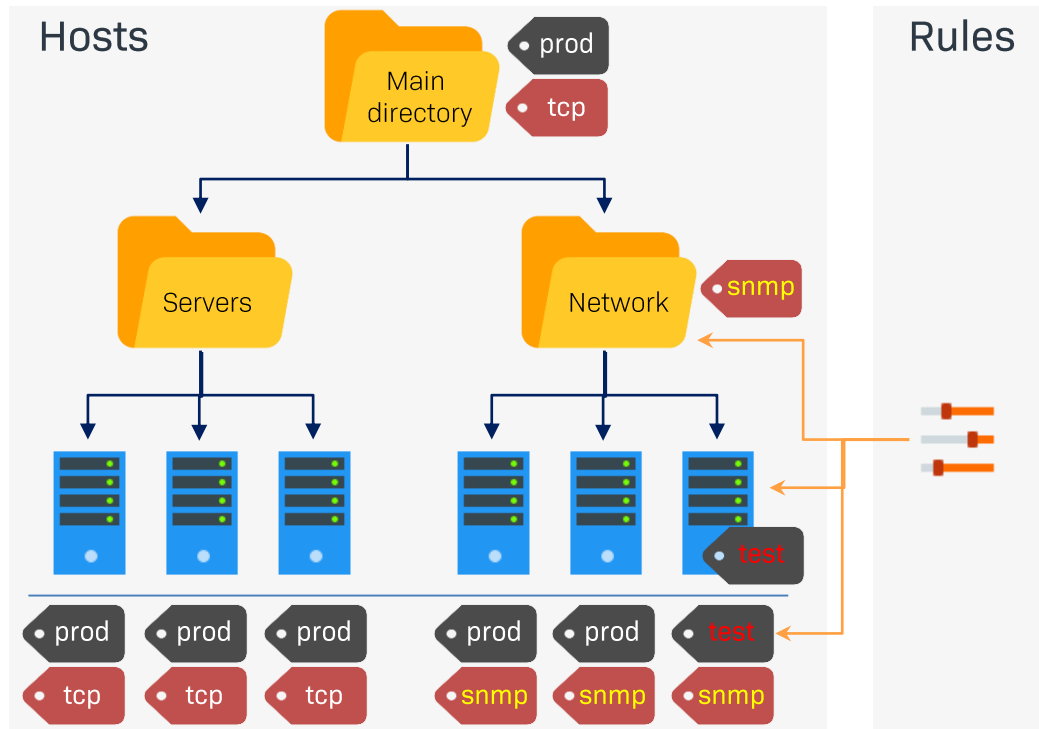
3. AUTOMATION WITH SALT

4. DEMO

5. OPEN QUESTIONS AND OUTLOOK

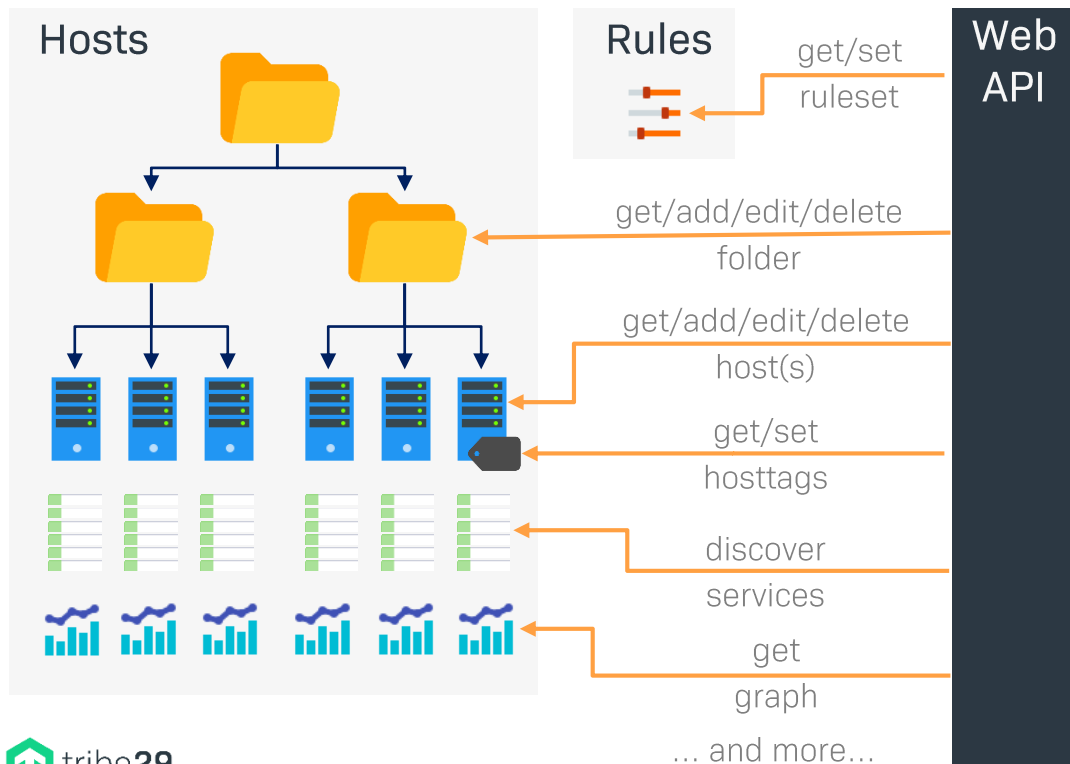


Some fundamentals of Check_MK



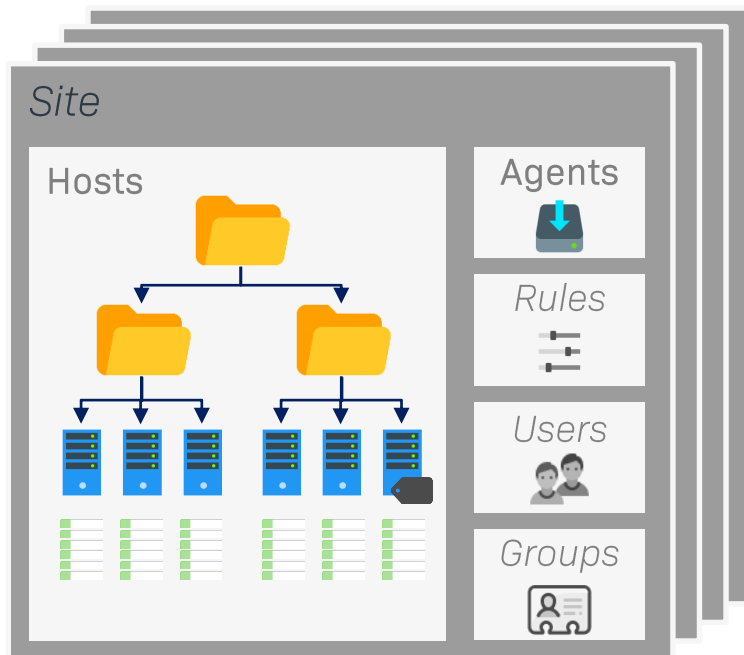
- Attribute inheritance
- Rule based
- (Auxiliary) Tags

The APIs of checkmk



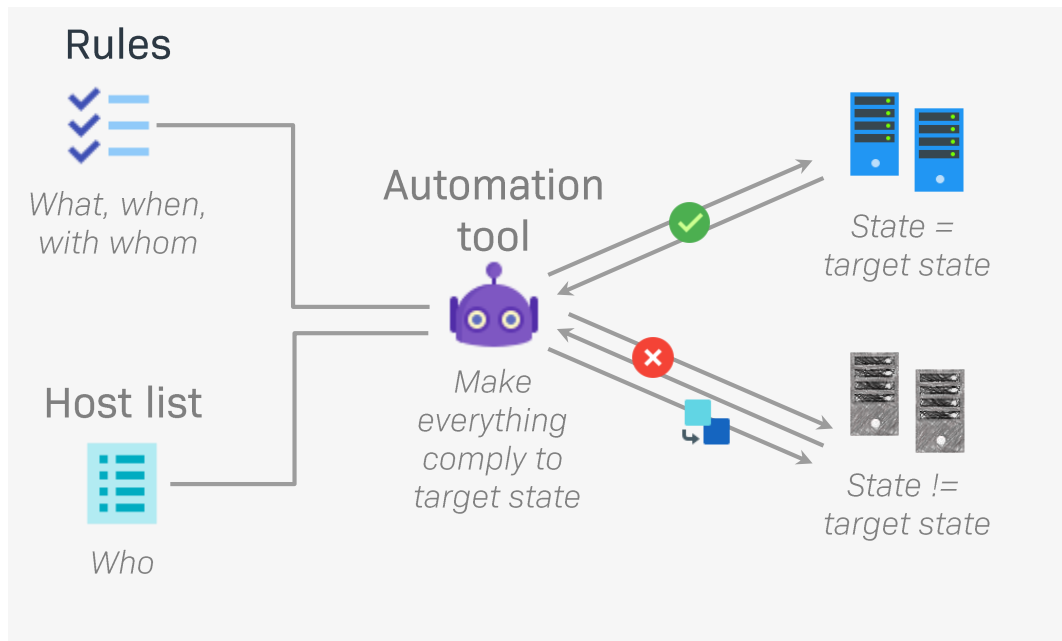
- Main API for automation
 - WebAPI
- Further APIs
 - Livestatus
 - HW/SW-Inventory
 - Simple HTTP

Automation possibilities in checkmk



- Agent + Plugins
- Hosts + Services
- (Aux)Tags
- Agent Bakery
- ...

Some fundamentals of automation



- Installation
- Configuration
- State audit

Does automation reduce my workload?

Automation will help, if:

- Automation software is already available
- Knowledge about the software is available
- Compliance of states must be ensured
- Naming convention is established



Does automation reduce my workload?

Automation will not help, if:

- No automation software available
- No permission management like in checkmk
- Conflicts with checkmk features
 - Hard to recreate agent update monitoring in automation software
 - Signed agents only in checkmk
 - Potentially giving up other features
- Risk of producing more work caused by mixing technologies



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Specifics with Ansible

- Python based with configuration in YAML
- Agentless orchestration
 - ssh, winrm, ReST, etc.
- No database needed
- A host file (host.ini) assigns hosts to groups
- Organized in playbooks and roles and tasks
 - A playbook contains role(s) for a group of hosts
 - A role contains task(s)
 - A task contains concrete instruction(s)



ANSIBLE

Find out more

- Project is being developed on Github:
<https://github.com/tribe29/ansible-checkmk>
- Some roles already available
- More roles and features coming soon
- **You are very welcome to contribute!**



hosts.ini

```
1 [g_cmk_hosts:children]
2 g_cmk_windows
3 g_cmk_linux
4
5
6 [g_cmk_windows]
7 win-local ansible_host=192.168.56.30
8
9 [g_cmk_linux]
10 docker-debian ansible_host=192.168.56.10
11 docker-centos ansible_host=192.168.56.11
12 docker-ubuntu ansible_host=192.168.56.12
13
```

- Major group: g_cmk_hosts
- Subgroups:
 - g_cmk_windows
 - g_cmk_linux
 - ...
- Split hosts & groupvars on big domains

Playbooks

```
1 ---
2 - hosts: g_cmk_hosts
3   # fetch information about the
4   # remote host (-> ansible_os_family )
5   gather_facts: yes
6   roles:
7     - cmk_host_agent
8     - cmk_host_plugins
9     - cmk_site_host_registration
```

- Hierarchy
 - Based on OS
 - Based on tasks (recommended)
- Split into specific roles

Roles

```
1 cmk_host_agent/defaults:
2   main.yml
3
4 cmk_host_agent/meta:
5   main.yml
6
7 cmk_host_agent/tasks:
8   Debian-tasks.yml
9   main.yml
10  RedHat-tasks.yml
11  Windows-tasks.yml
12
13 cmk_host_agent/vars:
14   cmk_agent_generic.yml
15
```

- Manually: default variables
- Optional: Add tasks to extend OS support

Tasks

```
1 ---
2 # Install Check_MK Agent on Debian/Ubuntu
3
4 - name: Download agent
5   get_url:
6     url: "{{ cmk_agent.url.deb }}"
7     dest: "{{ cmk_host_linux_tmp }}"
8
9 - name: Install agent
10  become: yes
11  apt:
12    deb: "{{ cmk_agent.file.deb }}"
13    state: present
```

- Agent already installed?
- Install agent
- Optional: Configure Firewall & SELinux

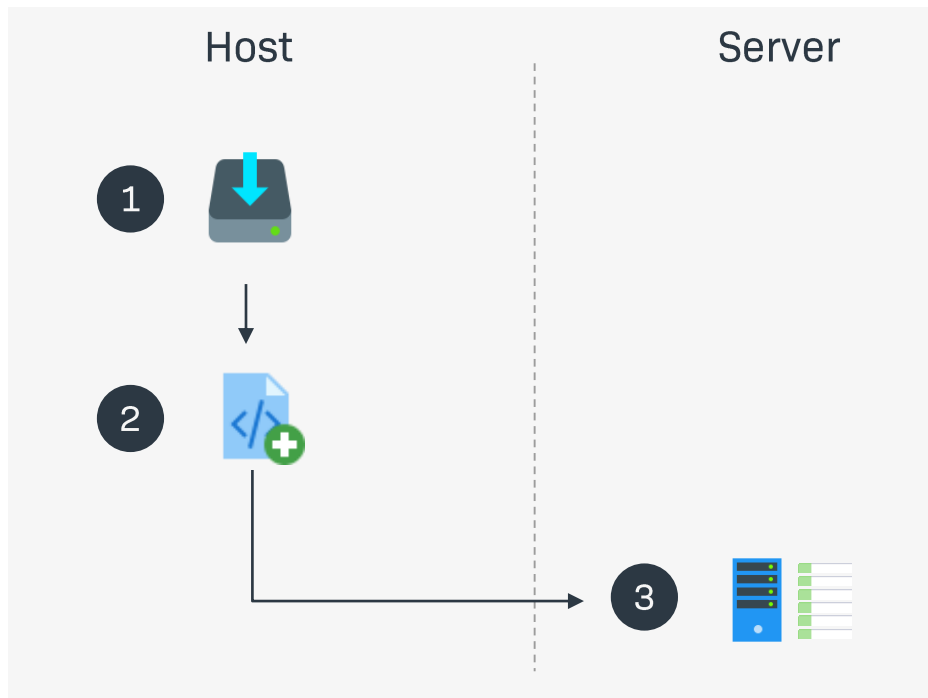
Some considerations

```
# Install Check_MK Agent on Windows

- name: Get current agent version
  win_shell: |
$cmk = "C:\...\check_mk\check_mk_agent.exe"
If (Test-Path $cmk) {
(Get-Item $cmk).VersionInfo.ProductVersion
} Else {
"No agent installed"
  register: cmk_agent_version
  changed_when: {{ result }} != cmk_version
```

- Avoid traffic
- Use variables
- Restrict manual interaction
- Use your site

Example Playbook with three roles



- 1 Agent Installation**
 - Based on OS type
- 2 Plugin Installation**
 - Based on processes
 - Based on files
 - Based on packages
- 3 Host Registration**
 - Add Host
 - Discover Services
 - Activate Changes

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Thank you!



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