deti universidade de aveiro
departamento de eletrónica,
telecomunicações e informática

Ansible

GIRS

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Rafael Ferreira, 67405 | Rodrigo Cunha, 67800
Docentes: Diogo Gomes, João Paulo Barraca

How Ansible Works

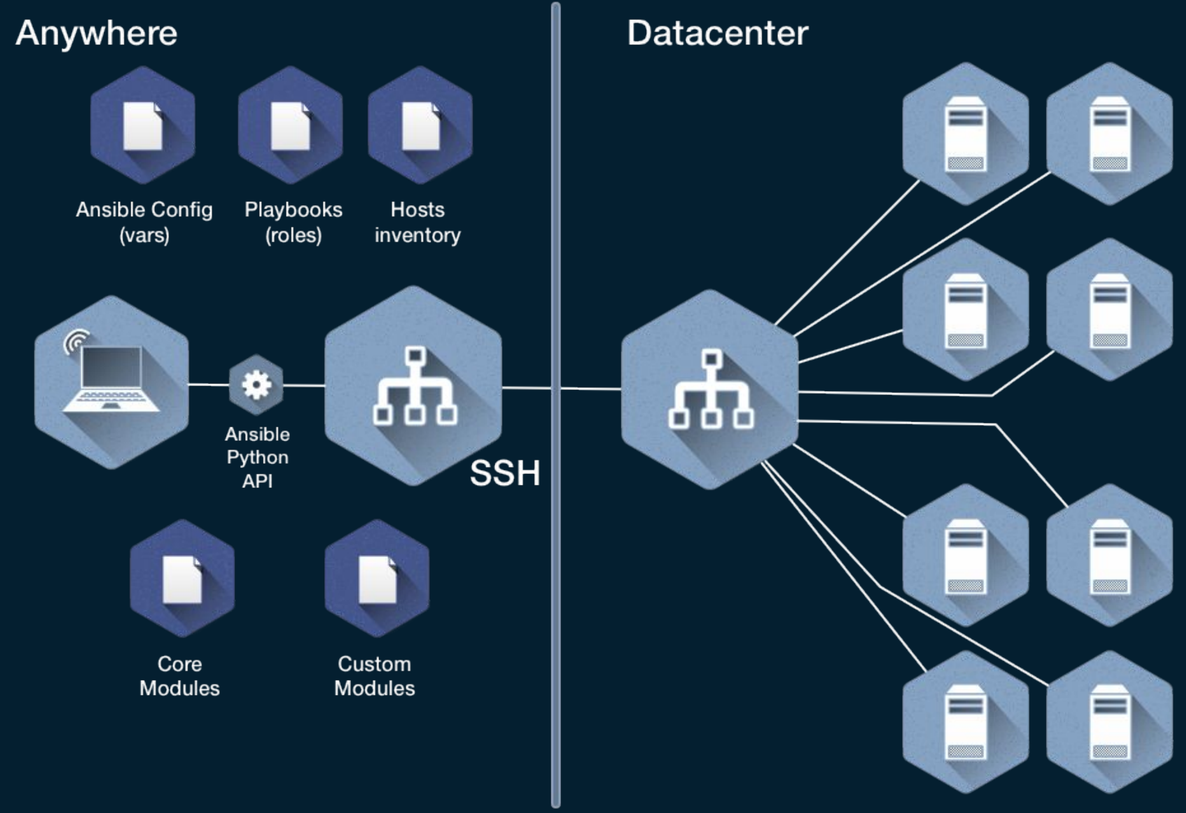
- No agents and additional custom security interface.
- Uses YAML in form of Ansible Playbooks.
- Ansible performs action through SSH.
- It’s possible to make custom modules that return JSON in any language.
- State-driven not the paths to get them to the state

What Ansible creator says:

- Choose the tool that uses a language that you know
- Simple configuration language => YAML
- No agent => No resources consumed
- “Batteries included” => each release is added 20+ new core modules with community implementation and help
- Supports **Windows**

https://www.quora.com/Configuration-Management-Which-should-I-choose-Chef-Puppet-Ansible-SaltStack-Docker-or-something-else

Architecture



Directory structure

- group_vars # here we assign variables to particular groups
- roles # folder with other roles that split the playbooks => reusable
  - mysq_docker
  - wordpress_docker1
  - wordpress_docker2
- hosts # inventory file for servers
- rancher.yml # master playbook

Role directory structure

- defaults # default lower priority variables for the role
- handlers # handlers files
- meta # role dependencies
- tasks # what should be done, playbook
- vars # variables associated with this role

hosts file

```
[Rancher]
rancher ansible_ssh_port=<PORT>
ansible_ssh_host=<IP>
ansible_user=<USER>
ansible_ssh_private_key_file="{{ ssh_key }}"
```

rancher.yml (master playbook)

```
# play 1
- name: Deploy MySQL Container
  hosts: 'database'
  roles:
      - { role: mysql_docker, tags: ["mysql_docker"] }
```

mysql_docker/tasks/main.yml

```
---

- name: Create a mysql docker container

  docker:

    name: mysql

    image: mysql:{{ mysql_version }}

    detach: True

    env: RANCHER_NETWORK=true,

        MYSQL_ROOT_PASSWORD=
{{ mysql_root_password }}


- name: Wait a few minutes for the IPs to be
set to the container

  wait_for: timeout=120
```

```
- name: Fetch the MySQL Container IP

  shell: docker exec mysql ip -o -4 addr list
eth0 | awk '{print $4}' | cut -d/ -f1 |  sed -n 2p

  register: mysql_sec_ip


- name: print the mysql rancher's ip

  debug: msg={{ mysql_sec_ip.stdout }}
```

Container with MySQL
up and running!

Pros and Cons about Ansible

- No agent, means no current state about the state of the server
  - **Puppet** provides mechanisms to do that
  - With Ansible is only possible to do that with Playbooks running periodically
- Ansible is easy to learn
  - **Chef** is not easy to pick up as YAML
  - Ruby based
    - Means programming skills

Job opportunities

Country	Ansible	Puppet	Chef
Portugal	64	89	55
World	4230	8189	4093

Useful links

- https://galaxy.ansible.com/explore#/
- https://github.com/ansible/ansible-examples
- http://docs.ansible.com/ansible/playbooks_best_practices.html
- http://docs.ansible.com/ansible/YAMLSyntax.html

demo:

2 containers with WP
1 container with MySQL