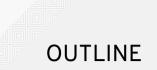# ANSIBLE

Automating your infrastructure with Ansible

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OUTLINE

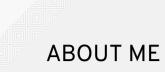Intro

Automation

Automation Concepts

Ansible

redhat.

INTRO

ABOUT ME

- IT Consultant since 2004
- Ansible user since 2013

TODAY'S PROBLEMS

- Auditability
- Job-hopping
- Speed
- Scalability
- Horizontal scaling (IaaS "cloud")
- Expected QoS

redhat.

AUTOMATION

ADVANTAGES

- Infrastructure as Code
    - Code is the infrastructure documentation*
    - Simplify auditability
- Infrastructures with no humans with *root* powers
- Easy and quick to scale out

AUTOMATION CONCEPTS

AGENT

An Agent is a daemon that runs on every controlled machine and that will check with the server (master) every N minutes to ensure that the host is aligned with the latest configuration version. If this is not the case, the Agent will download the lastest configuration version and apply it.

- Advantages
    - High performance during commands execution
    - Connection between clients and server is client managed
- Disadvantages
    - Forces the master to be in the least secure network segment
    - Resources are used even if no changes are being applied
    - More daemons to take care of
    - Chicken and Egg problem

IDEMPOTENCE

Definition
Idempotence is the property of certain operations in mathematics and computer science, that can be applied multiple times without changing the result beyond the initial application.

redhat.

INFRASTRUCTURE AS ~~CODE~~ DATA

- Really simple to write
- Even simpler to read
- Only the bit important to you need to be written

redhat.

EXAMPLE OF SYNTAX

```yaml
- hosts: all
  become: True
  tasks:
  - name: Ensure MySQL is installed
    yum:
      name: mysql
      state: present
  - name: Ensure user tom is present
    user:
      name: tom
      state: present
```

redhat.

ANSIBLE

ANSIBLE

- Written in Python
- Mainly push mode
- Advantages
  - Infrastructure as **Data** (in YAML format)
  - Very gentle learning curve
  - Very simple setup
  - Balanced tool
- Disadvantages
  - Not very good introspection tools (yet!)
  - Community is young

USUAL DEPLOYMENT PROCESS

- Automate few actions with Ansible Playbooks
- Create Ansible Roles for the setup of a simple machine type
- Rollout of the first machines completely managed with Ansible
- Migration of all machines to Ansible

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ADDITIONAL RESOURCES

- Slides: https://static.fale.io/slides/20170127-en-ansible.pdf
- Demo code: https://github.com/fale/ansible_lamp
- Official documentation: http://docs.ansible.com
- Videos: https://www.ansible.com/videos
- Whitepapers: https://www.ansible.com/whitepapers
- Ebooks: https://www.ansible.com/ebooks

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