ANSIBLE

Configuration Management System done right

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OUTLINE

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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

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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

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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.

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INFRASTRUCTURE AS ~~CODE~~ DATA

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

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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
```

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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/20161129-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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