

Ansible 101

Introduction to Ansible and its concepts

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What is Ansible?

- A configuration management tool with batteries included
- Simplifies infrastructure provision, configuration and orchestration

What is Ansible?

- Decentralized, agentless and (mostly) push-based
- Uses SSH for communication
- Declarative language
- Human-readable YAML files

Why use Ansible?

- Simple to use and fast to learn
- Automates tasks in no time
- Structured, reusable and VCS-manageable infrastructure descriptions

Why use Ansible?

- Mostly idempotent
- Great replacement for bash as "infrastructure glue" for sysadmins and alike
- 284 modules available and 2620 roles on <https://galaxy.ansible.com>

Basic commands

There are 2 essential commands

- `ansible`
- `ansible-playbook`

Basic commands

ansible

```
$ ansible -i ../inventory -m setup -a 'filter=ansible_distribution' web1
10.0.21.2 | success >> {
  "ansible_facts": {
    "ansible_distribution": "Ubuntu"
  },
  "changed": false
}
```

Basic commands

ansible-playbook

```
$ ansible-playbook -i ../inventory playbook.yml
PLAY [Check filter module] *****

GATHERING FACTS *****
ok: [10.0.21.2]

TASK: [Get a couple of facts from the system] *****
ok: [10.0.21.2] => (item=ansible_ssh_user) => {
  "item": "ansible_ssh_user",
  "var": {
    "ansible_ssh_user": "vagrant"
  }
}

[...]

PLAY RECAP *****
10.0.21.2                : ok=2    changed=0    unreachable=0    failed=0
```


Basic commands

Notable flags

- `--check, -C`
- `--syntax-check`
- `--verbose, -v[vvv]`
- `--limit, -l`
- `--user, -u`
- `--list-hosts`

Playbooks

- "If Ansible modules are the tools in your workshop, playbooks are your design plans." @ <http://docs.ansible.com/playbooks.html>
- An ordered plan of tasks to be executed on several sets of hosts
- Composed of **Plays**

Playbooks

Plays

Plays describe a sequence of tasks to execute on a set of hosts and are defined by:

- a `name`
- `hosts` where they'll be applied
- `remote_user` that will connect to the hosts
- `tasks` and `roles` that will be executed

Key takeaways

- Simplifies configuring hosts in a repeatable fashion
- It (mostly) solves idempotence
- It's oblivious to previous states
- Should be paired with immutable infrastructure

Useful resources

- Official documentation
- Official roles repository
- Quick reference for variables