Ansible IT automation

CONCEPTS

Ansible connects over SSH and needs no agent. Playbooks describe a desired state, so running one twice should change nothing the second time.

Inventory hosts and groups
↓ pattern
Playbook plays and tasks
↓ SSH
Modules run on targets
↓ result
Report ok / changed / failed

Prefer modules over raw shell: they report changed correctly and are idempotent.

AD-HOC

ansible all -m ping
Test connection and Python on hosts

ansible *<pattern>* -m command -a "*<cmd>*"
Run one command on hosts

ansible *<pattern>* -m shell -a "*<cmd>*"
Run through a shell

ansible *<pattern>* -b -m apt -a "name=*<pkg>* state=present"
Install a package as root

ansible *<pattern>* -m setup
Gather facts

ansible *<pattern>* -m copy -a "src=*<f>* dest=*<path>*"
Copy a file to hosts

ansible *<pattern>* -m service -a "name=*<svc>* state=restarted"
Restart a service

ansible *<pattern>* --list-hosts
Show which hosts match

PLAYBOOKS

ansible-playbook *<file>*
Run a playbook

ansible-playbook *<file>* -i *<inventory>*
Use a specific inventory

PLAYBOOKS (cont.)

ansible-playbook *<file>* --check
Dry run, change nothing

ansible-playbook *<file>* --diff
Show file changes

ansible-playbook *<file>* --syntax-check
Parse only

ansible-playbook *<file>* --list-tasks
List tasks that would run

TARGETING & VARIABLES

-l *<pattern>* / --limit *<pattern>*
Restrict to hosts or groups

-t *<tag>* / --tags *<tag>*
Run only tagged tasks

--skip-tags *<tag>*
Skip tagged tasks

-e *<key>*=*<value>*
Set an extra variable

-e @*<file>*
Load variables from a file

-v / -vvv
More output detail

--ask-vault-pass
Prompt for the vault password

PRIVILEGES & CONNECTION

-b / --become
Escalate privileges

-K / --ask-become-pass
Prompt for the sudo password

-u *<user>*
Remote login user

--private-key *<file>*
SSH key to use

INVENTORY

ansible-inventory --graph
Tree of groups and hosts

ansible-inventory --list
Full inventory as JSON

ansible-inventory --host *<host>*
Variables of one host

INVENTORY (cont.)

Variable precedence (low to high)

Source	Wins over
role defaults	nothing
inventory vars	defaults
play vars	inventory
extra vars (-e)	everything

VAULT

ansible-vault create *<file>*
New encrypted file

ansible-vault encrypt *<file>*
Encrypt an existing file

ansible-vault edit *<file>*
Edit an encrypted file

ansible-vault view *<file>*
Show decrypted content

--vault-password-file *<file>*
Read the password from a file

GALAXY

ansible-galaxy collection install *<ns.name>*
Install a collection

ansible-galaxy collection install -r requirements.yml
Install from a requirements file

ansible-galaxy collection list
Installed collections

ansible-galaxy role install *<name>*
Install a role

ansible-galaxy role install -r requirements.yml
Install roles from a file

ansible-galaxy role init *<name>*
Scaffold a new role

DOCS & CONFIG

ansible-doc *<module>*
Module documentation

ansible-doc -s *<module>*
Short snippet of a module

ansible-config dump --only-changed
Settings differing from defaults

ansible --version
Version, config file, paths