Ansible

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What is Ansible

- It's a **simple automation** that can perfectly describe an IT application infrastructure in Ansible Playbooks.
- It's an **IT automation engine** for:
  - environment and infrastructure provisioning
  - configuration management
  - application deployment
  - agentless architecture
  - uses OpenSSH & WinRM
  - tasks executed in order

What is Ansible

SIMPLE

Human readable automation

No special coding skills needed

Tasks executed in order

Get productive quickly

POWERFUL

App deployment

Configuration management

Workflow orchestration

Orchestrate the app lifecycle

AGENTLESS

Agentless architecture

Uses OpenSSH & WinRM

No agents to exploit or update

More efficient & more secure

What can I use Ansible to do

CONFIG MANAGEMENT

APP DEPLOYMENT

PROVISIONING

CONTINUOUS DELIVERY

SECURITY & COMPLIANCE

ORCHESTRATION

Vocabulary

- **Inventory** is a list of servers and groups of servers
- **Task** is a single action Ansible may take (edit a file, install a package, run a command)
- **Play** is a list of task to be executed on a server or on a group of server (exemple : a play can install and configure MySQL on a database server)
- **Playbook** is a list of plays, where each play can affect different servers or groups (exemple : a playbook may run a MySQL play on DB servers, then an Apache play on web servers)
- **Module** is a component that provides types of tasks (file, apt, mysql db, mysql user, etc.)
- **Role** is a set of tasks grouped together to be more easily reused between playbooks on different projects (like a library)
- **Variables** (different values for different envs)
- **Handlers** (provides orchestration of events)
- **Vault** (a mechanism for encrypting secrets)

Summary

- Task = function call
- Module = function
- Role = library
- Play = what you need to configure one type of server
- Playbook = what you need to do a full deployment

A little YAML

- A YAML document starts with three dashes : ---
- YAML is a superset of JSON : every JSON document is a valid YAML document
- You could write your playbooks in JSON (don't do it)
- The top structure of a playbook is a list (of plays)
- A play is a YAML object
- Each play must have a hosts and a tasks attribute
- Each of those attributes contains a list
- hosts is a list of strings (hostnames)
- Tasks themselves are objects
- Tasks optionnaly have a name (do it!)
- Tasks have an attribute to identify the module they use
- The value of this attribute is a non-YAML list of module parameters example : apt: name=apache2 state=present install recommends=false

Architecture Ansible
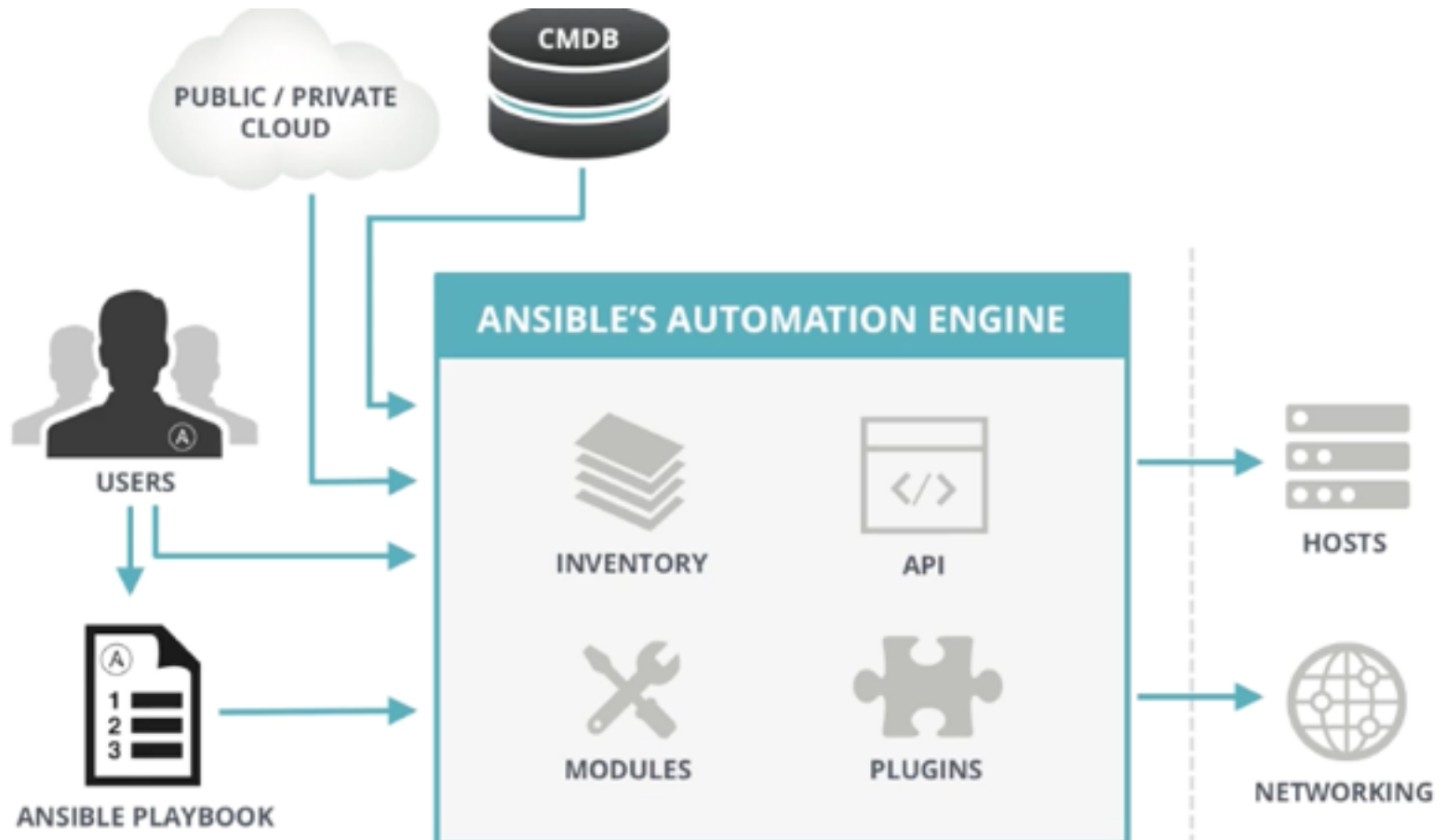
Summary

http://docs.ansible.com/ansible/latest/user_guide/windows.html

https://github.com/altfatterz/ansible-vault-demo