



# Automatización para todos

## Introducción a Ansible en Networking

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Paulo Seguel  
Sr. Solution Architect

# De qué vamos a hablar

<b>Automatización</b>	Ansible	Dev/Net/Sec Ops
Silos	Networking	Tower
Playbooks	Playbooks	etc

Su Mundo



# ¿Qué necesitas automatizar hoy?



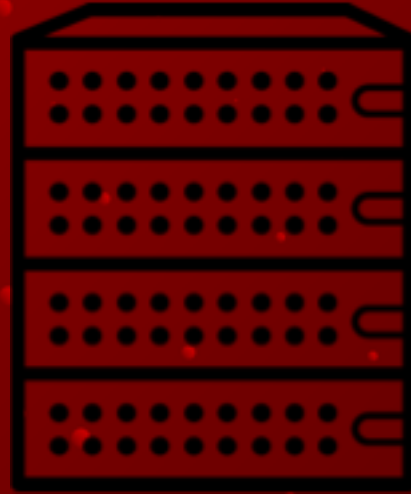
Laptop



Mainframe



Network equipment



Linux



An old UNIX system



Cloud

# ¿Qué necesitas aprender hoy?



Laptop

System A  
Language Z



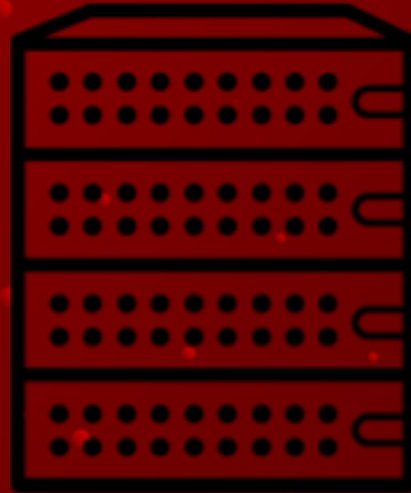
Mainframe

System B  
Language Y



Network equipment

System C  
Language X



Linux

System D  
Language W



An old UNIX system

System E  
Language V



Cloud

System F  
Language U

# ¿A quién necesitas contratar hoy?



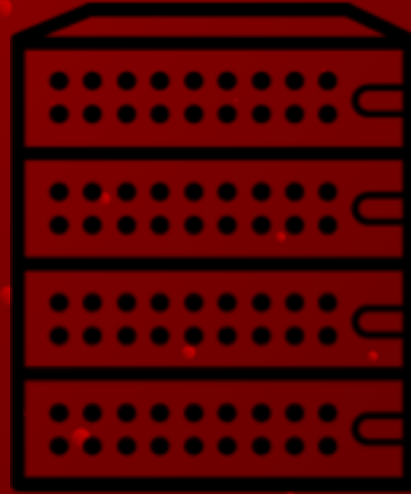
Laptop



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Cloud



# ¿Con quién necesitas colaborar hoy?

Världen är platt.

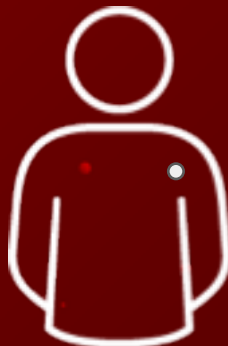
El mundo es  
redondo.

Jorden er flat.

Die Welt ist rund.

Verden er trekantet.

Maa on pannukakku.



# ¿Qué necesitas aprender hoy?



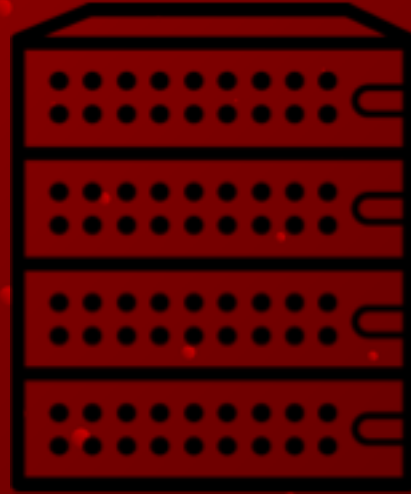
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# ¿Qué necesitas aprender hoy?



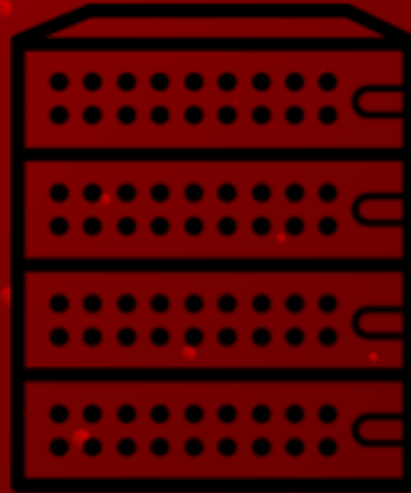
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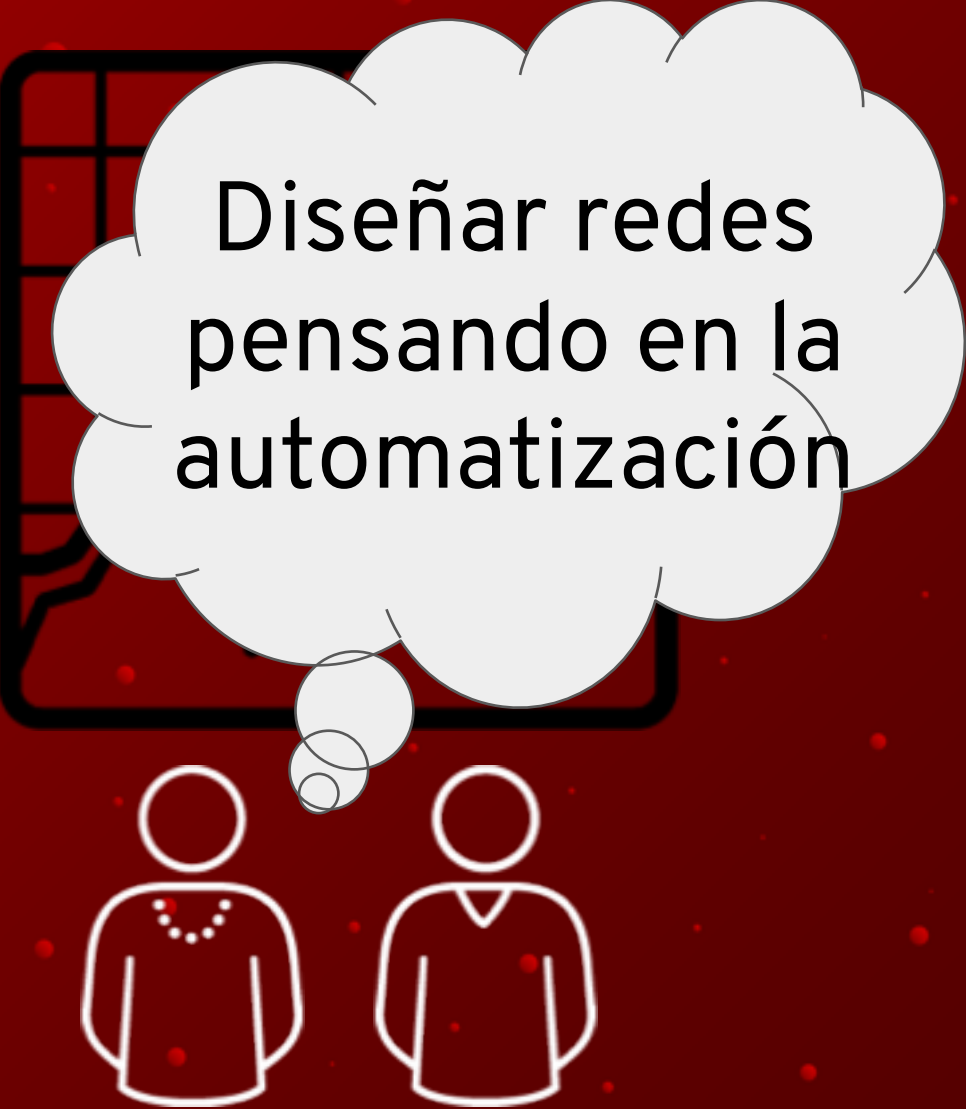
Cloud



¿Con quién necesitas colaborar hoy?



# Crear una estrategia de automatización (¡que escale!)



Diseñar redes  
pensando en la  
automatización



Isolated  
scripts



**AUTOMATES  
FUNCTIONS**

A culture of  
automation



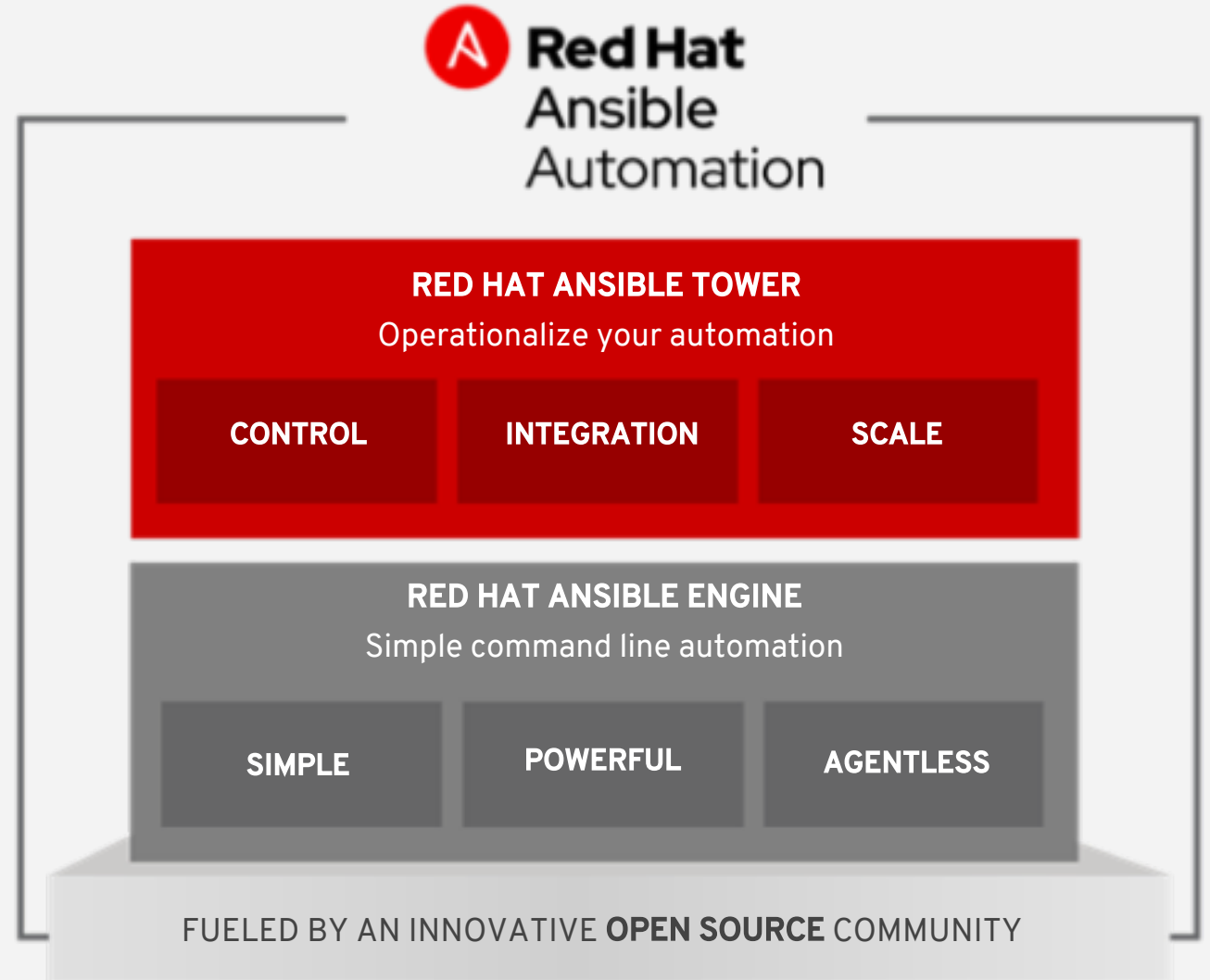
**AUTOMATES  
ORGANIZATIONS**

# What is Ansible Automation?

Ansible Automation is the enterprise **framework** for automating across IT operations.

Ansible Engine runs Ansible Playbooks, the automation **language** that can perfectly describe an IT application infrastructure.

Ansible Tower allows you **operationalize** IT automation, manage complex deployments and speed productivity.



# Ansible automates technologies you use

Time to automate is measured in minutes

## Cloud

AWS  
Azure  
Digital Ocean  
Google  
OpenStack  
Rackspace  
**+more**

## Operating Systems

Rhel And Linux  
Unix  
Windows  
**+more**

## Virt & Container

Docker  
VMware  
RHV  
OpenStack  
OpenShift  
**+more**

## Storage

Netapp  
Red Hat Storage  
Infinidat  
**+more**

## Windows

ACLs  
Files  
Packages  
IIS  
Regedit  
Shares  
Services  
Configs  
Users  
Domains  
**+more**

## Network

Arista  
A10  
Cumulus  
Bigswitch  
Cisco  
Cumulus  
Dell  
F5  
Juniper  
Palo Alto  
OpenSwitch  
**+more**

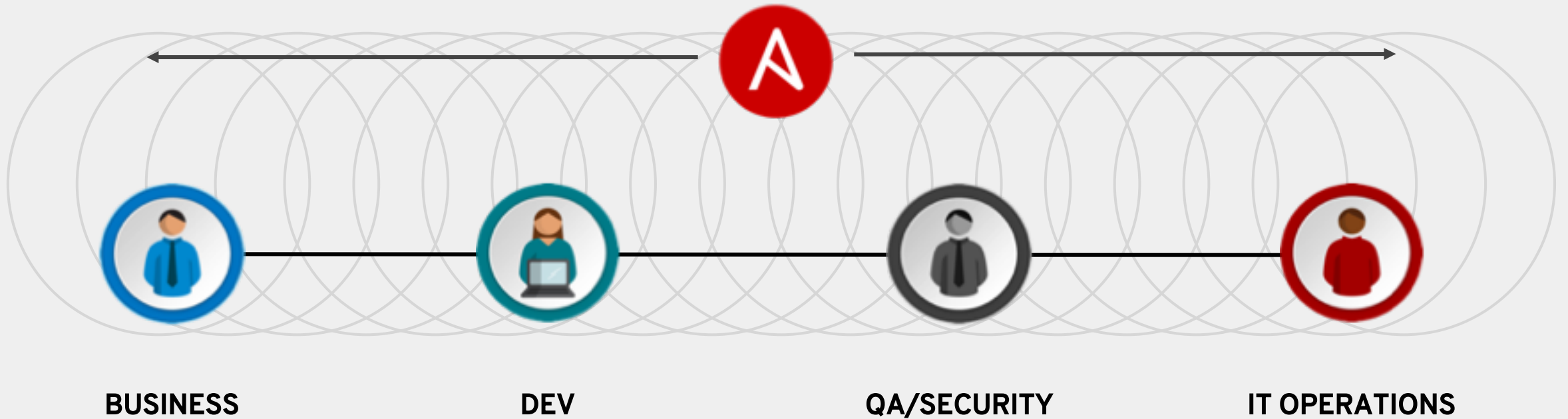
## Devops

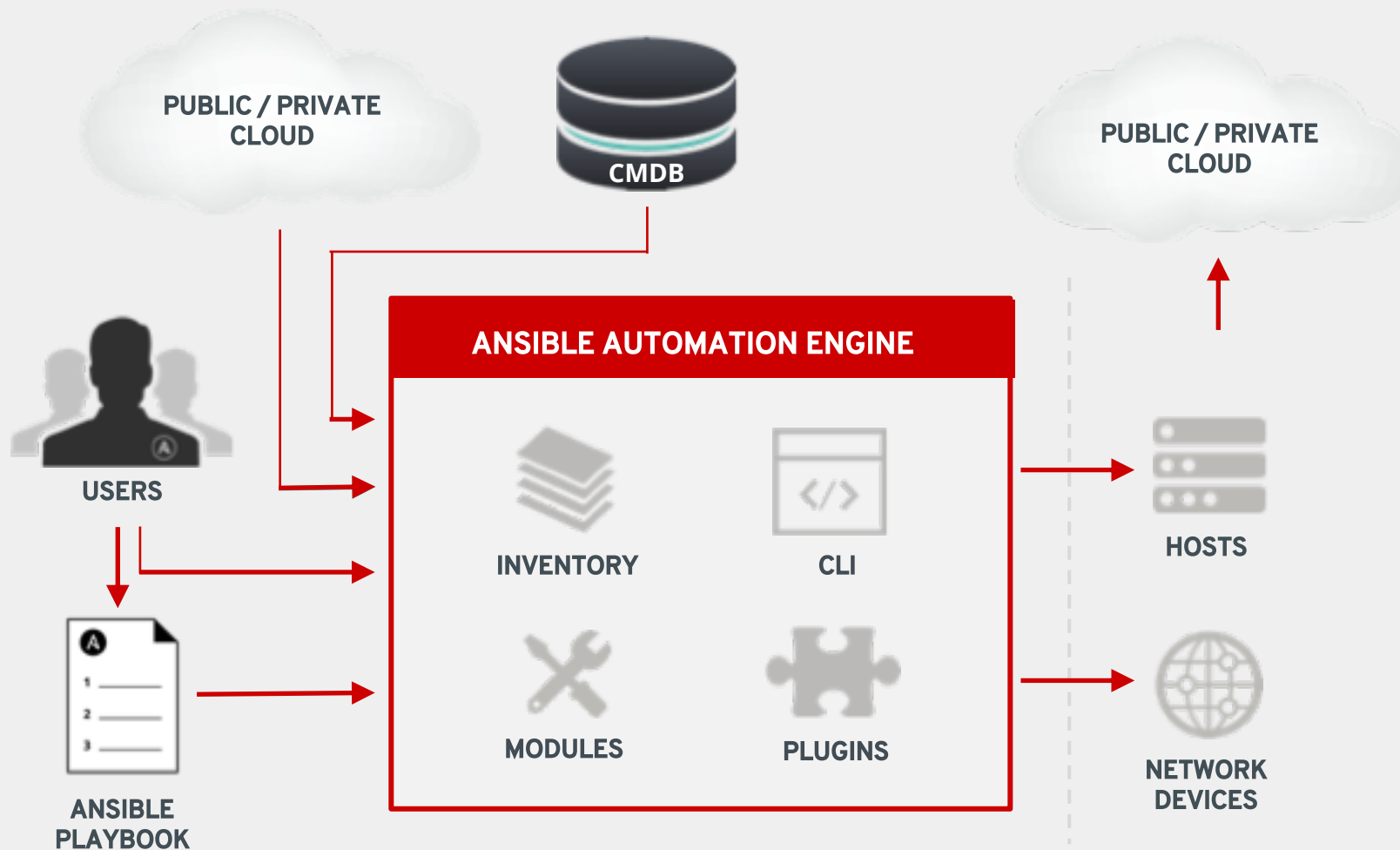
Jira  
GitHub  
Vagrant  
Jenkins  
Bamboo  
Atlassian  
Subversion  
Slack  
Hipchat  
**+more**

## Monitoring

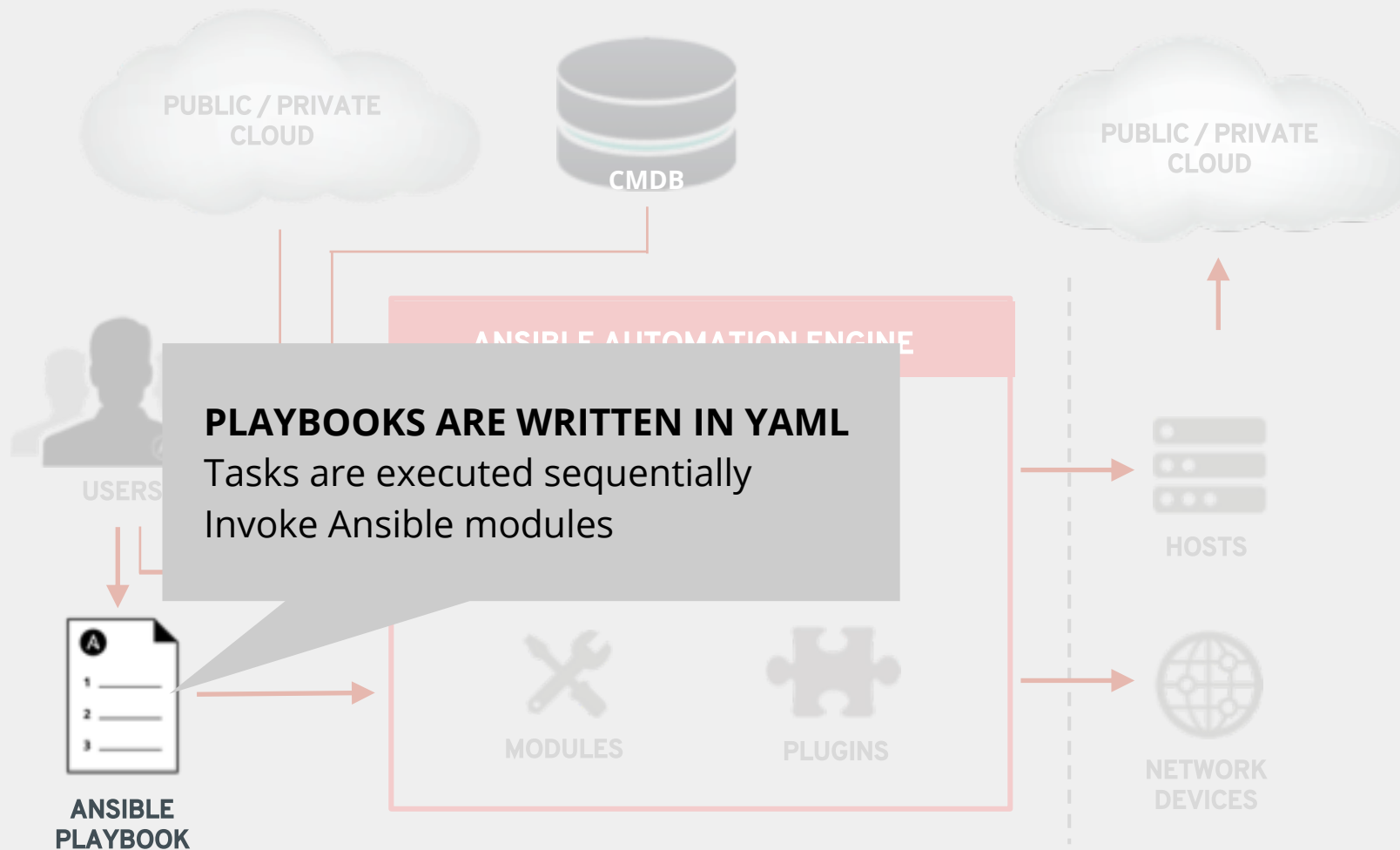
Dynatrace  
Airbrake  
BigPanda  
Datadog  
LogicMonitor  
Nagios  
New Relic  
PagerDuty  
Sensu  
StackDriver  
Zabbix  
**+more**

# ANSIBLE IS THE UNIVERSAL LANGUAGE







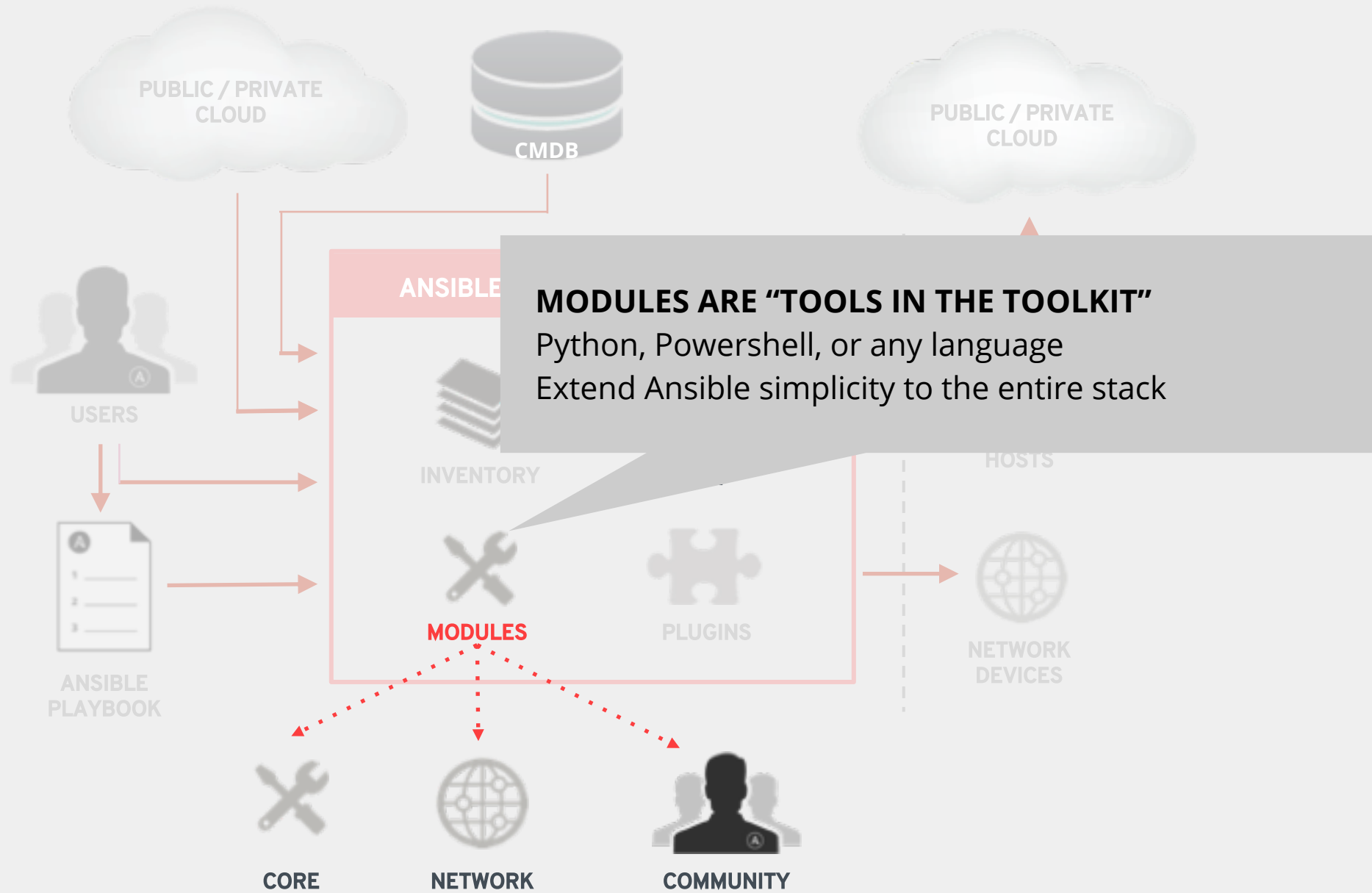


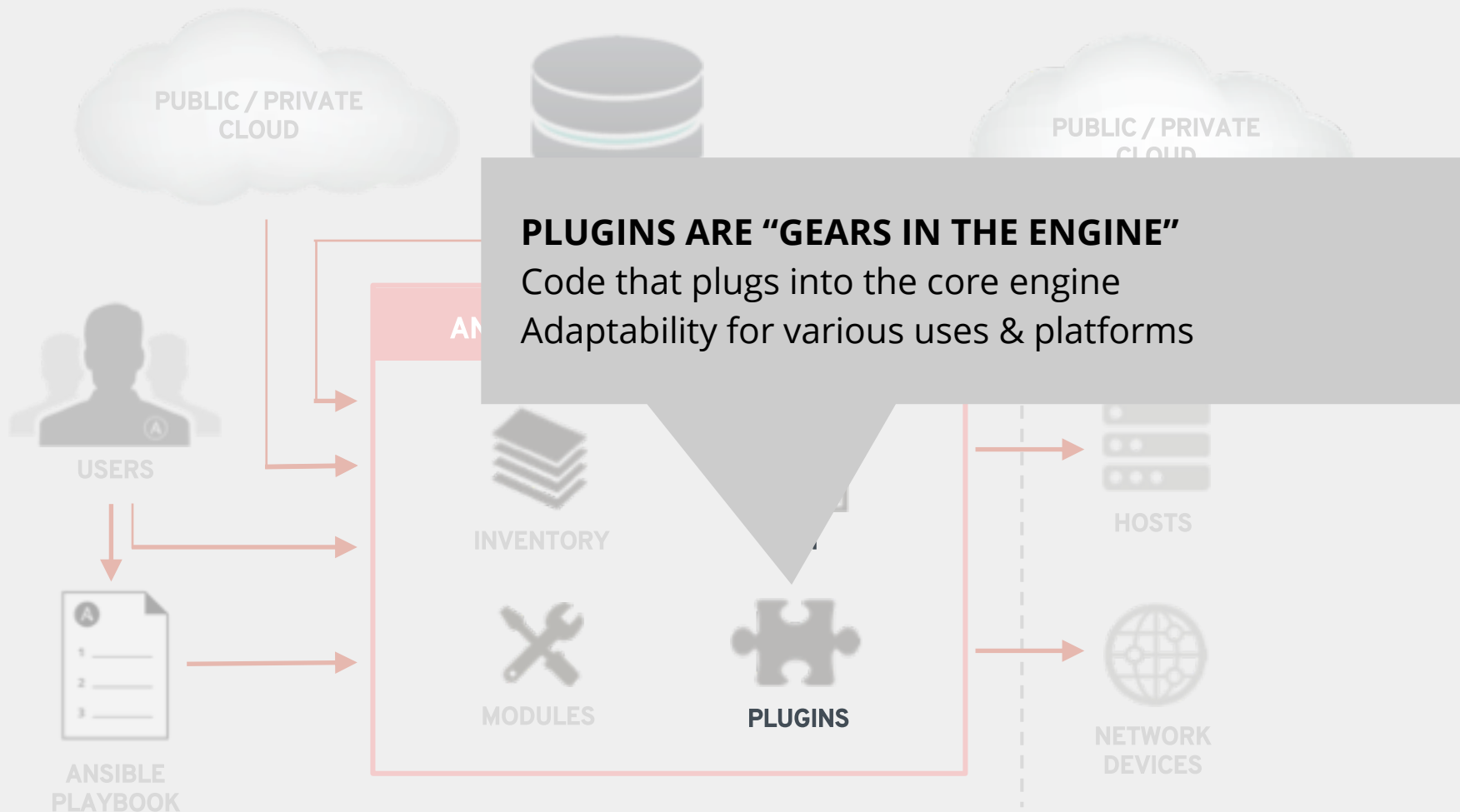
```
---
- name: install and start apache
  hosts: web
  become: yes
  vars:
    http_port: 80

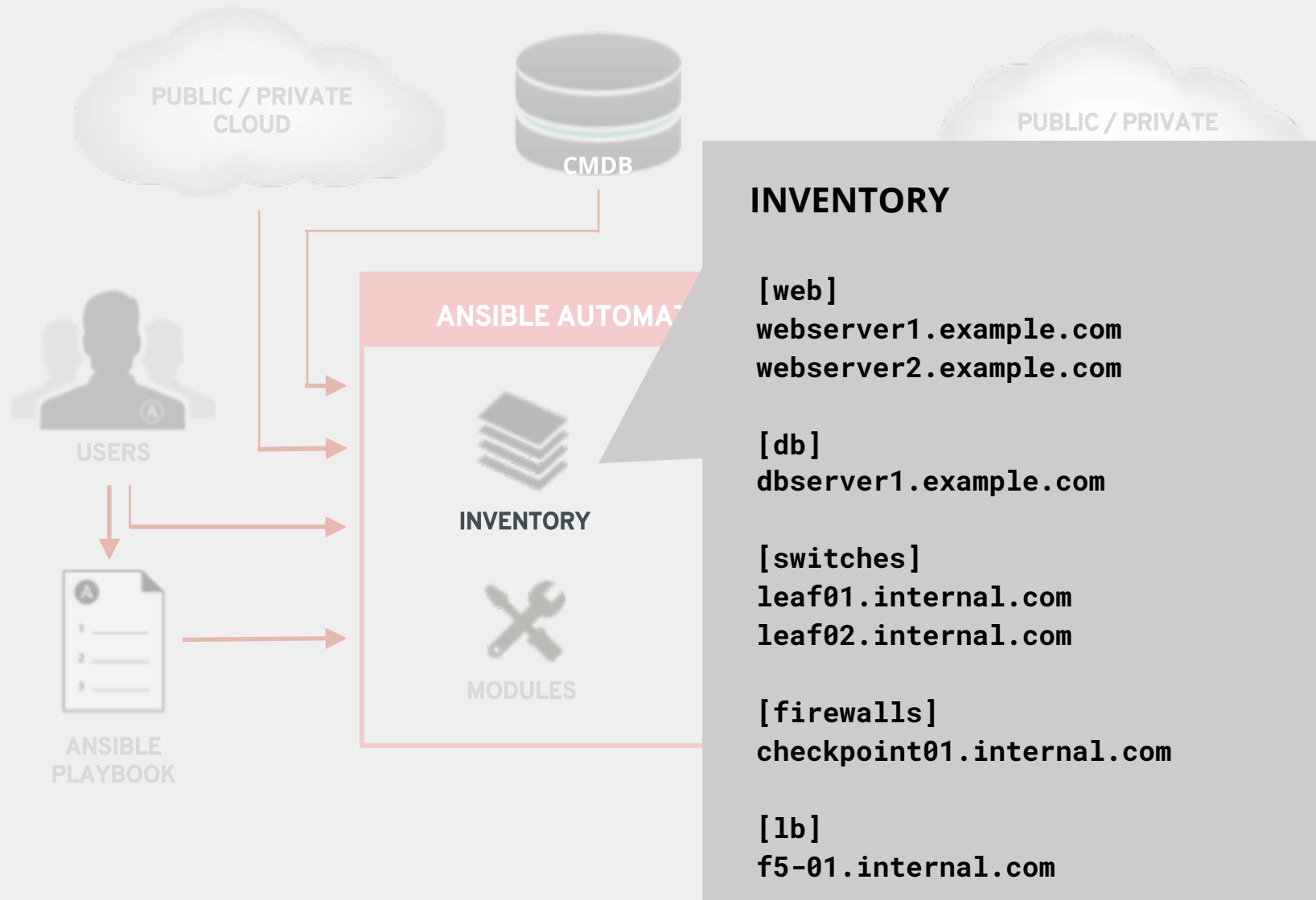
  tasks:
    - name: httpd package is present
      yum:
        name: httpd
        state: latest

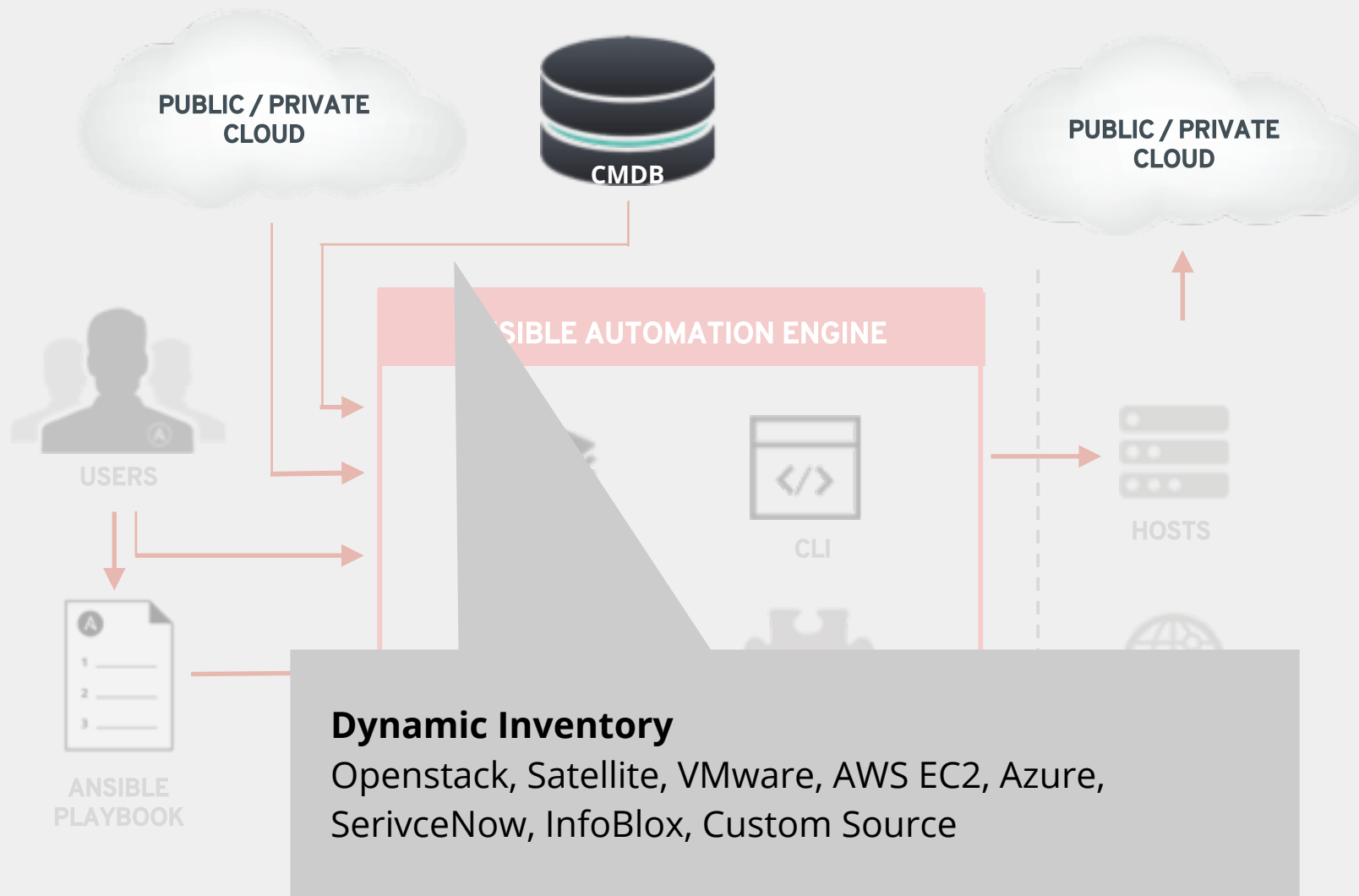
    - name: latest index.html file is present
      copy:
        src: files/index.html
        dest: /var/www/html/

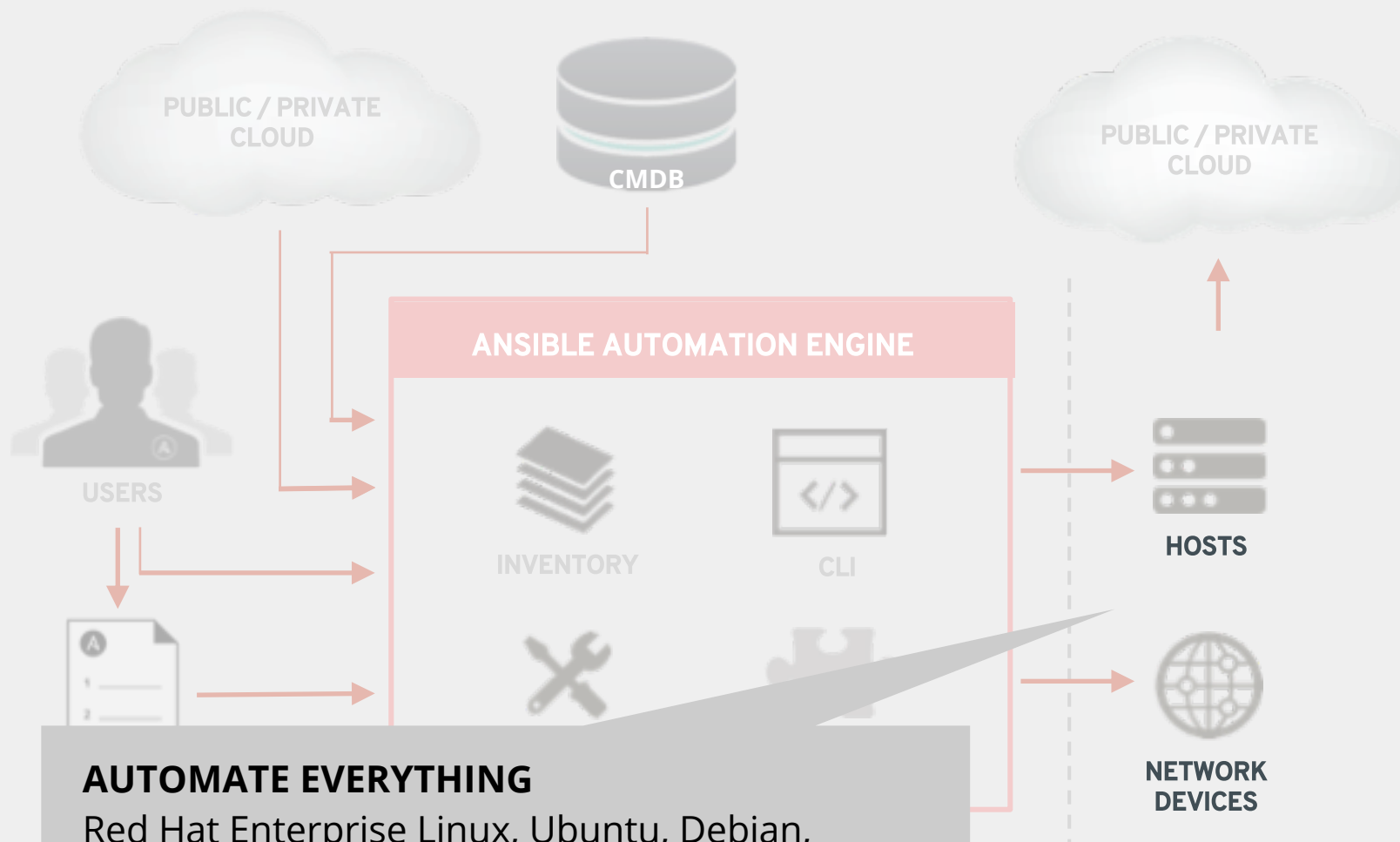
    - name: httpd is started
      service:
        name: httpd
        state: started
```











## **AUTOMATE EVERYTHING**

Red Hat Enterprise Linux, Ubuntu, Debian,  
Cisco routers, Arista switches, Juniper routers,  
Windows hosts, Checkpoint firewalls and more



**RED HAT®**  
**ANSIBLE®**  
Automation

USE CASE:  
**LINUX AUTOMATION**



# LINUX AUTOMATION

**150+**  
Linux Modules

## **AUTOMATE EVERYTHING LINUX**

Red Hat Enterprise Linux, BSD,  
Debian, Ubuntu and many more!

ONLY REQUIREMENTS:  
Python 2 (2.6 or later)  
or Python 3 (3.5 or later)

[ansible.com/get-started](https://ansible.com/get-started)



**RED HAT®**  
**ANSIBLE®**  
Automation

USE CASE:  
**NETWORK AUTOMATION**

# NETWORK AUTOMATION

**800+**

Network  
Modules

## **AUTOMATE EVERYTHING**

Routers, Switches, Firewall, APs, etc.  
Cisco (IOS, IOX XR, NXOS, ACI, Meraki),  
Juniper, Aruba, Fortinet, etc...

ONLY REQUIREMENTS:

**SSH!!**

[ansible.com/get-started](https://ansible.com/get-started)

# ANSIBLE NETWORK



## OPERATIONS CENTRIC NETWORK AUTOMATION

- Build and push device configurations
- Automate tactical operations on network devices



## APPLICATION CENTRIC NETWORK AUTOMATION

- Automate network devices in support of applications
- Support direct to device and controller based virtualization



## CLOUD CENTRIC NETWORK AUTOMATION

- Describe and deploy network connectivity between clouds
- Support public/private and/or public/public clouds

# AUTOMATION FOR EVERYONE: NETWORK ENGINEERS

---

```
- hosts: cisco
gather_facts: false
connection: network_cli

tasks:
  - name: show command for cisco
    cli_command:
      command: show ip int br
      register: result

  - name: display result to terminal window
    debug:
      var: result.stdout_lines
```

# AUTOMATION FOR EVERYONE: PLAYBOOK RESULTS

```
[student3@ansible network_setup]$ ansible-playbook example.yml

PLAY [cisco] *****

TASK [show command for cisco] *****
ok: [rtr2]
ok: [rtr1]

TASK [display result to terminal window] *****
ok: [rtr1] => {
  "result.stdout_lines": [
    "Interface      IP-Address    OK? Method Status          Protocol",
    "GigabitEthernet1 172.16.22.120 YES DHCP    up              up",
    "VirtualPortGroup0 192.168.35.101 YES TFTP    up              up"
  ]
}
ok: [rtr2] => {
  "result.stdout_lines": [
    "Interface      IP-Address    OK? Method Status          Protocol",
    "GigabitEthernet1 172.17.1.107  YES DHCP    up              up",
    "VirtualPortGroup0 192.168.35.101 YES TFTP    up              up"
  ]
}

PLAY RECAP *****
rtr1      : ok=2    changed=0    unreachable=0    failed=0    skipped=0
rtr2      : ok=2    changed=0    unreachable=0    failed=0    skipped=0

[student3@ansible network_setup]$
```



**RED HAT®**  
**ANSIBLE®**  
Automation

USE CASE:  
**WINDOWS AUTOMATION**

# AUTOMATION FOR EVERYONE: WINDOWS ADMINS

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- **name:** update and reboot

**hosts:** windows\_servers

**tasks:**

- **name:** ensure common OS updates are current

**win\_updates:**

**register:** update\_result

- **name:** reboot and wait for host if updates change require it

**win\_reboot:**

**when:** update\_result.reboot\_required



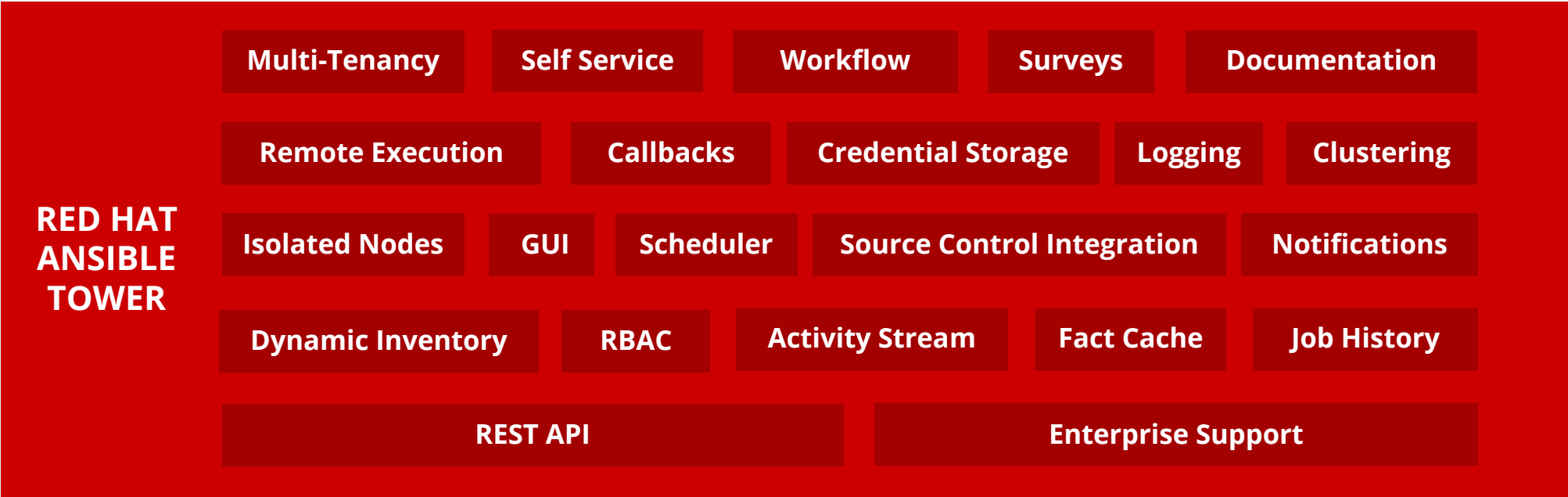


USE CASE:  
Cloud automation

# PLAYBOOK EXAMPLE: RED HAT OPENSTACK

```
---  
- name: openstack playbook  
  hosts: localhost  
  connection: local  
  
  tasks:  
    - name: launch an instance  
      os_server:  
        name: vm1  
        cloud: mordred  
        region_name: ams01  
        image: Red Hat Enterprise Linux 7.4  
        flavor_ram: 4096
```

# Red Hat Ansible Tower



# Training at Red Hat

# Red Hat Training and Certification

## RED HAT TRAINING

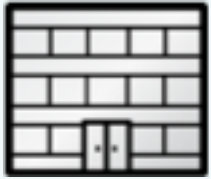
- **Job role and solution focused**
- **Task driven instructional design** focused on real-world solutions
- **Curriculum designed on input** from support, engineering, consulting and management
- **Concepts reinforced** by hands-on labs

## Training Modalities

- **Public Classroom**
- **Virtual Classroom**
- **Private Group Training**
- **Proctored Red Hat Certifications**

**Red Hat training combines the highest quality courseware with instruction from true industry experts**

# WAYS TO TRAIN



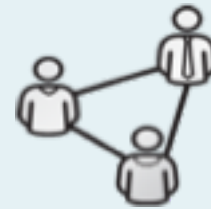
## Onsite Training

Private On-site training and exams delivered at your location or at one of our training centers



## Classroom Training

Training and test in a professional classroom environment led by Red Hat Certified Instructors



## Virtual Training

Live instructor-led online training with the same high-quality, hands-on labs you'd find in our classrooms



## Online Learning

90 days of access to course content and up to 80 hours of hands on labs – all available online, at your pace, and your schedule.

# ¡Gracias!

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