RED HAT FORUM Asia Pacific

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NOTHING ROUTINE IN IT

SHOULD BE DONE MANUALLY

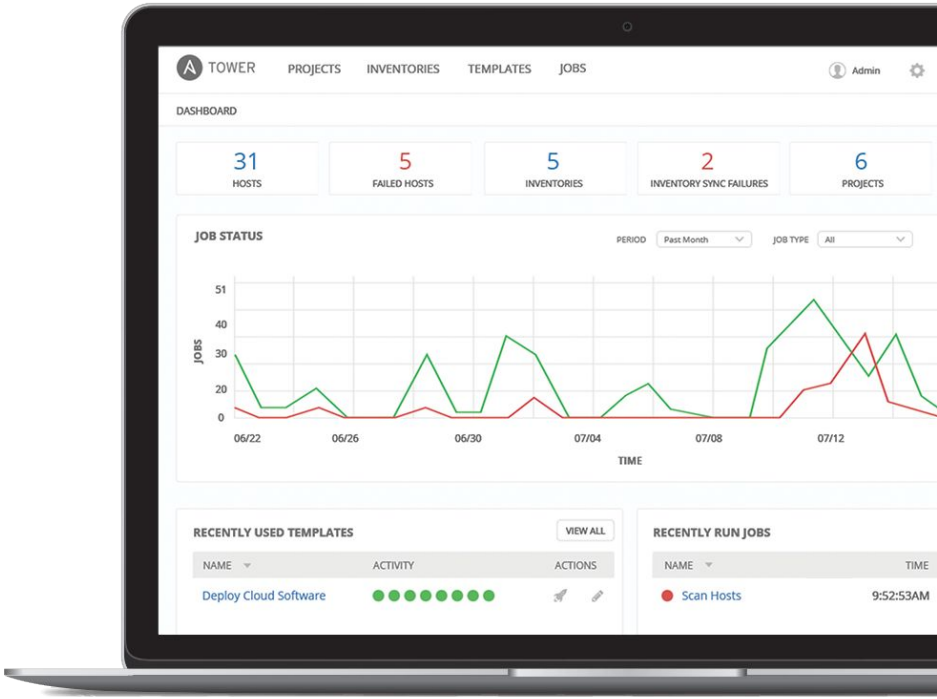
김용기 부장, Senior Solution Architect

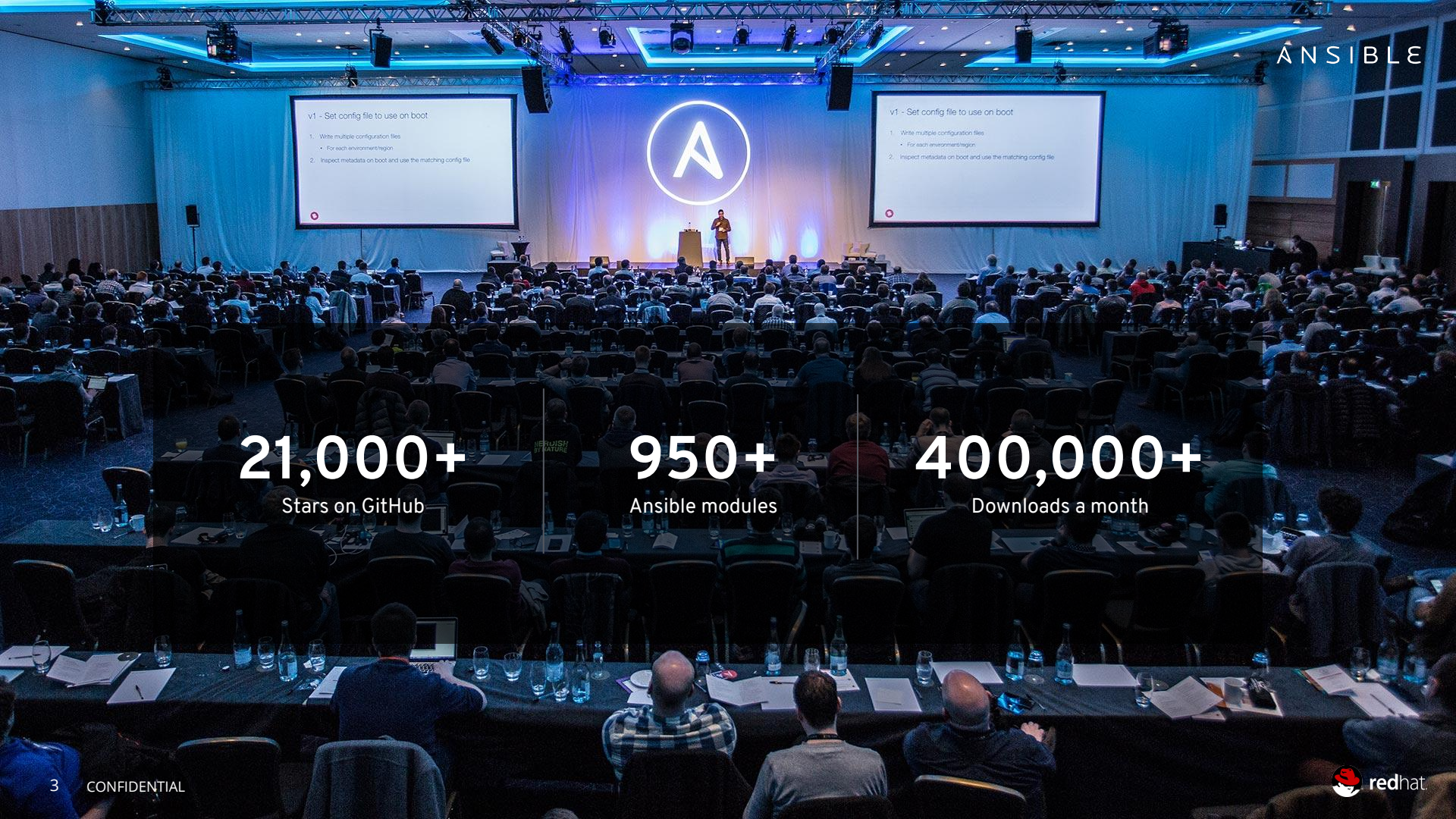
Red Hat

WHAT IS ANSIBLE AUTOMATION?

Ansible is an open source community project sponsored by Red Hat. It's a **simple automation language** that can perfectly describe IT application environments in Ansible Playbooks.

Ansible Tower is an **enterprise framework** for controlling, securing and managing your Ansible automation with a **UI and RESTful API.**





ANSIBLE

21,000+
Stars on GitHub

950+
Ansible modules

400,000+
Downloads a month

redhat.

THE ANSIBLE WAY

CROSS PLATFORM

Agentless support for all major OS variants, physical, virtual, cloud and network devices.

HUMAN READABLE

Perfectly describe and document every aspect of your application environment.

PERFECT DESCRIPTION OF APPLICATION

Every change can be made by Playbooks, ensuring everyone is on the same page.

VERSION CONTROLLED

Playbooks are plain-text. Treat them like code in your existing version control.

DYNAMIC INVENTORIES

Capture all the servers 100% of the time, regardless of infrastructure, location, etc.

ORCHESTRATION PLAYS WELL WITH OTHERS

Every change can be made by Playbooks, ensuring everyone is on the same page.

WHY ANSIBLE?

ANSIBLE

SIMPLE

Human readable automation

No special coding skills needed

Tasks executed in order

Usable by every team

Get productive quickly

POWERFUL

App deployment

Configuration management

Workflow orchestration

Network automation

Orchestrate the app lifecycle

AGENTLESS

Agentless architecture

Uses OpenSSH & WinRM

No agents to exploit or update

Get started immediately

More efficient & more secure

WHAT CAN I DO WITH ANSIBLE?

Automate the deployment and management of your entire IT footprint.

Do this...

Orchestration	Configuration Management	Application Deployment	Provisioning	Continuous Delivery	Security and Compliance

On these...

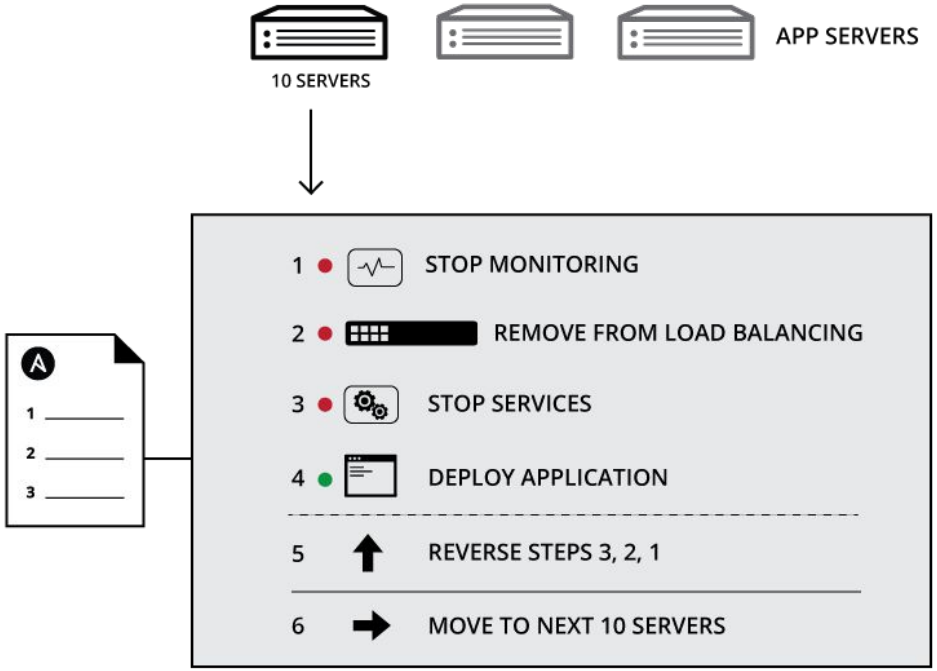
Firewalls	Load Balancers	Applications	Containers	Clouds
Servers	Infrastructure	Storage	Network Devices	**And more...**

WHY IS AUTOMATION IMPORTANT?

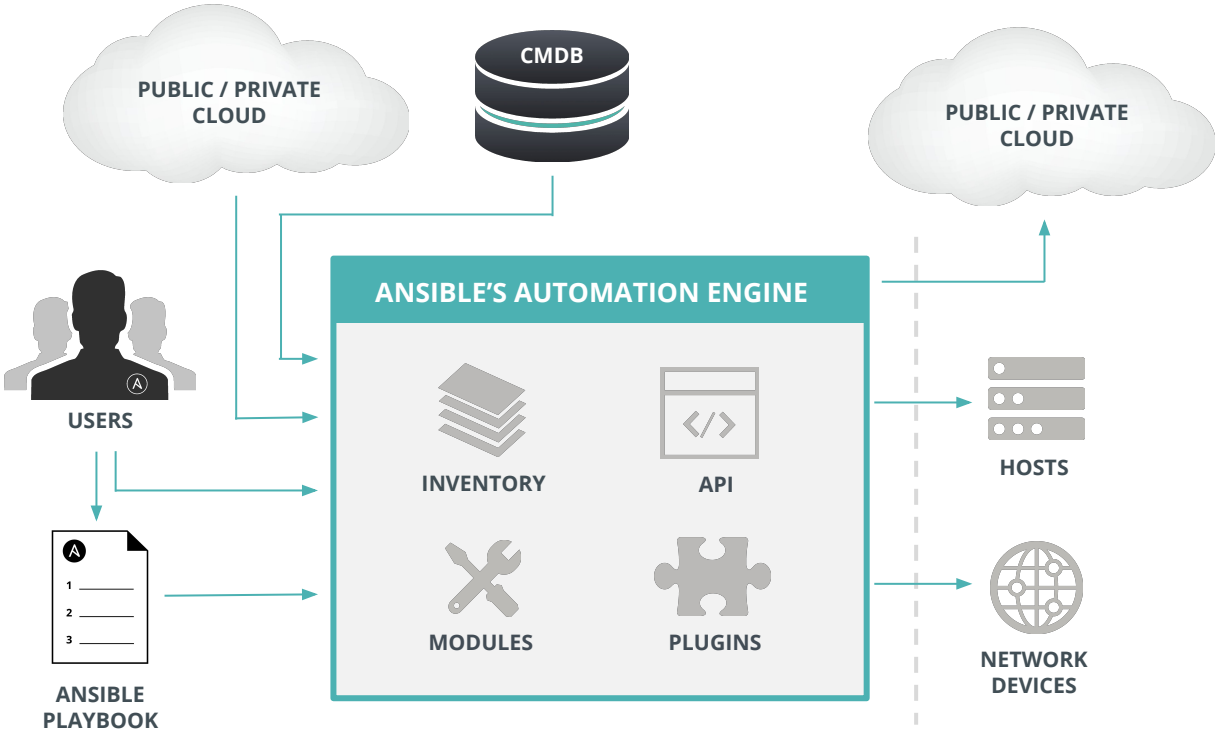
Your applications and systems **are more than just collections of configurations.** They're a finely tuned and **ordered list** of tasks and processes that result in **your working application.**

Ansible can do it all:

- Provisioning
- App Deployment
- Configuration Management
- Multi-tier Orchestration



HOW ANSIBLE WORKS



CLOUD

OpenStack, VMware, EC2, Rackspace,
GCE, Azure,
Spacewalk, Hanlon, Cobbler

CUSTOM CMDB

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Asia Pacific

ANSIBLE

THE LANGUAGE OF DEVOPS

COMMUNICATION IS THE KEY TO DEVOPS

Ansible is the first **automation language** that can be read and written across IT.

Ansible is the only **automation engine** that can automate the entire application lifecycle and continuous delivery pipeline.

PLAYBOOK EXAMPLE

ANSIBLE

```
---
- 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
```

ANSIBLE SHIPS WITH OVER 950 MODULES

ANSIBLE

CLOUD

AWS
Azure
CenturyLink
CloudScale
Digital Ocean
Docker
Google
Linode
OpenStack
Rackspace
And more…

VIRT AND CONTAINER

Docker
VMware
RHEV
OpenStack
OpenShift
Atomic
CloudStack
And more…

WINDOWS

ACLs
Files
Commands
Packages
IIS
Regedits
Shell
Shares
Services
Configs
Users
Domains
And more…

NETWORK

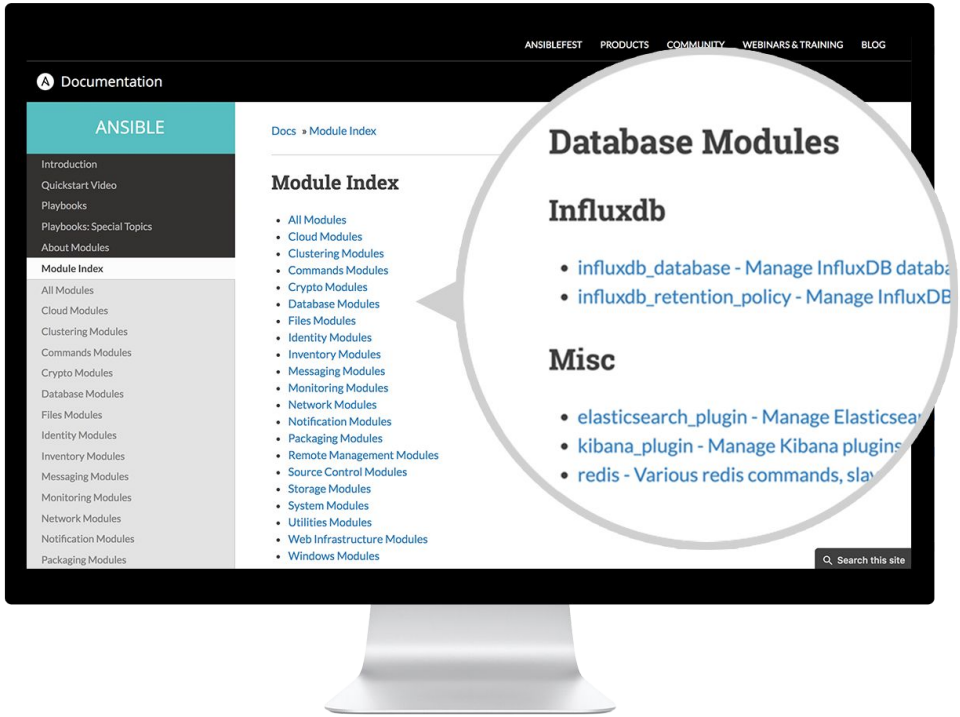
Arista
A10
Cumulus
Big Switch
Cisco
Cumulus
Dell
F5
Juniper
Palo Alto
OpenSwitch
And more…

NOTIFY

HipChat
IRC
Jabber
Email
RocketChat
Sendgrid
Slack
Twilio
And more…

docs.ansible.com

ANSIBLE



redhat.

PLAYBOOK EXAMPLES

LAMP + HAPROXY + NAGIOS
github.com/ansible/ansible-examples/tree/master/lamp_haproxy

WINDOWS
github.com/ansible/ansible-examples/tree/master/windows

SECURITY COMPLIANCE
github.com/ansible/ansible-lockdown

NETWORK
github.com/privateip/network-demo

MORE...
galaxy.ansible.com

github.com/ansible/ansible-examples

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RED HAT®
ANSIBLE®
Tower

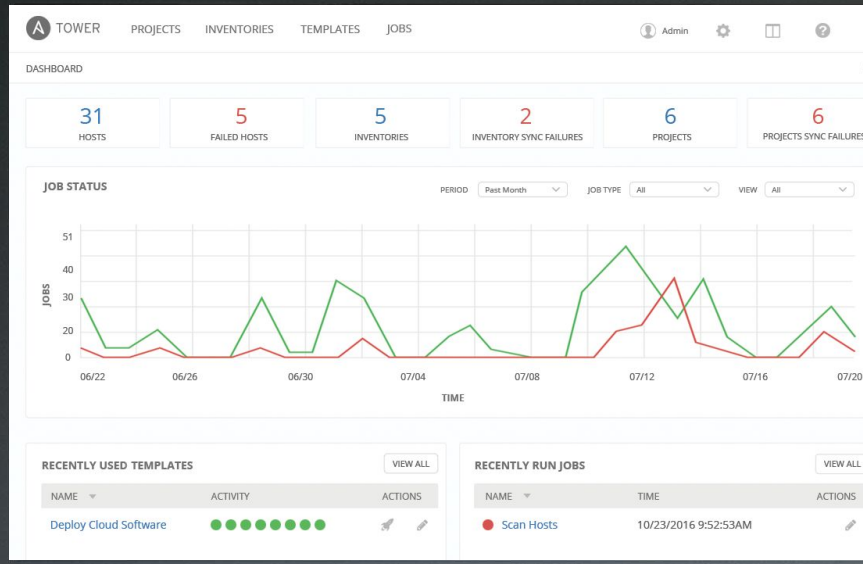
AUTOMATION FOR TEAMS

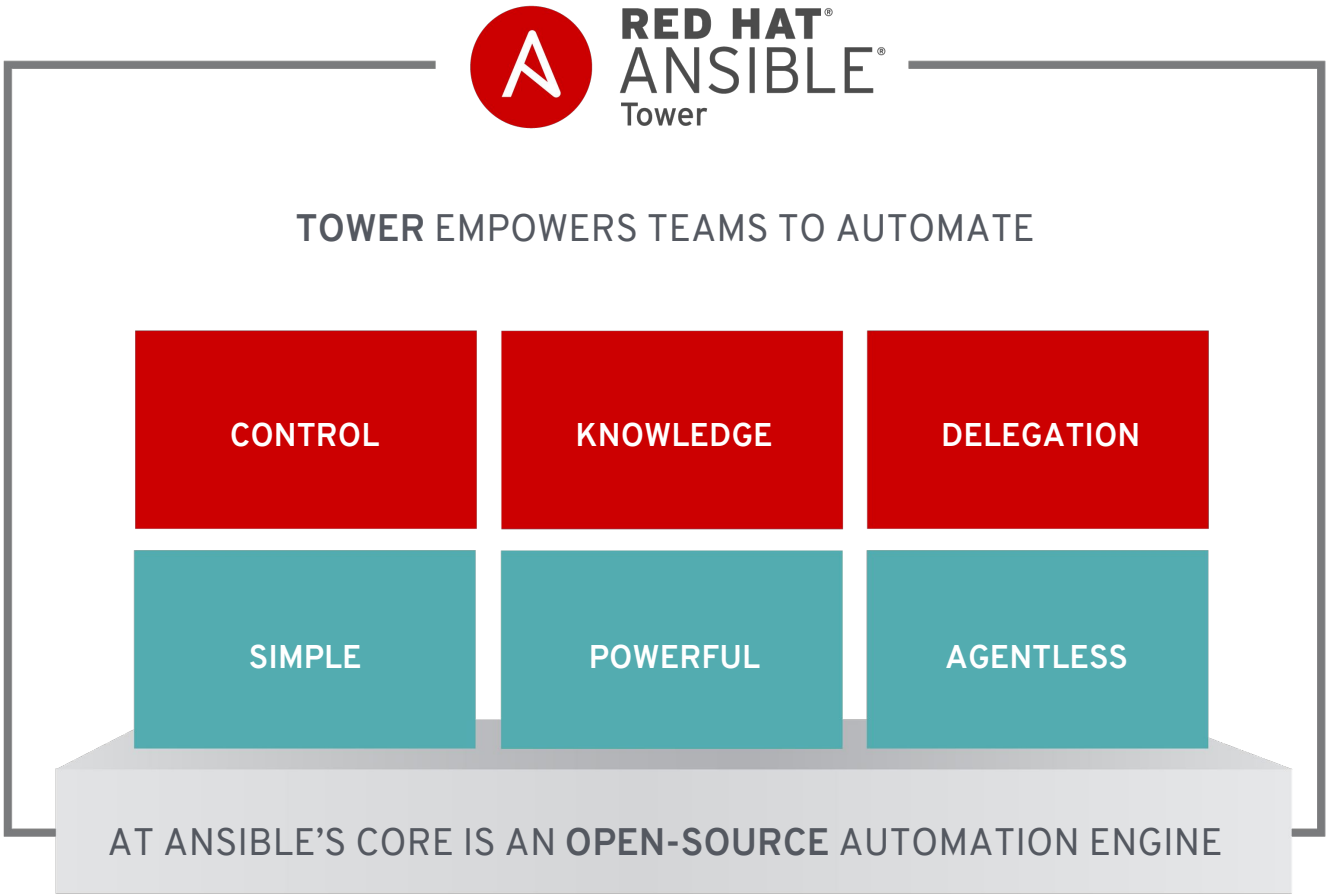
Ansible Tower technical introduction and overview

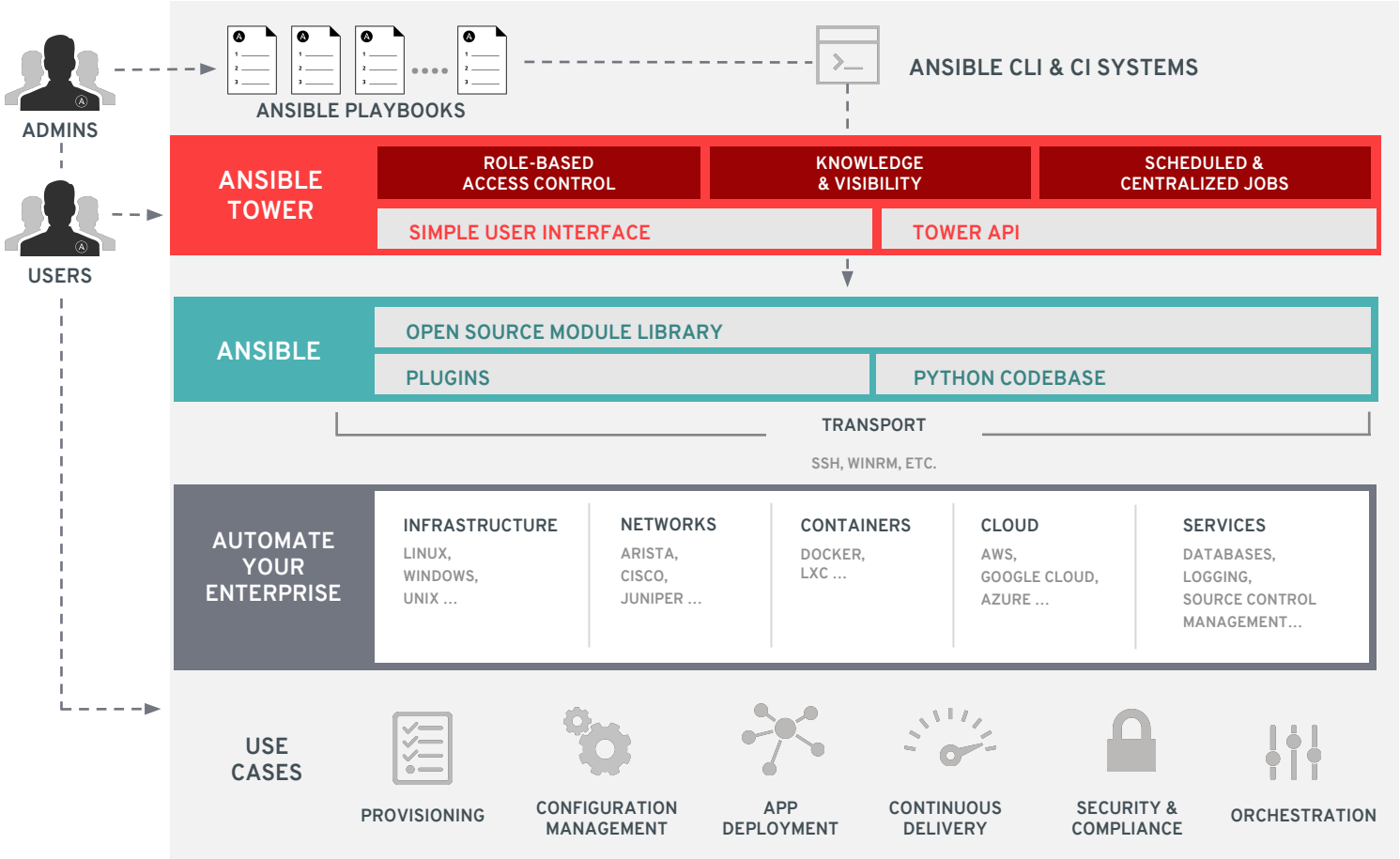
WHAT IS ANSIBLE TOWER?

Ansible Tower is an **enterprise framework** for controlling, securing and managing your Ansible automation – with a **UI and RESTful API.**

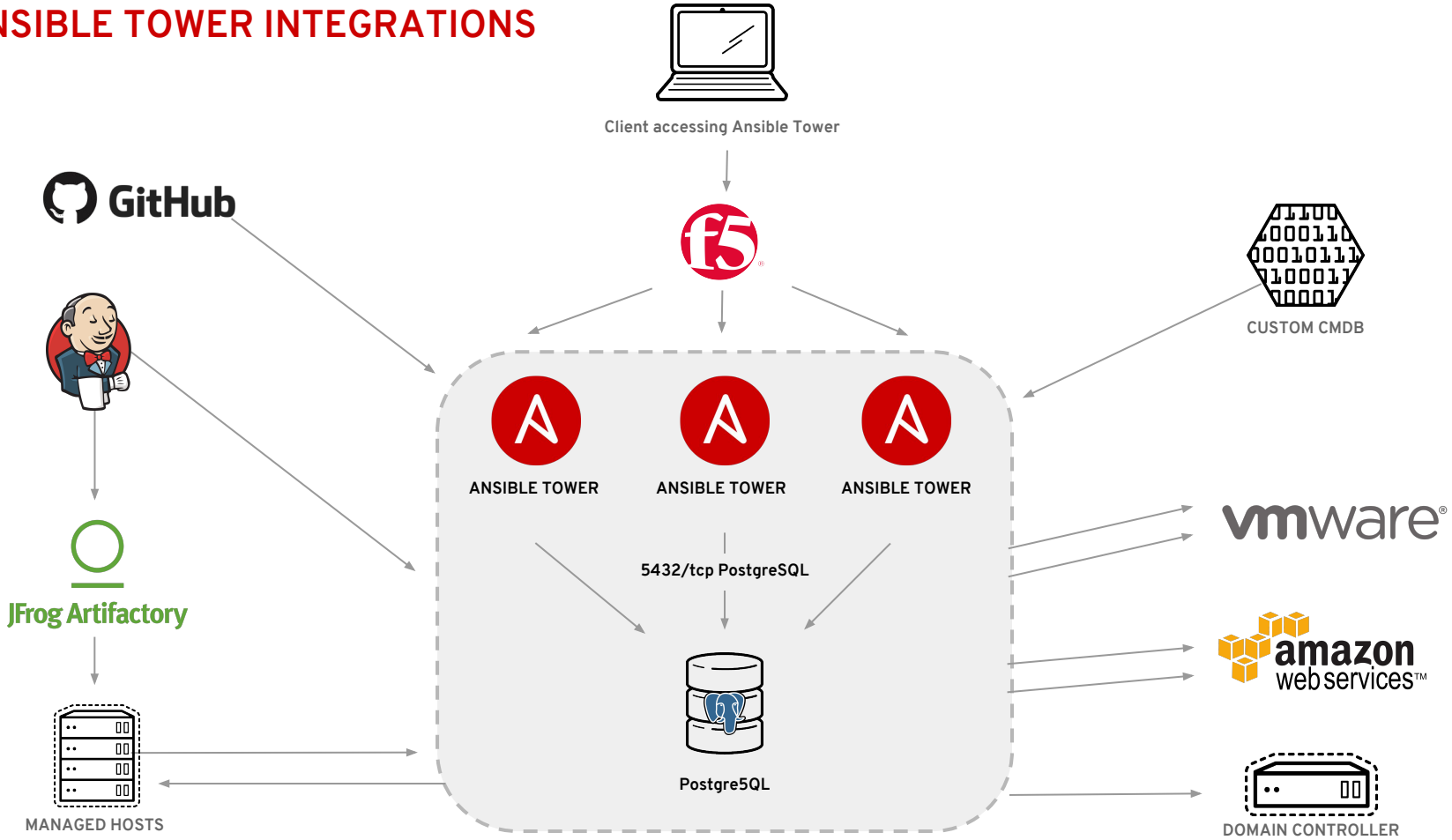
- **Role-based access control**
- **Deploy** entire applications with **push-button deployment** access
- All automations are **centrally logged**




RED HAT®
ANSIBLE®
Tower
TOWER EMPOWERS TEAMS TO AUTOMATE
CONTROL
KNOWLEDGE
DELEGATION
SIMPLE
POWERFUL
AGENTLESS
AT ANSIBLE'S CORE IS AN OPEN-SOURCE AUTOMATION ENGINE


ADMINS
USERS
ANSIBLE PLAYBOOKS
ANSIBLE CLI & CI SYSTEMS
ANSIBLE TOWER
ROLE-BASED ACCESS CONTROL
KNOWLEDGE & VISIBILITY
SCHEDULED & CENTRALIZED JOBS
SIMPLE USER INTERFACE
TOWER API
ANSIBLE
OPEN SOURCE MODULE LIBRARY
PLUGINS
PYTHON CODEBASE
TRANSPORT
SSH, WINRM, ETC.
AUTOMATE YOUR ENTERPRISE
INFRASTRUCTURE
LINUX, WINDOWS, UNIX ...
NETWORKS
ARISTA, CISCO, JUNIPER ...
CONTAINERS
DOCKER, LXC ...
CLOUD
AWS, GOOGLE CLOUD, AZURE ...
SERVICES
DATABASES, LOGGING, SOURCE CONTROL MANAGEMENT...
USE CASES
PROVISIONING
CONFIGURATION MANAGEMENT
APP DEPLOYMENT
CONTINUOUS DELIVERY
SECURITY & COMPLIANCE
ORCHESTRATION

ANSIBLE TOWER INTEGRATIONS



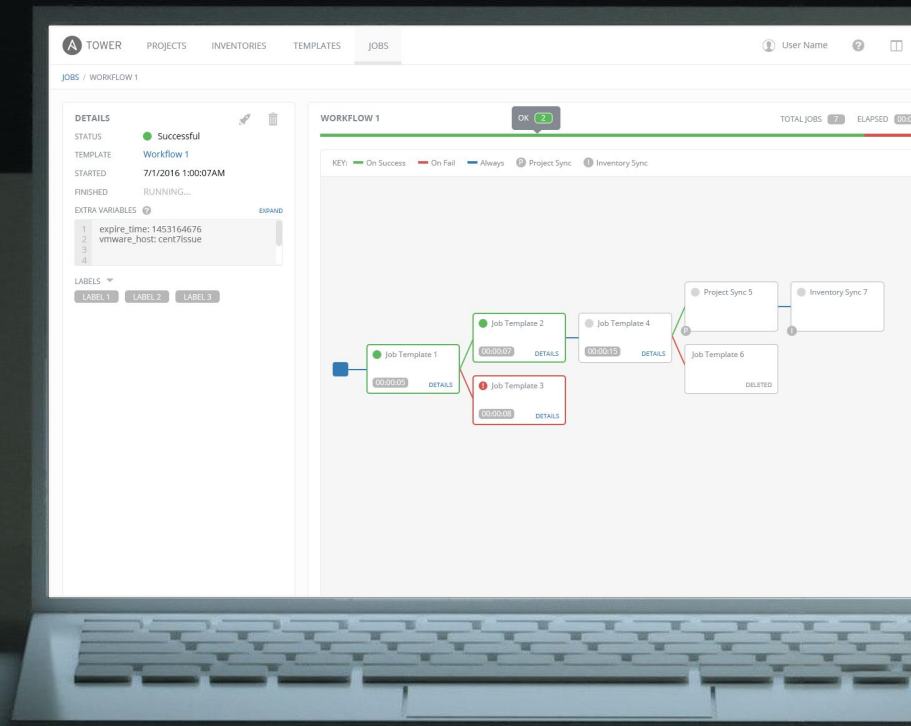
NEW IN TOWER

WORKFLOWS
String together job templates to create something new – no Playbook required

SCALE-OUT CLUSTERING
Quickly add job capacity and HA capabilities

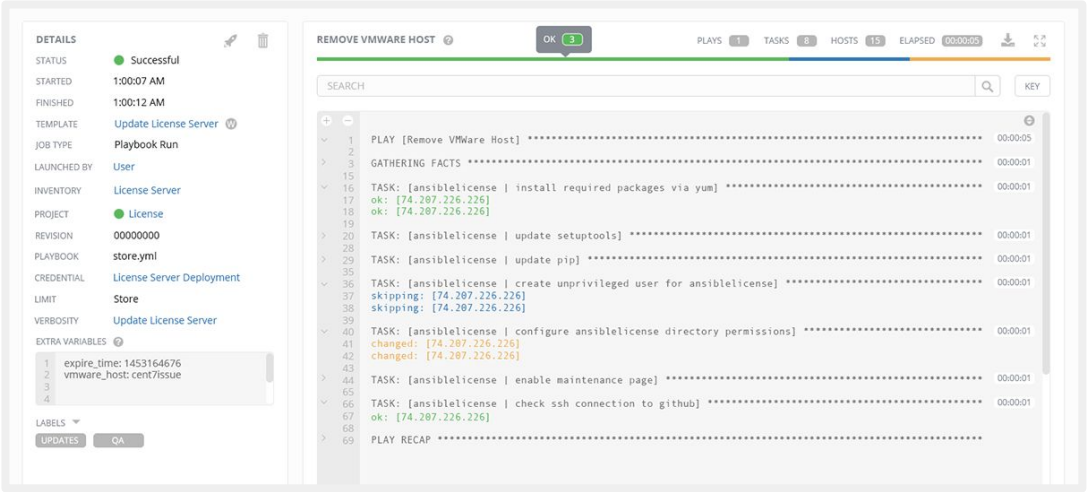
DETAILED JOB OUTPUT
Information at your fingertips

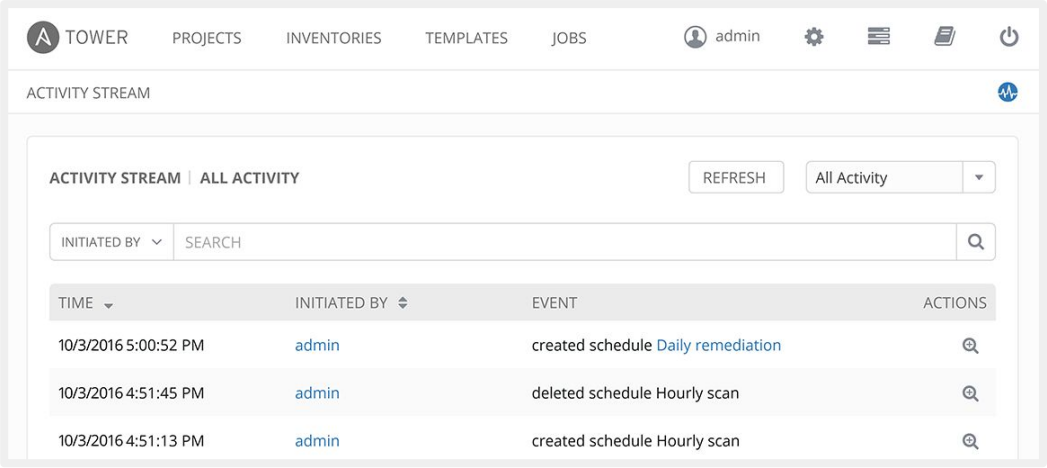
LOG AGGREGATION AND DELIVERY
Automatically push job output data to Splunk, Sumologic and more



JOB STATUS UPDATE

Heads-up NOC-style **automation dashboard** displays everything going on in your Ansible environment.



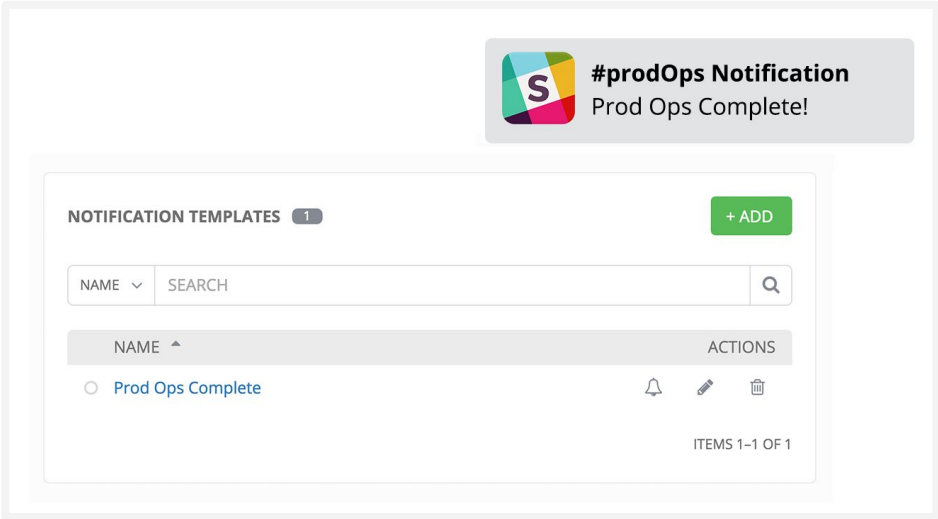


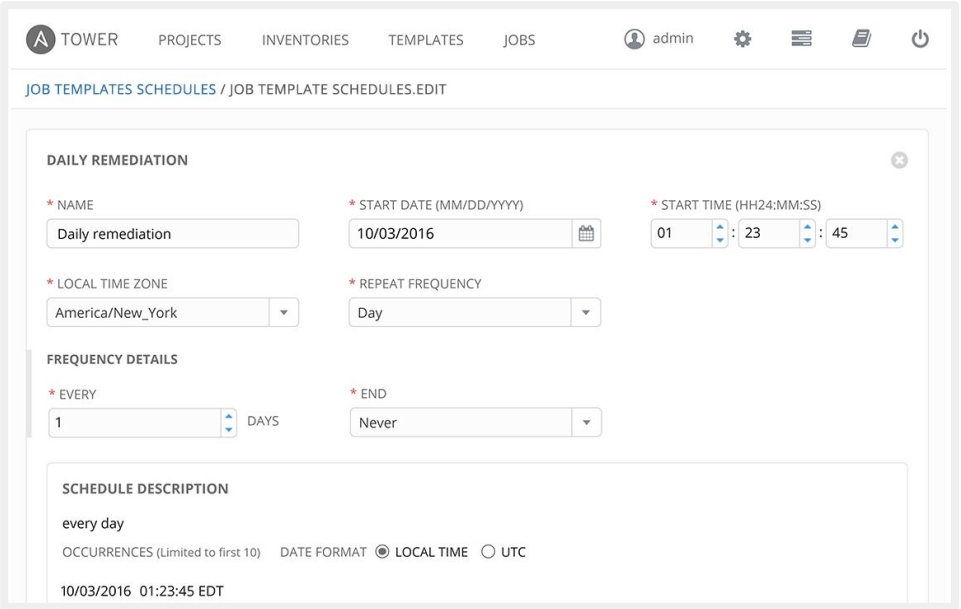
ACTIVITY STREAM

Securely stores every Job that runs, and enables you to view them later, or export details through Tower's API.

INTEGRATED NOTIFICATIONS

Stay informed of your automation status via **integrated notifications**. Connect Slack, Hipchat, SMS, email and more.



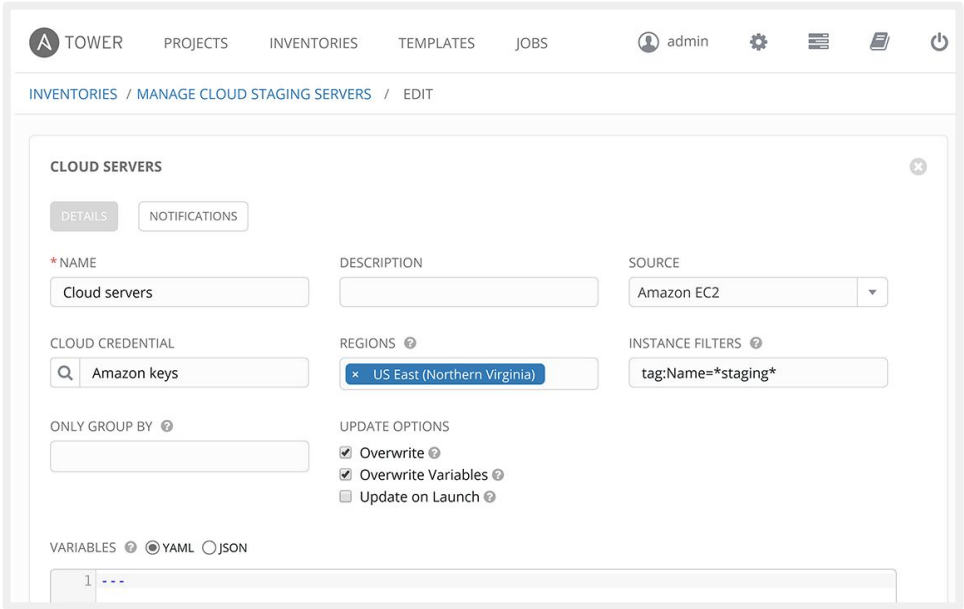


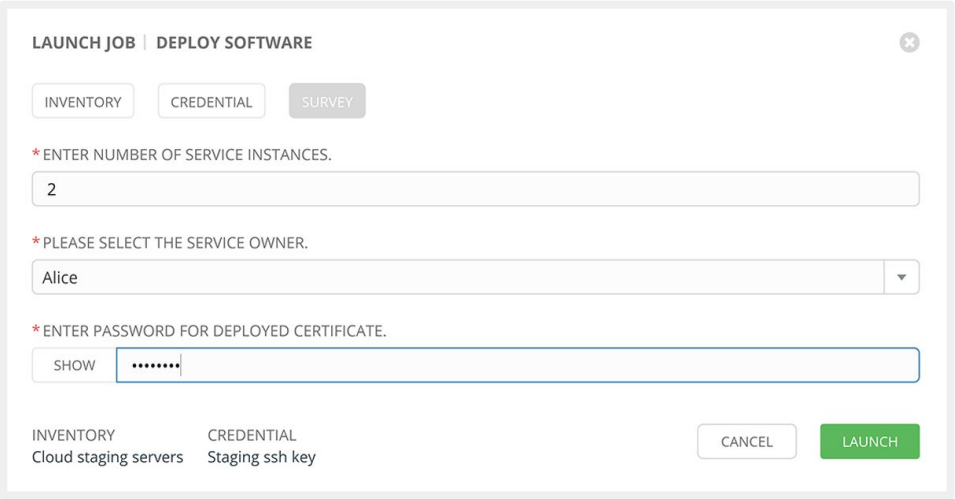
SCHEDULE JOBS

Enables you to any Job now, later, or forever.

MANAGE AND TRACK YOUR INVENTORY

Tower's **inventory syncing** and **provisioning callbacks** allow nodes to request configuration on demand, enabling autoscaling.



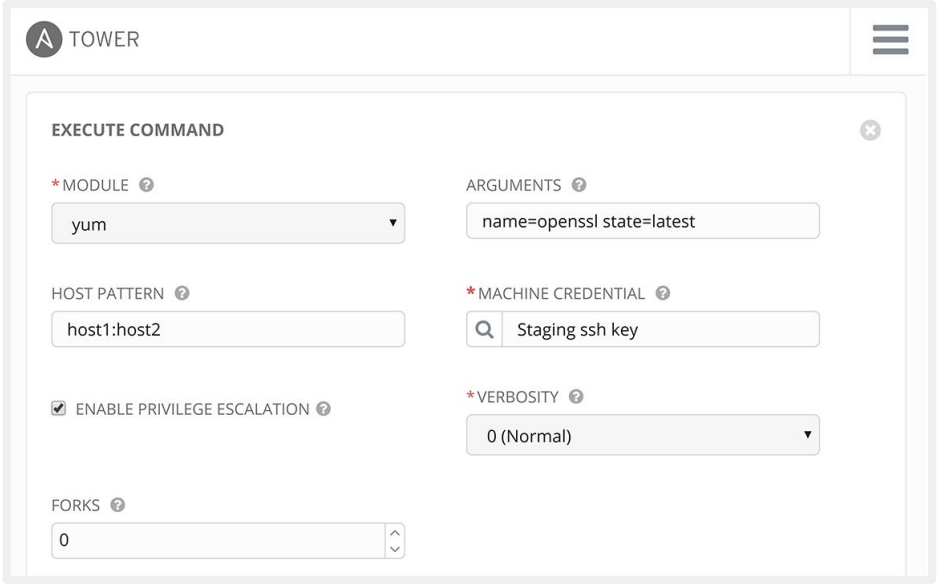


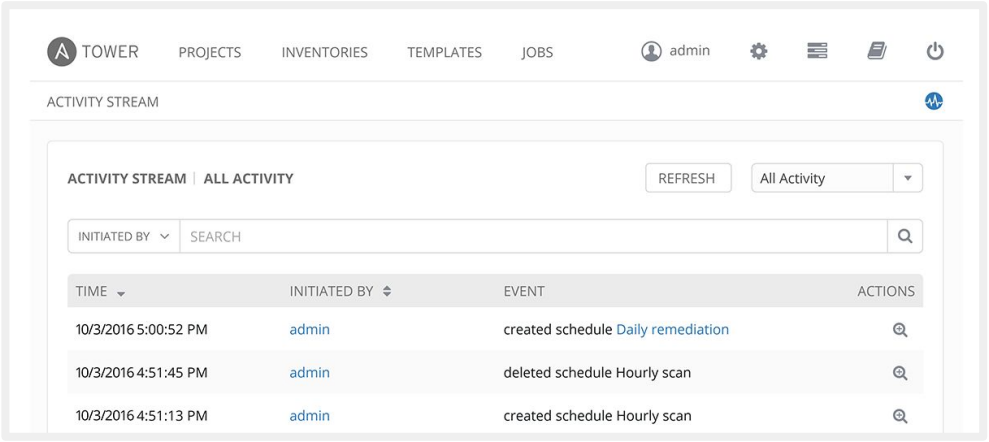
SELF-SERVICE IT

Tower lets you launch Playbooks with just a single click. It can prompt you for variables, let you choose from available secure credentials and monitor the resulting deployments.

REMOTE COMMAND EXECUTION

Run simple tasks on any hosts with Tower's **remote command execution**. Add users or groups, reset passwords, restart a malfunctioning service or patch a critical security issue, quickly.



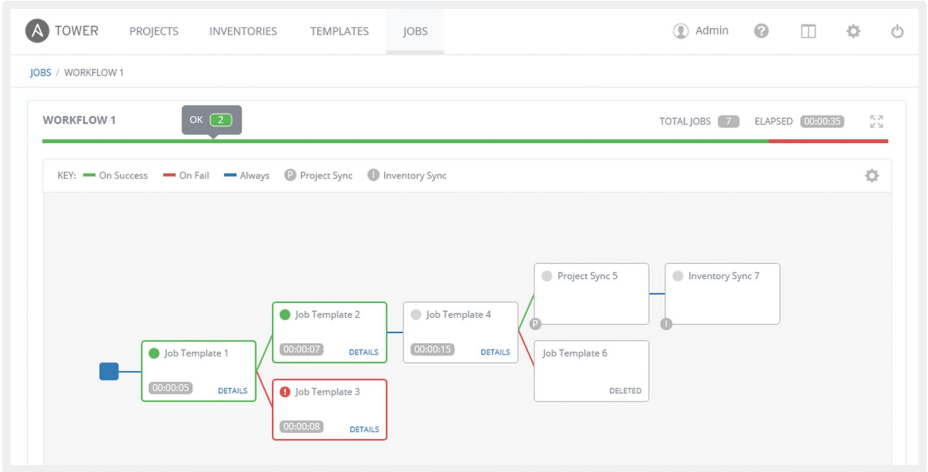


EXTERNAL LOGGING

Connect Tower to your external logging and analytics provider to perform analysis of automation and event correlation across your entire environment.

MULTI-PLAYBOOK WORKFLOWS

Tower's multi-Playbook workflows chains any number of Playbooks together to create a single workflow. Different Jobs can be run depending on success or failure of the prior Playbook.



SELECTED ANSIBLE TOWER CUSTOMERS


AUTOMATION = ACCELERATION

AUTOMATION = ACCELERATION

"**Simplicity scales.** If you do things in **complex ways**, they become very **difficult to maintain**, and you end up **paying a lot more for operations** later."

J.CREW

"With Ansible Tower, **we just click a button and deploy to production in 5 minutes.** It used to take us 5 hours with 6 people sitting in a room, making sure we didn't do anything wrong (and we usually still had errors). We now deploy to production every other day instead of every 2 weeks, and nobody has to be up at 4am making sure it was done right."

"**Everyone in this room** needs to retool around Ansible automation. **All Starbucks network changes** will be scheduled **using Ansible Tower** by the end of 2017."

10,000 ROLES AT YOUR DISPOSAL

Re-usable Roles and Container Apps that allow you to do more, faster

Built into the Ansible CLI and Tower

galaxy.ansible.com

ANSIBLE NETWORK AUTOMATION

Use Ansible to manage, validate, and continuously track heterogeneous network device configurations and deployments.

Network modules are included as part of the Ansible distribution.

25+
Networking platforms

250+
Networking Modules

ansible.com/networking

WHY AUTOMATE YOUR NETWORK?

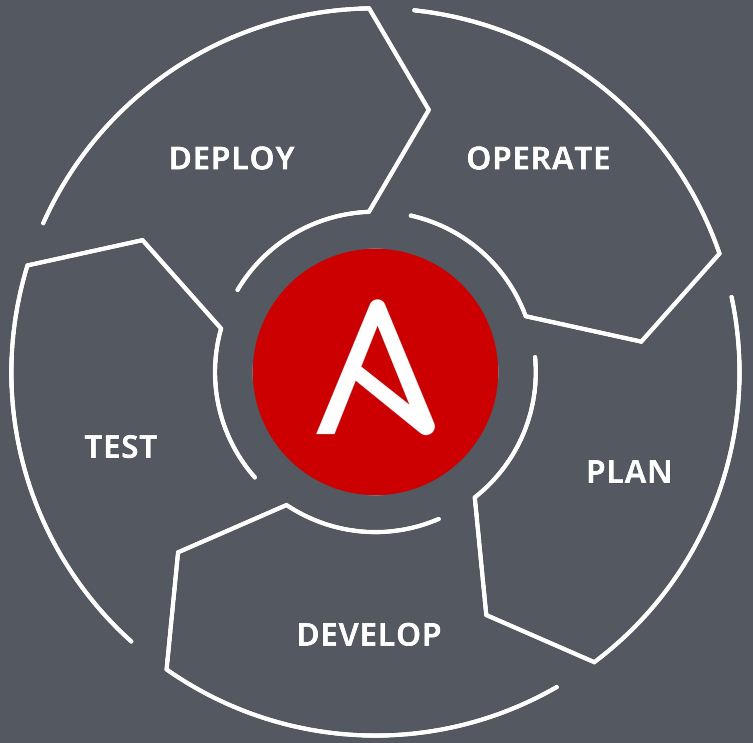
PLAN AND PROTOTYPE VIRTUALLY
Use tasks as reusable building blocks

USE YOUR CURRENT DEVELOPMENT PRACTICES
Agile, DevOps, Waterfall

GO BEYOND THE "PING" TEST
Integrate with formal testing platforms

BE CONFIDENT DURING DEPLOYMENT
Validate changes were successful

ENSURE AN ON-GOING STEADY-STATE



PLAYBOOK EXAMPLE: NETWORK AUTOMATION

ANSIBLE

```
---
- name: configure ios interface
  hosts: ios01
  tasks:
    - name: collect device running-config
      ios_command:
        commands: show running-config interface GigabitEthernet0/2
        provider: "{{ cli }}"
      register: config

    - name: administratively enable interface
      ios_config:
        lines: no shutdown
        parents: interface GigabitEthernet0/2
        provider: "{{ cli }}"
      when: '"shutdown" in config.stdout[0]'

    - name: verify operational status
      ios_command:
        commands:
             - show interfaces GigabitEthernet0/2
             - show cdp neighbors GigabitEthernet0/2 detail
        waitfor:
             - result[0] contains 'line protocol is up'
             - result[1] contains 'iosxr03'
             - result[1] contains '10.0.0.42'
        provider: "{{ cli }}"
```

ANSIBLE WINDOWS AUTOMATION

Use Ansible to deploy and manage Windows systems and applications.

70+
Windows Modules

350+
Powershell DSC resources

ansible.com/windows

PLAYBOOK EXAMPLE: WINDOWS

ANSIBLE

```
- hosts: new_servers
  tasks:
  - name: ensure common OS updates are current
    win_updates:
    register: update_result

  - name: ensure domain membership
    win_domain_membership:
      dns_domain_name: contoso.corp
      domain_admin_user: '{{ domain_admin_username }}'
      domain_admin_password: '{{ domain_admin_password }}'
      state: domain
    register: domain_result

  - name: reboot and wait for host if updates or domain change require it
    win_reboot:
    when: update_result.reboot_required or domain_result.reboot_required

  - name: ensure local admin account exists
    win_user:
      name: localadmin
      password: '{{ local_admin_password }}'
      groups: Administrators

  - name: ensure common tools are installed
    win_chocolatey:
      name: '{{ item }}'
    with_items: ['sysinternals', 'googlechrome']
```

ANSIBLE CONTAINER

Use Ansible to define, build,
orchestrate, and deploy container applications.

WHY WOULD YOU STILL USE SHELL SCRIPTS TO DEFINE CONTAINER PAYLOADS?

- Build images using Ansible Playbooks
- Orchestrate containers from your images, à la docker-compose up
- Push images to public or private registries
- Generate Ansible Roles to ship your images to Kubernetes, OpenShift, etc.

github.com/ansible/ansible-container

GETTING STARTED

Have you used Ansible already?
Try Tower for free: **ansible.com/tower-trial**

Would you like to learn Ansible?
It's easy to get started: **ansible.com/get-started**

Want to learn more?

Videos, webinars, case studies, whitepapers: **ansible.com/resources**

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THANK YOU

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linkedin.com/company/red-hat

twitter.com/RedHatNews

youtube.com/user/RedHatVideos