

# ANSIBLE

## AUTOMATION FOR EVERYONE

Automating all the things across platforms - without the technical debt.  
Exclusively for **Ecolab**.

**Keith Resar**

Automation Architect  
keith.resar@redhat.com

**Mike Kohorst**

Account Executive  
mkohorst@redhat.com



# ANSIBLE

## AUTOMATION FOR EVERYONE

Automating all the things across platforms - without the technical debt.  
Exclusively for **Truck People**.

**Keith Resar**

Automation Architect

keith.resar@redhat.com



# AUTOMATE ~~REPEAT IT~~

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**.



v1 - Set config file to use on boot

1. Write multiple configuration files
  - For each environment/region
2. Inspect metadata on boot and use the matching config file



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**37,000+**  
Stars on GitHub

ENGLISH  
BY NATURE

**2800+**  
Ansible modules

**500,000+**  
Downloads a month



## 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**

## 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

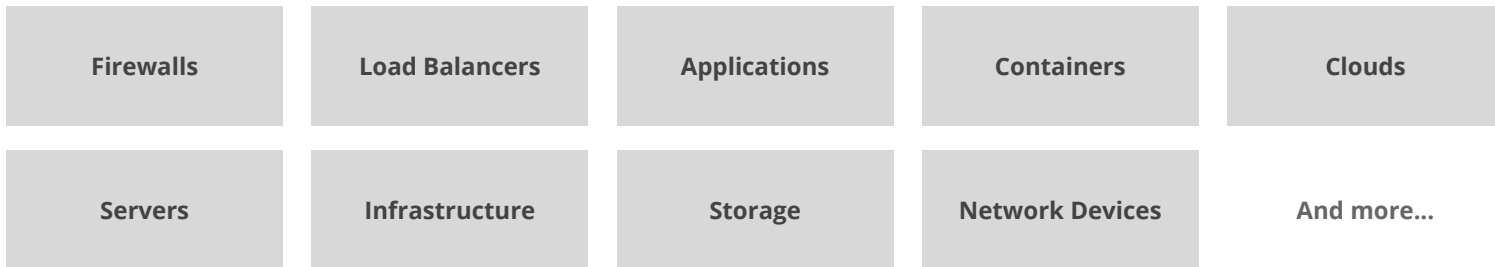
Every change can be made by Playbooks, ensuring everyone is on the same page.

Automate the deployment and management of your entire IT footprint.

## Do this...



## On these...

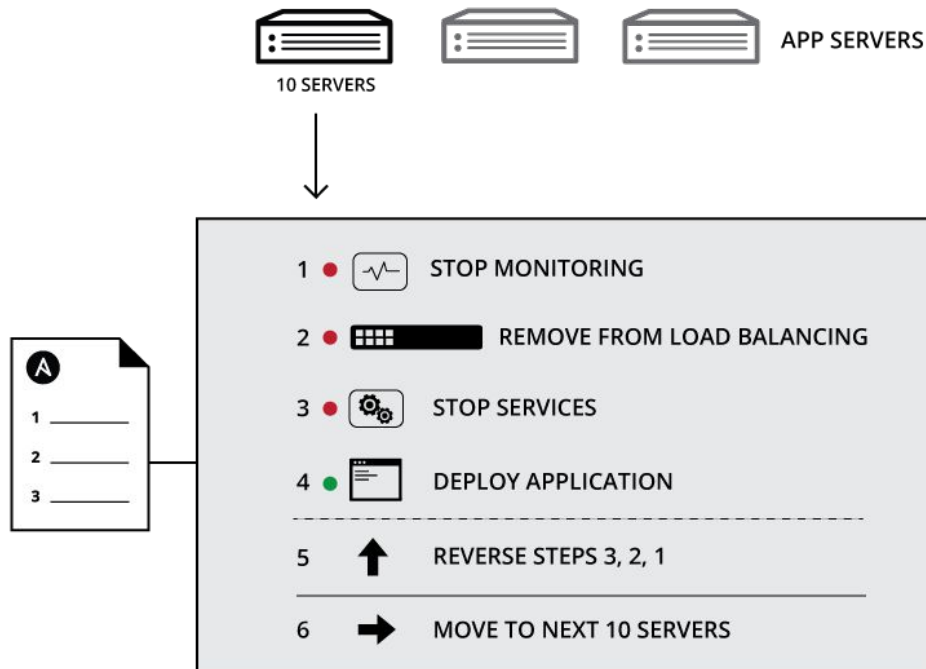




Your applications and systems **are more than just collections of configurations**. They're a finely tuned and **ordered list** of tasks and processes that result in **your working application**.

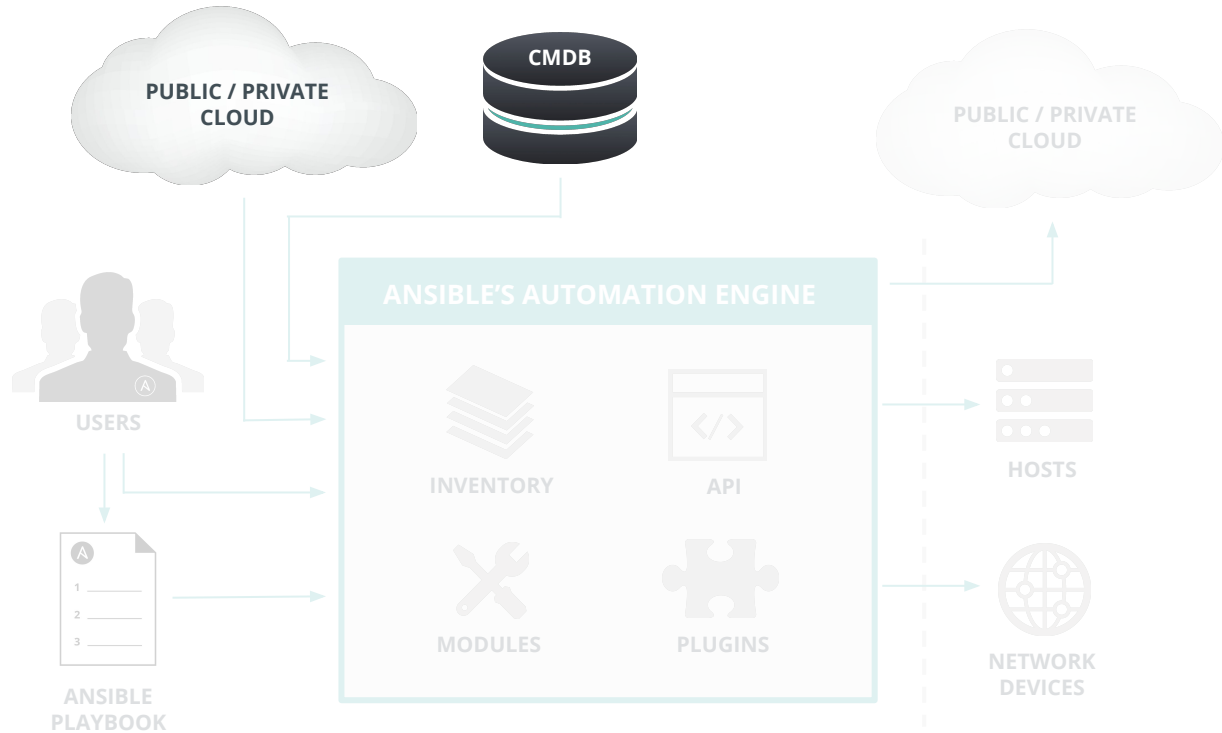
## Ansible can automate across:

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



# HOW ANSIBLE WORKS

ANSIBLE



## CLOUD

Satellite, VMware, EC2,  
Rackspace, GCE, Azure,  
Hanlon, Cobbler

## CUSTOM CMDB

# ANSIBLE

## THE LANGUAGE OF DEVOPS

```
---
- 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
```



INFRASTRUCTURE

NETWORK

SECURITY

DEVOPS

CLOUD

Stacki

VMware

Windows

RHEL

Netapp

F5

Cumulus

OpenSwitch

Juniper

Arista

A10

Palo Alto

Cisco

Big Switch

Dell

Splunk

Palo Alto

Snort

F5

Check Point

HipChat

Sendgrid

Jabber

Email

RocketChat

Twilio

Slack

IRC

Google

Linode

Docker

Digital Ocean

Century Link

OpenStack

AWS

Azure

Cloud Scale

Rackspace

# ANSIBLE AUTOMATES TECHNOLOGIES YOU USE

Time to automate is measured in minutes

## CLOUD

AWS  
Azure  
Digital Ocean  
Google  
OpenStack  
Rackspace

## OPERATING SYSTEMS

RHEL and Linux  
UNIX  
Windows

## VIRT & CONTAINER

Docker  
VMware  
RHV  
OpenStack  
OpenShift

## STORAGE

NetApp  
Red Hat Storage  
Infinidat

## WINDOWS

ACLs  
Files  
Packages  
IIS  
Regedits  
Shares  
Services  
Configs  
Users  
Domains

## NETWORK

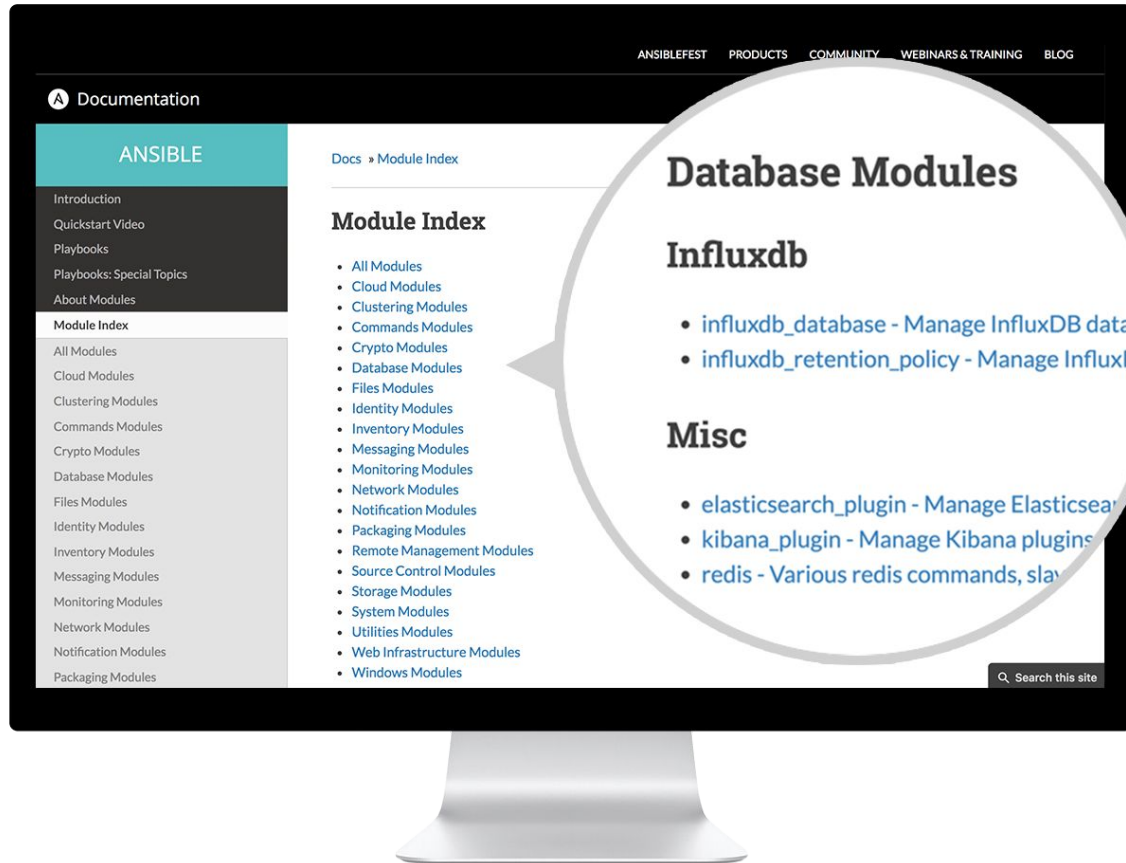
Arista  
A10  
Cumulus  
Bigswitch  
Cisco  
Cumulus  
Dell  
F5  
Juniper  
Palo Alto  
OpenSwitch

## DEVOPS

Jira  
GitHub  
Vagrant  
Jenkins  
Bamboo  
Atlassian  
Subversion  
Slack  
Hipchat

## MONITORING

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



# 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.

**40**

Networking platforms

**570+**

Networking Modules

[ansible.com/networking](https://ansible.com/networking)



# ANSIBLE WINDOWS AUTOMATION

Use Ansible to deploy and manage Windows systems and applications.

**70+**

Windows Modules

**350+**

Powershell DSC  
resources

[ansible.com/windows](https://ansible.com/windows)



## **15,000 ROLES AT YOUR DISPOSAL**

Reusable Roles and Container Apps that allow you to do more, faster

Built into the Ansible CLI and Tower

**[galaxy.ansible.com](https://galaxy.ansible.com)**



**RED HAT**<sup>®</sup>  
**ANSIBLE**<sup>®</sup>  
Tower

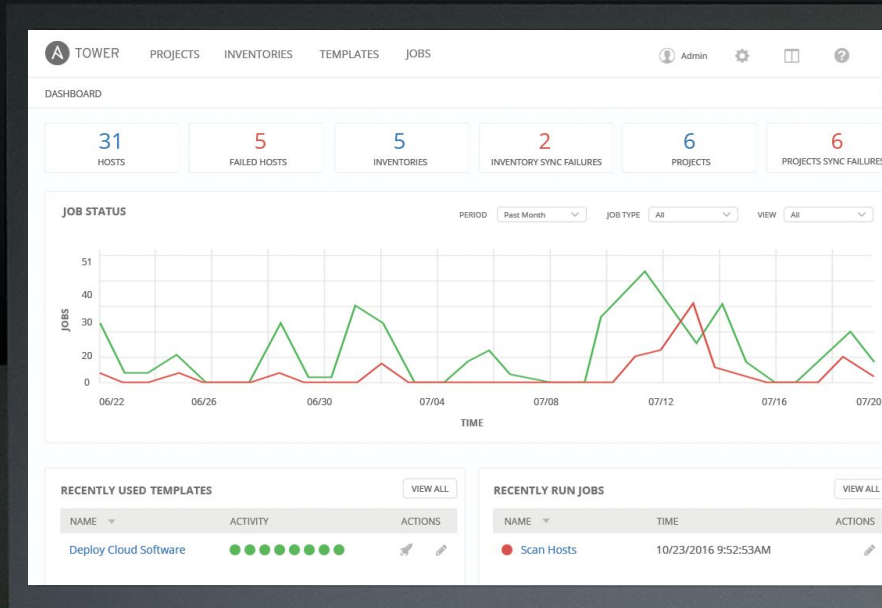
# ENTERPRISE AUTOMATION JOB ENGINE

Ansible Tower use cases for the newest release 3.5

# 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®**  
Automation

## RED HAT ANSIBLE TOWER

Scale + operationalize your automation

**CONTROL**

**KNOWLEDGE**

**DELEGATION**

## RED HAT ANSIBLE ENGINE

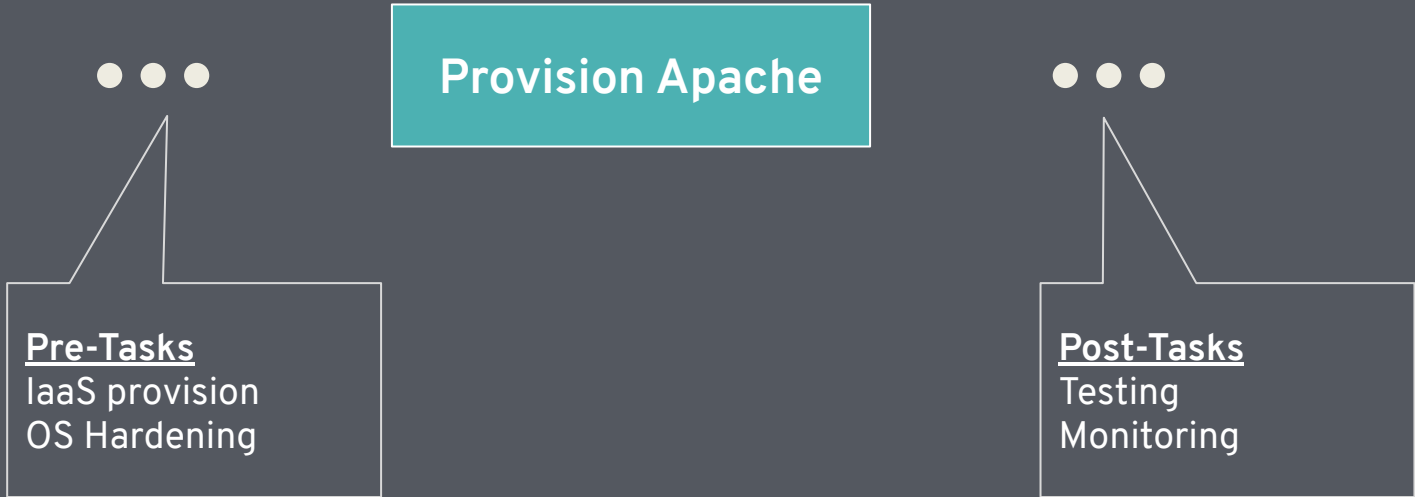
Support for your Ansible automation

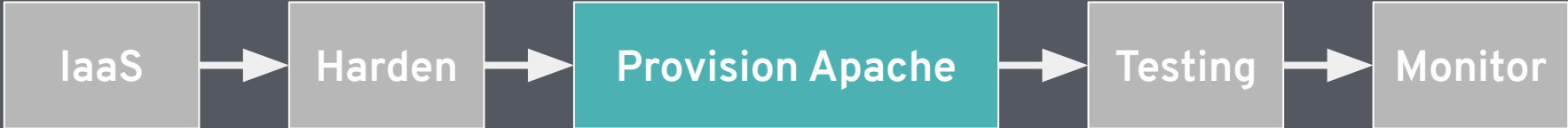
**SIMPLE**

**POWERFUL**

**AGENTLESS**

FUELED BY AN INNOVATIVE **OPEN SOURCE** COMMUNITY





# WORKFLOW EXAMPLE

ANSIBLE





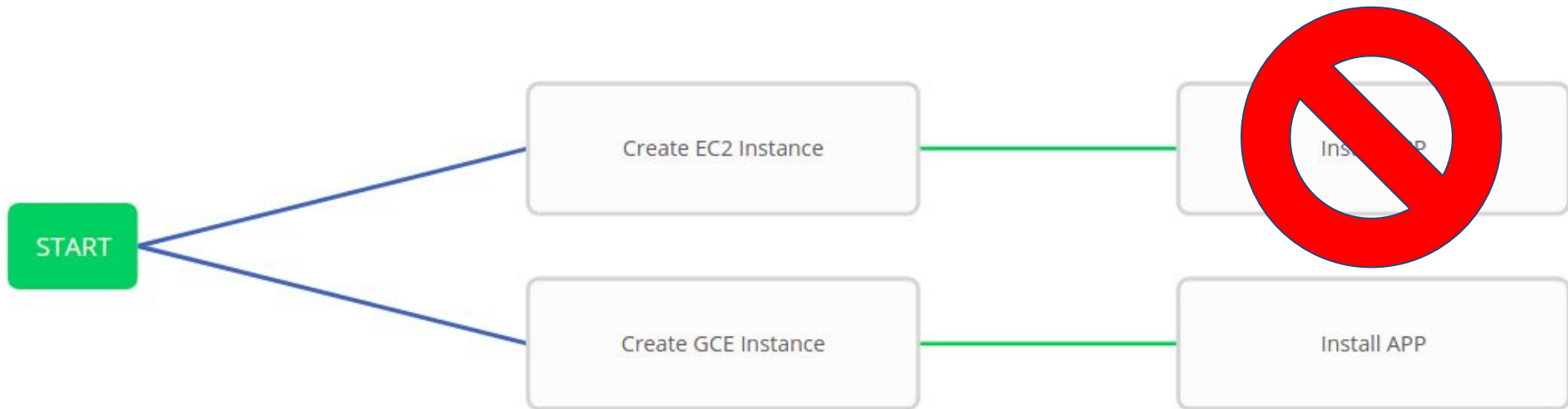
# BRANCHING IN WORKFLOWS FOR PARALLEL EXECUTION



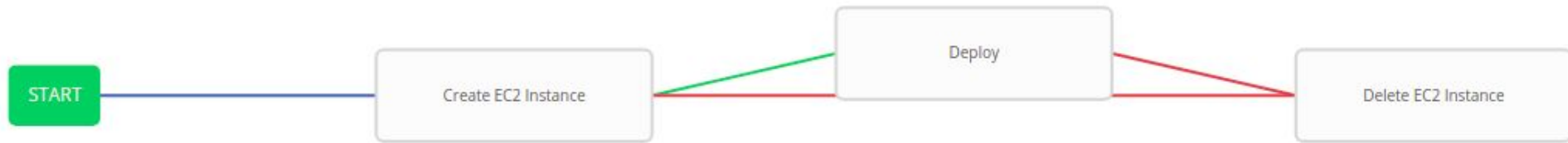
# WORKFLOW CONVERGENCE INTRODUCED IN 3.4



# CONSIDER WORKFLOW FAILURES



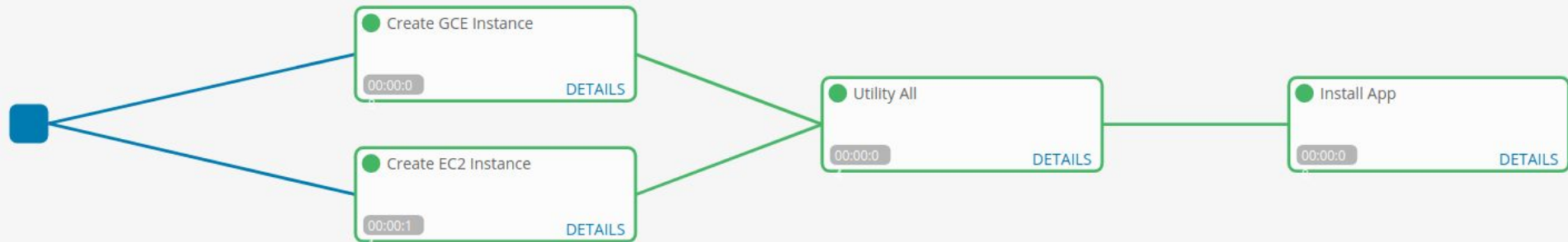
# FAILURE HANDLERS FOR ALL PATHS



# FAILURE HANDLERS FOR CONVERGENCE ARE AN “OR”



# CREATING “AND” LOGIC FOR CONVERGENCE FAILURE HANDLING



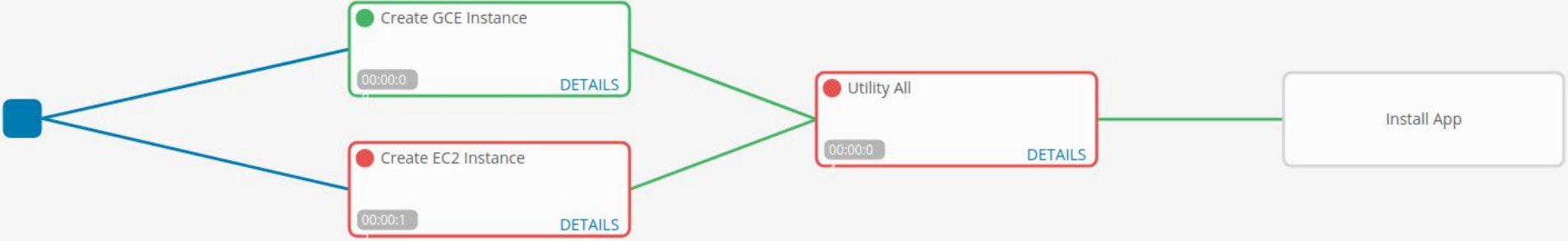
```
---
- hosts: localhost
  gather_facts: false

  tasks:
    - name: "Get Workflow job id for which this job belongs"
      shell: tower-cli job get {{ job_id }} -f json | jq ".related.source_workflow_job" | sed 's/.*\///'
      register: workflow_job_id

    - name: "Get Workflow node id for this job"
      uri:
        url: "{{ tower_base_url }}/workflow_job_nodes/?job_id={{ job_id }}"
        force_basic_auth: true
        user: "{{ tower_username }}"
        password: "{{ tower_password }}"
      register: result

    - name: "Get parent workflow nodes for this workflow node"
      uri:
        url: "{{ tower_base_url }}/workflow_job_nodes/?success_nodes={{ result.json.results[0].id }}"
        force_basic_auth: true
        user: "{{ tower_username }}"
        password: "{{ tower_password }}"
      register: result

    - name: "Fail this playbook if a parent node failed"
      fail:
        msg: "Parent workflow node {{ item }} failed"
        when: "item.summary_fields.job.status == 'failed'"
        loop: "{{ result.json.results }}"
```





# GETTING STARTED

Have you used Ansible already?

*Try Tower for free: [ansible.com/tower-trial](https://ansible.com/tower-trial)*

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Would you like to learn Ansible?

*It's easy to get started: [ansible.com/get-started](https://ansible.com/get-started)*

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Want to learn more?

*Videos, webinars, case studies, whitepapers: [ansible.com/resources](https://ansible.com/resources)*

SEPTEMBER 24-26

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#ANSIBLEFEST  
ATLANTA  
2019



SCORE

AAA

s e r v i c e n o w

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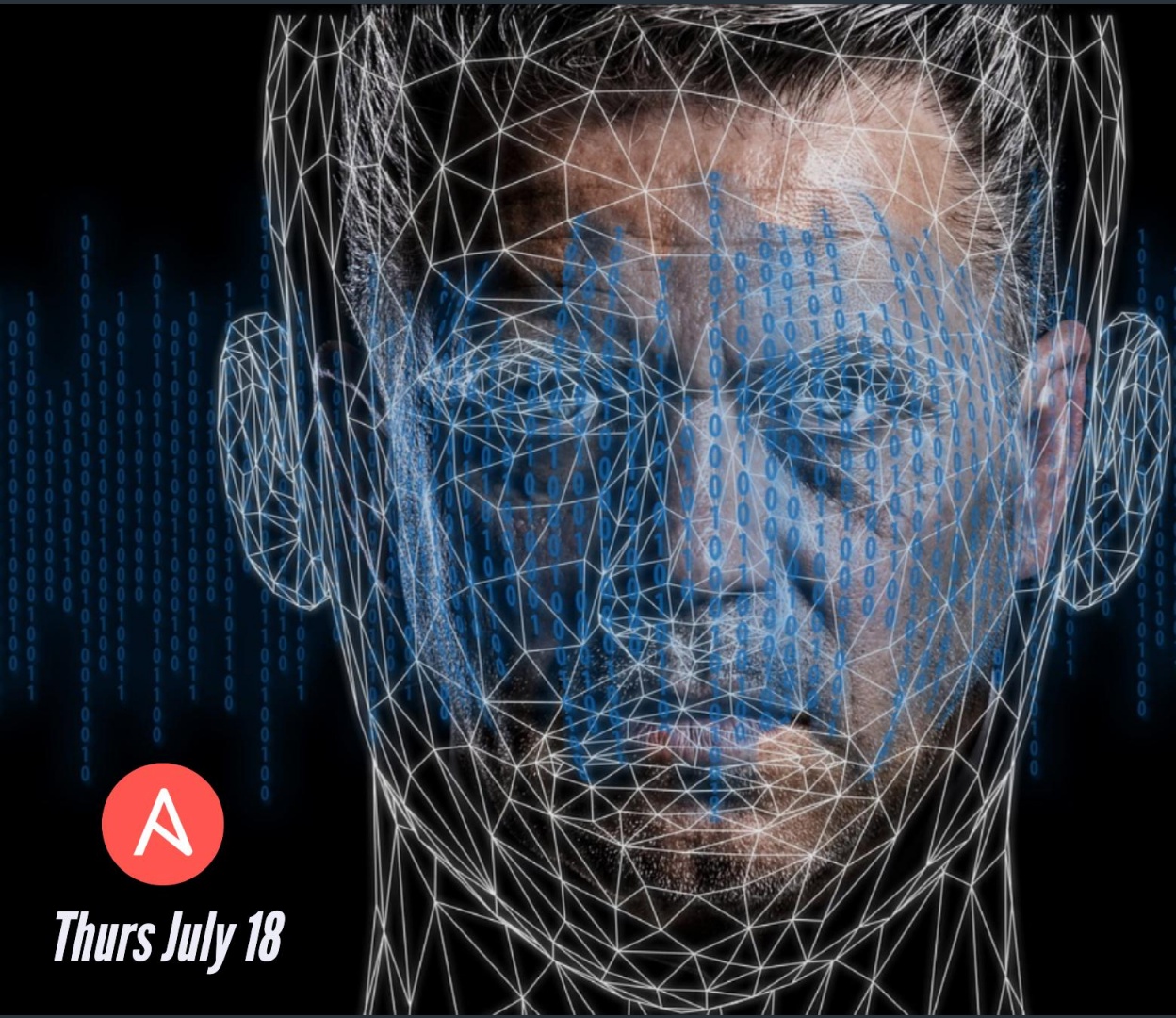


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>keyva

Thurs June 20



# THE FUTURE OF THE

# ANSIBLE ECOSYSTEM



*Thurs July 18*

*Join the Red Hat Users Group  
to get a full briefing on the  
history of YAML, hot tips for  
the best tools for linting and  
editing the markup language  
in your favorite editors.*



*Tues Aug 13*

# **IDENT INDENT MAKE-A-DENT WITH YAML**