



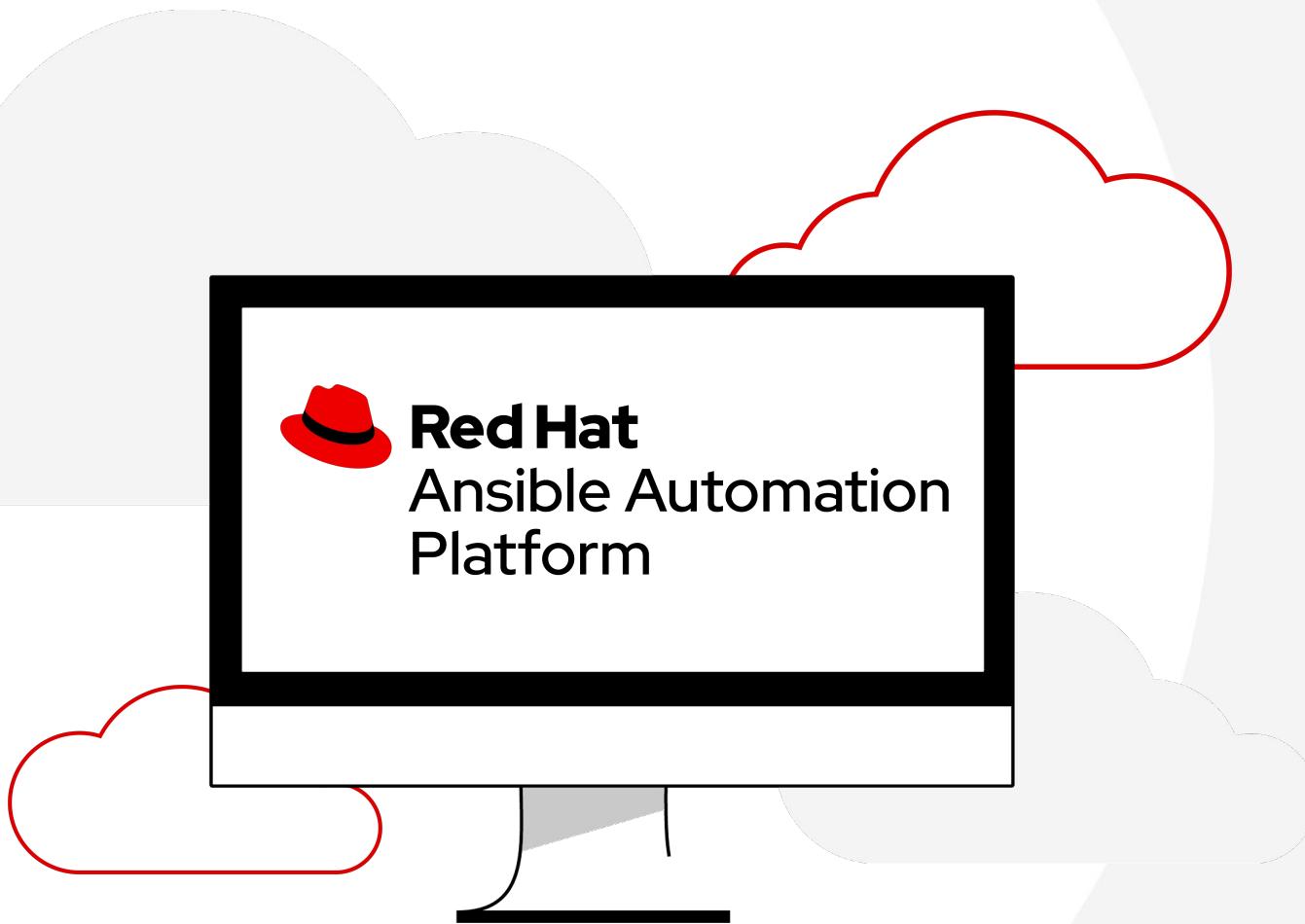
Red Hat Ansible Automation Platform

Ansible Linux Automation Workshop

Introduction to Ansible for Red Hat Enterprise Linux Automation
for System Administrators and Operators



Red Hat



What you will learn

- ▶ Overview of public cloud provisioning
- ▶ Converting shell commands into Ansible Commands.
- ▶ Retrieving information from hosts
- ▶ Deploying applications at scale
- ▶ Self-service IT via surveys
- ▶ Overview of System Roles for Red Hat Enterprise Linux
- ▶ Overview of Red Hat Insights integration



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Ansible Automation
Platform

Introduction

Topics Covered:

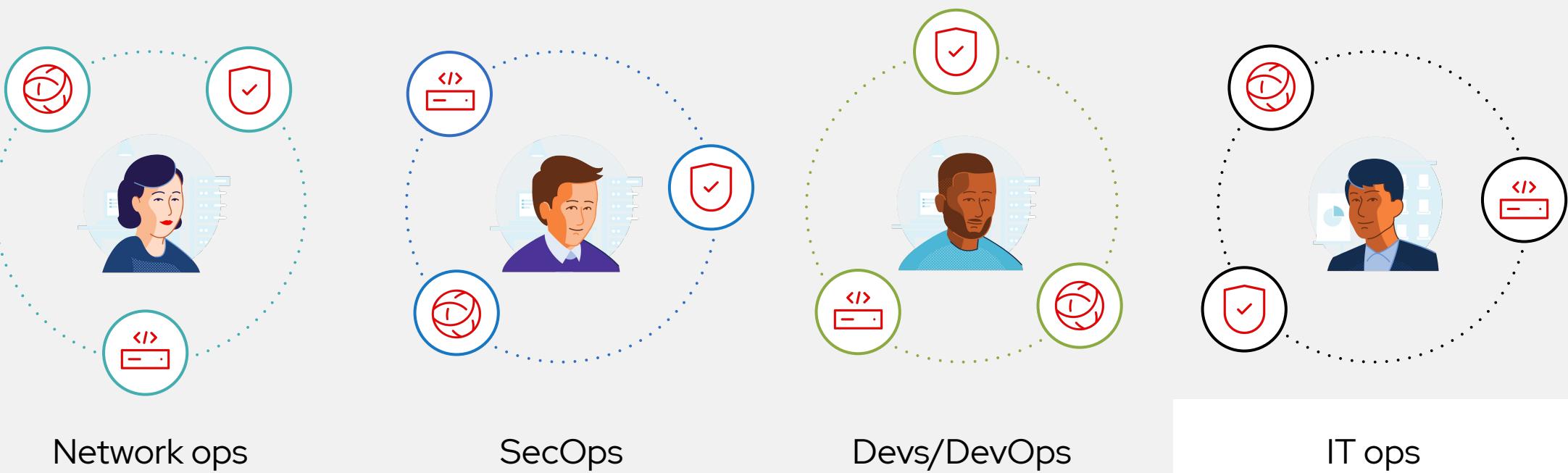
- What is the Ansible Automation Platform?
- What can it do?



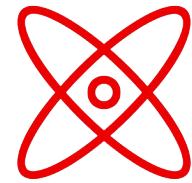
**Automation happens when
one person meets a problem
they never want to solve again**

Many organizations share the same challenge

Too many unintegrated, domain-specific tools

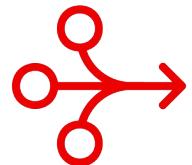


Why the Ansible Automation Platform?



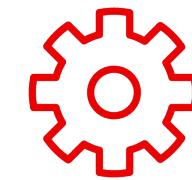
Powerful

Orchestrate complex
processes at enterprise scale.



Simple

Simplify automation creation
and management across
multiple domains.



Agentless

Easily integrate with
hybrid environments.

Automate the deployment and management of automation

Your entire IT footprint

Do this...

Orchestrate Manage configurations Deploy applications Provision / deprovision Deliver continuously Secure and comply

On these...



Firewalls



Load balancers



Applications



Containers



Virtualization platforms



Servers



Clouds



Storage



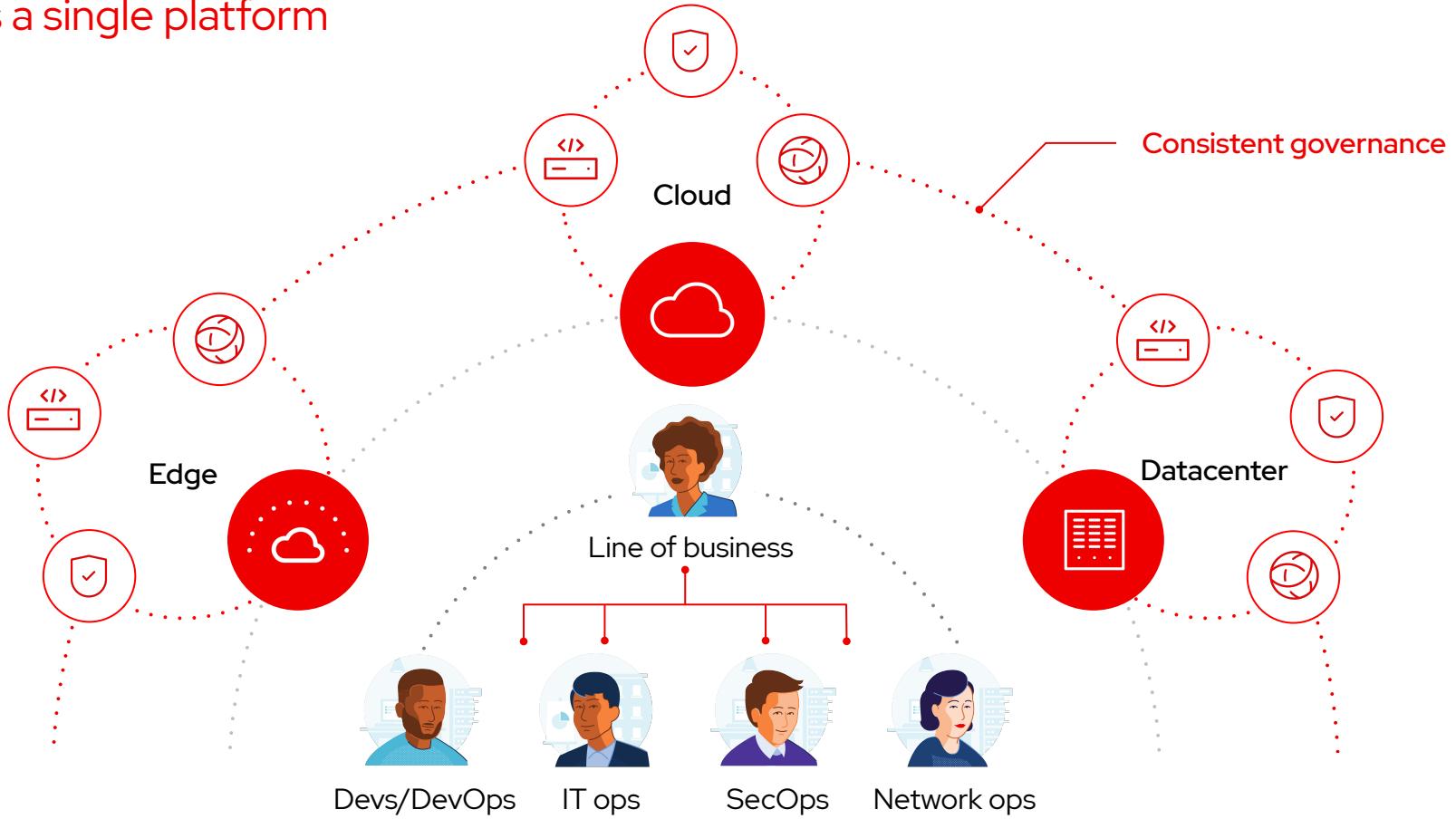
Network devices



And more ...

Break down silos

Different teams a single platform





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Content creators



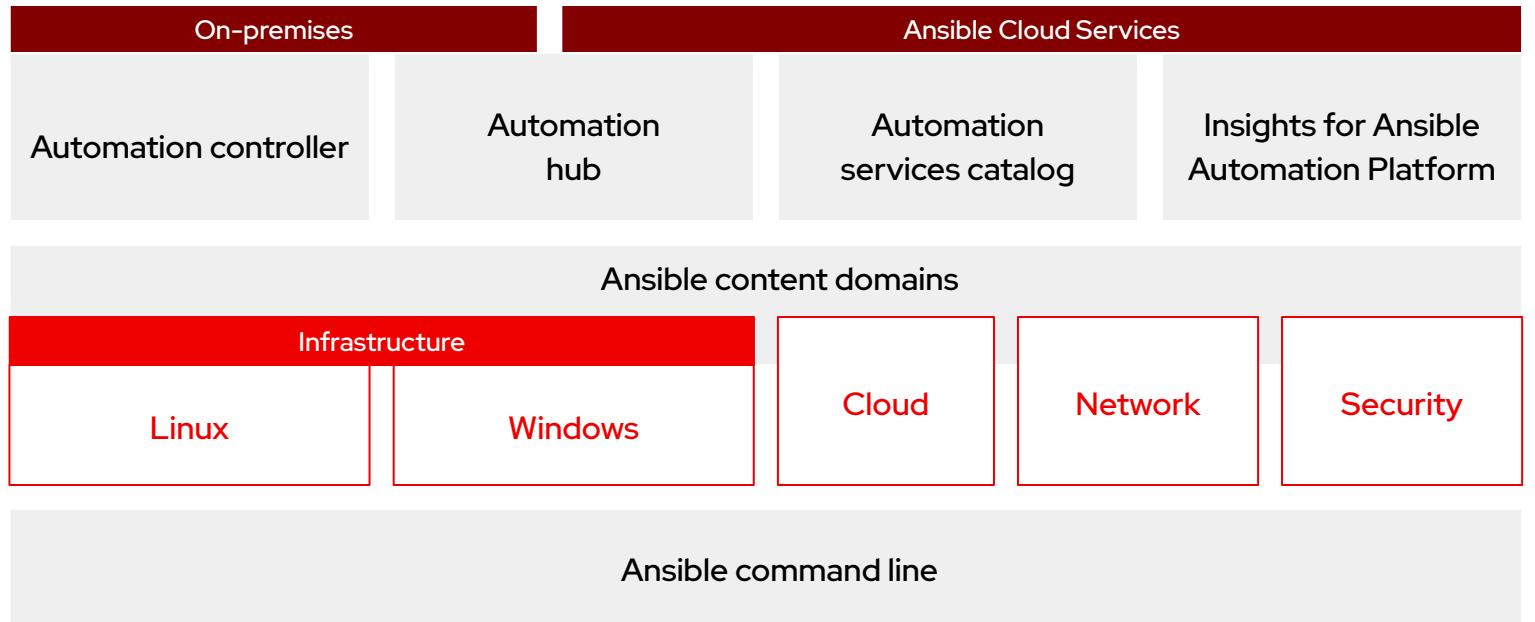
Operators



Domain experts



Users



Fueled by an
open source community

THE FORRESTER WAVE™
Infrastructure Automation Platforms
Q3 2020



Red Hat named a Leader in The Forrester Wave™

Infrastructure Automation Platforms, Q3 2020

Received highest possible score in the criteria of:



- Deployment functionality
- Product Vision
- Partner Ecosystem
- Supporting products and services
- Community support
- Planned product enhancements

- ▶ “Ansible continues to grow quickly, particularly among enterprises that are automating networks. The solution excels at providing a variety of deployment options and acting as a service broker to a wide array of other automation tools.”
- ▶ “Red Hat’s solution is a good fit for customers that want a holistic automation platform that integrates with a wide array of other vendors’ infrastructure.”

Source:

Gardner, Chris, Glenn O'Donnell, Robert Perdonii, and Diane Lynch. ["The Forrester Wave™: Infrastructure Automation Platforms, Q3 2020."](#) Forrester, 10 Aug. 2020.

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Ansible automates technologies you use

Time to automate is measured in minutes

| Cloud | Virt & Container | Windows | Network | Security | Monitoring |
|--------------------------|-----------------------------|----------------|----------------|-----------------|-------------------|
| AWS | Docker | ACLs | A10 | Checkpoint | Dynatrace |
| Azure | VMware | Files | Arista | Cisco | Datadog |
| Digital Ocean | RHV | Packages | Aruba | CyberArk | LogicMonitor |
| Google | OpenStack | IIS | Cumulus | F5 | New Relic |
| OpenStack | OpenShift | Regedits | Bigswitch | Fortinet | Sensu |
| Rackspace | +more | Shares | Cisco | Juniper | +more |
| +more | | Services | Dell | IBM | |
| Operating Systems | Storage | Configs | Extreme | Palo Alto | Devops |
| | | Users | F5 | Snort | Jira |
| | | Domains | Lenovo | +more | GitHub |
| | | +more | MikroTik | | Vagrant |
| | | | Juniper | | Jenkins |
| Windows | | | OpenSwitch | | Slack |
| +more | | | +more | | +more |



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Ansible Automation
Platform

Cloud

Topics Covered:

- Understanding the Ansible Infrastructure
- Check the prerequisites

The lab environment today

- **Drink our own champagne.**

Provisioned by, configured by, and managed by Red Hat Ansible Automation Platform.

<https://github.com/ansible/workshops>

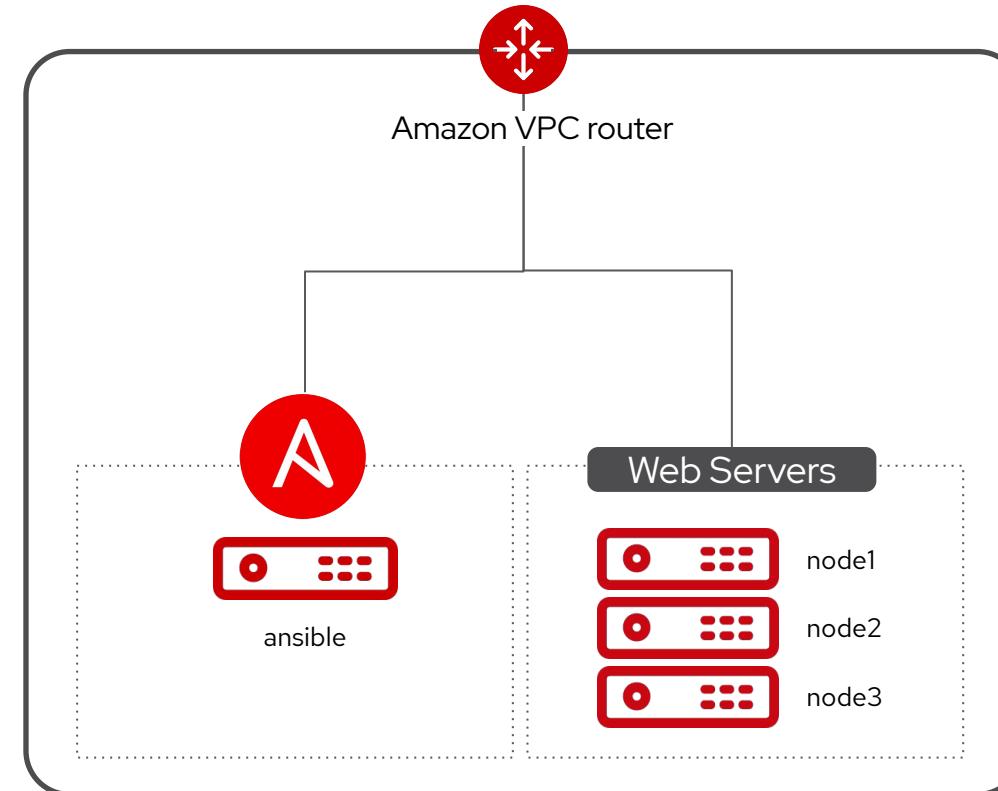
- **Learn with the real thing**

Every student will have their own fully licensed Red Hat Ansible Tower control node. No emulators or simulators here.

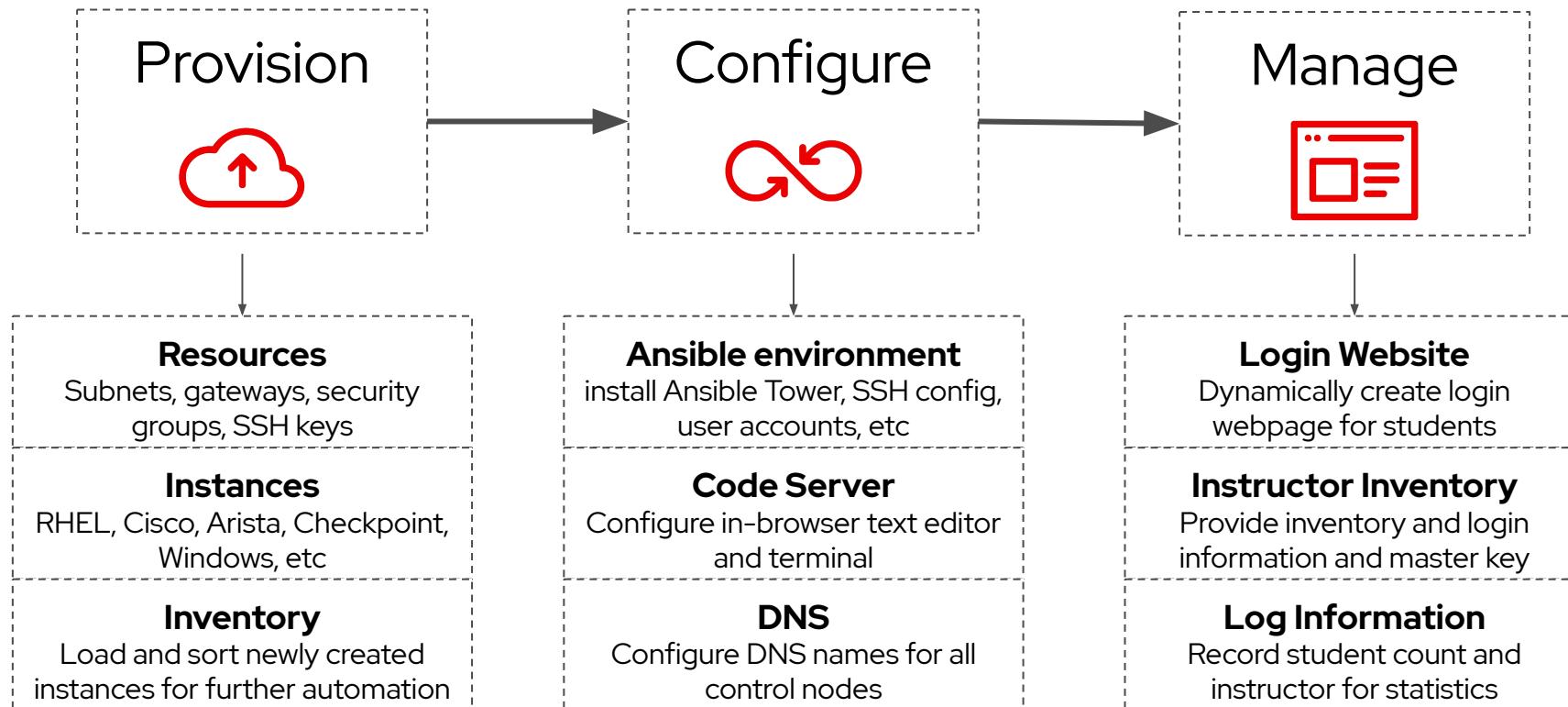
- **Red Hat Enterprise Linux**

All four nodes are enterprise Linux, showcasing real life use-cases to help spark ideas for what you can automate today.

Workbench Topology



How does it work?





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Platform

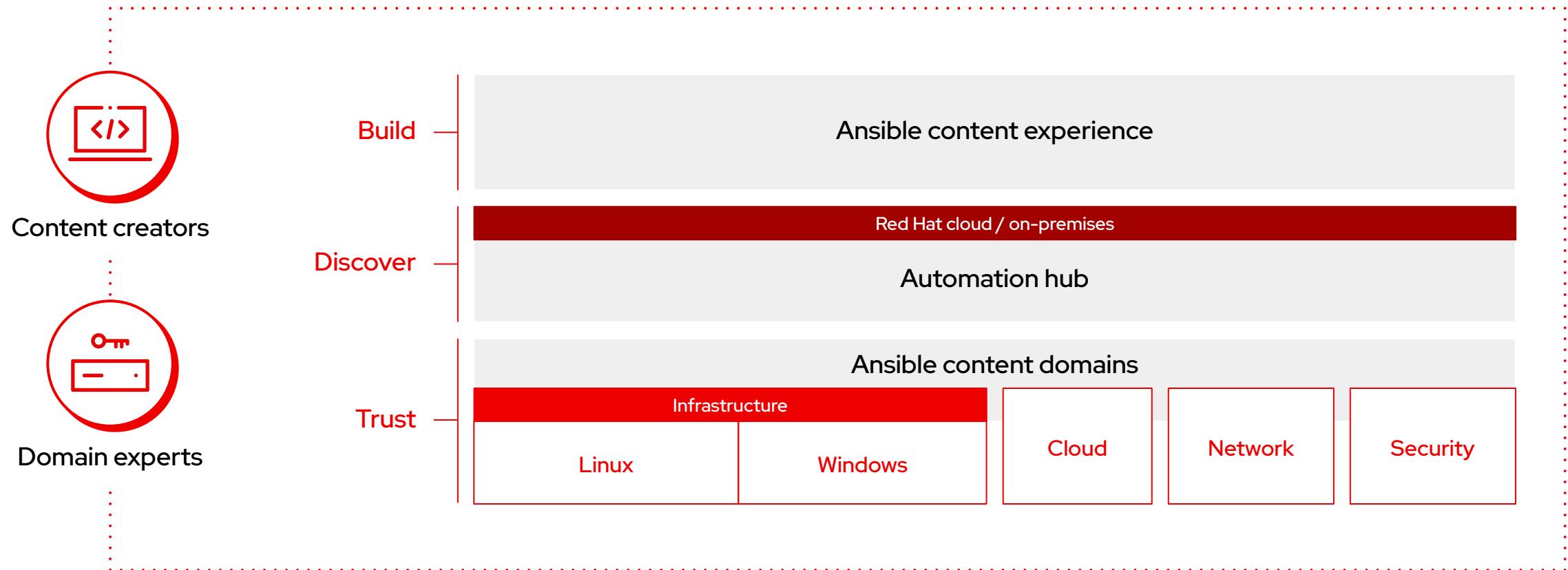
Exercise 1

Topics Covered:

- Understanding the Ansible Infrastructure
- Check the prerequisites

Create

The automation lifecycle





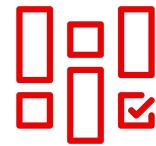
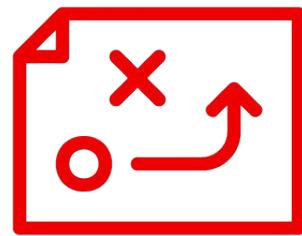
```
---
- name: install and start apache
  hosts: web
  become: yes

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

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

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

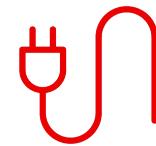
What makes up an Ansible playbook?



Plays



Modules



Plugins

Ansible plays

What am I automating?



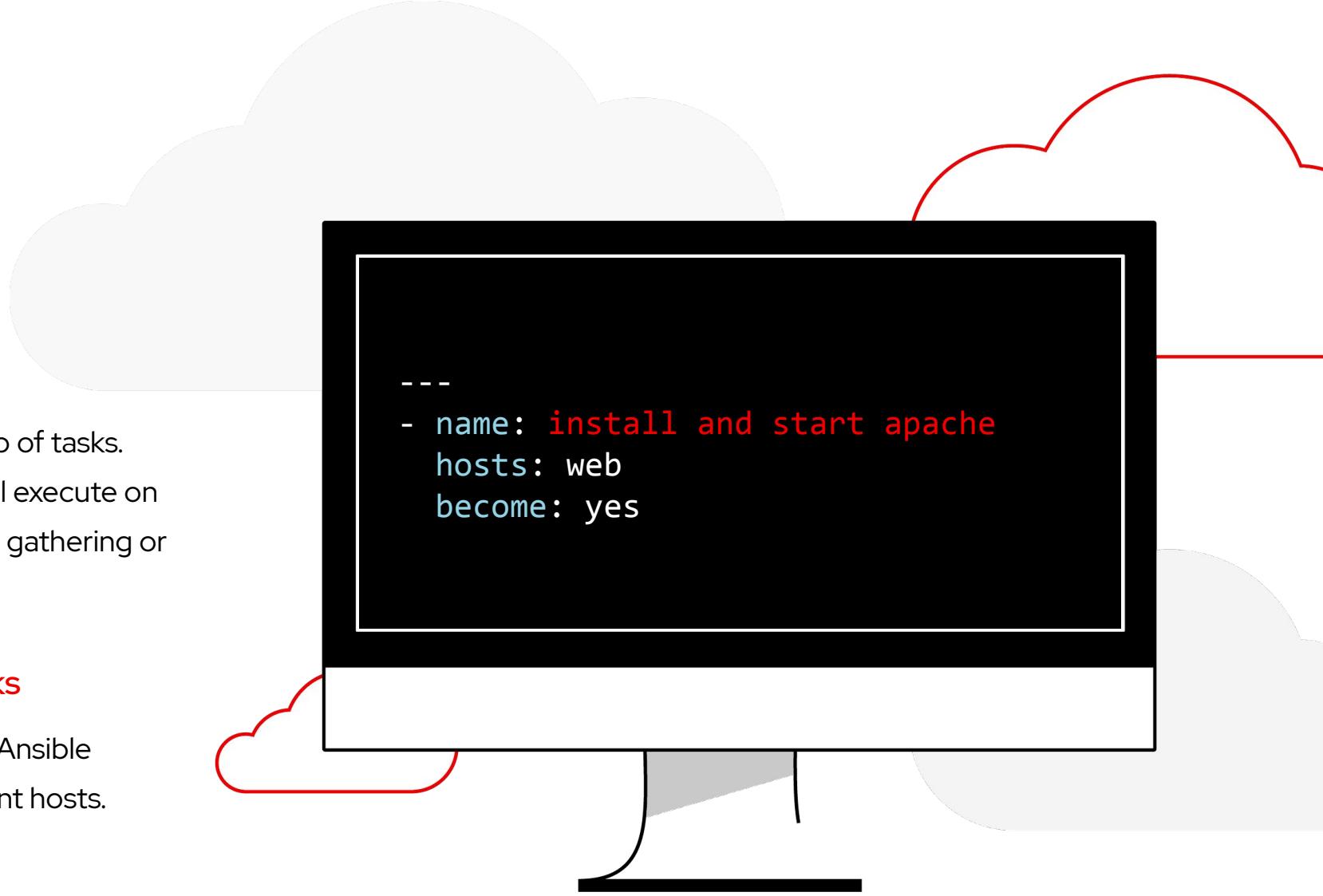
What are they?

Top level specification for a group of tasks.
Will tell that play which hosts it will execute on
and control behavior such as fact gathering or
privilege level.



Building blocks for playbooks

Multiple plays can exist within an Ansible
playbook that execute on different hosts.



Ansible modules

The “tools in the toolkit”



What are they?

Parametrized components with internal logic,
representing a single step to be done.
The modules “do” things in Ansible.



Language

Usually Python, or Powershell for Windows
setups. But can be of any language.



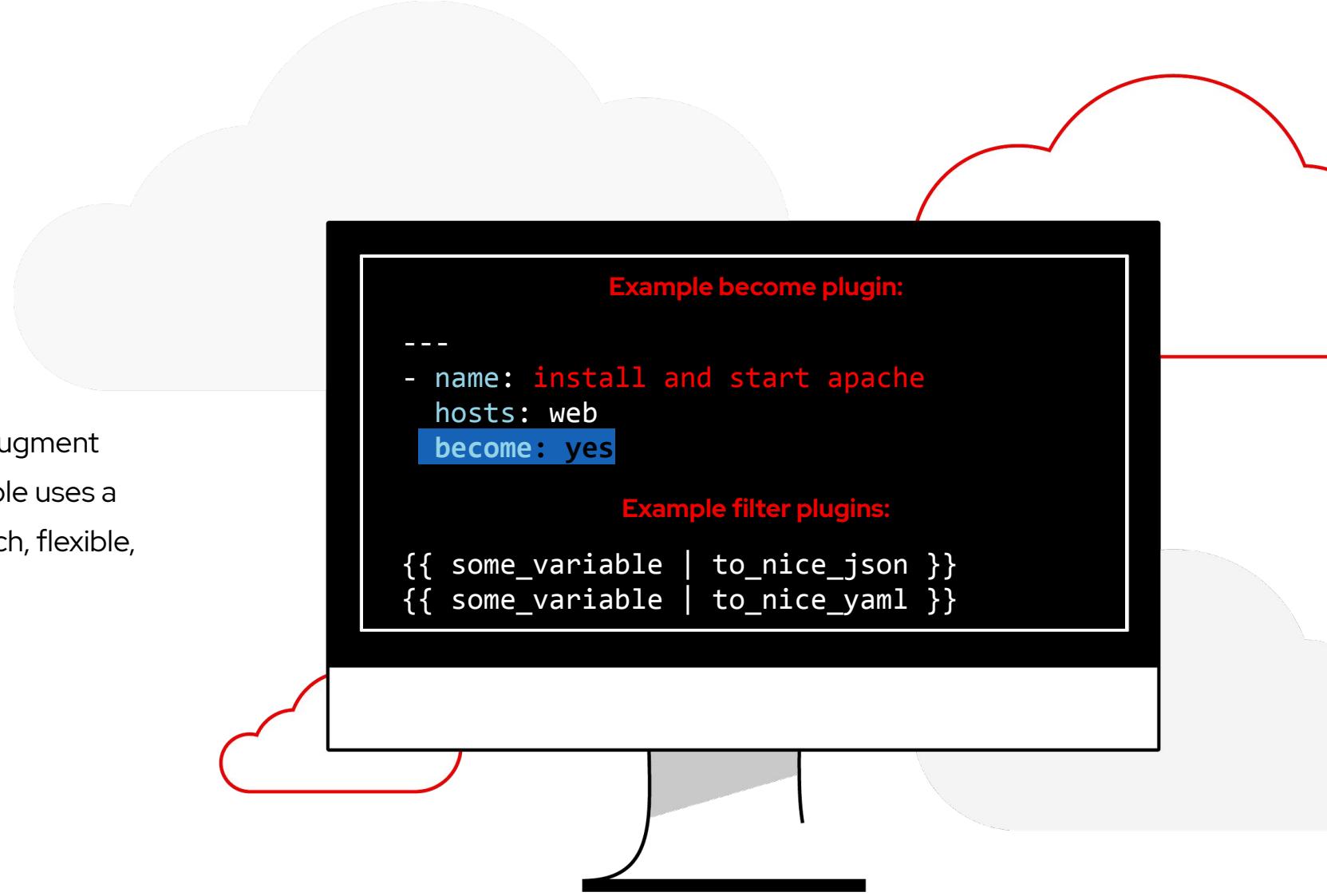
Ansible plugins

The “extra bits”



What are they?

Plugins are pieces of code that augment Ansible's core functionality. Ansible uses a plugin architecture to enable a rich, flexible, and expandable feature set.



Ansible Inventory

The systems that a playbook runs against



What are they?

List of systems in your infrastructure that automation is executed against

```
[web]  
webserver1.example.com  
webserver2.example.com  
  
[db]  
dbserver1.example.com  
  
[switches]  
leaf01.internal.com  
leaf02.internal.com
```

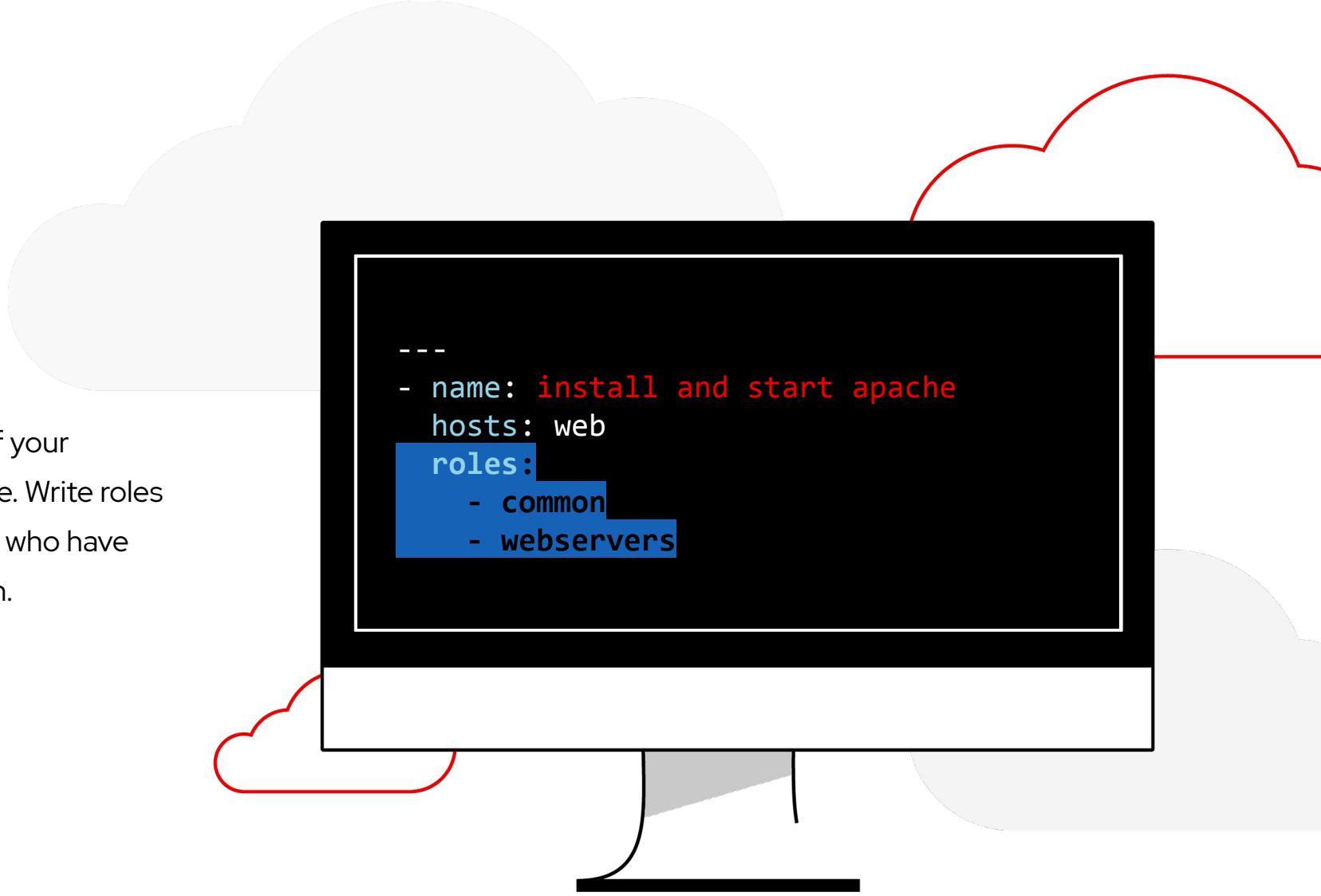
Ansible roles

Reusable automation actions



What are they?

Group your tasks and variables of your automation in a reusable structure. Write roles once, and share them with others who have similar challenges in front of them.



Collections

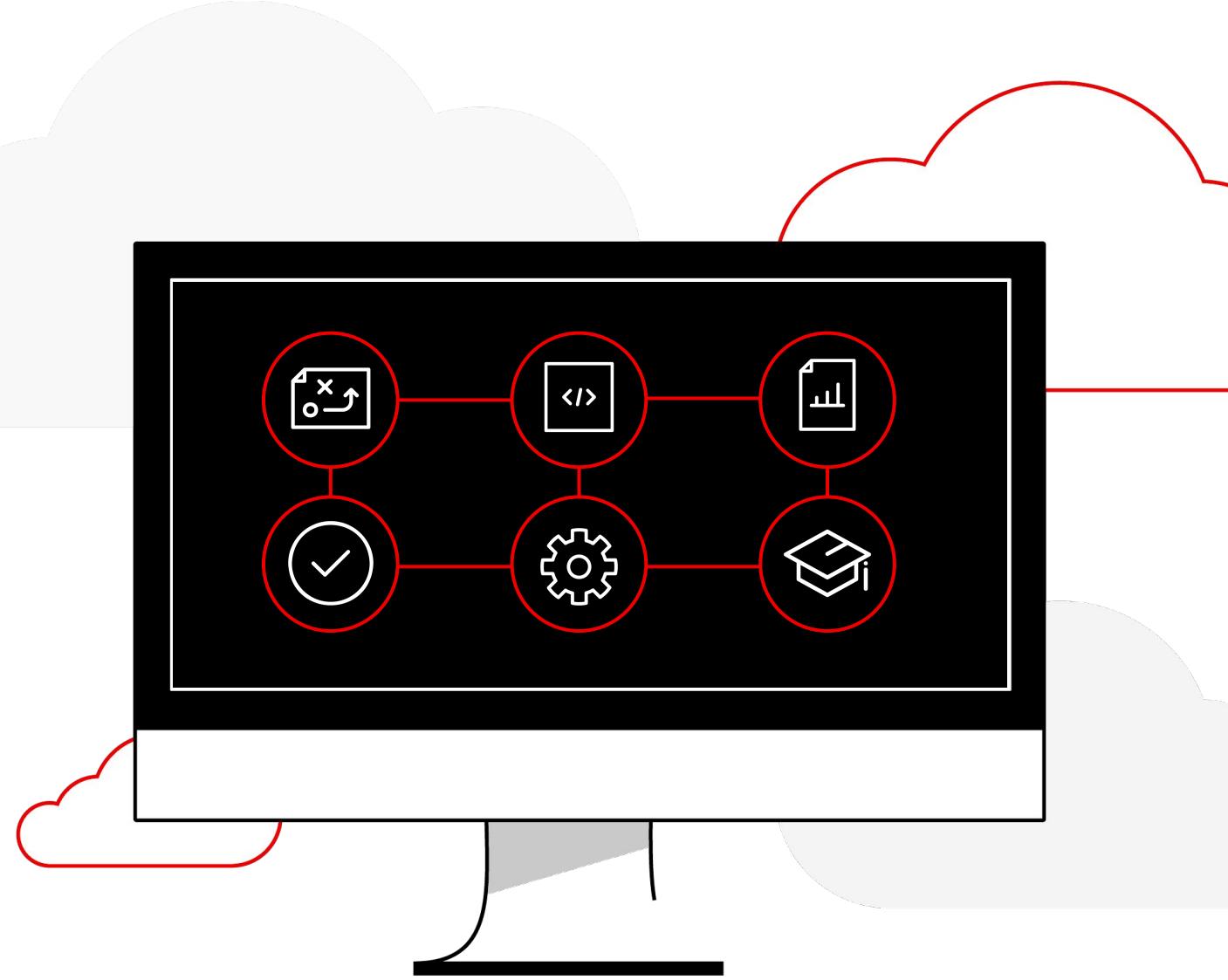
Simplified and consistent content delivery

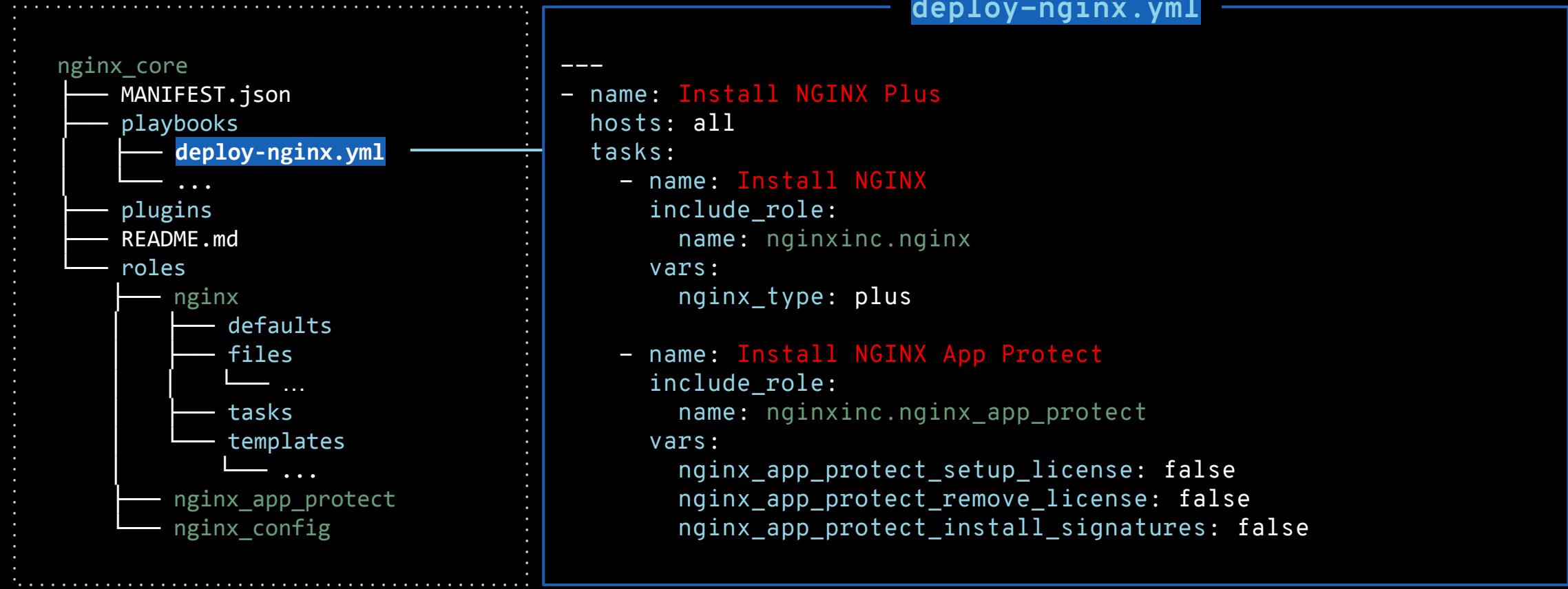


What are they?

Collections are a data structure containing automation content:

- ▶ Modules
- ▶ Playbooks
- ▶ Roles
- ▶ Plugins
- ▶ Docs
- ▶ Tests



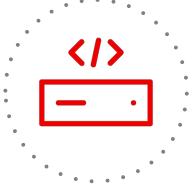


deploy-nginx.yml

```
---
```

- name: Install NGINX Plus
hosts: all
tasks:
 - name: Install NGINX
include_role:
 - name: nginxinc.nginx
 - vars:
 - nginx_type: plus
- name: Install NGINX App Protect
include_role:
 - name: nginxinc.nginx_app_protect
- vars:
 - nginx_app_protect_setup_license: false
 - nginx_app_protect_remove_license: false
 - nginx_app_protect_install_signatures: false

90+
certified platforms



Infrastructure



Cloud



Network



Security



ARISTA



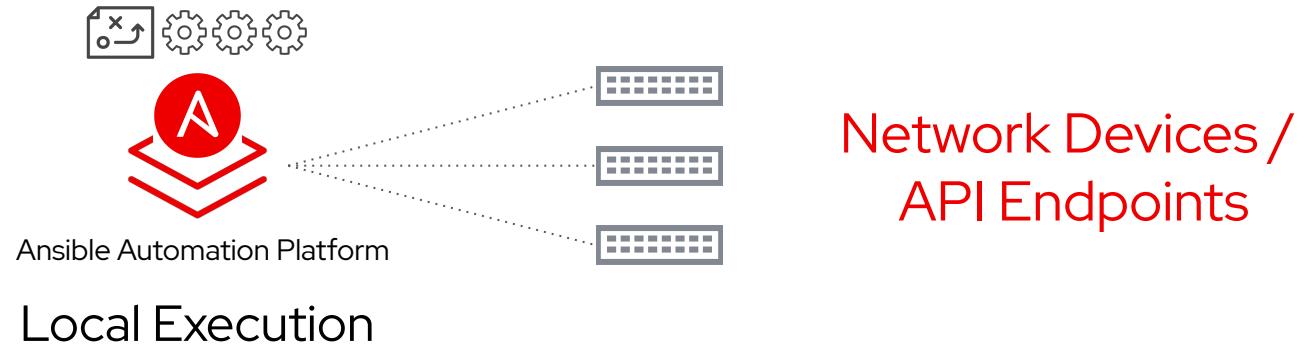
Check Point®
SOFTWARE TECHNOLOGIES LTD



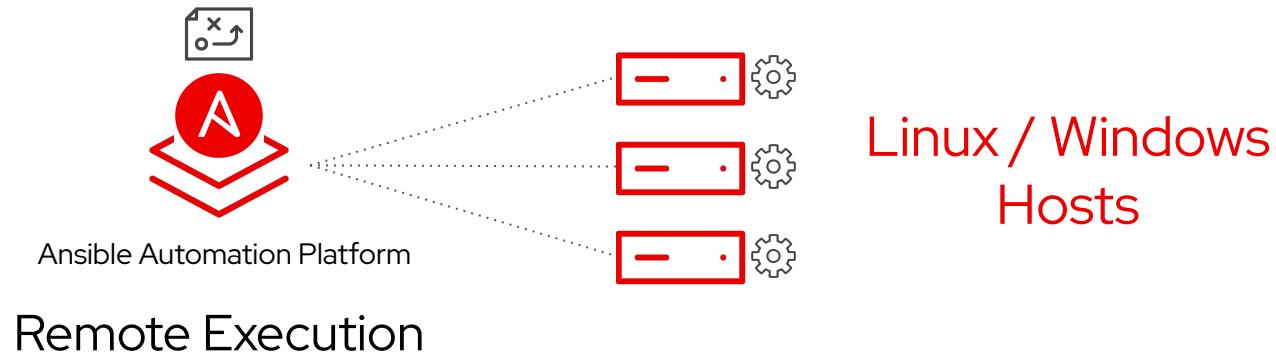
FORTINET®

How Ansible Automation Works

Module code is
executed locally on the
control node



Module code is copied
to the managed node,
executed, then
removed



Verify Lab Access

- Follow the steps in to access environment
- Use the IP provided to you, the script only has example IP
- Which editor do you use on command line?
If you don't know, we have a short intro



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Lab Time

Complete exercise **1-setup** now in your lab environment



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Exercise 2

Topics Covered:

- Ansible inventories
- Accessing Ansible docs
- Modules and getting help

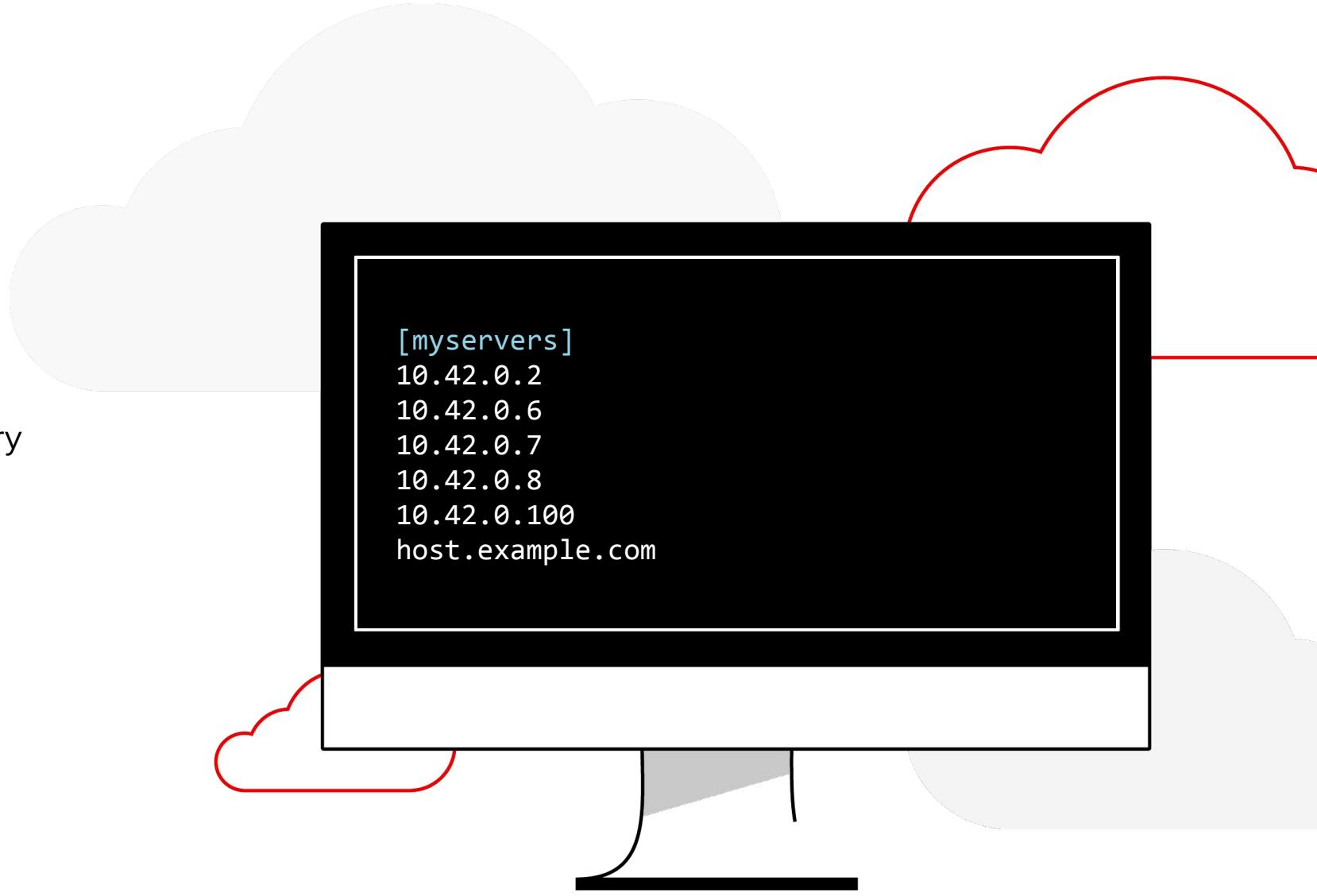
Inventory

- ▶ Ansible works against multiple systems in an **inventory**
- ▶ Inventory is usually file based
- ▶ Can have multiple groups
- ▶ Can have variables for each group or even host

Ansible Inventory

The Basics

An example of a static Ansible inventory including systems with IP addresses as well as fully qualified domain name (FQDN)





```
[app1srv]
appserver01 ansible_host=10.42.0.2
appserver02 ansible_host=10.42.0.3

[web]
node-[1:30] ansible_host=10.42.0.[31:60]

[web:vars]
apache_listen_port=8080
apache_root_path=/var/www/mywebdocs/

[all:vars]
ansible_user=kev
ansible_ssh_private_key_file=/home/kev/.ssh/id_rsa
```

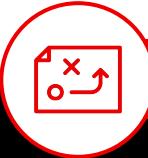


```
[app1srv]
appserver01 ansible_host=10.42.0.2
appserver02 ansible_host=10.42.0.3

[web]
node-[1:30] ansible_host=10.42.0.[31:60]

[web:vars]
apache_listen_port=8080
apache_root_path=/var/www/mywebdocs/

[all:vars]
ansible_user=ender
ansible_ssh_private_key_file=/home/ender/.ssh/id_rsa
```



```
[nashville]
bnaapp01
bnaapp02
```

```
[atlanta]
atlapp03
atlapp04
```

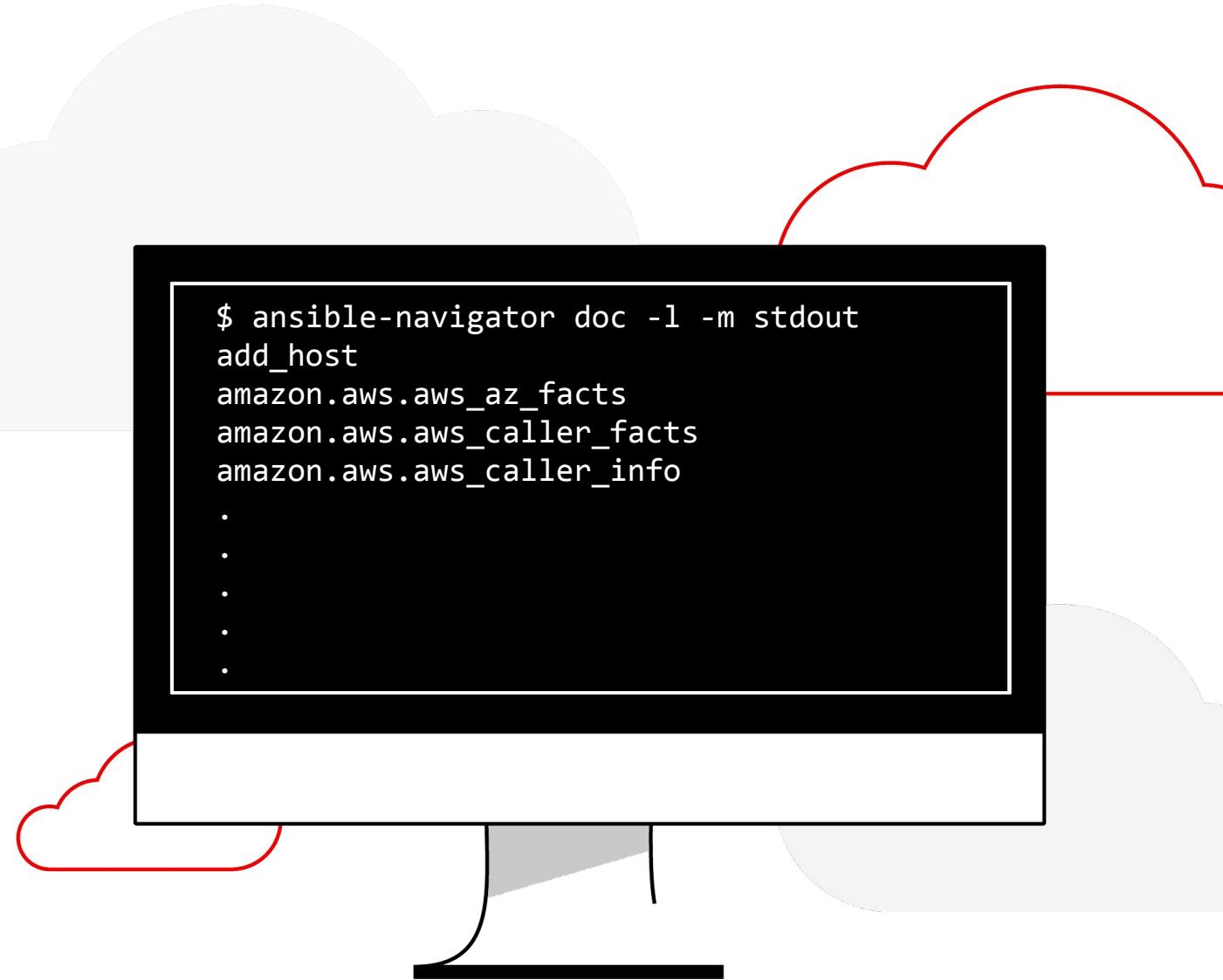
```
[south:children]
atlanta
nashville
hsvapp05
```

Accessing the Ansible docs

With the use of the latest command utility ansible-navigator, one can trigger access to all the modules available to them as well as details on specific modules.

A formal introduction to ansible-navigator and how it can be used to run playbooks in the following exercise.

```
$ ansible-navigator doc -l -m stdout  
add_host  
amazon.aws.aws_az_facts  
amazon.aws.aws_caller_facts  
amazon.aws.aws_caller_info  
. . . . .
```



Accessing the Ansible docs

Aside from listing a full list of all the modules, you can use ansible-navigator to provide details about a specific module.

In this example, we are getting information about the user module.

```
$ ansible-navigator doc user -m stdout  
> ANSIBLE.BUILTIN.USER  
(/usr/lib/python3.8/site-packages/ansible/m  
odules/user.py)  
  
Manage user accounts and user attributes.  
For Windows targets, use the  
[ansible.windows.win_user] module  
instead.
```

Bash vs. Ansible

```
echo Running mssql-conf setup...
sudo
MSSQL_SA_PASSWORD=$MSSQL_SA_PASSWORD \
MSSQL_PID=$MSSQL_PID \
/opt/mssql/bin/mssql-conf -n setup accept-eula

echo 'export PATH="$PATH:/opt/mssql-tools/bin"' >>
~/.bash_profile
echo 'export PATH="$PATH:/opt/mssql-tools/bin"' >>
~/.bashrc
source ~/.bashrc
```

```
- name: Run mssql-conf setup
  command: /opt/mssql/bin/mssql-conf -n setup
  accept-eula
  environment:
    - MSSQL_SA_PASSWORD: "{{ MSSQL_SA_PASSWORD }}"
    - MSSQL_PID: "{{ MSSQL_PID }}"
  when: install is changed

- name: Add mssql-tools to $PATH
  lineinfile:
    path: "{{ item }}"
    line: export PATH="$PATH:/opt/mssql-tools/bin"
  loop:
    - ~/.bash_profile
    - ~/.bashrc
```



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Lab Time

Complete exercise **2-thebasics** now in your lab environment



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Exercise 3

Topics Covered:

- Playbooks basics
- Running a playbook



A play

```
---  
- name: install and start apache  
  hosts: web  
  become: yes  
  
  tasks:  
    - name: httpd package is present  
      yum:  
        name: httpd  
        state: latest  
  
    - name: latest index.html file is present  
      template:  
        src: files/index.html  
        dest: /var/www/html/  
  
    - name: httpd is started  
      service:  
        name: httpd  
        state: started
```



A task

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

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

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

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



A module

```
---
```

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

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

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

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



Running Playbooks

The most important **colors** of Ansible

A task executed as expected, no change was made.

A task executed as expected, making a change

A task failed to execute successfully

A playbook run

Where it all starts

- ▶ A playbook is interpreted and run against one or multiple hosts - task by task. The order of the tasks defines the execution.
- ▶ In each task, the module does the actual work.



The screenshot shows a terminal window with a red header containing two white circles and a search bar with a magnifying glass icon and a 'KEY' button. The main area displays a log of a playbook execution. The log includes:

```
SEARCH
-
1 Identity added: /tmp/awx_2896_5sdng5le/artifacts/2896/ssh_key_data (/tmp/awx_2896_5sdng5le/artifacts/2896/ssh_key_data)
2
3 PLAY [install and start apache] *****
4
5 TASK [Gathering Facts] *****
6 ok: [node1]
7 ok: [node3]
8 ok: [node2]
9
10 TASK [httpd package is present] *****
11 changed: [node1]
12 changed: [node2]
13 changed: [node3]
14
15 TASK [latest index.html file is present] *****
16 changed: [node1]
17 changed: [node2]
18 changed: [node3]
19
20 TASK [httpd is started] *****
21 changed: [node1]
22 changed: [node2]
23 changed: [node3]
24
25 PLAY RECAP *****
26 node1 : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
27 node2 : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
28 node3 : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
29
```

Running an Ansible Playbook

Using the latest `ansible-navigator` command



What is `ansible-navigator`?

`ansible-navigator` command line utility and text-based user interface (TUI) for running and developing Ansible automation content.

It replaces the previous command used to run playbooks “`ansible-playbook`”.



ansible-navigator

Bye ansible-playbook, Hello ansible-navigator



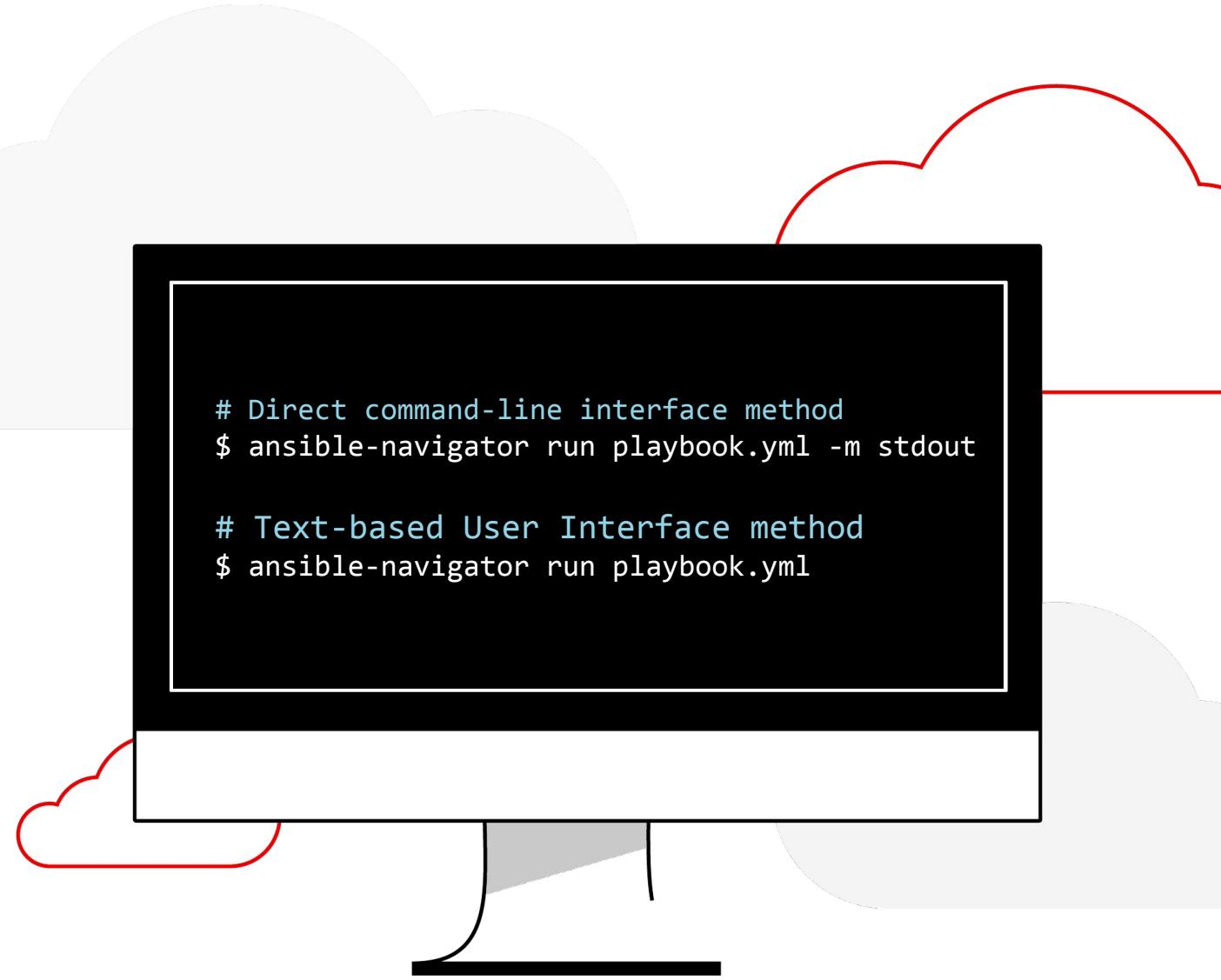
How do I use ansible-navigator?

As previously mentioned, it replaces the ansible-playbook command.

As such it brings two methods of running playbooks:

- ▶ Direct command-line interface
- ▶ Text-based User Interface (TUI)

```
# Direct command-line interface method  
$ ansible-navigator run playbook.yml -m stdout  
  
# Text-based User Interface method  
$ ansible-navigator run playbook.yml
```



ansible-navigator

Mapping to previous Ansible commands

| ansible command | ansible-navigator command |
|------------------------|----------------------------------|
| ansible-config | ansible-navigator config |
| ansible-doc | ansible-navigator doc |
| ansible-inventory | ansible-navigator inventory |
| ansible-playbook | ansible-navigator run |

ansible-navigator

Common subcommands

| Name | Description | CLI Example | Colon command within TUI |
|-------------|--|--------------------------------------|--------------------------|
| collections | Explore available collections | ansible-navigator collections --help | :collections |
| config | Explore the current ansible configuration | ansible-navigator config --help | :config |
| doc | Review documentation for a module or plugin | ansible-navigator doc --help | :doc |
| images | Explore execution environment images | ansible-navigator images --help | :images |
| inventory | Explore and inventory | ansible-navigator inventory --help | :inventory |
| replay | Explore a previous run using a playbook artifact | ansible-navigator replay --help | :replay |
| run | Run a playbook | ansible-navigator run --help | :run |
| welcome | Start at the welcome page | ansible-navigator welcome --help | :welcome |





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Lab Time

Complete exercise **3-playbooks** now in your lab environment



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Exercise 4

Topics Covered:

- Working with variables
- What are facts?



```
---
- name: variable playbook test
  hosts: localhost

  vars:
    var_one: awesome
    var_two: ansible is
    var_three: "{{ var_two }} {{ var_one }}"

  tasks:
    - name: print out var_three
      debug:
        msg: "{{ var_three }}"
```



```
---
- name: variable playbook test
  hosts: localhost

  vars:
    var_one: awesome
    var_two: ansible is
    var_three: "{{ var_two }} {{ var_one }}"

  tasks:
    - name: print out var_three
      debug:
        msg: "{{ var_three }}"
```

ansible is awesome

Ansible Facts

- ▶ Just like variables, really...
- ▶ ...but: coming from the host itself!
- ▶ Check them out with the setup module





```
---  
- name: facts playbook  
  hosts: localhost  
  
  tasks:  
    - name: Collect all facts of host  
      setup:  
        gather_subset:  
          - 'all'
```

```
$ ansible-navigator run playbook.yml
```



| PLAY NAME | OK | CHANGED | UNREACHABLE | FAILED | SKIPPED | IGNORED | IN PROGRESS | TASK COUNT | PROGRESS COMPLETE |
|-------------------|----|---------|-------------|--------|---------|---------|-------------|------------|-------------------|
| 0 facts playbook | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | COMPLETE |



| RESULT | HOST | NUMBER | CHANGED | TASK | TASK ACTION | DURATION |
|--------|-----------|--------|---------|---------------------------|--------------|----------|
| 0 OK | localhost | 0 | False | Gathering Facts | gather_facts | 1s |
| 1 OK | localhost | 1 | False | Collect all facts of host | setup | 1s |



PLAY [facts playbook:1]

TASK [Collect all facts of host]

OK: [localhost]

.

.

```

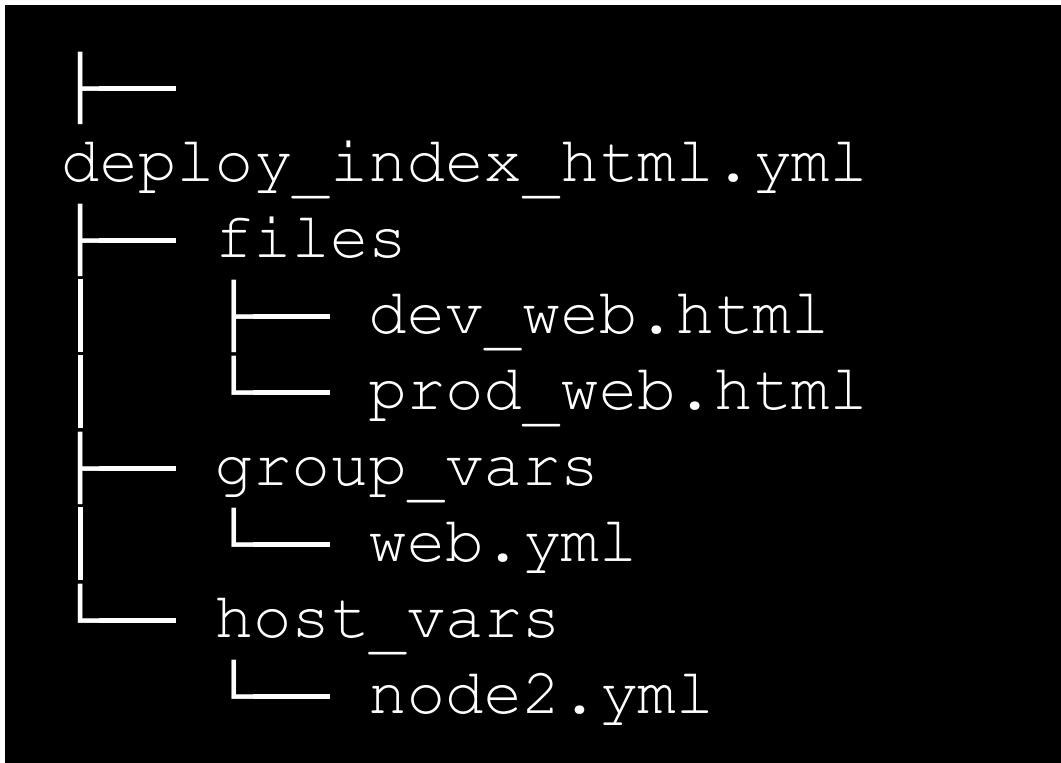
12 |   ansible_facts:
13 |   ansible_all_ipv4_addresses:
14 |     - 10.0.2.100
15 |   ansible_all_ipv6_addresses:
16 |     - fe80::1caa:f0ff:fe15:23c4

```

Ansible Inventory - Managing Variables In Files

```
$ tree ansible-files/
├── deploy_index_html.yml
├── files
│   ├── dev_web.html
│   └── prod_web.html
├── group_vars
│   └── web.yml
└── host_vars
    └── node2.yml
```

Ansible Inventory - Managing Variables In Files



```
$ cat group_vars/web.yml
---
stage: dev
```

```
$ cat host_vars/node2.yml
---
stage: prod
```

```
- name: copy web.html
copy:
  src: "{{ stage }}_web.html"
  dest: /var/www/html/index.html
```



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Lab Time

Complete exercise **4-variables** now in your lab environment



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Exercise 5

Topics Covered:

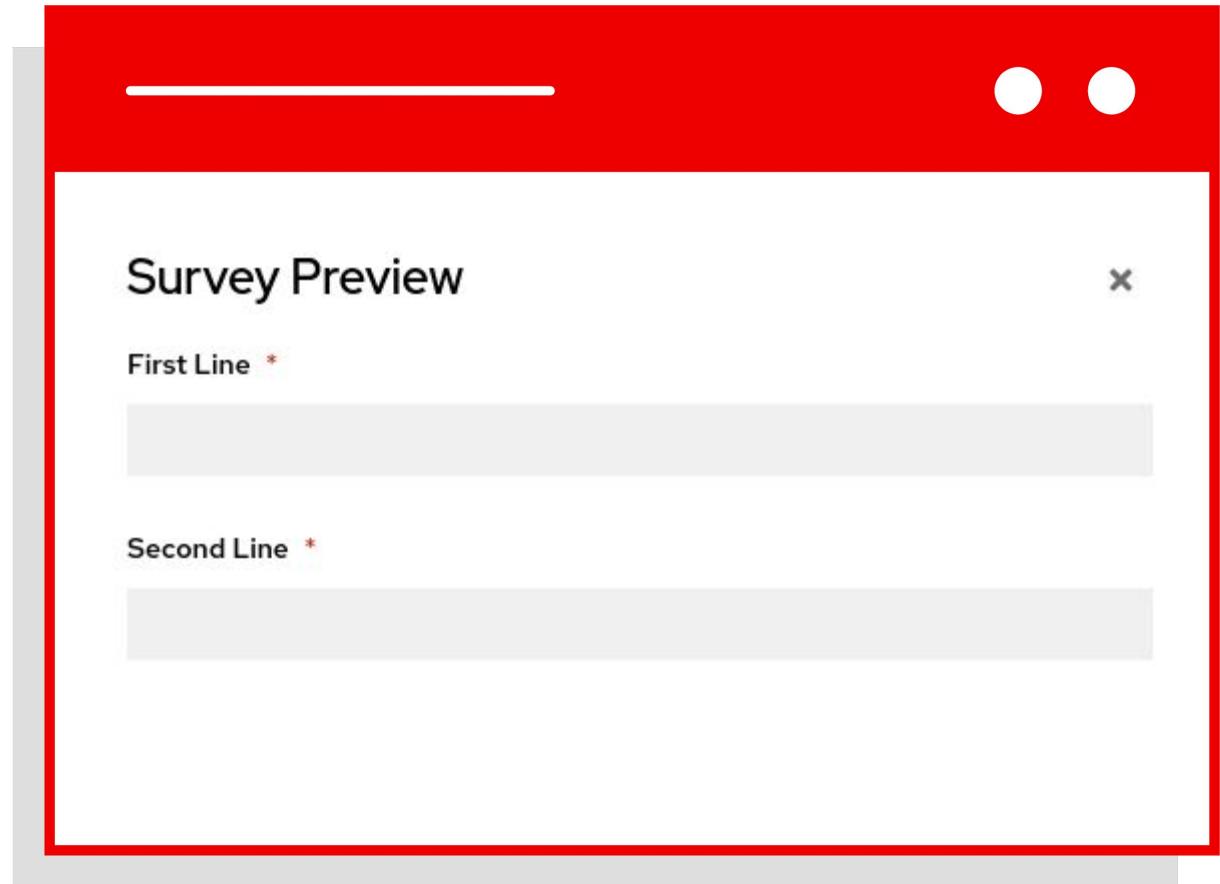
- Surveys

Surveys

Controller surveys allow you to configure how a job runs via a series of questions, making it simple to customize your jobs in a user-friendly way.

An Ansible Controller survey is a simple question-and-answer form that allows users to customize their job runs.

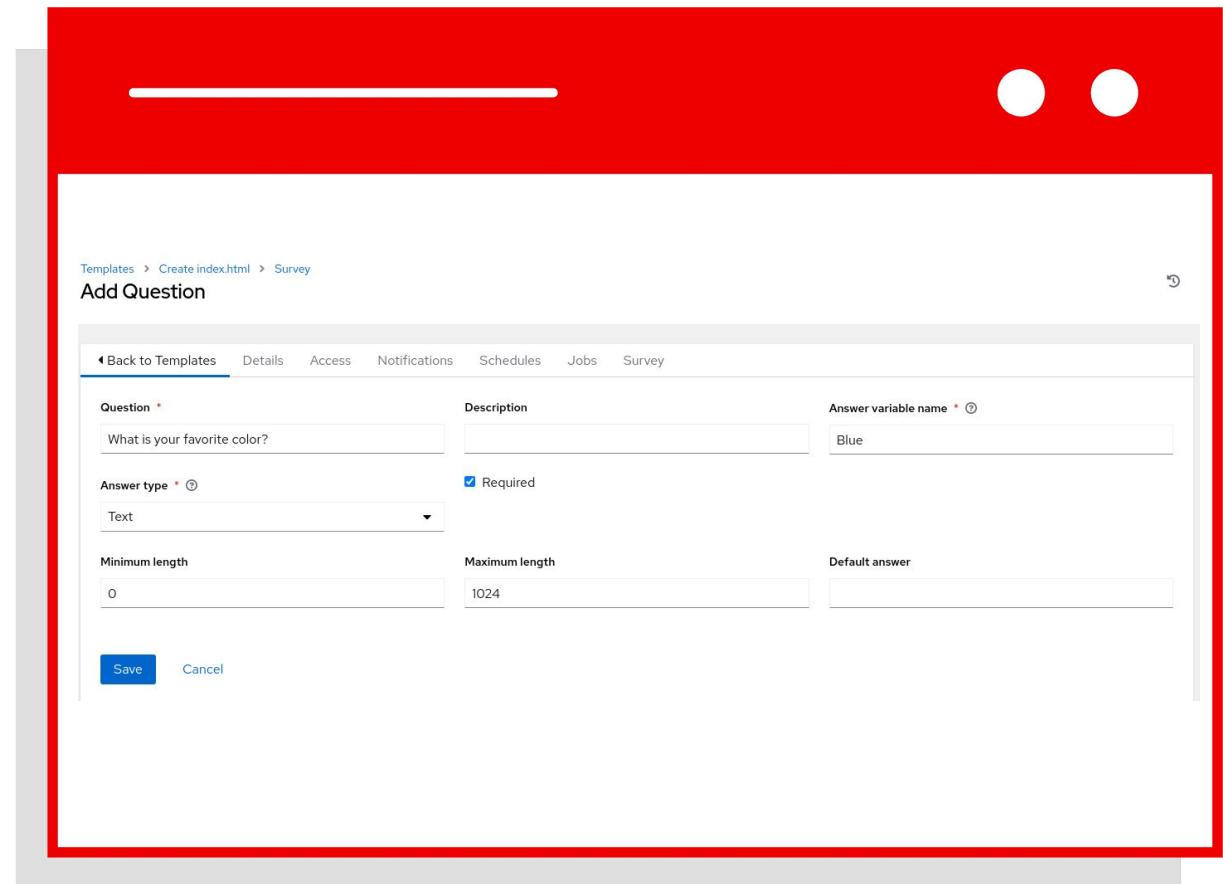
Combine that with Controller's role-based access control, and you can build simple, easy self-service for your users.



Creating a Survey (1/2)

Once a Job Template is saved, the Survey menu will have an **Add** **Button**

Click the button to open the Add Survey window.



Creating a Survey (2/2)

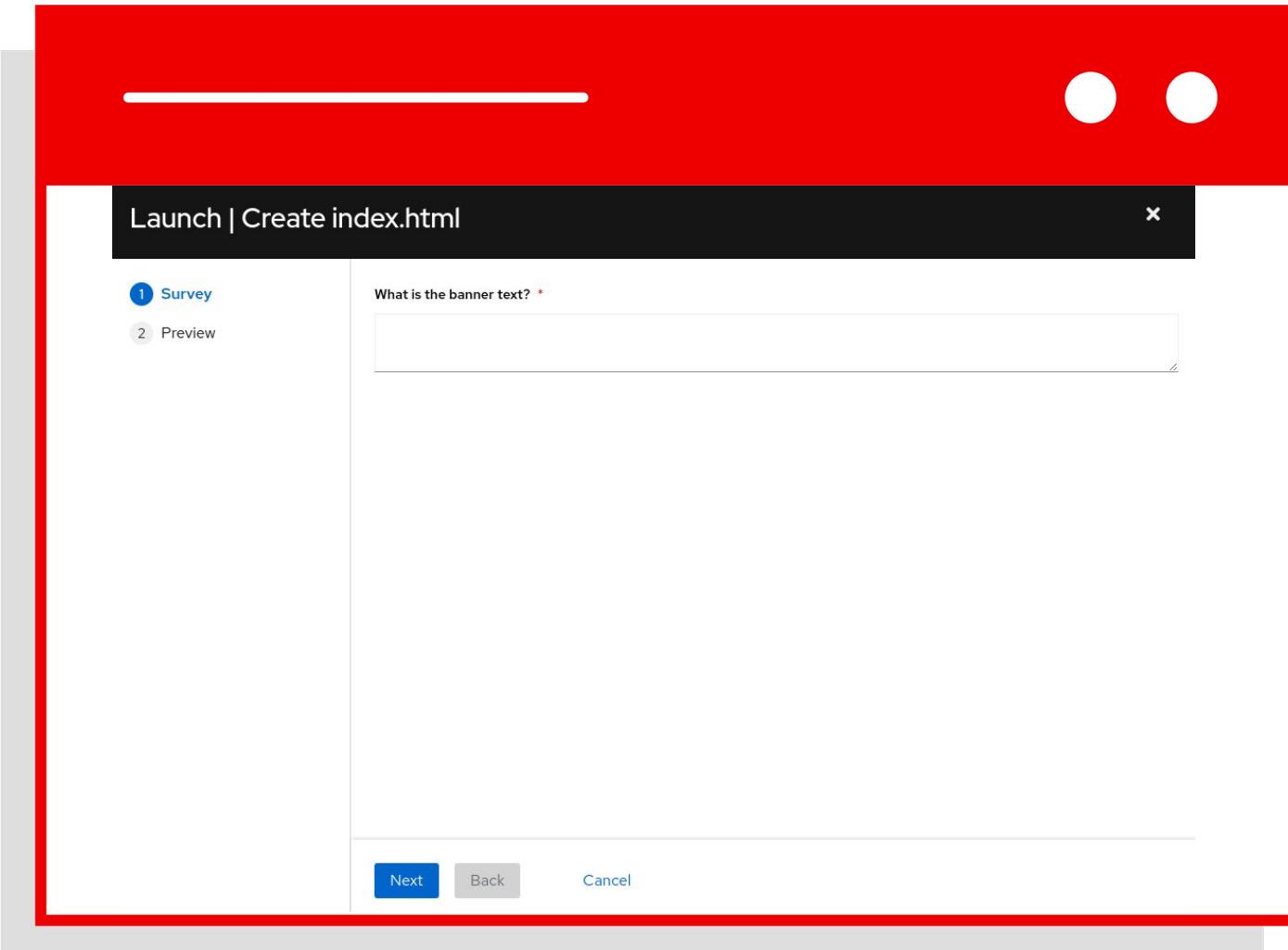
The Add Survey window allows the Job Template to prompt users for one or more questions. The answers provided become variables for use in the Ansible Playbook.

The screenshot shows the 'Add Question' dialog box within a 'Survey' template. The 'Survey' tab is selected in the top navigation bar. The dialog contains fields for 'Question' (What is the banner text?), 'Description' (empty), 'Answer variable name' (net_banner), 'Answer type' (Textarea, required), 'Minimum length' (0), 'Maximum length' (1024), and 'Default answer' (empty). A 'Save' button is at the bottom.

The screenshot shows the 'Survey' configuration page for the 'Create index.html' template. The 'Survey' tab is selected. It lists a single survey question: 'What is the banner text?' with a 'Type' of 'textarea'. The 'On' toggle switch is turned 'On'. A 'Preview' button is visible at the bottom.

Using a Survey

When launching a job, the user will now be prompted with the Survey. The user can be required to fill out the Survey before the Job Template will execute.





Red Hat Ansible Automation Platform

Lab Time

Complete exercise **5-surveys** now in your lab environment



Red Hat



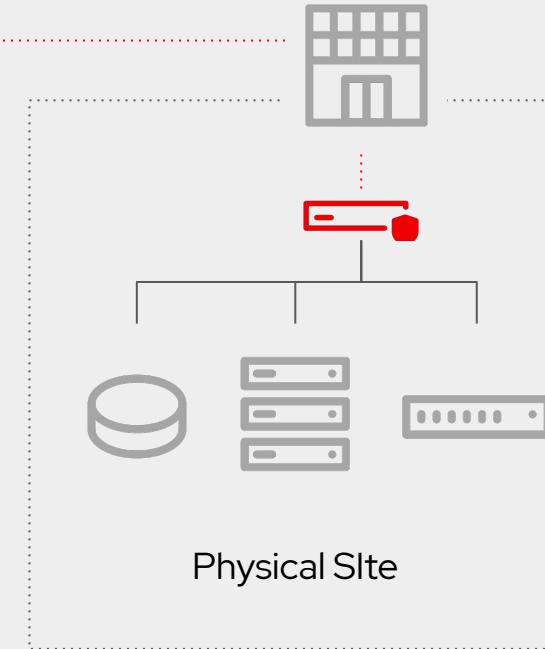
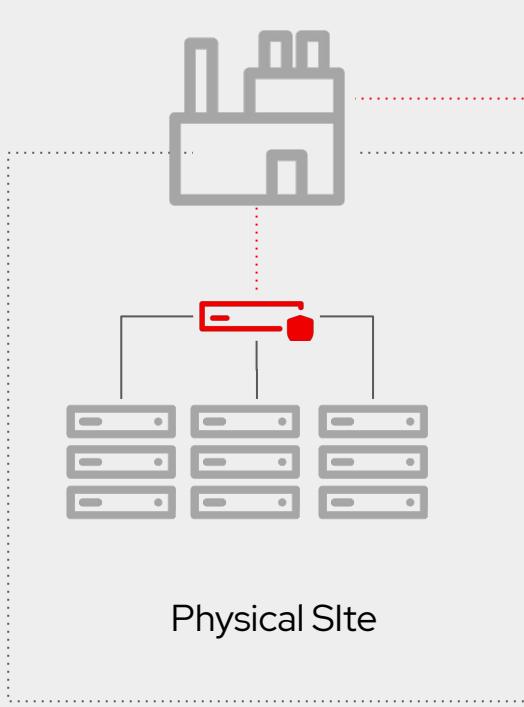
Red Hat
Ansible Automation
Platform

Exercise 6

Topics Covered:

- Red Hat Enterprise Linux System Roles

Automation Hub and Ansible Galaxy



Linux System Roles Collection

- Consistent user interface to provide settings to a given subsystem that is abstract from any particular implementation

Examples



kdump



network



selinux



timesync



```
---  
- name: example system roles playbook  
  hosts: web  
  
  tasks:  
  
    - name: Configure Firewall  
      include_role:  
        name: linux-system-roles.firewall  
  
    - name: Configure Timesync  
      include_role:  
        name: redhat.rhel_system_roles.timesync
```



timesync role is referenced from
the RHEL System Roles Collection



Red Hat

Ansible Automation Platform

Lab Time

Complete exercise **6-system-roles** now in your lab environment



Red Hat



Red Hat
Ansible Automation
Platform

Exercise 7

Topics Covered:

- Red Hat Insights intro
- Insights integration

What is Red Hat Insights?

Helping you better manage your hybrid and cloud environments

The screenshot shows the Red Hat Insights dashboard. At the top, it displays 12 systems registered with Insights, with 0 stale systems and 0 systems to be removed. The main sections include:

- Vulnerability:** Red Hat recommends addressing 31 CVEs with security rules impacting 1 or more systems, and 6 CVEs with known exploits impacting 1 or more systems.
- CVSS score:** A pie chart showing the distribution of CVEs by CVSS score: 8.0 - 10 (red), 4.0 - 7.9 (orange), and 0.0 - 3.9 (yellow).
- Advisor recommendations:** 2 incidents detected, with problematic conditions actively detected on the system.
- Recommendations by total risk:** 1 Critical, 7 Important, 4 Moderate, 0 Low.
- Recommendations by category:** 6 Availability, 3 Stability, 0 Performance, 3 Security.



Predicting risks



Recommending actions



Analyzing costs

What does Red Hat Insights do?

A cloud analytics platform that helps you better manage your hybrid and cloud environments



- ▶ **Gathers** configuration and utilization data from your Red Hat® products
- ▶ **Analyzes** the data based on Red Hat knowledge and expertise
- ▶ **Generates** and prioritizes insights for you to take action

How does Red Hat Insights help me?

Use Red Hat's expertise and knowledge to evaluate your systems



- ▶ Configuration review to make sure systems are setup correctly
- ▶ Centralized view of all CVEs, patches, and compliance risks
- ▶ Easily identify interoperability issues from the hypervisor or cloud, through the OS, and through the application stack
- ▶ Identify drift to make sure systems are the same
- ▶ Know how many subscriptions you are using in seconds

Hybrid cloud console Access at cloud.redhat.com

The dashboard features a top navigation bar with links for "Hybrid Cloud Console", "Application Services", "OpenShift", "Red Hat Enterprise Linux", and "Ansible Automation Platform". Below the navigation is a summary section with icons and counts for App services, RHEL, Kafka Instances, Connected systems, Stale systems, SAP systems, Ansible Automation Platform Clusters, Collections, Partners, Platforms, Portfolios, and Products.

Recommendations:

- Learn how to create and use a Kafka instance. [View](#)
- Download and install the Application Services CLI. [View](#)
- Learn how to connect to your Kafka instance from a Quarkus application. [View](#)
- Try Red Hat OpenShift API Management. [Learn more](#)
- Get started with Red Hat OpenShift API Management. [Learn more](#)
- Automation Services Catalog last orders (0). [Orders](#)

Insights for Red Hat Enterprise Linux:

- Automation Services Catalog approvals. [View](#)
- Create an Ansible Playbook to remediate or mitigate vulnerabilities or configuration issues. [Get started](#)
- Insights has identified 25 incidents affecting your systems. [View](#)
- Create a remediation playbook to fix issues identified by Insights on your systems. [Create](#)

Configure:

- Manage your Red Hat products in the cloud. Connect to additional accounts or public cloud providers. [Connect with Sources](#)
- Manage user access permissions. Configure and manage user access to applications with pre-defined and/or custom roles. [Get started](#)
- Sync Red Hat certified collections. Configure access to sync collections to Private Automation Hub. [Get started](#)

Try:

- Add public cloud sources to better track your finances. If your OpenShift cluster is running on a public cloud, add that cloud account to Sources for better analysis. [Connect](#)
- Try Red Hat OpenShift API Management. [Learn more](#)
- Install Private Automation Hub. [Get started](#)

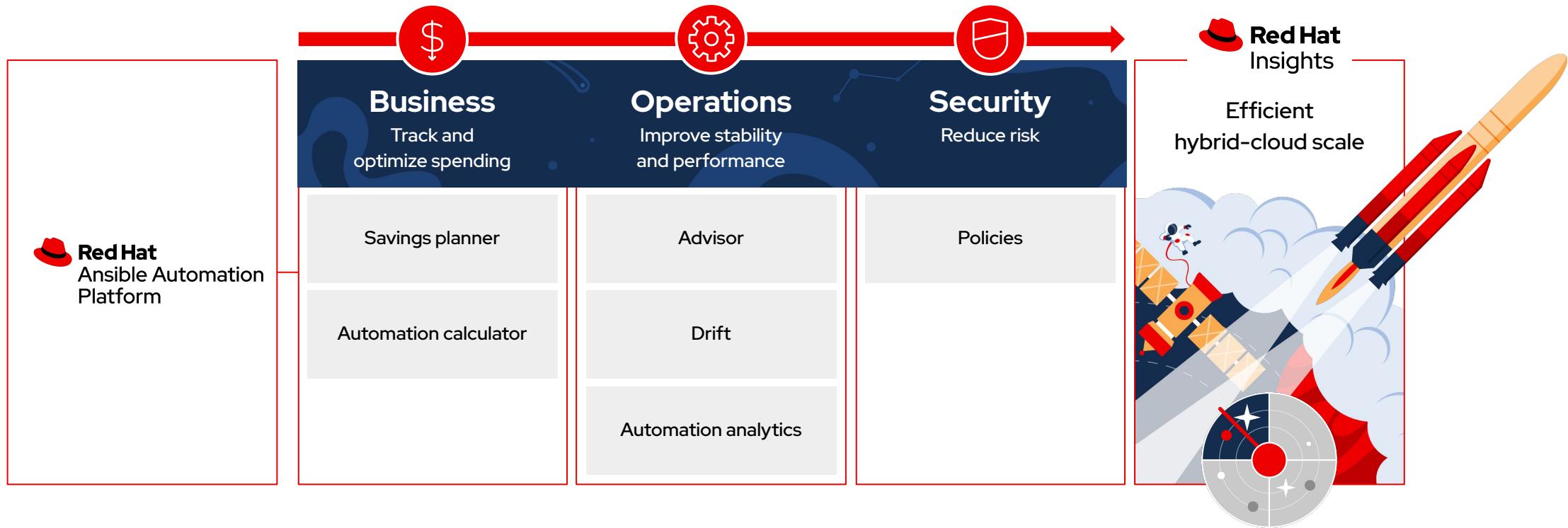
Learn:

- Red Hat Insights Data and Security Information. [Learn more](#)
- Learn how to create and use a Kafka instance. [Learn more](#)
- Learn how to connect to your Kafka instance from a Quarkus application. [Learn more](#)

A lightbulb icon in the bottom right corner indicates there are more resources available.

Red Hat Insights for Red Hat Ansible Automation Platform

For all your hybrid-cloud challenges



Savings Planner

Create a plan that details:

- How long manual work takes
- How often manual work is performed
- How many hosts are impacted
- List of tasks to be automated

Results in estimated time and cost savings of automation.

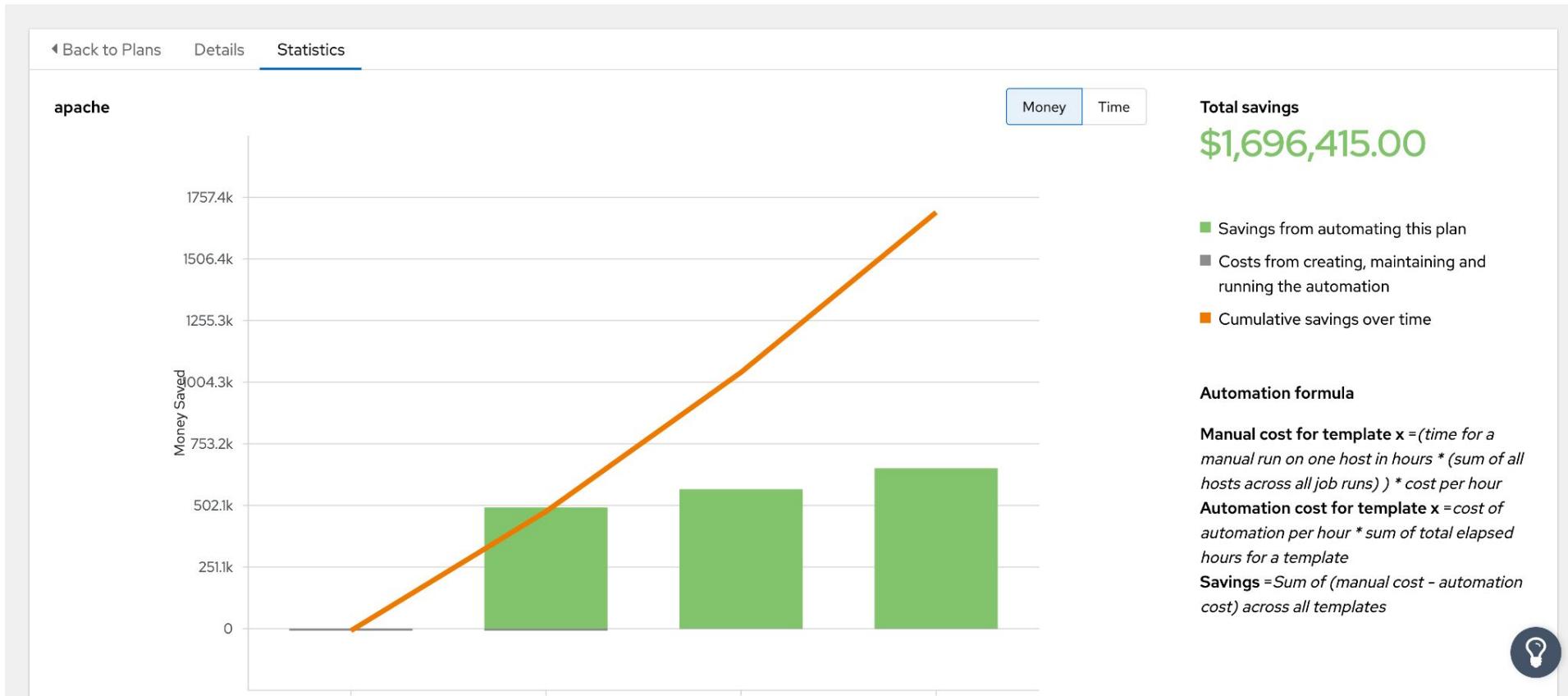
Savings planner: Pre-plan your automation savings



Business

Savings Planner > apache

Statistics



Automation Calculator

Measures the success of your automation

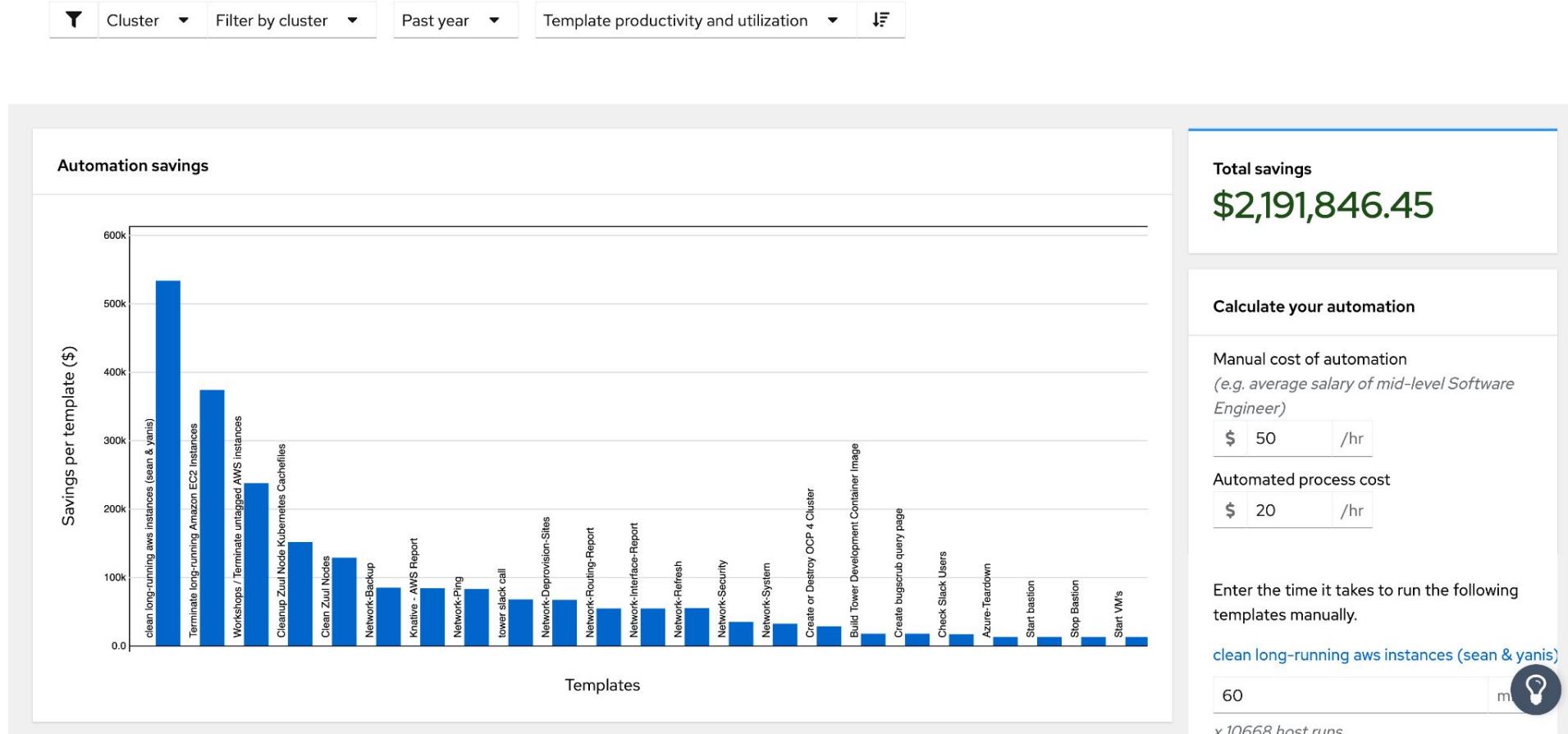
- See most to least save tasks in terms of \$\$
- Determine ROI of your automation

Automation calculator: Calculate your ROI from automation using the data gathered by Red Hat Insights analytics



Business

Automation Calculator



Automation Analytics

Provides a detailed view of automation activity across your organization

- Health Notifications
- Organization Statistics

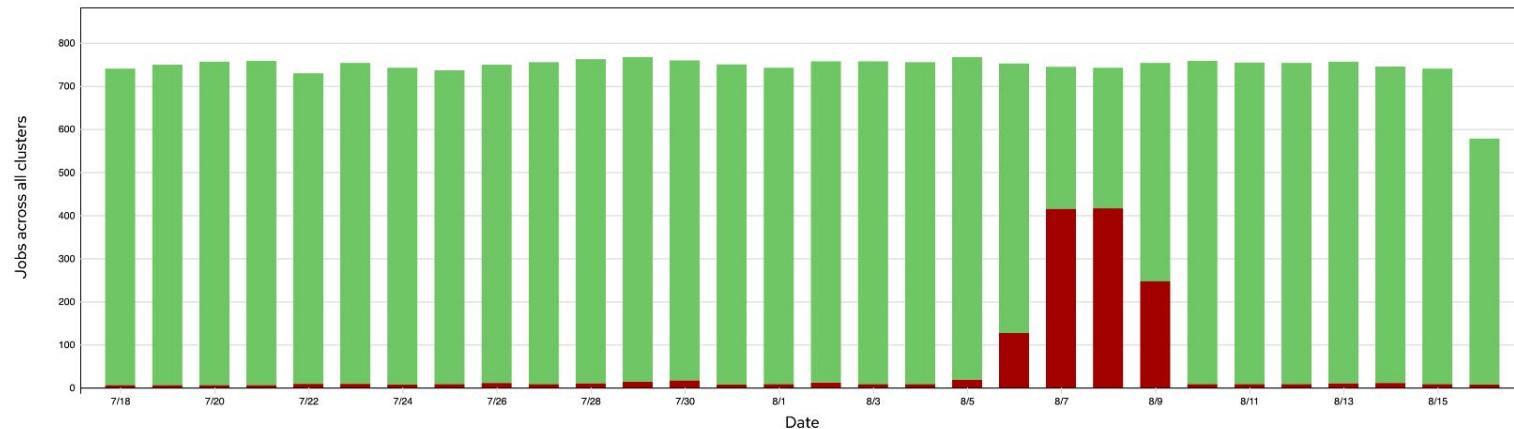
Automation analytics: Gather information about how automation is being used in your environment

Operations

Clusters

 Job Filter by job type 2 Past 30 days Job Workflow job Playbook run Clear all filters

Job status



Top workflows

Usage

[AWS - workshop uptime turnoff workflow](#)

715

[AWS - stop untagged instances](#)

714

Top templates

Usage

[AWS - stop long running instances](#)

4287

[AWS - stop untagged instances](#)

3571

Top modules

Usage

[ec2](#)

3578

[debug](#)

Advisor

Analyzes your automation controller deployments for issues with:

- Availability
- Performance
- Stability
- Security

Advisor: Availability, performance, stability, and security risk analysis

Operations

Filter results ▾

Advisor recommendations

[Download executive report](#)

| Name | Added | Category | Total risk | Risk of change | Systems | Ansible |
|---|--------------|--------------|------------|----------------|---------|---------|
| New Ansible Engine packages are inaccessible when dedicated Ansible repo is not enabled | 3 years ago | Availability | Moderate | Very Low | 1 | ✓ |
| Ansible Tower is out-of-scope for Ansible support due to running with an unsupported version of PostgreSQL database | 2 months ago | Availability | Moderate | Moderate | 2 | No |
| Filesystems get filled up when keeping runtime directories in Ansible Tower node | 2 months ago | Availability | Moderate | Moderate | 1 | No |

Filesystems get filled up because the temporary runtime directories keep consuming disk space when "AWX_CLEANUP_PATHS=False" is configured.

[Knowledgebase article](#)

Total risk
Moderate

The total risk of this remediation is **moderate**, based on the combination of likelihood and impact to remediate.

Medium likelihood

Medium impact

Risk of change

Feedback

8

Drift

Lets you created baselines and compare systems to identify:

- Differences from a baseline
- Differences from other systems
- Differences from historical system profiles

Drift: Create baselines and compare systems to monitor for differences as systems drift

Operations

Filter results ▾

Comparison

Filter by fact View: Same, Different, Incomplete data Add to comparison 1 - 28 of 28

State Same × Different × Incomplete data × Reset filters

| Fact ↑ | State ↓ | AutomationController | twr363.demoredhat.com | twr383.demoredhat.com | twr400.demoredhat.com |
|-----------------------|---------|--|---|---|--|
| bios_release_date | ! | 10/16/2017 | 10/16/2017 | 08/24/2006 | 10/16/2017 |
| bios_vendor | ! | Amazon EC2 | Amazon EC2 | Xen | Amazon EC2 |
| bios_version | ! | 1.0 | 1.0 | 4.2.amazon | 1.0 |
| cpu_flags | ! | | | | |
| cpu_model | ! | Intel(R) Xeon(R) Platinum 8259CL CPU @ 2.50GHz | Intel(R) Xeon(R) Platinum 8175M CPU @ 2.50GHz | Intel(R) Xeon(R) CPU E5-2686 v4 @ 2.30GHz | Intel(R) Xeon(R) Platinum 8259CL CPU @ 2.50GHz |
| enabled_services | ! | | | enabled | |
| ansible-tower | ! | | | enabled | |
| automation-controller | ! | enabled | | | enabled |
| brandbot | ! | | enabled | | |
| choose_repo | ! | enabled | | enabled | enabled |

Feedback



Policies

Lets you create your own internal policies based on facts collected by Insights

- Quickly identify situations that exist that shouldn't

Policies: Define and monitor against your own policies to identify misalignment



Security

Policies > Tower Upgrade

Tower Upgrade

Enabled

Description

Notify is a system is running the ansible-tower service. If so, this system should be targeted for upgrade to automation controller

Last updated 18 Aug 2021 | Created 18 Aug 2021

Conditions

facts.enabled_services contains ['ansible-tower']

Trigger actions

Send a notification

Recent trigger history

Filter by System



1-1 of 1



Feedback

Date ↓

System ↑

18 Aug 2021 19:16:07 UTC

twr383.demoredh.com



Reports

Provides executive summaries of automation across the organization

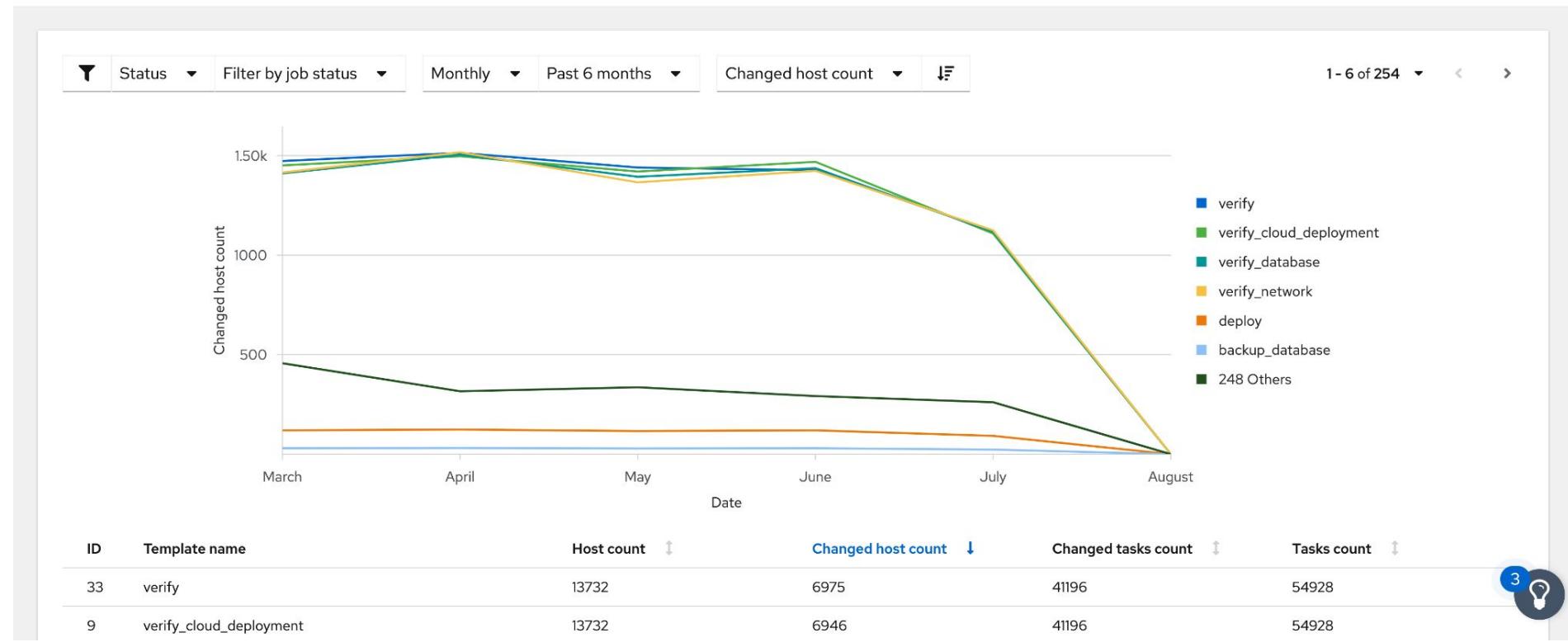
- Defined in collaboration with existing customers
 - Hosts changed by job template
 - Changes made by job template
 - Job template run rate
- Track automation KPIs and identify discrepancies

Reports: Provide executive summaries of automation across the organization

Reports

Changes made by job template

The total count of changes made by each job template in a specified time window. You can use this report to ensure the correct number of changes are made per hostname, as well as see which job templates are doing the most changes to your infrastructure.



Red Hat Insights

Included with your Red Hat Enterprise Linux subscription

Assesses

customer's Red Hat environments

Remediates

findings with prescriptive remediation steps or an Ansible playbook

Insights

rule contributions directly from Red Hat subject matter experts

Identifying risks for Availability, performance, stability and security





Red Hat Insights

Remediations > May2019_Critical_Fixes

Overview

Rules

Inventory

Remediations

Documentation

May2019_Critical_Fixes

Download Playbook

Delete

Systems reboot

6

No reboot

0

Reboot required



Auto reboot

Playbook details

Created by: John Spinks

Created: a minute ago

Last modified by: John Spinks

Insights plans with Ansible playbooks

Solve common issues through Ansible Automation

Pages > >>

Actions ↑

Resolution

Reboot required

Systems

Type

Dnsmasq with listening processes vulnerable to remote code execution via crafted DNS requests (CVE-2017-14491)

Update dnsmasq package and restart related service(s)

6

Insights

Systems

ic3.example.com

ic4.example.com

ic6.example.com

ic7.example.com

ANSIBLE & INSIGHTS

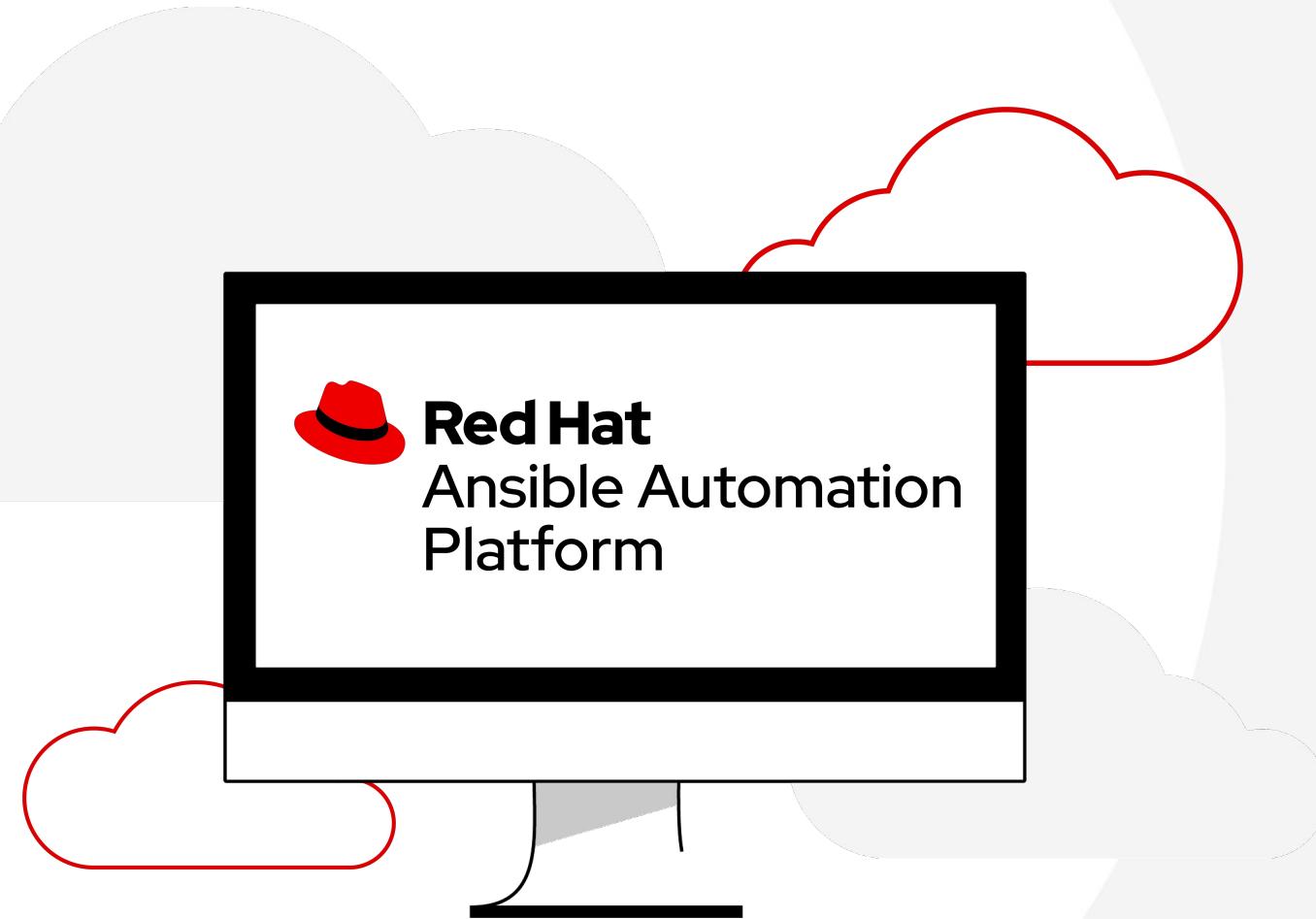
While Insights includes Ansible playbooks for risks, Insights alone can't perform remediation of the risks.

Insights

- Insights provides Ansible Playbooks for resolving many common risks.
- Dynamically generates Ansible Playbooks for risk remediation
- Playbooks can be downloaded and run via `ansible-playbook` or Satellite

Insights connected to Ansible Controller

- View identified risks in the Tower inventory
- Execute generated Ansible Playbook as a Tower job
- Use Tower for enterprise risk remediation



Where to go next

Learn more

- ▶ [Workshops](#)
- ▶ [Documents](#)
- ▶ [Youtube](#)
- ▶ [Twitter](#)

Get started

- ▶ [Evals](#)
- ▶ [cloud.redhat.com](#)

Get serious

- ▶ [Red Hat Automation Adoption Journey](#)
- ▶ [Red Hat Training](#)
- ▶ [Red Hat Consulting](#)

Thank you



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github.com/ansible