Integrating vRealize Automation and Ansible Tower

SovLabs Ansible Tower Integrations for vRealize Automation

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Agenda

1. Requesting a workload deployment from any platform (Ansible)
2. SovLabs Ansible Tower Module for vRealize Automation with Static Inventory
3. SovLabs Ansible Tower Module for vRealize Automation with Dynamic Inventory
4. SovLabs Ansible Tower Plug-in for vRealize Automation CM Framework
SovLabs makes integrating with VMware Cloud Management a simple, plug-and-play scenario.
SovLabs Modules

**PLATFORM EXTENSIONS**
- Notifications
- Custom Naming
- Active Directory
- vSphere DRS
- vSphere Snapshot
- MGMT
- VM Tagging
- Property Toolkit
- Lifecycle Components Toolkit

**CONNECTIONS**
- ServiceNow Connector

**ENDPOINT INTEGRATIONS**
- Bluecat
- Infoblox
- Microsoft
- Men & Mice
- SolarWinds

**IPAM & DNS**
- BT Diamond IP
- Men & Mice
- SolarWinds

**BACKUP-AS-A-SERVICE**
- Cohesity
- Rubrik
- Veeam

**SERVICE MANAGEMENT**
- Ansible Tower
- Puppet Open Source with Foreman
- Puppet Enterprise

**SERVICE MANAGEMENT**
- ServiceNow CMDB

**NETWORK & SECURITY**
- F5
Ansible Tower Plug-ins and Licensing

One license, two ways to consume

SovLabs Ansible Tower Module for vRealize Automation

SovLabs Ansible Tower Plug-in for vRealize Automation CM Framework

*Requires vRealize Automation Enterprise
Request workload deployment from any Platform

Ansible Tower
Request workload deployment from any Platform

Ansible Tower

Ansible Initiates Request to vRealize Automation

Blueprint
Request workload deployment from any Platform

Ansible Tower

Ansible Initiates Request to vRealize Automation

vRealize Automation Blueprint Request Lifecycle Initiated

Blueprint
Request workload deployment from any Platform

Ansible Tower

Ansible Initiates Request to vRealize Automation

vRealize Automation Blueprint Request Lifecycle Initiated

Blueprint

Ansible Inventory & Job Template

vSphere DRS

vSphere Tagging

vCenter Folder

Active Directory

Naming

IPAM/DNS
Request workload deployment from any Platform

Ansible Tower

<table>
<thead>
<tr>
<th>Request Description</th>
<th>Status</th>
<th>Start Time</th>
<th>End Time</th>
<th>Requestor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Execute Ansible Tower Profile Job Template</td>
<td>completed</td>
<td>5/16/2019, 3:02:32 PM</td>
<td>5/16/2019, 3:02:32 PM</td>
<td><a href="mailto:vsasvc@sovlabs.net">vsasvc@sovlabs.net</a></td>
</tr>
<tr>
<td>Create CentOS machine Provisioned</td>
<td>completed</td>
<td>5/16/2019, 2:56:04 PM</td>
<td>5/16/2019, 3:01:42 PM</td>
<td><a href="mailto:vsasvc@sovlabs.net">vsasvc@sovlabs.net</a></td>
</tr>
<tr>
<td>ServiceNow CMDB machine Provisioned</td>
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<td>5/16/2019, 2:55:54 PM</td>
<td>5/16/2019, 2:56:00 PM</td>
<td><a href="mailto:vsasvc@sovlabs.net">vsasvc@sovlabs.net</a></td>
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<tr>
<td>AD machine Provisioned</td>
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<td>5/16/2019, 2:54:44 PM</td>
<td>5/16/2019, 2:55:47 PM</td>
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<tr>
<td>DR5 machine Provisioned</td>
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<td>5/16/2019, 2:54:34 PM</td>
<td>5/16/2019, 2:54:36 PM</td>
<td><a href="mailto:vsasvc@sovlabs.net">vsasvc@sovlabs.net</a></td>
</tr>
<tr>
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<td>5/16/2019, 2:53:54 PM</td>
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<tr>
<td>Property Toolkit machine Provisioned</td>
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<td>5/16/2019, 2:53:26 PM</td>
<td>5/16/2019, 2:53:46 PM</td>
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<tr>
<td>Property Toolkit OVF Vm machine Building</td>
<td>completed</td>
<td>5/16/2019, 2:46:39 PM</td>
<td>5/16/2019, 2:46:42 PM</td>
<td><a href="mailto:vsasvc@sovlabs.net">vsasvc@sovlabs.net</a></td>
</tr>
<tr>
<td>AD machine Building</td>
<td>completed</td>
<td>5/16/2019, 2:44:51 PM</td>
<td>5/16/2019, 2:46:33 PM</td>
<td><a href="mailto:vsasvc@sovlabs.net">vsasvc@sovlabs.net</a></td>
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<tr>
<td>DNS machine Building</td>
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<td>5/16/2019, 2:43:27 PM</td>
<td>5/16/2019, 2:44:40 PM</td>
<td><a href="mailto:vsasvc@sovlabs.net">vsasvc@sovlabs.net</a></td>
</tr>
<tr>
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<td>completed</td>
<td>5/16/2019, 2:42:57 PM</td>
<td>5/16/2019, 2:43:17 PM</td>
<td><a href="mailto:vsasvc@sovlabs.net">vsasvc@sovlabs.net</a></td>
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<tr>
<td>Custom Naming machine Building</td>
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</tr>
</tbody>
</table>
SovLabs Data Driven Approach
SovLabs Data Driven Approach

[Diagram showing a data-driven approach with categories like Environment, Application, Compliance, Business Group, Resources, and a blueprint, along with various tools and technologies such as Custom Naming, IPAM / DNS, AD OU, vSphere Folder, vSphere Tagging, DRS Group, and Ansible Tower.]
SovLabs Data Driven Approach

- Environment
- Application
- Compliance
- Business Group
- Resources

vRealize Automation
Blueprint

- Custom Naming
- IPAM / DNS
- AD OU
- vSphere Folder
- vSphere Tagging
- DRS Group
- Ansible Tower
SovLabs Data Driven Approach

Environment
Application
Compliance
Business Group
Resources
vRealize Automation
Blueprint

Custom Naming
IPAM / DNS
AD OU
vSphere Folder
vSphere Tagging
DRS Group
Ansible Tower
SovLabs Data Driven Approach

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SovLabs Data Driven Approach

- Environment
- Application
- Compliance
- Business Group
- Resources
- vRealize Automation Blueprint

- Custom Naming
- IPAM / DNS
- AD OU
- vSphere Folder
- vSphere Tagging
- DRS Group
- Ansible Tower
SovLabs Data Driven Approach

This approach is achievable only with the SovLabs Non-CM Framework Ansible Tower Module

*Has dependencies on additional SovLabs Modules such as the SovLabs Property Toolkit
SovLabs Ansible Tower Module

Ansible Tower Integration with Static Inventory & Job Template Execution
SovLabs Ansible Tower Module

Ansible Tower Integration with **Static** Inventory & Job Template Execution
SovLabs Ansible Tower Module

Ansible Tower Integration with **Static** Inventory & Job Template Execution

vRealize Automation → Ansible Tower → Inventory → Job Template → Inventory Groups

- ([Owner])
- ([Blueprint])
- ([Deployment])

Groups:

```yaml
- ([tenant]) Tenant
  - ([businessGroup]) Business Group
    - ([ownerName | default "Unknown User"])
    - ([blueprintName | default "Unknown Blueprint"])
  - Deployments/([deploymentResource.catalogItemName | default "Unknown..."
```
SovLabs Ansible Tower Module

Ansible Tower Integration with Static Inventory & Job Template Execution

Inventory Groups

Ansible Tower

Inventory

Job Template

vRealize Automation

Inventory Groups:
- {{Owner}}
- {{Blueperint}}
- {{Deployment}}
SovLabs Ansible Tower Module

Ansible Tower Integration with **Static** Inventory & Job Template Execution

Inventory Groups:

- `{{Owner}}`
- `{{Blueperint}}`
- `{{Deployment}}`

vRealize Automation

Ansible Tower

Inventory

Job Template

Get Job Templates from list?

- Install Node.js (Ansible Demo)
- Install Node.js Demo (Ansible)
- Install PostgreSQL (Ansible Demo)
- Install vsftpd
- Linux_CreateDirectory
- remove apache

Get Deprovision Job Templates from list?

- al-001 apache install
- createpreter-windows
- CreateLinuxDirectory
- ds-001_Install_Apache
- ds-001_sleep 10
- Demo Apache
- al-001 remove apache
SovLabs Ansible Tower Module

Ansible Tower Integration with **Static** Inventory & Job Template Execution

- vRealize Automation
- Ansible Tower
- Inventory
- Job Template

Inventory Groups:
- [(Owner)]
- [(Blueperint)]
- [(Deployment)]
SovLabs Ansible Tower Module

An Ansible Tower Integration with **Static** Inventory & Job Template Execution

- **vRealize Automation**
- **Ansible Tower**
- **Job Template**
- **Inventory**

Inventory Groups:
- `{{Owner}}`
- `{{Blueperint}}`
- `{{Deployment}}`

Examples of Job Templates:
- Install Apache, Install Node.js, Install Postgres
- Deploy Apache, Remove Apache
SovLabs Ansible Tower Module

Ansible Tower Integration with **Static** Inventory & Job Template Execution
SovLabs Ansible Tower Module

Ansible Tower Integration with **Dynamic** Inventory & Job Template Execution
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SovLabs Ansible Tower Module

Ansible Tower Integration with **Dynamic** Inventory & Job Template Execution

![Diagram of Ansible Tower Integration with Inventory Groups]

- vRealize Automation
- Ansible Tower
- Inventory
- Job Template

Inventory Groups:
- {{Owner}}
- {{Blueperint}}
- {{Deployment}}

Example Job Template:
- Get Job Templates from list:
  - Job Templates:
    - Install Node JS (Ansible Demo)
    - Install Node JS Demo (Ansible)
    - Install Postgresql (Ansible Demo)
    - Install vstpd Linux_Createdirectory
    - remove apache

- Get Deprovision Job Templates from list:
  - Deprovision Job Templates:
    - al-001 apache install createfolder-windows
    - CreateInXSDirectory
    - dd-001_Install_Apache
    - dd-001_sleep 10
    - Demo Apache
SovLabs Ansible Tower Module

Ansible Tower Integration with **Dynamic** Inventory & Job Template Execution

- vRealize Automation
- Ansible Tower
- Inventory
- Job Template

Inventory Groups:
- {{Owner}}
- {{Blueprint}}
- {{Deployment}}

**SovLabs Ansible Tower Module**

Ansible Tower Integration with **Dynamic** Inventory & Job Template Execution
SovLabs Ansible Tower Module

Ansible Tower Integration with **Dynamic** Inventory & Job Template Execution

![Diagram showing Ansible Tower integration with dynamic inventory and job template execution.](image-url)
SovLabs Ansible Tower Module

Ansible Tower Integration with **Dynamic** Inventory & Job Template Execution

**vRealize Automation**

**Ansible Tower**

**Inventory**

**Job Template**

Inventory Groups

- {{Owner}}
- {{Blueprint}}
- {{Deployment}}

Get Job Templates from list:
- Install Node JS (Ansible Demo)
- Install Node JS Demo (Ansible)
- Install Postgresql (Ansible Demo)
- Install vsftpd
- Linux_CreateDirectory
- remove apache

Get De provisioning Job Templates from list:
- al-001 apache install createfolder-windows
- Create_folder
- dd-001, Install_Apache
- dd-001_sleep 10
- Demo Apache
SovLabs Ansible Tower Module

Ansible Tower Integration with Dynamic Inventory & Job Template Execution
vRealize Automation CM Framework Approach

- Custom Naming
- IPAM / DNS
- AD OU
- vSphere Folder
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vRealize Automation CM Framework Approach

- Custom Naming
- IPAM / DNS
- AD OU
- vSphere Folder
- vSphere Tagging
- DRS Group
- Ansible Tower
vRealize Automation CM Framework Approach

This approach is achievable with both SovLabs Ansible Tower Modules

*vRealize Automation Enterprise required for CM Framework*
SovLabs Ansible Tower Plug-in for vRealize Automation CM Framework

Ansible Tower CM Integration with **Dynamic** Inventory & Job Template Execution
SovLabs Ansible Tower Plug-in for vRealize Automation CM Framework

Ansible Tower CM Integration with Dynamic Inventory & Job Template Execution
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Ansible Tower CM Integration with **Dynamic** Inventory & Job Template Execution
SovLabs Ansible Tower Plug-in for vRealize Automation CM Framework

Ansible Tower CM Integration with **Dynamic** Inventory & Job Template Execution

**Inventory Groups**

- {{Owner}}
- {{Blueperint}}
- {{Deployment}}

**Inventory Groups**

**Task Tracking**

<table>
<thead>
<tr>
<th>Task</th>
<th>Component</th>
<th>Status</th>
<th>Depends On</th>
<th>Start Time</th>
<th>Completion Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submitted</td>
<td>Deployment</td>
<td>Successful</td>
<td></td>
<td>05/21/2019 6:17:39 PM</td>
<td>05/21/2019 6:17:39 PM</td>
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<tr>
<td>Pre-approval</td>
<td>Deployment</td>
<td>Approved</td>
<td></td>
<td>05/21/2019 6:17:39 PM</td>
<td>05/21/2019 6:17:41 PM</td>
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<tr>
<td>Provisioning</td>
<td>Deployment</td>
<td>In Progress</td>
<td></td>
<td>05/21/2019 6:17:41 PM</td>
<td></td>
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<tr>
<td>Allocate</td>
<td>ComponentMachine: vSphere (vCenter)</td>
<td>Successful</td>
<td></td>
<td>05/21/2019 6:17:46 PM</td>
<td>05/21/2019 6:17:55 PM</td>
</tr>
<tr>
<td>Provision</td>
<td>ComponentMachine: vSphere (vCenter)</td>
<td>In Progress</td>
<td>ComponentMachine</td>
<td>05/21/2019 6:17:55 PM</td>
<td></td>
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<tr>
<td>Provision</td>
<td>Apache: Ansible</td>
<td>Unsubmitted</td>
<td>ComponentMachine(0); ComponentMachine</td>
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</tr>
<tr>
<td>Post-approval</td>
<td>Deployment</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Completed</td>
<td>Deployment</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
SovLabs Ansible Tower Plug-in for vRealize Automation CM Framework

Ansible Tower CM Integration with **Dynamic** Inventory & Job Template Execution
SovLabs Ansible Tower Plug-in for vRealize Automation CM Framework

Ansible Tower CM Integration with **Dynamic** Inventory & Job Template Execution

![Diagram showing the integration between vRealize Automation, Ansible Tower, Inventory, and Job Template with Inventory Groups labeled as {{Owner}}, {{Blueperint}}, and {{Deployment}}.]

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**Table: #943 - Provision 4a - Apache CM**

<table>
<thead>
<tr>
<th>Events</th>
<th>Requested by: Sid Smith</th>
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<tr>
<td>Tasks</td>
<td>Component</td>
<td>Status</td>
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<tr>
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<td>Deployment</td>
<td>Successful</td>
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<tr>
<td>Pre-approval</td>
<td>Deployment</td>
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<tr>
<td>Provisioning</td>
<td>Deployment</td>
<td>In Progress</td>
</tr>
<tr>
<td>Allocate</td>
<td>ComponentMachine: vSphere (vCenter)</td>
<td>Successful</td>
</tr>
<tr>
<td>Provision</td>
<td>Apache: Ansible</td>
<td>In Progress</td>
</tr>
<tr>
<td>Post-approval</td>
<td>Deployment</td>
<td>Submitted</td>
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<tr>
<td>Completed</td>
<td>Deployment</td>
<td></td>
</tr>
</tbody>
</table>
SovLabs Ansible Tower Plug-in for vRealize Automation CM Framework

Ansible Tower CM Integration with **Dynamic** Inventory & Job Template Execution
## SovLabs Ansible Tower Integration Comparison

<table>
<thead>
<tr>
<th>Feature</th>
<th>Ansible Tower Module</th>
<th>vRealize Automation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support for Static Inventory</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Support for Dynamic Inventory</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Assign multiple Job Templates During Provisioning</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Assign multiple Job Templates During De-Provision</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Drive Dynamically from vRA Custom Properties</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Dynamically assign to multiple Groups</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Provide Access to vRA Property Payload</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Immediate removal from Ansible inventory</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Drag and Drop on vRA Design Canvas</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Ideal for Brown Field Environment</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Ideal for Green Field Environments</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Filter VM’s by Business Group or Properties</td>
<td>✗</td>
<td>✓</td>
</tr>
<tr>
<td>Ability to test deployments without rolling back VM</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Requires vRealize Automation Enterprise</td>
<td>✗</td>
<td>✓</td>
</tr>
</tbody>
</table>

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