

# oVirt Ansible: automation for everyone

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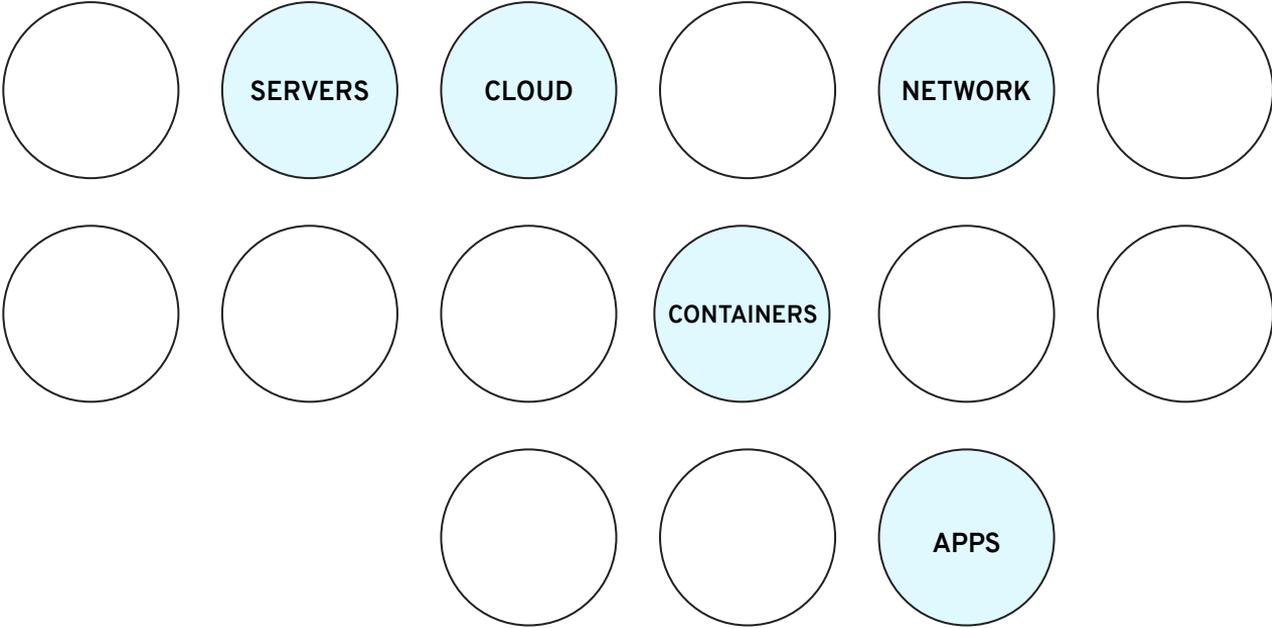
October 2019

A woman with blonde hair in a bun is driving a car. She is looking at a paper map instead of the road. The car's dashboard and steering wheel are visible. In the background, a black Volvo V60 is driving ahead on a road. A road sign is visible on the right side of the road. The text "THE WORLD IS AUTOMATING" is overlaid in large white letters, with the subtitle "Those who succeed in automation will win" below it.

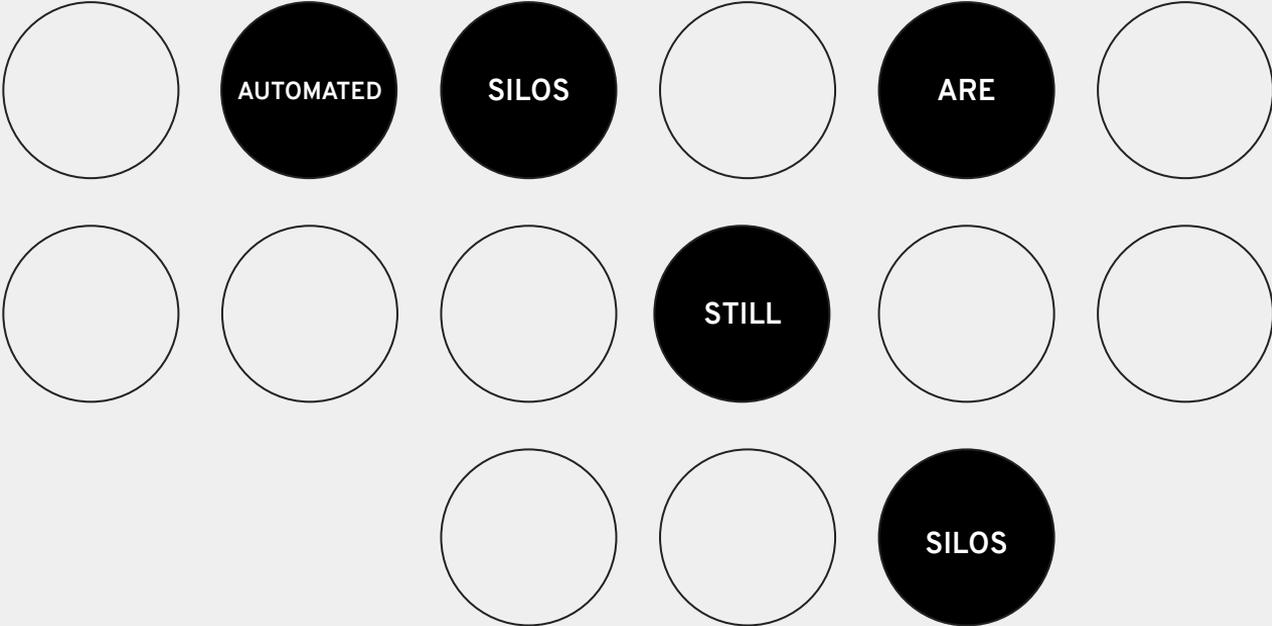
# THE WORLD IS AUTOMATING

Those who succeed in automation will win

# AUTOMATION IN ENTERPRISE IT TODAY



# AUTOMATION IN ENTERPRISE IT TODAY



Isolated  
scripts



**AUTOMATES  
FUNCTIONS**

A culture of  
automation



**AUTOMATES  
ORGANIZATIONS**



# AUTOMATION FOR EVERYONE

Designed around the way people work  
and the way people work together.

# WHY ANSIBLE IS VIRALLY ADOPTED

## 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**

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



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

**31,000+**  
Stars on GitHub

**1900+**  
Ansible modules

**500,000+**  
Downloads a month



**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

# Ansible: what is it?

It is a **simple automation language** that can perfectly describe an IT application infrastructure in Ansible Playbooks.

It's an **automation engine** that runs Ansible Playbooks.

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



A N S I B L E

# Why Ansible?

**Agentless** - Ansible relies on **OpenSSH**. Ansible does not require any remote agents: it delivers all modules to remote systems and executes tasks, as needed, to enact the desired configuration.

**Idempotency** - An operation is idempotent if the result of performing it once is exactly the same as the result of performing it repeatedly without any intervening actions. The core idea here is that you only do things if they are needed and that things are repeatable without side effects.

**Declarative Not Procedural** - Ansible features an **state-driven resource model** that describes the **desired state of computer systems and services**, not the paths to get them to this state. No matter what state a system is in, Ansible understands how to transform it to the desired state (and also supports a **"dry run" mode** to preview needed changes).

**Tiny Learning Curve** - Ansible, **YAML based**, is quite easy to learn: it doesn't require any extra knowledge.

**De facto standard:** Ansible 2.8 ships more than **2800** ready to use **modules**, 30.000+ github stars, 3.500 community contributors.

# oVirt Ansible modules

The screenshot shows the oVirt documentation website. The top navigation bar includes links for ANSIBLEFEST, PRODUCTS, COMMUNITY, WEBINARS & TRAINING, and BLOG. The left sidebar contains a navigation menu with categories like 'Documentation', 'Installation Guide', 'Ansible Porting Guides', 'USING ANSIBLE', 'User Guide', 'Working With Modules', and 'Module Index'. The 'Module Index' is expanded to show various module categories such as 'All modules', 'Cloud modules', 'Clustering modules', 'Commands modules', 'Crypto modules', 'Database modules', 'Files modules', 'Identity modules', and 'Inventory modules'. The main content area is titled 'Ovirt' and lists 25 modules with brief descriptions of their functions.

**Documentation** | ANSIBLEFEST | PRODUCTS | COMMUNITY | WEBINARS & TRAINING | BLOG

Installation Guide  
Ansible Porting Guides  
USING ANSIBLE

▢ **User Guide**

- Ansible Quickstart
- Getting Started
- Working with Command Line Tools
- Introduction To Ad-Hoc Commands
- Working with Inventory
- Working With Dynamic Inventory
- Working With Playbooks
- Understanding Privilege Escalation
- Ansible Vault
- Working with Patterns

▢ **Working With Modules**

- Introduction
- Return Values
- Module Maintenance & Support

▢ **Module Index**

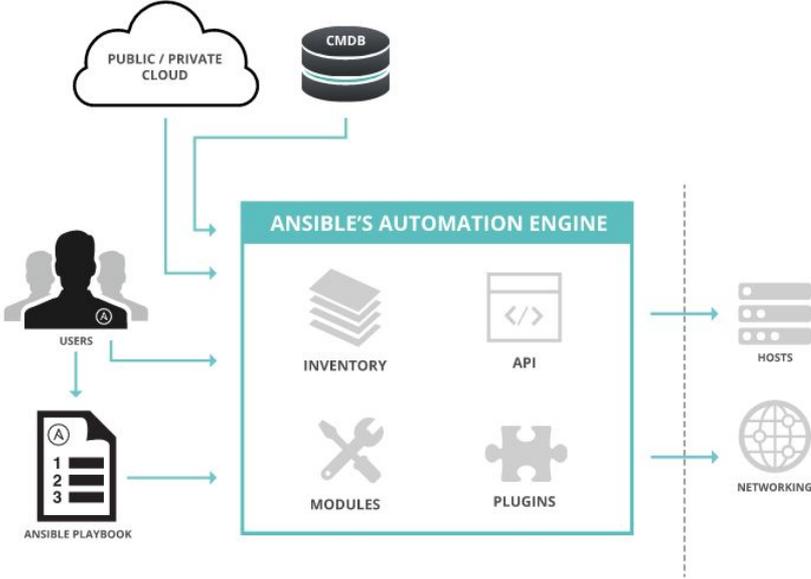
- All modules
- Cloud modules**
- Clustering modules
- Commands modules
- Crypto modules
- Database modules
- Files modules
- Identity modules
- Inventory modules

## Ovirt

- `ovirt_affinity_group` – Module to manage affinity groups in oVirt/RHV
- `ovirt_affinity_label` – Module to manage affinity labels in oVirt/RHV
- `ovirt_affinity_label_facts` – Retrieve facts about one or more oVirt/RHV affinity labels
- `ovirt_api_facts` – Retrieve facts about the oVirt/RHV API
- `ovirt_auth` – Module to manage authentication to oVirt/RHV
- `ovirt_cluster` – Module to manage clusters in oVirt/RHV
- `ovirt_cluster_facts` – Retrieve facts about one or more oVirt/RHV clusters
- `ovirt_datacenter` – Module to manage data centers in oVirt/RHV
- `ovirt_datacenter_facts` – Retrieve facts about one or more oVirt/RHV datacenters
- `ovirt_disk` – Module to manage Virtual Machine and floating disks in oVirt/RHV
- `ovirt_disk_facts` – Retrieve facts about one or more oVirt/RHV disks
- `ovirt_event` – Create or delete an event in oVirt/RHV
- `ovirt_event_facts` – This module can be used to retrieve facts about one or more oVirt/RHV events
- `ovirt_external_provider` – Module to manage external providers in oVirt/RHV
- `ovirt_external_provider_facts` – Retrieve facts about one or more oVirt/RHV external providers
- `ovirt_group` – Module to manage groups in oVirt/RHV
- `ovirt_group_facts` – Retrieve facts about one or more oVirt/RHV groups
- `ovirt_host` – Module to manage hosts in oVirt/RHV
- `ovirt_host_facts` – Retrieve facts about one or more oVirt/RHV hosts
- `ovirt_host_network` – Module to manage host networks in oVirt/RHV
- `ovirt_host_pm` – Module to manage power management of hosts in oVirt/RHV
- `ovirt_host_storage_facts` – Retrieve facts about one or more oVirt/RHV HostStorages (applicable only for block storage)
- `ovirt_instance_type` – Module to manage Instance Types in oVirt/RHV
- `ovirt_mac_pool` – Module to manage MAC pools in oVirt/RHV
- `ovirt_network` – Module to manage logical networks in oVirt/RHV
- `ovirt_network_facts` – Retrieve facts about one or more oVirt/RHV networks
- `ovirt_nic` – Module to manage network interfaces of Virtual Machines in oVirt/RHV
- `ovirt_nic_facts` – Retrieve facts about one or more oVirt/RHV virtual network interfaces

Search this site

# How ansible works



# Ansible playbook example

```
---
- name: Setup oVirt environment
  hosts: ovirt
  tasks:
    - block:
      - name: Include oVirt password
        no_log: true
        include_vars: ovirt_password.yml

      - name: Obtain SSO token
        no_log: false
        ovirt_auth:
          url: "{{ url }}"
          username: "{{ username }}"
          password: "{{ password }}"
          ca_file: "{{ ca_file }}"

      - name: Create datacenter
        ovirt_datacenters:
          auth: "{{ ovirt_auth }}"
          name: "{{ datacenter }}"
          description: mydatacenter
```

```
    - name: Create logical network
      ovirt_networks:
        auth: "{{ ovirt_auth }}"
        name: mynetwork
        datacenter_name: mydatacenter
        vm_network: false
    - name: Create cluster
      ovirt_clusters:
        auth: "{{ ovirt_auth }}"
        datacenter_name: "{{ datacenter }}"
        name: "{{ cluster }}"
        cpu_type: Intel Nehalem Family
        description: mycluster
        compatibility_version: 4.1
    - name: Add host using public key
      ovirt_hosts:
        auth: "{{ ovirt_auth }}"
        public_key: true
        cluster: "{{ cluster }}"
        name: "{{ host }}"
        address: "{{ host_address }}"
```

# oVirt Ansible roles

README.md

build passing

## oVirt Ansible Roles

<https://github.com/oVirt/ovirt-ansible>

oVirt maintains multiple Ansible roles that can be deployed to easily configure and manage various parts of the oVirt infrastructure. Ansible roles provide a method of modularizing your Ansible code, in other words; it enables you to break up large playbooks into smaller reusable files. This enables you to have a separate role for each component of the infrastructure, and allows you to reuse and share roles with other users. For more information about roles, see [Creating Reusable Playbooks](#) in the Ansible Documentation.

Currently we have implemented following Ansible roles:

- [oVirt.cluster-upgrade](#) - easily upgrade your oVirt clusters, host by host.
- [oVirt.disaster-recovery](#) - plan, failover and fallback oVirt in Disaster Recovery scenarios.
- [oVirt.engine-setup](#) - setup your oVirt Engine via Ansible.
- [oVirt.hosted-engine-setup](#) - setup your oVirt Hosted-Engine via Ansible.
- [oVirt.infra](#) - setup a complete oVirt setup (data centers, clusters, hosts, networks...) via this role.
- [oVirt.image-template](#) - easily create VM templates (via Glance or QCOW2 download)
- [oVirt.manageiq](#) - install and configure a ManageIQ (or CloudForms) VM appliance on your oVirt!
- [oVirt.repositories](#) - set up the required oVirt repositories on your hosts.
- [oVirt.vm-infra](#) - configure a complete VM setup (create and configure VMs and their properties)
- [oVirt.v2v-conversion-host](#) - define a host as a target for VMware to oVirt migration.
- [oVirt.shutdown-env](#) - shutdown the whole environment in a clean and ordered way.

# Install a role

```
rpm # yum install ovirt-ansible-infra
[root@simoneengine ~]# yum search ovirt-ansible
Loaded plugins: fastestmirror, versionlock
Loading mirror speeds from cached hostfile
 * base: it.centos.contactlab.it
 * epel: pkg.adfinis-sygroup.ch
 * extras: it.centos.contactlab.it
 * ovirt-4.2: ftp.nluug.nl
 * ovirt-4.2-epel: pkg.adfinis-sygroup.ch
 * updates: it.centos.contactlab.it
===== N/S matched: ovirt-ansib.
ovirt-ansible-cluster-upgrade.noarch : Ansible role to upgrade cluster of
ovirt-ansible-disaster-recovery.noarch : Ansible role to perform disaster
ovirt-ansible-engine-setup.noarch : Ansible role to install required packa
                                : and run engine-setup with it.
ovirt-ansible-hosted-engine-setup.noarch : Ansible role to install require
                                : answerfile and run engine-setup
ovirt-ansible-image-template.noarch : Ansible role to create virtual machin
ovirt-ansible-infra.noarch : Ansible role to deploy ovirt infrastructure.
ovirt-ansible-manageiq.noarch : Ansible role to create ManageIQ or CloudFo
ovirt-ansible-repositories.noarch : Ansible role to setup ovirt/RHV reposi
ovirt-ansible-roles.noarch : Set of Ansible roles for ovirt management
ovirt-ansible-shutdown-env.noarch : Ansible role to perform a clean shutdo
                                : environment
ovirt-ansible-v2v-conversion-host.noarch : Ansible role to setup ovirt hos
ovirt-ansible-vm-infra.noarch : Ansible role to create virtual machine inf

Name and summary matches only, use "search all" for everything.
[root@simoneengine ~]#
```

Community Authors > ovirt > infra

1007 Downloads 14 Stars  
11 Watchers 13 Forks

Issue Tracker GitHub Repo

Details Read Me

Info

Minimum Ansible Version 2.5

Installation `$ ansible-galaxy install ovirt.infra`

Last Commit a month ago

Last Import a month ago

Tags ovirt rhel rhv virtualization

OS Platforms	Count	Versions	Release Date
EL	5	1.1.9	a month ago
FL	6	1.1.8	2 months ago
Fedora	17	1.1.5	7 months ago

ansible-galaxy

```
# ansible-galaxy install ovirt.infra
```

# Ansible Galaxy

The screenshot shows the Ansible Galaxy website interface. At the top, there is a navigation bar with a menu icon, the 'GALAXY' logo, and links for 'About', 'Help', 'Documentation', and a user profile for 'tiraboschi'. A left sidebar contains navigation options: 'Home', 'Search', 'Community', 'My Content', and 'My Imports'. The main content area features a search bar with the text 'Search for...' and a search icon. Below the search bar, there are filters for 'Cloud Platform' (set to 'Cloud Platform') and 'Best Match' sorting. The search results display a list of roles, each with a profile picture of the author (geerlingguy), a role name, a description, a score, download count, watchers, stars, forks, and last imported date. The roles shown are 'nginx', 'docker', 'java', and 'php'. Each role also has a set of tags. On the right side, there are two sidebars: 'Popular Tags' and 'Popular Platforms'. The 'Popular Tags' sidebar lists tags like 'system', 'development', 'web', 'monitoring', 'networking', 'database', 'cloud', and 'packaging' with their respective counts. The 'Popular Platforms' sidebar lists platforms like 'Ubuntu', 'EL', 'Debian', 'Fedora', 'GenericLinux', and 'opensuse' with their respective counts.

Search for...    20818 results

Cloud Platform

**nginx** role build passing  
Nginx installation for Linux, FreeBSD and OpenBSD.  
5 / 5 Score 2263598 Downloads  
37 Watchers 492 Stars  
316 Forks  
Last Imported 5 days ago  
Best Match 0.5206

**docker** role build passing  
Docker for Linux.  
4.6 / 5 Score 2485038 Downloads  
21 Watchers 415 Stars  
Last Imported 5 days ago  
Best Match 0.5206

**java** role build passing  
Java for Linux  
4.3 / 5 Score 2702249 Downloads  
12 Watchers 167 Stars  
208 Forks  
Last Imported 5 days ago  
Best Match 0.5205

**php** role build passing  
PHP for RedHat/CentOS/Fedora/Debian/Ubuntu.  
5 / 5 Score 2163873 Downloads  
24 Watchers 323 Stars  
370 Forks  
Last Imported 5 days ago  
Best Match 0.5205

**Popular Tags**

system	5,838
development	2,856
web	2,428
monitoring	1,293
networking	1,045
database	1,002
cloud	926
packaging	787

**Popular Platforms**

Ubuntu	80,244
EL	15,095
Debian	31,203
Fedora	21,491
GenericLinux	796
opensuse	2,680

<https://galaxy.ansible.com>