oVirt

Ansible: automation for everyone

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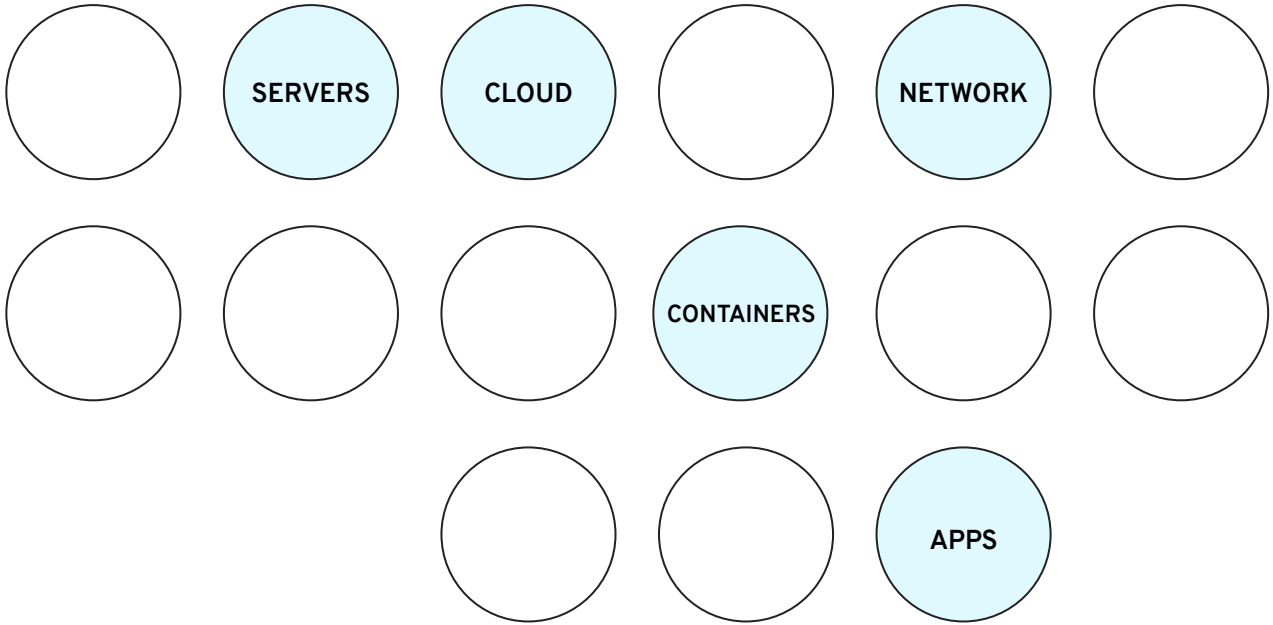
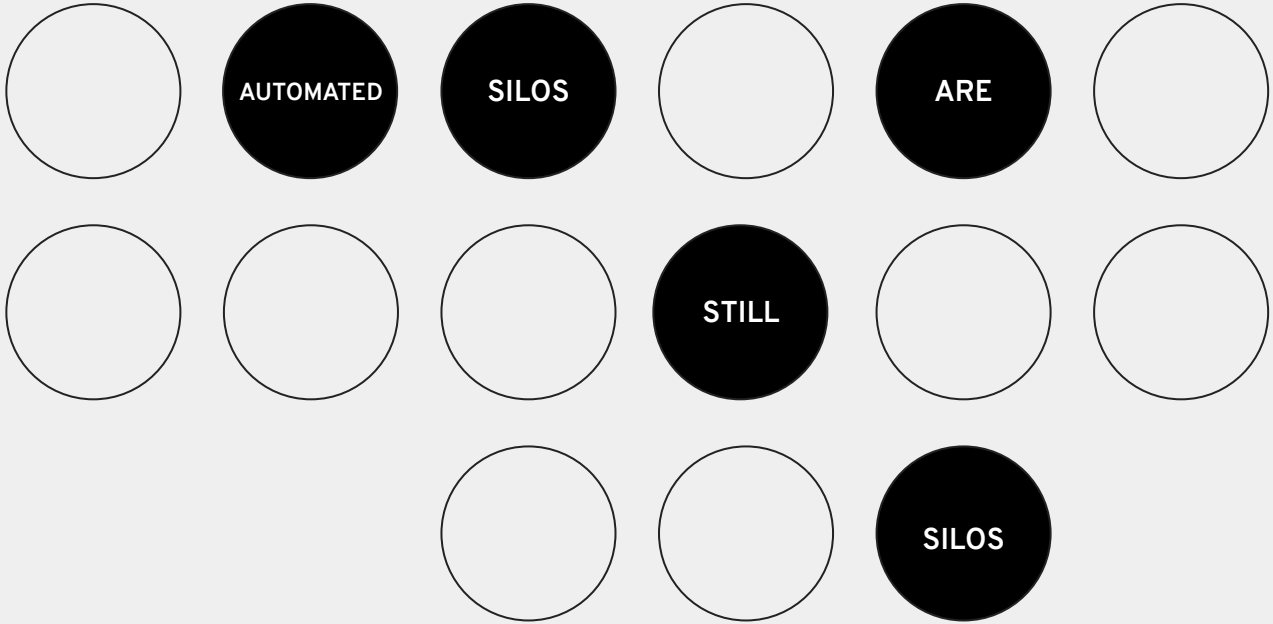
THE WORLD IS AUTOMATING

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

redhat.

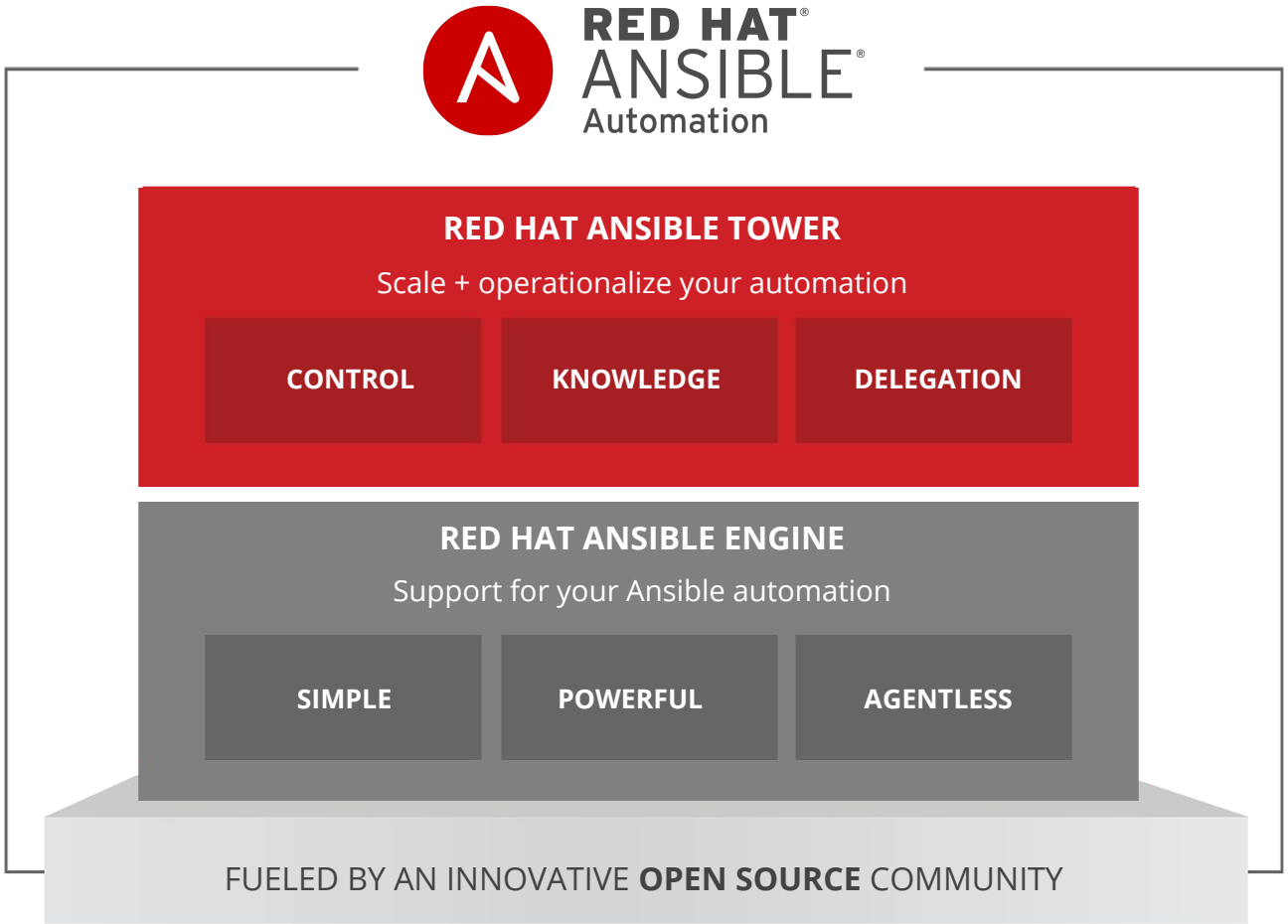
ANSIBLE

31,000+
Stars on GitHub

1900+
Ansible modules

500,000+
Downloads a month

redhat.


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.**

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.

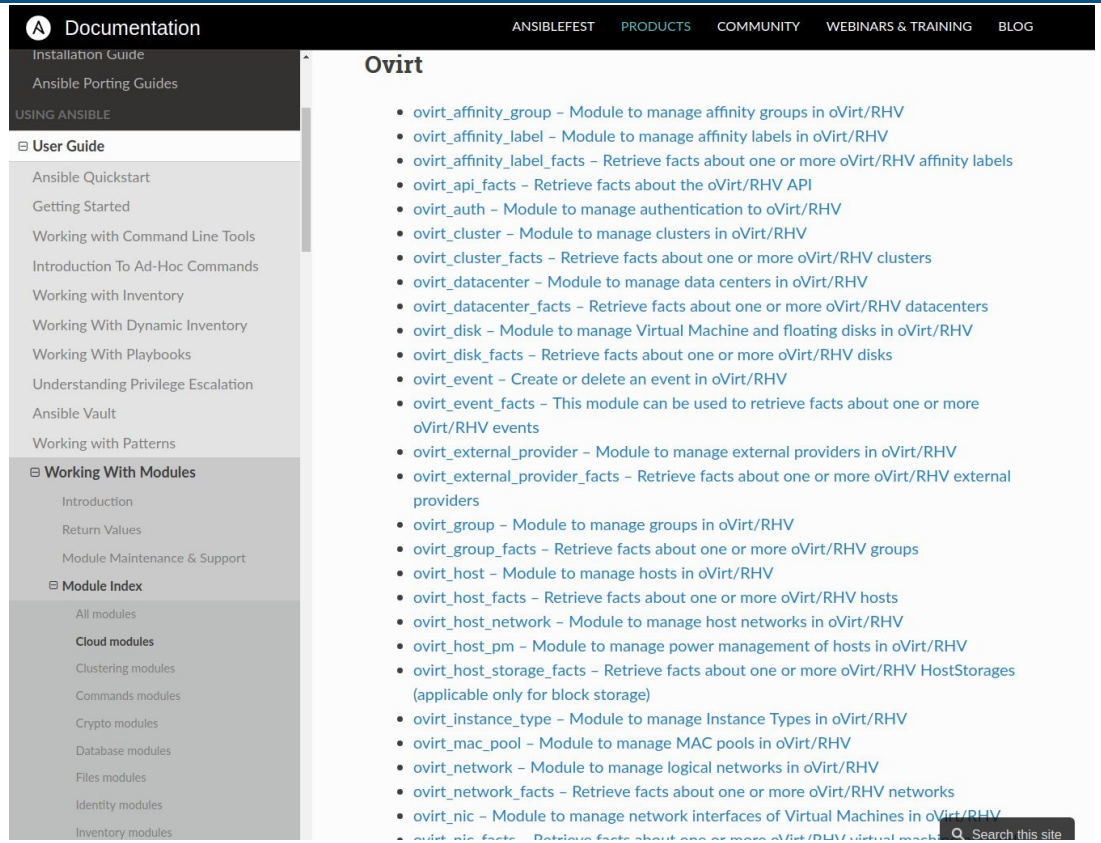
Idempotency - An operation is idempotent if the result of performing it once is exactly the same as the result of performing it repeatedly without any intervening actions. The core idea here is that you only do things if they are needed and that things are repeatable without side effects.

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).

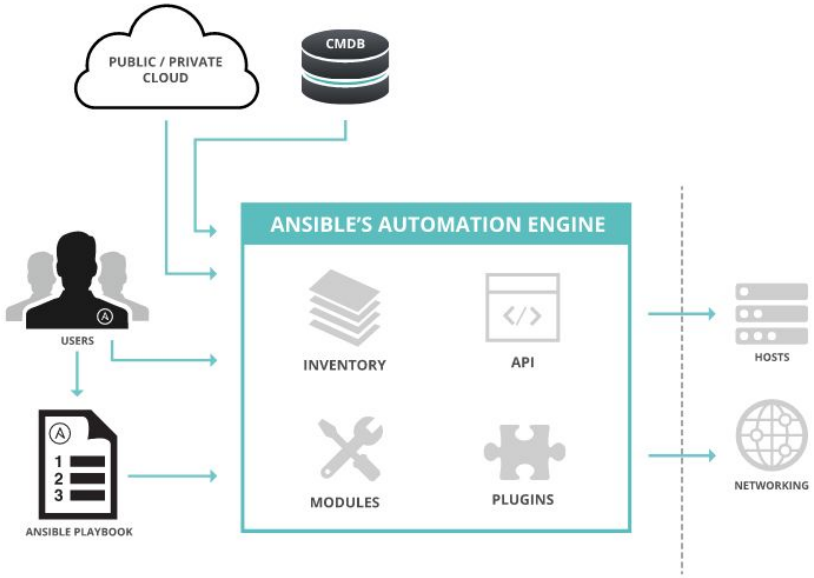
Tiny Learning Curve - Ansible, **YAML based**, is quite easy to learn: it doesn't require any extra knowledge.

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



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 infrustructure, 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 failback 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.

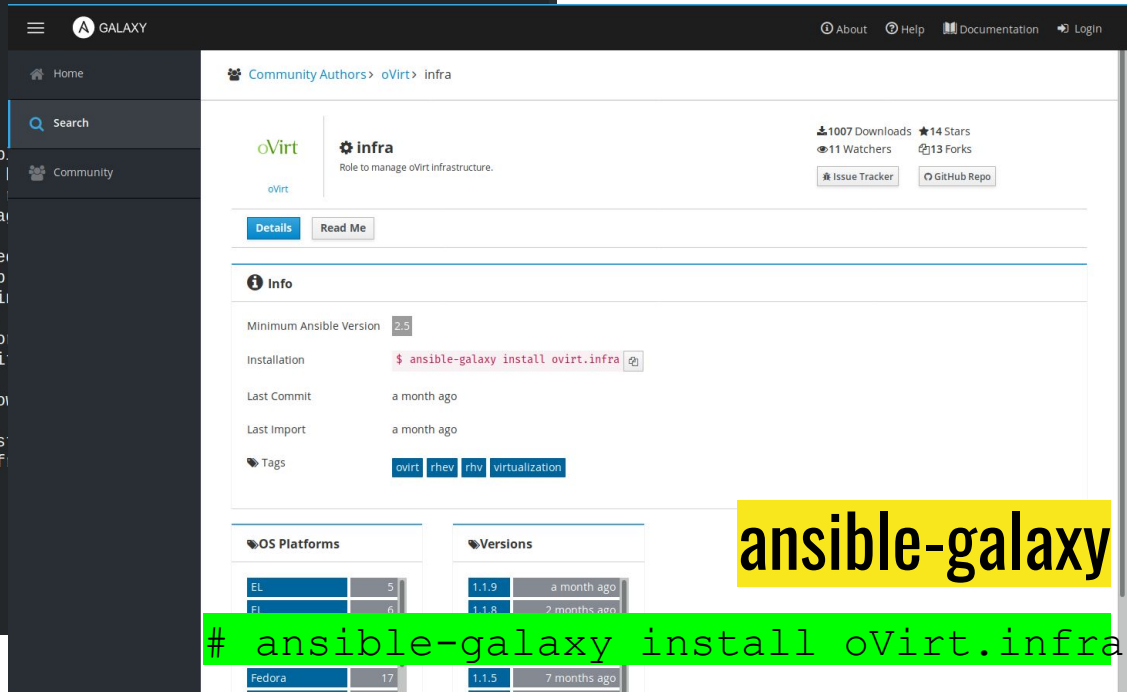
Install a role

rpm

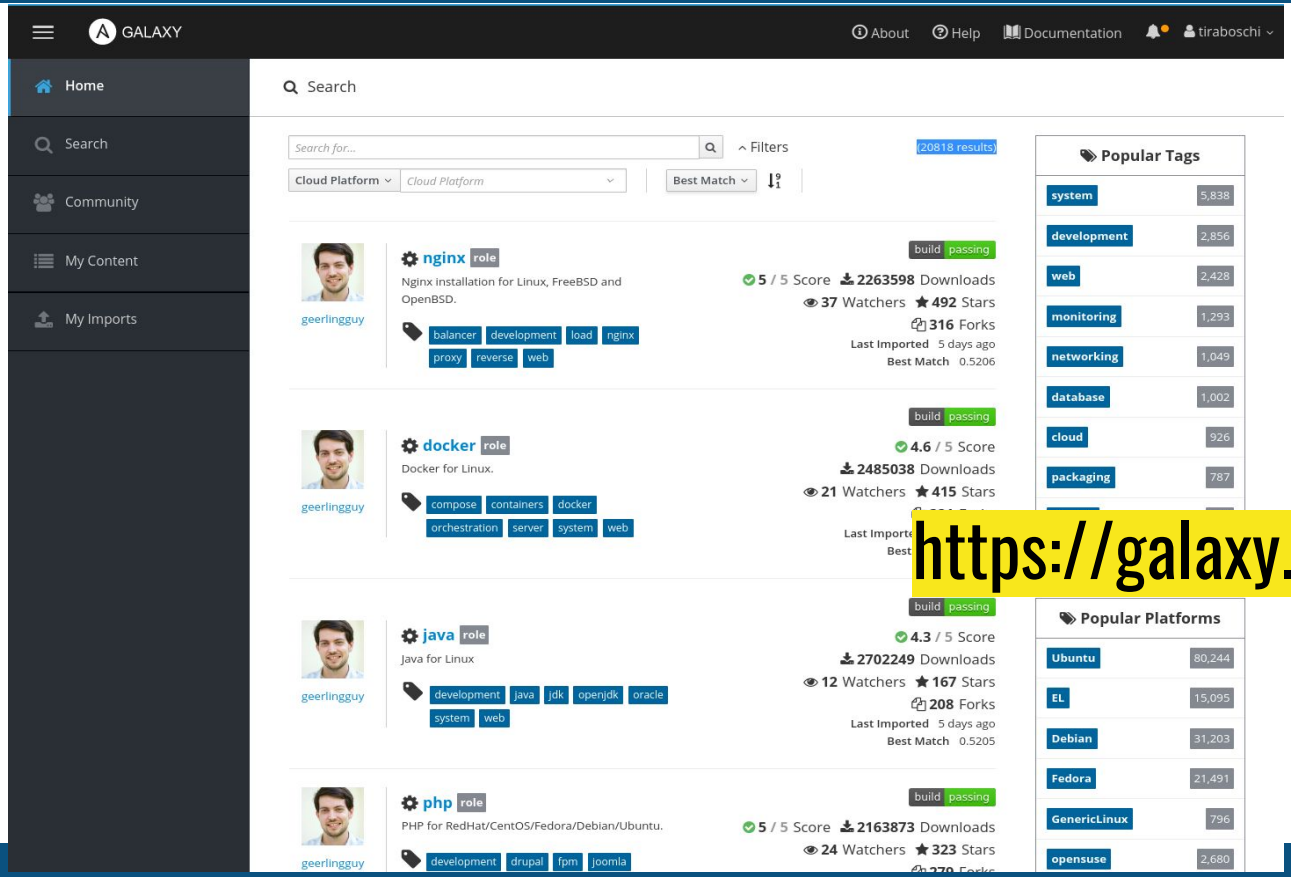
```
# yum install ovirt-ansible-infra
```

```
[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-ansible
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 machi
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 ~]#
```



ansible-galaxy

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

Ansible Galaxy