Advanced Topics

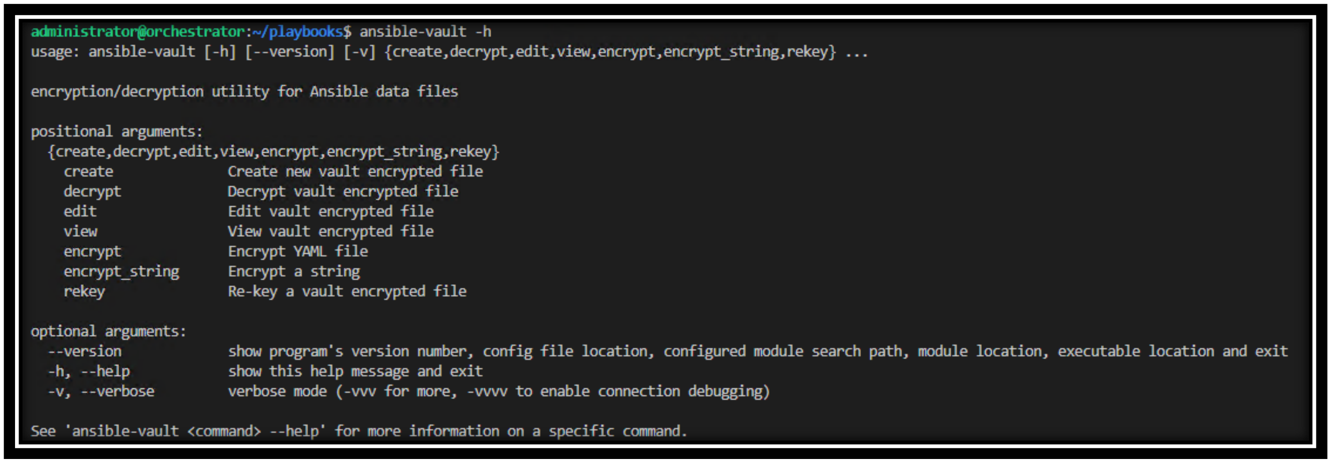
Introduction

I this lab, we will use Ansible vault to secure our code and review Ansible AWS, the free version of the Red Hat Ansible Tower.

Exercise - 1: Using Ansible Vault

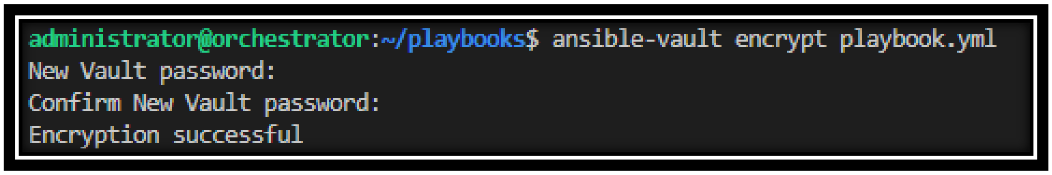
Ansible Vault encrypts variables and files so you can protect sensitive content such as passwords or keys rather than leaving it visible as plaintext in playbooks or roles.

1. Run the command ansible-vault and read the help messages.



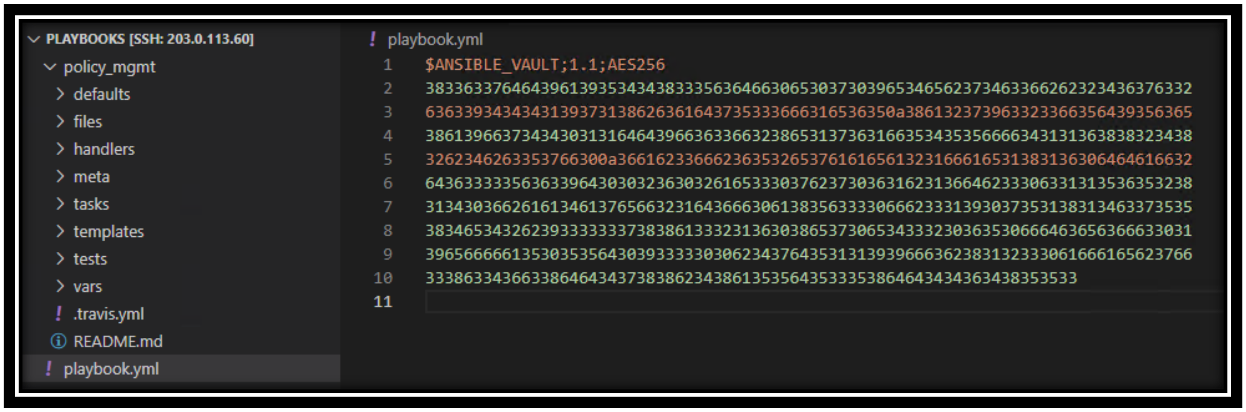
```
administrator@orchestrator:~/playbooks$ ansible-vault -h
usage: ansible-vault [-h] [--version] [-v] {create,decrypt,edit,view,encrypt,encrypt_string,rekey} ...

encryption/decryption utility for Ansible data files

positional arguments:
  {create,decrypt,edit,view,encrypt,encrypt_string,rekey}
    create              Create new vault encrypted file
    decrypt             Decrypt vault encrypted file
    edit                Edit vault encrypted file
    view                View vault encrypted file
    encrypt             Encrypt YAML file
    encrypt_string      Encrypt a string
    rekey               Re-key a vault encrypted file

optional arguments:
  --version             show program's version number, config file location, configured module search path, module location, executable location and exit
  -h, --help            show this help message and exit
  -v, --verbose         verbose mode (-vvv for more, -vvvv to enable connection debugging)

See 'ansible-vault <command> --help' for more information on a specific command.
```

2. We will encrypt our main playbook. Run the command ansible-vault encrypt playbook.yml and use a simple password. \



```
administrator@orchestrator:~/playbooks$ ansible-vault encrypt playbook.yml
New Vault password:
Confirm New Vault password:
Encryption successful
```

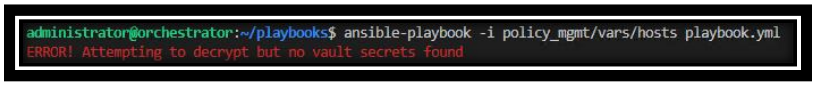
3. Notice that our playbook is now encrypted.



```
PLAYBOOKS [SSH: 203.0.113.60]
  policy_mgmt
    > defaults
    > files
    > handlers
    > meta
    > tasks
    > templates
    > tests
    > vars
    ! .travis.yml
    ⓘ README.md
  ! playbook.yml
```

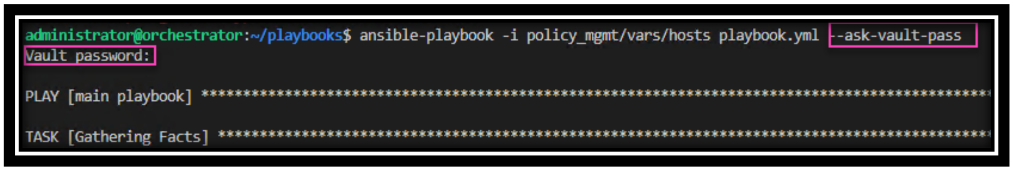
```
! playbook.yml
$ANSIBLE_VAULT;1.1;AES256
38336337646439613935343438333563646630653037303965346562373463366262323436376332
6363393434343139373138626361643735333666316536350a386132373963323366356439356365
38613966373434303131646439663633663238653137363166353435356666343131363838323438
3262346263353766300a366162336662363532653761616561323166616531383136306464616632
64363333356363396430303236303261653330376237303631623136646233306331313536353238
31343036626161346137656632316436663061383563333066623331393037353138313463373535
38346534326239333333373838613332313630386537306534333230363530666463656366633031
39656666613530353564303933333030623437643531313939666362383132333061666165623766
33386334366338646434373838623438613535643533353864643434363438353533
```

4. Run the playbook, as expected it will fail as it is encrypted and we have not provided a password.



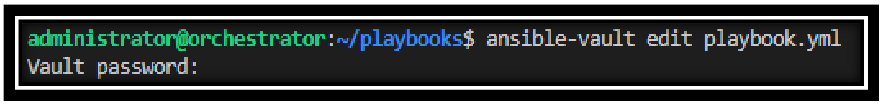
```
administrator@orchestrator:~/playbooks$ ansible-playbook -i policy_mgmt/vars/hosts playbook.yml
ERROR! Attempting to decrypt but no vault secrets found
```

5. Add the flag --ask-vault-pass when running the playbook.



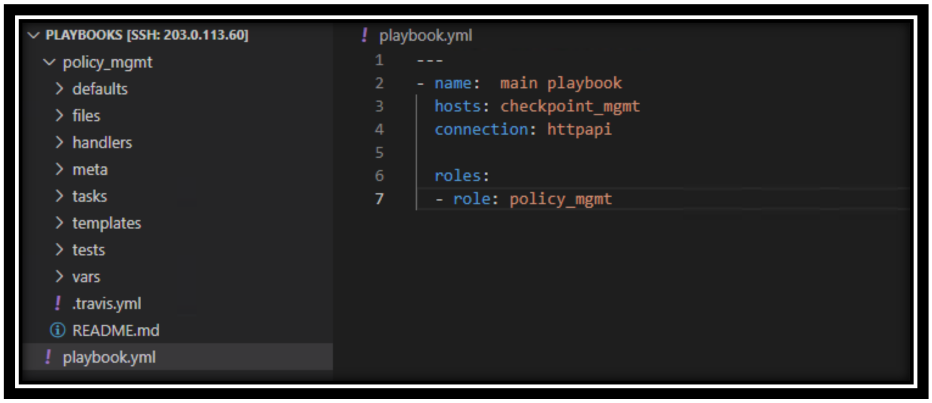
```
administrator@orchestrator:~/playbooks$ ansible-playbook -i policy_mgmt/vars/hosts playbook.yml --ask-vault-pass
Vault password:

PLAY [main playbook] ***************************************************************************************

TASK [Gathering Facts] *************************************************************************************
```

6. Try to edit (or view) the playbook, use the command ansible-vault edit playbook.yml. You will be prompted for the password we use earlier.



```
administrator@orchestrator:~/playbooks$ ansible-vault edit playbook.yml
Vault password:
```

7. Decrypt the playbook again. Use the command ansible-vault decrypt playbook.yml.



```
PLAYBOOKS [SSH: 203.0.113.60]
  policy_mgmt
    > defaults
    > files
    > handlers
    > meta
    > tasks
    > templates
    > tests
    > vars
    ! .travis.yml
    ⓘ README.md
  ! playbook.yml
```

```
! playbook.yml
---
- name:  main playbook
  hosts: checkpoint_mgmt
  connection: httpapi

  roles:
  - role: policy_mgmt
```

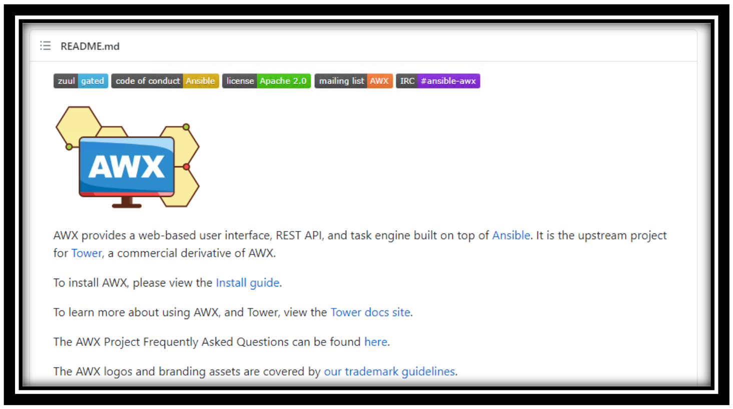
- Note that you can also save the vault password in a file and point to the file or use a script. Use the option --vault-password-file +
- You can use multiple vaults using the option --vault-id.

OPTIONAL: Exercise - 2: Using AWX

Ansible Tower is a GUI based centralized implementation of Ansible provided by Red Hat. A free version is also available called AWX. Note that AWX is not meant for production.

If you prefer, Red Hat provide a 1-year evaluation of Ansible Tower.

1. Review the project details on GitHub https://github.com/ansible/awx.



AWX provides a web-based user interface, REST API, and task engine built on top of Ansible. It is the upstream project for Tower, a commercial derivative of AWX.

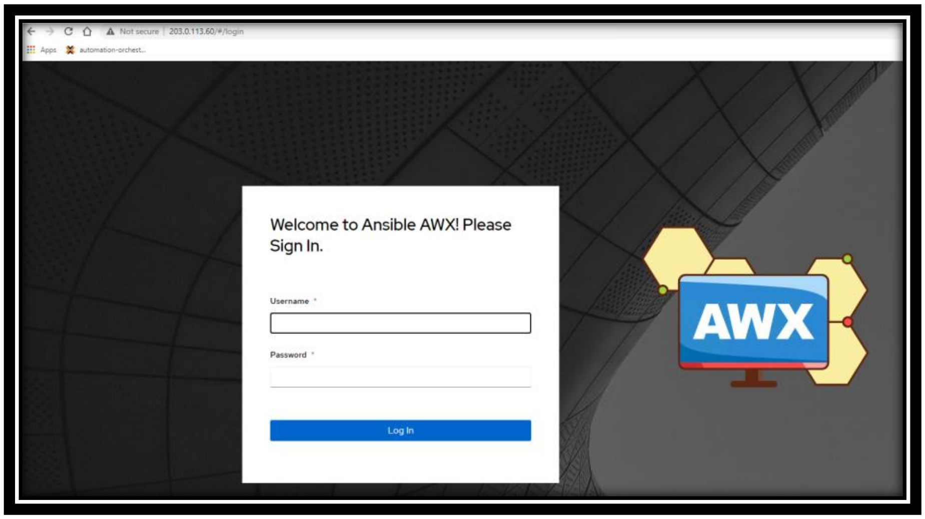
To install AWX, please view the Install guide.

To learn more about using AWX, and Tower, view the Tower docs site.

The AWX Project Frequently Asked Questions can be found here.

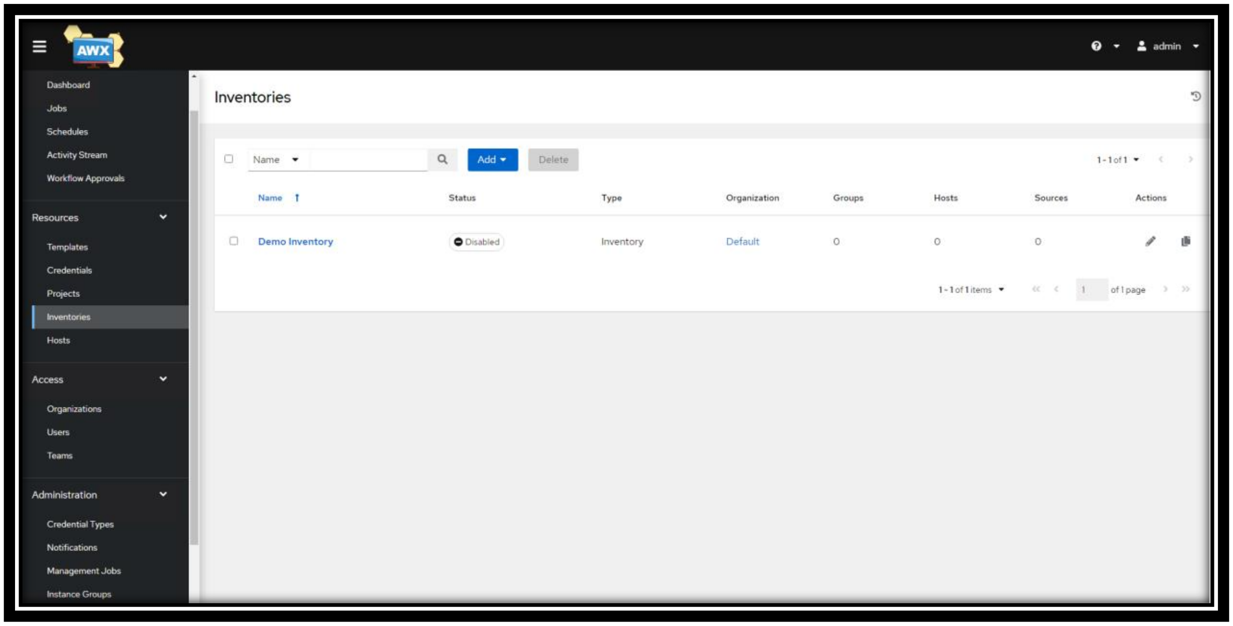
The AWX logos and branding assets are covered by our trademark guidelines.

2. Install AWX on the orchestrator. Many resources are available online to install AWX using Docker. Refer to https://www.linuxtechi.com/install-ansible-awx-on-ubuntu/
3. Use the credentials provided during the installation to login to AWX



Welcome to Ansible AWX! Please Sign In.

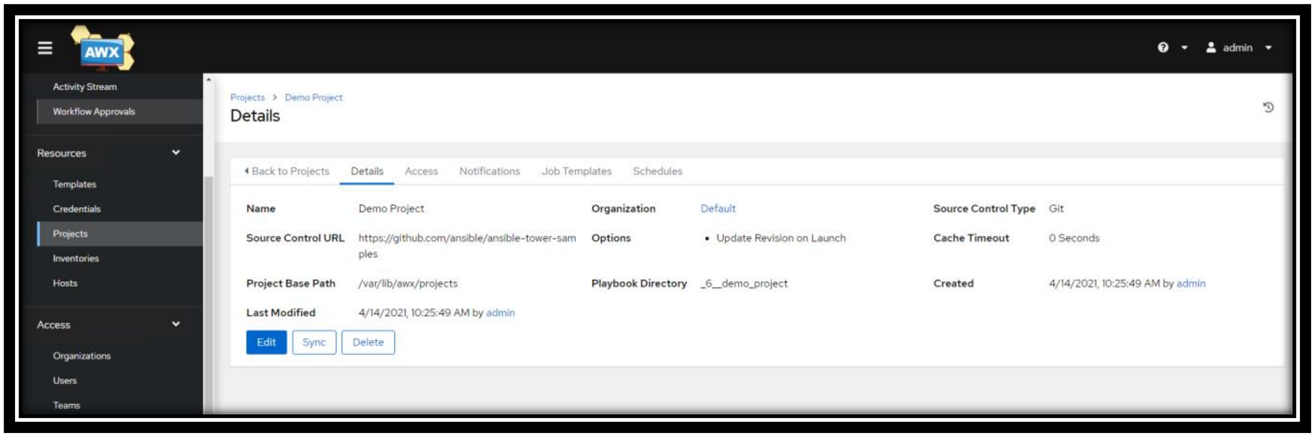
4. There are resources, hosts and projects created by default, try to create new inventory and hosts.



Inventories

Name	Status	Type	Organization	Groups	Hosts	Sources	Actions
Demo Inventory	Disabled	Inventory	Default	0	0	0	

5. Review the existing project and notice how you can use a ciode inventory on github to host and run playbooks.



Projects > Demo Project

Details

Name: Demo Project

Source Control URL: https://github.com/ansible/ansible-tower-samples

Project Base Path: /var/lib/awx/projects

Last Modified: 4/14/2021, 10:25:49 AM by admin

Organization: Default

Options: • Update Revision on Launch

Playbook Directory: _6__demo_project

Source Control Type: Git

Cache Timeout: 0 Seconds

Created: 4/14/2021, 10:25:49 AM by admin

End of Lab 5