

Ansible 3_part1:

Group variable:

Group variable file should be created at host inventory location.

Where is the host inventory? /etc/ansible/hosts

```
mkdir /etc/ansible/hosts/group_vars
```

```
sudo vi /etc/ansible/hosts/group_vars/webserver.yml
```

```
package_name: java
```

```
sudo vi /etc/ansible/hosts/group_vars/dbserver.yml
```

```
package_name: mysql
```

Host vars: server/machine specific variables --> for every machine/host if you want specific variable then we can go with host variables

```
mkdir /etc/ansible/host_vars
```

---> Create a file with hostname or ip

```
sudo vi /etc/ansible/hosts/host_vars/hostname.yml --> sudo vi
```

```
/etc/ansible/hosts/host_vars/<ip_address>.yml
```

Handlers and Tags:

For example, when you execute ansible-playbook 04-website-hosting.yml

Tasks are executed in the sequential order

Lets say we have 3 tasks, out of them, I want to execute only a particular task or I don't want to install some tasks in the yml file. Concept of Tags comes into picture

I want my third task to be executed only if my second task is completed, then Concept of Handler comes into picture

In Playbook, all the tasks by default will be executed in sequential order, using Handlers, we can execute tasks based on other tasks status. If second task status is changed, only then the third task is executed. It will notify the tasks to execute and we use 'notify' keyword to inform Handler to execute.

Using Tag, we can map task to a tagname and we can execute particular task and we can skip certain tasks also. Both can be done.

'Notify' means, httpd service will be restarted only if there are any changes in the yml file

```
[ec2-user@ip-172-31-14-91 ~]$ vi 07-handlers.yml
```

```
[ec2-user@ip-172-31-14-91 ~]$ cat 07-handlers.yml
```

```
---
```

```
- hosts: webserver
```

```
  become: true
```

```
  vars:
```

```
    package_name: httpd
```

```
  tasks:
```

```
    - name: Install "{{package_name}}" in only Managed node1
```

```
      yum:
```

```
        name: "{{package_name}}"
```

```
        state: latest
```

```
      tags:
```

```
        - install
```

```

- name: Copy index.html file
  copy:
    src: index.html
    dest: /var/www/html/index.html
  tags:
    - copy

  notify:
    - starting httpd
- name: Starting "{{package_name}}" package
  service:
    name: "{{package_name}}"
    state: started

```

...

We have two tags: copy and install --> using tags we can skip and run a specific task

```
[ec2-user@ip-172-31-14-91 ~]$ ansible-playbook 07-handlers.yml --syntax-check
```

```
playbook: 07-handlers.yml
```

```
[ec2-user@ip-172-31-14-91 ~]$ ansible-playbook 07-handlers.yml --list-tags
```

```
playbook: 07-handlers.yml
```

```

play #1 (webservers): webservers   TAGS: []
  TASK TAGS: [copy, install]

```

Only "copy" I want to execute

```
[ec2-user@ip-172-31-14-91 ~]$ ansible-playbook 07-handlers.yml --tags "copy"
```

Both "copy" and "install" I want to execute

```
[ec2-user@ip-172-31-14-91 ~]$ ansible-playbook 07-handlers.yml --tags "copy, install"
```

```
[ec2-user@ip-172-31-14-91 ~]$ ansible-playbook 07-handlers.yml --skip-tags "install, copy"
```

Ansible Vault:

To secure our playbooks, we go with the concept of Ansible Vault --> we encrypt and decrypt using this concepts

```
ansible-vault encrypt 07-handlers.yml
```

```
[ansible@ip-172-31-14-91 ~]$ sudo ansible-vault encrypt 07-handlers.yml
```

New Vault password:

Confirm New Vault password:

Encryption successful

```

to see the full traceback, use -vvv
[ansible@ip-172-31-14-91 ~]$ sudo ansible-vault encrypt 07-handlers.yml
New Vault password:
Confirm New Vault password:
Encryption successful
[ansible@ip-172-31-14-91 ~]$ █

```

```

cat: 07-handlers.yml: Permission denied
[ansible@ip-172-31-14-91 ~]$ sudo cat 07-handlers.yml
$ANSIBLE_VAULT;1.1;AES256
33663634363165633331373538633538616162313966353535343230333330326365656132313430
3661363532376636626131373663373832633964636235380a666133333338333761316231306235
36306339376234303638376530366565336533633338316334623063376639666266333335636233
3331353730313934370a653263373433363034376630613637306565366539616465313638663238
35616465316531643133613830356432666566613466636532623564313432356231313937306363
38366338333665353764636164363639396630643066363432396462646464626131656431383237
66646232373362383565666436633438656261646531373737386634306638343736316162646239
65323734313963333731383330623831383237393533623365326434343234633635646162663830
63613632343434316332613161666438626435623832656531373832333134373066633638393763
63303132643565656139633134613733396634316234373938333066613365346433653063396532
3631633834623539633632326236435333534353038306430326138623639653238623032303663
38656634646165323263316236313838303937666435623061323566336232376564376437386631
63626265356431393434356530363432316330343038323836306366313137303138356632363233
65306530333430626438303130356631316234633738646638376166376464353731363539623862
64353766323936623936323165323430316363313232633265363335383537613231653135643939
30303465366333656636326563616135366630663534633165306135356232363761613734376566
34626432636462613363666633613134386431633436663736353762383966313461356564326332
32613939393530393539643565626238306664346135656235613765373437356263643935356263
66396530643735336139663061663065383738313231336334353233613465323033313632313132
34353165306165653665626133646130616633666566333066636461663538623834663630303337
34663436393862653566323365613335373736653764303837366432316166313931353833623062
35383762613564613938666134356133656461656434663633623339393138313439303435326563
62643861363464316263393630376466383837353234316464373730646562386366653537663035
35643638343065353939653766626539343066346338373438393033643464653034343166666635
63353930366663393239393164343636313163343238353935623633313938663462383663303735
64356566393364383866313035353730363236666663396365373931646236663066366265656537
37613464386366363530646338623962333131383630313963323661323533386561643039623833
33616136333539653036303538386364373664623962613834643231643966353463323463633636
65373864383236633139653435626665313162616431326232323065336335313230633565346630
62613932663036353535386562313761353130366431346263613939356166636130646634613037
663135663038383030356561313134356437
[ansible@ip-172-31-14-91 ~]$

```

Without decrypt, we cannot see the code

```

Some actions do not make sense in Ad-Hoc (include, meta, etc)
[ansible@ip-172-31-14-91 ~]$ sudo ansible-vault encrypt 02-create-file.yml
New Vault password:
Confirm New Vault password:
Encryption successful
[ansible@ip-172-31-14-91 ~]$

```

```

[ansible@ip-172-31-14-91 ~]$
[ansible@ip-172-31-14-91 ~]$ sudo ansible-playbook 02-create-file.yml
ERROR! Attempting to decrypt but no vault secrets found
[ansible@ip-172-31-14-91 ~]$

```

--ask-vault-pass

```

[ansible@ip-172-31-14-91 ~]$
[ansible@ip-172-31-14-91 ~]$ sudo ansible-playbook 02-create-file.yml --ask-vault-pass
Vault password:

PLAY [all] *****

TASK [Gathering Facts] *****
The authenticity of host '172.31.5.77 (172.31.5.77)' can't be established.
ED25519 key fingerprint is SHA256:wcgtG8qKvopr387psdsSIzbcQ1i9A0EtDQfGgQ0SfFI.
This key is not known by any other names
The authenticity of host '172.31.12.31 (172.31.12.31)' can't be established.
ED25519 key fingerprint is SHA256:i3bUFDliEUD+6GFvCzunU3M6TYm0DGRlzm0+ioWACC.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])?

```

```

[ansible@ip-172-31-14-91 ~]$
[ansible@ip-172-31-14-91 ~]$ sudo ansible-vault view 07-handlers.yml
Vault password:
---
- hosts: webservers
  become: true
  vars:
    package_name: httpd
  tasks:
    - name: Install "{{package_name}}" in only Managed node1
      yum:
        name: "{{package_name}}"
        state: latest
      tags:
        - install

    - name: Copy index.html file
      copy:
        src: index.html
        dest: /var/www/html/index.html
      tags:
        - copy

    notify:
      starting httpd
  - name: Starting "{{package_name}}" package
    service:
      name: "{{package_name}}"
      state: started

...

```

[ansible@ip-172-31-14-91 ~]\$ sudo ansible-vault edit 07-handlers.yml

Now we can edit

```

---
- hosts: webservers
  become: true
  vars:
    package_name: httpd
  tasks:
    - name: Install "{{package_name}}" in only Managed node1
      yum:
        name: "{{package_name}}"
        state: latest
      tags:
        - install

    - name: Copy index.html file
      copy:
        src: index.html
        dest: /var/www/html/index.html
      tags:
        - copy

    notify:

```



```
    starting httpd
- name: Starting "{{package_name}}" package
  service:
    name: "{{package_name}}"
    state: started
```

...

Decryption :

```
[ansible@ip-172-31-14-91 ~]$ sudo ansible-vault decrypt 02-create-file.yml
Vault password:
Decryption successful
[ansible@ip-172-31-14-91 ~]$ cat 02-create-file.yml
cat: 02-create-file.yml: Permission denied
[ansible@ip-172-31-14-91 ~]$ sudo cat 02-create-file.yml

---
- hosts: all
  tasks:
    - name: Create file in all the managed nodes
      file:
        path: /home/ansible/alien.txt
        state: touch
    ...
```

ansible-vault encrypt <playbook.yml> ---> to encrypt yml file
ansible-vault decrypt <playbook.yml> ---> to decrypt yml file
ansible-vault edit <playbook.yml> ---> to edit yml file
ansible-vault view <playbook.yml> ---> to view yml file