

ANSIBLE TASKS

NAME : T MANOJ

EMPID : LYAKE2KHS


1. Launch the Instances

- Go to the AWS Console and launch an instance.
 - AMI:** REDHAT
 - Keypair:** OHIO
 - User Data:**







```
#!/bin/bash
yum install python-pip -y
pip install ansible
```

- Launch the instance.

Instance summary for i-0f961e6601530edd2 (AML) [Info](#)

 [Connect](#) [Instance state ▼](#) [Actions ▼](#)

Updated about 5 hours ago

Instance ID  i-0f961e6601530edd2	Public IPv4 address  18.118.36.133 open address ↗	Private IPv4 addresses  172.31.21.100
IPv6 address —	Instance state  Running	Public IPv4 DNS  ec2-18-118-36-133.us-east-2.compute.amazonaws.com open address ↗
Hostname type IP name: ip-172-31-21-100.us-east-2.compute.internal	Private IP DNS name (IPv4 only)  ip-172-31-21-100.us-east-2.compute.internal	Elastic IP addresses —
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	

Instance summary for i-0bddaa9bcdad09678 (master) [Info](#)

[Refresh](#) [Connect](#) [Instance state ▼](#) [Actions ▼](#)

↻ Refreshing instance data

Instance ID

[i-0bddaa9bcdad09678](#)

IPv6 address

—

Hostname type

IP name: ip-172-31-20-83.us-east-2.compute.internal

Answer private resource DNS name

IPv4 (A)

Public IPv4 address

[52.14.110.17](#) | [open address](#)

Instance state

✓ Running

Private IP DNS name (IPv4 only)

[ip-172-31-20-83.us-east-2.compute.internal](#)

Instance type

t2.micro

Private IPv4 addresses

[172.31.20.83](#)

Public IPv4 DNS

[ec2-52-14-110-17.us-east-2.compute.amazonaws.com](#)
| [open address](#)

Elastic IP addresses

↻

Instance summary for i-0980cc2db014e016a (RHEL) [Info](#)

[Refresh](#) [Connect](#) [Instance state ▼](#) [Actions ▼](#)

Updated less than a minute ago

Instance ID

[i-0980cc2db014e016a](#)

IPv6 address

—

Hostname type

IP name: ip-172-31-27-235.us-east-2.compute.internal

Answer private resource DNS name

IPv4 (A)

Public IPv4 address

[3.142.149.32](#) | [open address](#)

Instance state

✓ Running

Private IP DNS name (IPv4 only)

[ip-172-31-27-235.us-east-2.compute.internal](#)

Instance type

t2.micro

Private IPv4 addresses

[172.31.27.235](#)

Public IPv4 DNS

[ec2-3-142-149-32.us-east-2.compute.amazonaws.com](#)
| [open address](#)

Elastic IP addresses

—

2. Connect the Master via Putty

- Open Putty and connect it with the master node.
- Create a `slaves.txt` file and add all the IPs of the slave machines.

```
vi slaves.txt
```

3. Configure Ansible

- Open the Ansible configuration file.

```
vi ansible.cfg
```

- Copy and paste a sample configuration from: [Ansible Config Example](#)

4. Create a tags.yml Playbook

- Run the playbook:

```
GNU nano 8.3 tags.yml Modified
- hosts : all
  become : yes
  remote_user : ec2-user
  tasks :
    - name: Install required packages
      yum:
        name: "{{ item }}"
        state: present
      loop:
        - python3
        - python3-pip
        - git
        - httpd
      tags:
        - install
```

```
ansible-playbook -i slaves.txt tags.yml --tags update
```

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-playbook -i slaves.txt tags.yml --tags install
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [172.31.21.100]
ok: [172.31.27.235]

TASK [Install required packages] *****
ok: [172.31.21.100] => (item=python3)
ok: [172.31.21.100] => (item=python3-pip)
ok: [172.31.27.235] => (item=python3)
changed: [172.31.21.100] => (item=git)
ok: [172.31.27.235] => (item=python3-pip)
changed: [172.31.21.100] => (item=httpd)
```

```
PLAY RECAP *****
172.31.21.100      : ok=2    changed=1    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0
172.31.27.235     : ok=2    changed=1    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=0
```

5. Create an ignoreerrors Playbook

```
GNU nano 8.3                                tags.yml                                Modified
- hosts : all
  become : yes
  remote_user : ec2-user
  tasks :
    - name: Install required packages
      yum:
        name: "{{ item }}"
        state: present
      loop:
        - python3
        - python3-pip
        - git
        - httpd
        - manoj
        - cprime
      tags:
        - install
      ignore_errors : yes
```

- Run the playbook:

```
ansible-playbook -i slaves.txt tags.yml
```

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-playbook -i slaves.txt tags.yml
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot creat
e it, aborting

PLAY [all] *****

TASK [Install required packages] *****
ok: [172.31.21.100] => (item=python3)
ok: [172.31.27.235] => (item=python3)
ok: [172.31.21.100] => (item=python3-pip)
ok: [172.31.21.100] => (item=git)
ok: [172.31.27.235] => (item=python3-pip)
ok: [172.31.21.100] => (item=httpd)
failed: [172.31.21.100] (item=manoj) => {"ansible_loop_var": "item", "changed":
false, "failures": ["No package manoj available."], "item": "manoj", "msg": "Fai
led to install some of the specified packages", "rc": 1, "results": []}
ok: [172.31.27.235] => (item=git)
failed: [172.31.21.100] (item=cprime) => {"ansible_loop_var": "item", "changed":
false, "failures": ["No package cprime available."], "item": "cprime", "msg": "
Failed to install some of the specified packages", "rc": 1, "results": []}
...ignoring
ok: [172.31.27.235] => (item=httpd)
failed: [172.31.27.235] (item=manoj) => {"ansible_loop_var": "item", "changed":
false, "failures": ["No package manoj available."], "item": "manoj", "msg": "Fai
led to install some of the specified packages", "rc": 1, "results": []}
failed: [172.31.27.235] (item=cprime) => {"ansible_loop_var": "item", "changed":
false, "failures": ["No package cprime available."], "item": "cprime", "msg": "
Failed to install some of the specified packages", "rc": 1, "results": []}
...ignoring

PLAY RECAP *****
172.31.21.100      : ok=1    changed=0    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=1
172.31.27.235     : ok=1    changed=0    unreachable=0    failed=0    s
kipped=0    rescued=0    ignored=1
```

7. Create a Conditional (when) Playbook

```
[ec2-user@ip-172-31-20-83 ~]$ cat tags.yml
- hosts: all
  become: yes
  remote_user: ec2-user
  tasks:
    - name: Install required packages on RedHat only
      yum:
        name: "{{ item }}"
        state: present
      loop:
        - git
        - httpd
      when: ansible_distribution == "RedHat"
      tags:
        - install
      ignore_errors: yes
```

```
ansible-playbook -i slaves.txt tags.yml
```

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-playbook -i slaves.txt tags.yml
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

PLAY [all] *****

TASK [Install required packages on RedHat only] *****
skipping: [172.31.21.100] => (item=git)
skipping: [172.31.21.100] => (item=httpd)
skipping: [172.31.21.100]
ok: [172.31.27.235] => (item=git)
ok: [172.31.27.235] => (item=httpd)

PLAY RECAP *****
172.31.21.100      : ok=0    changed=0    unreachable=0    failed=0    skipped=1    rescued=0    ignored=0
172.31.27.235    : ok=1    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

8. Create a Role for Apache

- Create an `index.html` file for the web server.
- Initialize an Ansible role:

```
ansible-galaxy init cprime
```

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-galaxy init cprime
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

- Role cprime was created successfully
[ec2-user@ip-172-31-20-83 ~]$ tree cprime
cprime
├── defaults
├── handlers
├── meta
├── tasks
├── templates
└── tests

[ec2-user@ip-172-31-20-83 ~]$ cd cprime/tasks/
[ec2-user@ip-172-31-20-83 tasks]$ nano main.yml
[ec2-user@ip-172-31-20-83 tasks]$ cd
[ec2-user@ip-172-31-20-83 ~]$ cd cprime/tasks/
[ec2-user@ip-172-31-20-83 tasks]$ cat main.yml
- name: Install required packages
  yum:
    name: "{{ item }}"
    state: present
  loop:
    - git
    - httpd

  tags:
    - install
  ignore_errors : yes
# tasks file for cprime
[ec2-user@ip-172-31-20-83 tasks]$
```

- Create a `roles.yml` file:

- hosts: all
- remote_user: ec2-user
- become: yes
- roles:
 - cprime

```
[ec2-user@ip-172-31-20-83 ~]$ cat roles.yml
- hosts : all
  become : yes
  remote_user : ec2-user
  roles :
    - cprime
[ec2-user@ip-172-31-20-83 ~]$
```

- Run the playbook:

`ansible-playbook -i slaves.txt roles.yml`

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-playbook -i slaves.txt roles.yml
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

PLAY [all] *****
TASK [Gathering Facts] *****
ok: [172.31.27.235]
[WARNING]: Platform linux on host 172.31.21.100 is using the discovered Python interpreter at /usr/bin/python3.9, but future installation of another Python
interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.15/reference_appendices/interpreter_discovery.html for more
information.
ok: [172.31.21.100]
TASK [cprime : Install required packages] *****
ok: [172.31.21.100] => (item=git)
ok: [172.31.27.235] => (item=git)
ok: [172.31.21.100] => (item=httplib)
ok: [172.31.27.235] => (item=httplib)
PLAY RECAP *****
172.31.21.100      : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
172.31.27.235    : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
[ec2-user@ip-172-31-20-83 ~]$
```

9. Encrypt and Manage Vault Files

- Encrypt the tags.yml file:

`ansible-vault encrypt tags.yml`

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-vault encrypt tags.yml
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

New Vault password:
Confirm New Vault password:
Encryption successful
[ec2-user@ip-172-31-20-83 ~]$
```

- Run the encrypted playbook:

`ansible-playbook -i slaves.txt tags.yml --ask-vault-pass`

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-playbook -i slaves.txt tags.yml --ask-vault-pass
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

Vault password:

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [172.31.27.235]
[WARNING]: Platform linux on host 172.31.21.100 is using the discovered Python interpreter at /usr/bin/python3.9, but future installation of another Python
interpreter could change the meaning of that path. See https://docs.ansible.com/ansible-core/2.15/reference_appendices/interpreter_discovery.html for more
information.
ok: [172.31.21.100]

TASK [Install required packages on RedHat only] *****
skipping: [172.31.21.100] => (item=git)
skipping: [172.31.21.100] => (item=httpd)
skipping: [172.31.21.100]
ok: [172.31.27.235] => (item=git)
ok: [172.31.27.235] => (item=httpd)

PLAY RECAP *****
172.31.21.100      : ok=1    changed=0    unreachable=0    failed=0    skipped=1    rescued=0    ignored=0
172.31.27.235    : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[ec2-user@ip-172-31-20-83 ~]$
```

- View the encrypted file:

ansible-vault view tags.yml

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-vault view tags.yml
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

Vault password:
- hosts: all
  become: yes
  remote_user: ec2-user
  tasks:
    - name: Install required packages on RedHat only
      yum:
        name: "{{ item }}"
        state: present
      loop:
        - git
        - httpd
      when: ansible_distribution == "RedHat"
      tags:
        - install
      ignore_errors: yes

[ec2-user@ip-172-31-20-83 ~]$
```

- Change the vault password:

ansible-vault rekey tags.yml

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-vault rekey tags.yml
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

Vault password:
New Vault password:
Confirm New Vault password:
Rekey successful
```

- Decrypt the file:

ansible-vault decrypt tags.yml

```
[ec2-user@ip-172-31-20-83 ~]$ ansible-vault decrypt tags.yml
[WARNING]: log file at /var/log/ansible.log is not writeable and we cannot create it, aborting

Vault password:
Decryption successful
[ec2-user@ip-172-31-20-83 ~]$
```