Ansible Dynamic Inventory

(Ubuntu as Master and Amazon Linux 2 as Nodes)

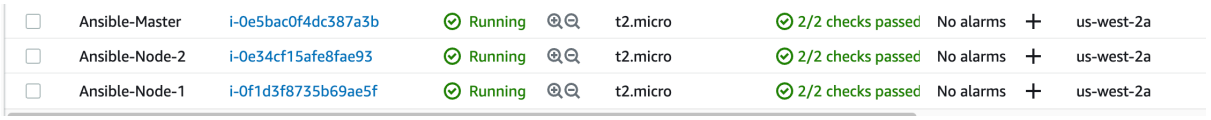
Pre-requisites:

Create 1 Ubuntu 20.4 EC2 Instance with an IAM role of EC2 permissions.

Create 2 EC2 Amazon Linux – 2 Instances with 22 port allowing master EC2 IP in security group.

Ubuntu for Ansible Master

Amazon Linux 2 for Ansible Nodes



- SSH into Ansible-Master

```
avinashmamidi@Avinashs-MacBook-Pro imp % ssh -i "avi-jes-oregon.pem" ubuntu@ec2-54-149-246-151.us-west-2.compute.amazonaws.com
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1022-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Sat Dec 18 20:02:51 UTC 2021

  System load:  0.0               Processes:             103
  Usage of /:   27.6% of 7.69GB   Users logged in:       1
  Memory usage: 25%               IPv4 address for eth0: 10.0.0.153
  Swap usage:   0%


11 updates can be applied immediately.
4 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable


Last login: Sat Dec 18 20:02:39 2021 from 124.123.172.210
ubuntu@ip-10-0-0-153:~$
```

- Update the EC2 instance packages

```
sudo apt update -y
```

- Install Ansible -

```
sudo apt install -y ansible
```

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- Install Python

```
sudo apt install python-is-python3
```

- Install PIP

```
sudo apt-get install python3-pip -y
```

- Install Boto

```
sudo pip3 install boto
```

- Install Boto3

```
sudo pip3 install boto3
```

- Install Ansible Dynamic Inventory Plugin

```
ansible-galaxy collection install amazon.aws
```

- Add a tag to two Ansible Node EC2 Instances
    - Env : dev
- Create a file for Ansible Dynamic Inventory Plugin
    - sudo vi aws_ec2.yaml
        -
```
plugin: aws_ec2
regions:
  - us-west-2
filters:
  tag:Env:
    - dev
```

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- Goto /etc/ansible/ansible.cfg, here everything is commented so uncomment “sudo_user” and "host_key_checking"
    - sudo vi /etc/ansible/ansible.cfg and uncomment

- To test dynamic Inventory

```
ansible-inventory -i aws_ec2.yaml --list
```

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- Create the pem key file which is used for Ansible Node EC2 Instances

```
sudo vi avi-jes-oregon.pem

chmod 400 avi-jes-oregon.pem
```

- Run below command to check ping for Ansible Nodes

```
ansible aws_ec2 -i aws_ec2.yaml -m ping --private-key=avi-jes-oregon.pem
--user ec2-user
```

- Run below command to install git on Ansible nodes using dynamic inventory

```
sudo ansible aws_ec2 -i aws_ec2.yaml -m yum -a 'name=git state=present'
--private-key=avi-jes-oregon.pem --become --user ec2-user
```


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- Let's run ansible playbook in the below demo
- Create a Ansible Playbook
    - sudo vi test-playbook.yaml

```
---
- name: sample playbook
  hosts: all
  become: true
  tasks:
    - name: install httpd
      yum:
          name: httpd
          state: latest

    - name: run httpd
      service:
              name: httpd
              state: started

    - name: create content
      copy:
          content: "GM! Hello from JJTech"
          dest: /var/www/html/index.html
```

- To test ansible playbook run below command

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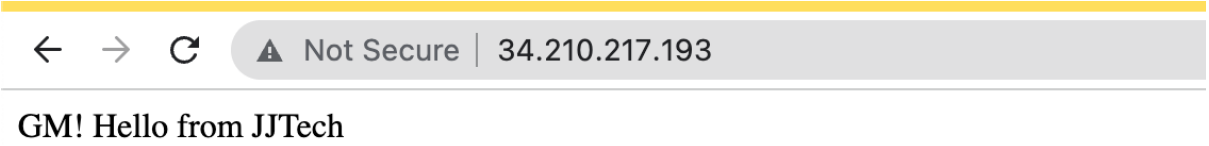
```
sudo ansible-playbook -i aws_ec2.yaml -l aws_ec2 test-playbook.yaml
--private-key=avi-jes-oregon.pem --user ec2-user
```

```
ubuntu@ip-10-0-0-153:~$ ansible-playbook -i aws_ec2.yaml -l aws_ec2 test.yaml --private-key=avi-jes-oregon.pem --user ec2-user

PLAY [sample playbook] *********************************************************************************************************

TASK [Gathering Facts] *********************************************************************************************************
[WARNING]: Platform linux on host ec2-34-214-165-33.us-west-2.compute.amazonaws.com is using the discovered Python interpreter at
/usr/bin/python, but future installation of another Python interpreter could change this. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
ok: [ec2-34-214-165-33.us-west-2.compute.amazonaws.com]
[WARNING]: Platform linux on host ec2-34-220-66-105.us-west-2.compute.amazonaws.com is using the discovered Python interpreter at
/usr/bin/python, but future installation of another Python interpreter could change this. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
ok: [ec2-34-220-66-105.us-west-2.compute.amazonaws.com]

TASK [install httpd] ***********************************************************************************************************
changed: [ec2-34-214-165-33.us-west-2.compute.amazonaws.com]
changed: [ec2-34-220-66-105.us-west-2.compute.amazonaws.com]

TASK [run httpd] ***************************************************************************************************************
changed: [ec2-34-220-66-105.us-west-2.compute.amazonaws.com]
changed: [ec2-34-214-165-33.us-west-2.compute.amazonaws.com]

TASK [create content] **********************************************************************************************************
changed: [ec2-34-214-165-33.us-west-2.compute.amazonaws.com]
changed: [ec2-34-220-66-105.us-west-2.compute.amazonaws.com]

PLAY RECAP *********************************************************************************************************************
ec2-34-214-165-33.us-west-2.compute.amazonaws.com : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ign
ored=0
ec2-34-220-66-105.us-west-2.compute.amazonaws.com : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ign
ored=0

ubuntu@ip-10-0-0-153:~$
```

- To test whether playbook is executed successfully. Copy the public ip of Ansible node and search on google.



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