**Ansible – AWS Integration**

1. I am using here own AWS account, I already have user created into IAM section. I have activated **ec2\_access\_key** & **ec2\_secret\_key**.
2. I already have installed python in my machine. I installed python-pip and boto dependencies which are needed for Ansible AWS connection.

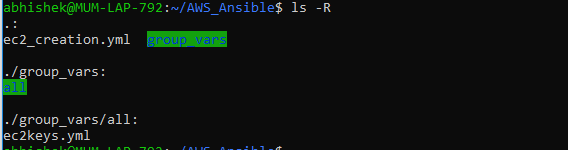
*sudo apt install python-pip*

*pip install boto boto3*

1. Created SSH key to connect ec2 instance after provisioning.

ssh-keygen -t rsa -b 4096 -f ~/.ssh/abhishek\_aws

1. Created Ansible Directory Structure to place playbook and groupvars.



The ec2keys.yml is storingec2\_access\_key & ec2\_secret\_key in encrypted way using Ansible-vault.

**Ec2\_creation.yml** is ec2 instance provision scripts.

1. Please have a look at the attached scripts

I have used **Ansible tags** into scripts which can be used to skip the particular from playbook.

1. **Ec2 Provision playbook brief explanation:**

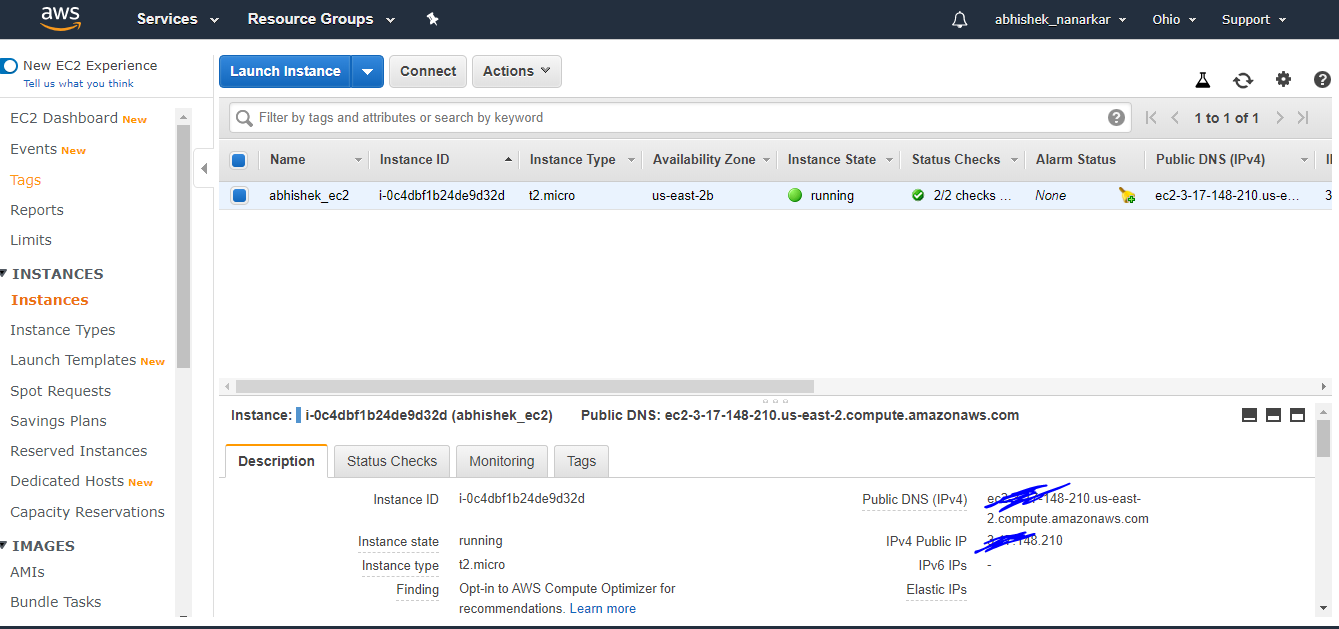
* In playbook, we I using connection localto run script on Ansible server.
* In varssection, I have passed values for ec2 provision we can use separate INIfile to pass variable from outside playbook also.
* In the next section, I have used different task using Ansible aws module.
* ec2\_instance\_info
* ec2\_key
* ec2\_group
* ec2

Above module are used to gather information about aws resources and provisioning ec2 instance. Ec2 module is used to create instance use all passed parameter.

Command to run playbook:

*ansible-playbook ec2\_creation.yml --ask-vault-pass*

*ansible-playbook ec2\_creation.yml --ask-vault-pass --tags create\_ec2*



Connect ec2 instance :

*ssh -i ~/.ssh/my\_aws <public dns name>*

**Ansible Dynamic Inventory Setup**

1. This is just as a bonus for this problem, I have configured dynamic inventory to install ELK on ec2 instance.
2. For Dynamic inventory, I have downloaded ec2.py and ec2.ini scripts, EC2 external inventory script and Ansible EC2 external inventory script settings.
3. I have set environment variable for

*export AWS\_ACCESS\_KEY\_ID=<your\_aws\_access\_key\_id>*

*export  AWS\_SECRET\_ACCESS\_KEY=<your\_aws\_secret\_access\_key>*

1. We need to set path for

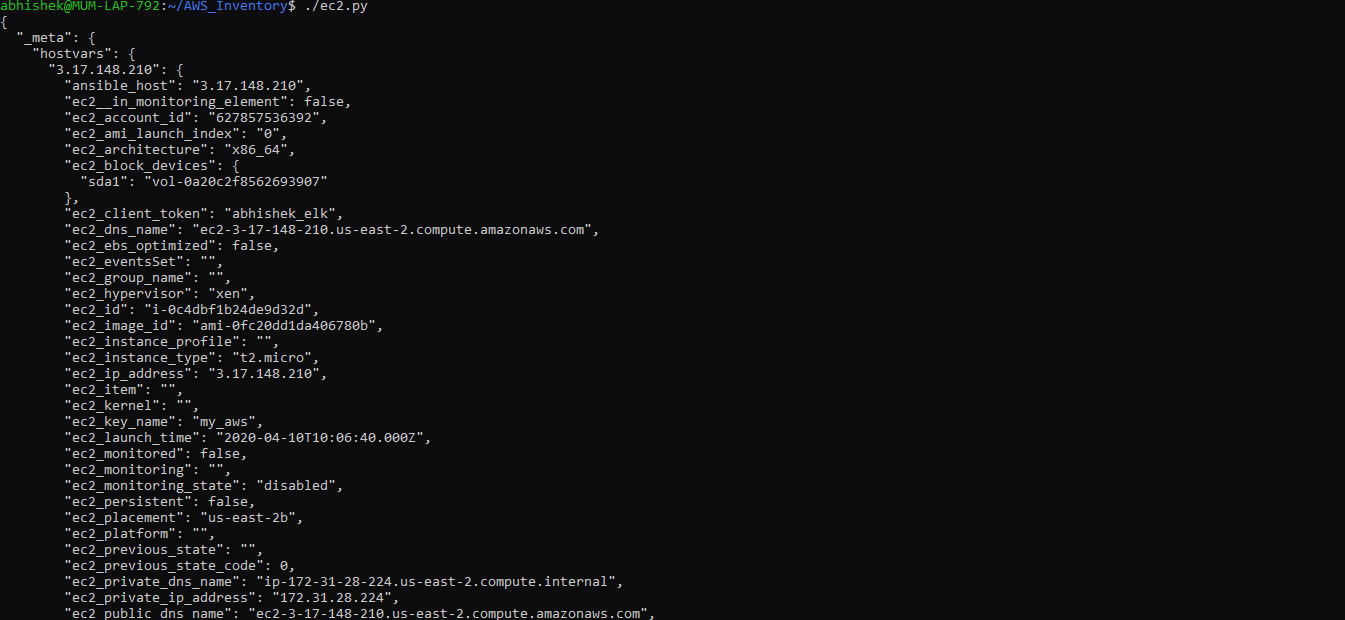
*export* *EC2\_INI\_PATH=/home/abhishek/AWS\_Inventory/ec2.ini*

*export ANSIBLE\_INVENTORY=/home/abhishek/AWS\_Inventory/ec2.py*

make ec2.py script executable.

*chmod +x  /home/abhishek/AWS\_Inventory/ec2.py*

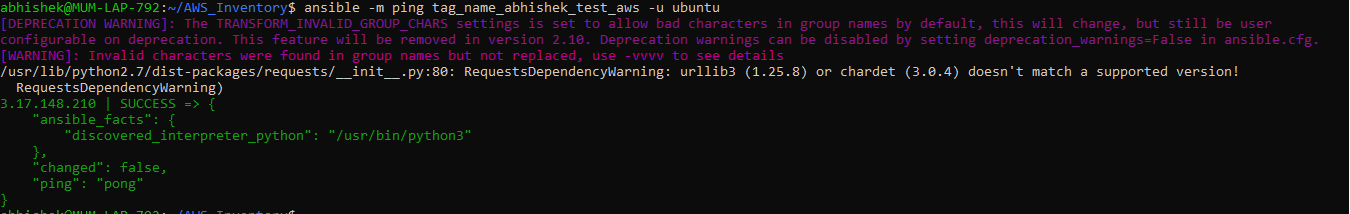
1. Once above setup done just need to run ec2.py script it wil fetch info about all the AWS resources which we configured inside ec2.ini

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After running script ec2.py, we can ping our ec2-instance through Ansible.

Ping ec2 instance using dynamic inventory:

*ansible -m ping tag\_name\_abhishek\_test\_aws -u ubuntu*



**ElasticSearch using Ansible playbook:**

* 1. Please have a look at attached ansible scrips Installation.yml

In this playbook, download task and elastic source to source.list.d

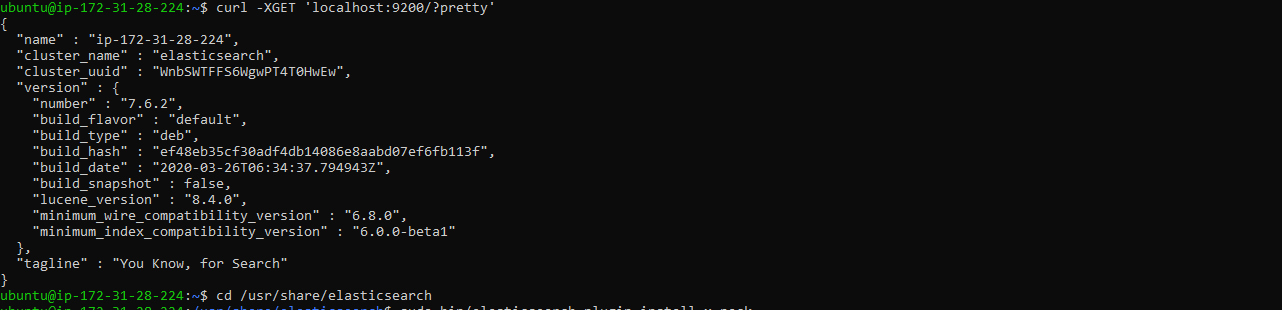
directory task are created.

* 1. Installation of **java, elasticsearch** task are scripted.
  2. Configuration of elasticsearch and jvm option are set.

Jvm option are set becasue current ec2 instance has only 0.5 GB RAM.

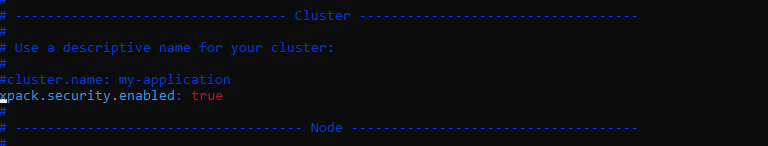
* 1. Started elasticsearch service to reflect all the changes.

*curl -XGET 'localhost:9200/?pretty'*



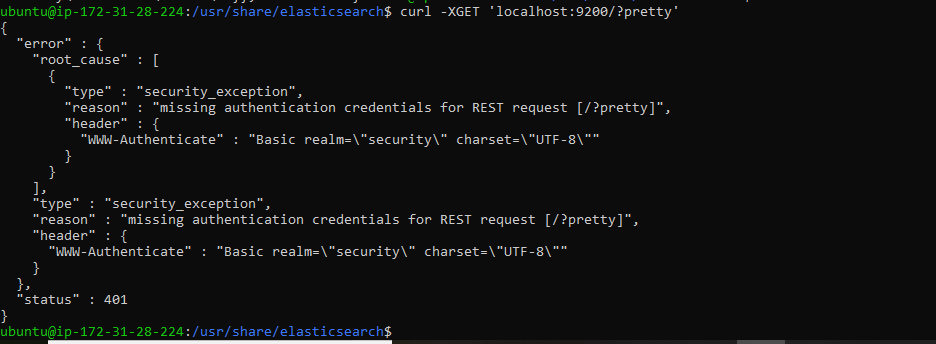
* 1. Installs Elastic Search configured in a way that requires credentials and provides encrypted communication. X-Pack is an Elastic Stack plug-in that provides many add on features such as security, alerting, monitoring, reporting, and graph capabilities.
  2. just need to add only **xpack.security.enabled: true** into

*/etc/elasticsearch/elasticsearch.yml*



7 . After Restarting The elasticsearch service, got the authentication error.

*curl -XGET 'localhost:9200/?pretty'*



* 1. Elastic Search has default username is elastic and password is changeme.
  2. So in the script, I have configured to replace password.

After replacing password restarted elastic search service.

Note:

In the current version of elastic search x-pack is installed by default.