Topic: Ec2 server Provisioning on AWS using ansible as IAC tool

Install AWS CLI on Ansible server

```
root@eab92bc36259:/ansible_playbooks# pip install awscli
Collecting awscli
  Downloading awscli-1.32.95-py3-none-any.whl (4.4 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 4.4/4.4 MB 37.2 MB/s eta
Requirement already satisfied: PyYAML<6.1,>=3.10 in /usr/lib/python3/di
```

Create IAM User on AWS account

With the help of this user we will create VPC and EC2 instances on AWS accounts using ansible.
Store its access key and secret access key
Note: The user have access of VPC and EC2 access creation

Connect Ansible with your AWS account

```
root@eab92bc36259:/ansible_playbooks# aws configure
AWS Access Key ID [None]: AKIA3FLDYIHOAQYNJOHE
AWS Secret Access Key [None]: ieuMuIOwABxHm6Zs0fszwrkGxAlISVX0S6307slM
Default region name [None]:
Default output format [None]:
root@eab92bc36259:/ansible_playbooks#
```

Install python library boto3 to use aws_module with ansible

```
root@eab92bc36259:/ansible_playbooks/aws_with_ansible# pip install boto boto3
Collecting boto
  Downloading boto-2.49.0-py2.py3-none-any.whl (1.4 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 1.4/1.4 MB 16.7 MB/s eta 0:00:00
Collecting boto3
  Downloading boto3-1.34.95-py3-none-any.whl (139 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 139.3/139.3 KB 22.6 MB/s eta 0:00:
Requirement already satisfied: botocore<1.35.0,>=1.34.95 in /usr/local/lib/pytho
Requirement already satisfied: jmespath<2.0.0,>=0.7.1 in /usr/lib/python3/dist-p
Requirement already satisfied: s3transfer<0.11.0,>=0.10.0 in /usr/local/lib/pyth
Requirement already satisfied: urllib3!=2.2.0,<3,>=1.25.4 in /usr/lib/python3/di
Requirement already satisfied: python-dateutil<3.0.0,>=2.1 in /usr/local/lib/pyt
 (2.9.0.post0)
Requirement already satisfied: six>=1.5 in /usr/lib/python3/dist-packages (from
) (1.16.0)
Installing collected packages: boto, boto3
Successfully installed boto-2.49.0 boto3-1.34.95
WARNING: Running pip as the 'root' user can result in broken permissions and con
ommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv
root@eab92bc36259:/ansible_playbooks/aws_with_ansible#
```

Write ansible playbook for ec2 server provisioning

I have make use of aws module
In this playbook I have created a VPC, Subnet inside that VPC, security group for EC2 instance and code for Ec2 type of instance you want

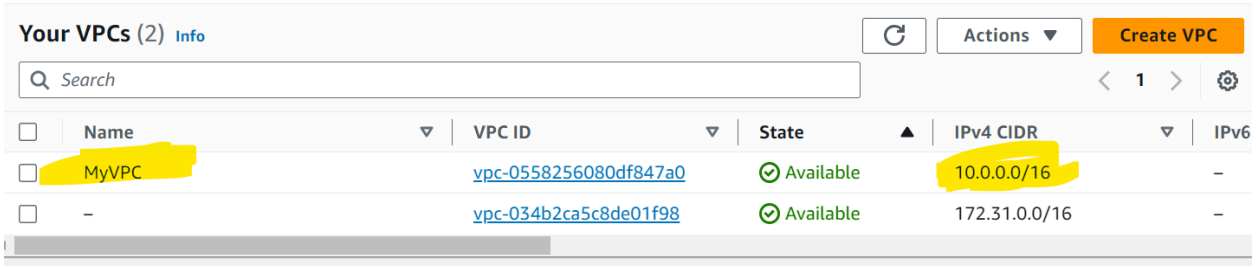
```
root@eab92bc36259:/ansible_playbooks/aws_with_ansible# vi ec2_provisioning.yml
root@eab92bc36259:/ansible_playbooks/aws_with_ansible# cat ec2_provisioning.yml
---
- name: Create VPC on AWS
  hosts: localhost
  connection: local
  gather_facts: no
  vars:
    aws_region: "ap-south-1"  # Mumbai region
    vpc_cidr_block: "10.0.0.0/16"
    vpc_name: "MyVPC"
    subnet_cidr_block: "10.0.1.0/24"  # CIDR block for the subnet
```

Run the Playbook

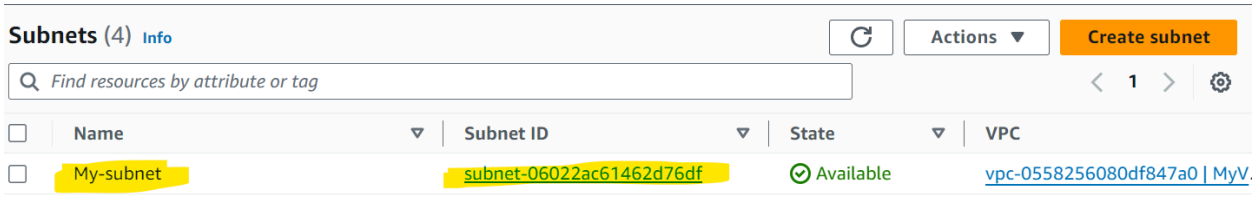
```
root@eab92bc36259:/ansible_playbooks/aws_with_ansible# ansible-playbook ec2_provisioning.yml

PLAY [Create VPC on AWS] ***********************************************************************************************************************************

TASK [Create VPC] ******************************************************************************************************************************************
changed: [localhost]

TASK [Print VPC ID] ****************************************************************************************************************************************
ok: [localhost] => {
    "msg": "VPC ID is vpc-0558256080df847a0"
}

TASK [Create Subnet] ***************************************************************************************************************************************
changed: [localhost]

TASK [Print Subnet ID] *************************************************************************************************************************************
ok: [localhost] => {
    "msg": "Subnet ID is subnet-06022ac61462d76df"
}

TASK [Create security group] *******************************************************************************************************************************
changed: [localhost]

TASK [Launch EC2 instance] *********************************************************************************************************************************
changed: [localhost]

PLAY RECAP *************************************************************************************************************************************************
localhost                  : ok=6    changed=4    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

root@eab92bc36259:/ansible_playbooks/aws_with_ansible#
```

Output:

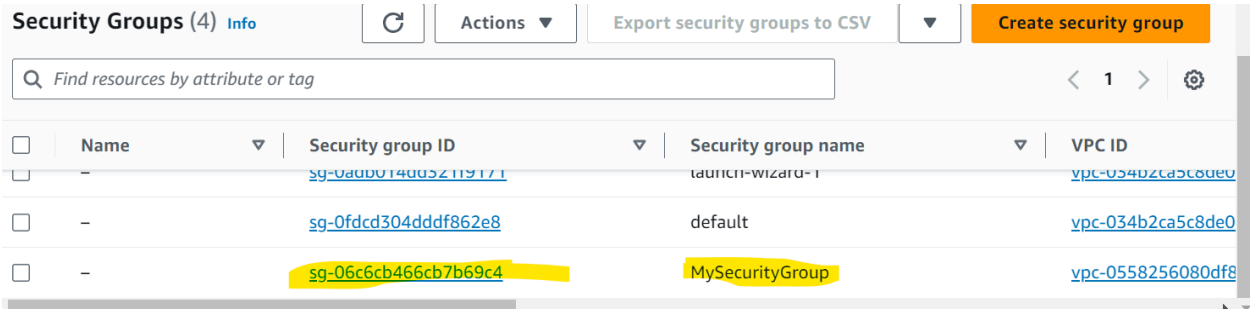
VPC Created



Subnet Created



Security Group Created



EC2 instance created