**Configured Nginx on EC2 with a new VPC setup:**

GitHub Link:

<https://github.com/absuri/vpc-ec2-nginx.git>

**The below command is to create an EC2-instance:**

1. First I Have Created a Role Called vpc-ec2-nginx by using below command

# ansible-galaxy init vpc-ec2-nginx

1. I used below to files for vpc-ec2-nginx

* task
* main.yml
* vars
* main.yml

**Under task’s main.yml , I mentioned below tasks**

- name: create VPC

ec2\_vpc\_net:

name: "{{ vpc\_name }}"

cidr\_block: "{{ vpc\_cidr }}"

region: "{{ region }}"

state: present

aws\_access\_key: "{{ aws\_access\_key }}"

aws\_secret\_key: "{{ aws\_secret\_key }}"

register: vpc

- name: associate subnet to the VPC

ec2\_vpc\_subnet:

state: present

vpc\_id: "{{ vpc\_id }}"

region: "{{ region }}"

cidr: "{{ subnet\_cidr }}"

aws\_access\_key: "{{ aws\_access\_key }}"

aws\_secret\_key: "{{ aws\_secret\_key }}"

map\_public: yes

resource\_tags:

Name: "{{ subnet\_name }}"

register: subnet

- name: create IGW

ec2\_vpc\_igw:

vpc\_id: "{{ vpc\_id }}"

region: "{{ region }}"

aws\_access\_key: "{{ aws\_access\_key }}"

aws\_secret\_key: "{{ aws\_secret\_key }}"

state: "present"

tags:

Name: "{{ igw\_name }}"

register: igw

- name: Route IGW

ec2\_vpc\_route\_table:

vpc\_id: "{{ vpc\_id }}"

region: "{{ region }}"

aws\_access\_key: "{{ aws\_access\_key }}"

aws\_secret\_key: "{{ aws\_secret\_key }}"

subnets:

- "{{ subnet.subnet.id }}"

routes:

- dest: 0.0.0.0/0

gateway\_id: "{{ igw.gateway\_id }}"

tags:

Name: "{{ route\_name }}"

# update the CIDR address in the SSH port section.

- name: Create Security Group

ec2\_group:

name: Web DMZ

description: DMZ Security Group

vpc\_id: "{{ vpc\_id }}"

region: "{{ region }}"

aws\_access\_key: "{{ aws\_access\_key }}"

aws\_secret\_key: "{{ aws\_secret\_key }}"

rules:

- proto: tcp

ports:

- 80

cidr\_ip: 0.0.0.0/0

- proto: tcp

ports:

- 22

cidr\_ip: 0.0.0.0/0

register: security\_group

- name: create a new ec2 key pair

ec2\_key:

aws\_access\_key: "{{ aws\_access\_key }}"

aws\_secret\_key: "{{ aws\_secret\_key }}"

name: ec2\_keypair

region: "{{ region }}"

register: keypair

- name: Copy EC2 Private Key locally so it can be later on used to SSH into the instance

copy: content="{{ keypair.key.private\_key }}" dest={{ ec2\_key\_directory }}key.ppk

when: keypair.changed == true

- name: Create EC2 server

ec2:

image: ami-467ca739

wait: yes

instance\_type: t2.micro

region: "{{ region }}"

group\_id: "{{ security\_group.group\_id }}"

vpc\_subnet\_id: "{{ subnet.subnet.id }}"

key\_name: "{{ keypair.key.name }}"

count\_tag:

Name: apacheserver

exact\_count: 1

aws\_access\_key: "{{ aws\_access\_key }}"

aws\_secret\_key: "{{ aws\_secret\_key }}"

- name: updated apt-get

apt: name="\*" state=present

- name: ensure nginx is at the latest version

apt: name=nginx state=latest

- name: start nginx

service:

name: nginx

state: started

**Under Vars main.yml file, I have mentioned below variables**

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#vars/main.yml

aws\_access\_key: ""

aws\_secret\_key: ""

region: "us-east-1"

# VPC

vpc\_cidr: 10.10.0.0/24

vpc\_name: "Ansible VPC"

# Subnet

subnet\_name: "Ansible Subnet"

subnet\_cidr: 10.10.0.0/26

# Internet Gateway Name

igw\_name: "Traffic IGW"

securitygroup\_name: "Ansible Security Group”

ec2\_tag: "WebServer"

#The local path to which we would save our EC2 Private Key

ec2\_key\_directory: "/home/ansible/roles/aws-vpc/"

keypair\_name: "ec2\_key\_pair"

**Pre-requirements:**

* **Python-pip**
* **Boto**
* **AwsCli**
* **Ansible**

**Explanation:**

**Task-1:**

* Create one AWS account.
* Create IAM user with EC2 and VPC Full permissions.
* Use your existing private key or playbook will create a new key with the above name and location.
* I choose an option create vpc with one public subnet& Private subnet
* I choose VPC CIDR = 172.16.0.0/16,
* I choose Public subnet CIDR = 172.16.0.0/24,
* I choose Private subnet CIDR= 172.16.1.0/24
* IGW (internet gateway) assign to the public subnet and NAT(Network Adress Translation) assign to the Private subnet.
* To change the privatekey creation location edit this file "/etc/ansible/roles/ec2-launch/tasks/main.yml"
* Use your aws access and secret key in this file "/etc/ansible/roles/ec2-launch/vars/main.yml"

1. aws\_access\_key: " Your IAM Access Key"
2. aws\_secret\_key: "Your IAM Secret Key"

* I choose "eu-west-1" in this file "/etc/ansible/roles/ec2-launch/vars/main.yml"

1. aws\_region: "eu-west-1"

**Task-2:**

* This task I mentioned Security Group
* Create Security Groups with Inbound rules like http,SSH & Custom Tcp..
* Select the region when creating a security group

Task-3:

* Create a new key pair for the instance

Task-4:

* Finally Create an instance using above VPC, Security Groups end key pair.
* At the time of creating instance public ip also assign to the instance.

**Nginx:**

* Then after creating an instance establish the ssh-connection between instance and ansible server
* command: "ansible-playbook playbookname -i" dynamic inventry file this command is used to Nginx deploying that instance.
* # dynamic inventry file contains instance ip address.