

Terraform Task

Task Description:

Launch Linux EC2 instances in two regions using a single Terraform file.

➔ Step 1: Launch EC2 instance and install aws cli.

```
ubuntu@ip-172-31-38-157:~$ sudo ./aws/install
You can now run: /usr/local/bin/aws --version
ubuntu@ip-172-31-38-157:~$ sudo ./aws/install
Found preexisting AWS CLI installation: /usr/local/aws-cli/v2/current. Please rerun install script with --update flag.
ubuntu@ip-172-31-38-157:~$ aws --version
aws-cli/2.28.21 Python/3.13.7 Linux/6.14.0-1011-aws exe/x86_64.ubuntu.24
```

➔ Step 2: Configure your aws to connect to your EC2.

```
ubuntu@ip-172-31-38-157:~$ aws configure
AWS Access Key ID [None]: AKIAJPRNPRHWMQYCQ7C
AWS Secret Access Key [None]: nTt5GOGakLrrmvYsS9BOUjEKouIB74TN8CDvkx11
Default region name [None]: ap-south-1
Default output format [None]: json
```

➔ Step 3: Generate SSH key for EC2 to login

```
ubuntu@ip-172-31-38-157:~$ ssh-keygen -t rsa -b 2048 -f ~/.ssh/id_rsa -N ""
Generating public/private rsa key pair.
Your identification has been saved in /home/ubuntu/.ssh/id_rsa
Your public key has been saved in /home/ubuntu/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:msJ0D0/S+hLr4RGCGFFM8d8y/ZpxKIwV2UL/yd2J7pM ubuntu@ip-172-31-38-157
The key's randomart image is:
+---[RSA 2048]-----+
|.++ . |
|... .+ |
|. . + o |
| o . . * o o o . |
|. . o X S + o o |
| o *.& o . |
| + Oo= o .. |
| oo= = .E |
| .o.+ .. |
+-----[SHA256]-----+
```

➔ Step 4: Create a Terraform Project by making a multi-region directory and placing your instruction code into the main.tf file.

```
ubuntu@ip-172-31-38-157:~$ mkdir ~/terraform-multi-region && cd ~/terraform-multi-region
ubuntu@ip-172-31-38-157:~/terraform-multi-region$ nano main.tf
```

➔ Step 5: Initialize and Apply

```
Changes to Outputs:
+ mumbai_public_ip = (known after apply)
+ virginia_public_ip = (known after apply)
aws_key_pair.kp: Creating...
aws_key_pair.kp: Creation complete after 0s [id=multi-region-key]
aws_instance.mumbai_ec2: Creating...
aws_key_pair.kp_us: Creating...
aws_key_pair.kp_us: Creation complete after 1s [id=multi-region-key]
aws_instance.virginia_ec2: Creating...
aws_instance.mumbai_ec2: Still creating... [10s elapsed]
aws_instance.virginia_ec2: Still creating... [10s elapsed]
aws_instance.virginia_ec2: Creation complete after 15s [id=i-04040e2bde3efdc79]
aws_instance.mumbai_ec2: Still creating... [20s elapsed]
aws_instance.mumbai_ec2: Still creating... [30s elapsed]
aws_instance.mumbai_ec2: Creation complete after 32s [id=i-0e7f845ece22b5638]

Apply complete! Resources: 4 added, 0 changed, 0 destroyed.

Outputs:

mumbai_public_ip = "13.233.168.171"
virginia_public_ip = "54.234.27.173"
```

➔ Check your EC2 instance are made or not.

The screenshot shows the AWS Management Console for the Mumbai region. The left sidebar shows the navigation menu with 'Instances' selected. The main content area displays a table of EC2 instances. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IPv4 D. The instances listed are Jenkins (Terminated), EC2-Mumbai (Running), and Terraform (Running).

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 D
Jenkins	i-06bc0425123019e25	Terminated	t2.micro	-	View alarms +	ap-south-1a	-
EC2-Mumbai	i-0e7f845ece22b5638	Running	t2.micro	Initializing	View alarms +	ap-south-1a	ec2-13-233-168-171
Terraform	i-0519637d3e4861c05	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1a	ec2-52-66-200-1

The screenshot shows the AWS Management Console for the United States (N. Virginia) region. The left sidebar shows the navigation menu with 'Instances' selected. The main content area displays a table of EC2 instances. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, and Public IPv4 D. The instances listed are Secondary-EC2 (Running), MyWindowsSe... (Stopped), MyLinuxWebS... (Stopped), and EC2-Virginia (Running).

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 D
Secondary-EC2	i-077e2fc2ac4e594c4	Running	t2.micro	...	View alarms +	us-east-1d	ec2-52-200-1
MyWindowsSe...	i-0c4653180ce3143c3	Stopped	t2.micro	...	View alarms +	us-east-1c	-
MyLinuxWebS...	i-06c180d557a684243	Stopped	t2.micro	...	View alarms +	us-east-1c	-
EC2-Virginia	i-04040e2bde3efdc79	Running	t2.micro	...	View alarms +	us-east-1d	ec2-54-234-2