ASSIGNMENT --> 1 Name: Love Sharma
SPCM SapId: 500060174
Batch: CSE-Devops Roll: 32

1) Create two T2 Micro EC2 Instances.

a. First we will create 2 instances using script.
b. After creating 2 instances we will associate a security group for our instances.
c. These instances will get deployed in default VPC's.

```
resource "aws_instance" "LoveSharmaDev1Instance" {
        ami = "ami-00ddb0e5626798373"
        count = 2
        key_name = "lovedev1"
        instance_type = "t2.micro"
        security_groups = ["lovesharmadev1"]
        tags = {
                Name = "LoveSharmaDev1Instance"
        }
}
```

```
resource "aws_security_group" "lovesharmadev1" {
        name = "lovesharmadev1"
        description = "This is the security groups"

        ingress {

                from_port = 22
                to_port = 22
                protocol = "tcp"
                cidr_blocks = ["0.0.0.0/0"]
        }

        egress {

                from_port = 0
                to_port = 65535
                protocol = "tcp"
                cidr_blocks = ["0.0.0.0/0"]
        }

        tags = {
                Name = "lovesharmadev1"
        }
```

2) Create a VPN in AWS.

a. For creating VPN we will first set up VPN gateway.
b. Then we would setup a customer gateway
c. And at last we would set up a vpn connection.

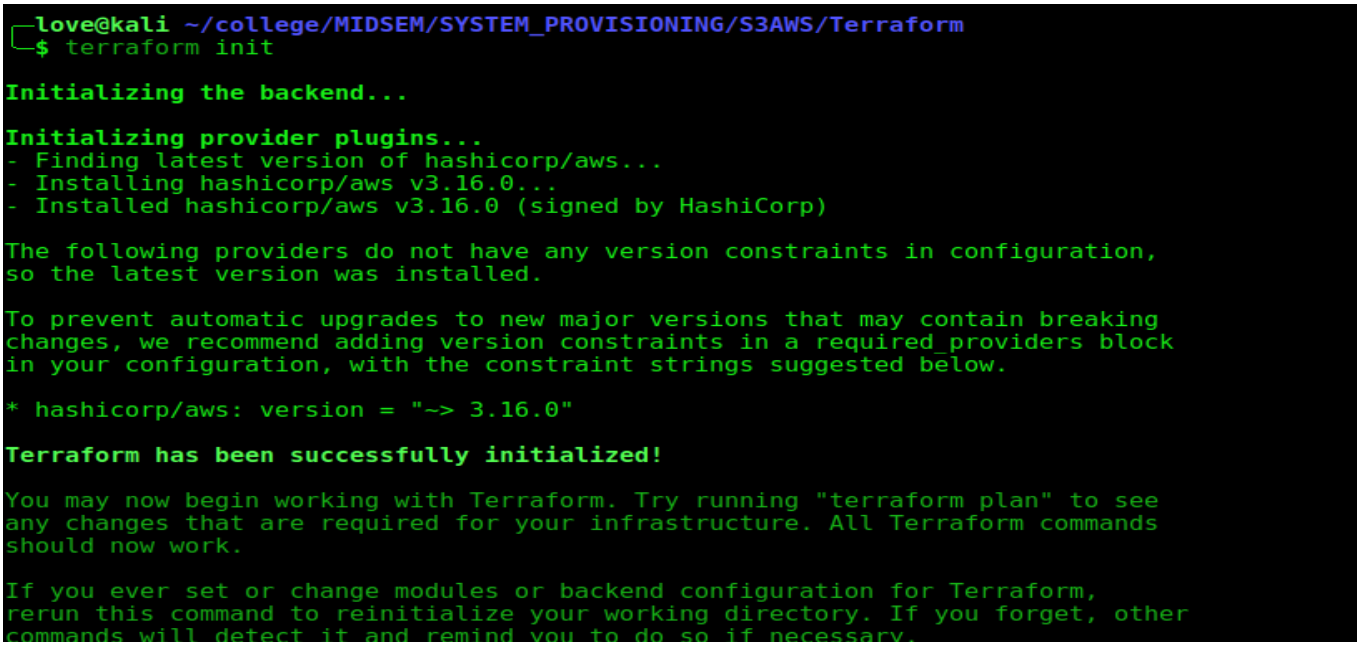
```
resource "aws_vpn_gateway" "vpn_gateway" {
        vpc_id = aws_vpc.vpc.id
}

resource "aws_customer_gateway" "customer_gateway" {
        bgp_asn = 65000
        ip_address = "172.0.0.1"
        type = "ipsec.1"
}

resource "aws_vpn_connection" "main" {
        vpn_gateway_id = aws_vpn_gateway.vpn_gateway.id
        customer_gateway_id = aws_customer_gateway.customer_gateway.id
        type = "ipsec.1"
        static_routes_only = true
}
```

3. Create a s3 Bucket.

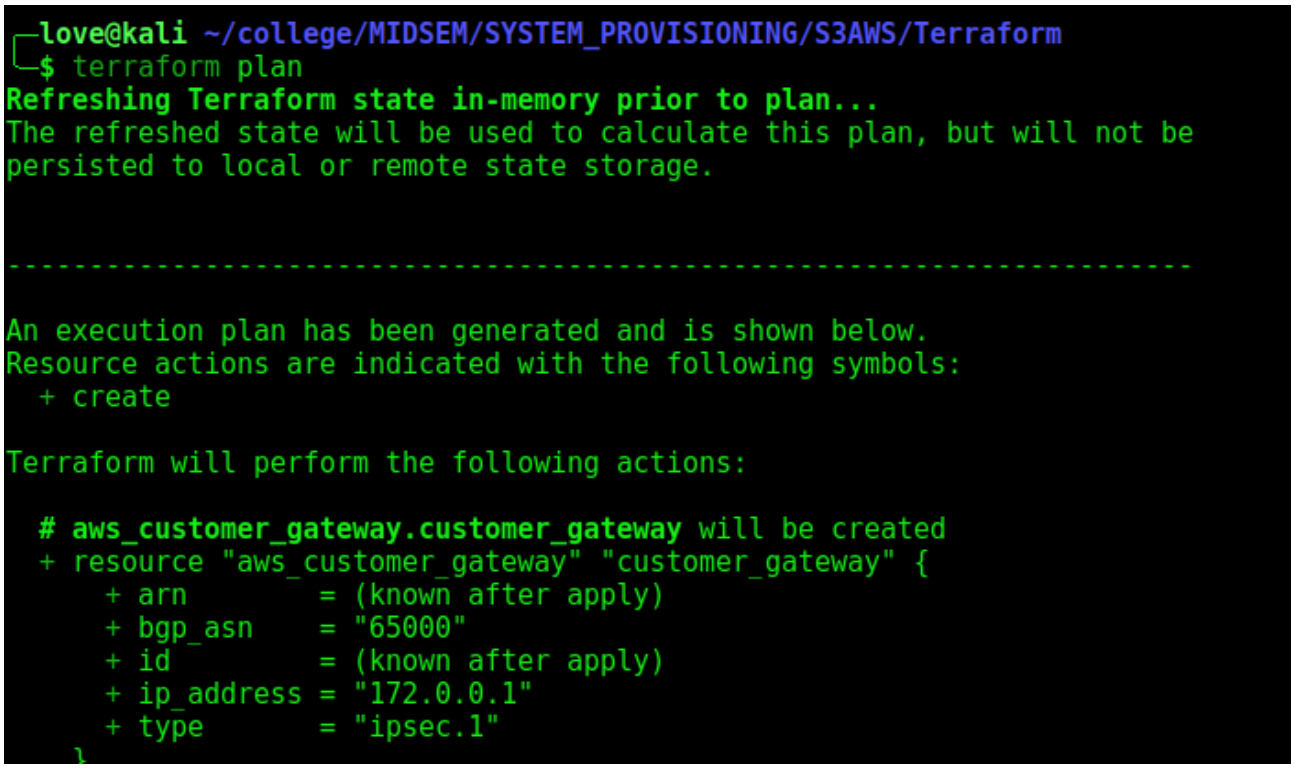
a. Mentioned below is the script for setting up S3 bucket.

```
resource "aws_s3_bucket" "tf_course" {
        bucket = "lovesharmadev2"
        acl = "private"
}
```

Output Screenshots



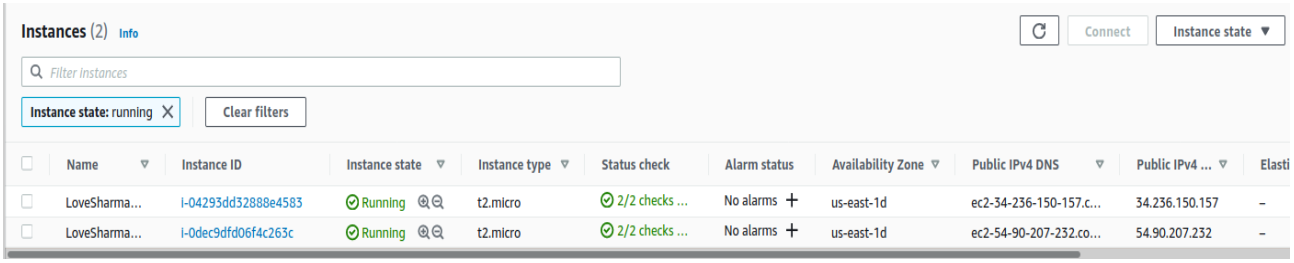
```
┌──(love@kali ~/college/MIDSEM/SYSTEM_PROVISIONING/S3AWS/Terraform
└─$ terraform init

Initializing the backend...

Initializing provider plugins...
- Finding latest version of hashicorp/aws...
- Installing hashicorp/aws v3.16.0...
- Installed hashicorp/aws v3.16.0 (signed by HashiCorp)

The following providers do not have any version constraints in configuration,
so the latest version was installed.

To prevent automatic upgrades to new major versions that may contain breaking
changes, we recommend adding version constraints in a required_providers block
in your configuration, with the constraint strings suggested below.

* hashicorp/aws: version = "~> 3.16.0"

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
```

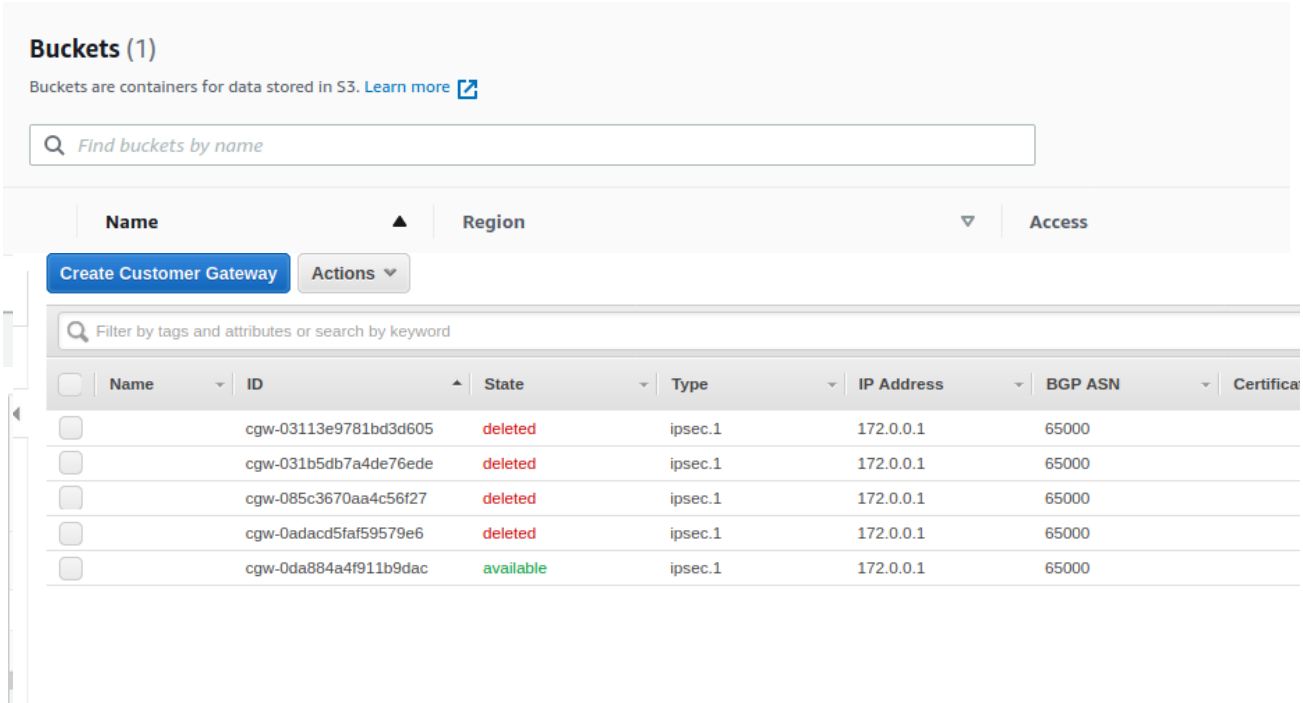


```
┌──(love@kali ~/college/MIDSEM/SYSTEM_PROVISIONING/S3AWS/Terraform
└─$ terraform plan
Refreshing Terraform state in-memory prior to plan...
The refreshed state will be used to calculate this plan, but will not be
persisted to local or remote state storage.


------------------------------------------------------------------------

An execution plan has been generated and is shown below.
Resource actions are indicated with the following symbols:
  + create

Terraform will perform the following actions:

  # aws_customer_gateway.customer_gateway will be created
  + resource "aws_customer_gateway" "customer_gateway" {
      + arn        = (known after apply)
      + bgp_asn    = "65000"
      + id         = (known after apply)
      + ip_address = "172.0.0.1"
      + type       = "ipsec.1"
    }
```

```
┌──love@kali ~/college/MIDSEM/SYSTEM_PROVISIONING/S3AWS/Terraform
└─$ terraform apply

An execution plan has been generated and is shown below.
Resource actions are indicated with the following symbols:
  + create

Terraform will perform the following actions:

  # aws_customer_gateway.customer_gateway will be created
  + resource "aws_customer_gateway" "customer_gateway" {
      + arn        = (known after apply)
      + bgp_asn    = "65000"
      + id         = (known after apply)
      + ip_address = "172.0.0.1"
      + type       = "ipsec.1"
    }
```

```
aws_vpn_connection.main: Still creating... [8m10s elapsed]
aws_vpn_connection.main: Still creating... [8m20s elapsed]
aws_vpn_connection.main: Creation complete after 8m21s [id=vpn-0e58f62fad3b82103]

Apply complete! Resources: 8 added, 0 changed, 0 destroyed.
┌──love@kali ~/college/MIDSEM/SYSTEM_PROVISIONING/S3AWS/Terraform
└─$
```





Create Virtual Private Gateway | Actions

Filter by tags and attributes or search by keyword

Name	ID	State	Type	VPC	ASN (Amazon side)
	vgw-02d11cc3f3a6411f3	deleted	ipsec.1	-	64512
	vgw-03595734382e683f5	deleted	ipsec.1	-	64512
	vgw-038e9af0cedfeb04c	attached	ipsec.1	vpc-0aac6f7f6761e075b | vpc	64512
	vgw-0ace99365a5a5379f	deleted	ipsec.1	-	64512
	vgw-0f05462a5303cc06e	deleted	ipsec.1	-	64512

Create VPN Connection | Download Configuration | Actions

Filter by tags and attributes or search by keyword

Name	VPN ID	State	Virtual Private Gateway	Transit Gateway
	vpn-01783c953dac534f2	deleted	vgw-0f05462a5303cc06e	-
	vpn-03e7fa47d51c82eb6	deleted	vgw-02d11cc3f3a6411f3	-
	vpn-0647cdfa7b01ce3f2	deleted	vgw-03595734382e683f5	-
	vpn-0dfafb14dc4001232	deleted	vgw-0ace99365a5a5379f	-
	vpn-0e58f62fad3b82103	available	vgw-038e9af0cedfeb04c	-

```
aws_instance.LoveSharmaDev1Instance[1]: Still destroying... [id=i-0dec9dfd06f4c263c,
aws_instance.LoveSharmaDev1Instance[0]: Still destroying... [id=i-04293dd32888e4583,
aws_instance.LoveSharmaDev1Instance[1]: Destruction complete after 35s
aws_instance.LoveSharmaDev1Instance[0]: Destruction complete after 36s
aws_security_group.lovesharmadev1: Destruction complete after 37s

Destroy complete! Resources: 8 destroyed.
┌─love@kali ~/college/MIDSEM/SYSTEM_PROVISIONING/S3AWS/Terraform
└─$
```

```
┌─love@kali ~/college/MIDSEM/SYSTEM_PROVISIONING/S3AWS/Terraform
└─$ terraform destroy
aws_customer_gateway.customer_gateway: Refreshing state... [id=cgw-0da884a4f911b9dac]
aws_vpc.vpc: Refreshing state... [id=vpc-0aac6f7f6761e075b]
aws_security_group.lovesharmadev1: Refreshing state... [id=sg-09acd4c056eae9f03]
aws_s3_bucket.tf_course: Refreshing state... [id=lovesharmadev2]
aws_instance.LoveSharmaDev1Instance[1]: Refreshing state... [id=i-0dec9dfd06f4c263c]
aws_instance.LoveSharmaDev1Instance[0]: Refreshing state... [id=i-04293dd32888e4583]
aws_vpn_gateway.vpn_gateway: Refreshing state... [id=vgw-038e9af0cedfeb04c]
aws_vpn_connection.main: Refreshing state... [id=vpn-0e58f62fad3b82103]

An execution plan has been generated and is shown below.
Resource actions are indicated with the following symbols:
  - destroy

Terraform will perform the following actions:

  # aws_customer_gateway.customer_gateway will be destroyed
  - resource "aws_customer_gateway" "customer_gateway" {
```