



SPCM - LAB
6th Sem

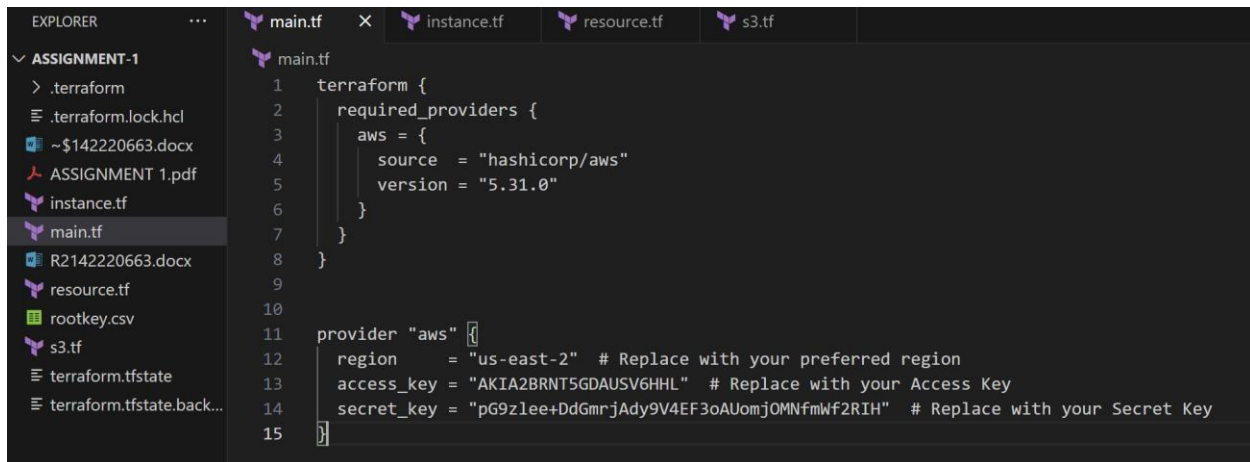
Submitted To:

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Batch 2-NH

Writing Terraform Scripts to perform the following task 2 ec2 Instances, VPN and S3
main.tf



```
1 terraform {
2   required_providers {
3     aws = {
4       source = "hashicorp/aws"
5       version = "5.31.0"
6     }
7   }
8 }
9
10
11 provider "aws" {
12   region = "us-east-2" # Replace with your preferred region
13   access_key = "AKIA2BRNT5GDAUSV6HHL" # Replace with your Access Key
14   secret_key = "pG9zlee+DdGmrjAdy9V4EF3oAUomjOMNfmWf2RIH" # Replace with your Secret Key
15 }
```

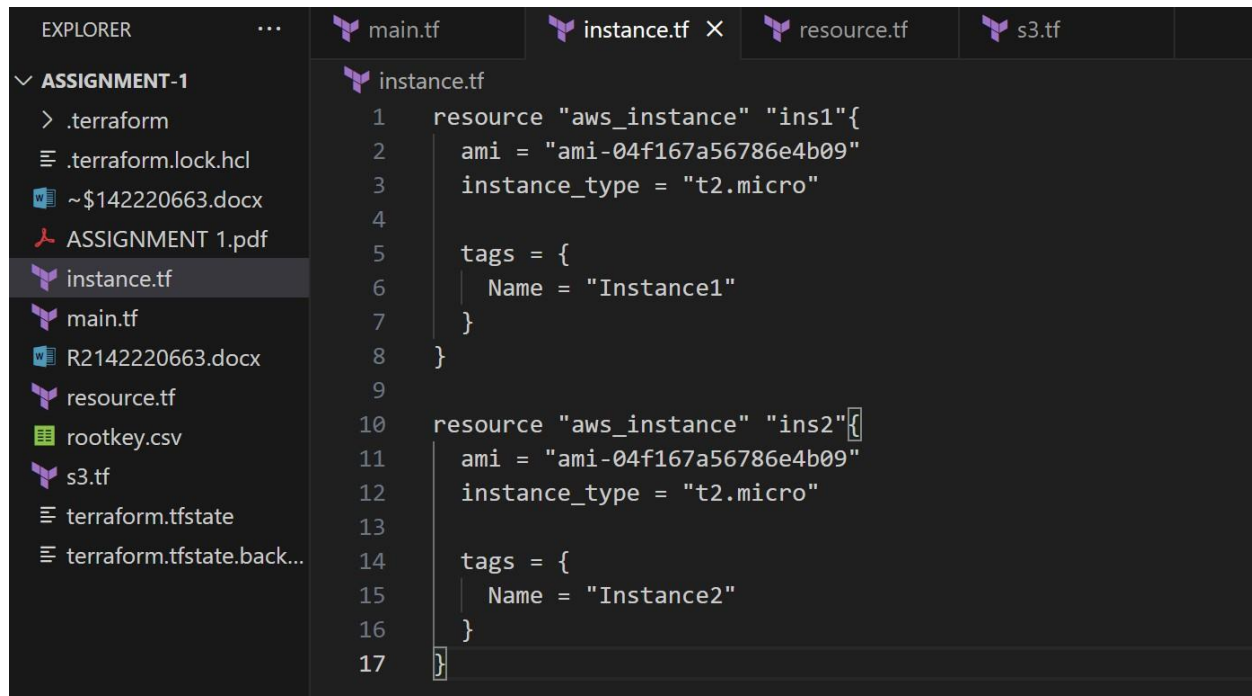
Running terraform init

Terraform init to initialize the

```
D_DATA\Kushagra\UPES COLLEGE STUDY MATERIAL\SEM6\SPCM\labAssigment-1
ing the backend ...
ing provider plugins ...
ing hashicorp/aws versions '>3.31.0' ...
alling hashicorp/aws v3.31.0 ...
loading hashicorp/aws 3.31.0 (signed by HashiCorp)
orm has created a lock file .terraform.lock.hcl to record provider
ions it made above. Include this file in your version control repository
Terraform can guarantee to make the same selections by default when
'terraform init' in the future.
orm has been successfully initialized!
now begin working with Terraform, Try running 'terraform plan' to see any
that are required for your infrastructure. All Terraform commands should
k.
ever set or change modules or backend configuration for Terraform,
ID_DATA\Kushagra\UPES COLLEGE STUDY MATERIAL\SEM6\SPCM\labAssigment-1>
```

terraform folder which will have the aws provider plugin installed

instance.tf



```
1 resource "aws_instance" "ins1"{
2     ami = "ami-04f167a56786e4b09"
3     instance_type = "t2.micro"
4
5     tags = {
6         Name = "Instance1"
7     }
8 }
9
10 resource "aws_instance" "ins2"{
11     ami = "ami-04f167a56786e4b09"
12     instance_type = "t2.micro"
13
14     tags = {
15         Name = "Instance2"
16     }
17 }
```

This file holds the iac code to make 2 instances - t2-micro ec2 machines

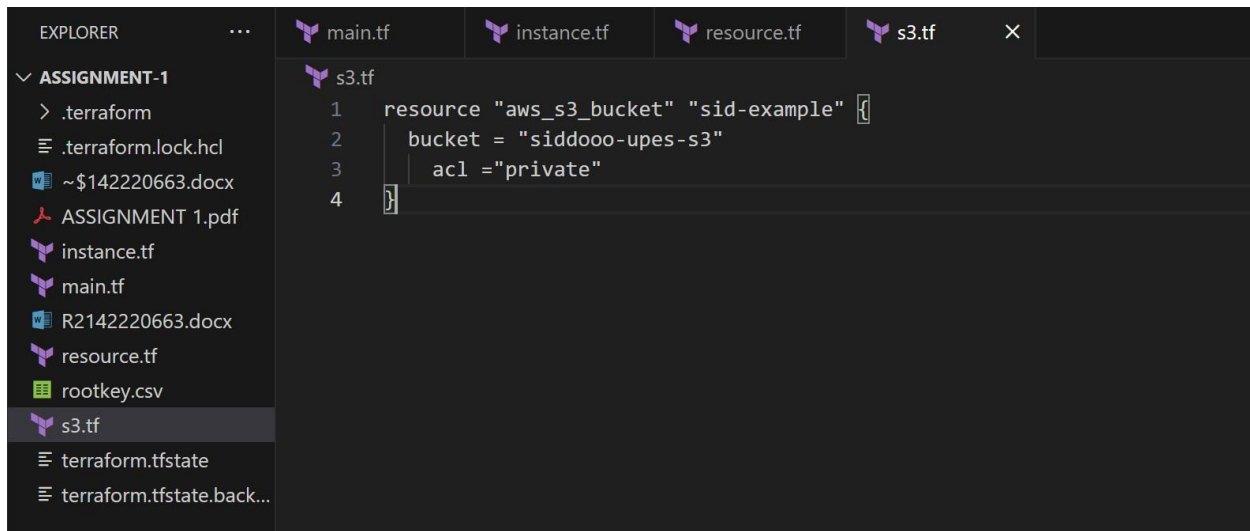
resource.tf

```
1  resource "aws_vpc" "main"{
2    cidr_block = "10.0.0.0/16"
3
4    tags = {
5      Name = "SiddoooVPC"
6    }
7  }
8
9
10 resource "aws_vpn_gateway" "example" {
11   vpc_id = aws_vpc.main.id
12
13   tags = {
14     Name = "MyVPNGateway"
15   }
16 }
17
18
19 resource "aws_customer_gateway" "example" {
20   bgp_asn = 65000
21   ip_address = "203.0.113.1" # Replace with actual IP
22   type = "ipsec.1"
23
24   tags = {
25     Name = "MyCustomerGateway"
26   }
27 }
28
29
30
31 resource "aws_vpn_connection" "example" {
32   customer_gateway_id = aws_customer_gateway.example.id
33   vpn_gateway_id = aws_vpn_gateway.example.id
34   type = "ipsec.1"
```

```
21   ip_address = "203.0.113.1" # Replace with actual IP
22   type = "ipsec.1"
23
24   tags = {
25     Name = "MyCustomerGateway"
26   }
27 }
28
29
30
31 resource "aws_vpn_connection" "example" {
32   customer_gateway_id = aws_customer_gateway.example.id
33   vpn_gateway_id = aws_vpn_gateway.example.id
34   type = "ipsec.1"
35   static_routes_only = true
36 }
```

This resource.tf hold the iac code to create vpc , the customer gateway and the vpn connection.

s3.tf



The s3.tf hold the code to create a s3 bucket which has a unique name

Outputs:

terraform plan

```
. \SID_DATA\Kushagra\UPES COLLEGE STUDY MATERIAL\SEM6\lab assignment-1
terraform plan
terraform used the selected providers to generate the following execution
plan. Resource actions are indicated with the following symbols:
create

terraform will perform the following task:
aws_customer_gateway.example named be created
resource "aws_customer_gateway" {
+ bgp_asn = "65000"
+ ip_address (known as apply)
+ ip_address 203.0.113.11"
+ tags = {
    Name = "MyCustomerGateway"
+ tags_all = {
    Name = "MyCustomerGateway"
+ ipsec_tunnel = "ipsec.1"
```

```
+ tunnel1_log_options (known after apply)
+ tunnel2_log_options (known after apply)
}

# aws_vpn_gateway.example will be created
+ resource "aws_vpn_gateway" "example" {
+   amazon_side_asn = (known after apply)
+   arn              = (known after apply)
+   id               = (known after apply)
+   tags             = {
+     Name = "MyVPNGateway"
+   }
+   tags_all         = {
+     Name = "MyVPNGateway"
+   }
+   vpc_id           = (known after apply)
+ }

Plan: 7 to add, 0 to change, 0 to destroy.
```

Terraform apply

```
PS C:\Kushagra_DATASKUSHAGRA\UPES COLLEGE STUDY MATERIAL\SEM6\SPCM\lab\Assignment-1> terraform apply -auto-approve
```

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create

Terraform will perform the following actions:

```
# aws_customer_gateway.example will be created
+ resource "aws_customer_gateway" "example" {
  arm = (known after apply)
  bgp_asn = "65800"
  id = (known after apply)
  ip_address = "283.0.113.1"
  tags = (
    + "Name" = "MyCustomerGateway"
  )
  tags_all = (
    + "Name" = "MyCustomerGateway"
  )
  type = "ipsec.1"
}

# aws_instance.ins1 will be created
+ resource "aws_instance" "ins1" {
  arm = "ami-04f167a56786e4b69"
  associate_public_ip_address = (known after apply)
  availability_zone = (known after apply)
  cpu_core_count = (known after apply)
  cpu_threads_per_core = (known after apply)
  disable_api_stop = (known after apply)
  disable_api_termination = (known after apply)
  ebs_optimized = (known after apply)
  get_password_data = false

3: acl = "private"
```

Use the `aws_s3_bucket_acl` resource instead

(and 2 more similar warnings elsewhere)

(and 2 more similar warnings elsewhere)

(and 2 more similar warnings elsewhere)

Apply complete! Resources: 7 added, 0 changed, 0 destroyed.

```
PS C:\Kushagra_DATASKUSHAGRA\UPES COLLEGE STUDY MATERIAL\SEM6\SPCM\lab\Assignment-1>
```

Customer Gateway

☰

VPC dashboard <

EC2 Global View

Filter by VPC

▼ Virtual private cloud

Your VPCs

Subnets

Route tables

Customer gateways (3) info

Find resource by attribute or tag

Actions Create customer gateway

	Name	Customer gateway ID	State	BGP ASN	IP address	Type
<input type="radio"/>	MyCustomerGateway	cgw-053fbc190f289fd02	Available	65000	203.0.113.1	ipsec
<input type="radio"/>	MyCustomerGateway	cgw-0c3a83d22dec3ba7c	Deleted	65000	203.0.113.1	ipsec
<input type="radio"/>	MyCustomerGateway	cgw-02fd7bbe854059df9	Deleted	65000	203.0.113.1	ipsec

VPC

☰

VPC dashboard <

EC2 Global View

Filter by VPC

▼ Virtual private cloud

Your VPCs

Subnets

Your VPCs (2) info

Search

Last updated less than a minute ago Actions Create VPC

<input type="checkbox"/>	Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	-	vpc-04085b5bd7204f5959	Available	Off	172.31.0.0/16	-
<input type="checkbox"/>	SiddoooVPC	vpc-0e26294ee298f65a7	Available	Off	10.0.0.0/16	-

S3

☰ Amazon S3

Amazon S3 <

General purpose buckets

Directory buckets

Table buckets

Access Grants

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

IAM Access Analyzer for S3

Block Public Access settings for this account

Account snapshot - updated every 24 hours All AWS Regions View Storage Lens dashboard

Storage lens provides visibility into storage usage and activity trends. Metrics don't include directory buckets. Learn more

General purpose buckets Directory buckets

General purpose buckets (1) info All AWS Regions Copy ARN Empty Delete Create bucket

Buckets are containers for data stored in S3.

Find buckets by name

<input type="radio"/>	Name	AWS Region	IAM Access Analyzer	Creation date
<input type="radio"/>	siddooo-upes-s3	US East (Ohio) us-east-2	View analyzer for us-east-2	April 11, 2025, 12:15:48 (UTC+05:30)

Instances

☰ EC2 > Instances

EC2 <

Dashboard

EC2 Global View

Events

▼ Instances

Instances

Instance Types

Launch Templates

Spot Requests

Instances (4) info

Find Instance by attribute or tag (case-sensitive)

Last updated less than a minute ago Connect Instance state Actions Launch instances

All states

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	Instance2	i-0f218988196a09e08	Terminated	t2.micro	-	View alarms +	us-east-2a
<input type="checkbox"/>	Instance1	i-0b34743202d330a45	Terminated	t2.micro	-	View alarms +	us-east-2a
<input type="checkbox"/>	Instance2	i-037f3dd6a1dfdada5a	Running	t2.micro	2/2 checks passed	View alarms +	us-east-2a
<input type="checkbox"/>	Instance1	i-03050527f4d98b664	Running	t2.micro	2/2 checks passed	View alarms +	us-east-2a