

Terraform Assignment - 4

You have been asked to:

- Destroy the previous deployments
- Create a VPC with the required components using Terraform
- Deploy an EC2 instance inside the VPC

```
ubuntu@ip-172-31-95-109: ~  
ubuntu@ip-172-31-95-109:~$ terraform destroy  
aws_instance.ohio-instance: Refreshing state... [id=i-0df23ace6da5be243]  
aws_instance.virginia-instance: Refreshing state... [id=i-05efdd3977fclc445]  
  
Terraform used the selected providers to generate the following execution plan. Resource actions are  
indicated with the following symbols:  
- destroy  
  
Terraform will perform the following actions:  
  
# aws_instance.ohio-instance will be destroyed  
- resource "aws_instance" "ohio-instance" {  
  - ami = "ami-0b8b44ec9a8f90422" -> null  
  - arn = "arn:aws:ec2:us-east-2:917788167444:instance/i-0df23ace6da5be243" -> null  
  - associate_public_ip_address = true -> null  
  - availability_zone = "us-east-2a" -> null  
  - cpu_core_count = 1 -> null  
  - cpu_threads_per_core = 1 -> null  
  - disable_api_stop = false -> null  
  - disable_api_termination = false -> null  
  - ebs_optimized = false -> null  
  - get_password_data = false -> null  
  - hibernation = false -> null  
  - id = "i-0df23ace6da5be243" -> null  
  - instance_initiated_shutdown_behavior = "stop" -> null  
  - instance_state = "running" -> null  
  - instance_type = "t2.micro" -> null  
  - ipv6_address_count = 0 -> null  
  - ipv6_addresses = [] -> null
```

```
ubuntu@ip-172-31-95-109: ~  
- volume_id = "vol-0edce152461e2d2f1" -> null  
- volume_size = 8 -> null  
- volume_type = "gp2" -> null  
  # (1 unchanged attribute hidden)  
}  
}  
  
Plan: 0 to add, 0 to change, 2 to destroy.  
  
Do you really want to destroy all resources?  
Terraform will destroy all your managed infrastructure, as shown above.  
There is no undo. Only 'yes' will be accepted to confirm.  
  
Enter a value: yes  
  
aws_instance.ohio-instance: Destroying... [id=i-0df23ace6da5be243]  
aws_instance.virginia-instance: Destroying... [id=i-05efdd3977fclc445]  
aws_instance.ohio-instance: Still destroying... [id=i-0df23ace6da5be243, 10s elapsed]  
aws_instance.virginia-instance: Still destroying... [id=i-05efdd3977fclc445, 10s elapsed]  
aws_instance.ohio-instance: Still destroying... [id=i-0df23ace6da5be243, 20s elapsed]  
aws_instance.virginia-instance: Still destroying... [id=i-05efdd3977fclc445, 20s elapsed]  
aws_instance.ohio-instance: Still destroying... [id=i-0df23ace6da5be243, 30s elapsed]  
aws_instance.virginia-instance: Still destroying... [id=i-05efdd3977fclc445, 30s elapsed]  
aws_instance.ohio-instance: Still destroying... [id=i-0df23ace6da5be243, 40s elapsed]  
aws_instance.virginia-instance: Still destroying... [id=i-05efdd3977fclc445, 40s elapsed]  
aws_instance.ohio-instance: Destruction complete after 40s  
aws_instance.virginia-instance: Destruction complete after 40s  
  
Destroy complete! Resources: 2 destroyed.  
ubuntu@ip-172-31-95-109:~$
```

dhivya | IAM | Global | Instances | EC2 | us-east-1 | Instances | EC2 | us-east-2 | ChatGPT | Download file | iLovePDF

us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#Instances

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aws | Services | Search | [Alt+S] | Ohio | DHIVYA J

Admin Catalog

- ▼ Elastic Block Store
 - Volumes
 - Snapshots
 - Lifecycle Manager
- ▼ Network & Security
 - Security Groups
 - Elastic IPs
 - Placement Groups
 - Key Pairs
 - Network Interfaces
- ▼ Load Balancing
 - Load Balancers
 - Target Groups
 - Trust Stores [New](#)
- ▼ Auto Scaling
 - Auto Scaling Groups

Instances (1) Info

Find Instance by attribute or tag (case-sensitive) All states

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
<input type="checkbox"/>	hello-ohio	i-0df23ace6da5be243	Terminated	t2.micro	-	View alarms	us-east-2a

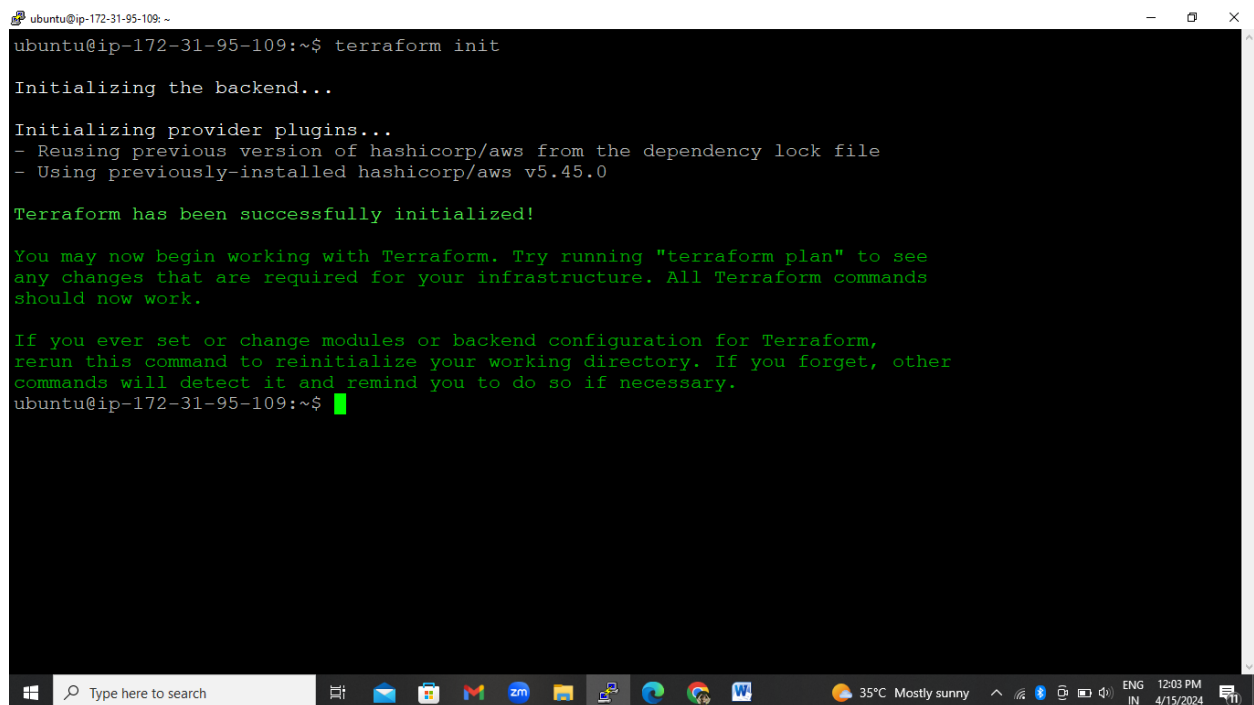
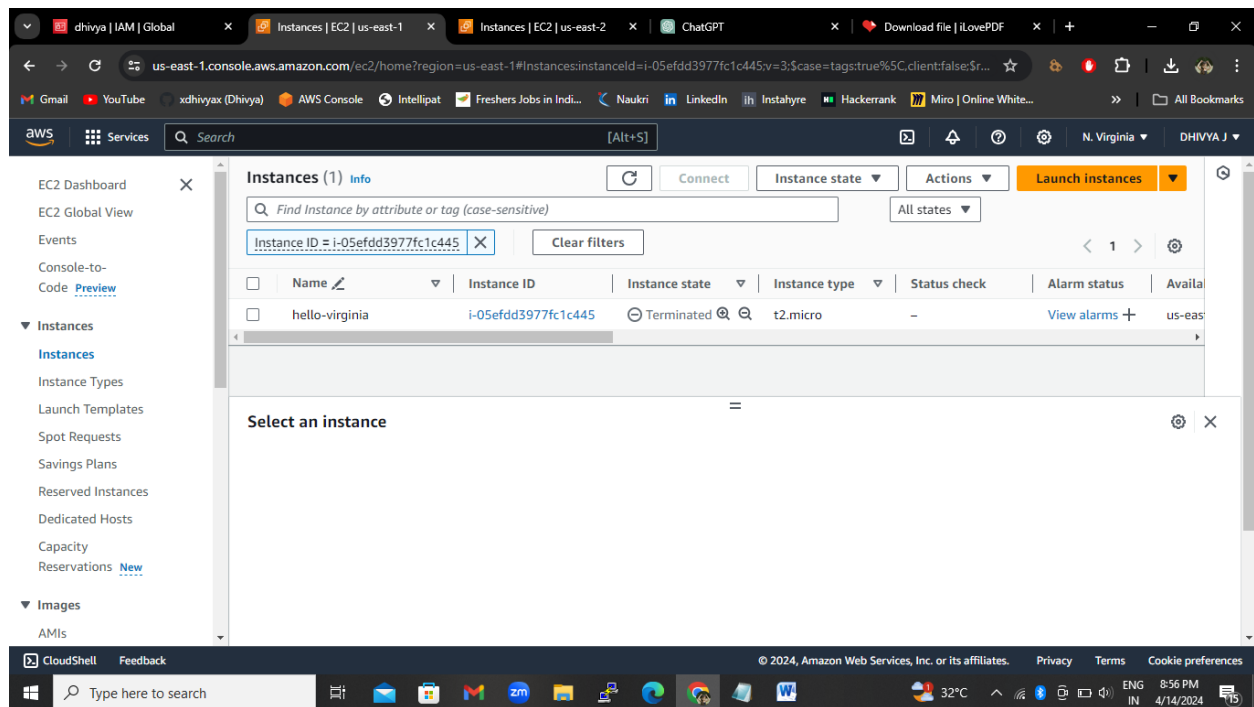
Instance: i-0b070bab06a77415e (assignment-eip)

Details | Status and alarms [New](#) | Monitoring | Security | Networking | Storage | Tags

▼ Instance summary [Info](#)

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0b070bab06a77415e (assignment-eip)	-	-
IPv6 address	Instance state	Public IPv4 DNS
-	Terminated	-
Hostname type		

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```
ubuntu@ip-172-31-95-109: ~  
ubuntu@ip-172-31-95-109:~$ terraform apply  
  
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_instance.my_instance will be created  
+ resource "aws_instance" "my_instance" {  
  + ami              = "ami-0b8b44ec9a8f90422"  
  + arn              = (known after apply)  
  + 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  
  + host_id            = (known after apply)  
  + host_resource_group_arn = (known after apply)  
  + iam_instance_profile = (known after apply)  
  + id                 = (known after apply)  
  + instance_initiated_shutdown_behavior = (known after apply)  
  + instance_lifecycle = (known after apply)  
  + instance_state     = (known after apply)  
  + instance_type      = "t2.micro"  
  + ipv6_address_count = (known after apply)  
  + ipv6_addresses     = (known after apply)  
}
```

```
    }  
  }  
}  
  
Plan: 6 to add, 0 to change, 0 to destroy.  
  
Do you want to perform these actions?  
Terraform will perform the actions described above.  
Only 'yes' will be accepted to approve.  
  
Enter a value: yes  
  
aws_vpc.my_vpc: Creating...  
aws_vpc.my_vpc: Still creating... [11s elapsed]  
aws_vpc.my_vpc: Creation complete after 12s [id=vpc-00cbc5b155d3c6d31]  
aws_subnet.my_subnet: Creating...  
aws_security_group.my_sg: Creating...  
aws_internet_gateway.my_igw: Creating...  
aws_internet_gateway.my_igw: Creation complete after 1s [id=igw-0797b3ead4fc7c19f]  
aws_route_table.my_route_table: Creating...  
aws_route_table.my_route_table: Creation complete after 1s [id=rtb-060bd4b44948079d0]  
aws_security_group.my_sg: Creation complete after 2s [id=sg-026010a8085ea6fb2]  
aws_subnet.my_subnet: Still creating... [10s elapsed]  
aws_subnet.my_subnet: Creation complete after 11s [id=subnet-067ff5e76a0880858]  
aws_instance.my_instance: Creating...  
aws_instance.my_instance: Still creating... [10s elapsed]  
aws_instance.my_instance: Still creating... [20s elapsed]  
aws_instance.my_instance: Still creating... [30s elapsed]  
aws_instance.my_instance: Creation complete after 32s [id=i-057a33b89a4cd4344]  
  
Apply complete! Resources: 6 added, 0 changed, 0 destroyed.  
ubuntu@ip-172-31-95-109:~$
```

Instances | EC2 | us-east-2

us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#instances:v=3;\$case=tag:true%5C,client:false;\$regex=tags:false%5C,client:false

EC2 Dashboard

EC2 Global View

Events

▼ Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity

Reservations [New](#)

▼ Images

AMIs

AMI Catalog

Instances (1/1) Info

Find Instance by attribute or tag (case-sensitive)

Running

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
<input checked="" type="checkbox"/>	vpc-ec2-instance	i-057a33b89a4cd4344	Running	t2.micro	Initializing	View alarms	us-east-2b

Instance: i-057a33b89a4cd4344 (vpc-ec2-instance)

Auto-assigned IP address
18.222.24.86 [Public IP]

VPC ID
vpc-00cbc5b155d3c6d31 (my-vpc)

IAM Role
-

Subnet ID
subnet-067ff5e76a0880858 (my-subnet)

AWS Compute Optimizer finding
Opt-in to AWS Compute Optimizer for recommendations.
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Auto Scaling Group name
-

CloudShell Feedback

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vpcs | VPC Console

us-east-2.console.aws.amazon.com/vpcconsole/home?region=us-east-2#vpcs:

VPC dashboard

EC2 Global View

Filter by VPC:
Select a VPC

▼ Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Your VPCs (1/2) Info

Search

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	-	vpc-0906a04f7e01337b3	Available	172.31.0.0/16	-
<input checked="" type="checkbox"/>	my-vpc	vpc-00cbc5b155d3c6d31	Available	10.0.0.0/16	-

vpc-00cbc5b155d3c6d31 / my-vpc

Details Resource map CIDRs Flow logs Tags Integrations

Details

VPC ID vpc-00cbc5b155d3c6d31	State Available	DNS hostnames Enabled	DNS resolution Enabled
Tenancy Default	DHCP option set dopt-0bbad66c58965d28e	Main route table rtb-045e46bf4f535c145	Main network ACL acl-04b51d21f6ba07ad5

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us-east-2.console.aws.amazon.com/vpcconsole/home?region=us-east-2#subnets:

Virtual private cloud

Subnets

Subnets (1/4) Info

Find resources by attribute or tag

Name	Subnet ID	State	VPC
-	subnet-058c48067449e8a19	Available	vpc-0906a04f7e01337b3
-	subnet-0ca51ab98e9688f64	Available	vpc-0906a04f7e01337b3
my-subnet	subnet-067ff5e76a0880858	Available	vpc-00cbc5b155d3c6d31 my-vpc
-	subnet-0570983d4abe617f9	Available	vpc-0906a04f7e01337b3

subnet-067ff5e76a0880858 / my-subnet

us-east-2.console.aws.amazon.com/vpcconsole/home?region=us-east-2#igws:

Internet gateways

Internet gateways (1/2) Info

Search

Name	Internet gateway ID	State	VPC ID	Owner
my-igw	igw-0797b3ead4fc7c19f	Attached	vpc-00cbc5b155d3c6d31 my-vpc	917788167444
-	igw-0edf2f8e482a6efe7	Attached	vpc-0906a04f7e01337b3	917788167444

igw-0797b3ead4fc7c19f / my-igw

Details

Internet gateway ID	State	VPC ID	Owner
igw-0797b3ead4fc7c19f	Attached	vpc-00cbc5b155d3c6d31 my-vpc	917788167444

us-east-2.console.aws.amazon.com/vpcconsole/home?region=us-east-2#RouteTables:

Virtual private cloud

Route tables (1/3) Info

Name	Route table ID	Explicit subnet associ...	Edge associations	Main
-	rtb-06acc365fa46aa0a6	-	-	Yes
-	rtb-045e46bf4f535c145	-	-	Yes
my-route-table	rtb-060bd4b44948079d0	-	-	No

rtb-060bd4b44948079d0 / my-route-table

Subnet associations

Explicit subnet associations (0)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR
------	-----------	-----------	-----------

```
ubuntu@ip-172-31-95-109: ~$ cat vpc-ec2.tf
provider "aws" {
  region = "us-east-2"
  access_key = "AKIA5LMDQBKCCJJE4YA"
  secret_key = "V08DsUKssqdm9QpVF9tZtUmvOawJZGEGZgLBVs2/"
}

resource "aws_vpc" "my_vpc" {
  cidr_block = "10.0.0.0/16"
  enable_dns_support = true
  enable_dns_hostnames = true

  tags = {
    Name = "my-vpc"
  }
}

resource "aws_internet_gateway" "my_igw" {
  vpc_id = aws_vpc.my_vpc.id

  tags = {
    Name = "my-igw"
  }
}

resource "aws_route_table" "my_route_table" {
  vpc_id = aws_vpc.my_vpc.id

  route {
    cidr_block = "0.0.0.0/0"
    gateway_id = aws_internet_gateway.my_igw.id
  }
}
```

```
ubuntu@ip-172-31-95-109: ~  
tags = {  
    Name = "my-igw"  
}  
}  
  
resource "aws_route_table" "my_route_table" {  
    vpc_id = aws_vpc.my_vpc.id  
  
    route {  
        cidr_block = "0.0.0.0/0"  
        gateway_id = aws_internet_gateway.my_igw.id  
    }  
  
    tags = {  
        Name = "my-route-table"  
    }  
}  
  
resource "aws_subnet" "my_subnet" {  
    vpc_id      = aws_vpc.my_vpc.id  
    cidr_block  = "10.0.1.0/24"  
    map_public_ip_on_launch = true  
  
    tags = {  
        Name = "my-subnet"  
    }  
}  
  
resource "aws_security_group" "my_sg" {  
    vpc_id = aws_vpc.my_vpc.id
```

```
ubuntu@ip-172-31-95-109: ~  
    ingress {  
        from_port = 0  
        to_port   = 65535  
        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 = "my-sg"  
    }  
}  
  
resource "aws_instance" "my_instance" {  
    ami           = "ami-0b8b44ec9a8f90422"  
    instance_type = "t2.micro"  
    subnet_id     = aws_subnet.my_subnet.id  
    tags = {  
        Name = "vpc-ec2-instance"  
    }  
}  
  
ubuntu@ip-172-31-95-109:~$
```