



**Module 8: Terraform
Assignment - 3**

Tasks To Be Performed:

1. Destroy the previous deployment
2. Create 2 EC2 instances in Ohio and N.Virginia respectively
3. Rename Ohio's instance to 'hello-ohio' and Virginia's instance to 'hello-virginia'

us-east-2.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-2&connType=standard&instanceId=i-0da367a56e8dccb29&osUser=ubuntu&sshPort=2...

Services

Search

[Option+S]

EC2

Ohio

rsujithsri16@gmail.com

No VM guests are running outdated hypervisor (qemu) binaries on this host.

ubuntu@ip-172-31-7-100:~/assignment\$ sudo nano main.tf

ubuntu@ip-172-31-7-100:~/assignment\$ terraform init

Initializing the backend...

Initializing provider plugins...

- Finding latest version of hashicorp/aws...

- Installing hashicorp/aws v5.60.0...

- Installed hashicorp/aws v5.60.0 (signed by HashiCorp)

Terraform has created a lock file .terraform.lock.hcl to record the provider selections it made above. Include this file in your version control repository so that Terraform can guarantee to make the same selections by default when you run "terraform init" in the future.

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.

ubuntu@ip-172-31-7-100:~/assignment\$ 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 actions:

aws_instance.assignment-3-1 will be created

+ resource "aws_instance" "assignment-3-1" {

+ ami = "ami-0a0e5d9c7acc336f1"

+ arn = (known after apply)

I-0da367a56e8dccb29 (server-terraform)

Public IPs: 3.15.138.185 Private IPs: 172.31.7.100

CloudShell

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us-east-2.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-2&connType=standard&instanceId=i-0da367a56e8dccb29&osUser=ubuntu&sshPort=2...

aws

Services

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[Option+S]

EC2

Ohio

rsujiths116@gmail.com

GNU nano 6.2

main.tf *

```
provider "aws" {
  alias = "NV"
  region = "us-east-1"
  access_key = "AKIAYYL4MR7SOSVA2NFB"
  secret_key = "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"
}
provider "aws" {
  alias = "Ohio"
  region = "us-east-2"
  access_key = "AKIAYYL4MR7SNVZN4QPY"
  secret_key = "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"
}
resource "aws_instance" "assignment-3-1" {
  provider = aws.NV
  ami = "ami-0a0e5d9c7acc336f1"
  instance_type = "t2.micro"
  tags = {
    Name = "hello-virginia"
  }
}
resource "aws_instance" "assignment-3-2" {
  provider = aws.Ohio
  ami = "ami-003932de22c285676"
  instance_type = "t2.micro"
  key_name = "sujithohio"
  tags = {
    Name = "hello-ohio"
  }
}
```

Help

Write Out

Where Is

Cut

Execute

Location

Undo

Set Mark

To Bracket

Exit

Read File

Replace

Paste

Justify

Go To Line

Redo

Copy

Where Was

i-0da367a56e8dccb29 (server-terraform)

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```
# aws_instance.assignment-3-1 will be created
+ resource "aws_instance" "assignment-3-1" {
+   ami                        = "ami-0a0e5d9c7acc336f1"
+   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)
+   key_name                   = (known after apply)
+   monitoring                 = (known after apply)
+   outpost_arn                = (known after apply)
+   password_data              = (known after apply)
+   placement_group            = (known after apply)
+   placement_partition_number = (known after apply)
+   primary_network_interface_id = (known after apply)
+   private_dns                = (known after apply)
+   private_ip                 = (known after apply)
+   public_dns                 = (known after apply)
+   public_ip                  = (known after apply)
```

i-0da367a56e8dcf29 (server-terraform)

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```
EC2
# aws_instance.assignment-3-2 will be created
+ resource "aws_instance" "assignment-3-2" {
+   ami              = "ami-003932de22c285676"
+   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)
+   key_name           = "sujiithobio"
+   monitoring         = (known after apply)
+   outpost_arn        = (known after apply)
+   password_data      = (known after apply)
+   placement_group    = (known after apply)
+   placement_partition_number = (known after apply)
+   primary_network_interface_id = (known after apply)
+   private_dns        = (known after apply)
+   private_ip         = (known after apply)
+   public_dns         = (known after apply)
+   public_ip          = (known after apply)
+   secondary_private_ips = (known after apply)
```

i-0da367a56e8dccb29 (server-terraform) X
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us-east-2.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-2&connType=standard&instanceId=i-0da367a56e8dccf29&osUser=ubuntu&sshPort=2...

aws

Services

Search

[Option+S]

EC2

Ohio

rsujithsri16@gmail.com

Plan: 2 to add, 0 to change, 0 to destroy.

Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if you run "terraform apply" now.
ubuntu@ip-172-31-7-100:~/assignment\$ 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.assignment-3-1 will be created
+ resource "aws_instance" "assignment-3-1" {
+ ami = "ami-0a0e5d9c7acc336f1"
+ 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)
}

i-0da367a56e8dccf29 (server-terraform)

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us-east-2.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-2&connType=standard&instanceId=i-0da367a56e8dccb29&osUser=ubuntu&sshPort=2...

aws

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[Option+S]

Ohio

rsujithsri16@gmail.com

EC2

+ network_interface (known after apply)

+ private_dns_name_options (known after apply)

+ root_block_device (known after apply)

}

Plan: 2 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_instance.assignment-3-2: Creating...

aws_instance.assignment-3-1: Creating...

aws_instance.assignment-3-2: Still creating... [10s elapsed]

aws_instance.assignment-3-1: Still creating... [10s elapsed]

aws_instance.assignment-3-2: Still creating... [20s elapsed]

aws_instance.assignment-3-1: Still creating... [20s elapsed]

aws_instance.assignment-3-2: Still creating... [30s elapsed]

aws_instance.assignment-3-1: Still creating... [30s elapsed]

aws_instance.assignment-3-2: Creation complete after 31s [id=i-0db3c64d46a7d4b26]

aws_instance.assignment-3-1: Creation complete after 32s [id=i-07770cc5e15166a80]

Apply complete! Resources: 2 added, 0 changed, 0 destroyed.

ubuntu@ip-172-31-7-100: ~/assignment\$ terraform destroy

aws_instance.assignment-3-1: Refreshing state... [id=i-07770cc5e15166a80]

aws_instance.assignment-3-2: Refreshing state... [id=i-0db3c64d46a7d4b26]

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

- destroy

i-0da367a56e8dccb29 (server-terraform)

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```
EC2
- ami = "ami-0a0e5d9c7acc336f1" -> null
- arn = "arn:aws:ec2:us-east-1:602093162468:instance/i-07770cc5e15166a80" -> null
- associate_public_ip_address = true -> null
- availability_zone = "us-east-1b" -> 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-07770cc5e15166a80" -> null
- instance_initiated_shutdown_behavior = "stop" -> null
- instance_state = "running" -> null
- instance_type = "t2.micro" -> null
- ipv6_address_count = 0 -> null
- ipv6_addresses = [] -> null
- monitoring = false -> null
- placement_partition_number = 0 -> null
- primary_network_interface_id = "eni-00960ec6aef8b67b1" -> null
- private_dns = "ip-172-31-36-227.ec2.internal" -> null
- private_ip = "172.31.36.227" -> null
- public_dns = "ec2-18-208-226-253.compute-1.amazonaws.com" -> null
- public_ip = "18.208.226.253" -> null
- secondary_private_ips = [] -> null
- security_groups = [
  - "default",
] -> null
- source_dest_check = true -> null
- subnet_id = "subnet-02c45422015d65a56" -> null
- tags = {
  - "Name" = "hello-virginia"
} -> null
- tags_all = {
```

i-0da367a56e8dccf29 (server-terraform) X
PublicIPs: 3.15.138.185 PrivateIPs: 172.31.7.100

```
EC2
- core_count = 1 -> null
- threads_per_core = 1 -> null
  # (1 unchanged attribute hidden)
}
- credit_specification {
- cpu_credits = "standard" -> null
}
- enclave_options {
- enabled = false -> null
}
- maintenance_options {
- auto_recovery = "default" -> null
}
- metadata_options {
- http_endpoint = "enabled" -> null
- http_protocol_ipv6 = "disabled" -> null
- http_put_response_hop_limit = 1 -> null
- http_tokens = "optional" -> null
- instance_metadata_tags = "disabled" -> null
}
- private_dns_name_options {
- enable_resource_name_dns_a_record = false -> null
- enable_resource_name_dns_aaaa_record = false -> null
- hostname_type = "ip-name" -> null
}
- root_block_device {
- delete_on_termination = true -> null
- device_name = "/dev/sda1" -> null
}
```

i-0da367a56e8dccf29 (server-terraform) X
PublicIPs: 3.15.138.185 PrivateIPs: 172.31.7.100

us-east-2.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-2&connType=standard&instanceId=i-0da367a56e8dcf29&osUser=ubuntu&sshPort=2...

aws Services Search [Option+S]

EC2

```
- encrypted          = false -> null
- iops               = 100 -> null
- tags               = {} -> null
- tags_all           = {} -> null
- throughput         = 0 -> null
- volume_id          = "vol-0a610a2c7663f2a35" -> 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.assignment-3-2: Destroying... [id=i-0db3c64d46a7d4b26]
aws_instance.assignment-3-1: Destroying... [id=i-07770cc5e15166a80]
aws_instance.assignment-3-2: Still destroying... [id=i-0db3c64d46a7d4b26, 10s elapsed]
aws_instance.assignment-3-1: Still destroying... [id=i-07770cc5e15166a80, 10s elapsed]
aws_instance.assignment-3-2: Still destroying... [id=i-0db3c64d46a7d4b26, 20s elapsed]
aws_instance.assignment-3-1: Still destroying... [id=i-07770cc5e15166a80, 20s elapsed]
aws_instance.assignment-3-2: Still destroying... [id=i-0db3c64d46a7d4b26, 30s elapsed]
aws_instance.assignment-3-1: Still destroying... [id=i-07770cc5e15166a80, 30s elapsed]
aws_instance.assignment-3-2: Destruction complete after 40s
aws_instance.assignment-3-1: Still destroying... [id=i-07770cc5e15166a80, 40s elapsed]
aws_instance.assignment-3-1: Destruction complete after 40s
```

Destroy complete! Resources: 2 destroyed.

ubuntu@ip-172-31-7-100:~/assignment\$

i-0da367a56e8dcf29 (server-terraform)

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- Elastic IP

Instances (1/2) Info

Find Instance by attribute or tag (case-sensitive)

All states

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input checked="" type="checkbox"/>	hello-ohio	i-0db3c64d46a7d4b26	Running	t2.micro	...	View alarms +	us-east-2a
<input type="checkbox"/>	Unselect instance: hello-ohio	i-0da367a56e8dcef29	Running	t2.micro	2/2 checks passed	View alarms +	us-east-2a

i-0db3c64d46a7d4b26 (hello-ohio)

Details | Status and alarms | Monitoring | Security | Networking | Storage | Tags

Instance summary

Instance ID

i-0db3c64d46a7d4b26 (hello-ohio)

IPv6 address

-

Hostname type

IP name: ip-172-31-1-234.us-east-2.compute.internal

Public IPv4 address

3.149.232.182 | open address

Instance state

Running

Private IP DNS name (IPv4 only)

ip-172-31-1-234.us-east-2.compute.internal

Private IPv4 addresses

172.31.1.234

Public IPv4 DNS

ec2-3-149-232-182.us-east-2.compute.amazonaws.com | open address