

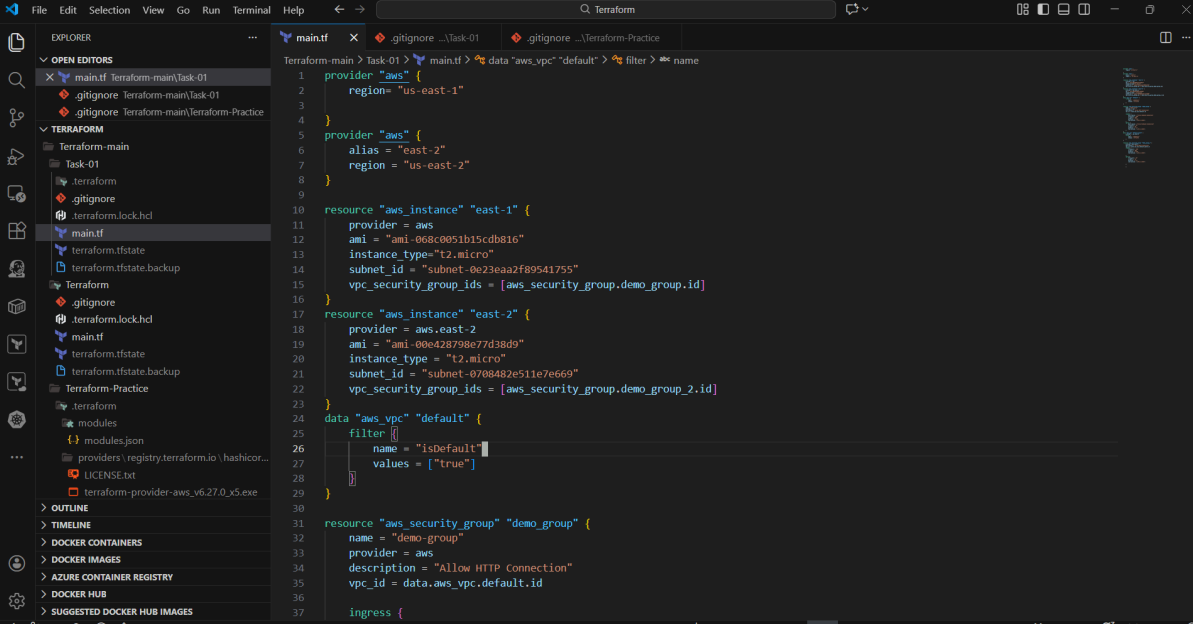
Terraform Task

Task Description:

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

Techstacks needs to be used :

- AWS EC2
- Terraform
- AWS CLI



```
1 provider "aws" {
2   region = "us-east-1"
3 }
4
5 provider "aws" {
6   alias = "east-2"
7   region = "us-east-2"
8 }
9
10 resource "aws_instance" "east-1" {
11   provider = aws
12   ami = "ami-068c0051b15c0b816"
13   instance_type = "t2.micro"
14   subnet_id = "subnet-0e23eaa2f89541755"
15   vpc_security_group_ids = [aws_security_group.demo_group.id]
16 }
17 resource "aws_instance" "east-2" {
18   provider = aws.east-2
19   ami = "ami-00e428798e77d38d9"
20   instance_type = "t2.micro"
21   subnet_id = "subnet-0708482e511e7e669"
22   vpc_security_group_ids = [aws_security_group.demo_group_2.id]
23 }
24 data "aws_vpc" "default" {
25   filter {
26     name = "isDefault"
27     values = ["true"]
28   }
29 }
30
31 resource "aws_security_group" "demo_group" {
32   name = "demo-group"
33   provider = aws
34   description = "Allow HTTP Connection"
35   vpc_id = data.aws_vpc.default.id
36
37   ingress {
```

This screenshot shows the VS Code editor with a Terraform configuration file named `main.tf`. The Explorer sidebar on the left displays the project structure, including files like `.gitignore`, `terraform.lock.hcl`, and `main.tf`. The main editor area shows the following Terraform code:

```
resource "aws_security_group" "demo_group" {  
  ingress {  
    description = "Allow Inbound Connection"  
    from_port = "80"  
    to_port = "80"  
    protocol = "tcp"  
    cidr_blocks = ["0.0.0.0/0"]  
  }  
  egress {  
    description = "Allow Outbound Connection"  
    from_port = "0"  
    to_port = "0"  
    protocol = "-1"  
    cidr_blocks = ["0.0.0.0/0"]  
  }  
}  
  
data "aws_vpc" "default_east2" {  
  provider = aws.east-2  
  filter {  
    name = "isDefault"  
    values = ["true"]  
  }  
}  
  
resource "aws_security_group" "demo_group_2" {  
  provider = aws.east-2  
  description = "allow-HTTP-connection"  
  vpc_id = data.aws_vpc.default_east2.id  
  ingress {  
    from_port = "80"  
    to_port = "80"  
    protocol = "TCP"  
    cidr_blocks = ["0.0.0.0/0"]  
  }  
  egress {  
    from_port = "0"  
    to_port = "0"  
    protocol = "-1"  
    cidr_blocks = ["0.0.0.0/0"]  
  }  
}
```

The status bar at the bottom indicates the file is at line 35, column 37, with 37 spaces, using UTF-8 encoding and CRLF line endings.

This screenshot shows the same VS Code editor with the same Terraform configuration file `main.tf`. The Explorer sidebar and the code content are identical to the first screenshot. However, the cursor is now positioned at line 68, column 36. The code content remains the same as in the first screenshot.

```
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform init
Initializing the backend...
Initializing provider plugins...
- Reusing previous version of hashicorp/aws from the dependency lock file
- Using previously-installed hashicorp/aws v6.27.0

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.
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform plan
data.aws_vpc.default_east2: Reading...
data.aws_vpc.default: Reading...
data.aws_vpc.default: Read complete after 3s [id=vpc-0ae7812b140652a61]
data.aws_vpc.default_east2: Read complete after 4s [id=vpc-0ab7e69dc4ef5f6d8]

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.east-1 will be created
+ resource "aws_instance" "east-1" {
  + ami                        = "ami-068c0051b15cdb816"
  + arn                      = (known after apply)
  + associate_public_ip_address = (known after apply)
  + availability_zone         = (known after apply)
  + disable_api_stop          = (known after apply)
  + disable_api_termination    = (known after apply)
  + ebs_optimized              = (known after apply)
  + enable_primary_ipv6        = (known after apply)
  + force_destroy              = false

```

```
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform plan
# aws_instance.east-1 will be created
+ resource "aws_instance" "east-1" {
  + ami                        = "ami-068c0051b15cdb816"
  + arn                      = (known after apply)
  + associate_public_ip_address = (known after apply)
  + availability_zone         = (known after apply)
  + disable_api_stop          = (known after apply)
  + disable_api_termination    = (known after apply)
  + ebs_optimized              = (known after apply)
  + enable_primary_ipv6        = (known after apply)
  + force_destroy              = false
  + 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_group_id         = (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)
  + region                     = "us-east-1"
  + secondary_private_ips       = (known after apply)

```

```
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform plan
```

```
+ 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)
+ region                         = "us-east-1"
+ secondary_private_ips           = (known after apply)
+ security_groups                 = (known after apply)
+ source_dest_check               = true
+ spot_instance_request_id        = (known after apply)
+ subnet_id                      = "subnet-0e23eaa2f89541755"
+ tags_all                       = (known after apply)
+ tenancy                        = (known after apply)
+ user_data_base64               = (known after apply)
+ user_data_replace_on_change     = false
+ vpc_security_group_ids          = (known after apply)

+ capacity_reservation_specification (known after apply)

+ cpu_options (known after apply)

+ ebs_block_device (known after apply)

+ enclave_options (known after apply)

+ ephemeral_block_device (known after apply)

+ instance_market_options (known after apply)

+ maintenance_options (known after apply)

+ metadata_options (known after apply)

+ network_interface (known after apply)
```

```
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform plan
```

```
# aws_instance.east-2 will be created
+ resource "aws_instance" "east-2" {
+   ami                        = "ami-00e428798e77d38d9"
+   arn                      = (known after apply)
+   associate_public_ip_address = (known after apply)
+   availability_zone          = (known after apply)
+   disable_api_stop           = (known after apply)
+   disable_api_termination    = (known after apply)
+   ebs_optimized              = (known after apply)
+   enable_primary_ipv6         = (known after apply)
+   force_destroy              = false
+   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_group_id         = (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)
+   region                     = "us-east-2"
+   secondary_private_ips       = (known after apply)
```

```
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform plan
```

```
+ prefix_list_ids = []
+ protocol        = "-1"
+ security_groups = []
+ self            = false
+ to_port         = 0
# (1 unchanged attribute hidden)
},
]
+ id              = (known after apply)
+ ingress         = [
+ {
+   + cidr_blocks = [
+     + "0.0.0.0/0",
+   ]
+   + from_port   = 80
+   + ipv6_cidr_blocks = []
+   + prefix_list_ids = []
+   + protocol      = "tcp"
+   + security_groups = []
+   + self          = false
+   + to_port       = 80
+   # (1 unchanged attribute hidden)
+ },
+ ],
+ name            = (known after apply)
+ name_prefix     = (known after apply)
+ owner_id        = (known after apply)
+ region          = "us-east-2"
+ revoke_rules_on_delete = false
+ tags_all        = (known after apply)
+ vpc_id          = "vpc-0ab7e69dc4ef5f6d8"
}
```

```
Plan: 4 to add, 0 to change, 0 to destroy.
```

```
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform apply
```

```
data.aws_vpc.default_east2: Reading...
data.aws_vpc.default: Reading...
data.aws_vpc.default_east2: Read complete after 3s [id=vpc-0ab7e69dc4ef5f6d8]
data.aws_vpc.default: Read complete after 3s [id=vpc-0ae7812b140652a61]
```

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.east-1 will be created

```
+ resource "aws_instance" "east-1" {
+   ami              = "ami-068c0051b15cdb816"
+   arn              = (known after apply)
+   associate_public_ip_address = (known after apply)
+   availability_zone = (known after apply)
+   disable_api_stop  = (known after apply)
+   disable_api_termination = (known after apply)
+   ebs_optimized     = (known after apply)
+   enable_primary_ipv6 = (known after apply)
+   force_destroy     = false
+   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)
}
```

```
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform 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_group_id      = (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)
+ region                  = "us-east-1"
+ secondary_private_ips   = (known after apply)
+ security_groups          = (known after apply)
+ source_dest_check        = true
+ spot_instance_request_id = (known after apply)
+ subnet_id               = "subnet-0e23eaa2f89541755"
+ tags_all                = (known after apply)
+ tenancy                 = (known after apply)
+ user_data_base64        = (known after apply)
+ user_data_replace_on_change = false
+ vpc_security_group_ids  = (known after apply)

+ capacity_reservation_specification (known after apply)
```

```
PS C:\Users\sheer\Documents\Terraform\Terraform-main\Task-01> terraform apply
```

```
+ owner_id              = (known after apply)
+ region                = "us-east-2"
+ revoke_rules_on_delete = false
+ tags_all              = (known after apply)
+ vpc_id                = "vpc-0ab7e69dc4ef5f6d8"
}
```

Plan: 4 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_security_group.demo_group_2: Creating...
aws_security_group.demo_group: Creating...
aws_security_group.demo_group_2: Creation complete after 7s [id=sg-008048ddb6b5a41a2]
aws_instance.east-2: Creating...
aws_security_group.demo_group: Creation complete after 7s [id=sg-0e979d2d86a528221]
aws_instance.east-1: Creating...
aws_instance.east-2: Still creating... [00m10s elapsed]
aws_instance.east-1: Still creating... [00m10s elapsed]
aws_instance.east-2: Still creating... [00m20s elapsed]
aws_instance.east-1: Still creating... [00m20s elapsed]
aws_instance.east-1: Creation complete after 26s [id=i-0d4ca30edd3944051]
aws_instance.east-2: Still creating... [00m30s elapsed]
aws_instance.east-2: Creation complete after 36s [id=i-0a29a9636a066cf57]
```

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

aws

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[Alt+S]

United States (Ohio)

Account ID: 3368-3236-1054

sheershshinha

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Instances (1) Info

Last updated less than a minute ago

Connect

Instance state

Actions

Launch instances

Find Instance by attribute or tag (case-sensitive)

Running

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv
<input type="checkbox"/>		i-0a29a9636a066cf57	Running	t2.micro	2/2 checks passed	View alarms	us-east-2c	ec2-3-133

Select an instance

CloudShell

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Search

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United States (N. Virginia)

Account ID: 3368-3236-1054

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EC2

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Find Instance by attribute or tag (case-sensitive)

Running

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv
<input type="checkbox"/>		i-0d4ca30edd3944051	Running	t2.micro	2/2 checks passed	View alarms	us-east-1f	-

Select an instance

CloudShell

Feedback

Console Mobile App

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