

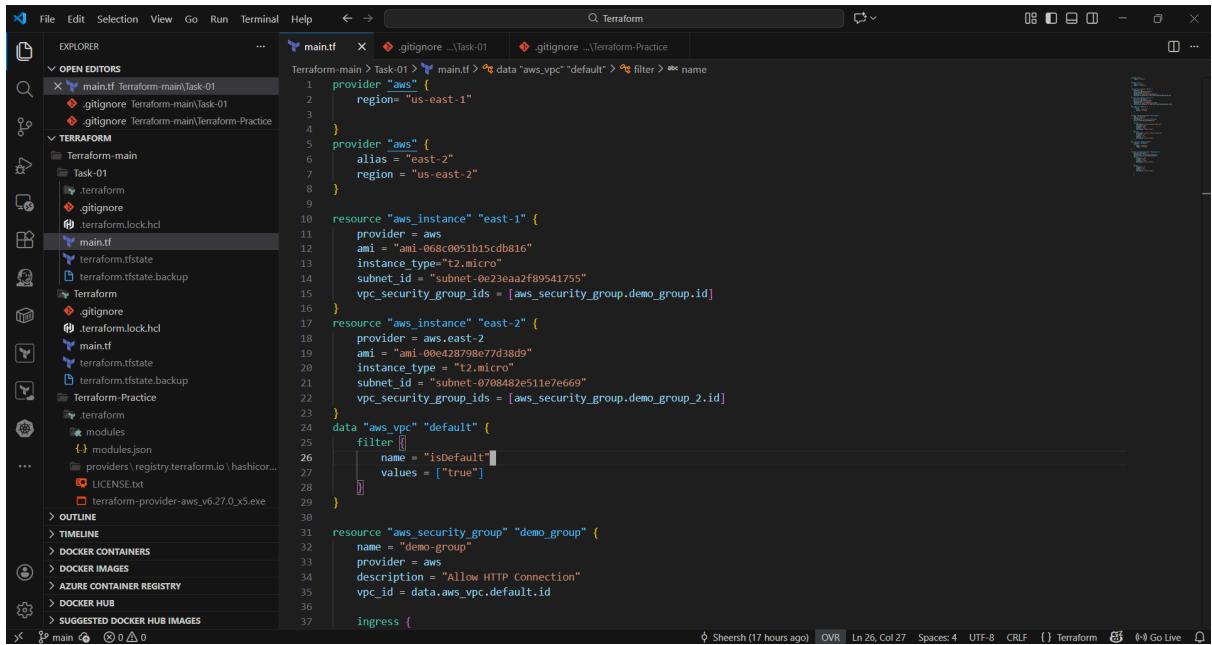
Terraform Task

Task Description:

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

Techstacks needs to be used :

- AWS EC2
- Terraform
- AWS CLI



```
provider "aws" {
  region = "us-east-1"
}

provider "aws" {
  alias = "east-2"
  region = "us-east-2"
}

resource "aws_instance" "east-1" {
  provider = aws
  ami     = "ami-068c0051b15c8b16"
  instance_type = "t2.micro"
  subnet_id = "subnet-0e23eaa2f89541755"
  vpc_security_group_ids = [aws_security_group.demo_group.id]
}

resource "aws_instance" "east-2" {
  provider = aws.east-2
  ami     = "ami-00e428798e7d3809"
  instance_type = "t2.micro"
  subnet_id = "subnet-0708482e511e7e669"
  vpc_security_group_ids = [aws_security_group.demo_group_2.id]
}

data "aws_vpc" "default" {
  filter = [
    { name = "isDefault" values = ["true"] }
  ]
}

resource "aws_security_group" "demo_group" {
  name     = "demo-group"
  provider = aws
  description = "Allow HTTP Connection"
  vpc_id   = data.aws_vpc.default.id
}

ingress {
```

```
File Edit Selection View Go Run Terminal Help ← → Q Terraform main.tf .gitignore ...\\Task-01 .gitignore ...\\Terraform-Practice
Terraform-main > Task-01 > main.tf > resource "aws_security_group" "demo_group" > vpc_id
31 resource "aws_security_group" "demo_group" {
32   ingress {
33     description = "Allow Inbound Connection"
34     from_port = "80"
35     to_port = "80"
36     protocol = "tcp"
37     cidr_blocks = ["0.0.0.0/0"]
38   }
39   egress {
40     description = "Allow Outbound Connection"
41     from_port = "0"
42     to_port = "0"
43     protocol = "-1"
44     cidr_blocks = ["0.0.0.0/0"]
45   }
46 data "aws_vpc" "default_east2" {
47   provider = aws.east-2
48   filter {
49     name = "isDefault"
50     values = ["true"]
51   }
52 }
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```

Sheersh (17 hours ago) OVR Ln 35, Col 37 Spaces: 4 UTF-8 CRLF () Terraform ⚡ Go Live

```
File Edit Selection View Go Run Terminal Help ← → Q Terraform main.tf .gitignore ...\\Task-01 .gitignore ...\\Terraform-Practice
Terraform-main > Task-01 > main.tf > resource "aws_security_group" "demo_group_2" > ingress > cidr_blocks
31 resource "aws_security_group" "demo_group_2" {
32   ingress {
33     description = "allow-HTTP-connection"
34     vpc_id = data.aws_vpc.default_east2.id
35   }
36   data "aws_vpc" "default_east2" {
37     provider = aws.east-2
38     filter {
39       name = "isDefault"
40       values = ["true"]
41     }
42   }
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Sheersh (14 hours ago) OVR Ln 68, Col 36 Spaces: 4 UTF-8 CRLF () Terraform ⚡ Go Live

```
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-0e23ea2f89541755"
+ 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                      = "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 plan
● 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 CloudWatch Metrics

EC2 Instances

Instances (1) Info

Last updated less than a minute ago

Find Instance by attribute or tag (case-sensitive)

Instance state: Running

Actions Launch instances

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

Select an instance

CloudShell Feedback Console Mobile App

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Account ID: 3368-3236-1054 sheershsinha

AWS CloudWatch Metrics

EC2 Instances

Instances (1) Info

Last updated less than a minute ago

Find Instance by attribute or tag (case-sensitive)

Instance state: Running

Actions Launch instances

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv
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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Account ID: 3368-3236-1054 sheershsinha