

```

14 resource "aws_instance" "my_webserver" {
15
16     ami           = "ami-0b67cc43bc64a6060"
17     instance_type = "t2.micro"
18     vpc_security_group_ids = [aws_security_group.my_webserver.id]
19     user_data      = <<EOF
20     #!/bin/bash
21     yum update -y
22     yum install -y httpd
23     myip=`curl http://169.254.169.254/latest/meta-data/local-ipv4`
24     echo "<h2>Webserver with IP: $myip</h2><br>Build by Terraform" > /var/www/html/index.html
25     sudo service httpd start
26     chkconfig httpd on
27
28     EOF
29
30 }
31
32 resource "aws_security_group" "my_webserver" {
33     name        = "WebServer Security Group"
34     description = "My First SecurityGroup"
35
36     ingress {
37
38         from_port = 80
39         to_port   = 80
40         protocol  = "tcp"
41         cidr_blocks = ["0.0.0.0/0"]
42     }
43
44     egress {
45         from_port = 0
46         to_port   = 0
47         protocol  = "-1"
48         cidr_blocks = ["0.0.0.0/0"]
49     }
50 }
51
52 }
53

```

PS E:\Terraform\Lesson-2> terraform init

Initializing the backend...

Initializing provider plugins...

- Finding latest version of hashicorp/aws...
- Installing hashicorp/aws v4.22.0...
- Installed hashicorp/aws v4.22.0 (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.

PS E:\Terraform\Lesson-2> 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.my_webserver will be created
resource "aws_instance" "my_webserver" {
  ami           = "ami-0b67cc43bc64a6060"
  instance_type = (known after apply)
  vpc_security_group_ids = (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
  bootstrap = (known after apply)
}

```

```

+ [32m++ [0m + [0m {
+ [32m++ [0m + [0m {
+ [32m++ [0m + [0m cidr_blocks = [
+ [32m++ [0m + [0m "0.0.0.0/0",
+ [32m++ [0m + [0m description = ""
+ [32m++ [0m + [0m from_port = 80
+ [32m++ [0m + [0m ipv6_cidr_blocks = []
+ [32m++ [0m + [0m prefix_list_ids = []
+ [32m++ [0m + [0m protocol = "tcp"
+ [32m++ [0m + [0m security_groups = []
+ [32m++ [0m + [0m self = false
+ [32m++ [0m + [0m to_port = 80
+ [32m++ [0m + [0m ]
+ [32m++ [0m + [0m + [0m + [0m name = [0m + [0m name = "WebServer Security Group"
+ [32m++ [0m + [0m + [0m + [0m name_prefix = [0m + [0m = (known after apply)
+ [32m++ [0m + [0m + [0m + [0m owner_id = [0m + [0m = (known after apply)
+ [32m++ [0m + [0m + [0m + [0m revoke_rules_on_delete = [0m + [0m = false
+ [32m++ [0m + [0m + [0m + [0m tags_all = [0m + [0m = (known after apply)
+ [32m++ [0m + [0m + [0m + [0m vpc_id = [0m + [0m = (known after apply)
+ [32m++ [0m + [0m ]
+ [0m + [0m Plan: + [0m 2 to add, 0 to change, 0 to destroy.
+ [0m + [0m + [0m
Do you want to perform these actions? + [0m
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

+ [0m Enter a value: + [0m + [0m yes

+ [0m + [0m maws_security_group.my_webserver: Creating... + [0m + [0m
+ [0m + [0m maws_security_group.my_webserver: Creation complete after 2s [id=sg-01152b3f37a29e265] + [0m
+ [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Creating... + [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Still creating... [10s elapsed] + [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Still creating... [20s elapsed] + [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Still creating... [30s elapsed] + [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Creation complete after 31s [id=i-04ac153d475417f34] + [0m
+ [0m + [0m + [0m
Apply complete! Resources: 2 added, 0 changed, 0 destroyed.
+ [0m PS E:\Terraform\Lesson-2>

```

Instances (3) Info										
Search										
<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
<input type="checkbox"/>	Ubuntu18-15-07-22	i-0b3e8811c9d972702	Stopped	t2.micro	-	No alarms +	eu-central-1b	-	-	-
<input type="checkbox"/>	Jenkins-17-07	i-0810d1cbd530f37b6	Stopped	t2.micro	-	No alarms +	eu-central-1b	-	-	-
<input type="checkbox"/>	webserver	i-04ac153d475417f34	Running	t2.micro	Initializing	No alarms +	eu-central-1b	ec2-18-195-242-46.eu-...	18.195.242.46	-

```

+ [0m + [0m Plan: + [0m 0 to add, 0 to change, 2 to destroy.
+ [0m + [0m + [0m
Do you really want to destroy all resources? + [0m
Terraform will destroy all your managed infrastructure, as shown above.
There is no undo. Only 'yes' will be accepted to confirm.

+ [0m Enter a value: + [0m + [0m yes

+ [0m + [0m maws_instance.my_webserver: Destroying... [id=i-04ac153d475417f34] + [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Still destroying... [id=i-04ac153d475417f34, 10s elapsed] + [0m
+ [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Still destroying... [id=i-04ac153d475417f34, 20s elapsed] + [0m
+ [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Still destroying... [id=i-04ac153d475417f34, 30s elapsed] + [0m
+ [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Still destroying... [id=i-04ac153d475417f34, 40s elapsed] + [0m
+ [0m + [0m
+ [0m + [0m maws_instance.my_webserver: Destruction complete after 40s + [0m
+ [0m + [0m maws_security_group.my_webserver: Destroying... [id=sg-01152b3f37a29e265] + [0m + [0m
+ [0m + [0m maws_security_group.my_webserver: Destruction complete after 1s + [0m
+ [0m + [0m + [0m
Destroy complete! Resources: 2 destroyed.
+ [0m PS E:\Terraform\Lesson-2>

```

Terraform

.git

learn-terraform-dependencies

main.tf

Lesson-2

.terraform

.terraform.lock.hcl

terraform.tfstate

terraform.tfstate.backup

Web-Server.tf

Lesson-3

Lesson-4

user_data.sh.tpl

Web-Server.tf

Lesson-5

Lesson-6

Lesson-8

Lesson-11

Lesson-12

Lesson-13

Lesson-14

Lesson-16

Lesson-17

Lesson-18

Lesson-19

Lesson-20

Lesson-21

Practice1

```

1 terraform {
2   required_providers {
3     aws = {
4       source = "hashicorp/aws"
5       version = "2.69.0"
6     }
7   }
8 }
9 provider "aws" {
10   region = "us-west-1"
11 }
12 data "aws_ami" "amazon_linux" {
13   most_recent = true
14   owners      = ["amazon"]
15   filter {
16     name     = "name"
17     values   = ["amzn2-ami-hvm-*-x86_64-gp2"]
18   }
19 }
20 resource "aws_instance" "example_a" {
21   ami           = data.aws_ami.amazon_linux.id
22   instance_type = "t2.micro"
23 }
24 resource "aws_instance" "example_b" {
25   ami           = data.aws_ami.amazon_linux.id
26   instance_type = "t2.micro"
27 }
28 resource "aws_eip" "ip" {
29   vpc      = true
30   instance = aws_instance.example_a.id
31 }
32

```

```

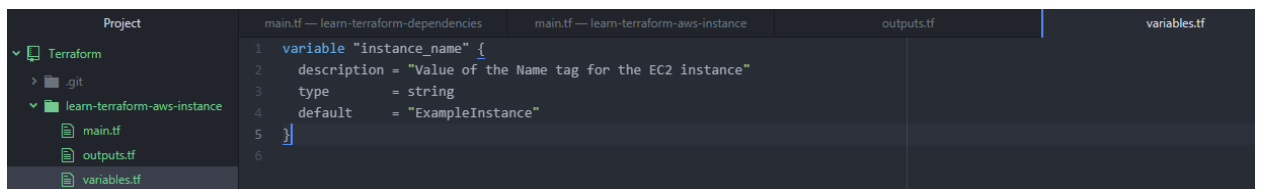
PS E:\Terraform\learn-terraform-dependencies> terraform plan
+[0m+[1mdata.aws_ami.amazon_linux: Reading...+[0m+[0m
+[0m+[1mdata.aws_ami.amazon_linux: Read complete after 2s [id=ami-09b2f6d85764ec71b]+[0m+[0m

Terraform used the selected providers to generate the following execution plan. Resource
actions are indicated with the following symbols:
+[32m+[0m create
+[0m
Terraform will perform the following actions:

+[1m # aws_eip.ip+[0m will be created+[0m+[0m
+[0m +[32m+[0m+[0m resource "aws_eip" "ip" {
+[32m+[0m +[0m+[1m+[0mallocation_id+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0massociation_id+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mcustomer_owned_ip+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mdomain+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mid+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0minstance+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mnetwork_interface+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mprivate_dns+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mprivate_ip+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mpublic_dns+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mpublic_ip+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mpublic_ipv4_pool+[0m+[0m = (known after apply)
+[32m+[0m +[0m+[1m+[0mvpc+[0m+[0m = true
+[0m }

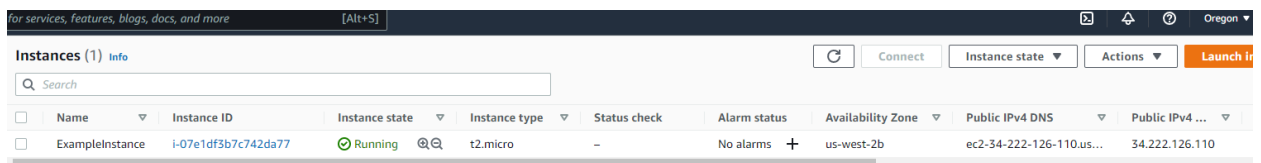
+[1m # aws_instance.example_a+[0m will be created+[0m+[0m
+[0m +[32m+[0m+[0m resource "aws_instance" "example_a" {

```



```
+ [0m+ [1maws_instance.example: Creating...+ [0m+ [0m
+ [0m+ [1maws_instance.example: Still creating... [10s elapsed]+ [0m+ [0m
+ [0m+ [1maws_instance.example: Still creating... [20s elapsed]+ [0m+ [0m
+ [0m+ [1maws_instance.example: Still creating... [30s elapsed]+ [0m+ [0m
+ [0m+ [1maws_instance.example: Still creating... [40s elapsed]+ [0m+ [0m
+ [0m+ [1maws_instance.example: Still creating... [50s elapsed]+ [0m+ [0m
+ [0m+ [1maws_instance.example: Creation complete after 52s [id=i-07e1df3b7c742da77]+ [0m
+ [0m+ [1m+ [32m
Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
+ [0m+ [0m+ [1m+ [32m
Outputs:

+ [0minstance_id = "i-07e1df3b7c742da77"
instance_public_ip = "34.222.126.110"
PS E:\Terraform\learn-terraform-aws-instance>
```



```
[davig@oracle softserve]$ git clone https://github.com/hashicorp/learn-terraform-modules.git
Cloning into 'learn-terraform-modules'...
remote: Enumerating objects: 118, done.
remote: Counting objects: 100% (39/39), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 118 (delta 32), reused 30 (delta 30), pack-reused 79
Receiving objects: 100% (118/118), 17.44 KiB | 1.34 MiB/s, done.
Resolving deltas: 100% (53/53), done.
[davig@oracle softserve]$ ls
app-for-jenkins  ITA-Kh-077-DevOps  learn-terraform-modules
[davig@oracle softserve]$ cd learn-terraform-modules/
[davig@oracle learn-terraform-modules]$ git checkout tags/ec2-instances -b ec2-instances
Switched to a new branch 'ec2-instances'
[davig@oracle learn-terraform-modules]$
```