SPCM LAB-9

Objective: Creating multiple EC2 instances with for_each in terraform.

• Create a instance.tf file with the following contents

```
main.tf          instance.tf ×

9th >  instance.tf >  resource "aws_instance" "ec2-instances" >  tags >  Name
   1    variable "instances" {
   2      description = "map of ec2 with settings"
   3      default = {
   4        "instance1" = {
   5          ami            = "ami-03f4878755434977f"
   6          instance_type = "t2.micro"
   7        }
   8        "instance2" = {
   9          ami            = "ami-03f4878755434977f"
  10          instance_type = "t2.micro"
  11        }
  12        "instance3" = {
  13          ami            = "ami-03f4878755434977f"
  14          instance_type = "t2.micro"
  15        }
  16      }
  17    }
  18    resource "aws_instance" "ec2-instances" {
  19      for_each      = var.instances
  20      ami           = var.instances[each.key].ami
  21      instance_type = var.instances[each.key].instance_type
  22      tags = {
  23        Name = "My-Ec2-${each.key}"
  24      }
  25    }
```

• Run the command terraform plan to check that the configuration aligns with your requirements.

```
 gauravbhandari@gauravs-Air-2 9th % 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.ec2-instances["instance1"] will be created
  + resource "aws_instance" "ec2-instances" {
```

```
      + "Name" = "My-Ec2-instance3"
      }
    + tenancy                       = (known after apply)
    + user_data                     = (known after apply)
    + user_data_base64              = (known after apply)
    + user_data_replace_on_change   = false
    + vpc_security_group_ids        = (known after apply)
    }

Plan: 3 to add, 0 to change, 0 to destroy.
```

• Run the command terraform apply to create the intended resources.

```
gauravbhandari@gauravs-Air-2 9th % terraform apply —auto-approve

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

```
Plan: 3 to add, 0 to change, 0 to destroy.
aws_instance.ec2-instances["instance3"]: Creating...
aws_instance.ec2-instances["instance2"]: Creating...
aws_instance.ec2-instances["instance1"]: Creating...
aws_instance.ec2-instances["instance3"]: Still creating... [10s elapsed]
aws_instance.ec2-instances["instance1"]: Still creating... [10s elapsed]
aws_instance.ec2-instances["instance2"]: Still creating... [10s elapsed]
aws_instance.ec2-instances["instance1"]: Still creating... [20s elapsed]
aws_instance.ec2-instances["instance3"]: Still creating... [20s elapsed]
aws_instance.ec2-instances["instance2"]: Still creating... [20s elapsed]
aws_instance.ec2-instances["instance1"]: Still creating... [30s elapsed]
aws_instance.ec2-instances["instance2"]: Still creating... [30s elapsed]
aws_instance.ec2-instances["instance3"]: Still creating... [30s elapsed]
aws_instance.ec2-instances["instance2"]: Creation complete after 32s [id=i-05cb0021d91a7d2ba]
aws_instance.ec2-instances["instance3"]: Creation complete after 32s [id=i-04580b6ca87309bee]
aws_instance.ec2-instances["instance1"]: Creation complete after 32s [id=i-03c57e65f0dd6d4ad]

Apply complete! Resources: 3 added, 0 changed, 0 destroyed.
```
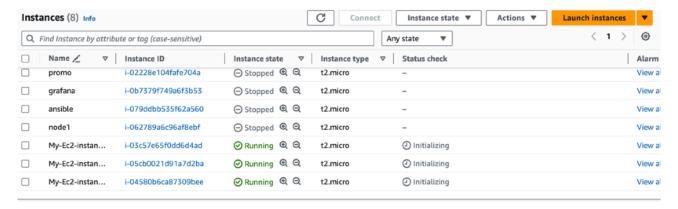
• Verify the same from your AWS console.

	Name	Instance ID	Instance state	Instance type	Status check	Alarm
☐	promo	i-02228e104fafe704a	⊖ Stopped ⊕ ⊖	t2.micro	–	View al
☐	grafana	i-0b7379f749a6f3b53	⊖ Stopped ⊕ ⊖	t2.micro	–	View al
☐	ansible	i-079ddbb535f62a560	⊖ Stopped ⊕ ⊖	t2.micro	–	View al
☐	node1	i-062789a6c96af8ebf	⊖ Stopped ⊕ ⊖	t2.micro	–	View al
☐	My-Ec2-instan...	i-03c57e65f0dd6d4ad	⊘ Running ⊕ ⊖	t2.micro	⊙ Initializing	View al
☐	My-Ec2-instan...	i-05cb0021d91a7d2ba	⊘ Running ⊕ ⊖	t2.micro	⊙ Initializing	View al
☐	My-Ec2-instan...	i-04580b6ca87309bee	⊘ Running ⊕ ⊖	t2.micro	⊙ Initializing	View al

Instances (8) Info — Connect — Instance state ▼ — Actions ▼ — Launch instances ▼
Find Instance by attribute or tag (case-sensitive) — Any state ▼ — < 1 >

• After successful experimentation run terraform destroy to destroy the resources.

```
gauravbhandari@gauravs-Air-2 9th % terraform destroy
aws_instance.ec2-instances["instance3"]: Refreshing state... [id=i-04580b6ca87309bee]
aws_instance.ec2-instances["instance1"]: Refreshing state... [id=i-03c57e65f0dd6d4ad]
aws_instance.ec2-instances["instance2"]: Refreshing state... [id=i-05cb0021d91a7d2ba]
```

```
aws_instance.ec2-instances["instance1"]: Destroying... [id=i-03c57e65f0dd6d4ad]
aws_instance.ec2-instances["instance2"]: Destroying... [id=i-05cb0021d91a7d2ba]
aws_instance.ec2-instances["instance3"]: Destroying... [id=i-04580b6ca87309bee]
aws_instance.ec2-instances["instance2"]: Still destroying... [id=i-05cb0021d91a7d2ba, 10s elapsed]
aws_instance.ec2-instances["instance1"]: Still destroying... [id=i-03c57e65f0dd6d4ad, 10s elapsed]
aws_instance.ec2-instances["instance3"]: Still destroying... [id=i-04580b6ca87309bee, 10s elapsed]
aws_instance.ec2-instances["instance2"]: Still destroying... [id=i-05cb0021d91a7d2ba, 20s elapsed]
aws_instance.ec2-instances["instance3"]: Still destroying... [id=i-04580b6ca87309bee, 20s elapsed]
aws_instance.ec2-instances["instance1"]: Still destroying... [id=i-03c57e65f0dd6d4ad, 20s elapsed]
aws_instance.ec2-instances["instance3"]: Still destroying... [id=i-04580b6ca87309bee, 30s elapsed]
aws_instance.ec2-instances["instance1"]: Still destroying... [id=i-03c57e65f0dd6d4ad, 30s elapsed]
aws_instance.ec2-instances["instance2"]: Still destroying... [id=i-05cb0021d91a7d2ba, 30s elapsed]
aws_instance.ec2-instances["instance1"]: Destruction complete after 30s
aws_instance.ec2-instances["instance2"]: Destruction complete after 30s
aws_instance.ec2-instances["instance3"]: Destruction complete after 30s

Destroy complete! Resources: 3 destroyed.
```