

Tasks To Be Performed:

1. Destroy the previous deployments
2. Create a VPC with the required components using Terraform
3. Deploy an EC2 instance inside the VPC

1. Destroy the previous deployments

```
Apply complete! Resources: 2 added, 0 changed, 0 destroyed.
ubuntu@ip-172-31-28-242:~$ terraform destroy
aws_instance.nv-instance: Refreshing state... [id=i-050ab0975b40bd8d9]
aws_instance.oregon-instance: Refreshing state... [id=i-0f36a0c0145403dca]

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

Terraform will perform the following actions:

# aws_instance.nv-instance will be destroyed
- resource "aws_instance" "NV-instance" {
  ami           = "ami-0cae6d6fe6048ca2c" -> null
  arn           = "arn:aws:ec2:us-east-1:251985476962:instance/i-050ab0975b40bd8d9" -> null
  associate_public_ip_address = true -> null
  availability_zone           = "us-east-1b" -> null
  disable_api_stop            = false -> null
  disable_api_termination     = false -> null
  ebs_optimized               = false -> null
  force_destroy               = false -> null
  get_password_data           = false -> null
  hibernation                 = false -> null
  id                         = "i-050ab0975b40bd8d9" -> null
  instance_initiated_shutdown_behavior = "stop" -> null
  instance_state             = "running" -> null
  instance_type              = "t2.micro" -> null
  ipv6_address_count         = 0 -> null
  ipv6_addresses             = [] -> null
  key_name                   = "terra-kp" -> null
  monitoring                 = false -> null
  placement_partition_number = 0 -> null
  primary_network_interface_id = "eni-01d77e8fbf5ea210c" -> null
  private_dns                = "ip-172-31-23-5.ec2.internal" -> null
  private_ip                 = "172.31.23.5" -> null
}

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.nv-instance: Destroying... [id=i-050ab0975b40bd8d9]
aws_instance.oregon-instance: Destroying... [id=i-0f36a0c0145403dca]
aws_instance.nv-instance: Still destroying... [id=i-050ab0975b40bd8d9, 00m10s elapsed]
aws_instance.oregon-instance: Still destroying... [id=i-0f36a0c0145403dca, 00m10s elapsed]
aws_instance.nv-instance: Still destroying... [id=i-050ab0975b40bd8d9, 00m20s elapsed]
aws_instance.oregon-instance: Still destroying... [id=i-0f36a0c0145403dca, 00m20s elapsed]
aws_instance.nv-instance: Still destroying... [id=i-050ab0975b40bd8d9, 00m30s elapsed]
aws_instance.oregon-instance: Still destroying... [id=i-0f36a0c0145403dca, 00m30s elapsed]
aws_instance.oregon-instance: Destruction complete after 30s
aws_instance.nv-instance: Still destroying... [id=i-050ab0975b40bd8d9, 00m40s elapsed]
aws_instance.nv-instance: Still destroying... [id=i-050ab0975b40bd8d9, 00m50s elapsed]
aws_instance.nv-instance: Destruction complete after 1m0s

Destroy complete! Resources: 2 destroyed.
ubuntu@ip-172-31-28-242:~$
```

2. Create a VPC with the required components using Terraform

GNU nano 6.2

```
provider "aws" {
  region = "us-east-1"
  access_key = "AKIATVK4BHVRIRE5B5OU"
  secret_key = "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"
}

resource "aws_instance" "task-4" {
  ami = "ami-0cae6d6fe6048ca2c"
  instance_type = "t2.micro"
  associate_public_ip_address = true
  key_name = "terra-kp"
  tags = {
    Name = "work-1"
  }
}

resource "aws_vpc" "task-4-vpc" {
  cidr_block = "10.0.0.0/16"
  tags = {
    Name = "main-vpc"
  }
}

resource "aws_internet_gateway" "task-4-igw" {
  vpc_id = aws_vpc.task-4-vpc.id
}

resource "aws_route_table" "task-4-rt" {
  vpc_id = aws_vpc.task-4-vpc.id

  route {
    cidr_block = "0.0.0.0/0"
    gateway_id = aws_internet_gateway.task-4-igw.id
  }

  tags = {
    Name = "main-rt"
  }
}

resource "aws_route_table_association" "rt" {
  subnet_id = aws_subnet.task-4-subnet.id
  route_table_id = aws_route_table.task-4-rt.id
}
```

```
ubuntu@ip-172-31-28-242:~$ 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.task-4 will be created
+ resource "aws_instance" "task-4" {
  + ami                  = "ami-0cae6d6fe6048ca2c"
  + arn                  = (known after apply)
  + associate_public_ip_address = true
  + 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               = "terra-kp"
  + monitoring             = (known after apply)
  + outpost_arn            = (known after apply)
  + password_data          = (known after apply)
  + placement_group        = (known after apply)
```

```
# aws_vpc.task-4-vpc will be created
+ resource "aws_vpc" "task-4-vpc" {
  + arn                                = (known after apply)
  + cidr_block                        = "10.0.0.0/16"
  + default_network_acl_id           = (known after apply)
  + default_route_table_id           = (known after apply)
  + default_security_group_id        = (known after apply)
  + dhcp_options_id                  = (known after apply)
  + enable_dns_hostnames              = (known after apply)
  + enable_dns_support               = true
  + enable_network_address_usage_metrics = (known after apply)
  + id                                = (known after apply)
  + instance_tenancy                  = "default"
  + ipv6_association_id               = (known after apply)
  + ipv6_cidr_block                   = (known after apply)
  + ipv6_cidr_block_network_border_group = (known after apply)
  + main_route_table_id               = (known after apply)
  + owner_id                          = (known after apply)
  + region                            = "us-east-1"
  + tags                              = {
    + "Name" = "main-vpc"
  }
  + tags_all                          = {
    + "Name" = "main-vpc"
  }
}
```

Plan: 6 to add, 0 to change, 0 to destroy.

```
ubuntu@ip-172-31-28-242:~$ 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.task-4 will be created
+ resource "aws_instance" "task-4" {
  + ami                                = "ami-0cae6d6fe6048ca2c"
  + arn                                = (known after apply)
  + associate_public_ip_address       = true
  + 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                           = "terra-kp"
  + 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)
}
```

```
Plan: 6 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.task-4: Creating...
aws_vpc.task-4-vpc: Creating...
aws_vpc.task-4-vpc: Creation complete after 2s [id=vpc-04e42c0416c9e4026]
aws_subnet.task-4-subnet: Creating...
aws_internet_gateway.task-4-igw: Creating...
aws_internet_gateway.task-4-igw: Creation complete after 0s [id=igw-0d5110650d3ea3c20]
aws_route_table.task-4-rt: Creating...
aws_subnet.task-4-subnet: Creation complete after 1s [id=subnet-05cac536d8614db94]
aws_route_table.task-4-rt: Creation complete after 1s [id=rtb-0ae3000091662bbae]
aws_route_table_association.task-4-rt: Creating...
aws_route_table_association.task-4-rt: Creation complete after 0s [id=rtbassoc-03e91d75df1d72ce3]
aws_instance.task-4: Still creating... [00m10s elapsed]
aws_instance.task-4: Creation complete after 13s [id=i-01a1fa97a666c74d9]

Apply complete! Resources: 6 added, 0 changed, 0 destroyed.
```

work-1 i-01a1fa97a666c74d9 Running t2.micro Initializing View alarms +

Unselect instance: work-1

i-01a1fa97a666c74d9 (work-1)

Details Status and alarms Monitoring Security Networking Storage Tags

▼ Instance summary Info

Instance ID i-01a1fa97a666c74d9	Public IPv4 address 34.227.206.98 open address ↗	Private IPv4 addresses 172.31.22.252
Pv6 address	Instance state Running	Public DNS ec2-34-227-206-98.compute-1 address ↗

Your VPCs (1/2) Info

Last updated less than a minute ago Actions ▼

Find VPCs by attribute or tag

Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR
<input checked="" type="checkbox"/> main-vpc	vpc-04e42c0416c9e4026	Available	<input type="radio"/> Off	10.0.0.0/16	-
<input type="checkbox"/> -	vpc-02196942317add486	Available	<input type="radio"/> Off	172.31.0.0/16	-

vpc-04e42c0416c9e4026 / main-vpc

Details Resource map CIDRs Flow logs Tags Integrations

Details

VPC ID vpc-04e42c0416c9e4026	State Available	Block Public Access <input type="radio"/> Off	DNS hostnames Disabled
DNS resolution Enabled	Tenancy default	DHCP option set dopt-0a70ccc0ef04464d3	Main route table rtb-083ba6fdcfdd5011e
Main network ACL acl-00f03711004000000000000000000000	Default VPC vpc-02196942317add486	IPv4 CIDR 10.0.0.0/16	IPv6 pool

Subnets (1/7) Info

Find subnets by attribute or tag

	Name	Subnet ID	State
<input type="checkbox"/>	-	subnet-0c3e601c1bdf99c4d	Available
<input checked="" type="checkbox"/>	Main-subnet	subnet-05cac536d8614db94	Available
<input type="checkbox"/>	-	subnet-0dffac280838582fa	Available
<input type="checkbox"/>	-	subnet-08d2972ac79bdd96d	Available
<input type="checkbox"/>	-	subnet-0a9ed3914328bcd7c	Available
<input type="checkbox"/>	-	subnet-0f611e218bcc81f3b	Available

subnet-05cac536d8614db94 / Main-subnet

Details

Flow logs

Route table

Network ACL

CIDR reservations

Sharing

igw

[igw-0d5110650d3ea3c20](#)

Attached

[vpc-04e42c0416c9e4026](#) | main-vpc

251985476962

igw-0d5110650d3ea3c20 / igw

Details

Tags

Details

Internet gateway ID

[igw-0d5110650d3ea3c20](#)

State

Attached

VPC ID

[vpc-04e42c0416c9e4026](#) | main-vpc

Owner

[251985476962](#)

Route tables (1/3) Info

Find route tables by attribute or tag

	Name	Route table ID	Explicit subnet associ...	Edge associations
<input type="checkbox"/>	-	rtb-083ba6fdcfdd5011e	-	-
<input checked="" type="checkbox"/>	main-rt	rtb-0ae3000091662bbae	subnet-05cac536d8614db94	-
<input type="checkbox"/>	-	rtb-0f611d2f4c036ab1c	subnet-012d590a3c6d19...	-

rtb-0ae3000091662bbae / main-rt

Details

Routes

Subnet associations

Edge associations

Route propagation

Tags

Details

Route table ID

[rtb-0ae3000091662bbae](#)

VPC

[vpc-04e42c0416c9e4026](#) | main-vpc

Main

No

Owner ID

[251985476962](#)

Explicit subnet associations

[subnet-05cac536d8614db94](#) / Main-subnet

tb-0ae3000091662bbae / main-rt

Details Routes **Subnet associations** Edge associations Route propagation Tags

Explicit subnet associations (1)

Find subnet association

Name	Subnet ID	IPv4 CIDR
Main-subnet	subnet-05cac536d8614db94	10.0.1.0/24

Subnets without explicit associations (0)

3. Deploy an EC2 instance inside the VPC

```
GNU nano 6.2
provider "aws" {
  region = "us-east-1"
  access_key = "AKIATVK4BHVRIRE5B5OU"
  secret_key = "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"
}

resource "aws_instance" "task-4" {
  ami = "ami-0cae6d6fe6048ca2c"
  instance_type = "t2.micro"
  associate_public_ip_address = true
  key_name = "terra-kp"
  tags = {
    Name = "work-1"
  }
}

resource "aws_vpc" "task-4-vpc" {
  cidr_block = "10.0.0.0/16"
  tags = {
    Name = "main-vpc"
  }
}

resource "aws_internet_gateway" "task-4-igw" {
  vpc_id = aws_vpc.task-4-vpc.id
}
```

Instances (1/2) Info Last updated less than a minute ago [Connect](#) [Instance state](#) [Actions](#) [Launch inst](#)

Find Instance by attribute or tag (case-sensitive) All states

Instance state = running Clear filters

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zo
<input type="checkbox"/>	terraform	i-070c9c1966c5aa13e	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b
<input checked="" type="checkbox"/>	work-1	i-01a1fa97a666c74d9	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b

Unselect instance: work-1