

AWS instances

←

↺

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceState=running

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United States (N. Virginia)

Himanshu Kumar

aws

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Instance state = running ✕

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<input type="checkbox"/>	Name 🔗	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
<input type="checkbox"/>	US-Instance	i-08f347ce92b0b4052	🟢 Running 🔍 🔍	t2.micro	🟢 2/2 checks passed	View alarms +	us-east-1b	ec2-52-207-210-153
<input checked="" type="checkbox"/>	Task	i-0ab7db98fd451cb63	🟢 Running 🔍 🔍	t2.micro	🟢 2/2 checks passed	View alarms +	us-east-1a	ec2-52-207-210-153

i-0ab7db98fd451cb63 (Task)

⚙️ ▾

Details

Status and alarms

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▼ Instance summary Info

Instance ID
🔗 i-0ab7db98fd451cb63

IPv6 address
-

Hostname type
IP name: ip-172-31-80-178.ec2.internal

Public IPv4 address
🔗 52.207.210.153 | open address 🔗

Instance state
🟢 Running

Private IP DNS name (IPv4 only)
🔗 ip-172-31-80-178.ec2.internal

Private IPv4 addresses
🔗 172.31.80.178

Public IPv4 DNS
🔗 ec2-52-207-210-153.compute-1.amazonaws.com | open address 🔗

AWS CLI configure

```
pass
[ec2-user@ip-172-31-80-178 ~]$ aws configure
AWS Access Key ID [None]: AKIAU6PKIZLAKK5JK5MY
AWS Secret Access Key [None]: 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
Default region name [None]: us-east-1
Default output format [None]: json
[ec2-user@ip-172-31-80-178 ~]$ mkdir terraform-multi-region-ec2 && cd terraform-multi-region-ec2
[ec2-user@ip-172-31-80-178 terraform-multi-region-ec2]$ touch main.tf
[ec2-user@ip-172-31-80-178 terraform-multi-region-ec2]$ ls
```

Terraform Project Setup

```
ec2-user@ip-172-31-80-178:~$ terraform init
-bash: terraform: command not found
ec2-user@ip-172-31-80-178:~$ sudo yum install -y yum-utils
sudo yum-config-manager --add-repo https://rpm.releases.hashicorp.com/AmazonLinux/hashicorp.repo
sudo yum -y install terraform
Last metadata expiration check: 0:34:52 ago on Thu Feb 20 07:27:50 2025.
Package dnf-utils-4.3.0-13.amzn2023.0.5.noarch is already installed.
Dependencies resolved.
Nothing to do.
Complete!
Adding repo from: https://rpm.releases.hashicorp.com/AmazonLinux/hashicorp.repo
Hashicorp Stable - x86_64 17 MB/s | 1.6 MB 00:00
Last metadata expiration check: 0:00:01 ago on Thu Feb 20 08:02:43 2025.
Dependencies resolved.
=====
Package Architecture Version Repository Size
=====
Installing:
terraform x86_64 1.10.5-1 hashicorp 27 M
Installing dependencies:
git x86_64 2.47.1-1.amzn2023.0.2 amazonlinux 54 k
git-core x86_64 2.47.1-1.amzn2023.0.2 amazonlinux 4.7 M
git-core-doc noarch 2.47.1-1.amzn2023.0.2 amazonlinux 2.8 M
perl-Error noarch 1:0.17029-5.amzn2023.0.2 amazonlinux 41 k
perl-File-Find noarch 1.37-477.amzn2023.0.6 amazonlinux 26 k
perl-Git noarch 2.47.1-1.amzn2023.0.2 amazonlinux 42 k
perl-TermReadKey x86_64 2.38-9.amzn2023.0.2 amazonlinux 36 k
perl-lib x86_64 0.65-477.amzn2023.0.6 amazonlinux 15 k
Transaction Summary
=====
Install 9 Packages

Total download size: 35 M
Installed size: 123 M
Downloading Packages:
(1/9): git-2.47.1-1.amzn2023.0.2.x86_64.rpm 1.3 MB/s | 54 kB 00:00
(2/9): perl-Error-0.17029-5.amzn2023.0.2.noarch.rpm 1.1 MB/s | 41 kB 00:00
(3/9): perl-File-Find-1.37-477.amzn2023.0.6.noarch.rpm 776 kB/s | 26 kB 00:00
(4/9): git-core-doc-2.47.1-1.amzn2023.0.2.noarch.rpm 20 MB/s | 2.8 MB 00:00
(5/9): git-core-2.47.1-1.amzn2023.0.2.x86_64.rpm 29 MB/s | 4.7 MB 00:00
(6/9): perl-Git-2.47.1-1.amzn2023.0.2.noarch.rpm 978 kB/s | 42 kB 00:00
(7/9): perl-TermReadKey-2.38-9.amzn2023.0.2.x86_64.rpm 1.3 MB/s | 36 kB 00:00
(8/9): perl-lib-0.65-477.amzn2023.0.6.x86_64.rpm 677 kB/s | 15 kB 00:00
```

Terraform Setup Complete

```
ec2-user@ip-172-31-80-178:~  X  ec2-user@ip-172-31-80-178:~  X  +  v
(8/9): perl-lib-0.65-477.amzn2023.0.6.x86_64.rpm                677 kB/s | 15 kB    00:00
(9/9): terraform-1.10.5-1.x86_64.rpm                          68 MB/s | 27 MB    00:00
-----
Total                                                         58 MB/s | 35 MB    00:00
Hashicorp Stable - x86_64                                    206 kB/s | 3.9 kB   00:00
Importing GPG key 0xA621E701:
  Userid      : "HashiCorp Security (HashiCorp Package Signing) <security+packaging@hashicorp.com>"
  Fingerprint: 798A EC65 4E5C 1542 8C8E 42EE AA16 FCBC A621 E701
  From        : https://rpm.releases.hashicorp.com/gpg
Key imported successfully
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing      :                                1/1
  Installing     : git-core-2.47.1-1.amzn2023.0.2.x86_64 1/9
  Installing     : git-core-doc-2.47.1-1.amzn2023.0.2.noarch 2/9
  Installing     : perl-lib-0.65-477.amzn2023.0.6.x86_64 3/9
  Installing     : perl-TermReadKey-2.38-9.amzn2023.0.2.x86_64 4/9
  Installing     : perl-File-Find-1.37-477.amzn2023.0.6.noarch 5/9
  Installing     : perl-Error-1:0.17029-5.amzn2023.0.2.noarch 6/9
  Installing     : perl-Git-2.47.1-1.amzn2023.0.2.noarch 7/9
  Installing     : git-2.47.1-1.amzn2023.0.2.x86_64 8/9
  Installing     : terraform-1.10.5-1.x86_64 9/9
Running scriptlet: terraform-1.10.5-1.x86_64 9/9
  Verifying      : git-2.47.1-1.amzn2023.0.2.x86_64 1/9
  Verifying      : git-core-2.47.1-1.amzn2023.0.2.x86_64 2/9
  Verifying      : git-core-doc-2.47.1-1.amzn2023.0.2.noarch 3/9
  Verifying      : perl-Error-1:0.17029-5.amzn2023.0.2.noarch 4/9
  Verifying      : perl-File-Find-1.37-477.amzn2023.0.6.noarch 5/9
  Verifying      : perl-Git-2.47.1-1.amzn2023.0.2.noarch 6/9
  Verifying      : perl-TermReadKey-2.38-9.amzn2023.0.2.x86_64 7/9
  Verifying      : perl-lib-0.65-477.amzn2023.0.6.x86_64 8/9
  Verifying      : terraform-1.10.5-1.x86_64 9/9

Installed:
git-2.47.1-1.amzn2023.0.2.x86_64      git-core-2.47.1-1.amzn2023.0.2.x86_64
git-core-doc-2.47.1-1.amzn2023.0.2.noarch  perl-Error-1:0.17029-5.amzn2023.0.2.noarch
perl-File-Find-1.37-477.amzn2023.0.6.noarch  perl-Git-2.47.1-1.amzn2023.0.2.noarch
perl-TermReadKey-2.38-9.amzn2023.0.2.x86_64  perl-lib-0.65-477.amzn2023.0.6.x86_64
terraform-1.10.5-1.x86_64

Complete!
```

Initialize Terraform

```
ec2-user@ip-172-31-80-178:~  X  ec2-user@ip-172-31-80-178:~  +  v
Complete!
[ec2-user@ip-172-31-80-178 terraform-multi-region-ec2]$ terraform -v
Terraform v1.10.5
on linux_amd64
[ec2-user@ip-172-31-80-178 terraform-multi-region-ec2]$ terraform init
Initializing the backend...
Initializing provider plugins...
- Finding latest version of hashicorp/aws...
- Installing hashicorp/aws v5.87.0...
- Installed hashicorp/aws v5.87.0 (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.
[ec2-user@ip-172-31-80-178 terraform-multi-region-ec2]$ 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.eu_instance will be created
+ resource "aws_instance" "eu_instance" {
  + ami                  = "ami-0c55b159cbfaffe1f0"
  + arn                  = (known after apply)
  + associate_public_ip_address = (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)
  + enable_primary_ipvv6  = (known after apply)
```


Apply Complete

```
ec2-user@ip-172-31-80-178:~$ terraform apply
+ key_name_prefix = (known after apply)
+ key_pair_id     = (known after apply)
+ key_type        = (known after apply)
+ public_key      = "ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQADorInZ0qnSi105v/4RjvgC9Wm0L880lso+xwy07VyQq53obC7jr5QnzlQa62LaRMIi7nYm+Rkm0zjrLOFgo92LDweg5
xXklKW+FPWyHsUg521HHG1JmpbkXgGHn5o58DnYIzuE69XdCv0y6w7CN0c3BQvzCciCHmZ3rbajHVjv4ziEWeyaaXGxgTt0bbDtyi/pGTRLcXNAjNjgRRic/ZDlt/zHVTBa/I2y1Q5EBhqqmvw0ziN6ZJ0vu
UXAoLBinUSMs91cGwoCaenqYPUfkfJ3SXdctK1gF5/ldr7TwQuGQDJ2laQjZZAd9TL1pKniBQnDQKDng90xHndJnubBiYXyHGePL2AmXEAJZ0IXwR98uJSupWAGTWzzLwJG+gbrXrR/12FcWjCIerD3olFeY
eQcbB00AkRqCpdBFN3IDhB0g99NnV+L1BaDUSkYK1vSgvzKnnqDgL+TVAXIbB6oW2weMoSGtIxIG5b18cmw5fHY9gZyfv5UvIBS8cHXiJcXcRTt+1MRuN7Twk31qyjRyAcujzJyCSmPNxWTUHKzSXDLYqaU
GU5RMdFmcrgZy6I19PLvK4+usf7uYEMBAwkw2+Kp5IOr+EjxxZth2EwWXMBvKcxhp13jDa5vm37KTCohZ92bZJ6oNLA09c3KSe6kFwYiIzaHI7ThvBxwz4puwhlew== ec2-user@ip-172-31-80-178.ec
2.internal"
+ tags_all        = (known after apply)
}

# aws_key_pair.us_key will be created
+ resource "aws_key_pair" "us_key" {
+   arn              = (known after apply)
+   fingerprint      = (known after apply)
+   id               = (known after apply)
+   key_name         = "us-key"
+   key_name_prefix  = (known after apply)
+   key_pair_id      = (known after apply)
+   key_type         = (known after apply)
+   public_key       = "ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQADorInZ0qnSi105v/4RjvgC9Wm0L880lso+xwy07VyQq53obC7jr5QnzlQa62LaRMIi7nYm+Rkm0zjrLOFgo92LDweg5
xXklKW+FPWyHsUg521HHG1JmpbkXgGHn5o58DnYIzuE69XdCv0y6w7CN0c3BQvzCciCHmZ3rbajHVjv4ziEWeyaaXGxgTt0bbDtyi/pGTRLcXNAjNjgRRic/ZDlt/zHVTBa/I2y1Q5EBhqqmvw0ziN6ZJ0vu
UXAoLBinUSMs91cGwoCaenqYPUfkfJ3SXdctK1gF5/ldr7TwQuGQDJ2laQjZZAd9TL1pKniBQnDQKDng90xHndJnubBiYXyHGePL2AmXEAJZ0IXwR98uJSupWAGTWzzLwJG+gbrXrR/12FcWjCIerD3olFeY
eQcbB00AkRqCpdBFN3IDhB0g99NnV+L1BaDUSkYK1vSgvzKnnqDgL+TVAXIbB6oW2weMoSGtIxIG5b18cmw5fHY9gZyfv5UvIBS8cHXiJcXcRTt+1MRuN7Twk31qyjRyAcujzJyCSmPNxWTUHKzSXDLYqaU
GU5RMdFmcrgZy6I19PLvK4+usf7uYEMBAwkw2+Kp5IOr+EjxxZth2EwWXMBvKcxhp13jDa5vm37KTCohZ92bZJ6oNLA09c3KSe6kFwYiIzaHI7ThvBxwz4puwhlew== ec2-user@ip-172-31-80-178.ec
2.internal"
+ tags_all        = (known after apply)
}

Plan: 4 to add, 0 to change, 0 to destroy.
aws_key_pair.us_key: Creating...
aws_key_pair.eu_key: Creating...
aws_key_pair.us_key: Creation complete after 0s [id=us-key]
aws_instance.us_instance: Creating...
aws_key_pair.eu_key: Creation complete after 0s [id=eu-key]
aws_instance.eu_instance: Creating...
aws_instance.us_instance: Still creating... [10s elapsed]
aws_instance.eu_instance: Still creating... [10s elapsed]
aws_instance.us_instance: Creation complete after 12s [id=i-08f347ce92b0b4052]
aws_instance.eu_instance: Creation complete after 13s [id=i-09b3f45a320b21ba9]

Apply complete! Resources: 4 added, 0 changed, 0 destroyed.
[ec2-user@ip-172-31-80-178 terraform-multi-region-ec2]$
```

Main.tf file

```
aws_instance.eu_instance: Creation complete after 13s [id=i-09b3f45a320b21ba9]

Apply complete! Resources: 4 added, 0 changed, 0 destroyed.
[ec2-user@ip-172-31-80-178 terraform-multi-region-ec2]$ cat main.tf
# Define AWS providers for US and EU regions
provider "aws" {
  alias = "us"
  region = "us-east-1" # Replace with your desired US region
}

provider "aws" {
  alias = "eu"
  region = "eu-west-1" # Replace with your desired EU region
}

# Generate SSH Key Pairs
resource "aws_key_pair" "us_key" {
  provider = aws.us
  key_name = "us-key"
  public_key = file("/home/ec2-user/.ssh/id_rsa.pub") # Corrected Path
}

resource "aws_key_pair" "eu_key" {
  provider = aws.eu
  key_name = "eu-key"
  public_key = file("/home/ec2-user/.ssh/id_rsa.pub") # Corrected Path
}

# Create an EC2 instance in the US region
resource "aws_instance" "us_instance" {
  provider = aws.us
  ami = "ami-032ae1bccc5be78ca" # Replace with correct AMI ID for US region
  instance_type = "t2.micro"
  key_name = aws_key_pair.us_key.key_name

  tags = {
    Name = "US-Instance"
  }
}

# Create an EC2 instance in the EU region
resource "aws_instance" "eu_instance" {
  provider = aws.eu
  ami = "ami-00410d8a184b40e78" # Replace with correct AMI ID for EU region
  instance_type = "t2.micro"
  key_name = aws_key_pair.eu_key.key_name

  tags = {
    Name = "EU-Instance"
  }
}

[ec2-user@ip-172-31-80-178 terraform-multi-region-ec2]$ |
```