Installing / Working With Terraform

30.10.2022
—

Rani Nabwnai
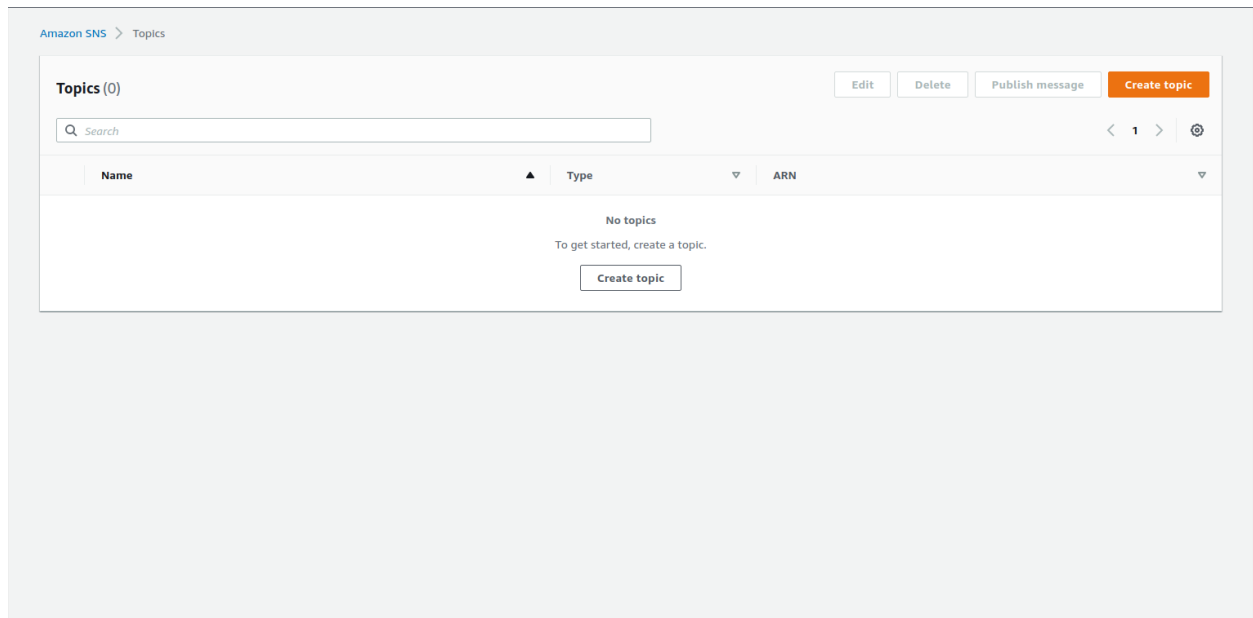
AWS re/start Bootcamp

AppleSeeds

Overview

I will be installing terraform and working with terraform providers (AWS) ,And also deploying 2 AWS SNS services on two regions ,us-east-1 & us-west-2.

Goals

1. Download And Manually Install the Terraform Binary.

2. Clone Over Code for Terraform Providers.

3. Deploy the Code with Terraform Apply.

Amazon SNS > Topics

Topics (0)

Edit | Delete | Publish message | **Create topic**

🔍 Search

< 1 > ⚙

Name ▲	Type ▽	ARN ▽

No topics

To get started, create a topic.

Create topic

```
ranivm@raniVM:~$ ssh cloud_user@54.165.58.7
no such identity: /home/ranivm/.ssh.id_ed25519: No such file or directory
(cloud_user@54.165.58.7) Password:
Visual Studio Code ct 30 11:51:10 2022 from 149.106.147.60

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[cloud_user@ip-10-0-1-187 ~]$
```

```
ranivm@raniVM:~$ ssh cloud_user@54.165.58.7
no such identity: /home/ranivm/.ssh.id_ed25519: No such file or directory
(cloud_user@54.165.58.7) Password:
Last login: Sun Oct 30 11:51:10 2022 from 149.106.147.60

       __|  __|_  )
Terminal  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[cloud_user@ip-10-0-1-187 ~]$ wget -c https://releases.hashicorp.com/terraform/0.13.4/terraform_0.13.4_linux_amd64.zip
--2022-10-30 12:13:06--  https://releases.hashicorp.com/terraform/0.13.4/terraform_0.13.4_linux_amd64.zip
Resolving releases.hashicorp.com (releases.hashicorp.com)... 108.138.85.30, 108.138.85.31, 108.138.85.53, ...
Connecting to releases.hashicorp.com (releases.hashicorp.com)|108.138.85.30|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 34879084 (33M) [application/zip]
Saving to: 'terraform_0.13.4_linux_amd64.zip'

100%[==============================================================================================================================================>] 34,879,084  --.-K/s   in 0.1s

2022-10-30 12:13:06 (223 MB/s) - 'terraform_0.13.4_linux_amd64.zip' saved [34879084/34879084]

[cloud_user@ip-10-0-1-187 ~]$
```

```
ranivm@raniVM:~$ ssh cloud_user@54.165.58.7
no such identity: /home/ranivm/.ssh.id_ed25519: No such file or directory
(cloud_user@54.165.58.7) Password:
Last login: Sun Oct 30 11:51:10 2022 from 149.106.147.60

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[cloud_user@ip-10-0-1-187 ~]$ wget -c https://releases.hashicorp.com/terraform/0.13.4/terraform_0.13.4_linux_amd64.zip
--2022-10-30 12:13:06--  https://releases.hashicorp.com/terraform/0.13.4/terraform_0.13.4_linux_amd64.zip
Resolving releases.hashicorp.com (releases.hashicorp.com)... 108.138.85.30, 108.138.85.31, 108.138.85.53, ...
Connecting to releases.hashicorp.com (releases.hashicorp.com)|108.138.85.30|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 34879084 (33M) [application/zip]
Saving to: 'terraform_0.13.4_linux_amd64.zip'

100%[==============================================================================================================================================>] 34,879,084  --.-K/s   in 0.1s

2022-10-30 12:13:06 (223 MB/s) - 'terraform_0.13.4_linux_amd64.zip' saved [34879084/34879084]

Trash  user@ip-10-0-1-187 ~]$ pwd
/home/cloud_user
[cloud_user@ip-10-0-1-187 ~]$ ls -l
total 34064
-rw-rw-r-- 1 cloud_user cloud_user 34879084 May  9 16:39 terraform_0.13.4_linux_amd64.zip
[cloud_user@ip-10-0-1-187 ~]$ unzip terraform_0.13.4_linux_amd64.zip
Archive:  terraform_0.13.4_linux_amd64.zip
  inflating: terraform
[cloud_user@ip-10-0-1-187 ~]$ sudo mv terraform /usr/sbin/
[sudo] password for cloud_user:
[cloud_user@ip-10-0-1-187 ~]$
```

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

Visual Studio Code

```
provider "aws" {
  alias  = "us-west-2"
  region = "us-west-2"
}


resource "aws_sns_topic" "topic-us-east" {
  provider = aws.us-east-1
  name     = "topic-us-east"
}

resource "aws_sns_topic" "topic-us-west" {
  provider = aws.us-west-2
  name     = "topic-us-west"
}
~
~
~
~
~
~
~
```

```
[cloud_user@ip-10-0-1-187 ~]$ terraform version
Terraform v0.13.4
+ provider registry.terraform.io/hashicorp/aws v4.37.0

Your version of Terraform is out of date! The latest version
is 1.3.3. You can update by downloading from https://www.terraform.io/downloads.html
[cloud_user@ip-10-0-1-187 ~]$ ls
terraform_0.13.4_linux_amd64.zip
[cloud_user@ip-10-0-1-187 ~]$ mkdir providers
[cloud_user@ip-10-0-1-187 ~]$ cd providers/
[cloud_user@ip-10-0-1-187 providers]$ touch main.tf
[cloud_user@ip-10-0-1-187 providers]$ vim main.tf
[cloud_user@ip-10-0-1-187 providers]$
```

```
Initializing provider plugins...
- Finding latest version of hashicorp/aws...
2022/10/30 12:18:38 [TRACE] providercache.fillMetaCache: scanning directory .terraform/plugins
2022/10/30 12:18:38 [TRACE] getproviders.SearchLocalDirectory: failed to resolve symlinks for .terraform/plugins: lstat .terraform: no such file or directory
2022/10/30 12:18:38 [TRACE] providercache.fillMetaCache: error while scanning directory .terraform/plugins: cannot search .terraform/plugins: lstat .terraform/plugins: no such file or directory
2022/10/30 12:18:38 [WARN] Failed to scan provider cache directory .terraform/plugins: cannot search .terraform/plugins: lstat .terraform/plugins: no such file or directory
2022/10/30 12:18:38 [DEBUG] Service discovery for registry.terraform.io at https://registry.terraform.io/.well-known/terraform.json
2022/10/30 12:18:38 [TRACE] HTTP client GET request to https://registry.terraform.io/.well-known/terraform.json
2022/10/30 12:18:38 [DEBUG] GET https://registry.terraform.io/v1/providers/hashicorp/aws/versions
2022/10/30 12:18:38 [TRACE] HTTP client GET request to https://registry.terraform.io/v1/providers/hashicorp/aws/versions
2022/10/30 12:18:38 [DEBUG] GET https://registry.terraform.io/v1/providers/hashicorp/aws/4.37.0/download/linux/amd64
2022/10/30 12:18:38 [TRACE] HTTP client GET request to https://registry.terraform.io/v1/providers/hashicorp/aws/4.37.0/download/linux/amd64
2022/10/30 12:18:38 [DEBUG] GET https://releases.hashicorp.com/terraform-provider-aws/4.37.0/terraform-provider-aws_4.37.0_SHA256SUMS
2022/10/30 12:18:38 [TRACE] HTTP client GET request to https://releases.hashicorp.com/terraform-provider-aws/4.37.0/terraform-provider-aws_4.37.0_SHA256SUMS
2022/10/30 12:18:38 [DEBUG] GET https://releases.hashicorp.com/terraform-provider-aws/4.37.0/terraform-provider-aws_4.37.0_SHA256SUMS.72D7468F.sig
2022/10/30 12:18:38 [TRACE] HTTP client GET request to https://releases.hashicorp.com/terraform-provider-aws/4.37.0/terraform-provider-aws_4.37.0_SHA256SUMS.72D7468F.sig
- Installing hashicorp/aws v4.37.0...
2022/10/30 12:18:38 [TRACE] providercache.Dir.InstallPackage: installing registry.terraform.io/hashicorp/aws v4.37.0 from https://releases.hashicorp.com/terraform-provider-aws/4.37.0/terraform-provider-a
ws_4.37.0_linux_amd64.zip
2022/10/30 12:18:38 [TRACE] HTTP client GET request to https://releases.hashicorp.com/terraform-provider-aws/4.37.0/terraform-provider-aws_4.37.0_linux_amd64.zip
2022/10/30 12:18:38 [DEBUG] Provider signed by 34365D9472D7468F HashiCorp Security (hashicorp.com/security) <security@hashicorp.com>
2022/10/30 12:18:40 [TRACE] providercache.fillMetaCache: scanning directory .terraform/plugins
2022/10/30 12:18:40 [TRACE] getproviders.SearchLocalDirectory: .terraform/plugins is a symlink to .terraform/plugins
2022/10/30 12:18:40 [TRACE] getproviders.SearchLocalDirectory: found registry.terraform.io/hashicorp/aws v4.37.0 for linux_amd64 at .terraform/plugins/registry.terraform.io/hashicorp/aws/4.37.0/linux_amd
64
2022/10/30 12:18:40 [TRACE] providercache.fillMetaCache: including .terraform/plugins/registry.terraform.io/hashicorp/aws/4.37.0/linux_amd64 as a candidate package for registry.terraform.io/hashicorp/aws
 4.37.0
- Installed hashicorp/aws v4.37.0 (self-signed, key ID 34365D9472D7468F)

Partner and community providers are signed by their developers.
If you'd like to know more about provider signing, you can read about it here:
https://www.terraform.io/docs/plugins/signing.html
2022/10/30 12:18:40 [TRACE] providercache.fillMetaCache: using cached result from previous scan of .terraform/plugins

The following providers do not have any version constraints in configuration,
so the latest version was installed.

To prevent automatic upgrades to new major versions that may contain breaking
changes, we recommend adding version constraints in a required_providers block
in your configuration, with the constraint strings suggested below.

* hashicorp/aws: version = "~> 4.37.0"

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.
[cloud_user@ip-10-0-1-187 providers]$
```

```
Terraform will perform the following actions:

  # aws_sns_topic.topic-us-east will be created
  + resource "aws_sns_topic" "topic-us-east" {
      + arn                         = (known after apply)
      + content_based_deduplication = false
      + fifo_topic                  = false
      + id                          = (known after apply)
2022/10/30 12:19:25 [TRACE] statemgr.Filesystem: removing lock metadata file .terraform.tfstate.lock.info
2022/10/30 12:19:25 [TRACE] statemgr.Filesystem: unlocking terraform.tfstate using fcntl flock
      + name                        = "topic-us-east"
      + name_prefix                 = (known after apply)
      + owner                       = (known after apply)
      + policy                      = (known after apply)
      + tags_all                    = (known after apply)
    }

  # aws_sns_topic.topic-us-west will be created
  + resource "aws_sns_topic" "topic-us-west" {
      + arn                         = (known after apply)
      + content_based_deduplication = false
      + fifo_topic                  = false
      + id                          = (known after apply)
      + name                        = "topic-us-west"
      + name_prefix                 = (known after apply)
      + owner                       = (known after apply)
      + policy                      = (known after apply)
      + tags_all                    = (known after apply)
    }

Plan: 2 to add, 0 to change, 0 to destroy.

------------------------------------------------------------------------

Note: You didn't specify an "-out" parameter to save this plan, so Terraform
can't guarantee that exactly these actions will be performed if
"terraform apply" is subsequently run.

[cloud_user@ip-10-0-1-187 providers]$
```

```
Apply complete! Resources: 2 added, 0 changed, 0 destroyed.
2022/10/30 12:20:00 [TRACE] statemgr.Filesystem: removing lock metadata file .terraform.tfstate.lock.info
2022/10/30 12:20:00 [TRACE] statemgr.Filesystem: unlocking terraform.tfstate using fcntl flock
[cloud_user@ip-10-0-1-187 providers]$
```

Amazon SNS > Topics

Topics (1)

Edit   Delete   Publish message   **Create topic**

🔍 Search

‹ 1 › ⚙

Name ▲	Type ▽	ARN ▽
○ topic-us-east	Standard	arn:aws:sns:us-east-1:484921972107:topic-us-east

Amazon SNS > Topics

Topics (1)

Edit   Delete   Publish message   **Create topic**

🔍 Search

‹ 1 › ⚙

Name ▲	Type ▽	ARN ▽
○ topic-us-west	Standard	arn:aws:sns:us-west-2:484921972107:topic-us-west