Contents

1 Présentation:

Buts :

- Présenter la méthode d'utilisation et de lancement de Terraform
- Comprendre le cycle de base :
  init → plan → apply → destroy

- Utiliser Terraform pour créer et supprimer un bucket S3 dans AWS
-

2 Préalables :

- OS : Windows
- Posséder un compte dans AWS
- Installer AWS CLI

- Installer Terraform
- Télécharger terraform.exe à partir du site officiel de HashiCorp
  - https://developer.hashicorp.com/terraform
- Installer dans :c:\terraform

3 Vérification de l'installation Terraform

#terrraform -version

```
C:\Windows\System32>terraform -version
Terraform v1.14.3
on windows_amd64
```

4 vérification de l'installation AWS CLI

#aws -- version

```
C:\Windows\System32>aws --version
aws-cli/1.42.17 Python/3.12.6 Windows/11 botocore/1.40.17
```

5 verification des credentials AWS

#aws sts get-caller-identity

6 Création du dossier du projet Terraform:

Répertoire : terraform-lab1

Créer un fichier main :

Main.trf dans le répertoire terraform-lab1

Copier le code suivant dans le fichier :

```
terraform {
  required_version = ">= 1.5"

  required_providers {
    aws = {
      source  = "hashicorp/aws"
      version = "~> 5.0"
    }
  }
}
```

```
provider "aws" {
  region = "ca-central-1"
}
```

Ce code :

- définit la version minimale de Terraform
- configure le provider AWS
- définit la région Canada Central

Position répertoire et fichier :

```
C:\terraform\terraform-lab1>dir
 Volume in drive C is Windows
 Volume Serial Number is 5845-6D56

 Directory of C:\terraform\terraform-lab1

12/17/2025  06:05 PM    <DIR>          .
12/17/2025  06:02 PM    <DIR>          ..
12/17/2025  06:06 PM               207 main.tf
               1 File(s)            207 bytes
               2 Dir(s)  700,202,991,616 bytes free

C:\terraform\terraform-lab1>
```

7 Initialisation de Terraform :

```
C:\terraform\terraform-lab1>terraform init
Initializing the backend...
Initializing provider plugins...
- Finding hashicorp/aws versions matching "~> 5.0"...
- Installing hashicorp/aws v5.100.0...
- Installed hashicorp/aws v5.100.0 (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.

C:\terraform\terraform-lab1>
```

L’initialisation crée automatiquement les deux fichiers suivants dans le répertoire de travail, du projet.

.terraform\
.terraform.lock.hcl

8 Ajout d’une ressource s3 :

Rajouter a la fin du fichier main.tf le code suivant :

```
resource "aws_s3_bucket" "lab_bucket" {
  bucket = "henri-terraform-cmd-001"
}
```

Le nom du bucket doit être unique globalement.

9 Visualisation du plan Terraform :

#terraform plan

```
C:\terraform\terraform-lab1>terraform plan

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

Terraform will perform the following actions:

  # aws_s3_bucket.lab_bucket will be created
  + resource "aws_s3_bucket" "lab_bucket" {
      + acceleration_status         = (known after apply)
      + acl                         = (known after apply)
      + arn                         = (known after apply)
      + bucket                      = "henri-terraform-cmd-001"
      + bucket_domain_name          = (known after apply)
      + bucket_prefix               = (known after apply)
      + bucket_regional_domain_name = (known after apply)
      + force_destroy               = false
      + hosted_zone_id              = (known after apply)
      + id                          = (known after apply)
      + object_lock_enabled         = (known after apply)
      + policy                      = (known after apply)
      + region                      = (known after apply)
      + request_payer               = (known after apply)
      + tags_all                    = (known after apply)
      + website_domain              = (known after apply)
      + website_endpoint            = (known after apply)

      + cors_rule (known after apply)

      + grant (known after apply)

      + lifecycle_rule (known after apply)

      + logging (known after apply)

      + object_lock_configuration (known after apply)

      + replication_configuration (known after apply)

      + server_side_encryption_configuration (known after apply)

      + versioning (known after apply)

      + website (known after apply)
    }

Plan: 1 to add, 0 to change, 0 to destroy.
```

On dois avoir comme résultat :

Plan: 1 to add, 0 to change, 0 to destroy

10 Création de la ressource :

Terraform apply

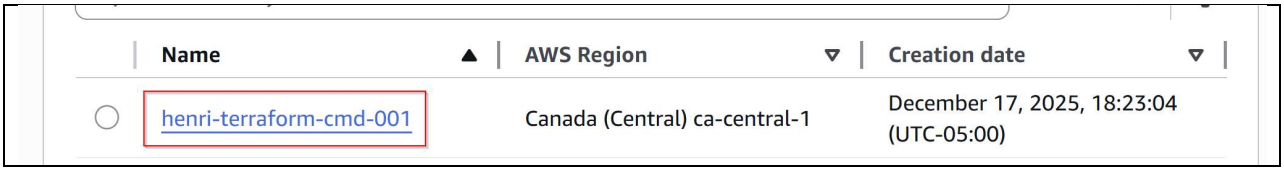
```
Plan: 1 to add, 0 to change, 0 to destroy.

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_s3_bucket.lab_bucket: Creating...
aws_s3_bucket.lab_bucket: Creation complete after 1s [id=henri-terraform-cmd-001]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

C:\terraform\terraform-lab1>
```

Terraform, nous indique que le bucket S3 a été crée.

11 Vérifications dans AWS :

Option 1 — Console AWS

- Aller dans **S3**
- Vérifier la présence du bucket henri-terraform-cmd-001



Option 2— AWS CLI

Aws s3 ls

12 Suppression de la ressource

12.1 Suppression avec terraform :

#Terraform 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_s3_bucket.lab_bucket: Destroying... [id=henri-terraform-cmd-001]
aws_s3_bucket.lab_bucket: Destruction complete after 0s

Destroy complete! Resources: 1 destroyed.

C:\terraform\terraform-lab1>
```

12.2 Suppression manuelle via la console AWS (optionnelle)

Suppression manuelle du bucket S3 à partir de la console de gestion AWS

12.3 Vérification de la suppression

Soit via la console, soit via le CLI

aws s3 ls s3://henri-terraform-cmd-001

Résultat attendu :

```
C:\terraform\terraform-lab1>aws s3 ls s3://henri-terraform-cmd-001

An error occurred (NoSuchBucket) when calling the ListObjectsV2 operation: The specified bucket does not exist

C:\terraform\terraform-lab1>
```