

Documentación Desafío 13

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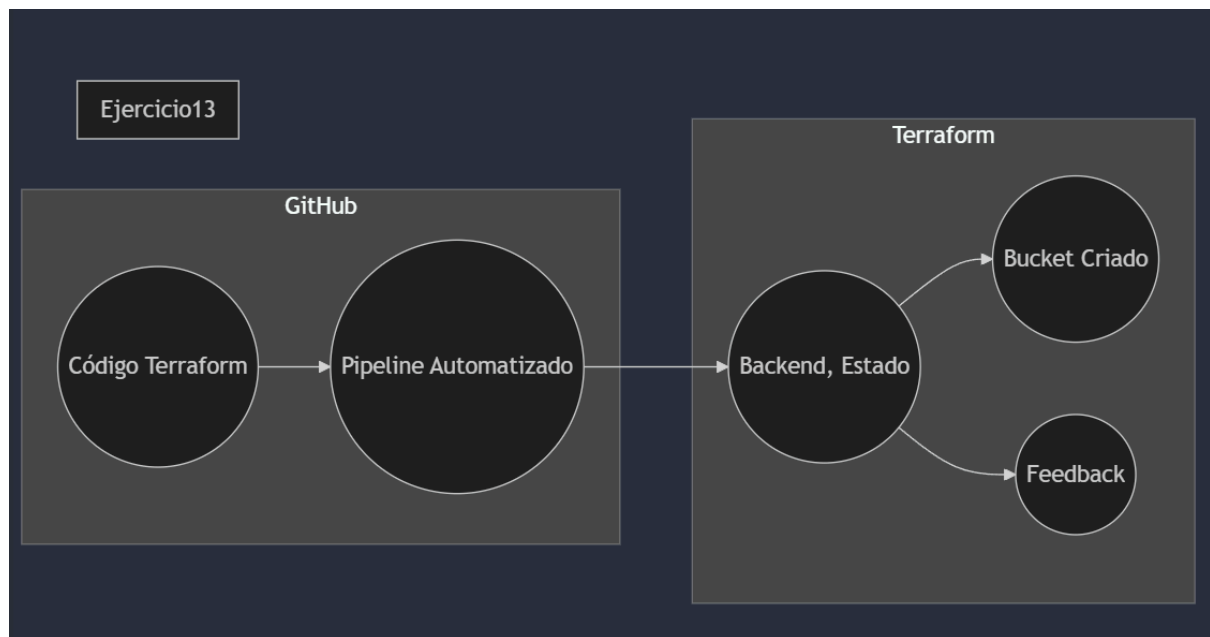
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Prueba de Concepto: Bucket S3

Para esta prueba, se creó un recurso Amazon S3 con las siguientes especificaciones:

- Nombre del bucket: desafio13-bucket-asurraco
- Región: us-east-1
- Etiquetas:
 - Name: Desafio13-S3
 - Owner: Alexandro Surraco

Diagrama de Alto Nivel



Estructura del proyecto

El código fuente está organizado de la siguiente manera:

```
Proyecto/  
├── main.tf      # Configuración del recurso S3  
├── providers.tf # Configuración del proveedor AWS  
├── variables.tf # Declaración de variables  
├── outputs.tf   # Salidas de Terraform  
├── .github/  
│   ├── workflows/  
│   │   └── terraform.yml # Pipeline de GitHub Actions
```

Explicación de los Archivos

1. main.tf

Definimos el recurso que vamos a crear, en este caso el recurso es un S3.

```
resource "aws_s3_bucket" "bucket" {  
  bucket = "desafio13-bucket-asurraco"  
  
  tags = {  
    Name = "Desafio13-S3"  
    Owner = "Alexandro Surraco"  
  }  
}
```

2. privder.tf

Configuramos el proveedor de AWS

```
provider "aws" {  
  region = var.AWS_DEFAULT_REGION  
  access_key = var.AWS_ACCESS_KEY_ID  
  secret_key = var.AWS_SECRET_ACCESS_KEY  
}
```

3. variables.tf

Configuramos las variables que vamos a utilizar.

```
variable "AWS_ACCESS_KEY_ID" {}  
variable "AWS_SECRET_ACCESS_KEY" {}  
variable "AWS_DEFAULT_REGION" {  
  default = "us-east-1"  
}
```

4. outputs.tf

Configuramos la salida con el nombre del bucket creado.

```
output "bucket_name" {  
  value = aws_s3_bucket.bucket.id  
}
```

5. terraform.yml

Pipeline de GitHub Actions para automatizar los comandos de Terraform:

```
name: Terraform

on:
  push:
    branches: [Entrega13]

jobs:
  terraform:
    runs-on: ubuntu-latest
    steps:
      - name: Checkout code
        uses: actions/checkout@v3

      - name: Setup Terraform
        uses: hashicorp/setup-terraform@v2
        with:
          terraform_version: 1.5.0

      - name: Terraform Init
        working-directory: ./Proyecto
        env:
          TF_TOKEN_app_terraform_io: ${ secrets.TF_API_TOKEN }
        run: terraform init

      - name: Terraform Validate
        working-directory: ./Proyecto
        run: terraform validate

      - name: Terraform Plan
        working-directory: ./Proyecto
        run: terraform plan -no-color
```

Flujo del Pipeline

1. Desencadenador: El pipeline se activa automáticamente cuando hay un push al branch Entrega13.
2. Validación: GitHub Actions ejecuta los comandos terraform init, validate y plan.
3. Auto-Apply: Terraform Cloud aplica automáticamente los cambios, creando el recurso S3 en AWS.
4. Resultado:
 - El bucket S3 se crea con el nombre desafio13-bucket-asurraco.
 - Terraform Cloud muestra los logs del plan y apply.

Mejoras Propuestas

1. Notificaciones: Integrar alertas cuando el pipeline falle o termine.
2. Control de Estado: Usar Sentinel Políticas para validar que los cambios cumplan con los estándares de seguridad.
3. Monitoreo: Implementar herramientas para monitorear el estado del recurso creado.

Evidencia de Ejecución

```

1  ▶ Run terraform init
7  /home/runner/work/_temp/9f5b80c4-706d-41bf-b933-3d9b884b258e/terraform-bin init
8  Initializing Terraform Cloud...
9  Initializing provider plugins...
10 - Finding hashicorp/aws versions matching "~> 5.0"...
11 - Installing hashicorp/aws v5.81.0...
14 - Installed hashicorp/aws v5.81.0 (signed by HashiCorp)
15 Terraform has created a lock file .terraform.lock.hcl to record the provider
16 selections it made above. Include this file in your version control repository
17 so that Terraform can guarantee to make the same selections by default when
18 you run "terraform init" in the future.
19 Terraform Cloud has been successfully initialized!
20
21 You may now begin working with Terraform Cloud. Try running "terraform plan" to
22 see any changes that are required for your infrastructure.
23 If you ever set or change modules or Terraform Settings, run "terraform init"
24 again to reinitialize your working directory.

1  ▼ Run terraform validate
2  terraform validate
3  shell: /usr/bin/bash -e {0}
4  env:
5    TERRAFORM_CLI_PATH: /home/runner/work/_temp/9f5b80c4-706d-41bf-b933-3d9b884b258e
6    TF_TOKEN_app_terraform_io: ***
7
7  /home/runner/work/_temp/9f5b80c4-706d-41bf-b933-3d9b884b258e/terraform-bin validate
8  Success! The configuration is valid.
9
```

Post Checkout code

```
1 Post job cleanup.
2 /usr/bin/git version
3 git version 2.47.1
4 Temporarily overriding HOME="/home/runner/work/_temp/1bd25ea3-29d1-4c58-b00e-65bb179e8b4d" before making global git config changes
5 Adding repository directory to the temporary git global config as a safe directory
6 /usr/bin/git config --global --add safe.directory /home/runner/work/bootcamp-jenkins/bootcamp-jenkins
7 /usr/bin/git config --local --name-only --get-regexp core.sshCommand
8 /usr/bin/git submodule foreach --recursive sh -c "git config --local --name-only --get-regexp 'core.sshCommand' && git config --local --unset-all 'core.sshCommand' || :"
9 /usr/bin/git config --local --name-only --get-regexp http.\https:\\V\github.comV\extraheader
10 http.\https://github.com/.extraheader
11 /usr/bin/git config --local --unset-all http.\https://github.com/.extraheader
12 /usr/bin/git submodule foreach --recursive sh -c "git config --local --name-only --get-regexp 'http.\https:\\V\github.comV\extraheader' && git config --local --unset-all 'http.\https://github.com/.extraheader' || :"
```

Complete job

```
1 Cleaning up orphan processes
```

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ID: ws-P8CvCx5gez1fQCS [🔗](#)
[Add workspace description.](#)

🔓 Unlocked 📦 Resources 1 🏹 Terraform v1.10.2 ⌚ Updated 7 hours ago

🔒 Lock

+ New run

Variables

Terraform uses all [Terraform](#) and [Environment](#) variables for all plans and applies in this workspace. Workspaces using Terraform 0.10.0 or later can also load default values from any `*.auto.tfvars` files in the configuration. You may want to use the HCP Terraform Provider or the variables API to add multiple variables at once.

Sensitive variables

[Sensitive](#) variables are never shown in the UI or API, and can't be edited. They may appear in Terraform logs if your configuration is designed to output them. To change a sensitive variable, delete and replace it.

Workspace variables (3)

Variables defined within a workspace always overwrite variables from variable sets that have the same type and the same key. Learn more about variable set [precedence](#).

Key	Value	Category	Actions
AWS_ACCESS_KEY_ID <div>Sensitive</div>	<i>Sensitive - write only</i>	terraform	⋮
AWS_DEFAULT_REGION	us-east-1	terraform	⋮
AWS_SECRET_ACCESS_KEY <div>Sensitive</div>	<i>Sensitive - write only</i>	terraform	⋮

+ Add variable

Auto-apply

Sets this workspace to automatically apply changes for successful runs. If disabled, runs require operator approval.

- ☒ Auto-apply API, CLI, & VCS runs ⓘ
- ☐ Auto-apply run triggers ⓘ

bootcamp-Jenkins

ID: ws-rRCvC6xSgez1fQCS [🔗](#)
[Add workspace description](#)

🔓 Unlocked 📄 Resources 1 🐦 Terraform [v1.10.2](#) ⌚ Updated in a few seconds

🔒 Lock [+ New run](#)

Para probar

🕒 CURRENT ✅ Applied

Plan & apply duration
Less than a minute

Resources changed
+1 -0 -0

AlexandroGSM triggered a run from GitHub a few seconds ago

Run Details

✅ Plan finished a few seconds ago

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

Started a few seconds ago > Finished a few seconds ago

+ 1 to create

Filter resources by address...

Filter by action

Terraform 1.10.2

Download raw log

+ aws_s3_bucket.bucket

Outputs

1 planned to change

Download Sentinel mocks

Sentinel mocks can be used for testing your Sentinel policies

✅ Apply finished in a few seconds

Resources: 1 added, 0 changed, 0 destroyed

Started a few seconds ago > Finished in a few seconds

+ 1 created

Filter resources by address...

Filter by action

Terraform 1.10.2

Download raw log

+ aws_s3_bucket.bucket

Created id=desafio13-bucket-asurraco

Outputs

1 total

bucket_name : "desafio13-bucket-asurraco"

State versions created:

EstudiaIT/bootcamp-Jenkins#sv-So1KtbyUM9LuDu (Dec 15, 2024 15:27:07 pm)

Buckets de uso general (1) Información Todas las regiones de AWS

🔄

Copiar ARN

Vaciar

Eliminar

Crear bucket

Los buckets son contenedores de datos almacenados en S3.

🔍

Buscar buckets por nombre

< 1 >

⚙️

Nombre

Región de AWS

Analizador de acceso de IAM

desafio13-bucket-asurraco

EE.UU. Este (Norte de Virginia) us-east-1

Ver analizador para us-east-1