**Launching an S3 Bucket with Terraform with image object:**

**1. Install Terraform**

1. Download Terraform from [HashiCorp's official website](https://developer.hashicorp.com/terraform/install).
2. Unzip the downloaded file. Inside, you'll find an executable file.
3. Open your terminal and navigate to the unzipped folder, e.g.,

cd Downloads/terraform\_1.10.2\_darwin\_arm64

1. Add Terraform to your system's path:

sudo mv terraform /usr/local/bin/

* + You may be prompted to enter your system's password.

1. Verify the installation:

terraform version

**2. Setup a Terraform Project**

1. Create a folder for your project:

mkdir ~/Desktop/Nextwork\_terraform

1. Navigate to the folder:

cd ~/Desktop/Nextwork\_terraform

1. Create the main configuration file:

touch main.tf

* + This file is the primary configuration file used by Terraform to describe the desired state of your infrastructure.

**3. Write Terraform Code in main.tf**

* Open the main.tf file using a text editor, such as Visual Studio Code.

A screenshot of a computer program

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**Code Breakdown:**

* **Provider:** A plugin Terraform uses for a specific cloud service (e.g., AWS). It translates your configurations into API calls.
* **Resource aws\_s3\_bucket:** Provisions an S3 bucket with the alias name my\_bucket.
* **Resource aws\_s3\_bucket\_public\_access\_block:** Blocks public access to the bucket.

**Note:** Terraform supports modularity, breaking code into manageable chunks.

**4. Initialize and Plan**

1. Initialize Terraform:

terraform init

1. Compare the infrastructure in main.tf against the current state:

terraform plan

* + A screenshot of a computer error

    Description automatically generatedIf you encounter an error, it might be due to insufficient permissions to AWS.

**5. Grant Permissions Using AWS CLI**

1. Verify if AWS CLI is installed:

aws --version

1. Configure AWS CLI:

aws configure

* + Enter the access key and secret key when prompted. These can be obtained from the AWS Management Console.

1. Re-run the plan command:

terraform plan

* + You should see the plan working successfully!

1. Apply the configuration to create resources:

terraform apply

* + Your S3 bucket (e.g., unique-bucket-lavanya-08) is created with the specified tags.

**6. Upload Objects to S3 Bucket**

To upload an object (e.g., image.jpg) into the bucket:

1. Modify the main.tf file to include:

resource "aws\_s3\_object" "image" {

bucket = aws\_s3\_bucket.my\_bucket.id # Reference the bucket ID

key = "image.jpg"

source = "image.jpg"

}

1. Re-run the commands to apply the changes.

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**7. Destroy Terraform Infrastructure**

When done, clean up by destroying the infrastructure:

terraform destroy