# Step-by-Step Guide to Launch Terraform Project

## Prerequisites

1. Install Terraform: Ensure you have Terraform installed on your local machine. You can download it from the

2. AWS CLI: Install and configure the AWS CLI with the necessary credentials. Follow the

## Step 1: Unzip the Project

Unzip the terraform\_project.zip file to your desired location.

```bash  
unzip terraform\_project.zip -d terraform-project  
cd terraform-project  
```

## Step 2: Initialize the Environment

Navigate to the environment directory you want to deploy (e.g., dev).

```bash  
cd envs/dev  
```

Initialize the Terraform workspace. This command initializes the backend and installs necessary plugins.

```bash  
terraform init  
```

## Step 3: Review the Configuration

It's good practice to review the Terraform configuration before applying it.

```bash  
terraform plan  
```

This command will show you what changes Terraform will make to your infrastructure.

## Step 4: Apply the Configuration

Apply the Terraform configuration to create the infrastructure. This command will create the resources defined in your Terraform files.

```bash  
terraform apply  
```

You will be prompted to confirm before applying the changes. Type `yes` and press Enter.

## Step 5: Verify the Deployment

After the apply command completes, you can verify the deployment.

1. AWS Console: Log in to the AWS Management Console and navigate to the relevant services (e.g., EC2) to see the resources created.

2. Terraform Outputs: If there are any output variables defined, Terraform will display them after the apply command completes.

## Step 6: Manage Your Infrastructure

To make changes to your infrastructure, update the Terraform files and run the `terraform plan` and `terraform apply` commands again.

To destroy the infrastructure when you no longer need it, run:

```bash  
terraform destroy  
```

This will remove all resources defined in your Terraform files for the current environment.

## Example Commands for Stage and Prod Environments

To deploy the stage environment, repeat steps 2 to 6 in the `envs/stage` directory.

```bash  
cd ../stage  
terraform init  
terraform plan  
terraform apply  
```

To deploy the prod environment, repeat steps 2 to 6 in the `envs/prod` directory.

```bash  
cd ../prod  
terraform init  
terraform plan  
terraform apply  
```

## Summary

1. Unzip the project and navigate to the desired environment directory.

2. Initialize Terraform using `terraform init`.

3. Review the plan using `terraform plan`.

4. Apply the configuration using `terraform apply`.

5. Verify the deployment.

6. Manage infrastructure updates or destroy it when no longer needed.

This approach ensures that each environment (Dev, Stage, Prod) is isolated and managed independently, adhering to best practices for infrastructure as code.