

Deployment #4

- . Configuring Jenkins to use Terraform.
 - I first launched a new EC2 instance and installed Jenkins on the EC2. I used the default VPC for the Jenkins server.
 - I used `sudo snap install terraform` to install Terraform on the Jenkins EC2 .
 - I used the command `sudo apt install` to install the following packages: `default-jre`, `python3-pip`, `python3.10-venv`.
 - I connected to the Jenkins webserver using the public ip and port 8080.
 - I installed and configured Terraform on the Jenkins web server using
 - Go to Manage Jenkins > Manage Plugins > Available > search Terraform. Configure Terraform

Filter:

| Updates | Available | Installed | Advanced |
|-------------------------------------|-----------|---|----------|
| Install ↓ | | Name | Version |
| <input checked="" type="checkbox"/> | | Terraform This plugin provides a build wrapper for Terraform to launch and destroy infrastructure. | 1.0.10 |
| <input type="checkbox"/> | | Backup and interrupt job plugin Prepare Jenkins for restart | 1.0 |
| | | IBM Content Navigator remote plug-in reloader | |

- Then I navigated to Go to Manage Jenkins > Global Tool Configuration > Terraform displayed on the list

Terraform

Terraform Installations

Add Terraform

Terraform

Name

Terraform

☒ Install automatically

Install from bintray.com

Version

Terraform 0.12.24 darwin (amd64)

Add Installer

Add Terraform

Delete Installer

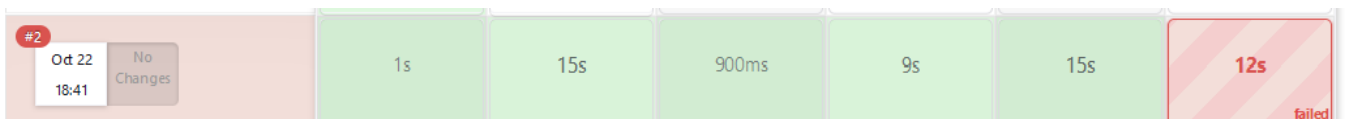
Delete Terraform

List of Terraform installations on this system

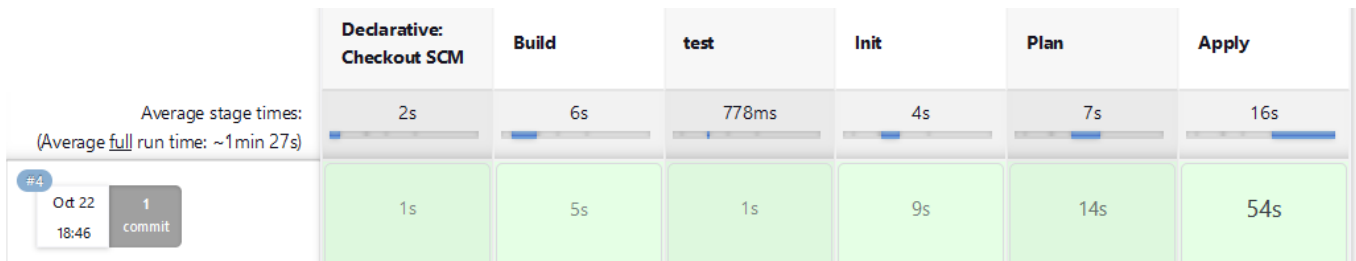
2. Next, I configured my AWS credentials on Jenkins.

3. I then connected my Github credentials to the Jenkins server using the personal access token that I generated on Github.

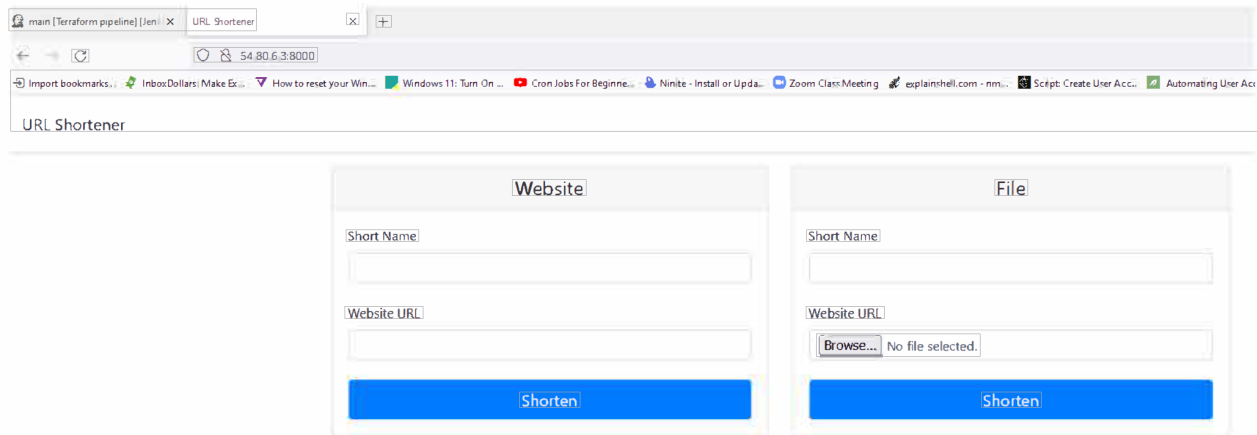
4. My build failed in the apply stage because I had not changed the name of pem file in the original Jenkinsfile to the name of my pem file.



- **My third build was successful after I changed the name of the pem file.**



- I was able to deploy the flask app and launch the url shortener website by using the Jenkins server public ip and port 8000.



- After I launched the url shortener website , I added a destroy stage to the Jenkinsfile and destroyed the build.

5. I then created a VPC on AWS by editing the main.tf file on Github. I also deleted the SG.tf file from Github because my main.tf file already had a security group.

- My Jenkins build was successful.

Stage View

| | | Declarative: Checkout SCM | Build | test | Init | Plan | Apply | |
|---|-----------------|---------------------------------|-------|------|-------|-----------|----------|---------|
| Average stage times: (Average <u>full</u> run time: ~5min 12s) | | 1s | 5s | 1s | 6s | 11h 46min | 1min 24s | |
| #12 | Oct 29 09:38 | 2 commits | 927ms | 4s | 963ms | 9s | 4min 40s | 4min 2s |

- Two instances and a VPC were created on my AWS console.

Search for services, features, blogs, docs, and more [Alt+S] N. Virginia AnjP

Launch Instance Connect Actions

Instance State : Running Add filter 1 to 3 of 3

| Name | Instance ID | Instance Type | Availability Zone | Instance State | Status Checks |
|----------------|---------------------|---------------|-------------------|----------------|-------------------|
| Web-server-02 | i-06ea3501053b87ec3 | t2.micro | us-east-1a | running | 2/2 checks passed |
| Web-server-one | i-0ce4bf5180d822d46 | t2.micro | us-east-1a | running | 2/2 checks passed |
| Jenkins Server | i-0db1f5eab92a000db | t2.micro | us-east-1b | running | 2/2 checks passed |

Secondary private IPs VPC ID vpc-0cfc2231bea57089a

Scheduled events AMI ID ubuntu/images/hvm-ssd/ubuntu-jammy-22.04-amd64-server-20220912 (ami-08c40ec9ead489470)

Subnet ID subnet-05337c137f2174459

Platform Ubuntu

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Launch Instance Connect Actions

Instance State : Running Add filter 1 to 3 of 3

| Name | Instance ID | Instance Type | Availability Zone | Instance State | Status Checks |
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| Jenkins Server | i-0db1f5eab92a000db | t2.micro | us-east-1b | running | 2/2 checks passed |

Secondary private IPs VPC ID vpc-0cfc2231bea57089a

Scheduled events No scheduled events

AMI ID ubuntu/images/hvm-ssd/ubuntu-jammy-22.04-amd64-server-20220912 (ami-08c40ec9ead489470)

Subnet ID subnet-0e5778d49e1b481fb

Platform Ubuntu

Search for services, features, blogs, docs, and more [Alt+S] N. Virginia AnjP

Launch Instance Connect Actions

Instance State : Running Add filter 1 to 3 of 3

| Name | Instance ID | Instance Type | Availability Zone | Instance State | Status Checks |
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Secondary private IPs VPC ID vpc-09f881c4d3c69719f

Scheduled events No scheduled events

AMI ID ubuntu/images/hvm-ssd/ubuntu-jammy-22.04-amd64-server-20220912 (ami-08c40ec9ead489470)

Subnet ID subnet-08454beea544e4e2d

Platform Ubuntu

Platform details Linux/UNIX

Usage operation RunInstances

Network interfaces eth0

IAM role -

I added 2 greetings to the test stage and the Test ran successfully in Jenkins.
No issues to report with this deployment.

Console Output

```
===== test session starts =====
platform linux -- Python 3.10.6, pytest-7.1.2, pluggy-1.0.0 -- /var/lib/jenkins/workspace/TerraformVPC_Pipeline_main@2
/test3/bin/python3
cachedir: .pytest_cache
rootdir: /var/lib/jenkins/workspace/TerraformVPC_Pipeline_main@2
collecting ... collected 1 item

test_app.py::test_home_page PASSED [100%]

- generated xml file: /var/lib/jenkins/workspace/TerraformVPC_Pipeline_main@2/test-reports/results.xml -
===== 1 passed in 0.16s =====
```