

AWS: TERRAFORM

- DIRECTORY STRUCTURE:

```
C:\Users\IQ-Swati\Documents\Relait-IT\AZURE-AWS\TERRAFORM-AWS>tree
Folder PATH listing
Volume serial number is 5C65-E449
C:..
├── modules
│   ├── ec2
│   └── security_group
```

- Terraform init:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS AZURE COMMENTS
PS C:\Users\IQ-Swati\Documents\Relait-IT\AZURE-AWS\TERRAFORM-AWS> terraform init
Initializing the backend...
Initializing modules...
- ec2_instance in modules\ec2
- security_group in modules\security_group
Initializing provider plugins...
- Finding latest version of hashicorp/local...
- Finding hashicorp/aws versions matching "~> 5.86.0"...
- Finding latest version of hashicorp/tls...
- Installing hashicorp/local v2.5.2...
- Installed hashicorp/local v2.5.2 (signed by HashiCorp)
- Installing hashicorp/aws v5.86.1...
- Installed hashicorp/aws v5.86.1 (signed by HashiCorp)
- Installing hashicorp/tls v4.0.6...
- Installed hashicorp/tls v4.0.6 (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.
```

- Terraform validate:

```
PS C:\Users\IQ-Swati\Documents\Relait-IT\AZURE-AWS\TERRAFORM-AWS> terraform validate
Success! The configuration is valid.
```

- Terraform plan:

```
PS C:\Users\IQ-Swati\Documents\Relait-IT\AZURE-AWS\TERRAFORM-AWS> terraform plan -var-file="dev.tfvars"

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

Terraform will perform the following actions:

# module.ec2_instance.aws_instance.this will be created
+ resource "aws_instance" "this" {
  + ami           = "ami-0005ee01bca55ab66"
  + arch          = (known after apply)
```

- Terraform

Apply:

```
Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if you run "terraform apply" now.
PS C:\Users\IQ-Swati\Documents\Relait-IT\AZURE-AWS\TERRAFORM-AWS> terraform apply -var-file="dev.tfvars"

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

```
Changes to Outputs:
+ instance_id      = (known after apply)
+ public_ip        = (known after apply)
+ security_group_id = (known after apply)
```

Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

```
module.ec2_instance.tls_private_key.key: Creating...
module.security_group.aws_security_group.this: Creating...
module.ec2_instance.tls_private_key.key: Creation complete after 2s [id=c79224c5d652b60530e6ac04c1612b8dc30ac2c6]
module.ec2_instance.aws_key_pair.generated_key: Creating...
module.ec2_instance.local_file.private_key: Creating...
module.ec2_instance.local_file.private_key: Creation complete after 0s [id=ac5e61938df75e6c7feb940da0b593a518821aef]
module.ec2_instance.aws_key_pair.generated_key: Creation complete after 2s [id=my-ec2-key]
module.security_group.aws_security_group.this: Creation complete after 6s [id=sg-0a47cd86fd4475a3a]
module.ec2_instance.aws_instance.this: Creating...
module.ec2_instance.aws_instance.this: Still creating... [10s elapsed]
module.ec2_instance.aws_instance.this: Creation complete after 16s [id=i-0509d517f3b4b95c7]
```

Outputs:

```
instance_id = "i-0509d517f3b4b95c7"  
public_ip = "44.246.186.198"  
security_group_id = "sg-0a47cd86fd4475a3a"
```

```
public_ip = "44.246.186.198"
```

```
security_group_id = "sg-0a47cd86fd4475a3a"
```

```

PROBLEMS      OUTPUT      DEBUG CONSOLE    TERMINAL          PORTS      AZURE      COMMENTS
PS C:\Users\IQ-Swati\Documents\Relaif-IT\AZURE-AWS\TERRAFORM-AWS\modules\ec2> ssh -i ".\my-ec2-key.pem" ec2-user@44.246.186.198
The authenticity of host '44.246.186.198 (44.246.186.198)' can't be established.
ED25519 key fingerprint is SHA256:KtoR54/dPg0/P62gi9u8goRDRE9vD0XdiHyjWkykxOx4.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '44.246.186.198' (ED25519) to the list of known hosts.

#
~ \ ##### Amazon Linux 2023
~ \ #####\
~ \ ####|
~ \##/
~ \#/ https://aws.amazon.com/linux/amazon-linux-2023
~ \#/* * -->
~ _ _ _ _ _
~ _ _ _ _ _
[ec2-user@ip-172-31-16-222 ~]$
```

- Terraform

Destory:

```
PS C:\Users\IQ-Swati\Documents\Relait-IT\AZURE-AWS\TERRAFORM-AWS> terraform destroy -var-file="dev.tfvars"
module.ec2_instance.tls_private_key.key: Refreshing state... [id=c79224c5d652b60530e6ac04c1612b8dc30ac2c6]
module.ec2_instance.local_file.private_key: Refreshing state... [id=ac5e61938df75e6c7feb940da0b593a518821aef]
module.ec2_instance.aws_key_pair.generated_key: Refreshing state... [id=my-ec2-key]
module.security_group.aws_security_group.this: Refreshing state... [id=sg-0a47cd86fd4475a3a]
module.ec2_instance.aws_instance.this: Refreshing state... [id=i-0509d517f3b4b95c7]
```

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

- destroy

Terraform will perform the following actions:

```
module.ec2_instance.local_file.private_key: Destroying... [id=ac5e61938df75e6c7feb940da0b593a518821aef]
module.ec2_instance.local_file.private_key: Destruction complete after 0s
module.ec2_instance.aws_instance.this: Destroying... [id=i-0509d517f3b4b95c7]
module.ec2_instance.aws_instance.this: Still destroying... [id=i-0509d517f3b4b95c7, 10s elapsed]
module.ec2_instance.aws_instance.this: Still destroying... [id=i-0509d517f3b4b95c7, 20s elapsed]
module.ec2_instance.aws_instance.this: Still destroying... [id=i-0509d517f3b4b95c7, 30s elapsed]
module.ec2_instance.aws_instance.this: Still destroying... [id=i-0509d517f3b4b95c7, 40s elapsed]
module.ec2_instance.aws_instance.this: Still destroying... [id=i-0509d517f3b4b95c7, 50s elapsed]
module.ec2_instance.aws_instance.this: Still destroying... [id=i-0509d517f3b4b95c7, 1m0s elapsed]
module.ec2_instance.aws_instance.this: Destruction complete after 1m4s
module.ec2_instance.aws_key_pair.generated_key: Destroying... [id=my-ec2-key]
module.security_group.aws_security_group.this: Destroying... [id=sg-0a47cd86fd4475a3a]
module.ec2_instance.aws_key_pair.generated_key: Destruction complete after 0s
module.ec2_instance.tls_private_key.key: Destroying... [id=c79224c5d652b60530e6ac04c1612b8dc30ac2c6]
module.ec2_instance.tls_private_key.key: Destruction complete after 0s
module.security_group.aws_security_group.this: Destruction complete after 2s
```

Destroy complete! Resources: 5 destroyed.

```
PS C:\Users\IQ-Swati\Documents\Relait-IT\AZURE-AWS\TERRAFORM-AWS> []
```

- Resources has been destroyed.