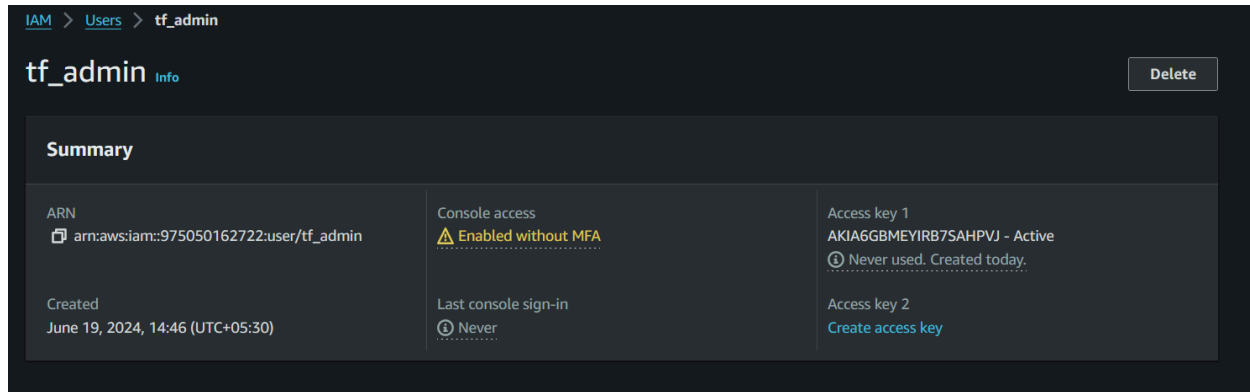


Writing Terraform Configuration Using HCL Syntax to create Local State Files

{CREATION OF LOCAL STATE FILE}

New IAM User: tf_admin

Access Key: AKIA6GBMEYIRB7SAHPVJ



Logging in as IAM User and creating an ENV Variable

```
root@advika:~/terraform# aws configure
AWS Access Key ID [None]: AKIA6GBMEYIRB7SAHPVJ
```

Configured AWS on my WSL

CREATED *main.tf* file on AWS

```
root@advika:~/terraform# vi main.tf
root@advika:~/terraform# cat main.tf
terraform {
  required_providers {
    aws = {
      source = "hashicorp/aws"
      version = "5.1.0"
    }
  }
}

provider "aws" {
  region = "us-east-1"
}

resource "aws_instance" "demo-server" {
  ami          = "ami-04b70fa74e45c3917"
  instance_type = "t2.micro"
  tags = {
    Name = "Terraform_IAM"
  }
}

output "ec2_public_ips" {
  value = aws_instance.demo-server.public_ip
}
```

CHECKING STATE FILES BEFORE RUNNING

```
root@advika:~/terraform# terraform init

Initializing the backend...

Initializing provider plugins...
- Finding hashicorp/aws versions matching "5.1.0"...
- Reusing previous version of hashicorp/local from the dependency lock file
- Installing hashicorp/aws v5.1.0...

- Installed hashicorp/aws v5.1.0 (signed by HashiCorp)
- Using previously-installed hashicorp/local v2.5.1

Terraform has made some changes to the provider dependency selections recorded
in the .terraform.lock.hcl file. Review those changes and commit them to your
version control system if they represent changes you intended to make.

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.
root@advika:~/terraform#
root@advika:~/terraform# terraform state list
local_file.sample
```

Terraform has made some changes to the provider dependency selections recorded in the .terraform.lock.hcl file. Review those changes and commit them to your version control system if they represent the changes you intended to make.

- I explicitly updated/changed the provider versions in my config file *main.tf*
- .terraform.lock.hcl is the file used by Tf to lock dependency versions to ensure that same versions are used every time you run terraform commands
- `git diff .terraform.lock.hcl` inspects output to see what changed

```

root@advika:~/terraform# terraform fmt
main.tf
variables.tf
root@advika:~/terraform# terraform validate
Success! The configuration is valid.

root@advika:~/terraform# terraform plan
local_file.sample: Refreshing state... [id=10a2b34c4cc2e8451e1c363106cfc3efa84f87c8]

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

Terraform will perform the following actions:

# aws_instance.db_server will be created
+ resource "aws_instance" "db_server" {
  + ami              = "ami-08e5424edfe926b43"
  + arn              = (known after apply)
  + associate_public_ip_address = (known after apply)
  + availability_zone = (known after apply)
  + cpu_core_count    = (known after apply)
  + cpu_threads_per_core = (known after apply)
  + disable_api_stop   = (known after apply)
}

Plan: 1 to add, 0 to change, 0 to destroy.

Changes to Outputs:
+ ec2_public_ips = (known after apply)

Do you want to perform these actions?
Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.

Enter a value: yes

aws_instance.demo-server: Creating...
aws_instance.demo-server: Still creating... [10s elapsed]
aws_instance.demo-server: Still creating... [20s elapsed]
aws_instance.demo-server: Still creating... [30s elapsed]
aws_instance.demo-server: Creation complete after 38s [id=i-0b639827f13ad24dc]

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.

Outputs:
ec2_public_ips = "3.87.212.66"

```

NEW EC2 INSTANCE HAS BEEN LAUNCHED USING TERRAFORM FROM AWSCLI

i-0b639827f13ad24dc (Terraform_IAM)		
▼ Instance summary Info		
Instance ID i-0b639827f13ad24dc (Terraform_IAM)	Public IPv4 address 3.87.212.66 open address	Private IPv4 addresses 172.31.81.146
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-3-87-212-66.compute-1.amazonaws.com open address
Hostname type IP name: ip-172-31-81-146.ec2.internal	Private IP DNS name (IPv4 only) ip-172-31-81-146.ec2.internal	Elastic IP addresses -
Answer private resource DNS name -	Instance type t2.micro	