

Lab Exercise 12– Creating an AWS RDS Instance in Terraform

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Batch-2(DevOps)

Objective:

Learn how to use Terraform to create an AWS RDS instance.

Prerequisites:

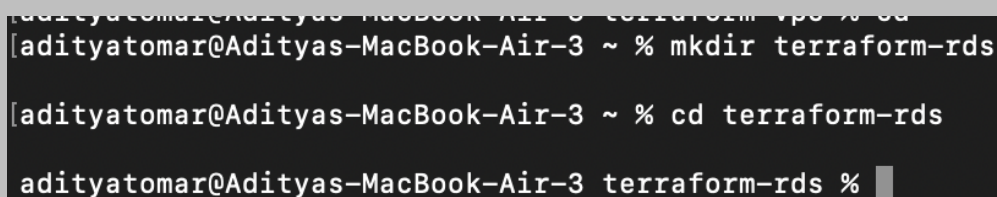
- Terraform installed on your machine.
- AWS CLI configured with the necessary credentials.

Steps:

1. Create a Terraform Directory:

```
mkdir terraform-rds
```

```
cd terraform-rds
```



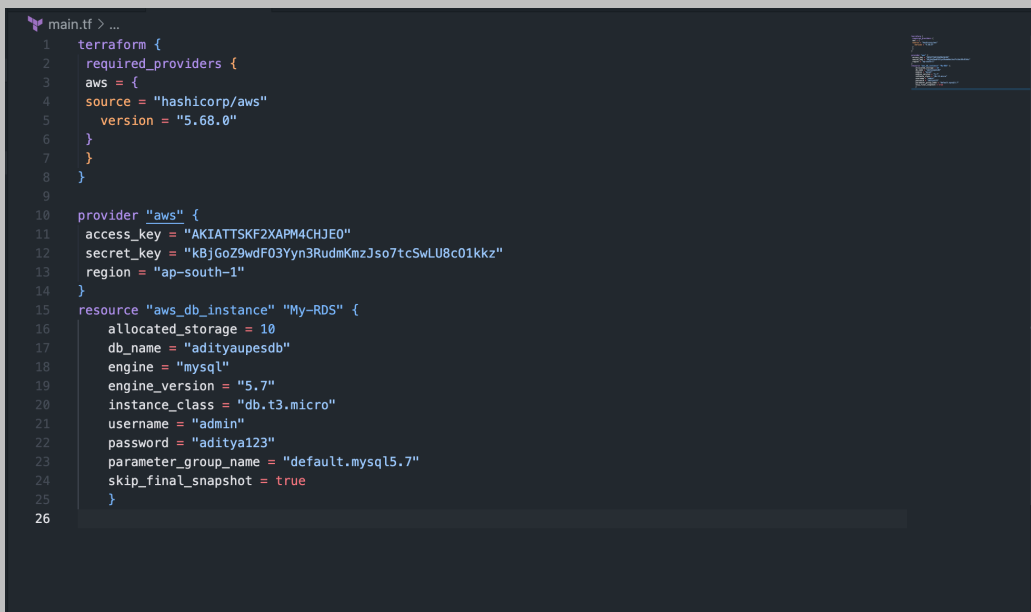
```
adityatomar@Adityas-MacBook-Air-3 ~ % cd terraform-rds
[adityatomar@Adityas-MacBook-Air-3 ~ % mkdir terraform-rds
[adityatomar@Adityas-MacBook-Air-3 ~ % cd terraform-rds
adityatomar@Adityas-MacBook-Air-3 terraform-rds %
```

2. Create Terraform Configuration Files:

Create a file named main.tf:

main.tf

```
provider "aws" {  
  region = "us-east-1"  
}  
  
resource "aws_db_instance" "My-RDS" {  
  allocated_storage = 10  
  db_name = "upesdb"  
  engine = "mysql"  
  engine_version = "5.7"  
  instance_class = "db.t2.micro"  
  username = "admin"  
  password = "Hitesh111"  
  parameter_group_name = "default.mysql5.7"  
  skip_final_snapshot = true  
}
```



```
main.tf > ...  
1 terraform {  
2   required_providers {  
3     aws = {  
4       source = "hashicorp/aws"  
5       version = "5.68.0"  
6     }  
7   }  
8 }  
9  
10 provider "aws" {  
11   access_key = "AKIATT5KF2XAPM4CHJE0"  
12   secret_key = "kBjGoZ9wdF03Yyn3RudmKmzJso7tcSwLU8c01kkz"  
13   region = "ap-south-1"  
14 }  
15 resource "aws_db_instance" "My-RDS" {  
16   allocated_storage = 10  
17   db_name = "adityaupesdb"  
18   engine = "mysql"  
19   engine_version = "5.7"  
20   instance_class = "db.t3.micro"  
21   username = "admin"  
22   password = "aditya123"  
23   parameter_group_name = "default.mysql5.7"  
24   skip_final_snapshot = true  
25 }  
26
```

- Replace "YourPassword123" with a secure password and "your-security-group-id" with your actual security group ID.
- In this configuration, we define an AWS RDS instance with specific settings, such as engine type, instance class, and security group.

3. Initialize and Apply:

- Run the following Terraform commands to initialize and apply the configuration:

```
terraform init
```

terraform apply

[illegible]

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

Enter a value: yes

aws_db_instance.My-RDS: Creating...
aws_db_instance.My-RDS: Still creating... [1s elapsed]
aws_db_instance.My-RDS: Still creating... [2s elapsed]
aws_db_instance.My-RDS: Still creating... [3s elapsed]
aws_db_instance.My-RDS: Still creating... [4s elapsed]
aws_db_instance.My-RDS: Still creating... [5s elapsed]
aws_db_instance.My-RDS: Still creating... [1m0s elapsed]
aws_db_instance.My-RDS: Still creating... [1m10s elapsed]
aws_db_instance.My-RDS: Still creating... [1m20s elapsed]
aws_db_instance.My-RDS: Still creating... [1m30s elapsed]
aws_db_instance.My-RDS: Still creating... [1m40s elapsed]
aws_db_instance.My-RDS: Still creating... [1m50s elapsed]
aws_db_instance.My-RDS: Still creating... [2m0s elapsed]
aws_db_instance.My-RDS: Still creating... [2m10s elapsed]
aws_db_instance.My-RDS: Still creating... [2m20s elapsed]
aws_db_instance.My-RDS: Still creating... [2m30s elapsed]
aws_db_instance.My-RDS: Still creating... [2m40s elapsed]
aws_db_instance.My-RDS: Still creating... [2m50s elapsed]
aws_db_instance.My-RDS: Still creating... [3m0s elapsed]
aws_db_instance.My-RDS: Still creating... [3m10s elapsed]
aws_db_instance.My-RDS: Still creating... [3m20s elapsed]
aws_db_instance.My-RDS: Still creating... [3m30s elapsed]
aws_db_instance.My-RDS: Still creating... [3m40s elapsed]
aws_db_instance.My-RDS: Creation complete after 3m45s [!ddb-DHLEPNJETTENZW34ERPNIKP4]

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

- Terraform will prompt you to confirm the creation of the RDS instance. Type yes and press Enter.

4. Verify RDS Instance in AWS Console:

- Log in to the AWS Management Console and navigate to the RDS service.
- Verify that the specified RDS instance with the specified settings has been created.

5. Update RDS Configuration:

- If you want to modify the RDS instance configuration, update the main.tf file with the desired changes.
- Rerun the terraform apply command to apply the changes:

```
terraform apply
```

6. Clean Up:

After testing, you can clean up the RDS instance:

```
terraform destroy
```

```
Enter a value: yes
aws_db_instance.My-RDS: Destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 10s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 20s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 30s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 40s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 50s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 1m0s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 1m10s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 1m20s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 1m30s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 1m40s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 1m50s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 2m0s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 2m10s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 2m20s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 2m30s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 2m40s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 2m50s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 3m0s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 3m10s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 3m20s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 3m30s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 3m40s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 3m50s elapsed]
aws_db_instance.My-RDS: Still destroying... [id=db-DHLELPNJETTENZNW34ERPNIKP4, 4m0s elapsed]
aws_db_instance.My-RDS: Destruction complete after 4m3s
Destroy complete! Resources: 1 destroyed.
```

Confirm the destruction by typing yes.

7. Conclusion:

This lab exercise demonstrates how to use Terraform to create an AWS RDS instance. You learned how to define RDS settings, initialize and apply the Terraform configuration, and verify the creation of the RDS instance in the AWS Management Console. Experiment with different RDS settings in the main.tf file to observe how