Terraform Task

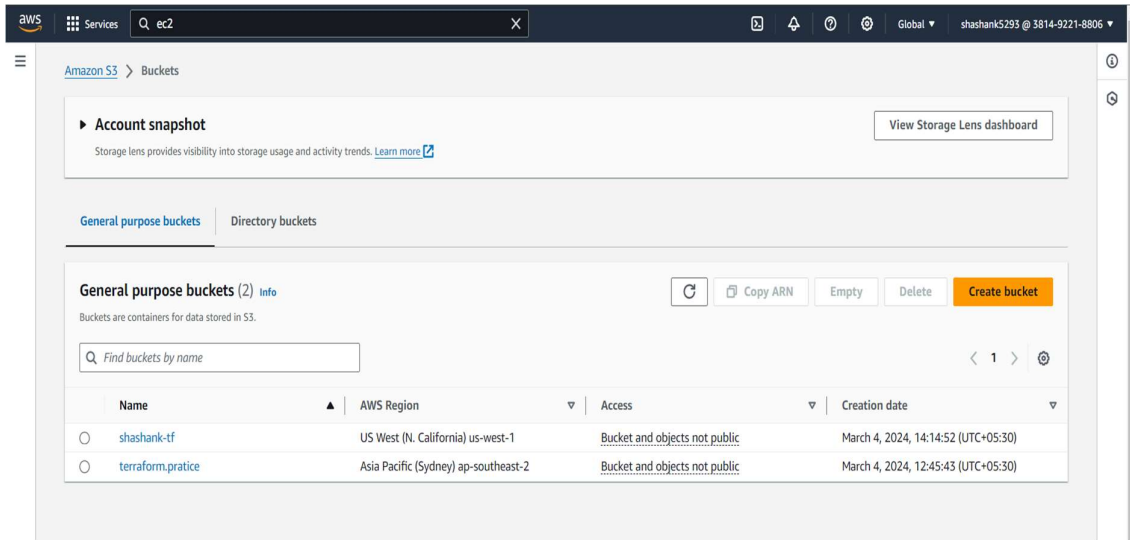## Setting Up A Terraform Backend Using Amazon S3 and DynamoDB
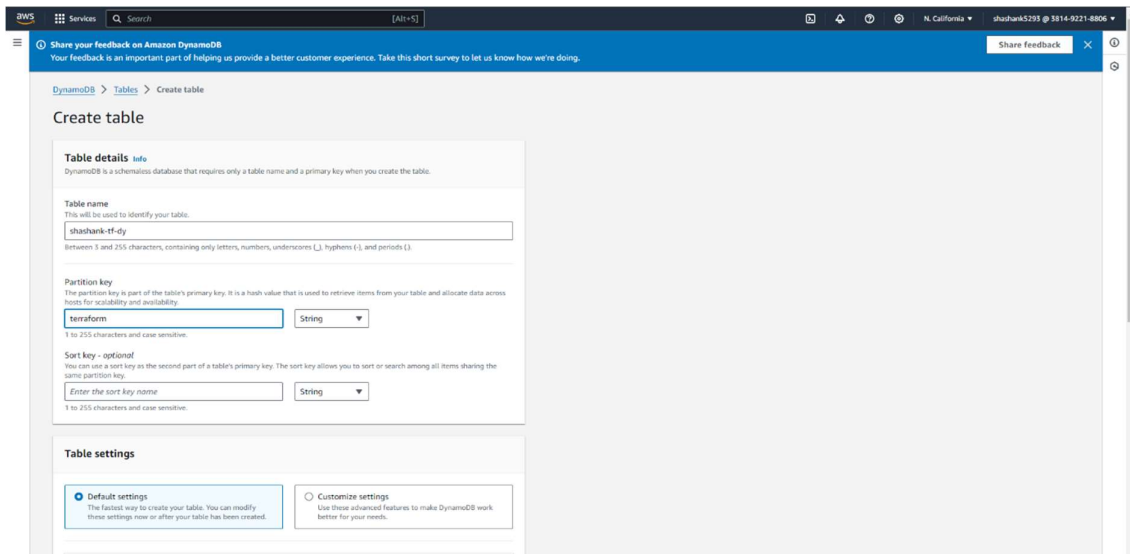
Name – Shashank Sharma

1. Create a S3 bucket in the AWS.

2. Create a DynomoDB Table in AWS.

Give The Partition Key

3. **Open Your VS Code Add Script Of Terraform Backend.**
4. **Make Changes As Per Your Bucket Name , DynamoDB Table Name, Region & Shared_Credentials_Files [""].**

```
provider "aws" {
    region = "us-west-1"
    profile = "configs"
    shared_credentials_files = [ "/home/shashank/.aws/credentials" ]

}

terraform {
  backend "s3" {
    bucket = "shashank-tf"
    key = "terraform.tfstate"
    dynamodb_table = "shashank-tf-dy"
    region = "us-west-1"
    profile = "configs"
    shared_credentials_files = [ "/home/shashank/.aws/credentials" ]

  }
}
```

5. **After Creating Bucket & DynamoDB Table Go To The Your Ubuntu Terminal And Install -> awscli**

   Command- sudo apt install awscli

6. **Then Go To The Next Command For The Your .aws File**

   Command- aws configure –profile configs

7. **After Completing This It Shows To Put Your Access key & Secret Access Key.**
8. **Enter Your Access key & Secret Access Key.**
9. **After Entering Access key & Secret Access Key You Can Skip The Region & Output Format.**

10.   Use Following Commands For The Further Steps.

ls -a

cd .aws

ls

pwd

-> It Give The Path Which Is Your Should Be Copy And
Paste It in Terraform Script.

-> My Path Is /home/Shashank/.aws

-> Copy This Path & paste In Shared_Credentials_Files[""]

-> With The Addition Of Credentials

-> Final Path is = /home/Shashank/.aws/credentials

cd /mnt

ls

cd Shashank

ls

cd terraform-demo

ls

cd terraform-backend

ls

terraform init

terraform plan

terraform graph

terraform fmt

terraform apply

->While Terraform Applying If You Face Error Like This

```
Error: Error acquiring the state lock

Error message: 2 errors occurred:
    * operation error DynamoDB: PutItem, https response error StatusCode: 400, RequestID: HDNETNQEQ7TJ3R9RG6EC7N67CRVV4KQNSO5AEMVJF66Q9ASUAAJG, api erro

ValidationException: One or more parameter values were invalid: Missing the key terraform in the item
    * Unable to retrieve item from DynamoDB table "shashank-tf-dy": operation error DynamoDB: GetItem, https response error StatusCode: 400, RequestID:
JEJ1IFE0VCOM6AR6TBJUJLAGDNVV4KQNSO5AEMVJF66Q9ASUAAJG, api error ValidationException: The provided key element does not match the schema


Terraform acquires a state lock to protect the state from being written
by multiple users at the same time. Please resolve the issue above and try
again. For most commands, you can disable locking with the "-lock=false"
flag, but this is not recommended.
```

Use This Command To Solve The Error

Command – terraform apply -lock=false

Then Error Will Be Solve

11. Go -> aws -> s3 Bucket
12. The File Is Created .
13. Open The File It Gives O/p.

```
{
  "version": 4,
  "terraform_version": "1.7.4",
  "serial": 1,
  "lineage": "62f90890-2252-deba-5fe0-7429e2d9e1d2",
  "outputs": {},
  "resources": [],
  "check_results": null
}
```

14. **To Make A Version Of The File Make Changes In The Script.**

```
tf-backend > ⌇ backend.tf > ⌇ resource "aws_iam_user" "this_iam"
  1    provider "aws" {
  2        region = "us-west-1"
  3        profile = "configs"
  4        shared_credentials_files = [ "/home/shashank/.aws/credentials" ]
  5
  6    }
  7
  8    terraform {
  9      backend "s3" {
 10        bucket = "  string  k-tf"
 11        key = "terraform.tfstate"
 12        dynamodb_table = "shashank-tf-dy"
 13        region = "us-west-1"
 14        profile = "configs"
 15        shared_credentials_files = [ "/home/shashank/.aws/credentials" ]
 16
 17      }
 18    }
 19
 20    #create resources to add version to the file
 21    #add user in aws
 22    resource "aws_iam_user" "this_iam" {
 23      name = "terraform-shank5293"
 24      path = "/"
 25
 26      #add tag to the user
 27      tags = {
 28        name = "this user is created with the help of terraform"
 29      }
 30
 31    }
 32
 33    #Add the access key to the User
 34    resource "aws_iam_access_key" "this_iam_access_key" {
 35      user = aws_iam_user.this_iam.name
 36
 37    }
```

15. **After Making Some Changes It Shows File Versions.**