Assignment No 5

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DIV: C Batch: C2

Write IaC using terraform to create EC2 machine on AWS or azure or google cloud. (Compulsory to use Input and output variable files)

AIM

→ Use terraform to create an EC2 instance

Theory

→ What is terraform?

→ Terraform Cloud enables infrastructure automation for provisioning, compliance, and management of any cloud, datacenter, and service.

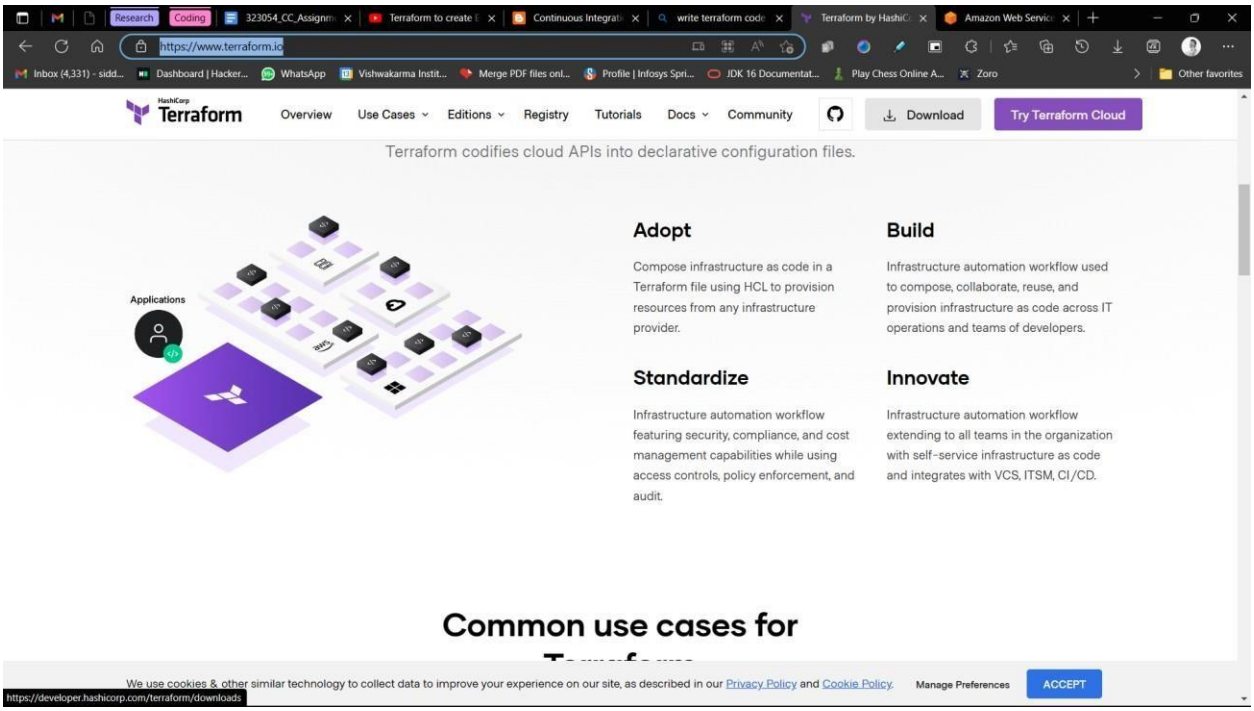
→ It is an open-source tool for provisioning and managing cloud infrastructure. Terraform can provision resources on any cloud platform.

→ Terraform allows you to create infrastructure in configuration files(tf files) that describe the topology of cloud resources.

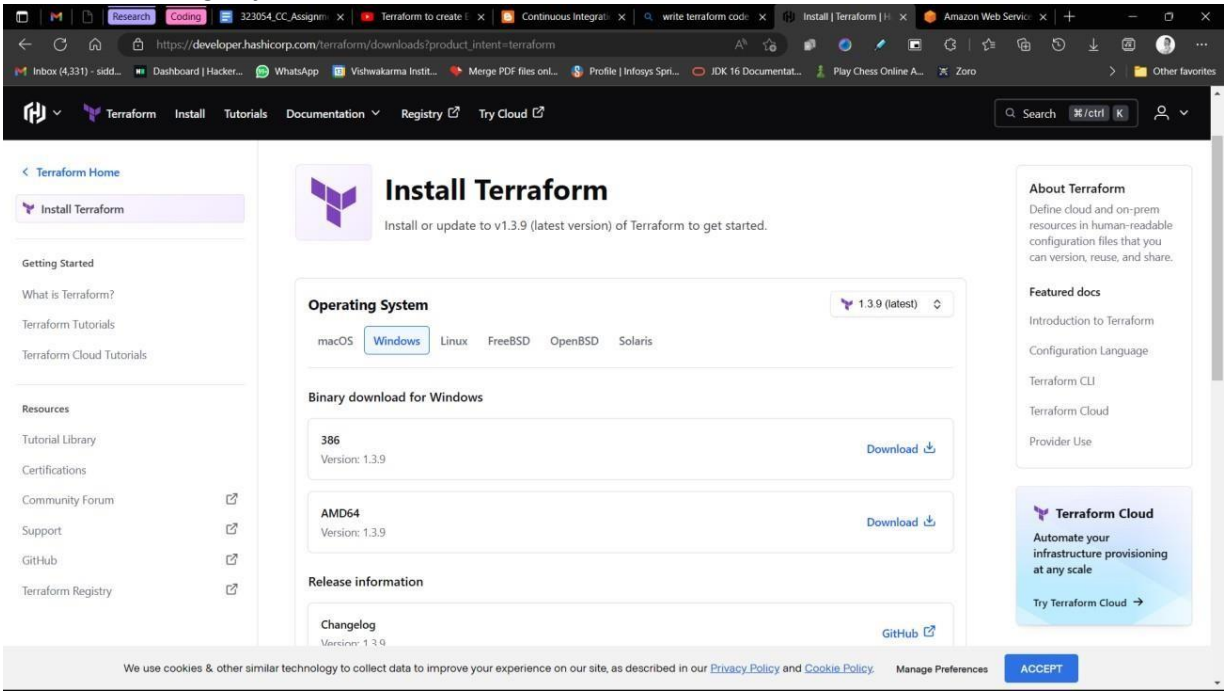
→ These resources include virtual machines, storage accounts, and networking interfaces or virtually any resource you want

Step-by-step screenshot to install and configure Terraform + script (terraform)

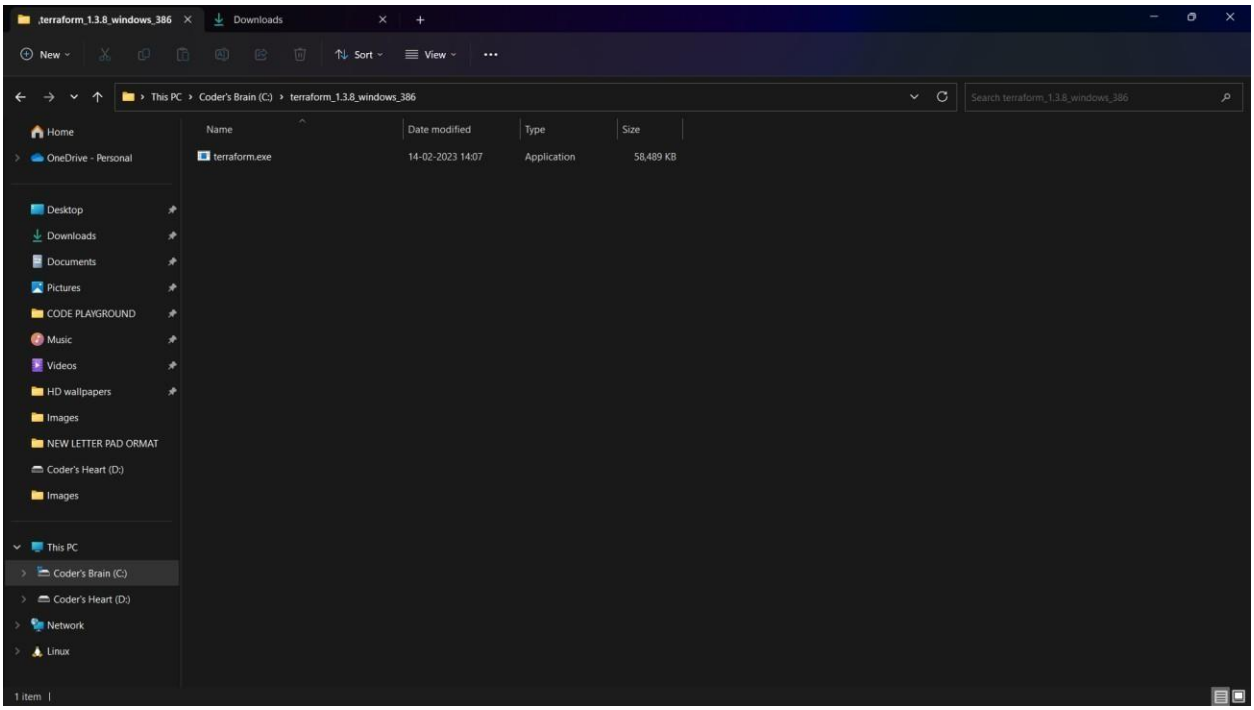
Download terraform from the website



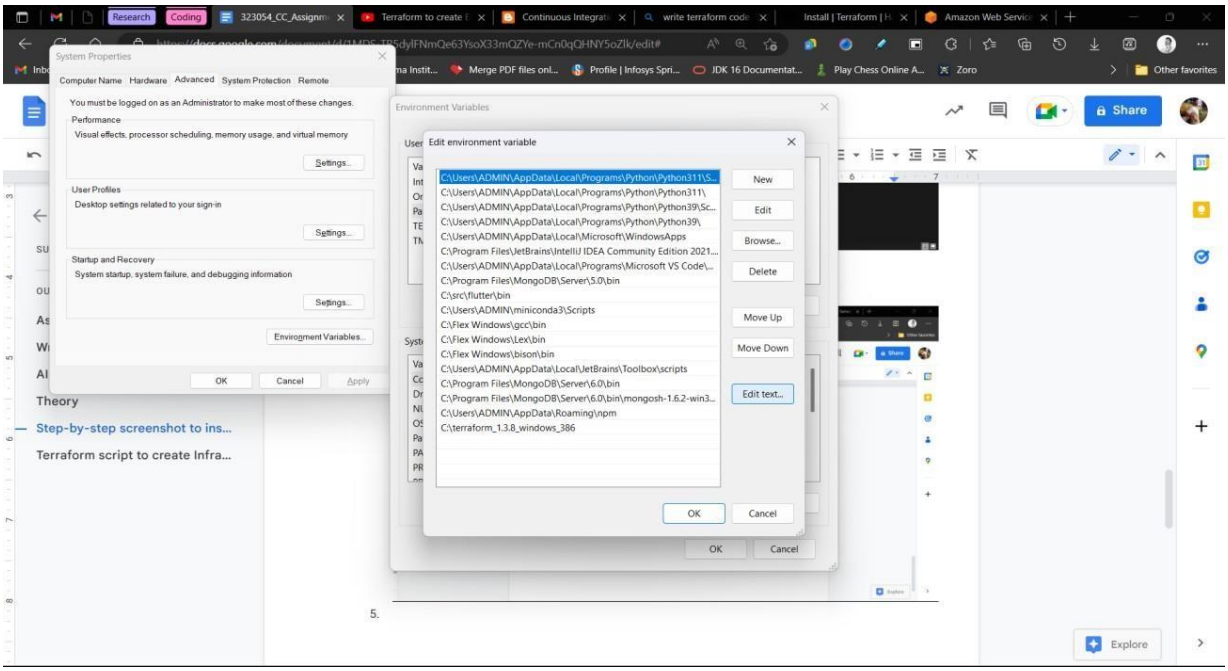
Install according to your machine

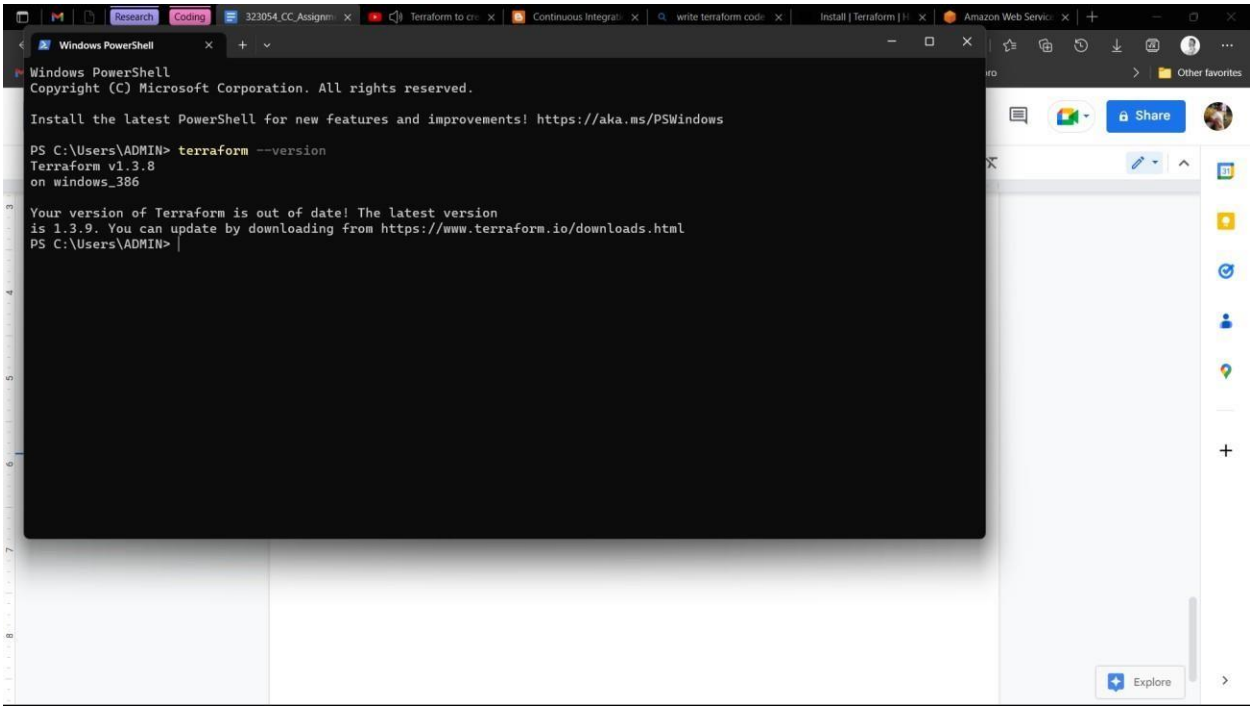


Download and extract it somewhere

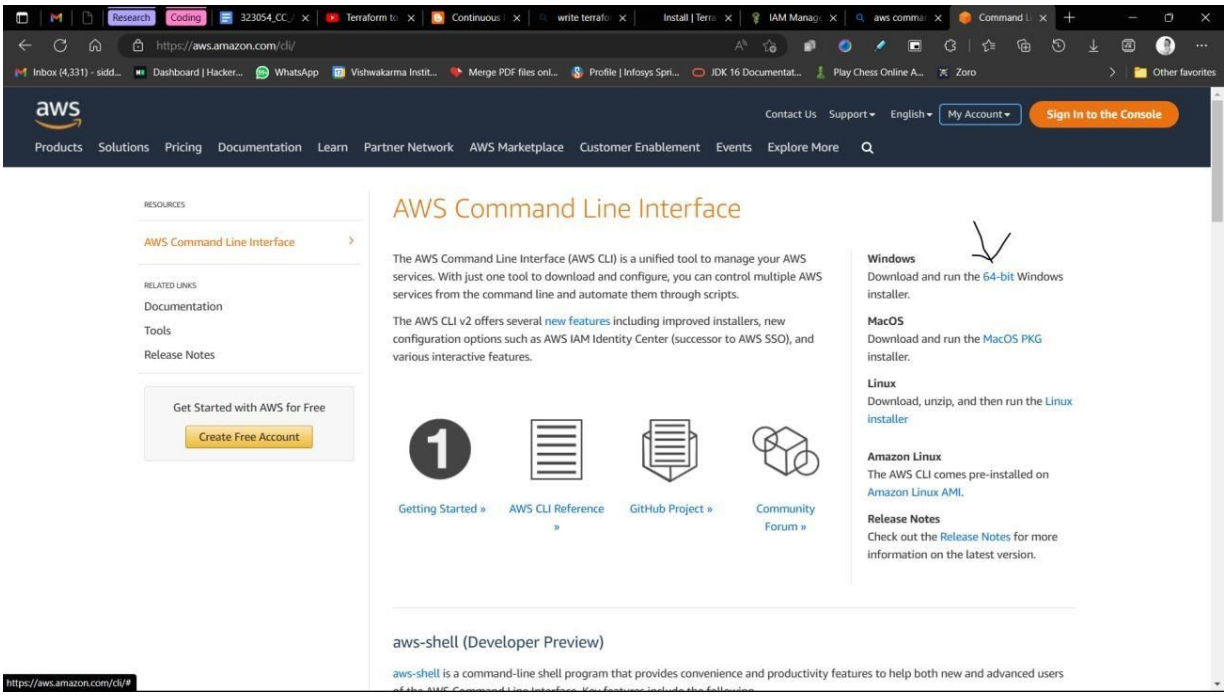


Add this folder to the path & check its version using (terraform -version)



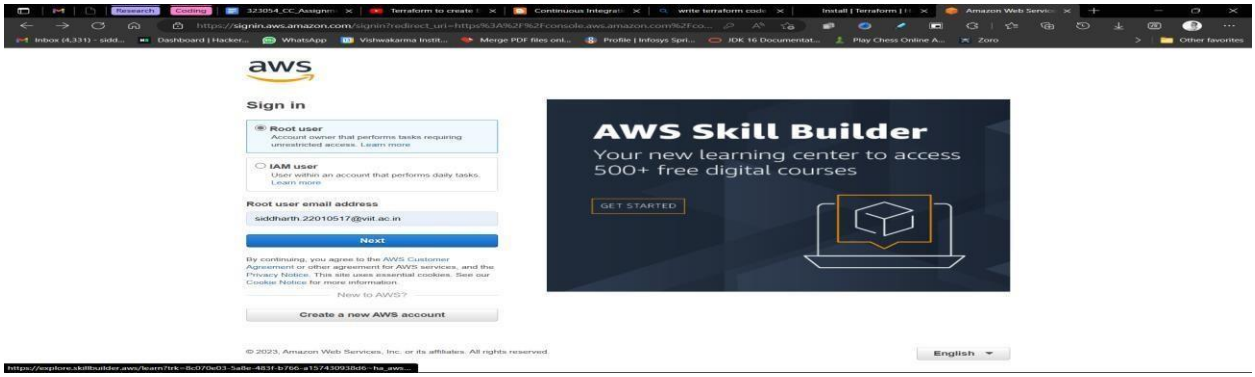


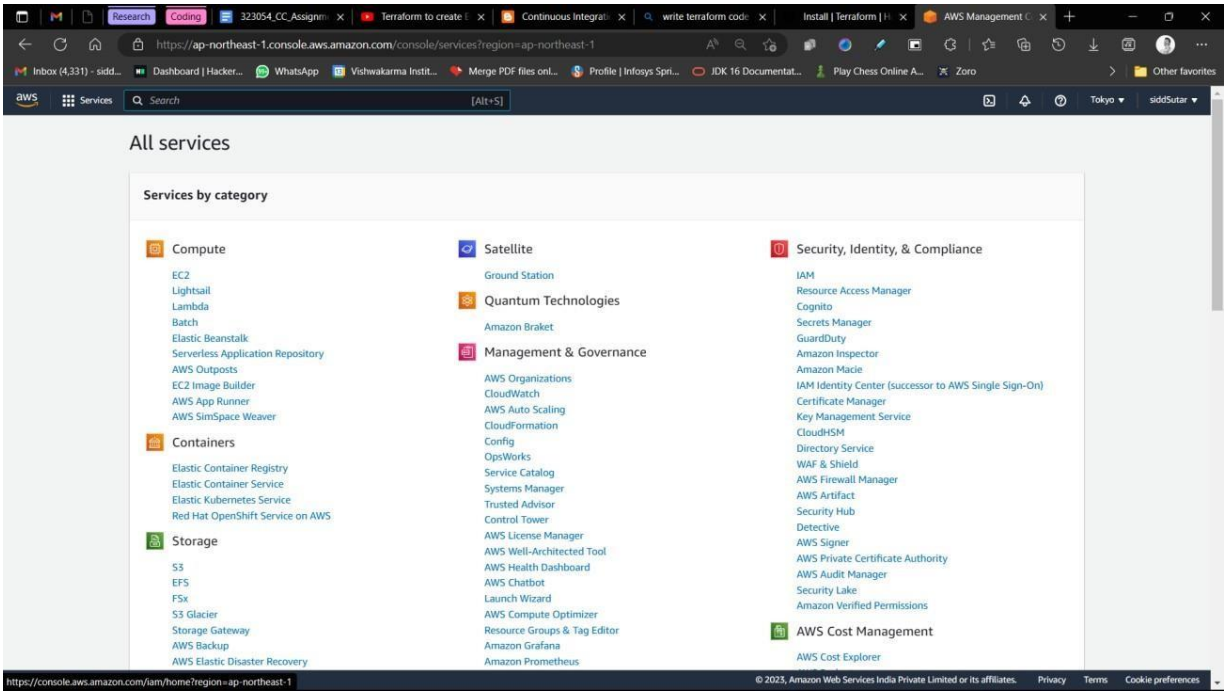
Download [AWS command line tool] & configure it (using command aws configure)



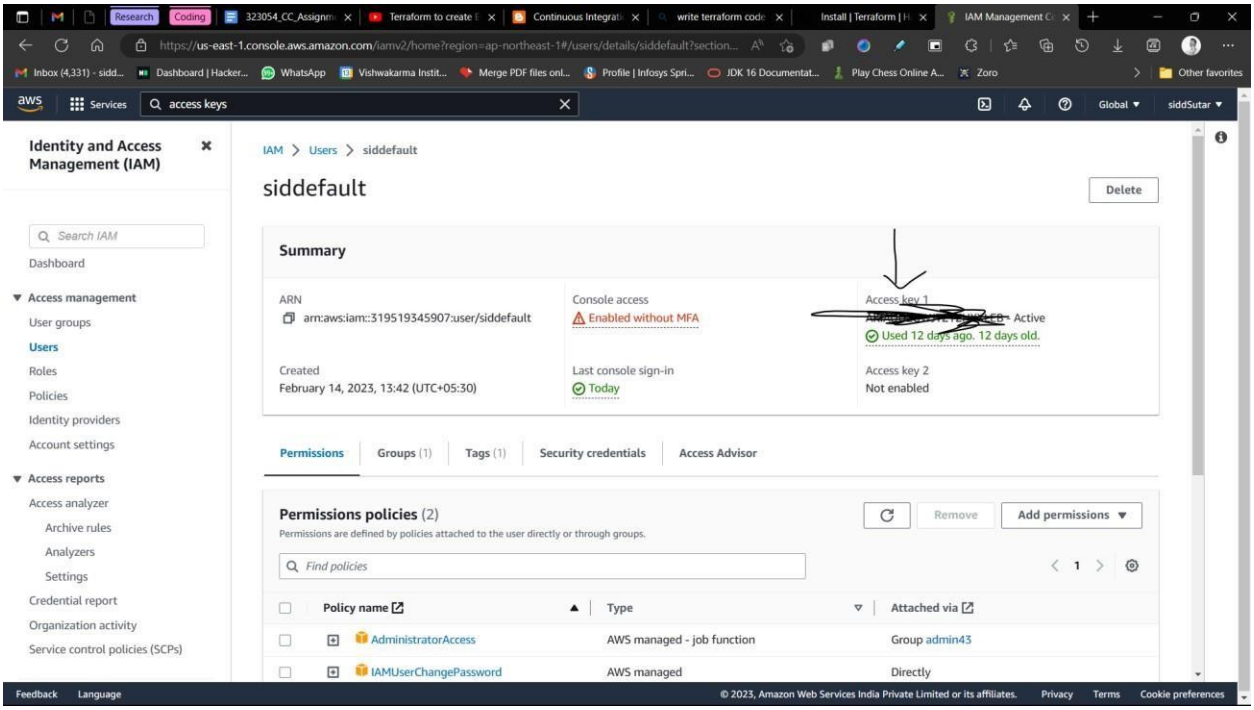
```
PS C:\Users\ADMIN> aws configure
AWS Access Key ID [****************XLEB]: AKIAUUZGWJTZYZHXXLEB
AWS Secret Access Key [****************4GaO]: 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
Default region name [ap-south-1]: ap-south-1
Default output format [json]:
PS C:\Users\ADMIN>
```

Login to aws & go to IAM service

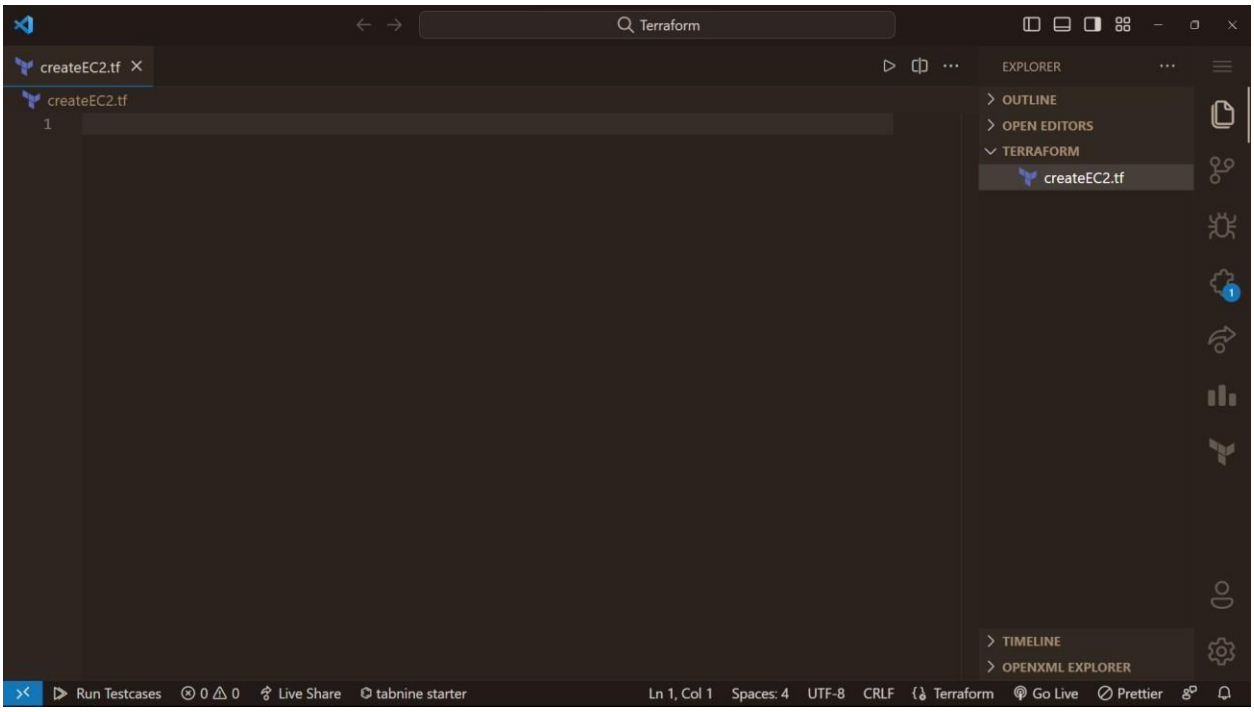




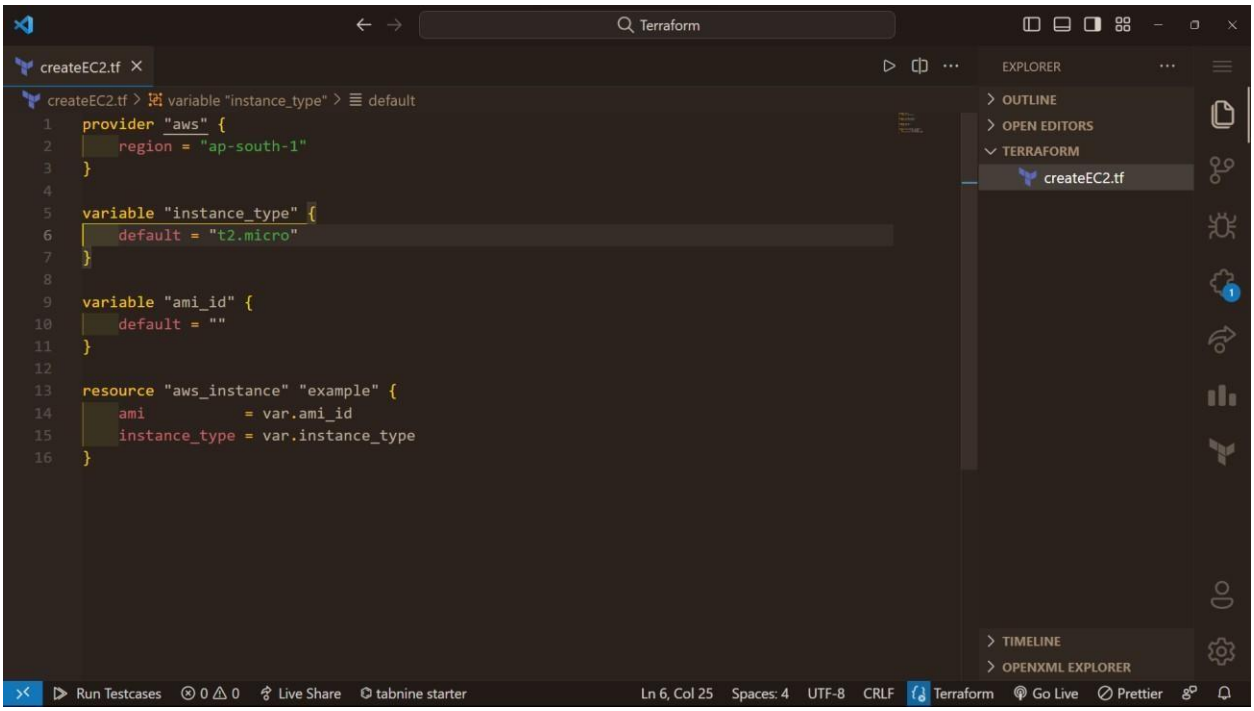
Create a user if you don't have one. In my case I have a user so I will be copying the access keys for later use (note you will also need secret key so make sure you download the access keys .csv file when access keys are created)

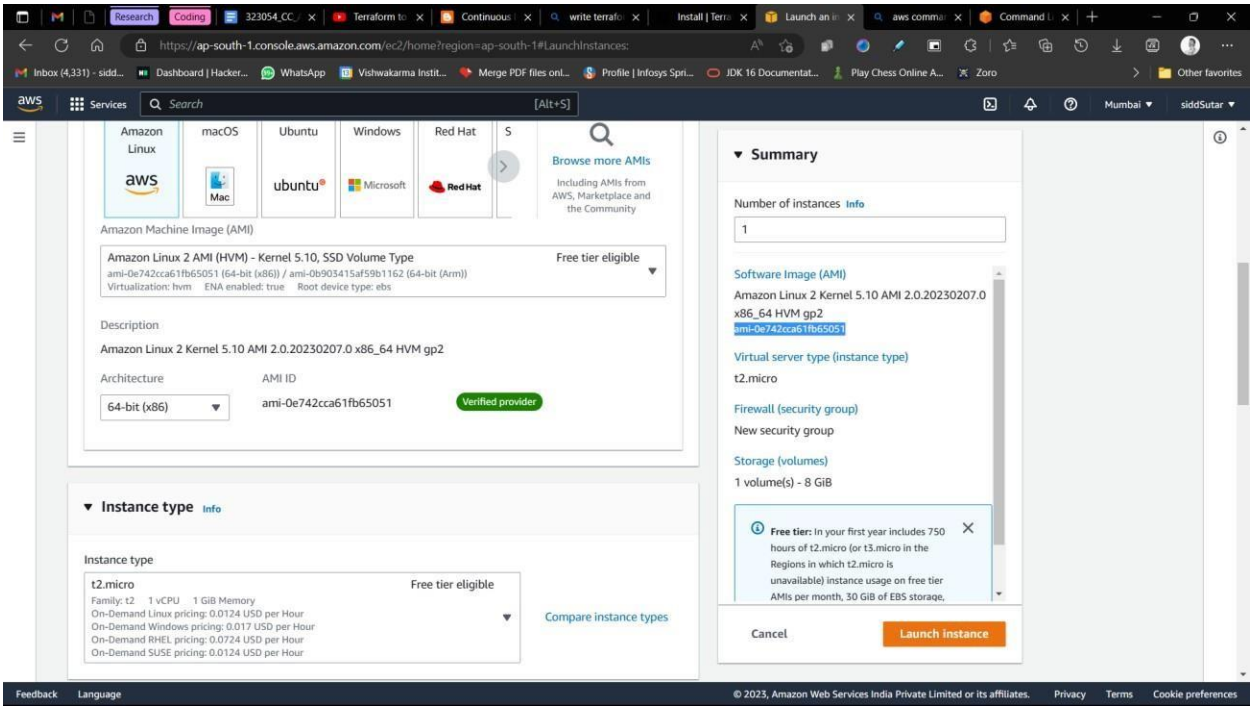


Create a folder named anything & create a terraform .tf file

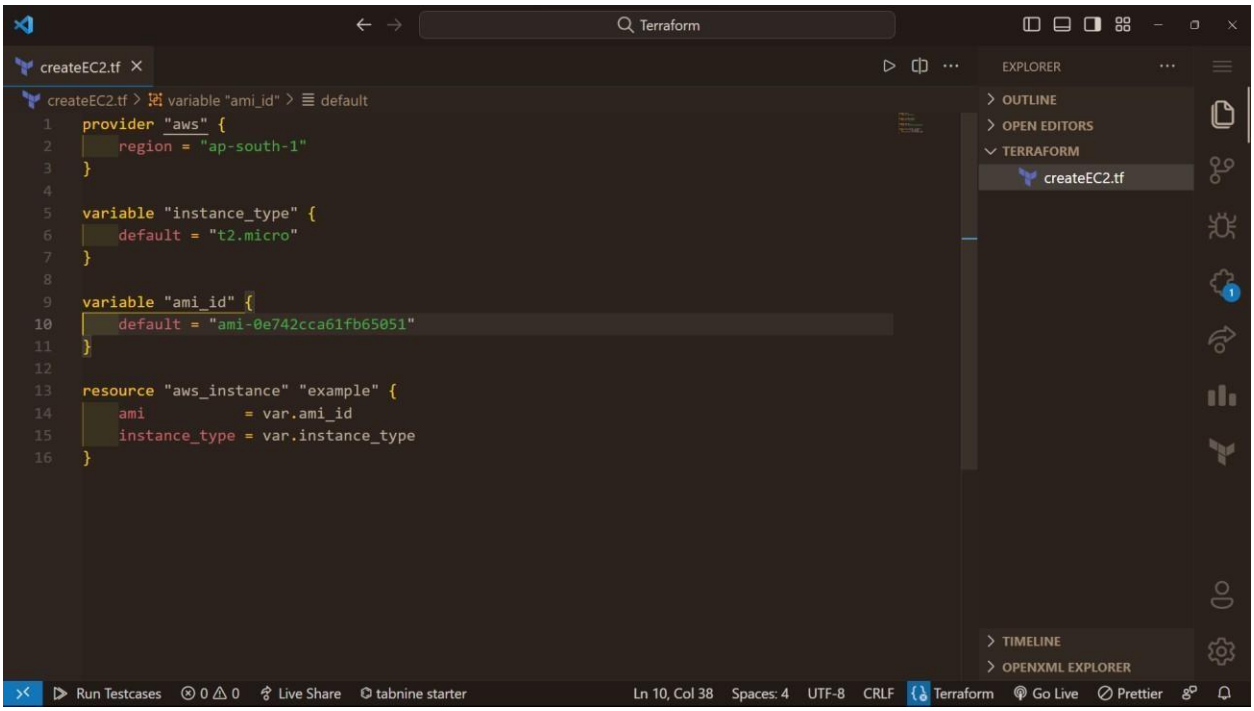


Write json code to create an EC2 instance & select the AMI ID for the machine



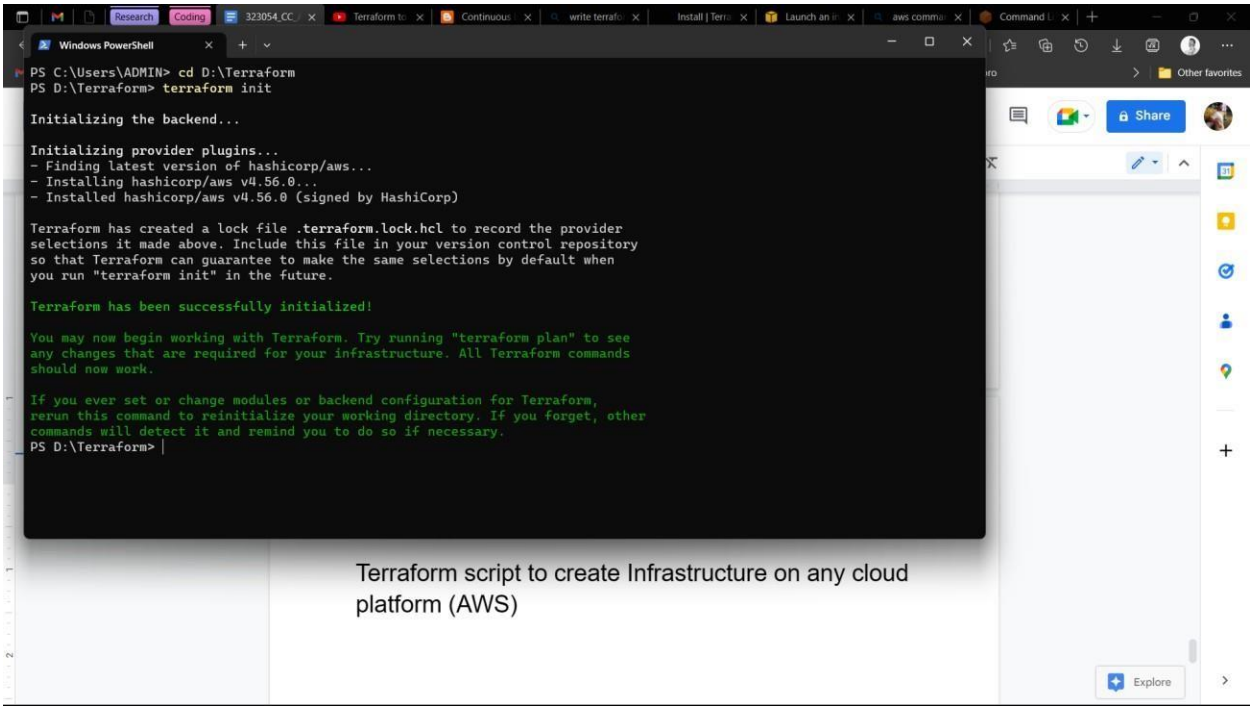


Copy the ami id to our json file

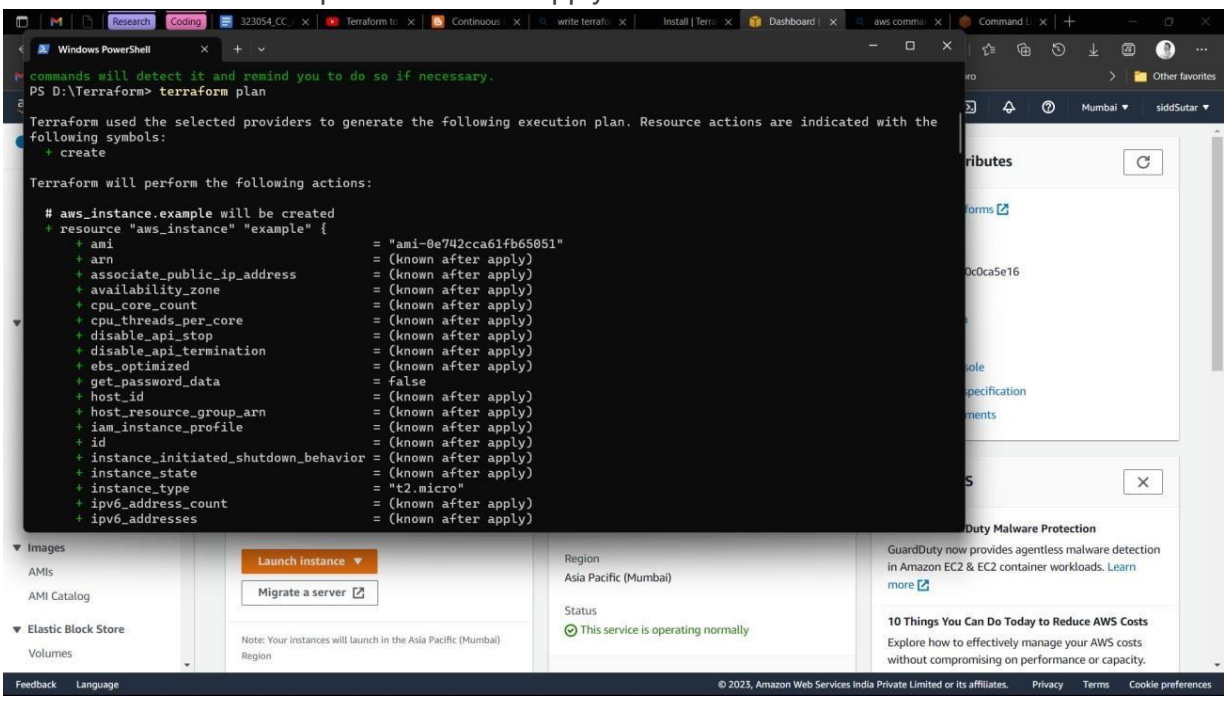


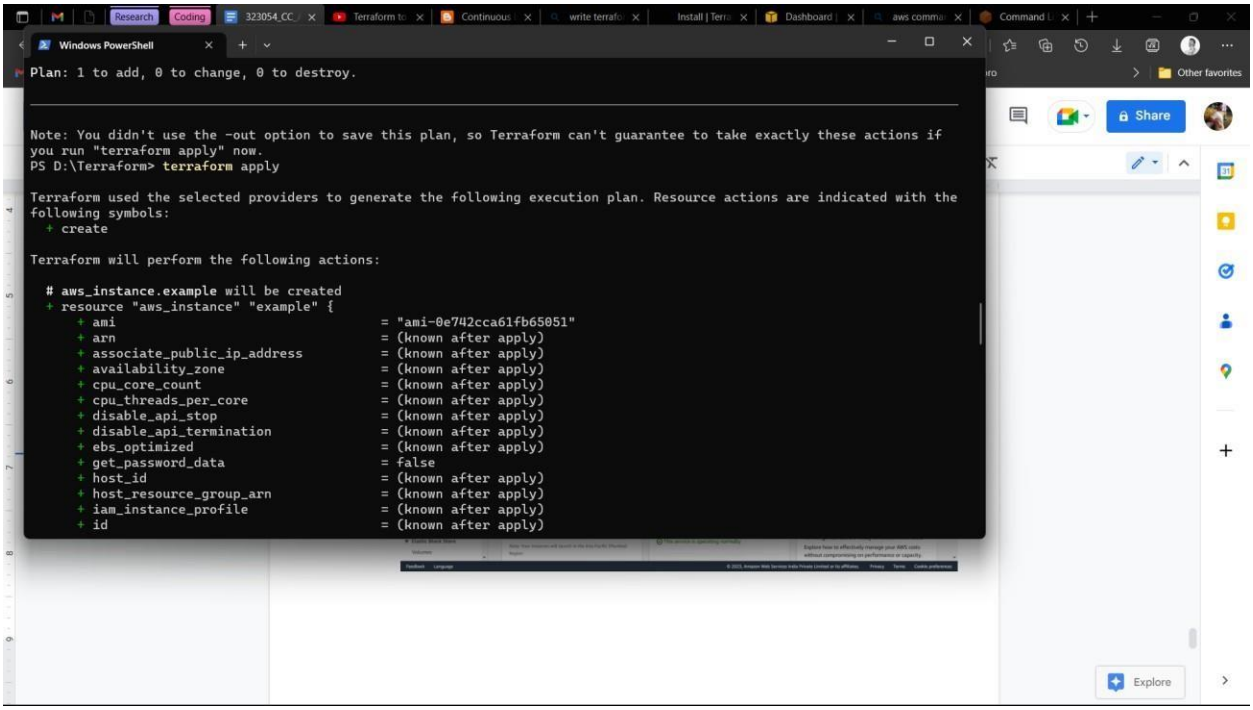
Terraform Script

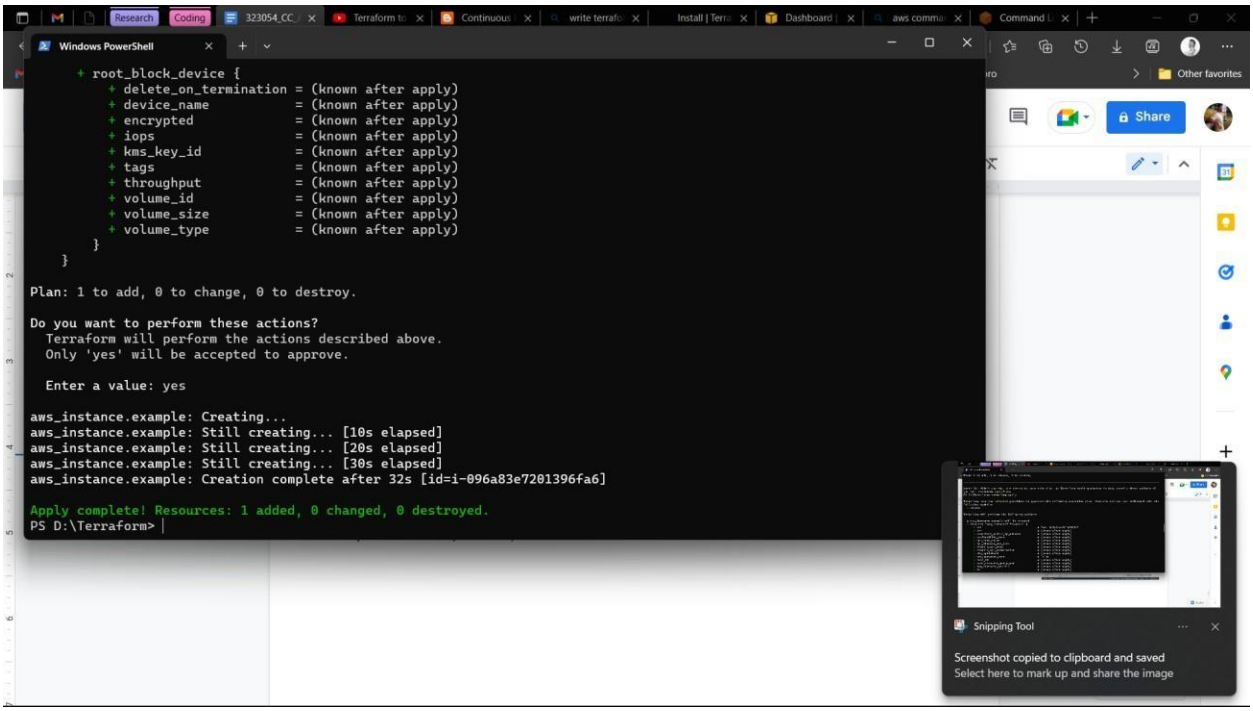
Change the directory & enter command terraform init



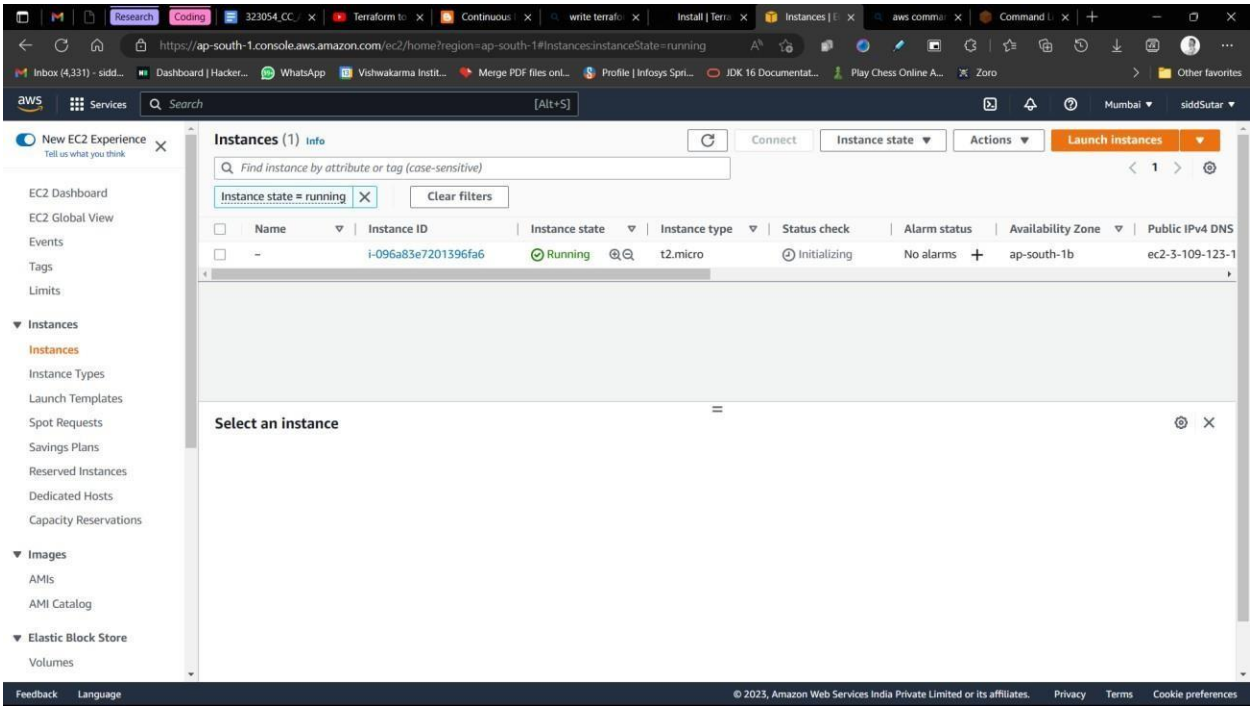
Put command terraform plan & terraform apply



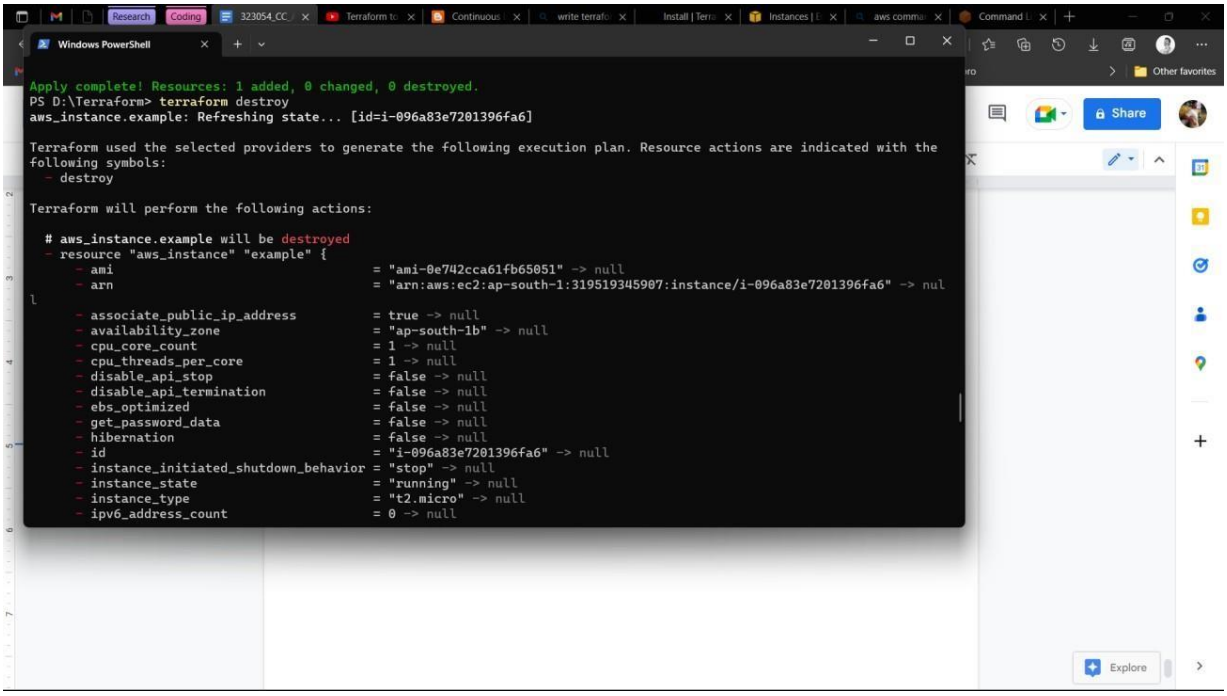


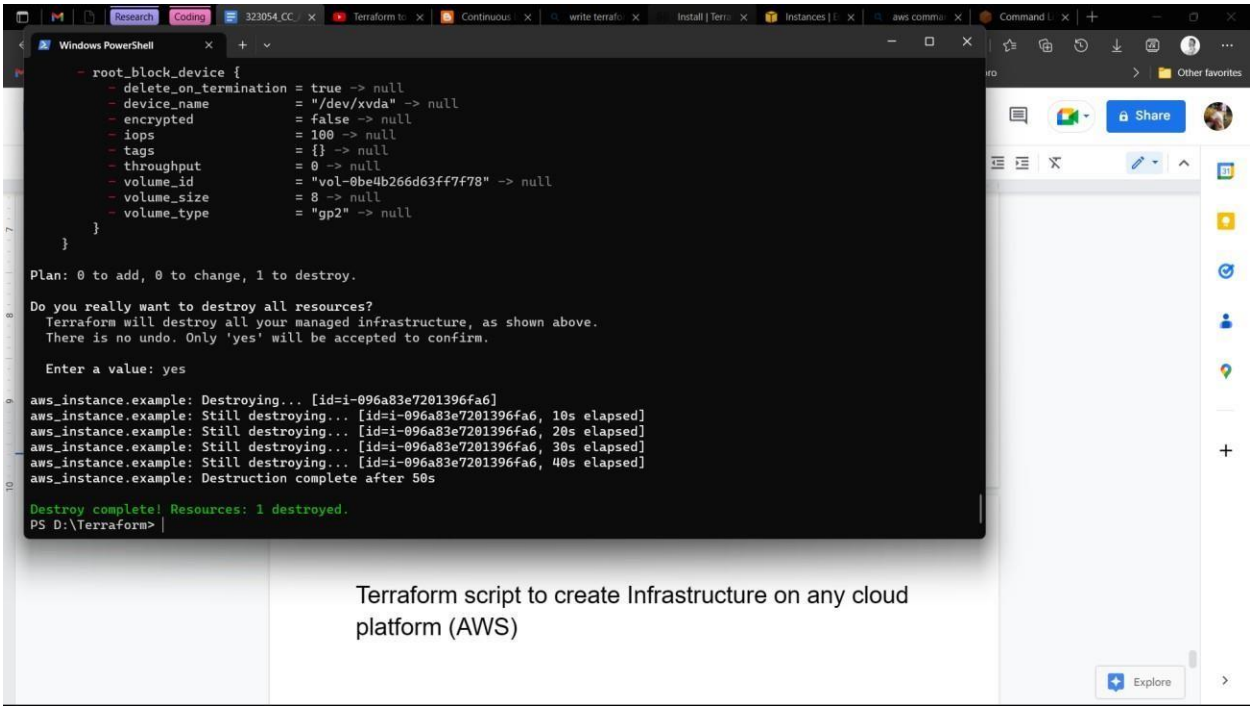


See the create AWS “example” instance

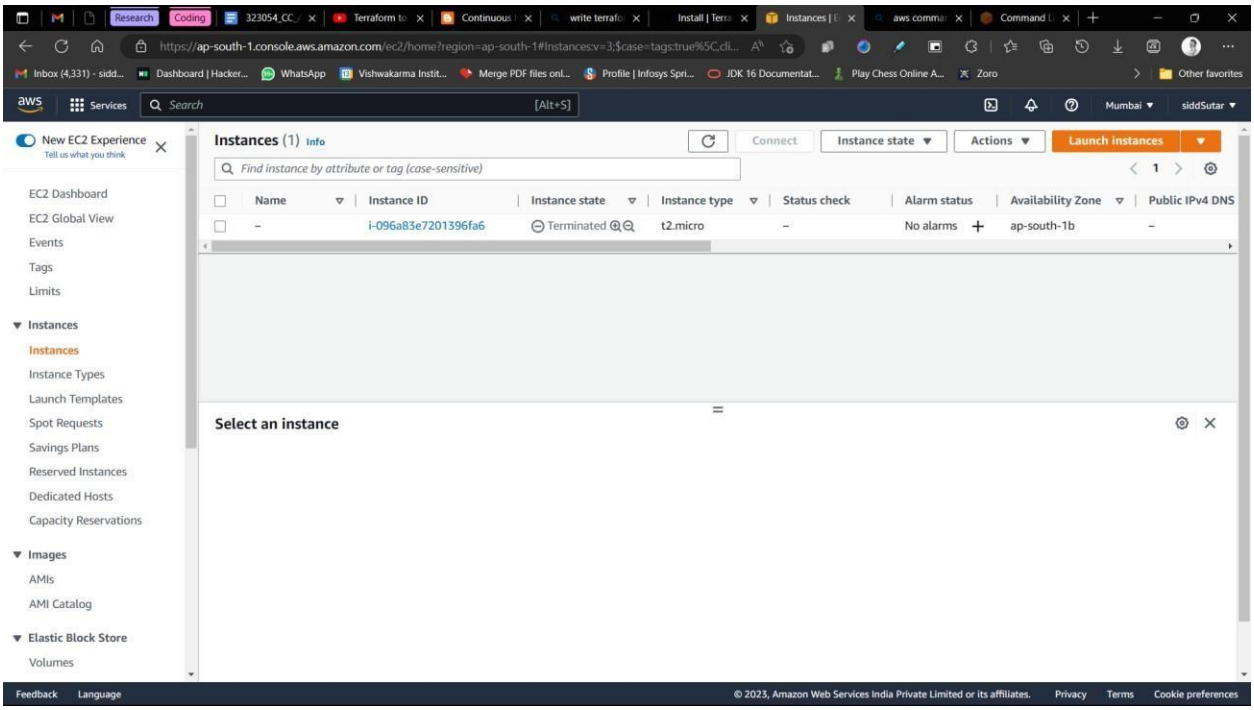


Put command terraform destroy to delete/stop the instance

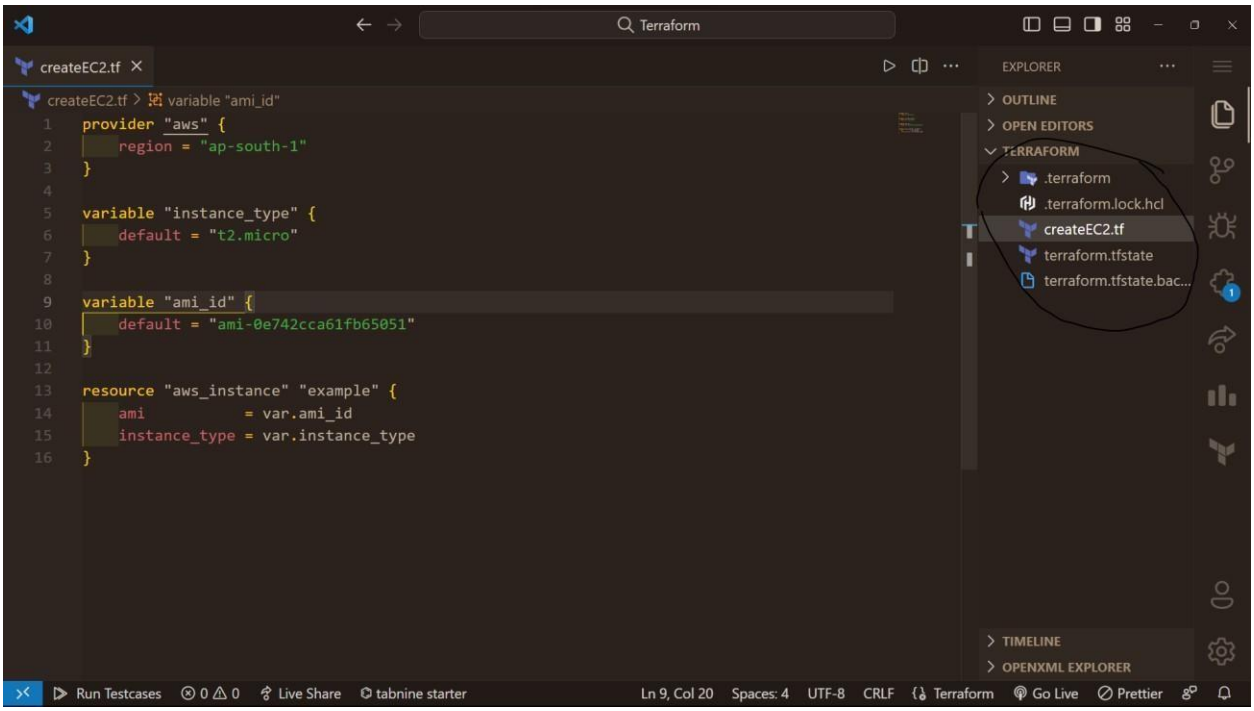




Let’s check whether the instance is properly terminated or not



The final file should look like this



Terraform json code

```
provider "aws" {
    region = "ap-south-1"
}

variable "instance_type" {
    default = "t2.micro"
}

variable "ami_id" {
    default = "ami-0e742cca61fb65051"
}

resource "aws_instance" "example" {
    ami           = var.ami_id
    instance_type = var.instance_type
}
```

Conclusion

→ Terraform is understood alongside its basic commands.