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.

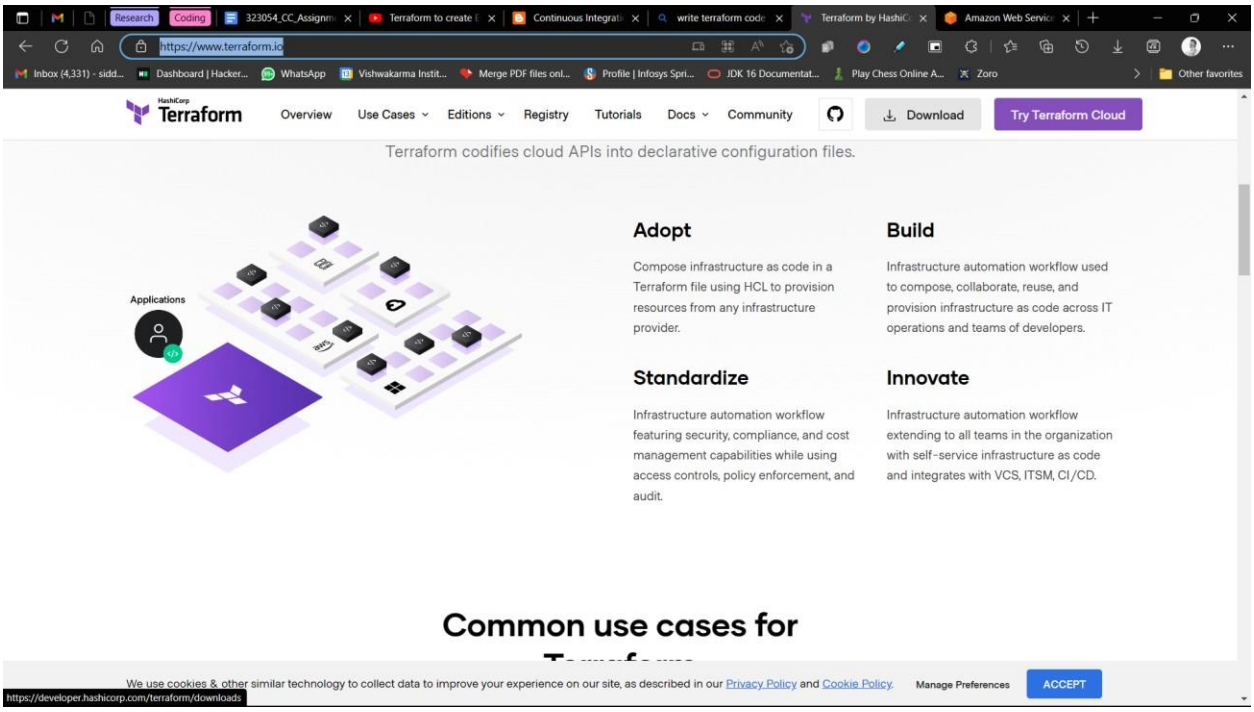
→ It is an open-source tool for provisioning and managing cloud infrastructure.Terraform can provision resources on any cloud platform.

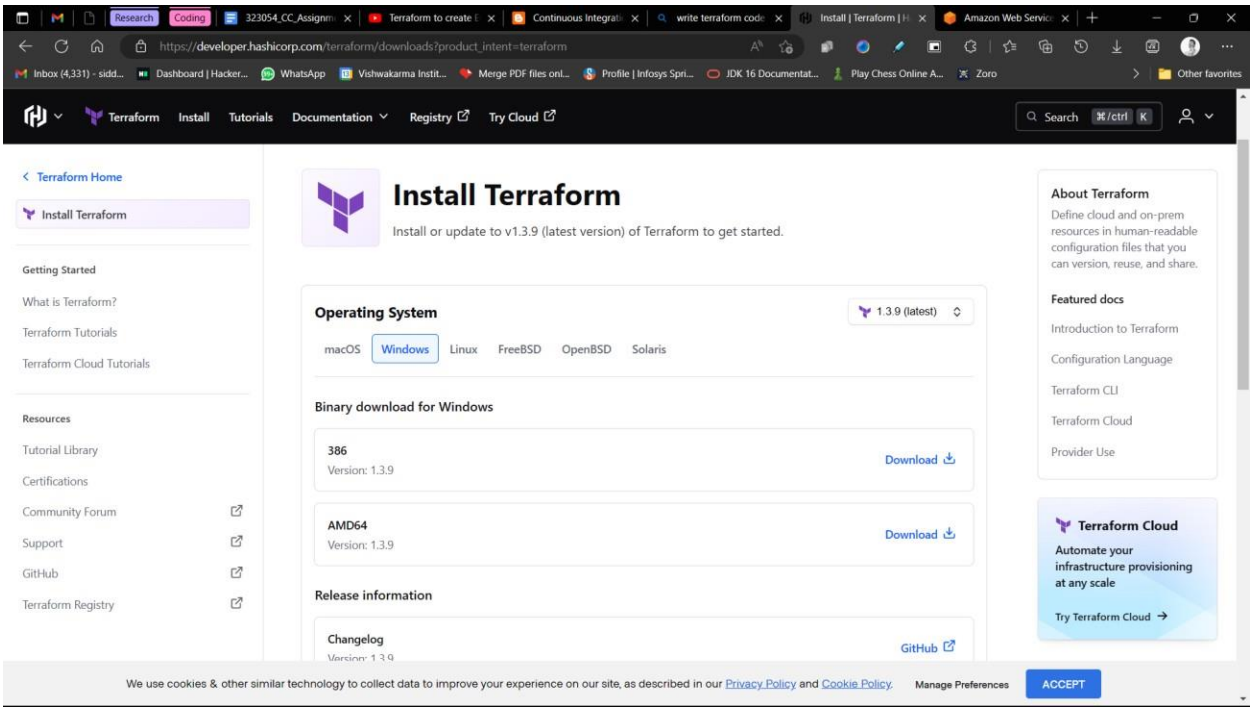
→ Terraform allows you to create infrastructure in configuration files(tf files) that describe the topology of cloud resources.

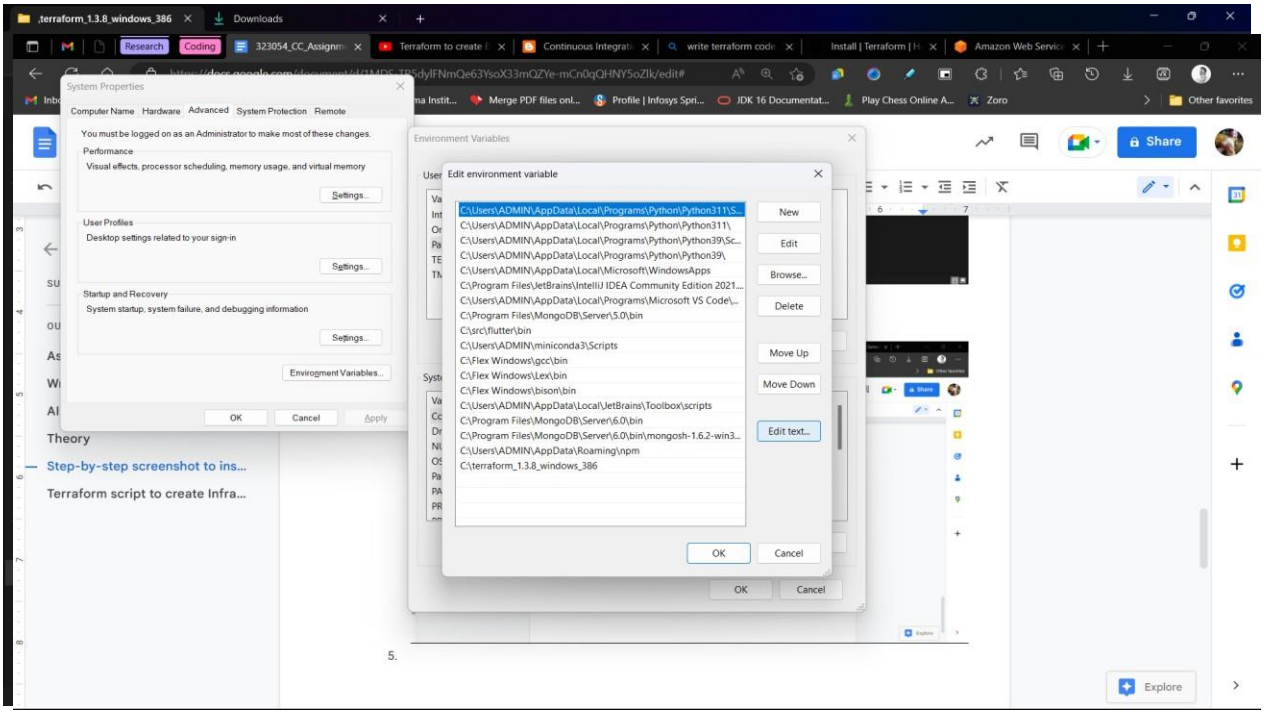
→ These resources include virtual machines, storage accounts, and networking interfaces or virtually any resource you want

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

Download terraform from the website



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Downloads
Research
Coding
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Terraform to create
Continuous Integrati
write terraform code
Install | Terraform | H
Amazon Web Servic
Inbo
Merge PDF files onl...
Profile | Infosys Spri...
JDK 16 Documentat...
Play Chess Online A...
Zoro
Other favorites
Share
System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...
User Profiles
Desktop settings related to your sign-in
Settings...
Startup and Recovery
System startup, system failure, and debugging information
Settings...
Environment Variables...
OK
Cancel
Apply
Environment Variables
Edit environment variable
C:\Users\ADMIN\AppData\Local\Programs\Python\Python311\S...
C:\Users\ADMIN\AppData\Local\Programs\Python\Python311\
C:\Users\ADMIN\AppData\Local\Programs\Python\Python39\Sc...
C:\Users\ADMIN\AppData\Local\Programs\Python\Python39\
C:\Users\ADMIN\AppData\Local\Microsoft\WindowsApps
C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2021....
C:\Users\ADMIN\AppData\Local\Programs\Microsoft VS Code\...
C:\Program Files\MongoDB\Server\5.0\bin
C:\src\flutter\bin
C:\Users\ADMIN\miniconda3\Scripts
C:\Flex Windows\gcc\bin
C:\Flex Windows\Lex\bin
C:\Flex Windows\bison\bin
C:\Users\ADMIN\AppData\Local\JetBrains\Toolbox\scripts
C:\Program Files\MongoDB\Server\6.0\bin
C:\Program Files\MongoDB\Server\6.0\bin\mongosh-1.6.2-win3...
C:\Users\ADMIN\AppData\Roaming\npm
C:\terraform_1.3.8_windows_386
New
Edit
Browse...
Delete
Move Up
Move Down
Edit text...
OK
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OK
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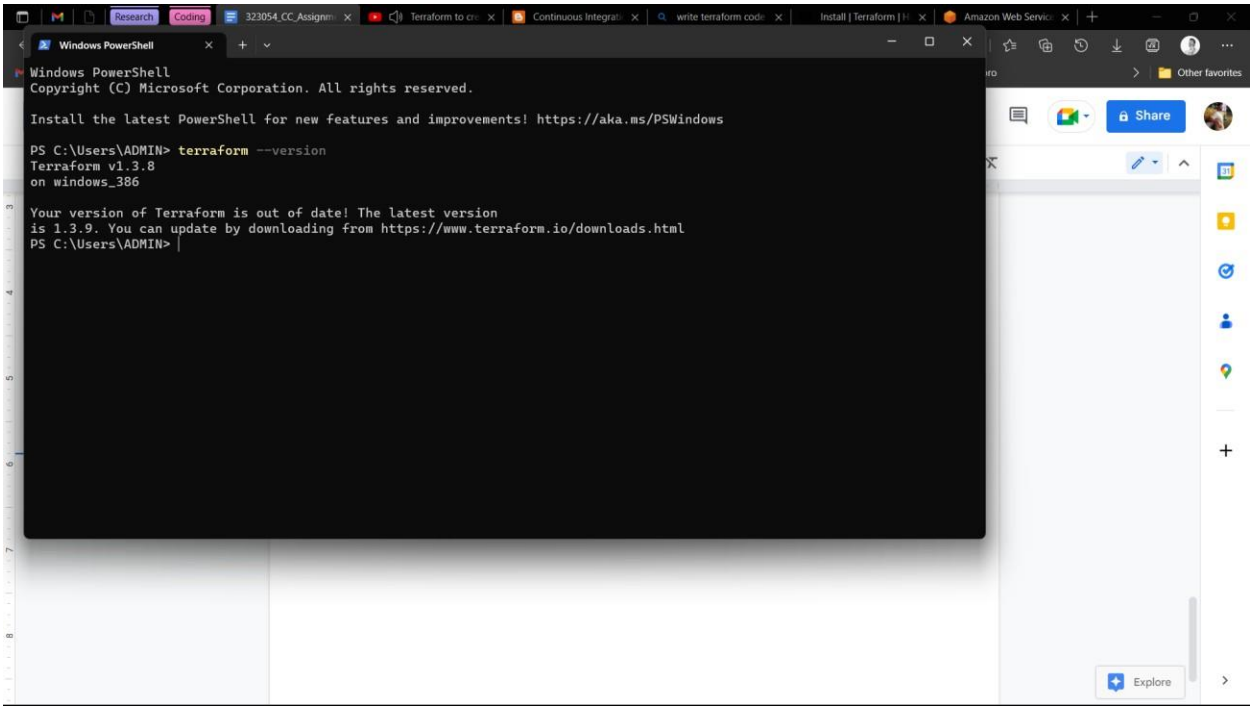
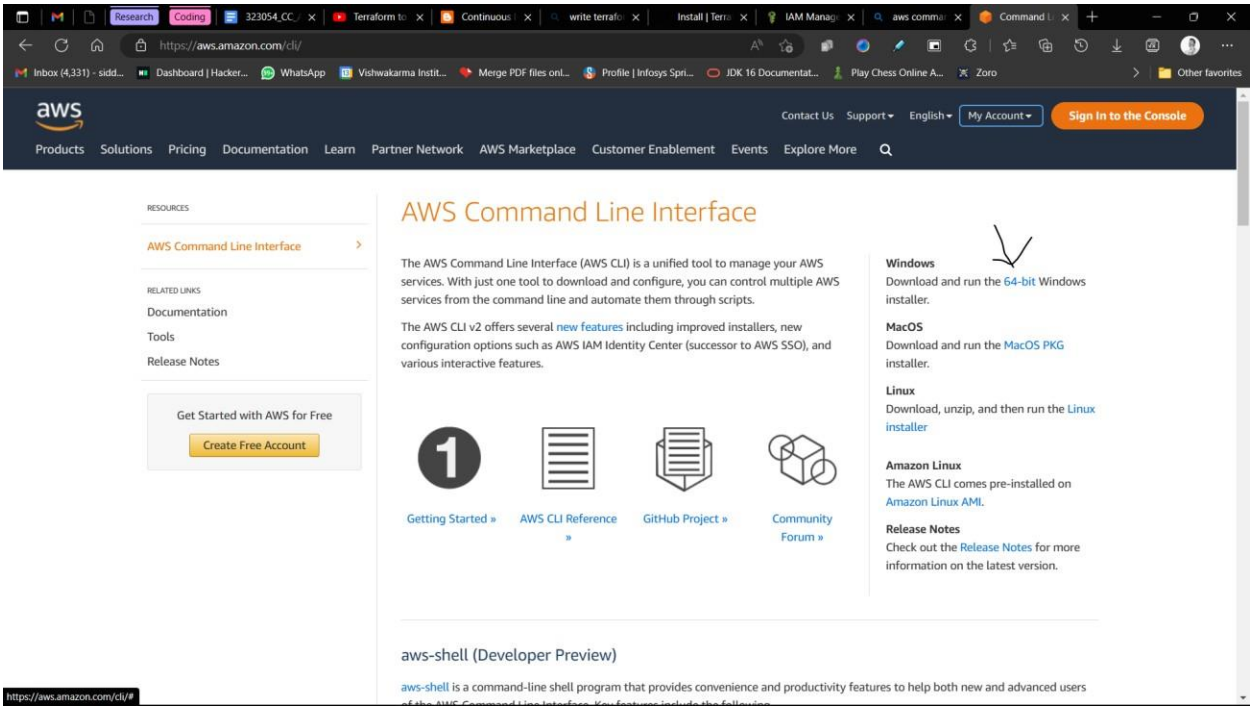
Theory
Step-by-step screenshot to ins...
Terraform script to create Infra...
5.
Explore

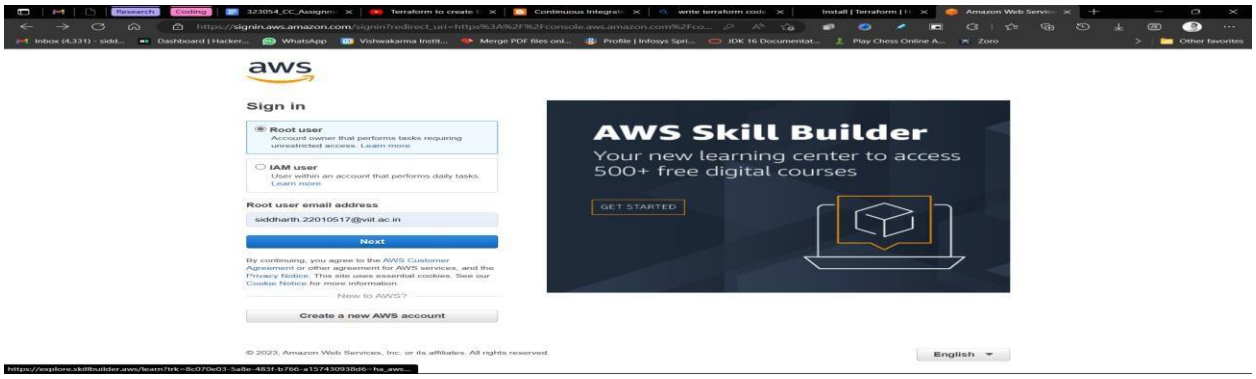


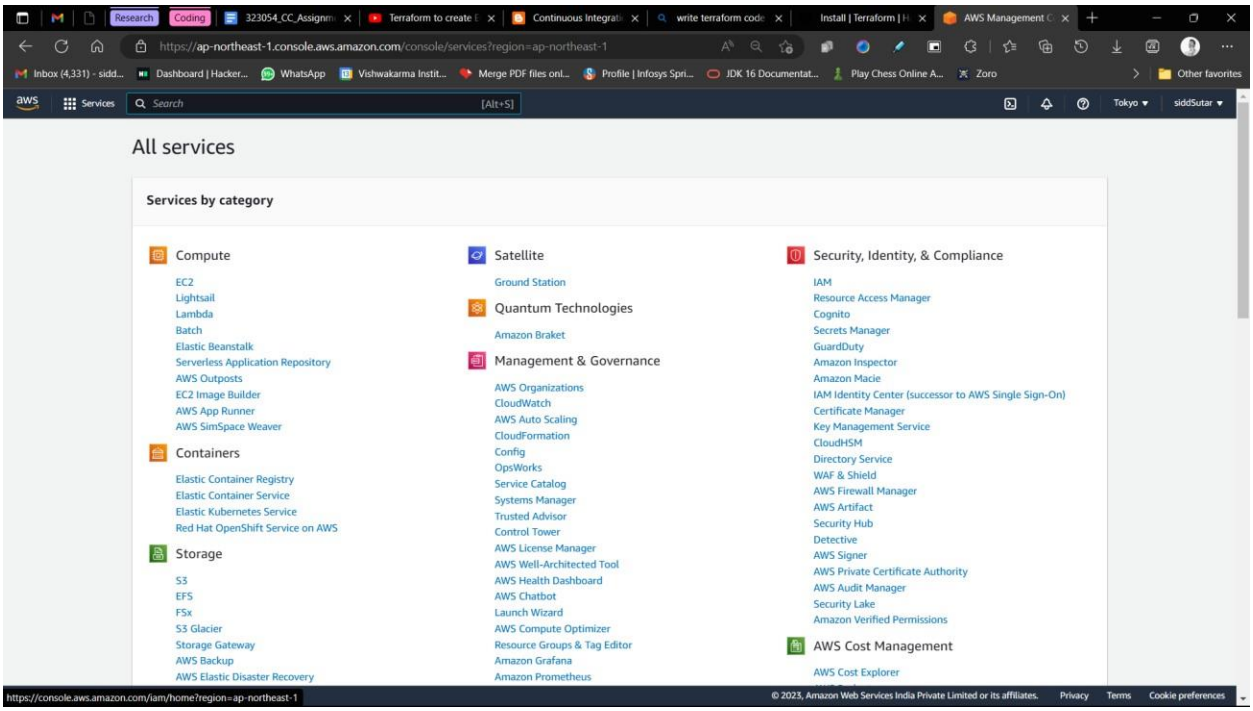
Download Aws command line tool and configure it



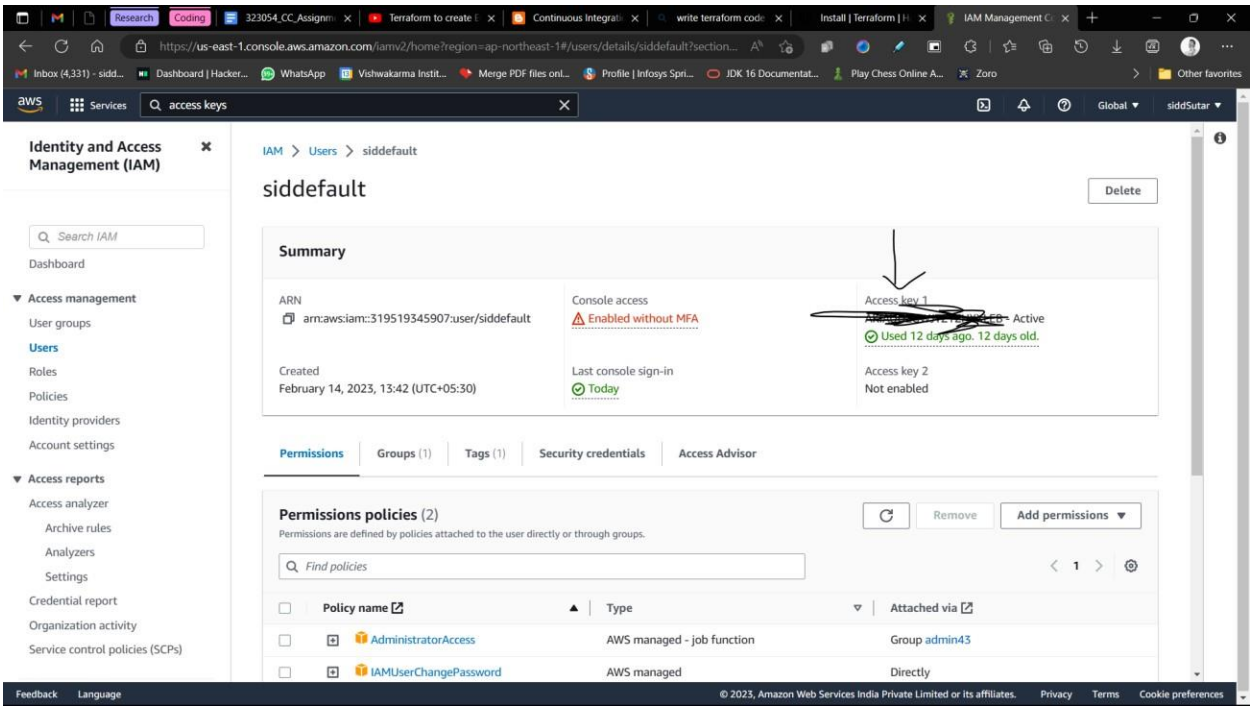
```
PS C:\Users\ADMIN> aws configure
AWS Access Key ID [****************XLEB]: AKIAUUZGWJTZYZHXXLEB
AWS Secret Access Key [****************4GaO]: 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
Default region name [ap-south-1]: ap-south-1
Default output format [json]:
PS C:\Users\ADMIN>
```

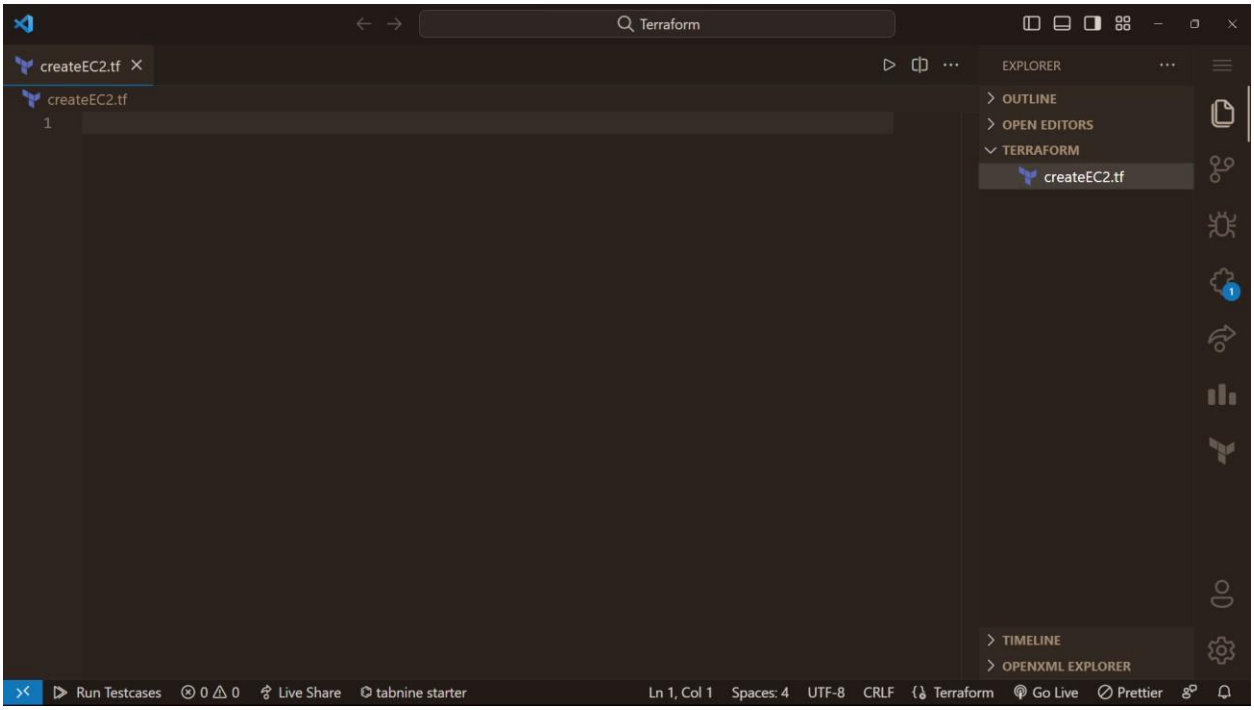
Login to aws and go to IAM service



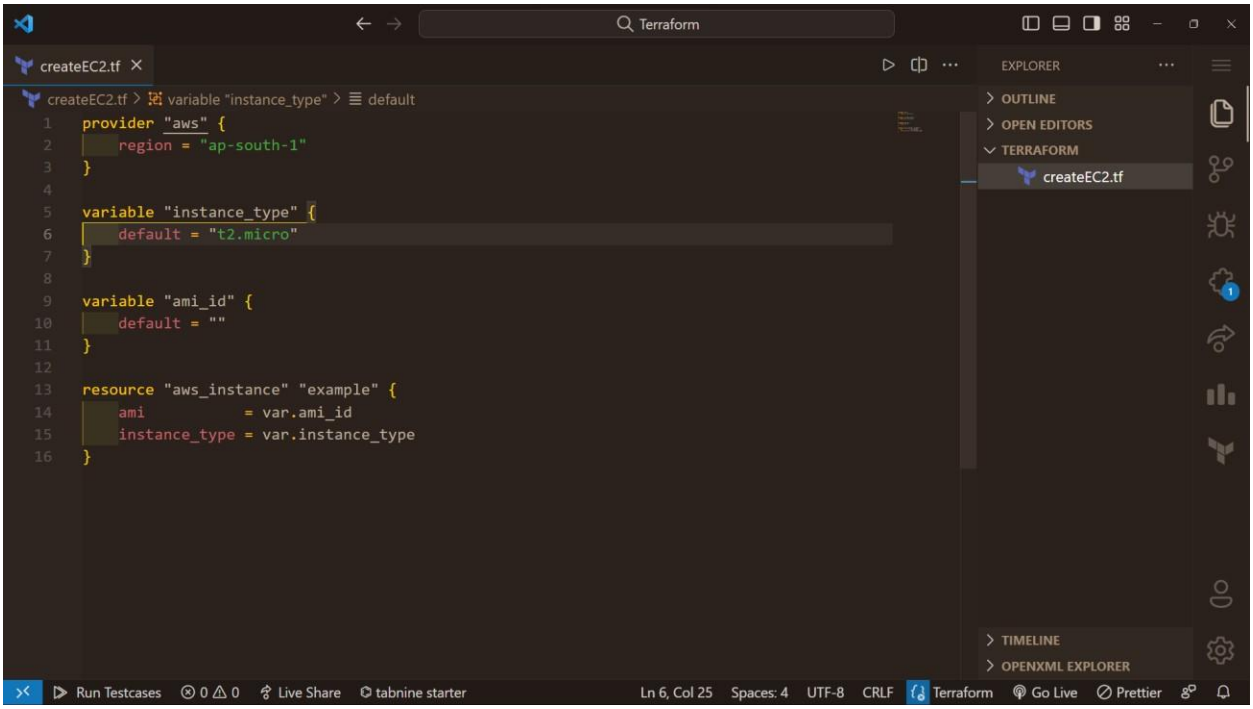


Create an user if you don't have one.In my case I have a user so I will be copying the access keys for later use

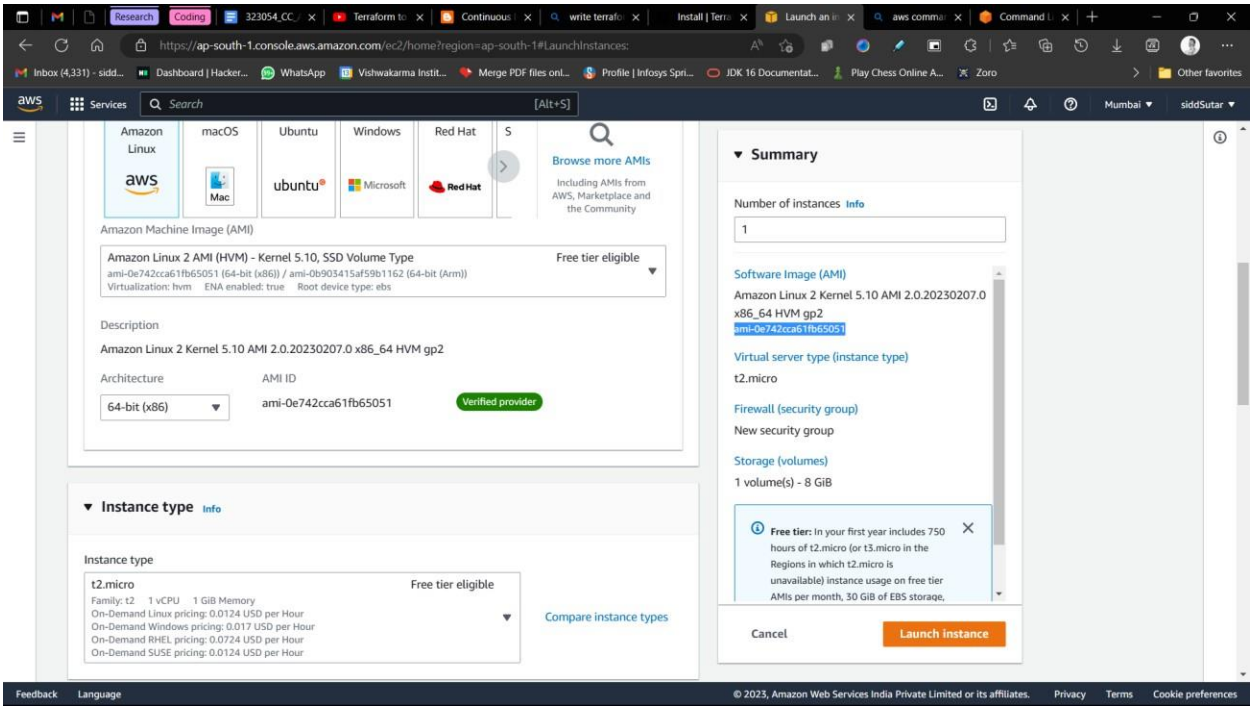




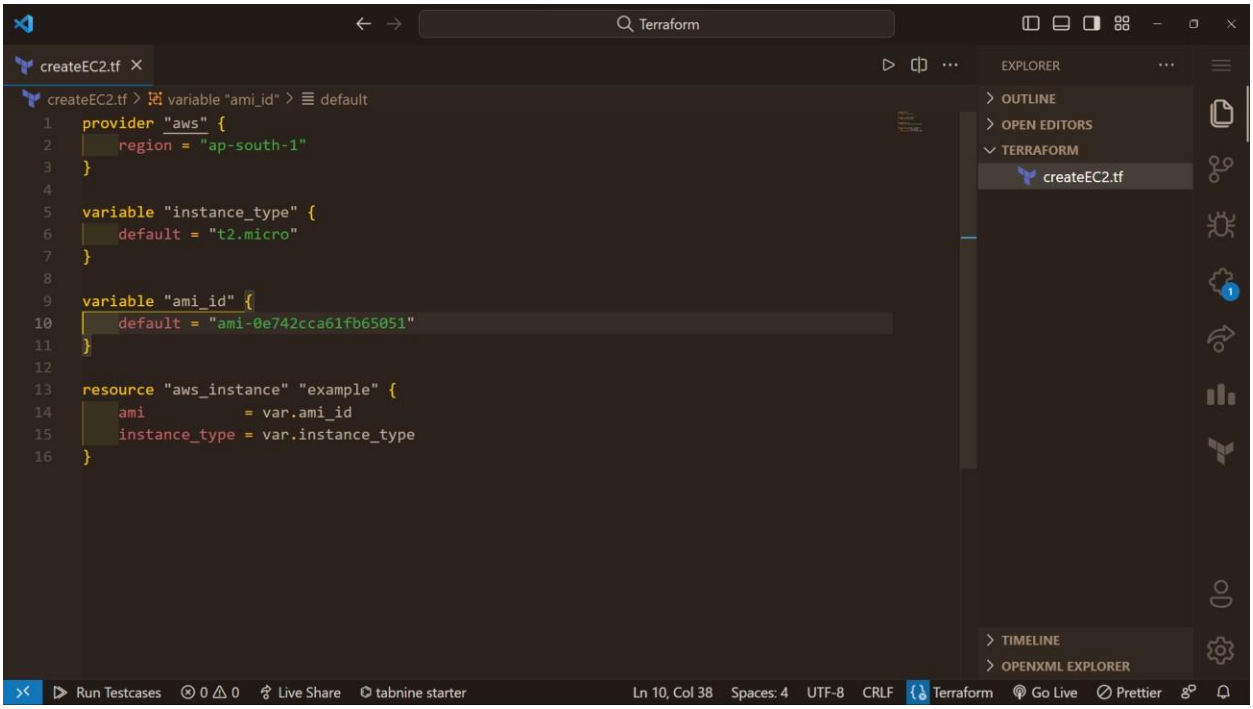
Write json code to create an EC2 instance & select the AMI ID for the machine




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

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

variable "ami_id" {
    default = ""
}

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



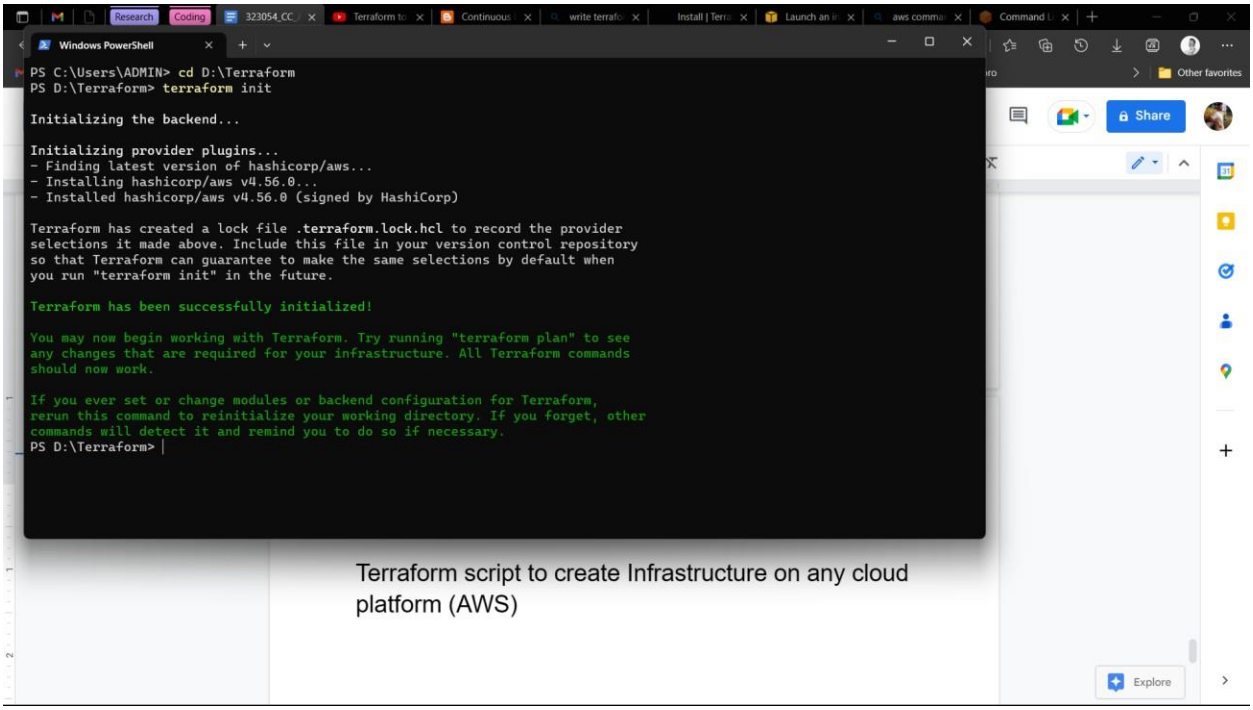
Copy the ami Id to our Jason file



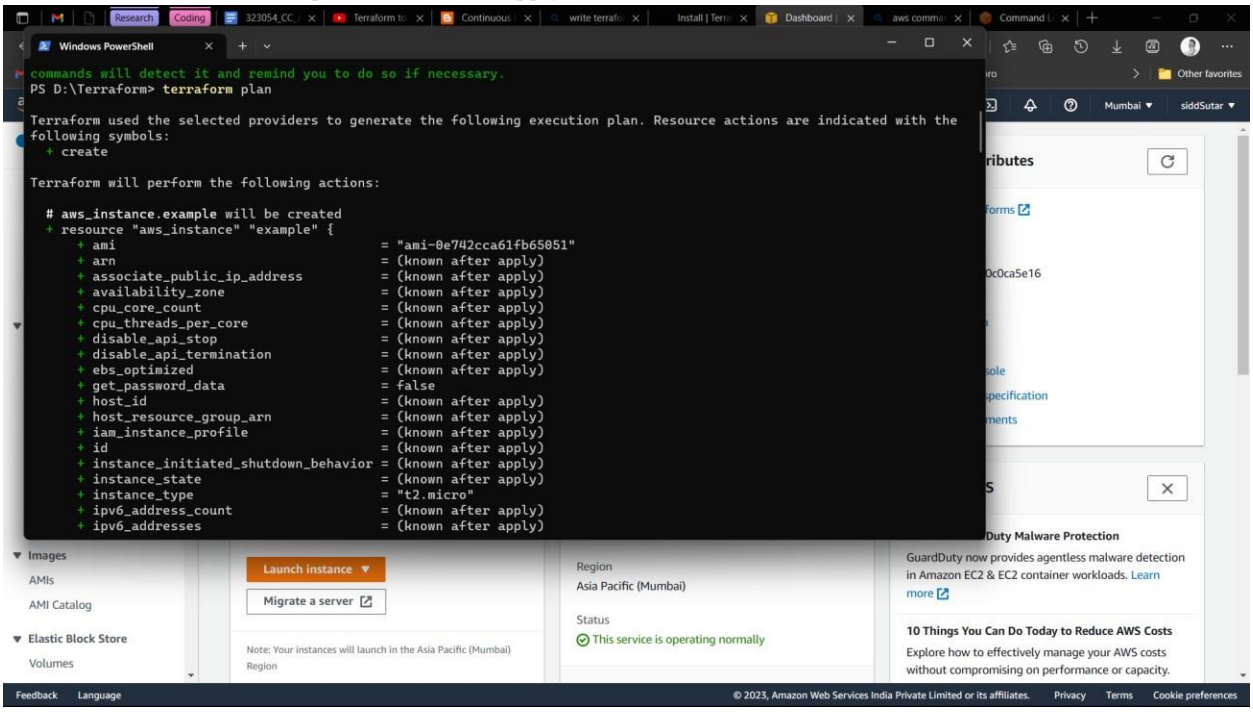

```
provider "aws" {
    region = "ap-south-1"
}

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
}
```

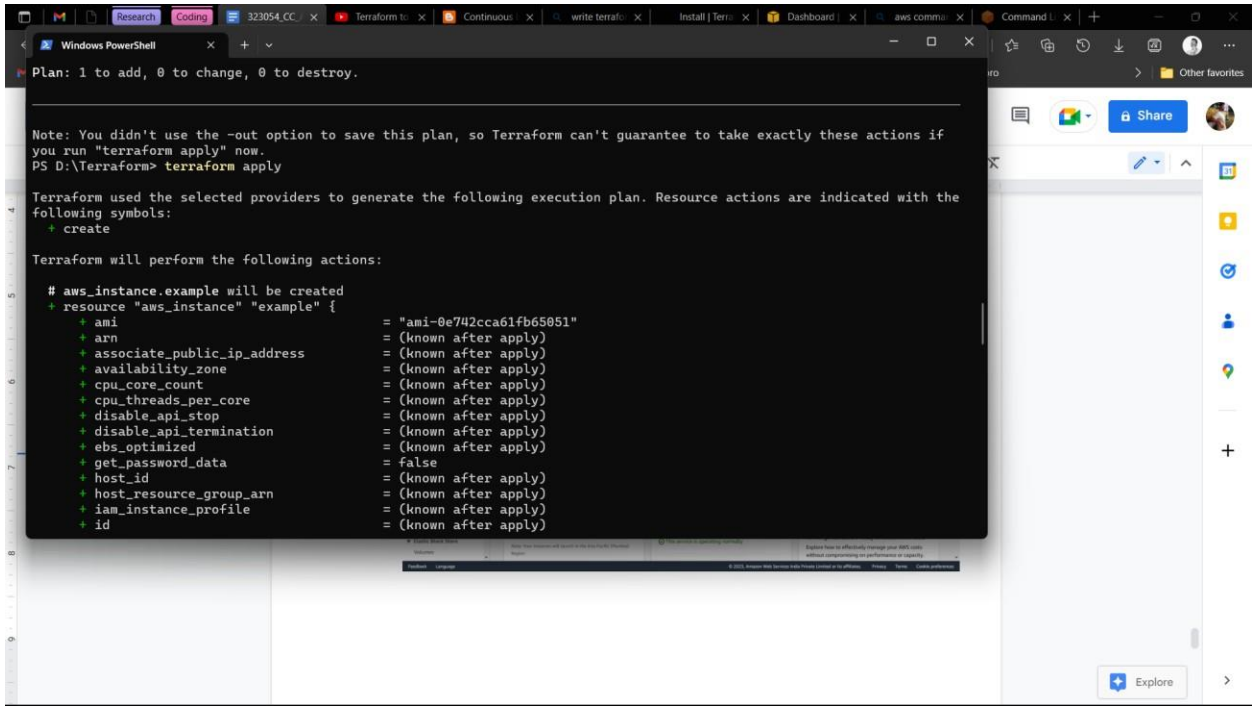
Terraform Script

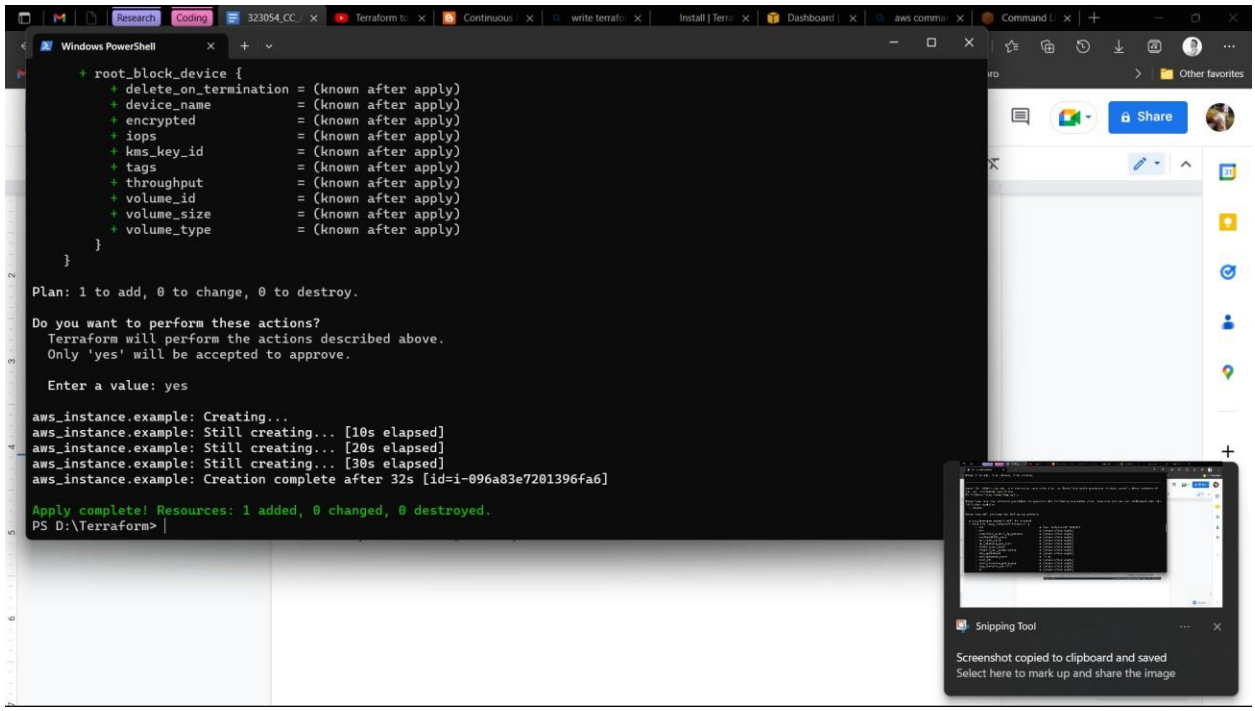
Change the directory and enter command terraform init



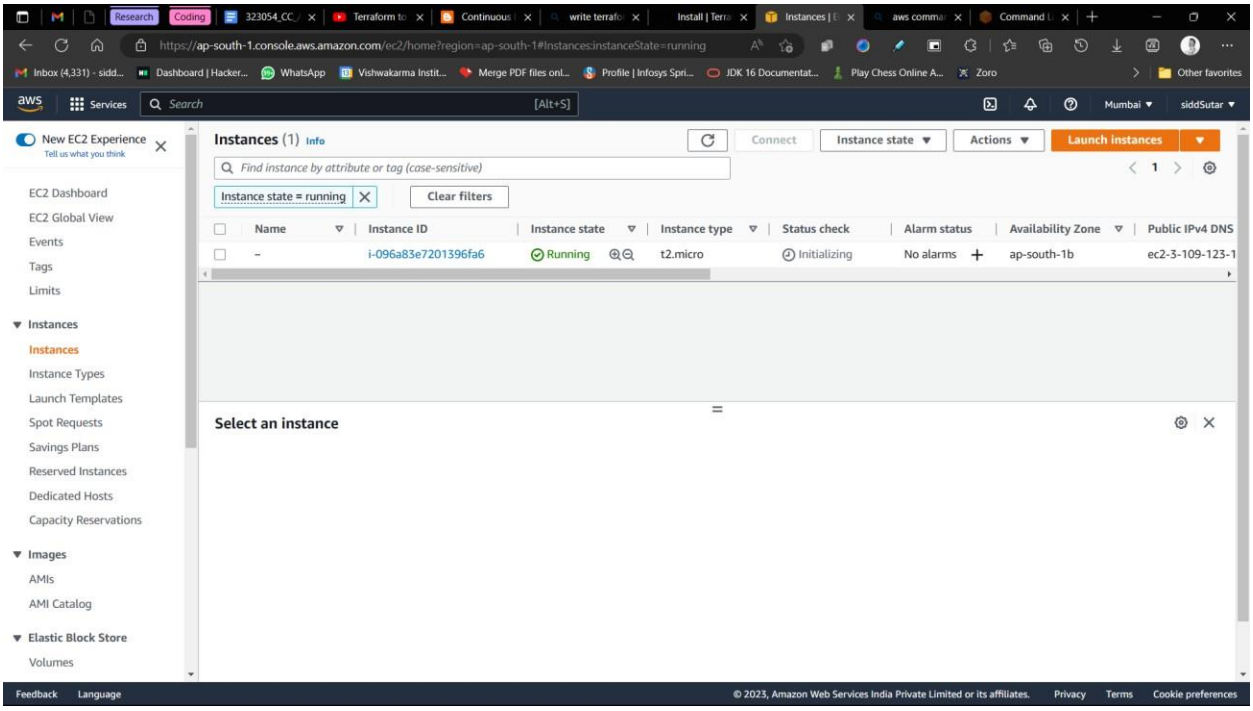
Put the command terraform plan & terraform apply



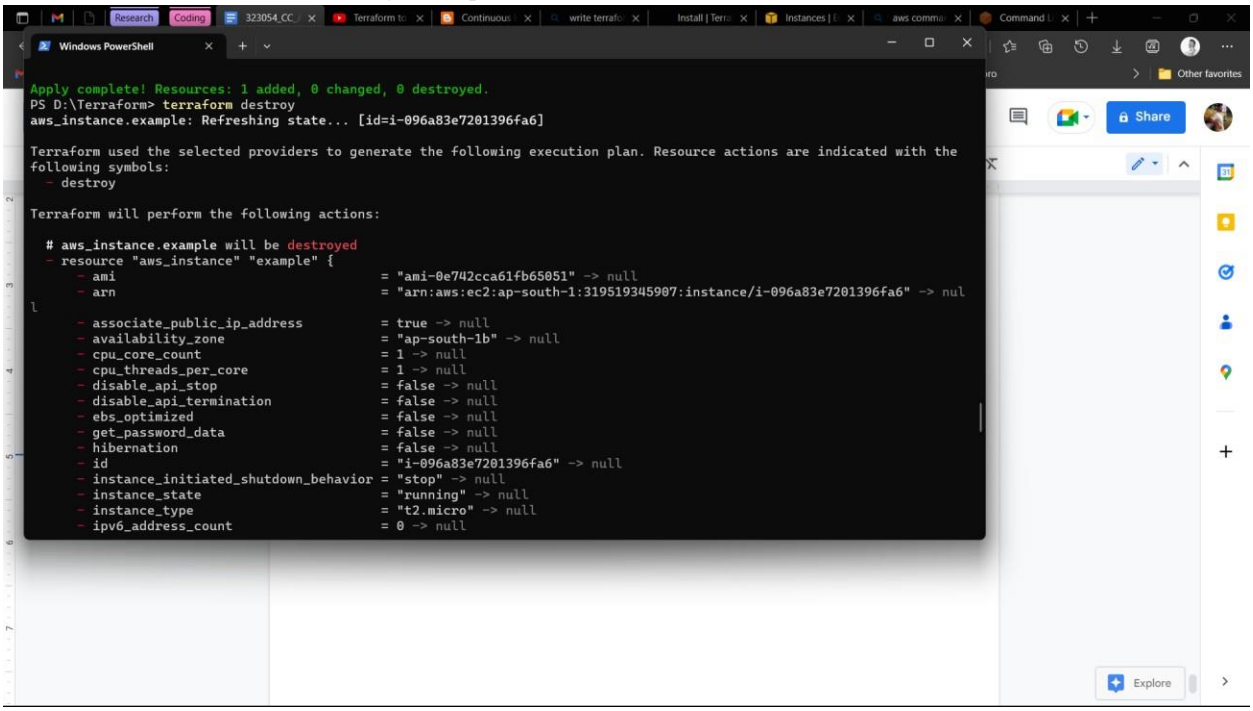


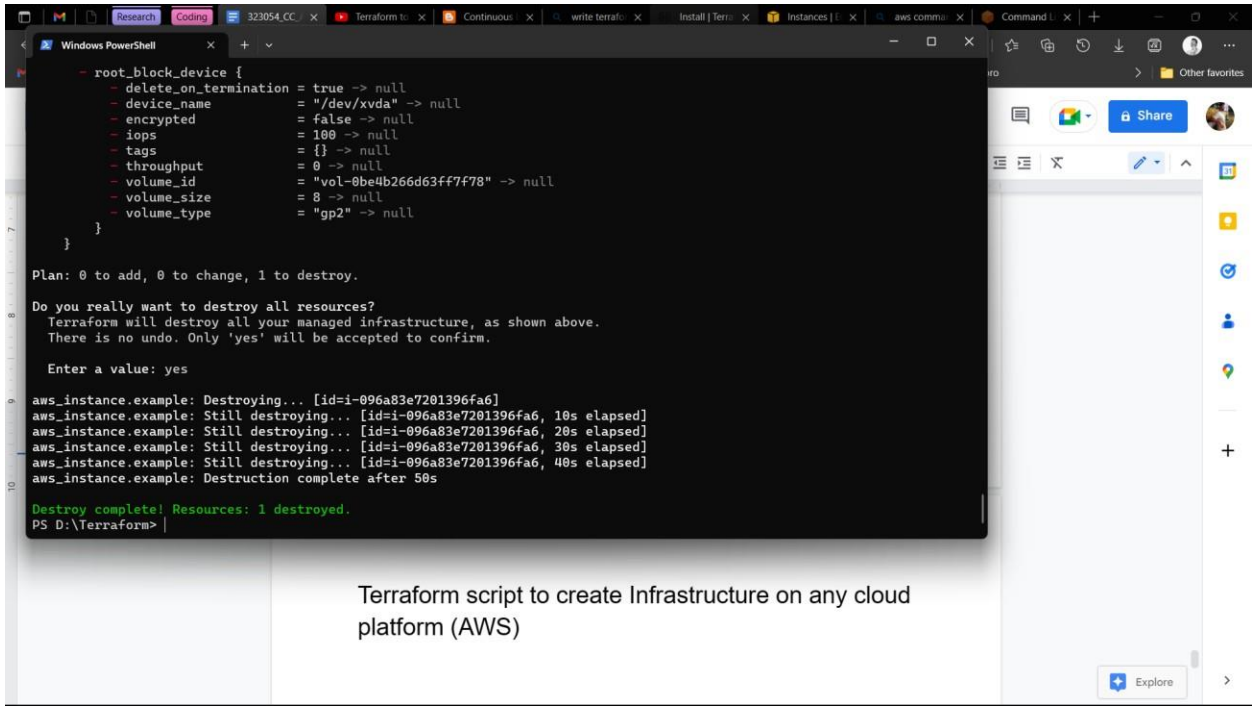


See the create AWS “example” instance

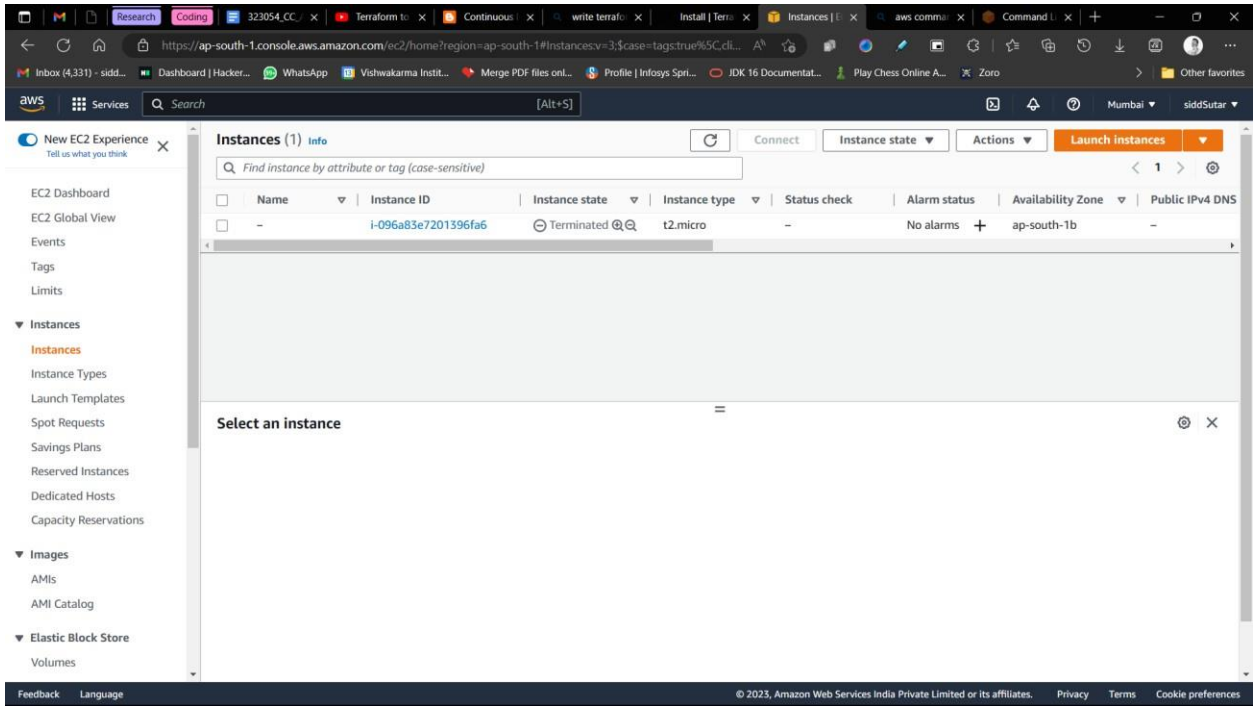


Put the command terraform destroy to stop the instance

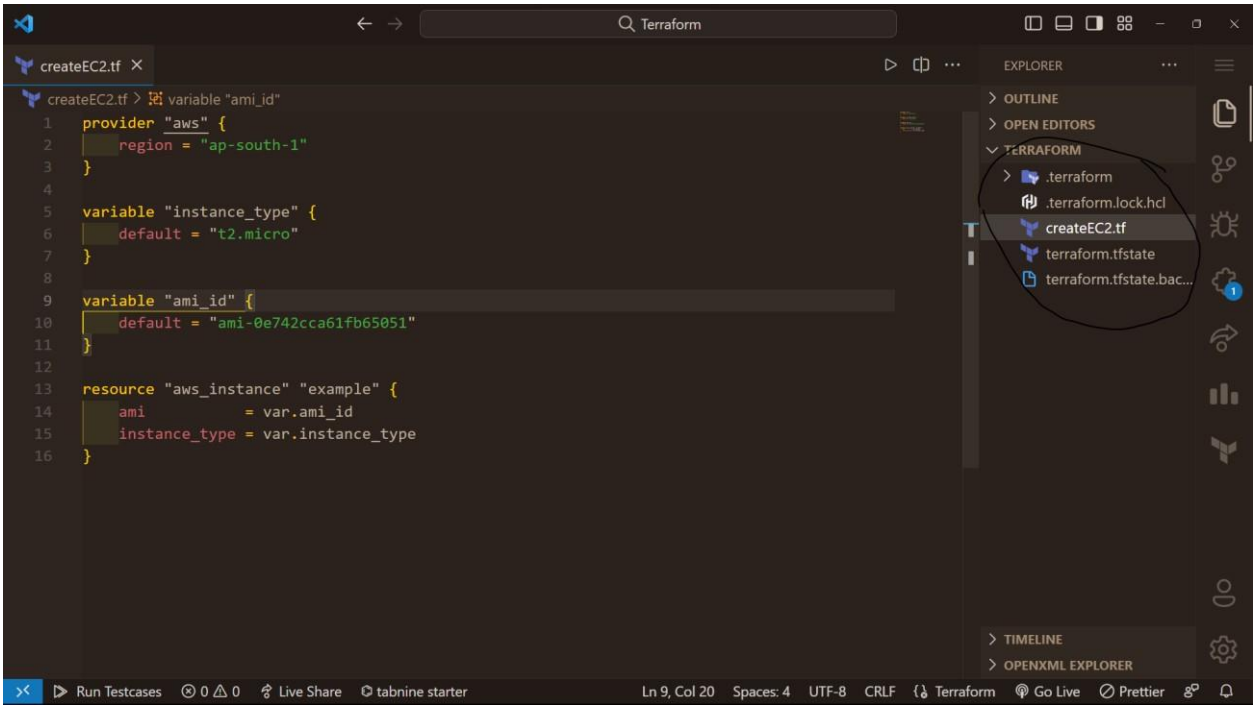




Let’s check whether the instance is properly terminated or not



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.