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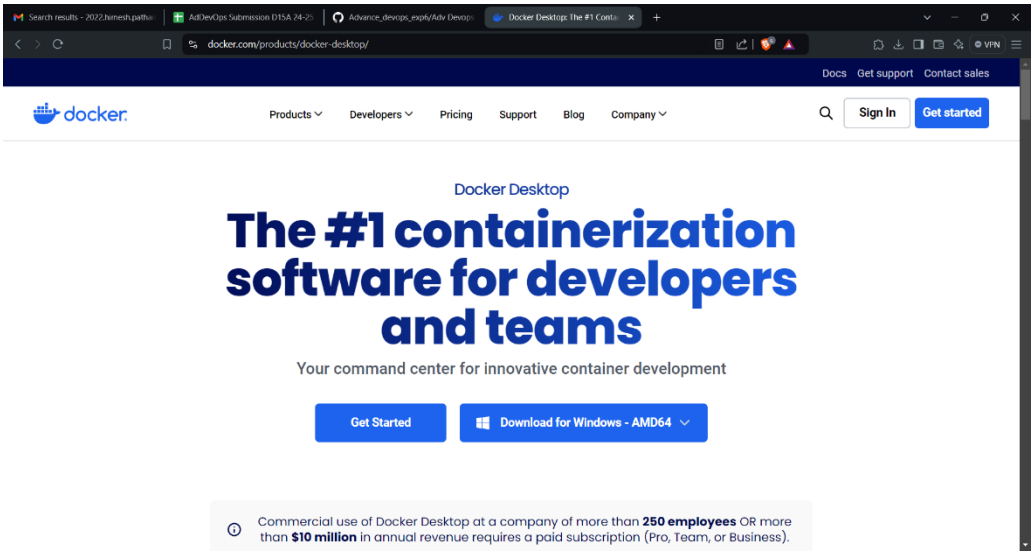
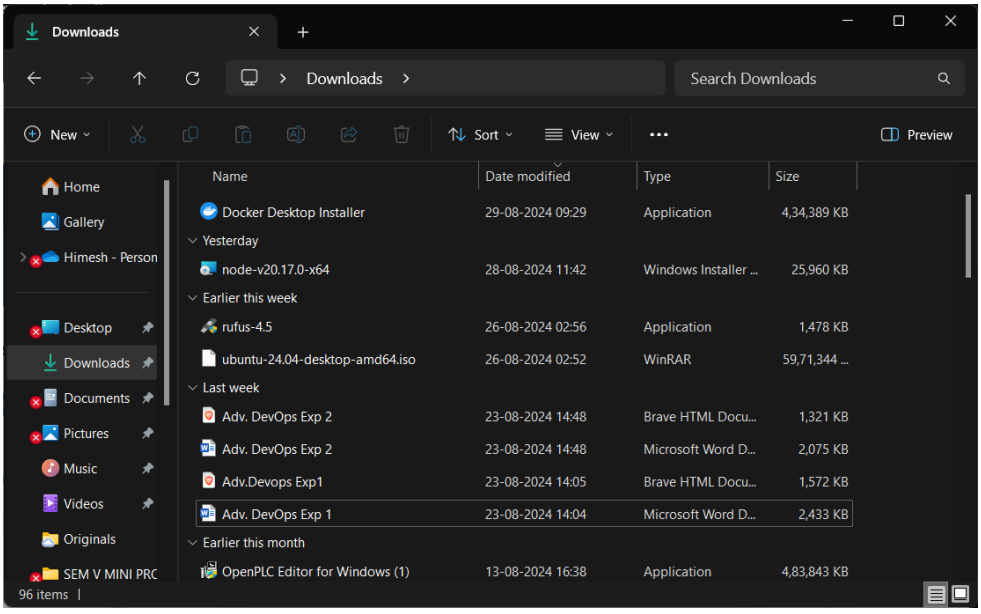
Advance DevOps Exp : 6

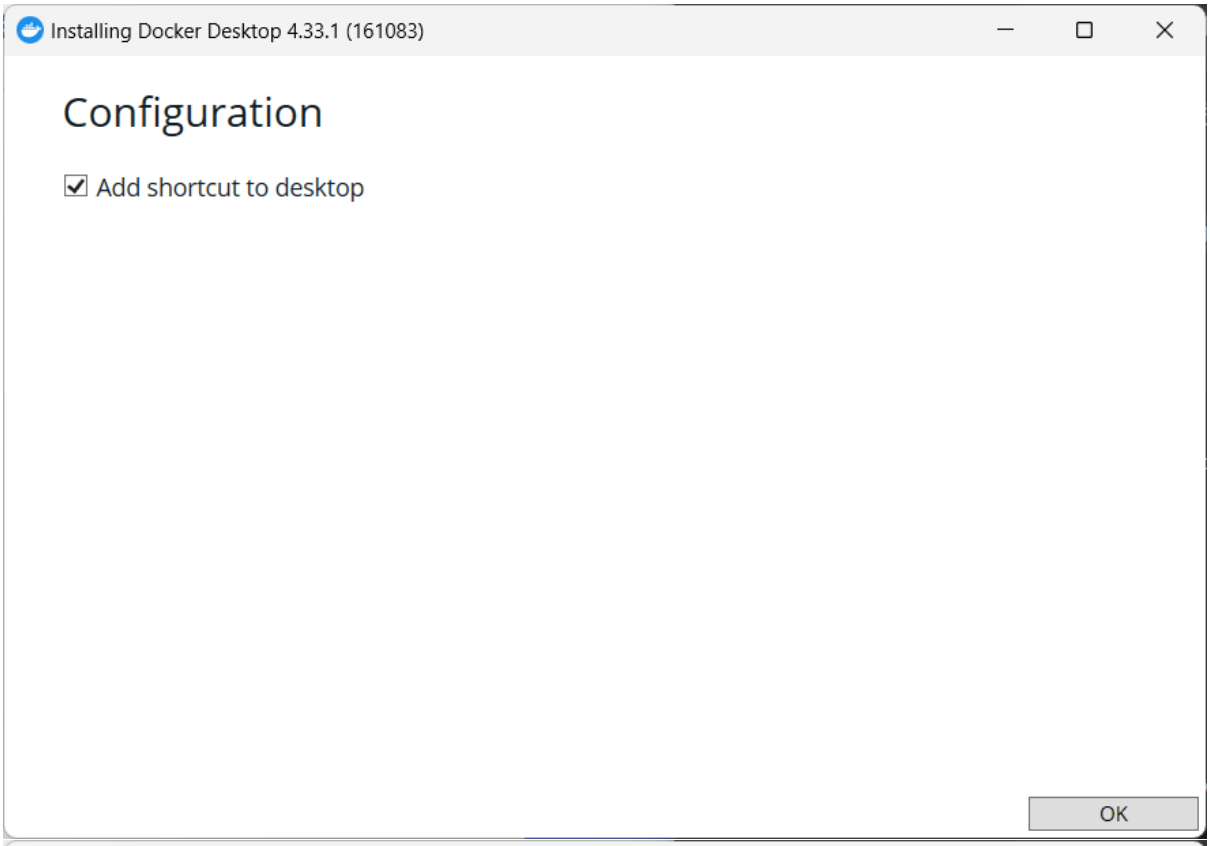
Aim: To Build, change, and destroy AWS / GCP /Microsoft Azure/ DigitalOcean infrastructure Using Terraform. (S3 bucket or Docker)

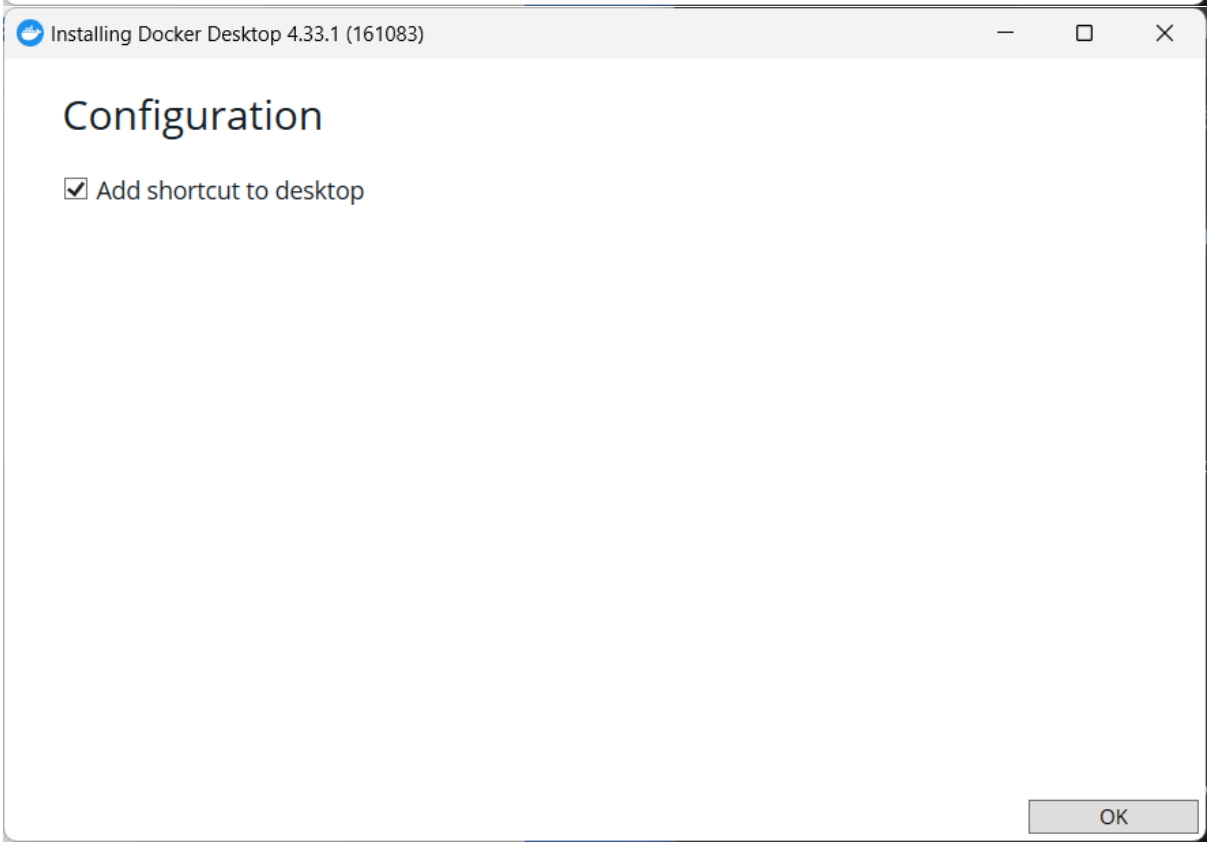
Step 1: Download Docker form www.docker.com



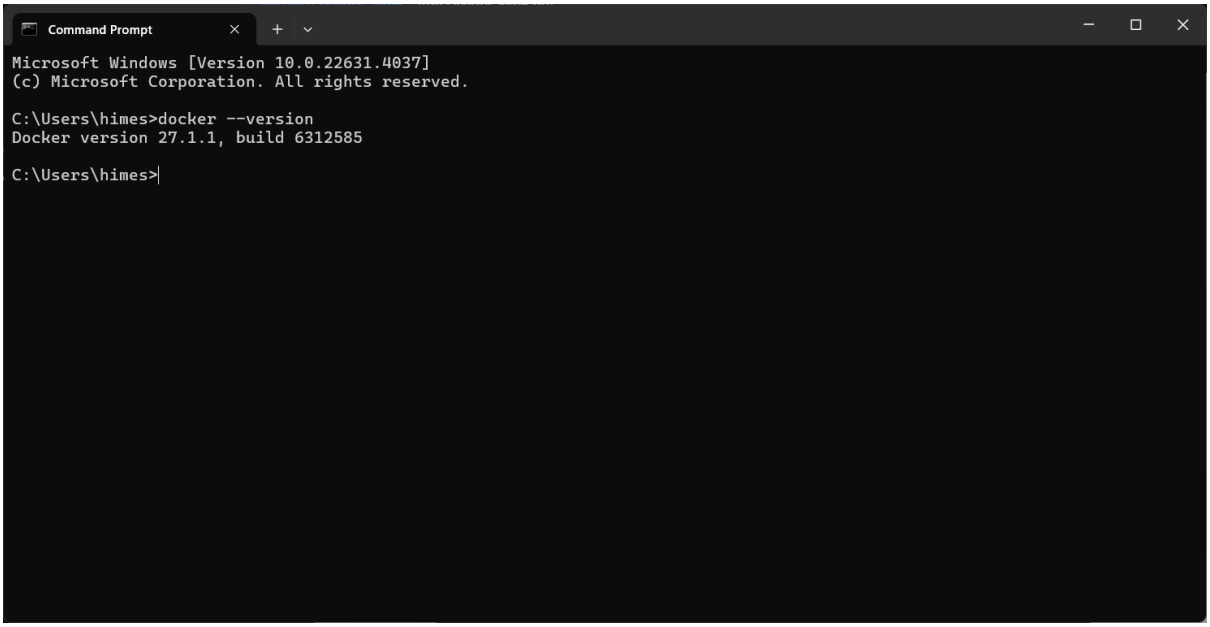
Step 2: Now, Docker is successfully downloaded.



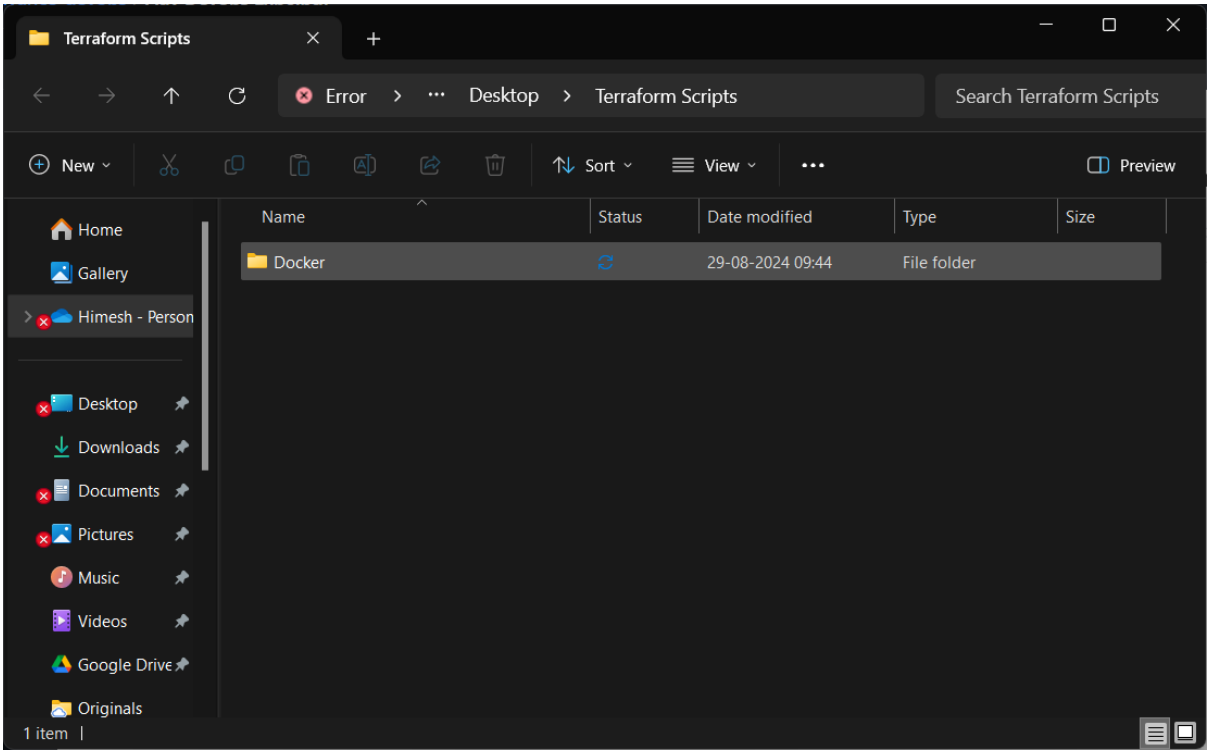

Installing Docker Desktop 4.33.1 (161083)
Configuration
Add shortcut to desktop
OK


Installing Docker Desktop 4.33.1 (161083)
Configuration
Add shortcut to desktop
OK

Step 3: Open Command Prompt and enter the command docker –version, to check whether the docker is successfully installed.



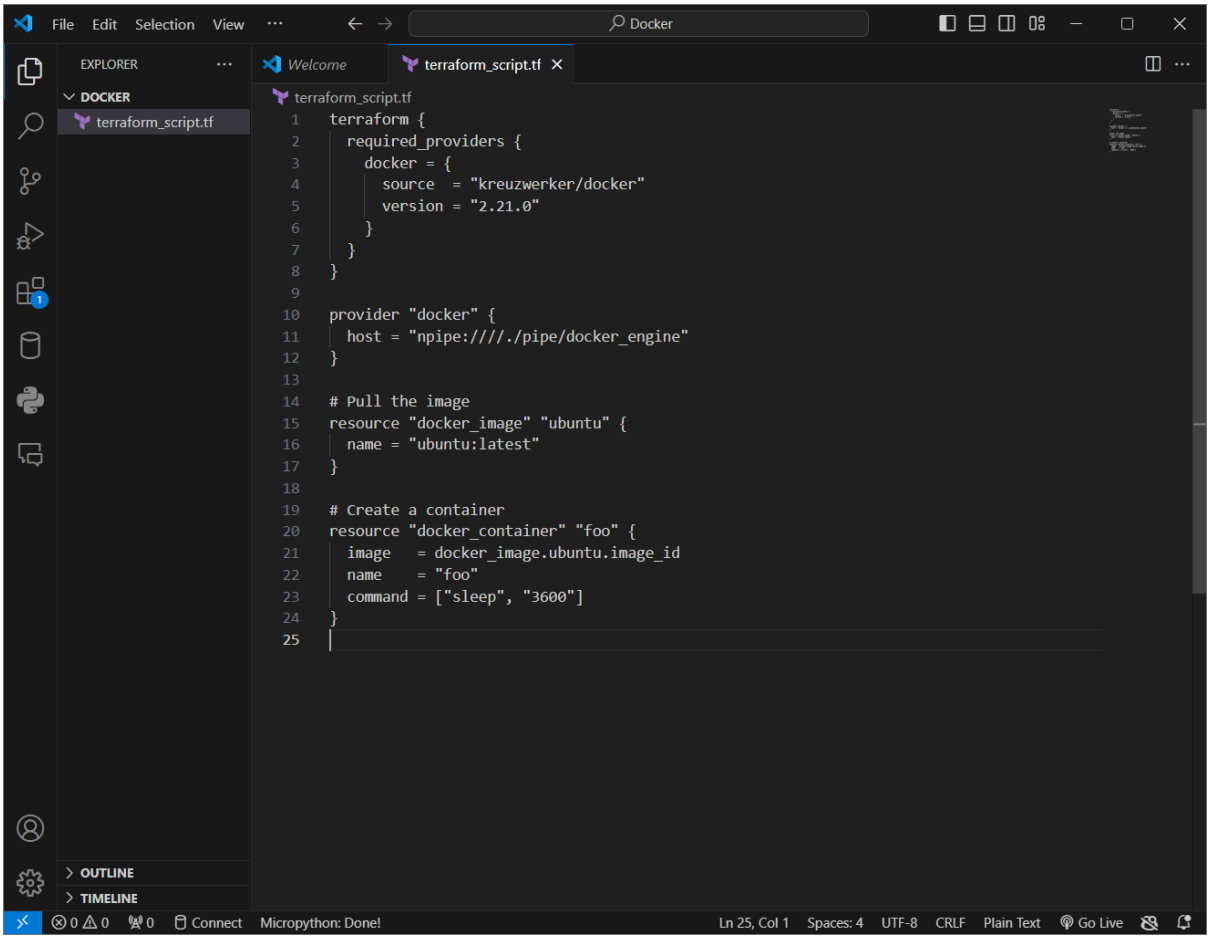
Step 4: Create a folder Terraform_scripts and inside it create a folder named Docker.



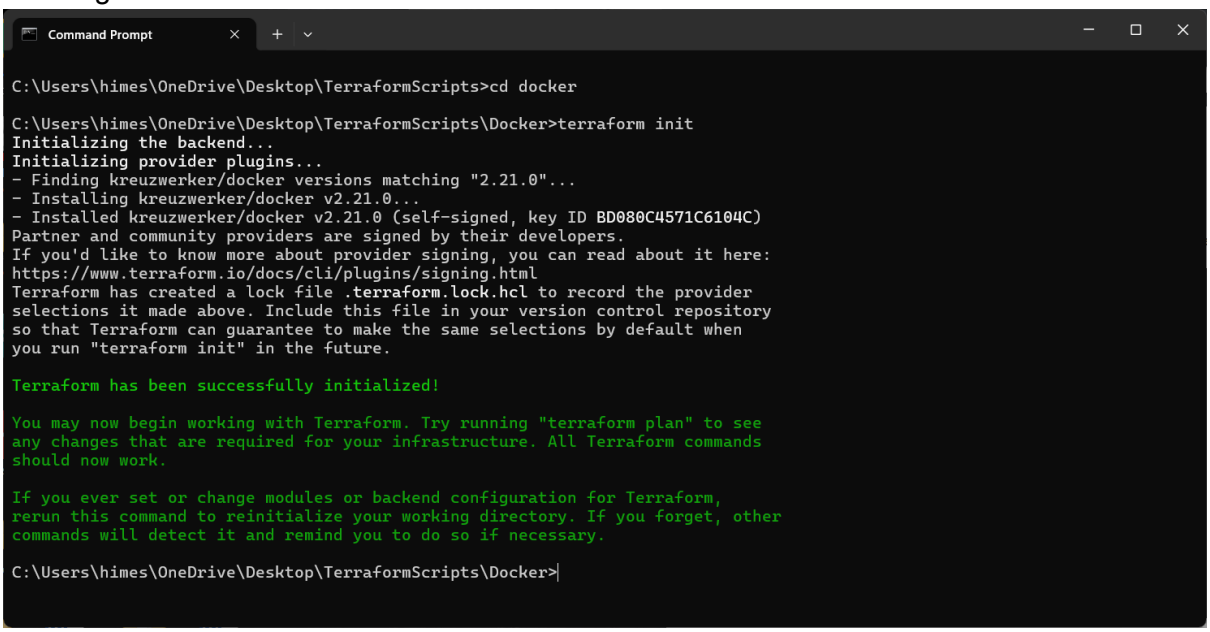
Step 5: create a new folder named ‘Terraform’ in the ‘TerraformScripts’ folder. Then create a new terraform_script.tf file using vs code.

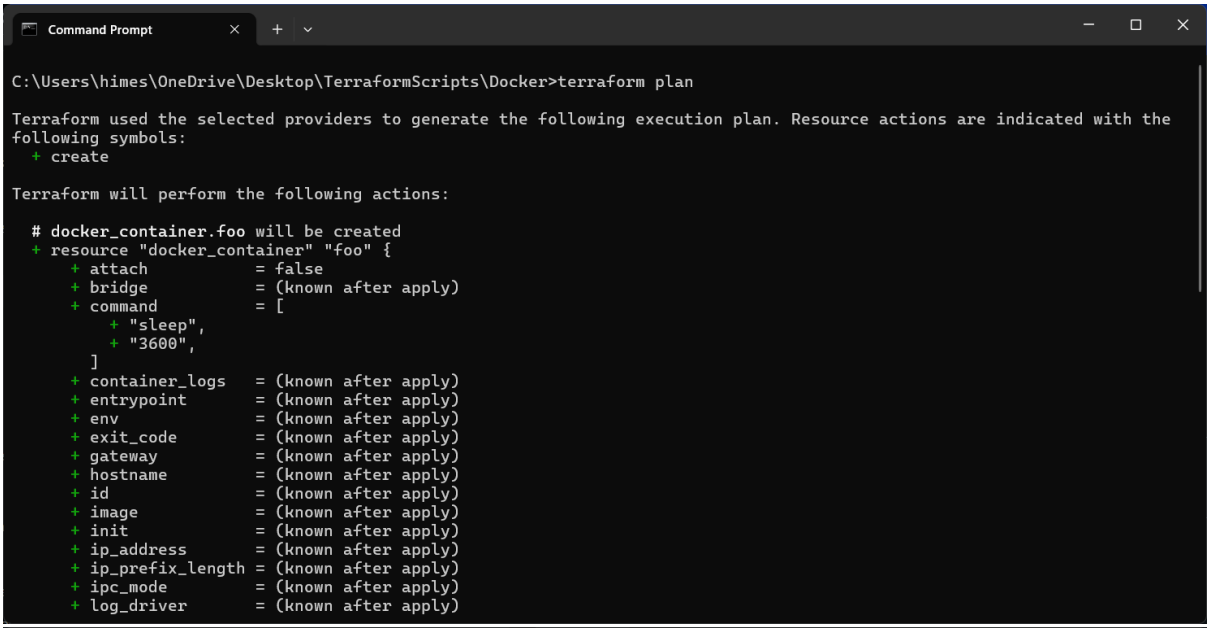
Run the following script in the VS Code.

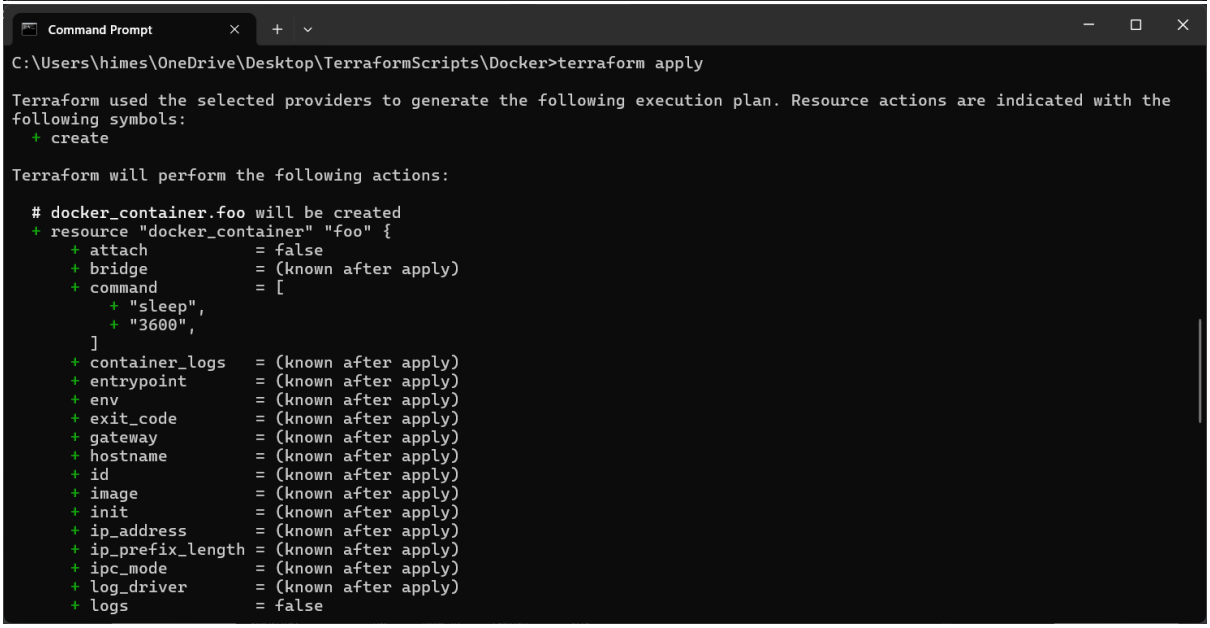
```
terraform {
required_providers {
    docker = {
      source  = "kreuzwerker/docker"
      version = "2.21.0"
    }
  }
}

provider "docker" {
  host = "npipe:////./pipe/docker_engine"
}

# Pull the image
resource "docker_image" "ubuntu" {
name = "ubuntu:latest"
}

# Create a container resource
"docker_container" "foo" {   image =
docker_image.ubuntu.image_id
  name = "foo"
  command = ["sleep", "3600"]
}
```

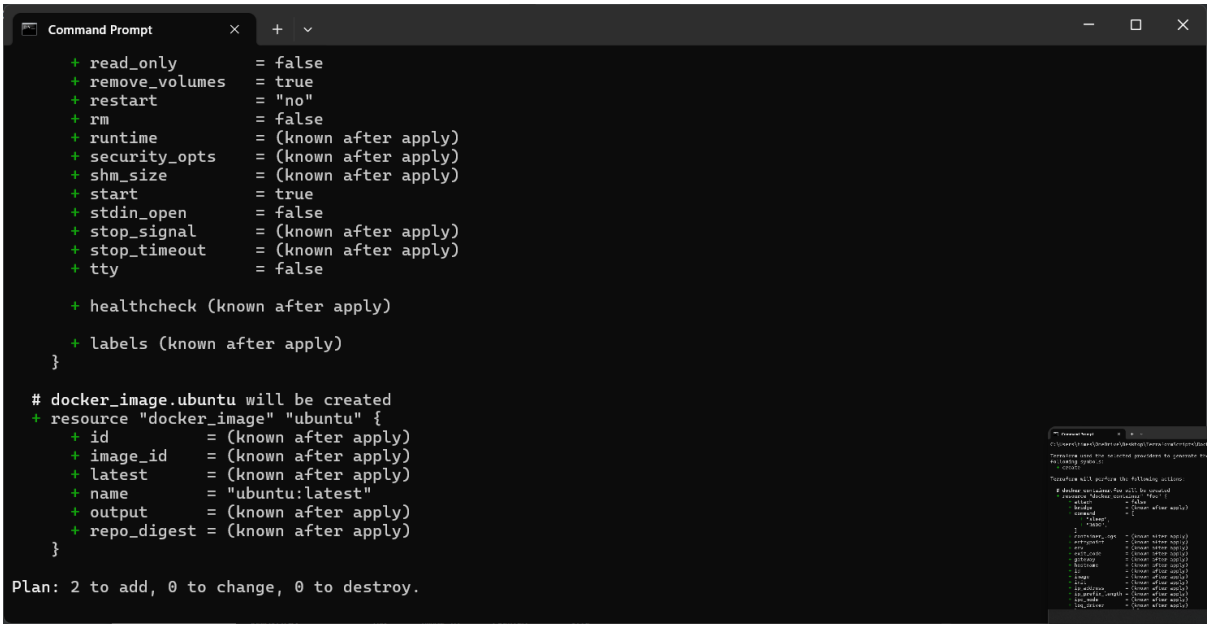


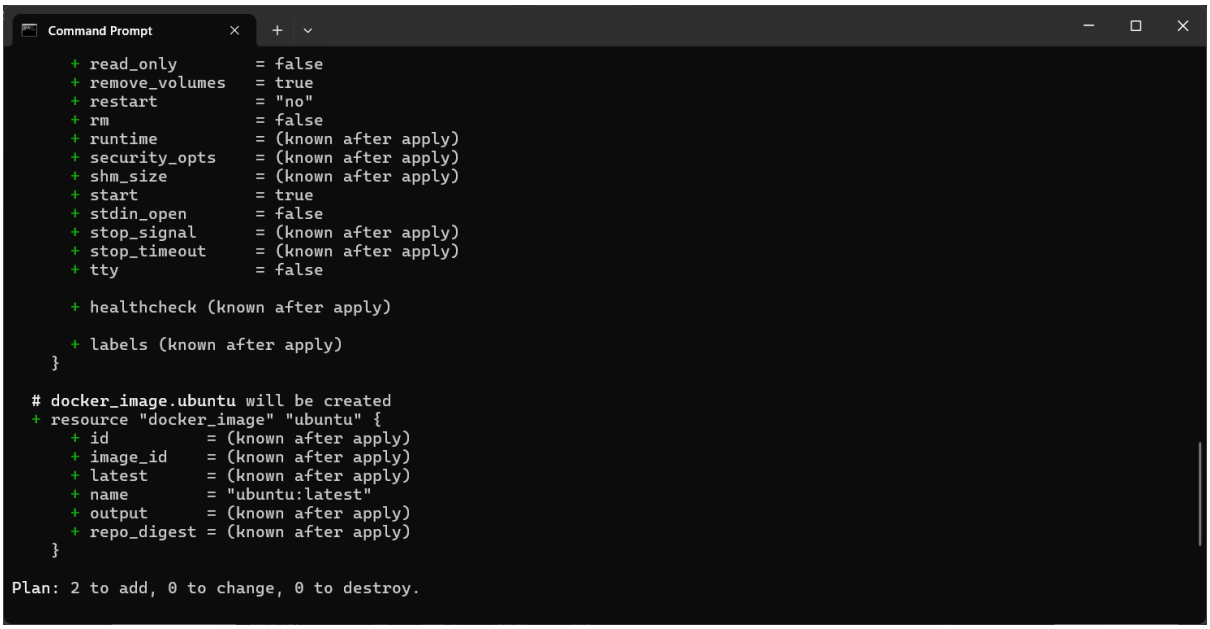
Step 6: Open Windows Explorer and run the following command terraform init, terraform plan, terraform apply, terraform destroy, terraform provider, terraform validate, terraform state list and docker images.

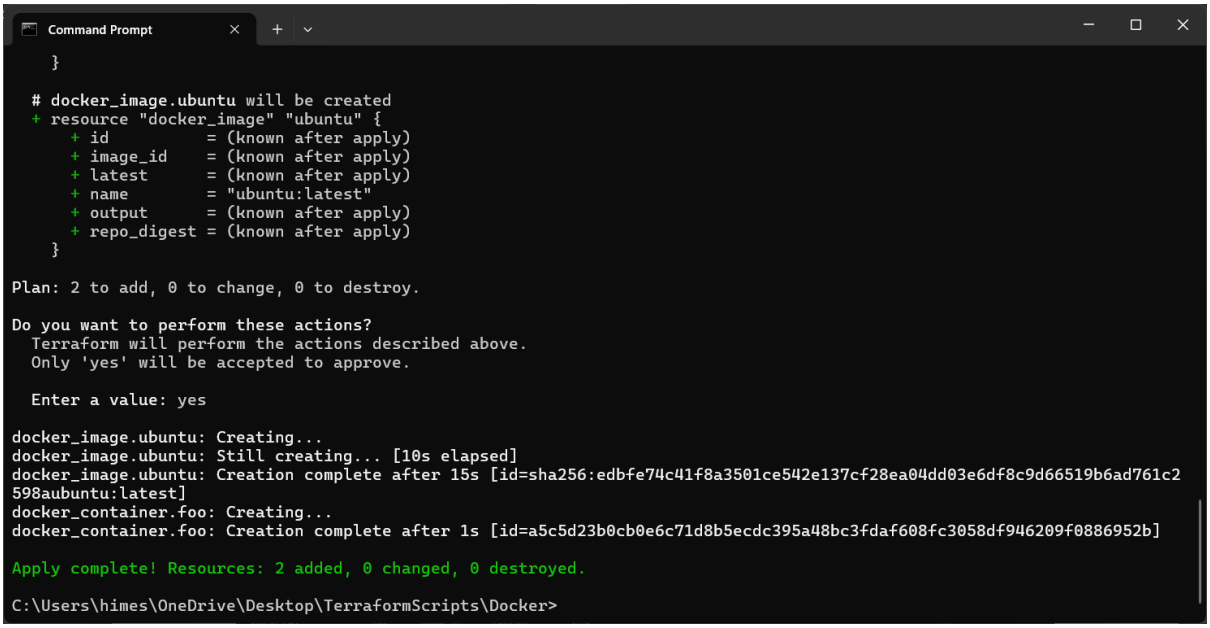


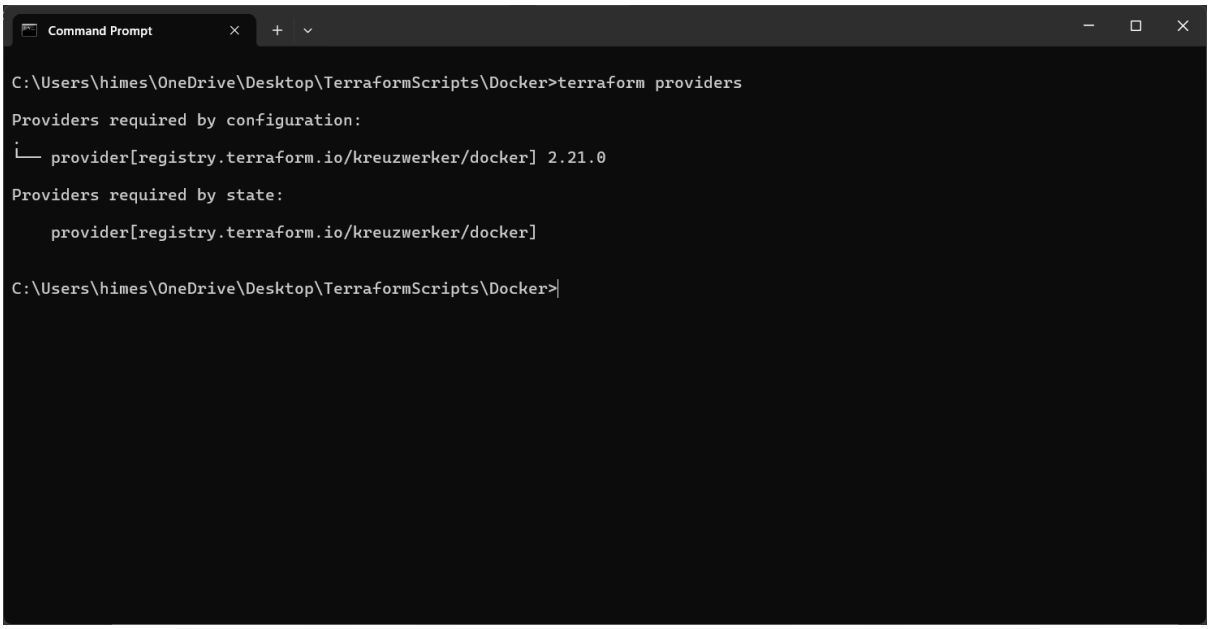

Command Prompt
C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>terraform plan
Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create
Terraform will perform the following actions:
# docker_container.foo will be created
+ resource "docker_container" "foo" {
+ attach = false
+ bridge = (known after apply)
+ command = [
+ "sleep",
+ "3600",
]
+ container_logs = (known after apply)
+ entrypoint = (known after apply)
+ env = (known after apply)
+ exit_code = (known after apply)
+ gateway = (known after apply)
+ hostname = (known after apply)
+ id = (known after apply)
+ image = (known after apply)
+ init = (known after apply)
+ ip_address = (known after apply)
+ ip_prefix_length = (known after apply)
+ ipc_mode = (known after apply)
+ log_driver = (known after apply)


Command Prompt
C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>terraform apply
Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
+ create
Terraform will perform the following actions:
# docker_container.foo will be created
+ resource "docker_container" "foo" {
+ attach = false
+ bridge = (known after apply)
+ command = [
+ "sleep",
+ "3600",
]
+ container_logs = (known after apply)
+ entrypoint = (known after apply)
+ env = (known after apply)
+ exit_code = (known after apply)
+ gateway = (known after apply)
+ hostname = (known after apply)
+ id = (known after apply)
+ image = (known after apply)
+ init = (known after apply)
+ ip_address = (known after apply)
+ ip_prefix_length = (known after apply)
+ ipc_mode = (known after apply)
+ log_driver = (known after apply)
+ logs = false


Command Prompt
+ read_only = false
+ remove_volumes = true
+ restart = "no"
+ rm = false
+ runtime = (known after apply)
+ security_opts = (known after apply)
+ shm_size = (known after apply)
+ start = true
+ stdin_open = false
+ stop_signal = (known after apply)
+ stop_timeout = (known after apply)
+ tty = false
+ healthcheck (known after apply)
+ labels (known after apply)
}
# docker_image.ubuntu will be created
+ resource "docker_image" "ubuntu" {
+ id = (known after apply)
+ image_id = (known after apply)
+ latest = (known after apply)
+ name = "ubuntu:latest"
+ output = (known after apply)
+ repo_digest = (known after apply)
}
Plan: 2 to add, 0 to change, 0 to destroy.


Command Prompt
+ read_only = false
+ remove_volumes = true
+ restart = "no"
+ rm = false
+ runtime = (known after apply)
+ security_opts = (known after apply)
+ shm_size = (known after apply)
+ start = true
+ stdin_open = false
+ stop_signal = (known after apply)
+ stop_timeout = (known after apply)
+ tty = false
+ healthcheck (known after apply)
+ labels (known after apply)
}
# docker_image.ubuntu will be created
+ resource "docker_image" "ubuntu" {
+ id = (known after apply)
+ image_id = (known after apply)
+ latest = (known after apply)
+ name = "ubuntu:latest"
+ output = (known after apply)
+ repo_digest = (known after apply)
}
Plan: 2 to add, 0 to change, 0 to destroy.


Command Prompt
}
# docker_image.ubuntu will be created
+ resource "docker_image" "ubuntu" {
+ id = (known after apply)
+ image_id = (known after apply)
+ latest = (known after apply)
+ name = "ubuntu:latest"
+ output = (known after apply)
+ repo_digest = (known after apply)
}
Plan: 2 to add, 0 to change, 0 to destroy.
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
docker_image.ubuntu: Creating...
docker_image.ubuntu: Still creating... [10s elapsed]
docker_image.ubuntu: Creation complete after 15s [id=sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598aubuntu:latest]
docker_container.foo: Creating...
docker_container.foo: Creation complete after 1s [id=a5c5d23b0cb0e6c71d8b5ecdc395a48bc3fdaf608fc3058df946209f0886952b]
Apply complete! Resources: 2 added, 0 changed, 0 destroyed.
C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>


Command Prompt
C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>terraform providers
Providers required by configuration:
.
└── provider[registry.terraform.io/kreuzwerker/docker] 2.21.0
Providers required by state:
provider[registry.terraform.io/kreuzwerker/docker]
C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>

```
C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>terraform validate
Success! The configuration is valid.


C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>
```

```
C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>terraform state list
docker_container.foo
docker_image.ubuntu

C:\Users\himes\OneDrive\Desktop\TerraformScripts\Docker>SS
```

```
C:\Users\himes\OneDrive\Desktop\TerraformScripts>docker images
REPOSITORY   TAG       IMAGE ID       CREATED       SIZE
ubuntu       latest    edbfe74c41f8   3 weeks ago   78.1MB

C:\Users\himes\OneDrive\Desktop\TerraformScripts>S
```