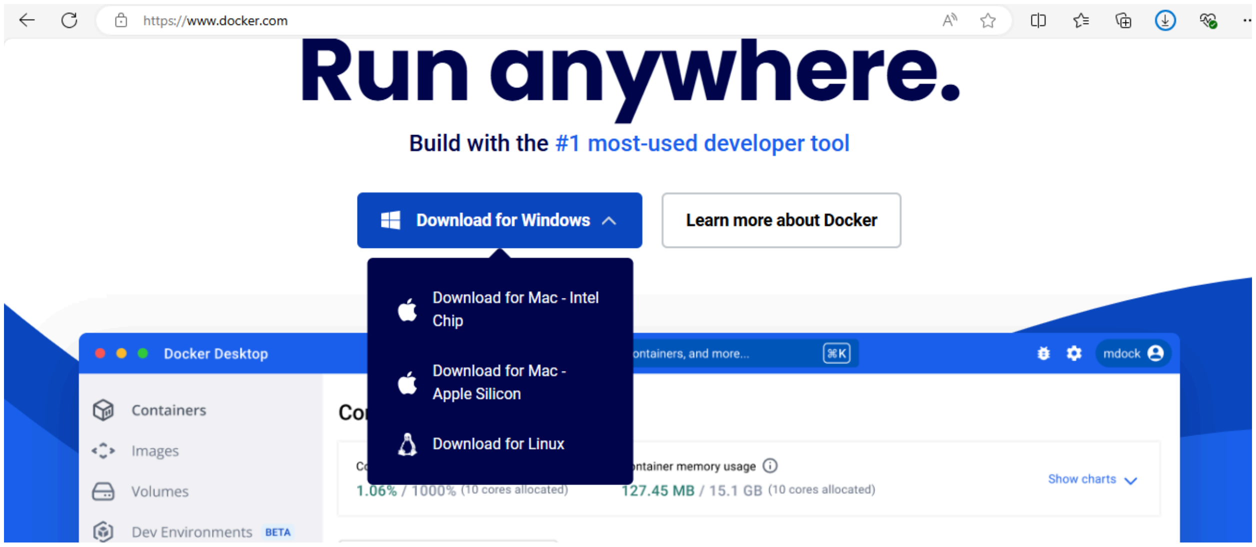
Anuprita Mhapankar **D15A** **29**

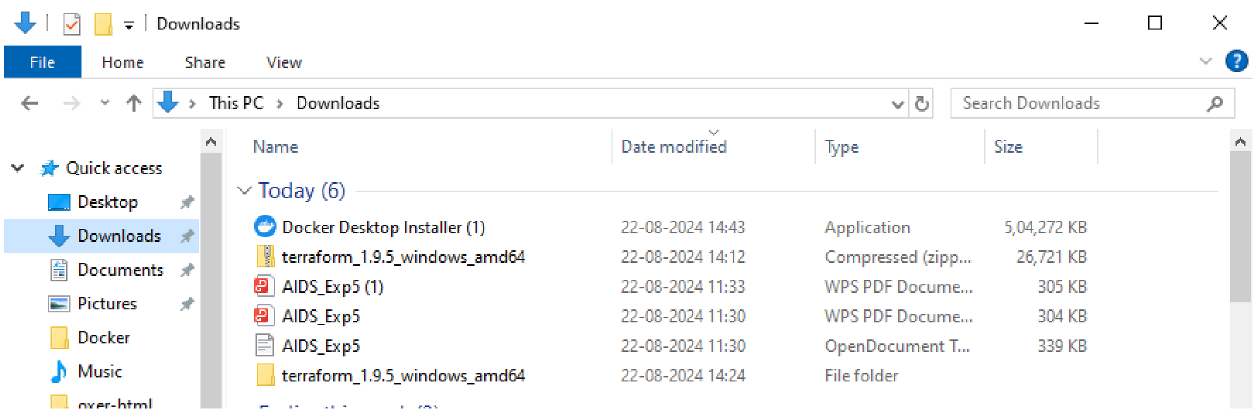
Experiment 6

Step 1: Download Docker form www.docker.com

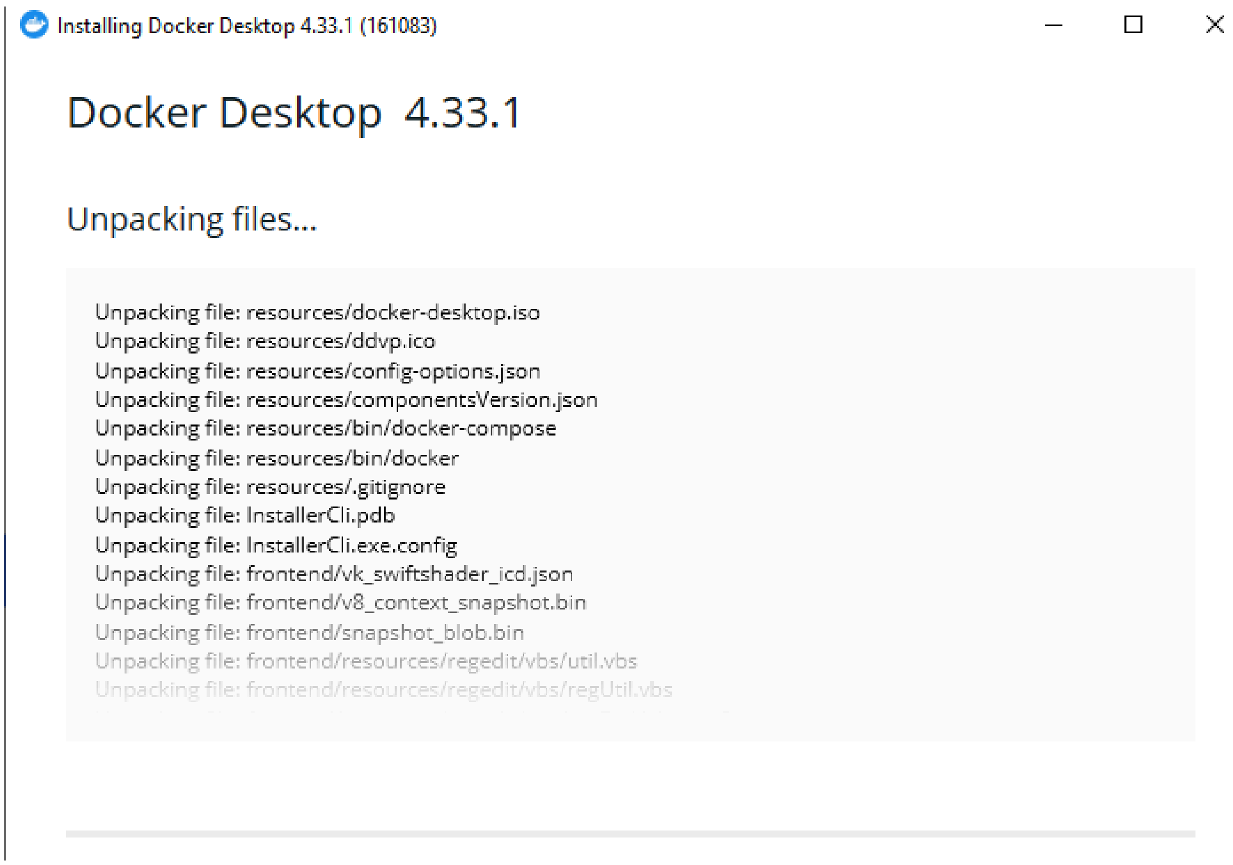


https://www.docker.com
Run anywhere.
Build with the #1 most-used developer tool
Download for Windows
Learn more about Docker
Download for Mac - Intel Chip
Download for Mac - Apple Silicon
Download for Linux
Docker Desktop
Containers
Images
Volumes
Dev Environments BETA
1.06% / 1000% (10 cores allocated)
127.45 MB / 15.1 GB (10 cores allocated)
Show charts
mdock

Step 2: The Docker is successfully downloaded. Now, run the docker installer and complete the installation.



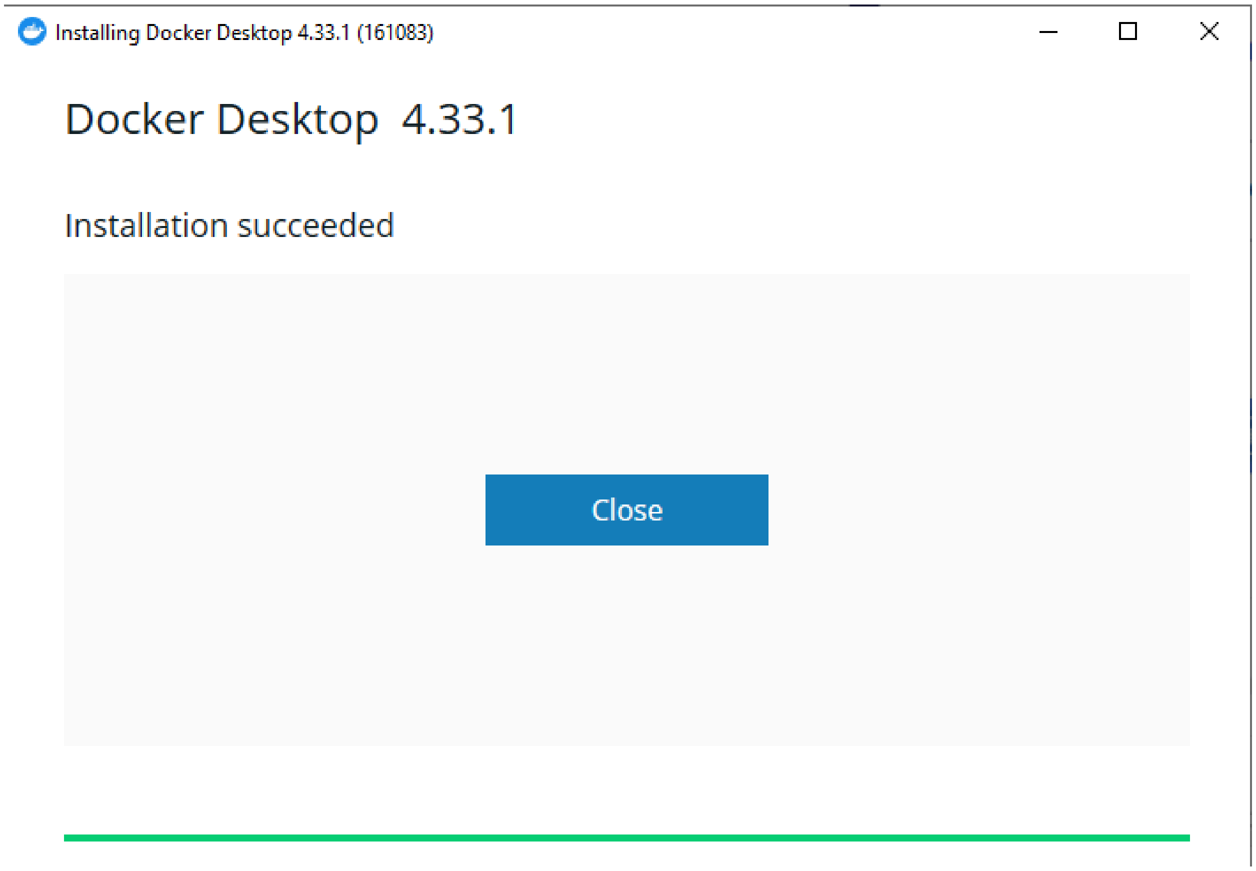
Name	Date modified	Type	Size
Docker Desktop Installer (1)	22-08-2024 14:43	Application	5,04,272 KB
terraform_1.9.5_windows_amd64	22-08-2024 14:12	Compressed (zipp...	26,721 KB
AIDS_Exp5 (1)	22-08-2024 11:33	WPS PDF Docume...	305 KB
AIDS_Exp5	22-08-2024 11:30	WPS PDF Docume...	304 KB
AIDS_Exp5	22-08-2024 11:30	OpenDocument T...	339 KB
terraform_1.9.5_windows_amd64	22-08-2024 14:24	File folder	



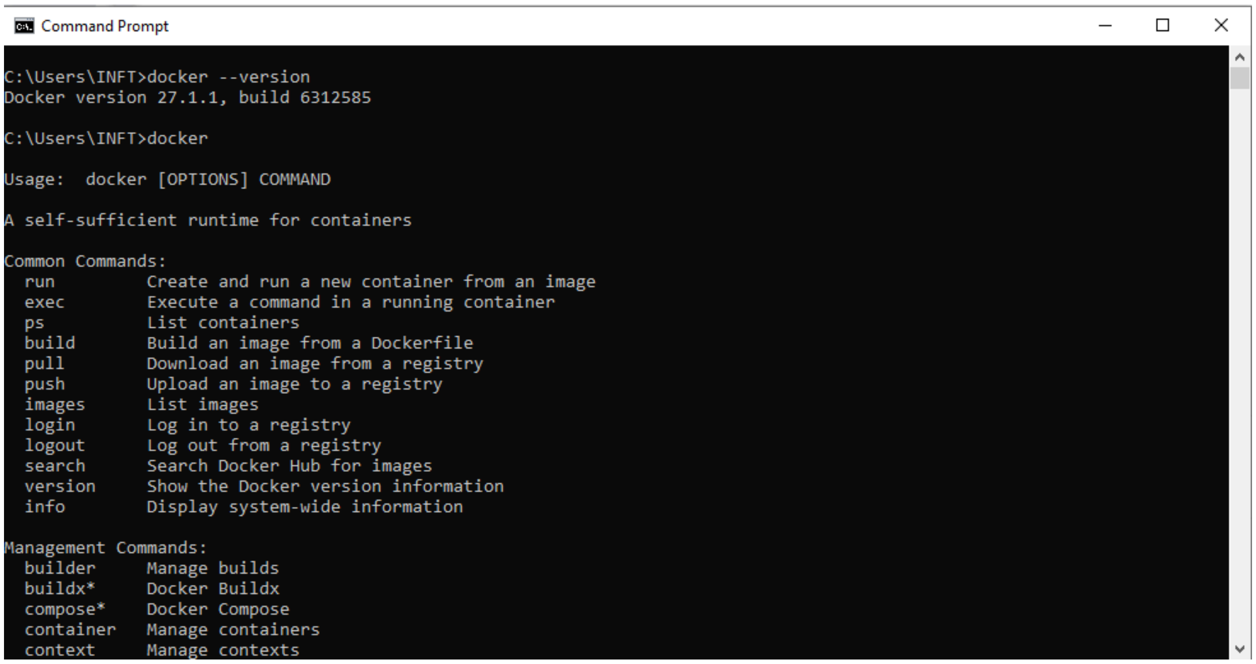
Docker Desktop 4.33.1

Unpacking files...

```
Unpacking file: resources/docker-desktop.iso
Unpacking file: resources/ddvp.ico
Unpacking file: resources/config-options.json
Unpacking file: resources/componentsVersion.json
Unpacking file: resources/bin/docker-compose
Unpacking file: resources/bin/docker
Unpacking file: resources/.gitignore
Unpacking file: InstallerCli.pdb
Unpacking file: InstallerCli.exe.config
Unpacking file: frontend/vk_swiftshader_icd.json
Unpacking file: frontend/v8_context_snapshot.bin
Unpacking file: frontend/snapshot_blob.bin
Unpacking file: frontend/resources/regedit/vbs/util.vbs
Unpacking file: frontend/resources/regedit/vbs/regUtil.vbs
```

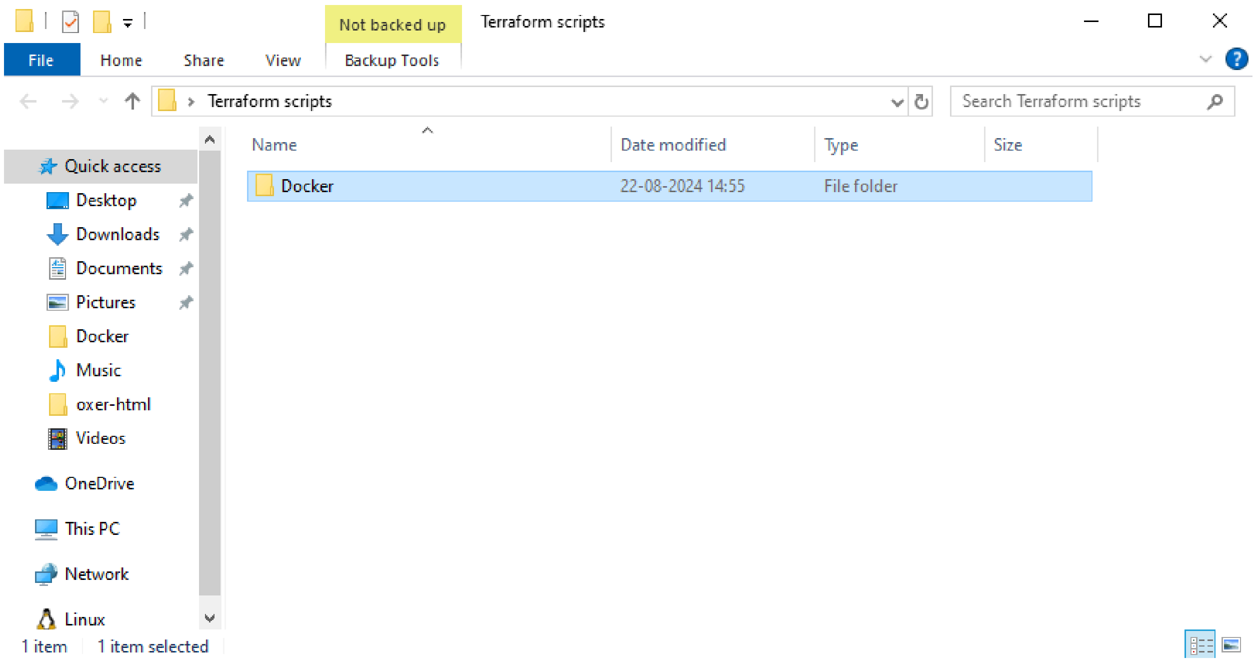


Step 3: Open Command Prompt and run as administrator. Enter the command docker –version, to check whether the docker is successfully installed.



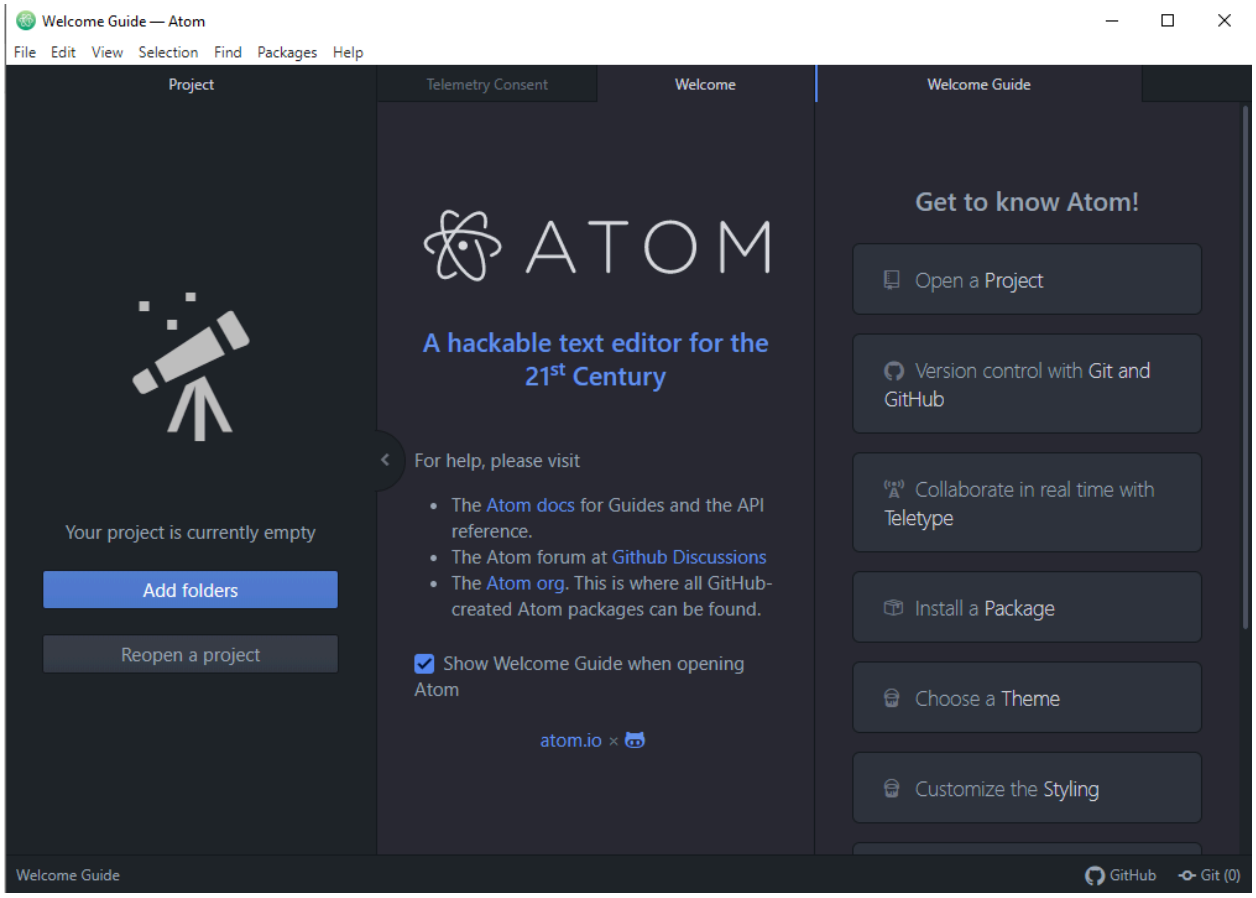
```
C:\Users\INFT>docker --version
Docker version 27.1.1, build 6312585

C:\Users\INFT>docker

Usage:  docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

Common Commands:
  run         Create and run a new container from an image
  exec        Execute a command in a running container
  ps          List containers
  build       Build an image from a Dockerfile
  pull        Download an image from a registry
  push        Upload an image to a registry
  images      List images
  login       Log in to a registry
  logout      Log out from a registry
  search      Search Docker Hub for images
  version     Show the Docker version information
  info        Display system-wide information

Management Commands:
  builder     Manage builds
  buildx*     Docker Buildx
  compose*    Docker Compose
  container   Manage containers
  context     Manage contexts
```

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



Name	Date modified	Type	Size
Docker	22-08-2024 14:55	File folder	

Step 5: Download Atom Editor.



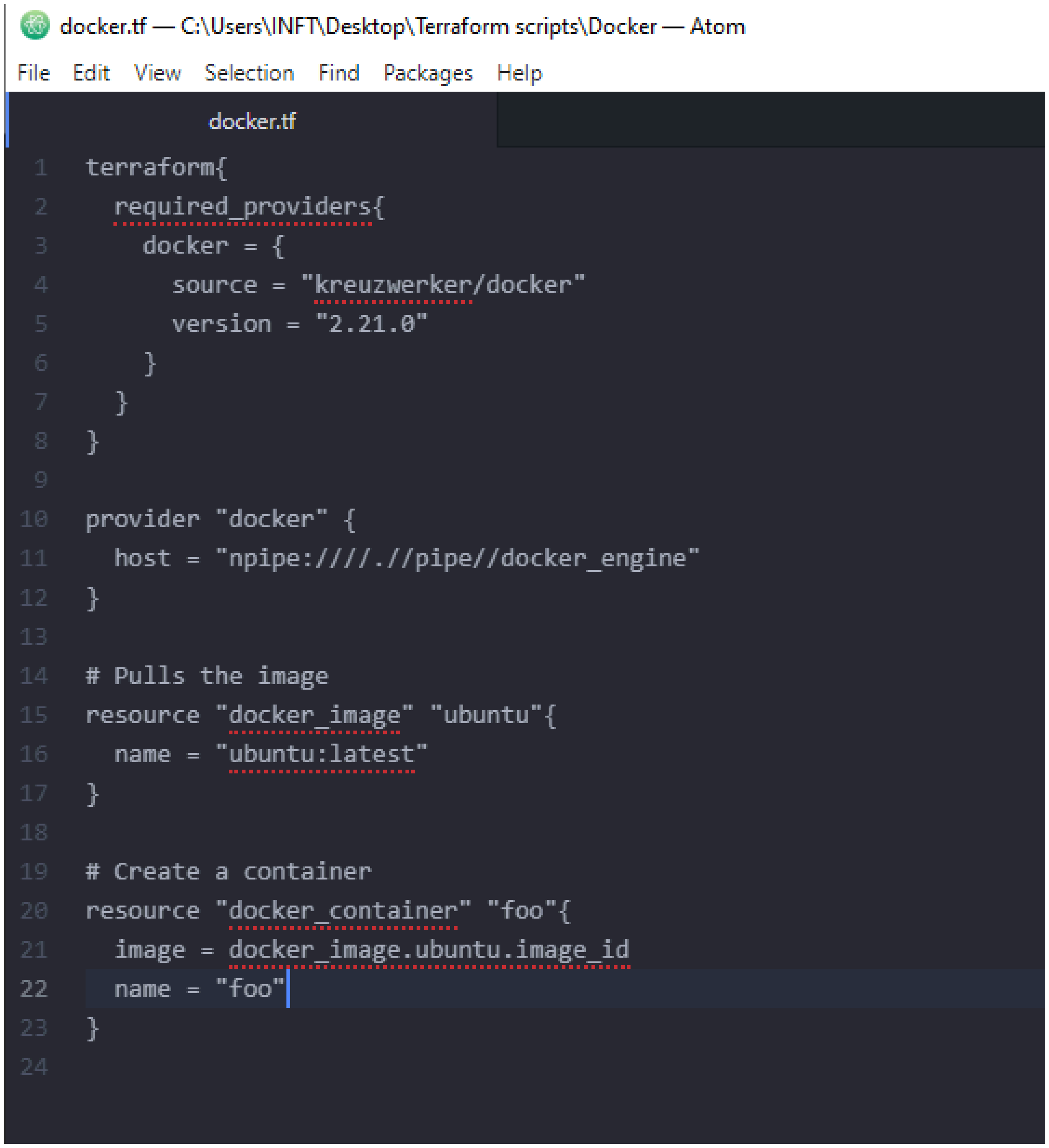
A hackable text editor for the 21st Century

For help, please visit

- The Atom docs for Guides and the API reference.
- The Atom forum at Github Discussions
- The Atom org. This is where all GitHub-created Atom packages can be found.

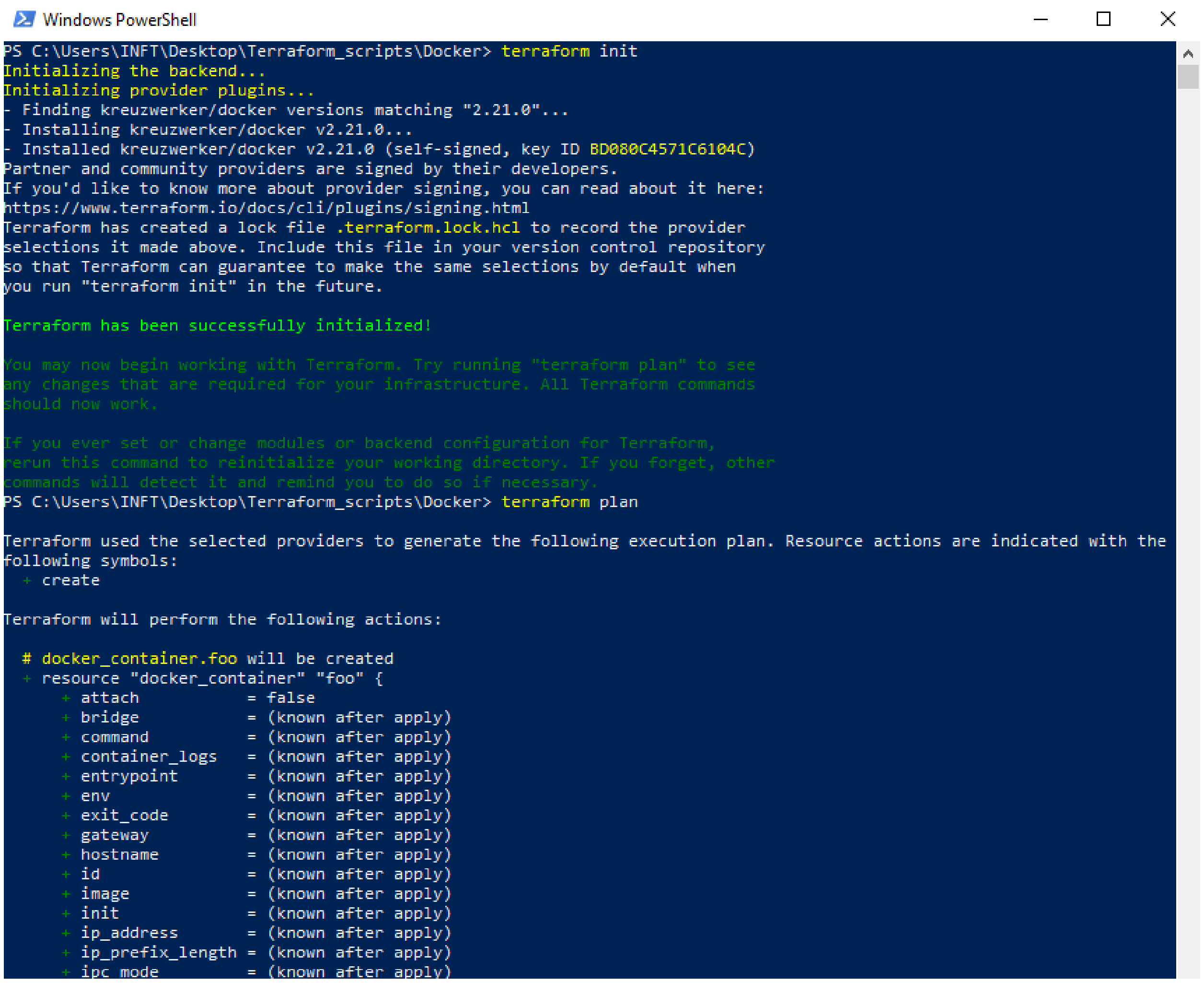
☑ Show Welcome Guide when opening Atom

Step 6: Run the following script in the Atom Editor


docker.tf — C:\Users\INFT\Desktop\Terraform scripts\Docker — Atom
File Edit View Selection Find Packages Help
docker.tf

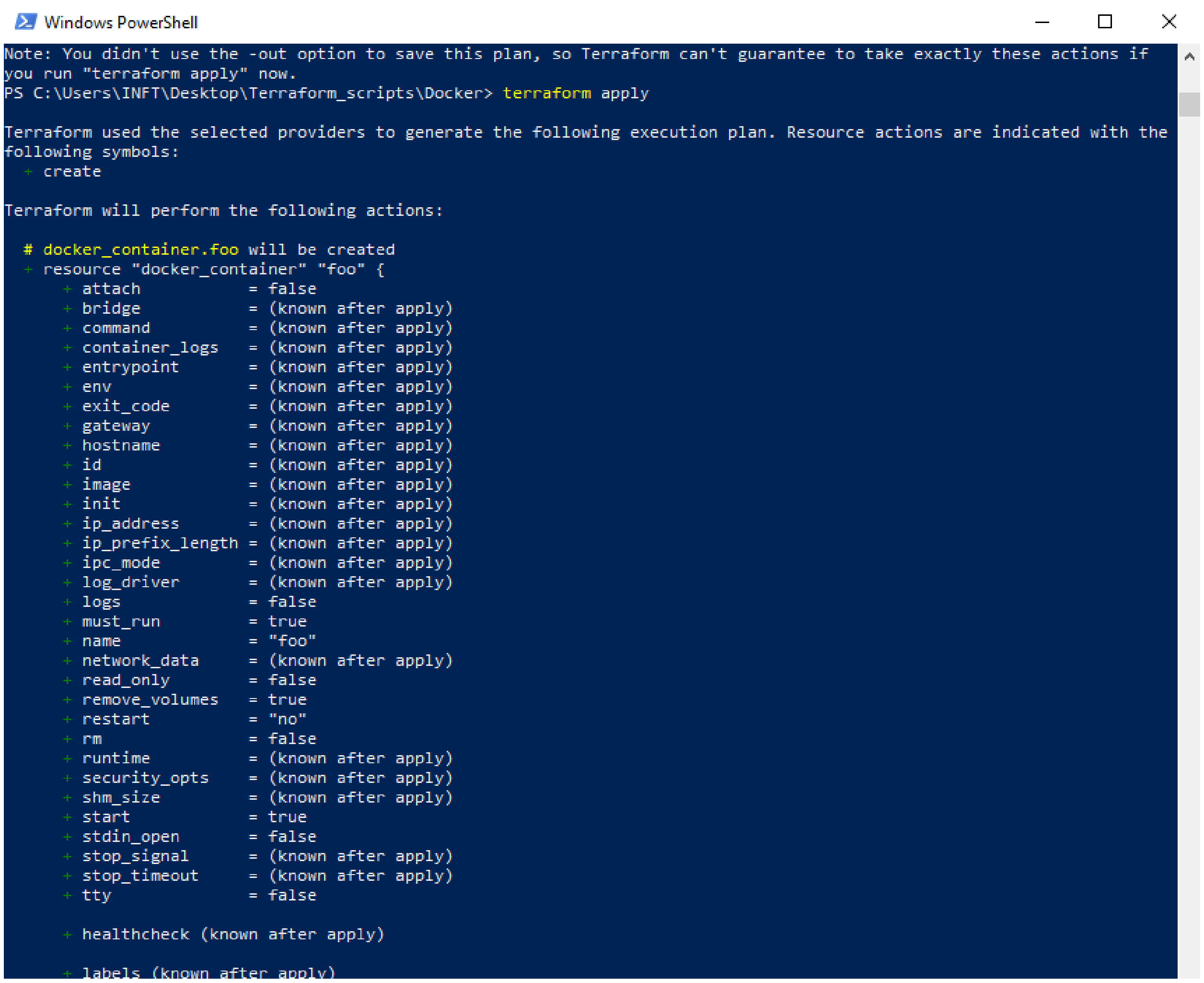
```
terraform{
  required_providers{
    docker = {
      source = "kreuzwerker/docker"
      version = "2.21.0"
    }
  }
}

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

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

# Create a container
resource "docker_container" "foo"{
  image = docker_image.ubuntu.image_id
  name = "foo"
}
```

Step 7: Open Windows Explorer and run the following command terraform init, terraform plan, terraform apply, terraform destroy and docker images.



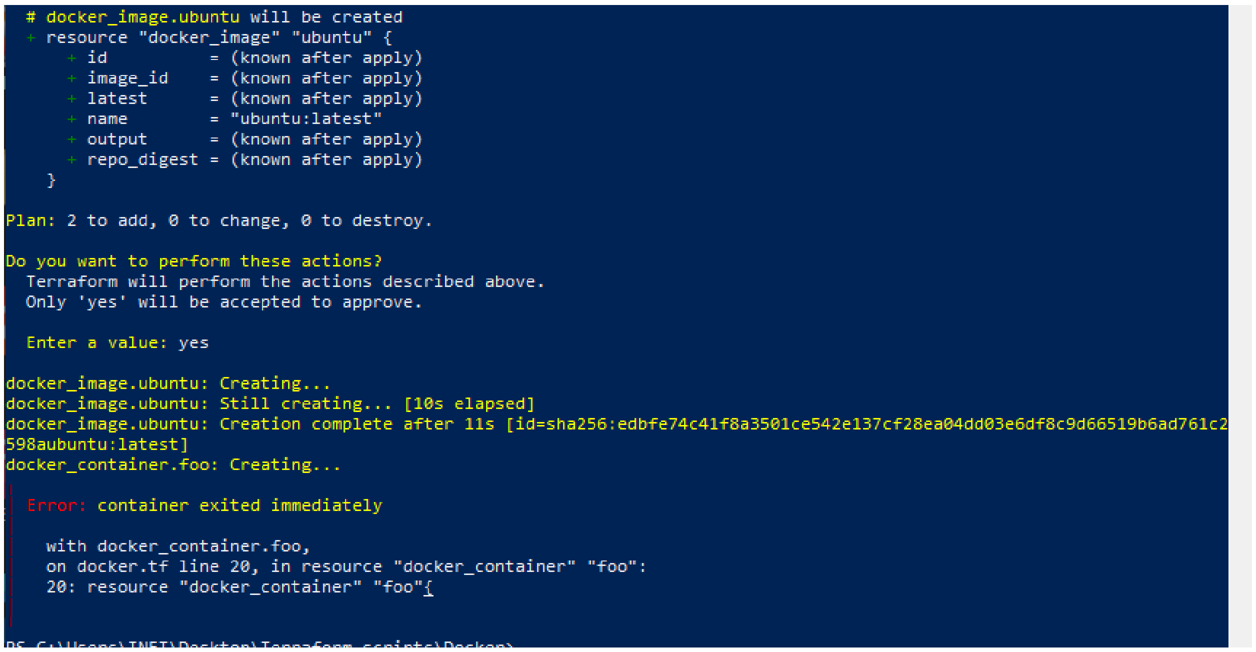
Windows PowerShell

```
PS C:\Users\INFT\Desktop\Terraform_scripts\Docker> terraform init
Initializing the backend...
Initializing provider plugins...
- Finding kreuzwerker/docker versions matching "2.21.0"...
- Installing kreuzwerker/docker v2.21.0...
- Installed kreuzwerker/docker v2.21.0 (self-signed, key ID BD080C4571C6104C)
Partner and community providers are signed by their developers.
If you'd like to know more about provider signing, you can read about it here:
https://www.terraform.io/docs/cli/plugins/signing.html
Terraform has created a lock file .terraform.lock.hcl to record the provider
selections it made above. Include this file in your version control repository
so that Terraform can guarantee to make the same selections by default when
you run "terraform init" in the future.

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
PS C:\Users\INFT\Desktop\Terraform_scripts\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           = (known after apply)
      + 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)
```

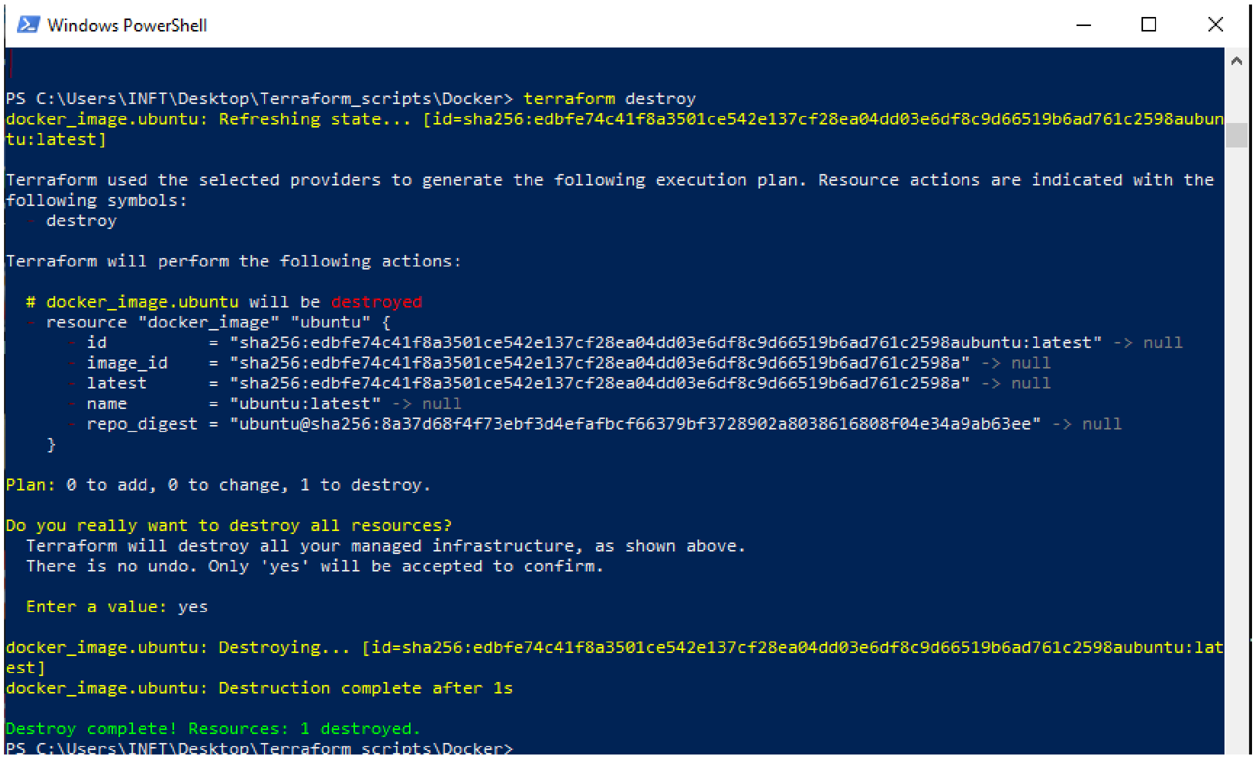


Windows PowerShell

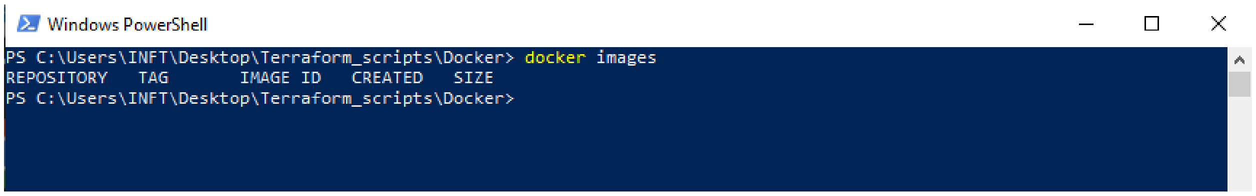
```
Note: You didn't use the -out option to save this plan, so Terraform can't guarantee to take exactly these actions if
you run "terraform apply" now.
PS C:\Users\INFT\Desktop\Terraform_scripts\Docker> terraform apply

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          = (known after apply)
      + 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
      + must_run         = true
      + name             = "foo"
      + network_data     = (known after apply)
      + 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.

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 11s [id=sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2
598aubuntu:latest]
docker_container.foo: Creating...

  Error: container exited immediately

    with docker_container.foo,
    on docker.tf line 20, in resource "docker_container" "foo":
    20: resource "docker_container" "foo"{


PS C:\Users\INFT\Desktop\Terraform_scripts\Docker>
```



```
PS C:\Users\INFT\Desktop\Terraform_scripts\Docker> terraform destroy
docker_image.ubuntu: Refreshing state... [id=sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598aubun
tu:latest]

Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the
following symbols:
  - destroy

Terraform will perform the following actions:

  # docker_image.ubuntu will be destroyed
  - resource "docker_image" "ubuntu" {
      - id           = "sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598aubuntu:latest" -> null
      - image_id     = "sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598a" -> null
      - latest       = "sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598a" -> null
      - name         = "ubuntu:latest" -> null
      - repo_digest  = "ubuntu@sha256:8a37d68f4f73ebf3d4efafbcf66379bf3728902a8038616808f04e34a9ab63ee" -> null
    }

Plan: 0 to add, 0 to change, 1 to destroy.

Do you really want to destroy all resources?
  Terraform will destroy all your managed infrastructure, as shown above.
  There is no undo. Only 'yes' will be accepted to confirm.

  Enter a value: yes

docker_image.ubuntu: Destroying... [id=sha256:edbfe74c41f8a3501ce542e137cf28ea04dd03e6df8c9d66519b6ad761c2598aubuntu:lat
est]
docker_image.ubuntu: Destruction complete after 1s

Destroy complete! Resources: 1 destroyed.
PS C:\Users\INFT\Desktop\Terraform_scripts\Docker>
```



```
PS C:\Users\INFT\Desktop\Terraform_scripts\Docker> docker images
REPOSITORY   TAG       IMAGE ID   CREATED   SIZE
PS C:\Users\INFT\Desktop\Terraform_scripts\Docker>
```