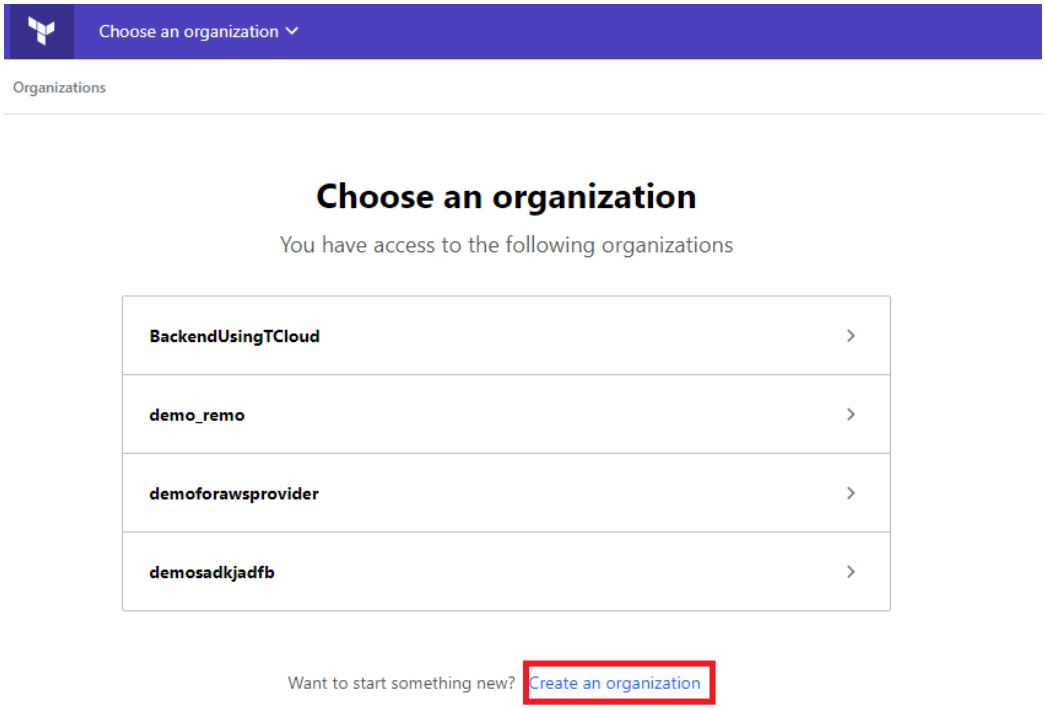
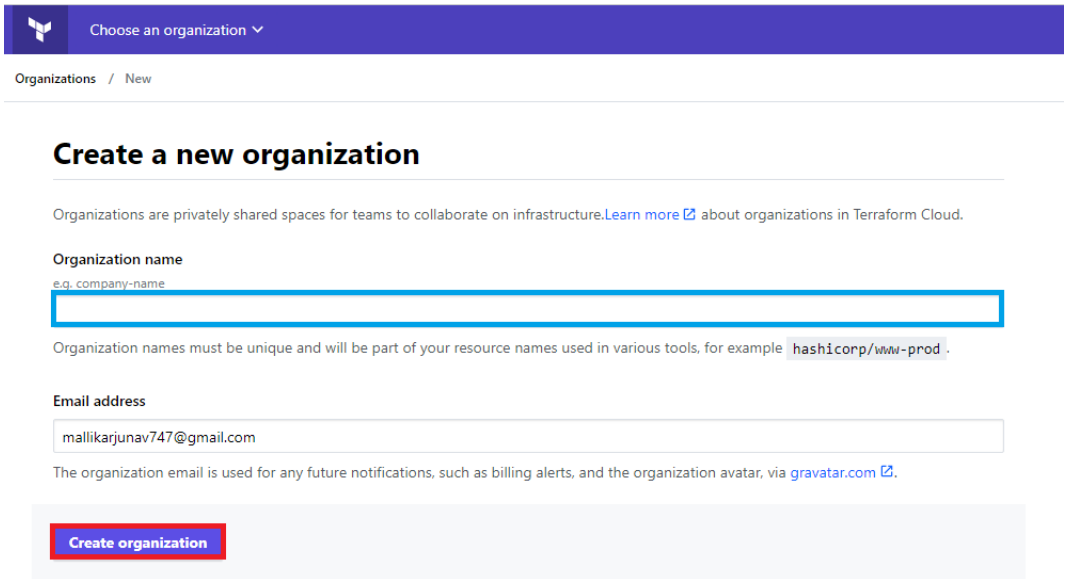
Implementing Remote Backend Operations in Terraform Cloud

Create a Terraform Cloud Workspace using Terraform:

1. Login Your Terraform Cloud Account. Create New Organization.

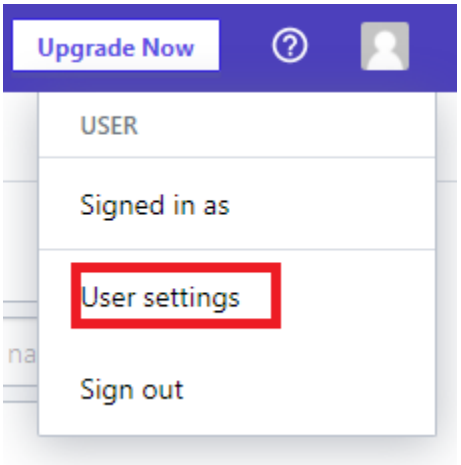


2. Enter Your Organization Name Below and click create.

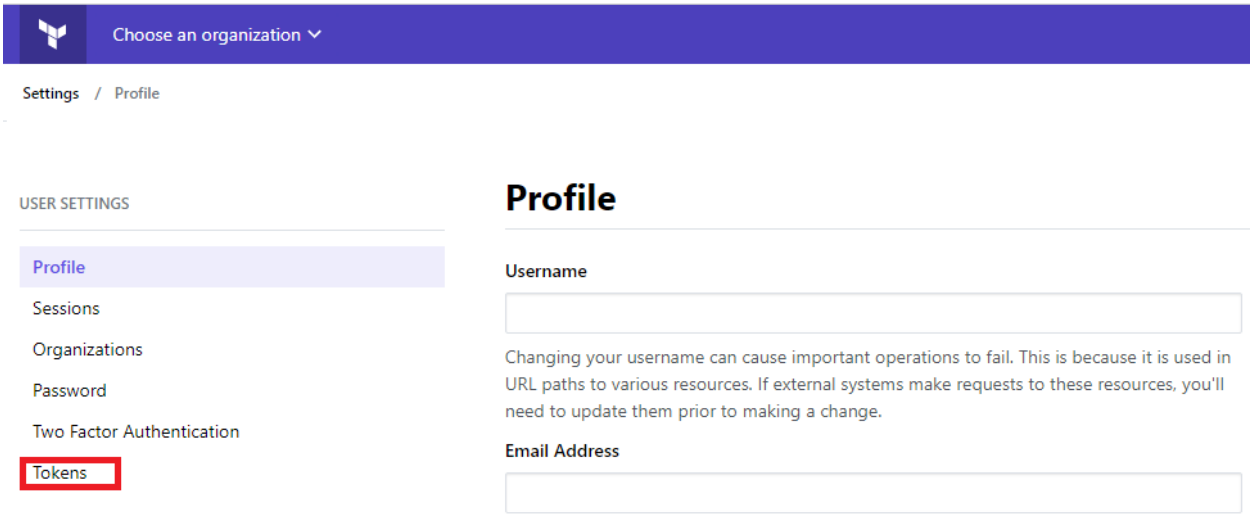


3. Next click on Account symbol.

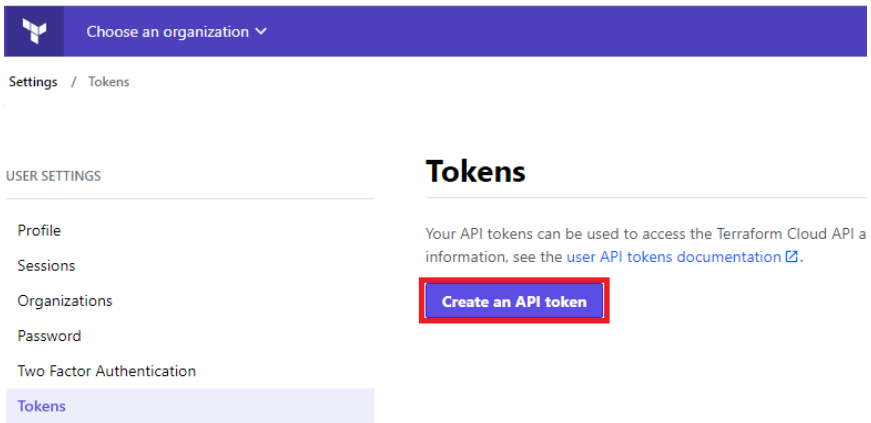
4. Goto User Settings.



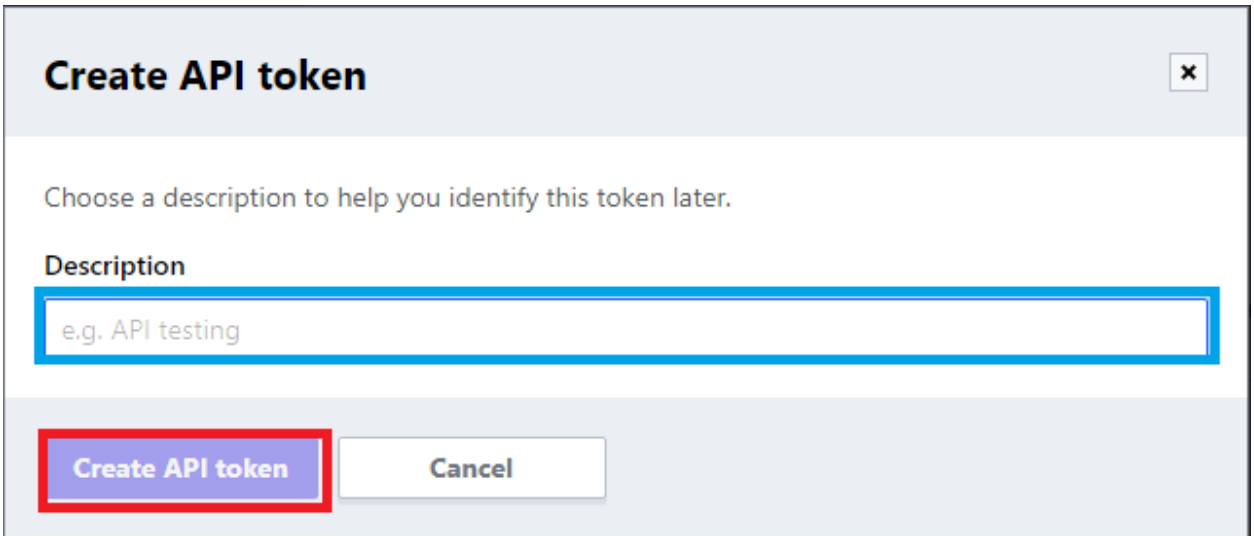
5. Click on Tokens.



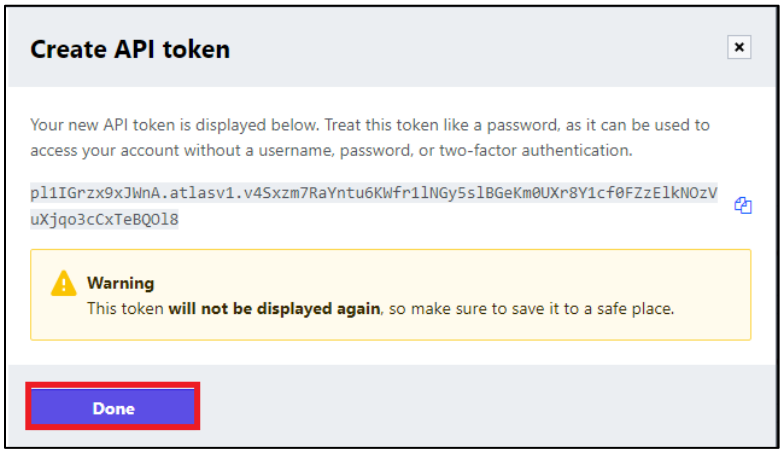
6.Click on Create Token .



7. Next enter default description for token and click create API.



8. Copy and paste the token ID for future reference and close window.



9. Next goto your terraform installation terminal. Click on terraform login.

```
ubuntu@ip-172-31-6-187:~/back$ terraform login
Terraform will request an API token for app.terraform.io using your browser.

If login is successful, Terraform will store the token in plain text in
the following file for use by subsequent commands:
    /home/ubuntu/.terraform.d/credentials.tfrc.json

Do you want to proceed? (y/n) y
Open the following URL to access the tokens page for app.terraform.io:
    https://app.terraform.io/app/settings/tokens?source=terraform-login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Generate a token using your browser, and copy-paste it into this prompt.

Terraform will store the token in plain text in the following file
for use by subsequent commands:
    /home/ubuntu/.terraform.d/credentials.tfrc.json

Token for app.terraform.io:

Retrieved token for user ARJUN397


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Success! Terraform has obtained and saved an API token.

The new API token will be used for any future Terraform command that must make
authenticated requests to app.terraform.io.
```

10. You can create one directory go to the directory and create main.tf file. The file contains following code.

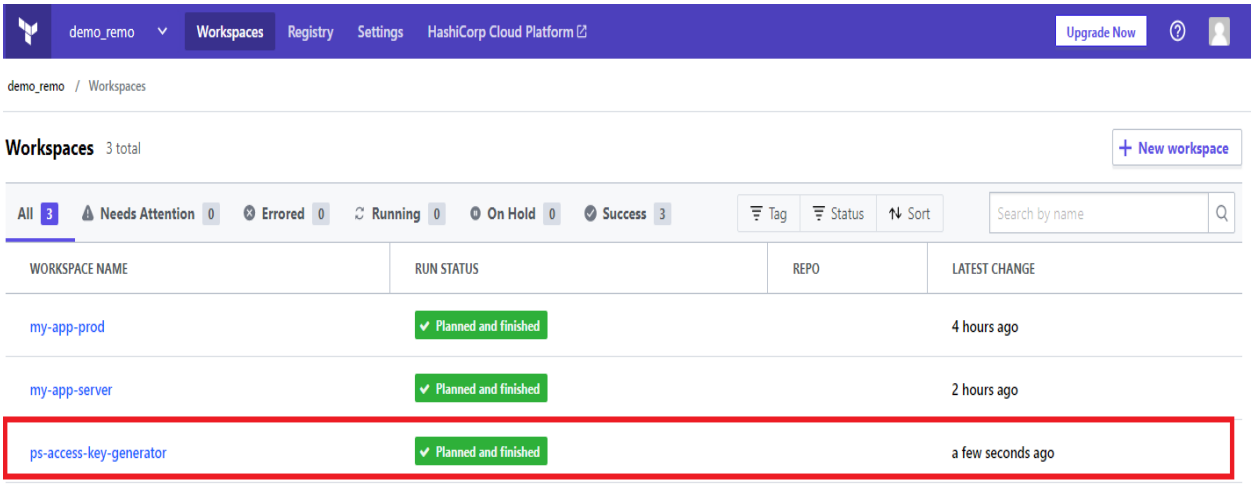
```
terraform {
 backend "remote" {
  hostname     = "app.terraform.io"
  organization = "my-pablosspot"
  workspaces {
   name = "ps-access-key-generator"
  }
 }
}
```

11. Next you can do terraform init and terraform apply.

```
ubuntu@ip-172-31-6-187:~/work$ terraform init

Initializing the backend...

Successfully configured the backend "remote"! Terraform will automatically
use this backend unless the backend configuration changes.

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.
```

```
ubuntu@ip-172-31-6-187:~/work$ terraform apply
Running apply in the remote backend. Output will stream here. Pressing Ctrl-C
will cancel the remote apply if it's still pending. If the apply started it
will stop streaming the logs, but will not stop the apply running remotely.

Preparing the remote apply...

To view this run in a browser, visit:
https://app.terraform.io/app/demo_remo/ps-access-key-generator/runs/run-VrMrvgXMLW1Zbphc

Waiting for the plan to start...

Terraform v0.12.24
Configuring remote state backend...
Initializing Terraform configuration...
2021/11/16 12:14:17 [DEBUG] Using modified User-Agent: Terraform/0.12.24 TFC/5c39849adc
Refreshing Terraform state in-memory prior to plan...
The refreshed state will be used to calculate this plan, but will not be
persisted to local or remote state storage.


------------------------------------------------------------------------

No changes. Infrastructure is up-to-date.

This means that Terraform did not detect any differences between your
configuration and real physical resources that exist. As a result, no
actions need to be performed.
```

12. Once Apply Complete Check in your Terraform cloud.



13. Implementing Backend Operations in terraform. First we can create one s3 bucket. Next we can create backend.tf file .The file contains following code.

```
terraform {
 backend "s3" {
  bucket = "backenddemo"
  key = "terraform.tfstate"
  region = "ap-south-1"
  encrypt= "false"
 }
}
```

14. next install aws cli using sudo apt-get install awscli command. After the add aws configurations using aws configure command.

```
ubuntu@ip-172-31-6-187:~/back$ aws configure
AWS Access Key ID [****************R357]: AKIAUZBJNUI7NTZDR357
AWS Secret Access Key [****************1brT]: 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
Default region name [ap-south-1]: ap-south-1
Default output format [json]: json
```

15. After that you have to do terraform init.

```
ubuntu@ip-172-31-6-187:~/work$ terraform init

Initializing the backend...

Successfully configured the backend "remote"! Terraform will automatically
use this backend unless the backend configuration changes.

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.
```

16. Next do terraform apply.

```
ubuntu@ip-172-31-6-187:~$ terraform apply

Apply complete! Resources: 0 added, 0 changed, 0 destroyed.
```

17. After go to AWS console s3 bucket check it.