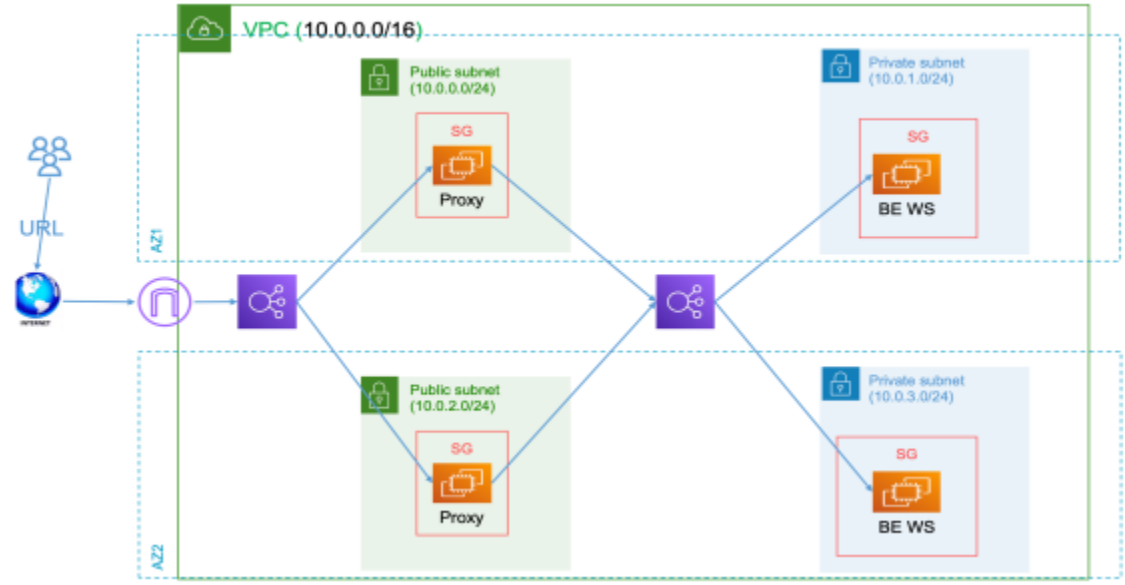
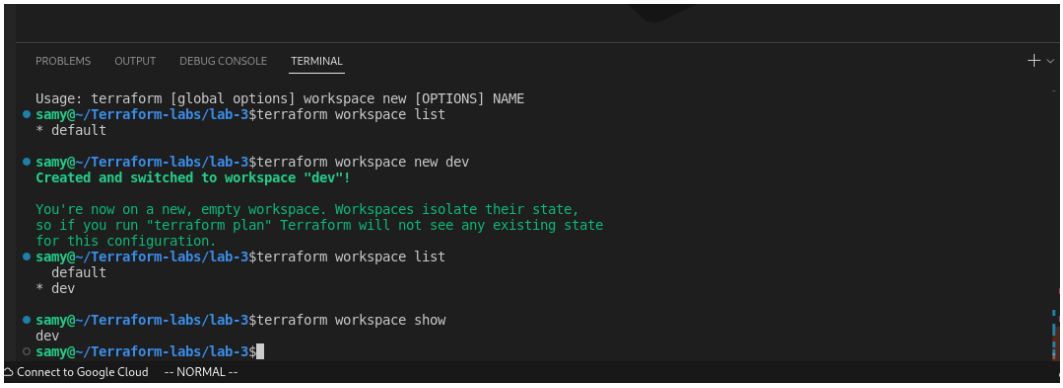
Lab :
1- Don’t work on the default Workspace Create a new workspace called dev
2- Using custom not public modules to implement the below diagram
3- remote bucket For statefile
4- Use remote provisioner to install apache or proxy in machines then use local-exec to print all the ips to a file called all-ips.txt with format
public-ip1 1.1.1.1
public-ip2 2.2.2.2
5- Use the datasource to get the image id for ec2
6- The first Loadbalancer is public , and the other one that will send thee traffic to the private machines will be private
7- Github URl with the below inn it:
a. Code
b. Screenshot from creating and working on workspace dev
c. Screenshot from the configuration of the proxy
d. Screenshot from the public dns of the load balancer when you send a traffic to it from a browser and it returns the content of the private ec2s
e. Screenshot from the s3 that contain the state file



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

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

Do you want to perform these actions in workspace 'dev'?
  Terraform will perform the actions described above.
  Only 'yes' will be accepted to approve.

  Enter a value: yes

module.route_table.aws_route_table.private_route_table: Modifying... [id=rtb-06f77aaac30356fc2]
module.route_table.aws_route_table.private_route_table: Modifications complete after 1s [id=rtb-06f77aaac30356fc2]
Releasing state lock. This may take a few moments...

Apply complete! Resources: 0 added, 1 changed, 0 destroyed.
samy@~/Terraform-labs/lab-3$terraform workspace list
  default
* dev

samy@~/Terraform-labs/lab-3$
```

File Edit Selection View Go Run Terminal Help

main.tf

home > samy > Terraform-labs > lab-3 > ec2_instance > main.tf > resource "aws_instance" "private_ec2" > ami

```
13
14  resource "aws_instance" "public_ec2" {
15    ami = data.aws_ami.ubuntu.id
16    instance_type = var.instance_type
17    associate_public_ip_address = true
18    count = 2
19    subnet_id = var.subnet_id[count.index]
20    vpc_security_group_ids = [var.security_group_id]
21    key_name = var.ssh_key_name
22    provisioner "remote-exec" {
23      inline = [
24        "sudo apt update -y",
25        "sudo apt install -y nginx",
26        "sudo systemctl start nginx",
27        "sudo systemctl enable nginx",
28        "sudo unlink /etc/nginx/sites-enabled/default",
29        "sudo sh -c 'echo \"server { \n listen 80; \n location / { \n proxy_pass http://${var.private_lb_dns}; \n } \n }\" > /etc/nginx/sites-availabl
30        "sudo ln -s /etc/nginx/sites-available/reverse-proxy.conf /etc/nginx/sites-enabled/reverse-proxy.conf",
31        "sudo systemctl restart nginx"
32      ]
33     connection {
34        type        = "ssh"
35        user        = "ubuntu"
36        private_key = file("./new-key.pem")
37        host        = self.public_ip
38        timeout = "4m"
39      }
40    }
41    provisioner "local-exec" {
42      command = "echo ${self.public_ip} >> ./all-ips.txt"
43    }
```

⊗ 0 ⚠ 0  Cloud Code  Connect to Google Cloud  -- NORMAL --  Ln 47, Col 33  Spaces: 2  UTF-8  LF  { } Terraform

Not secure | public-lb-1635016295.us-east-1.elb.amazonaws.com

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ubuntu

# Apache2 Ubuntu Default Page

**It works!**

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at `/var/www/html/index.html`) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

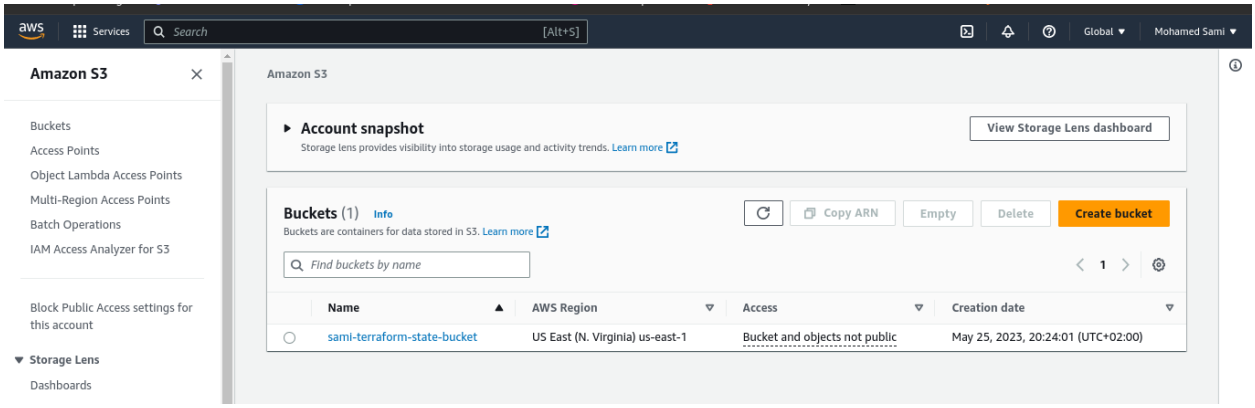
## Configuration Overview

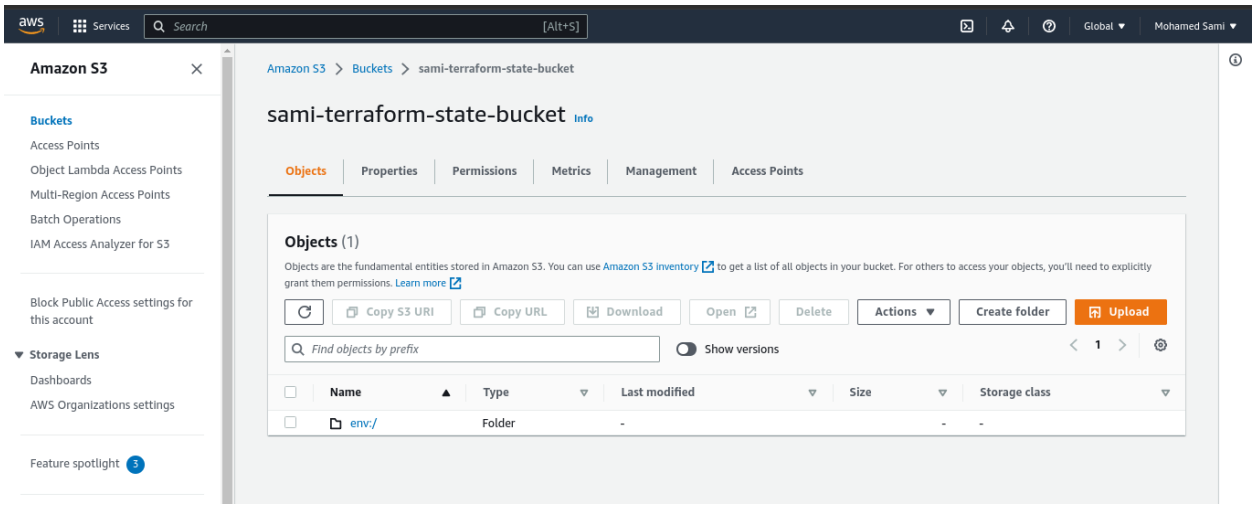
Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the `apache2-doc` package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|       `--  ports.conf
|-- mods-enabled
|       |-- *.load
|       `-- *.conf
|-- conf-enabled
|       `-- *.conf
|-- sites-enabled
|       `-- *.conf
```

- `apache2.conf` is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.


aws
Services
Search
[Alt+S]
Global
Mohamed Sami
Amazon S3
Buckets
Access Points
Object Lambda Access Points
Multi-Region Access Points
Batch Operations
IAM Access Analyzer for S3
Block Public Access settings for this account
Storage Lens
Dashboards
Amazon S3
Account snapshot
Storage lens provides visibility into storage usage and activity trends. Learn more
View Storage Lens dashboard
Buckets (1) Info
Buckets are containers for data stored in S3. Learn more
Copy ARN
Empty
Delete
Create bucket
Find buckets by name
Name
AWS Region
Access
Creation date
sami-terraform-state-bucket
US East (N. Virginia) us-east-1
Bucket and objects not public
May 25, 2023, 20:24:01 (UTC+02:00)


aws
Services
Search
[Alt+S]
Global
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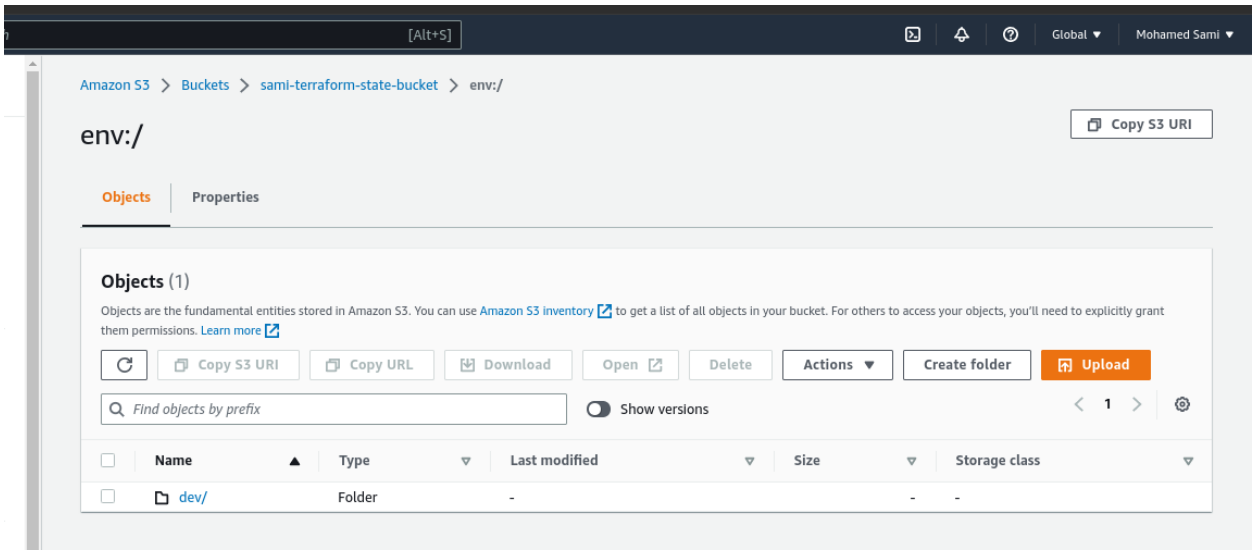
Amazon S3
Buckets
Access Points
Object Lambda Access Points
Multi-Region Access Points
Batch Operations
IAM Access Analyzer for S3
Block Public Access settings for this account
Storage Lens
Dashboards
AWS Organizations settings
Feature spotlight 3
Amazon S3 > Buckets > sami-terraform-state-bucket
sami-terraform-state-bucket Info
Objects
Properties
Permissions
Metrics
Management
Access Points
Objects (1)
Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. Learn more
Copy S3 URI
Copy URL
Download
Open
Delete
Actions
Create folder
Upload
Find objects by prefix
Show versions
Name
Type
Last modified
Size
Storage class
env:/
Folder


[Alt+S]
Global
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Amazon S3 > Buckets > sami-terraform-state-bucket > env:/
env:/
Copy S3 URI
Objects
Properties
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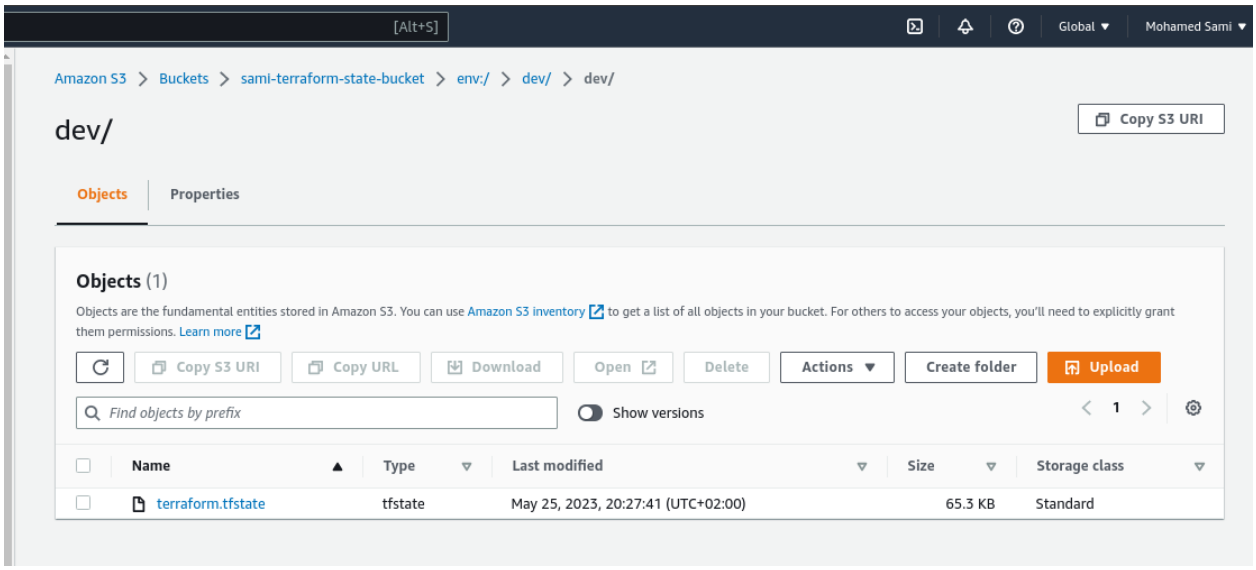
Copy S3 URI
Copy URL
Download
Open
Delete
Actions
Create folder
Upload
Find objects by prefix
Show versions
Name
Type
Last modified
Size
Storage class
dev/
Folder


[Alt+S]
Global
Mohamed Sami
Amazon S3 > Buckets > sami-terraform-state-bucket > env:/ > dev/ > dev/
dev/
Copy S3 URI
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Copy URL
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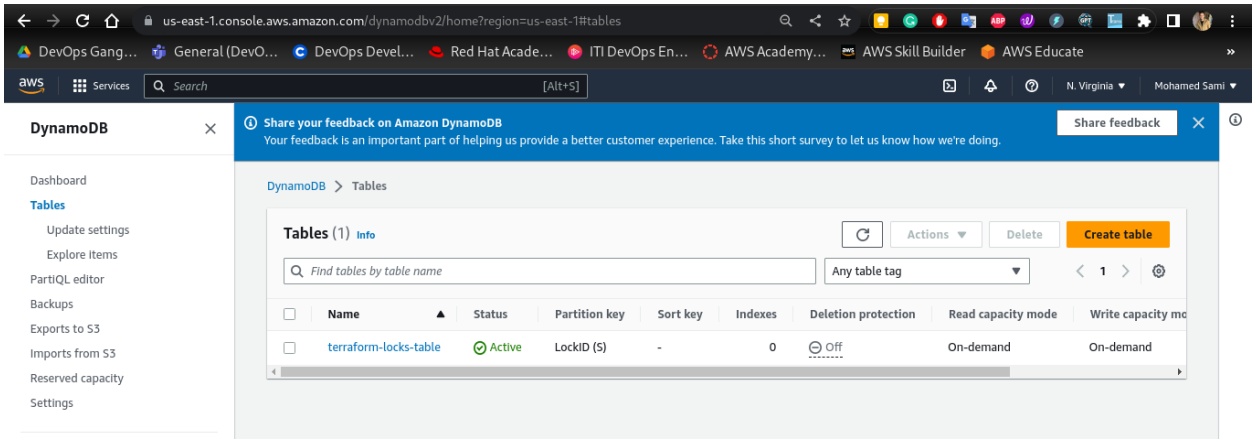
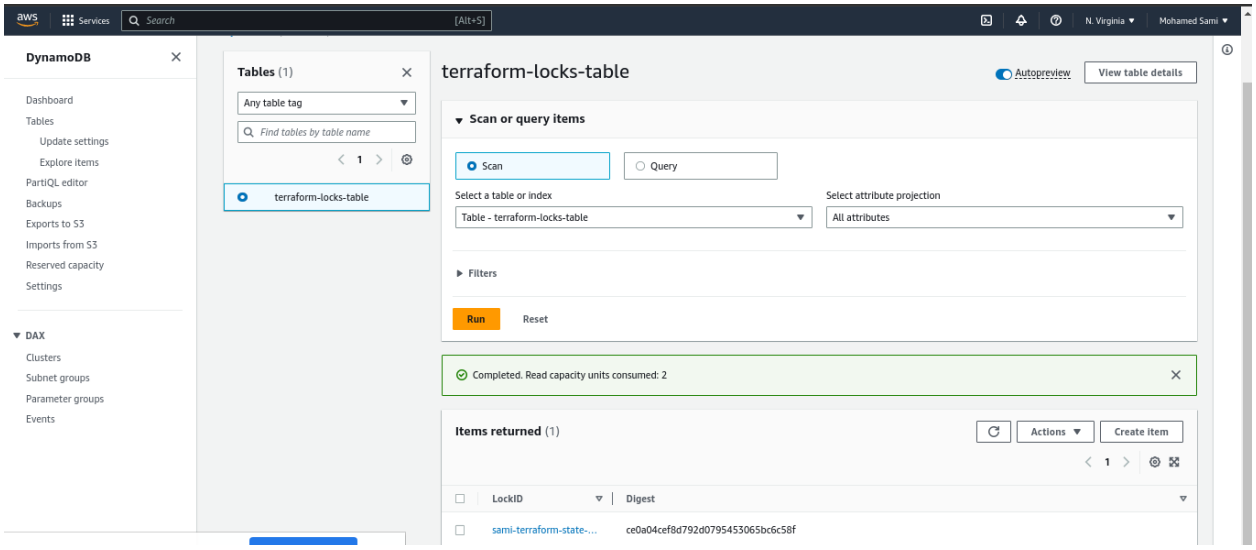
Open
Delete
Actions
Create folder
Upload
Find objects by prefix
Show versions
Name
Type
Last modified
Size
Storage class
terraform.tfstate
tfstate
May 25, 2023, 20:27:41 (UTC+02:00)
65.3 KB
Standard


us-east-1.console.aws.amazon.com/dynamodbv2/home?region=us-east-1#tables
DevOps Gang...
General (DevO...
DevOps Devel...
Red Hat Acade...
ITI DevOps En...
AWS Academy...
AWS Skill Builder
AWS Educate
Services
Search
[Alt+S]
N. Virginia
Mohamed Sami
DynamoDB
Dashboard
Tables
Update settings
Explore items
PartiQL editor
Backups
Exports to S3
Imports from S3
Reserved capacity
Settings
Share your feedback on Amazon DynamoDB
Your feedback is an important part of helping us provide a better customer experience. Take this short survey to let us know how we're doing.
Share feedback
DynamoDB > Tables
Tables (1) Info
Actions
Delete
Create table
Find tables by table name
Any table tag
Name
Status
Partition key
Sort key
Indexes
Deletion protection
Read capacity mode
Write capacity mo
terraform-locks-table
Active
LockID (S)
-
0
Off
On-demand
On-demand


Services
Search
[Alt+S]
N. Virginia
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DynamoDB
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Exports to S3
Imports from S3
Reserved capacity
Settings
DAX
Clusters
Subnet groups
Parameter groups
Events
Tables (1)
Any table tag
Find tables by table name
terraform-locks-table
terraform-locks-table
Autopreview
View table details
Scan or query items
Scan
Query
Select a table or index
Table - terraform-locks-table
Select attribute projection
All attributes
Filters
Run
Reset
Completed. Read capacity units consumed: 2
Items returned (1)
Actions
Create item
LockID
Digest
sami-terraform-state-...
ce0a04cef8d792d0795453065bc6c58f