Task 3, Creating docker files and Kubernetes yaml manifests.

Here we generate the docker images and Kubernetes .yaml files.

As we are running the MongoDB using MongoDB Atlas, we do not need to worry about running the database on a separate pod to retain persistence ourselves.

The Connections are achieved using the connection uri stored in the .env files

Getting Started

To run this project, you will need

Java 11+

Maven 3.6+

Docker Desktop application

Installation

git clone

https://github.com/NikhilKumar2444/Kaiburr-Task-

3.git

To create the docker image locally:

Startup command prompt

Navigate to the local repository docker

build -t crudkaiburr8:latest .

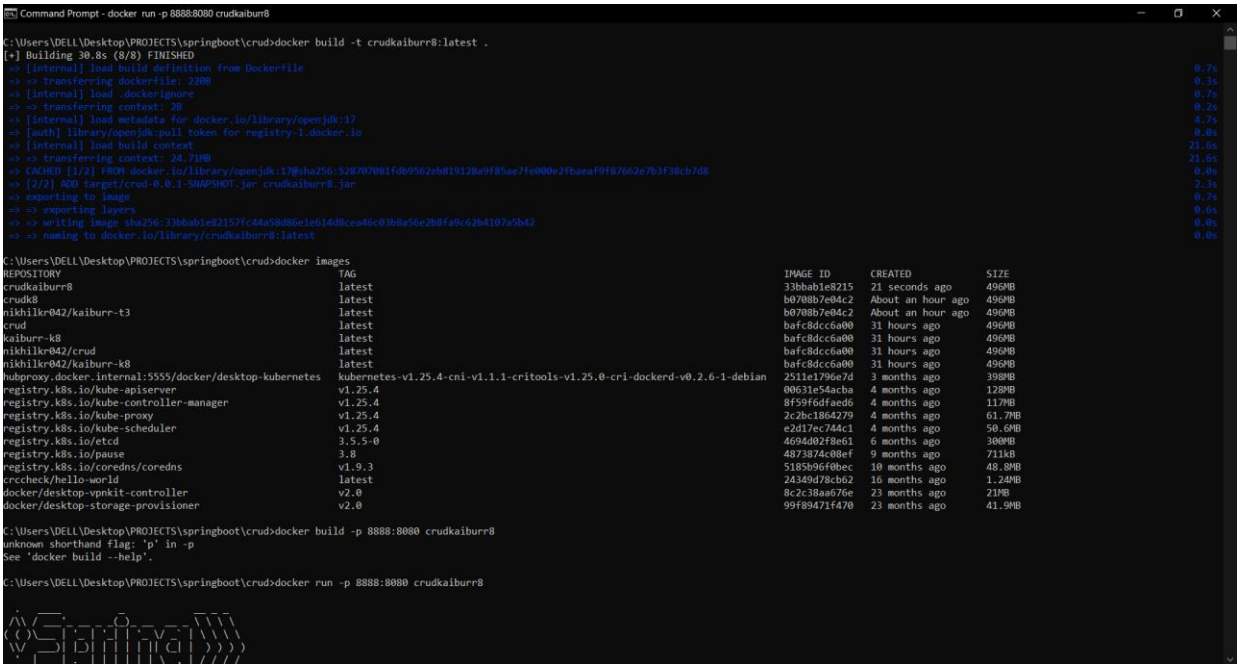
To run: docker run -p 8888:8080 crudkaiburr8

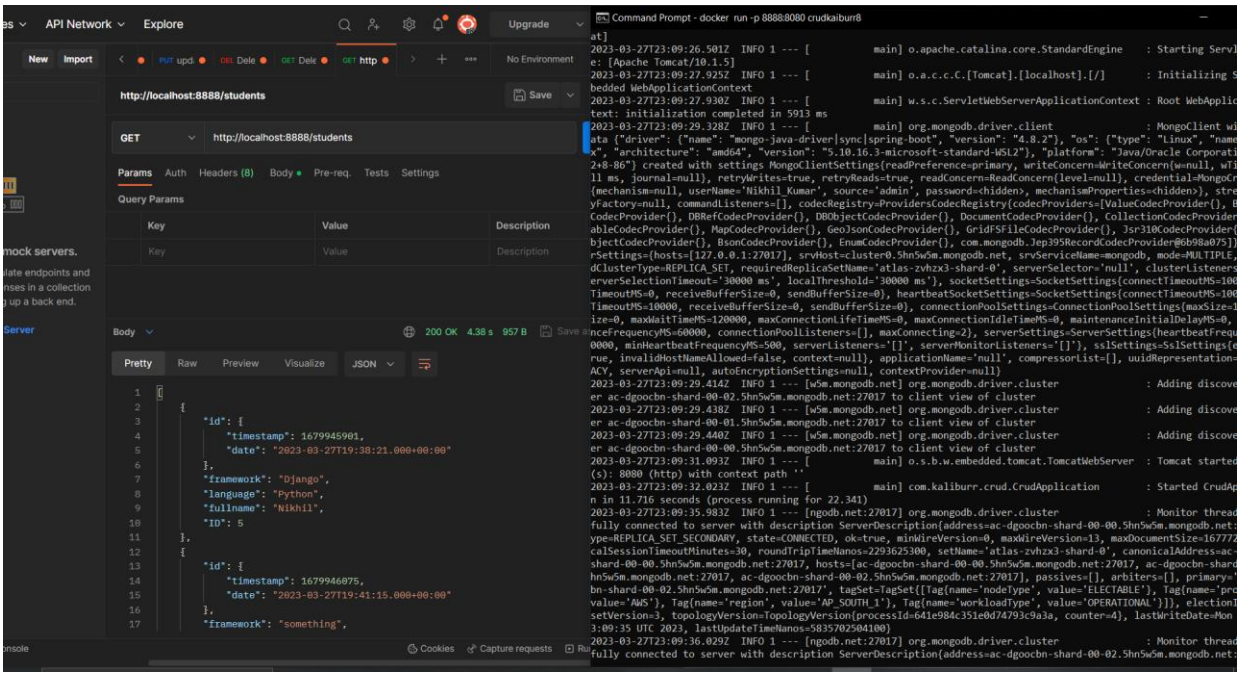
Start PowerShell (Windows)/Terminal (Mac) - Navigate to installation directory : kubectl apply -f k8s.yaml

The REST API should be available on port :8080

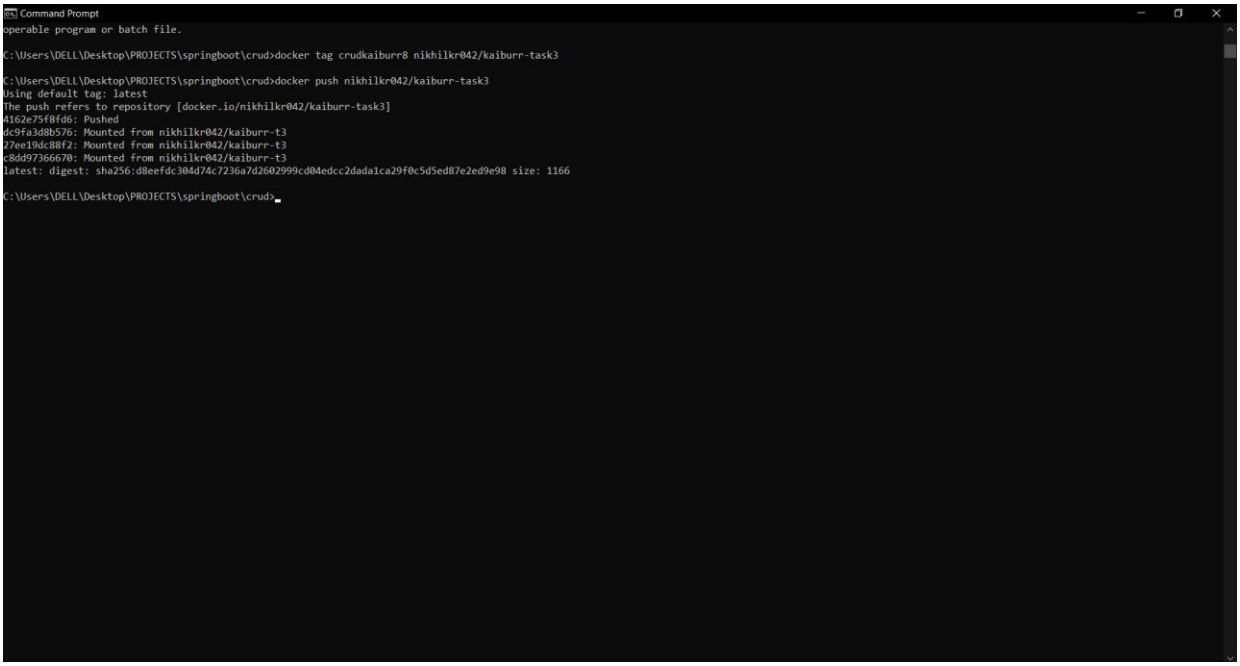
Output Screenshots

Creating Docker image and running on port:8888





Pushing docker image to docker hub


Command Prompt
operable program or batch file.
C:\Users\DELL\Desktop\PROJECTS\springboot\crud>docker tag crudkaiburr8 nikhilkr042/kaiburr-task3
C:\Users\DELL\Desktop\PROJECTS\springboot\crud>docker push nikhilkr042/kaiburr-task3
Using default tag: latest
The push refers to repository [docker.io/nikhilkr042/kaiburr-task3]
4162e75f8fd6: Pushed
dc9fa3d8b576: Mounted from nikhilkr042/kaiburr-t3
27ee19dc88f2: Mounted from nikhilkr042/kaiburr-t3
c8dd97366670: Mounted from nikhilkr042/kaiburr-t3
latest: digest: sha256:d8eefdc304d74c7236a7d2602999cd04edcc2dada1ca29f0c5d5ed87e2ed9e98 size: 1166
C:\Users\DELL\Desktop\PROJECTS\springboot\crud>

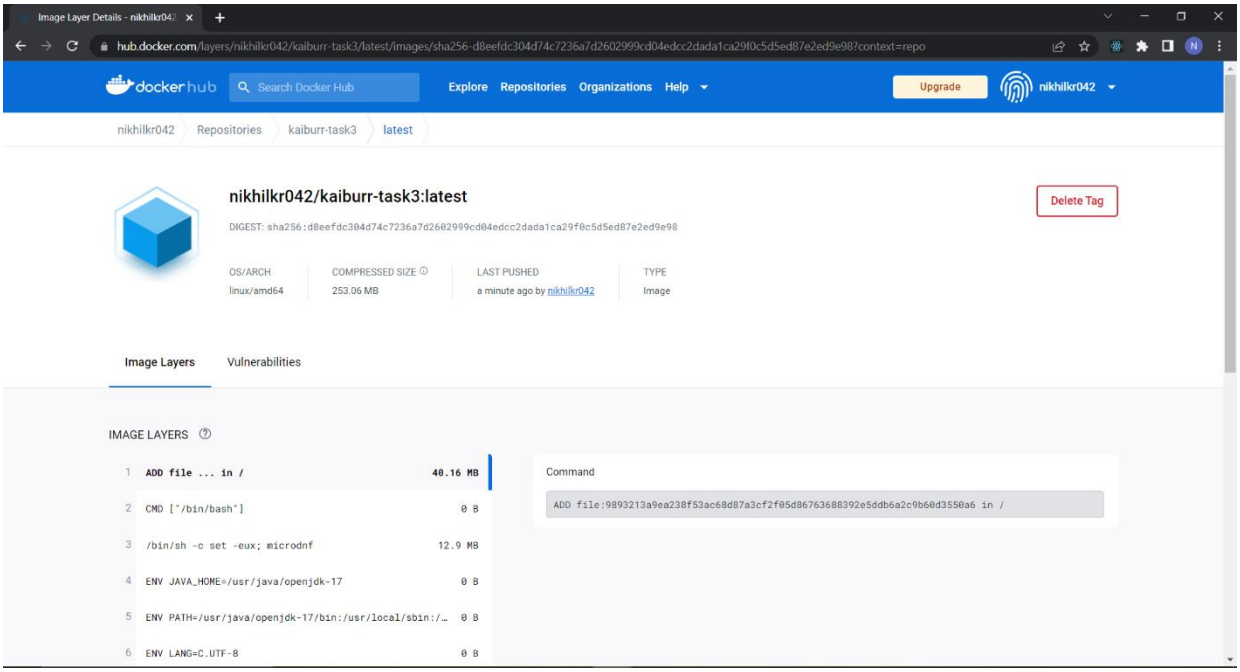
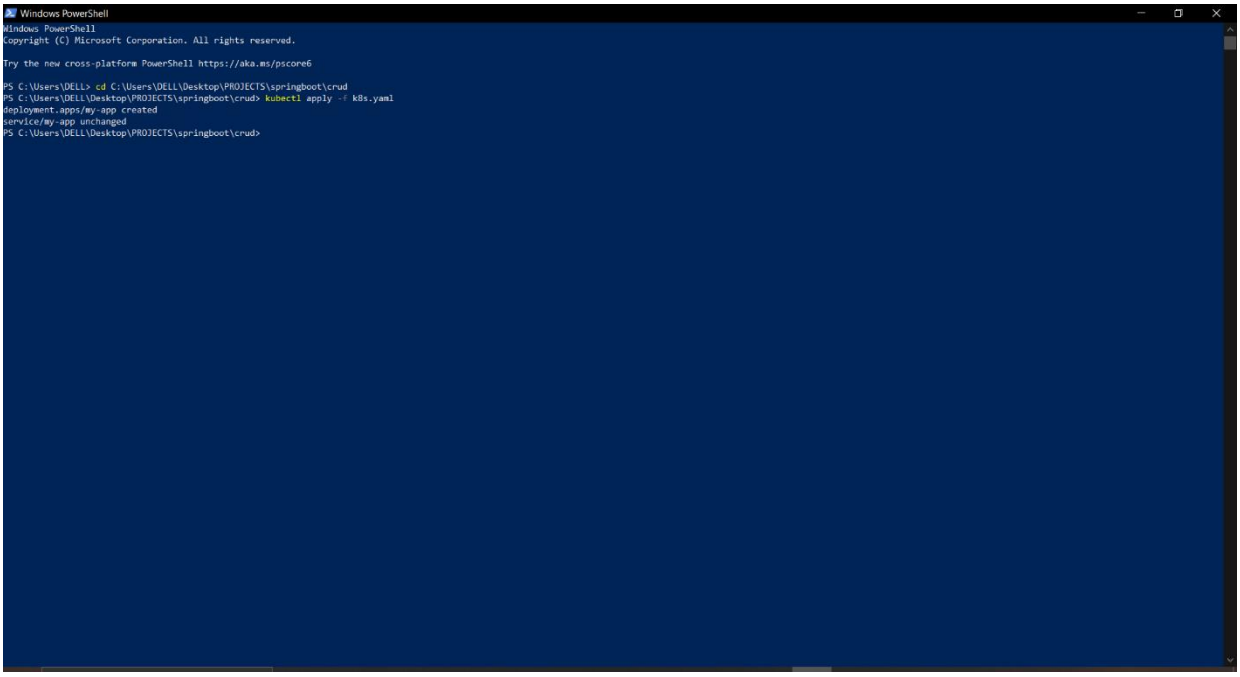
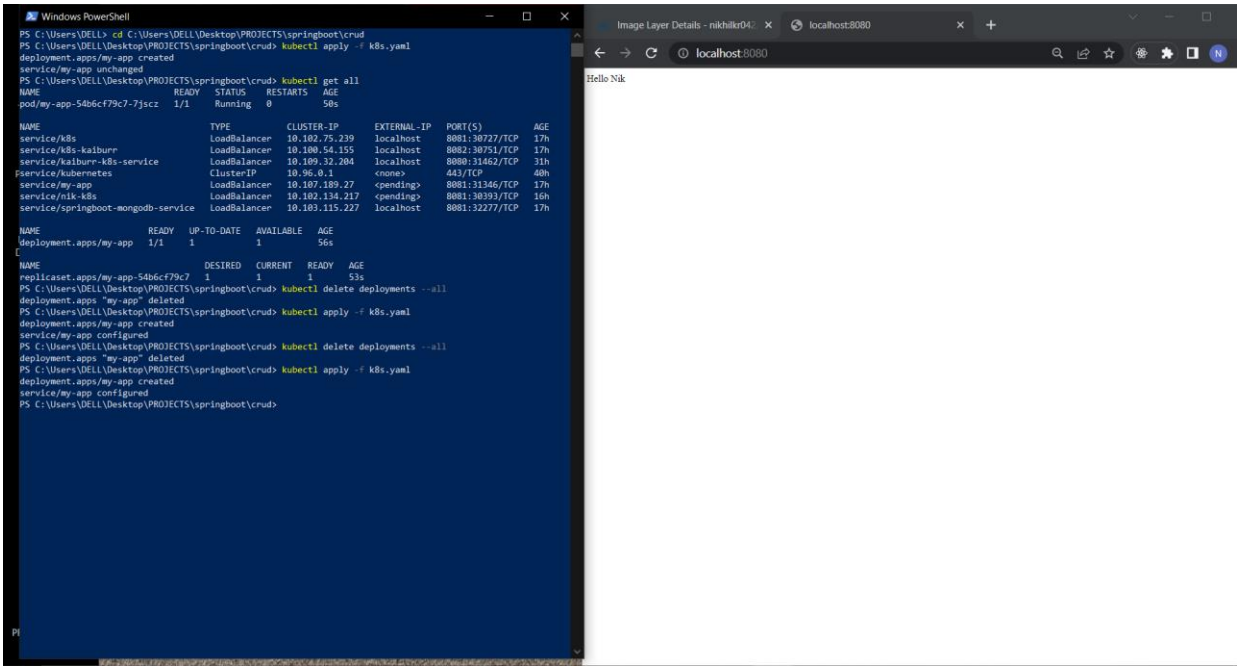


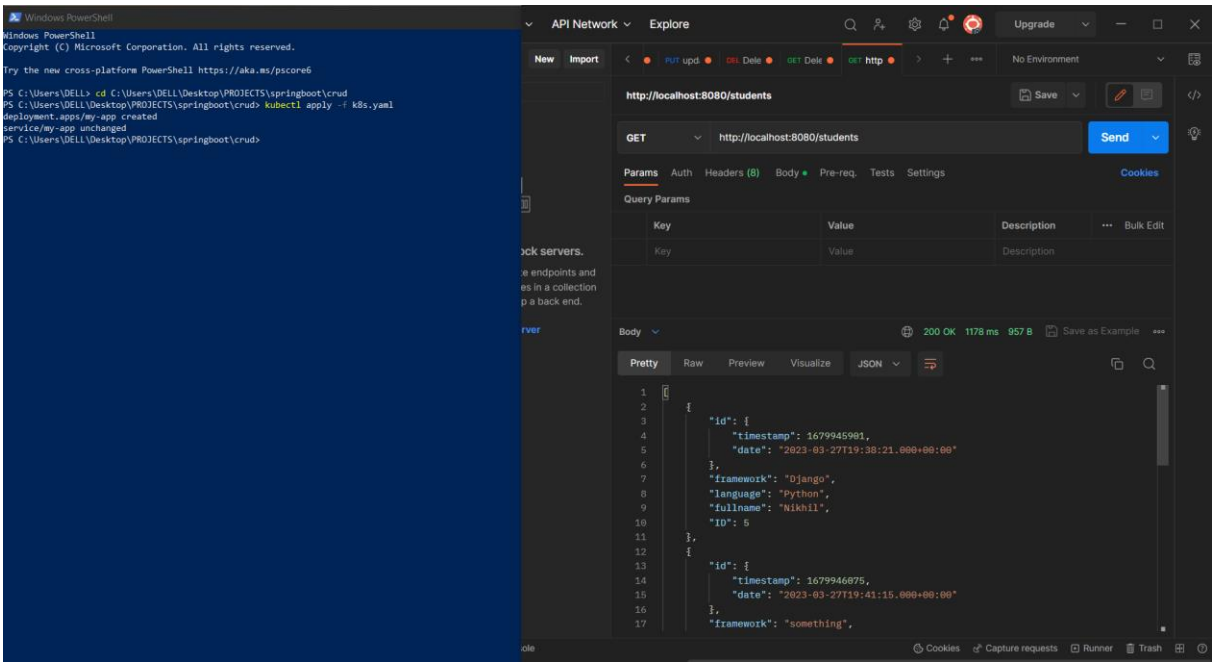
Image Layer Details - nikhilkr042
hub.docker.com/layers/nikhilkr042/kaiburr-task3/latest/images/sha256-d8eefdc304d74c7236a7d2602999cd04edcc2dada1ca29f0c5d5ed87e2ed9e98?context=repo
docker hub
Search Docker Hub
Explore
Repositories
Organizations
Help
Upgrade
nikhilkr042
nikhilkr042
Repositories
kaiburr-task3
latest
nikhilkr042/kaiburr-task3:latest
DIGEST: sha256:d8eefdc304d74c7236a7d2602999cd04edcc2dada1ca29f0c5d5ed87e2ed9e98
Delete Tag
OS/ARCH
linux/amd64
COMPRESSED SIZE
253.06 MB
LAST PUSHED
a minute ago by nikhilkr042
TYPE
Image
Image Layers
Vulnerabilities
IMAGE LAYERS
1 ADD file ... in / 40.16 MB
2 CMD ["/bin/bash"] 0 B
3 /bin/sh -c set -eux; microdnf 12.9 MB
4 ENV JAVA_HOME=/usr/java/openjdk-17 0 B
5 ENV PATH=/usr/java/openjdk-17/bin:/usr/local/sbin:/… 0 B
6 ENV LANG=C.UTF-8 0 B
Command
ADD file:9893213a9ea238f53ac68d87a3cf2f05d86763688392e5ddb6a2c9b60d3550a6 in /

Using the kubernetes yaml manifest



Running on port 8080:


Windows PowerShell
PS C:\Users\DELL> cd C:\Users\DELL\Desktop\PROJECTS\springboot\crud
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud> kubectl apply -f k8s.yaml
deployment.apps/my-app created
service/my-app unchanged
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud> kubectl get all
NAME READY STATUS RESTARTS AGE
pod/my-app-54b6cf79c7-7jscz 1/1 Running 0 50s
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
service/k8s LoadBalancer 10.102.75.239 localhost 8081:30727/TCP 17h
service/k8s-kaiburr LoadBalancer 10.100.54.155 localhost 8082:30751/TCP 17h
service/kaiburr-k8s-service LoadBalancer 10.109.32.204 localhost 8080:31462/TCP 31h
service/kubernetes ClusterIP 10.96.0.1 <none> 443/TCP 40h
service/my-app LoadBalancer 10.107.189.27 <pending> 8081:31346/TCP 17h
service/nik-k8s LoadBalancer 10.102.134.217 <pending> 8081:30393/TCP 16h
service/springboot-mongodb-service LoadBalancer 10.103.115.227 localhost 8081:32277/TCP 17h
NAME READY UP-TO-DATE AVAILABLE AGE
deployment.apps/my-app 1/1 1 1 56s
NAME DESIRED CURRENT READY AGE
replicaset.apps/my-app-54b6cf79c7 1 1 1 53s
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud> kubectl delete deployments --all
deployment.apps "my-app" deleted
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud> kubectl apply -f k8s.yaml
deployment.apps/my-app created
service/my-app configured
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud> kubectl delete deployments --all
deployment.apps "my-app" deleted
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud> kubectl apply -f k8s.yaml
deployment.apps/my-app created
service/my-app configured
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud>
Image Layer Details - nikhilkr04
localhost:8080
localhost:8080
Hello Nik


Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\DELL> cd C:\Users\DELL\Desktop\PROJECTS\springboot\crud
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud> kubectl apply -f k8s.yaml
deployment.apps/my-app created
service/my-app unchanged
PS C:\Users\DELL\Desktop\PROJECTS\springboot\crud>
API Network
Explore
Upgrade
New
Import
No Environment
http://localhost:8080/students
Save
GET
http://localhost:8080/students
Send
Params
Auth
Headers (8)
Body
Pre-req.
Tests
Settings
Cookies
Query Params
Key
Value
Description
Bulk Edit
Body
200 OK
1178 ms
957 B
Save as Example
Pretty
Raw
Preview
Visualize
JSON
{
"id": {
"timestamp": 1679945901,
"date": "2023-03-27T19:38:21.000+00:00"
},
"framework": "Django",
"language": "Python",
"fullname": "Nikhil",
"ID": 5
},
{
"id": {
"timestamp": 1679946075,
"date": "2023-03-27T19:41:15.000+00:00"
},
"framework": "something",
Cookies
Capture requests
Runner
Trash