

Dokumentasi deploy REST API di Kubernetes

1. Membuat file deployment.yaml

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: rest-api
  labels:
    name: rest-api
spec:
  replicas: 5
  selector:
    matchLabels:
      name: rest-api
  template:
    metadata:
      name: rest-api
      labels:
        name: rest-api
    spec:
      containers:
        - name: restapi-apps
          image: hkdock01/nodejs-restapi
          ports:
            - containerPort: 8080

---
apiVersion: v1
kind: Service
metadata:
  name: rest-api-service
spec:
  type: NodePort
  selector:
    name: rest-api
  ports:
    - port: 8080
      targetPort: 8080
      nodePort: 30001
```

2. Deploy ke Kubernetes dengan perintah kubectl apply -f deployment.yaml

```
ubuntu@ubuntu:~/nodejs-jwt-mongodb$ kubectl apply -f deployment.yaml
deployment.apps/rest-api created
service/rest-api-service created
```

3. Cek pod dan service yang sudah running

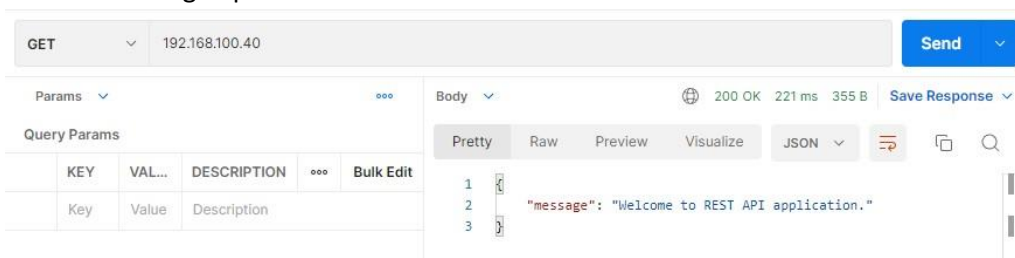
```
ubuntu@ubuntu:~/nodejs-jwt-mongodb$ kubectl get all
NAME                                READY   STATUS    RESTARTS   AGE
pod/rest-api-574cfd6d4-5d14l        1/1     Running   0           27s
pod/rest-api-574cfd6d4-bg8rh        1/1     Running   0           27s
pod/rest-api-574cfd6d4-c46ws        1/1     Running   0           27s
pod/rest-api-574cfd6d4-mpw9z        1/1     Running   0           27s
pod/rest-api-574cfd6d4-ndld4        1/1     Running   0           27s

NAME                                TYPE               CLUSTER-IP   EXTERNAL-IP   PORT(S)          AGE
service/kubernetes                  ClusterIP          10.96.0.1    <none>         443/TCP          9d
service/rest-api-service            NodePort           10.97.34.34  <none>         8080:30001/TCP   27s

NAME                                READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/rest-api            5/5     5             5           27s

NAME                                DESIRED   CURRENT   READY   AGE
replicaset.apps/rest-api-574cfd6d4  5         5         5       27s
```

4. Access API dengan postman



5. Membuat user dengan nama admin role admin dan user role user

The first screenshot shows a POST request to `192.168.100.40/api/auth/signup` with a JSON body for an admin user. The response is a 200 OK status with a message: "User was registered successfully!".

```
POST 192.168.100.40/api/auth/signup
```

```
{  "username": "admin",  "email": "admin@mail.com",  "password": "12345678",  "roles": ["admin"]}
```

The second screenshot shows a POST request to the same endpoint with a JSON body for a user. The response is also a 200 OK status with a message: "User was registered successfully!".

```
POST 192.168.100.40/api/auth/signup
```

```
{  "username": "user",  "email": "user@mail.com",  "password": "12345678",  "roles": ["user"]}
```

6. Cek di database, user sudah ter-create

_id	roles	username	email	password	_v
631772a4c847ebf4852b5569	(Array) 1 Element	user	user@mail.com	\$2a\$08\$QVkywTRM6/mvghv	1
631772d9c847ebc46d2b5571	(Array) 1 Element	admin	admin@mail.com	\$2a\$08\$sz4lhLy2KYTppu46l	1

7. Untuk melihat list tutorial dengan endpoint `/api/user` , `/api/admin`. Karena belum signup maka muncul "No token provided!"

The first screenshot shows a GET request to `192.168.100.40/api/user`. The response is a 403 Forbidden status with a message: "No token provided!".

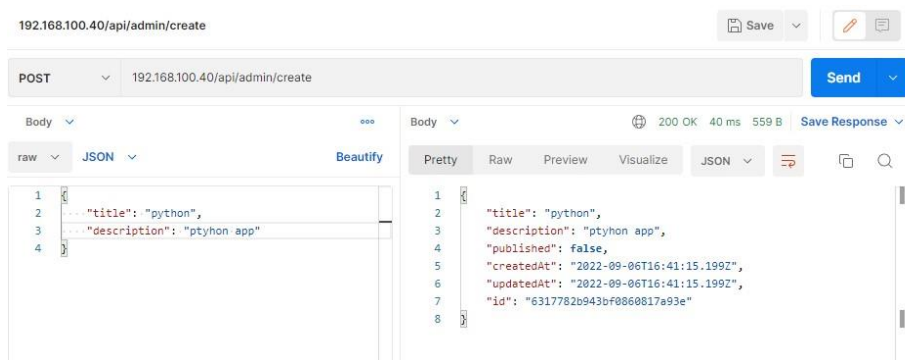
```
GET 192.168.100.40/api/user
```

The second screenshot shows a GET request to `192.168.100.40/api/admin`. The response is also a 403 Forbidden status with a message: "No token provided!".

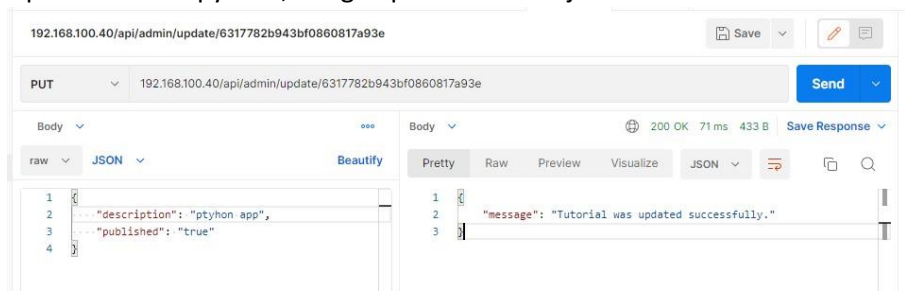
```
GET 192.168.100.40/api/admin
```

10. Melihat list tutorial sudah bisa di akses

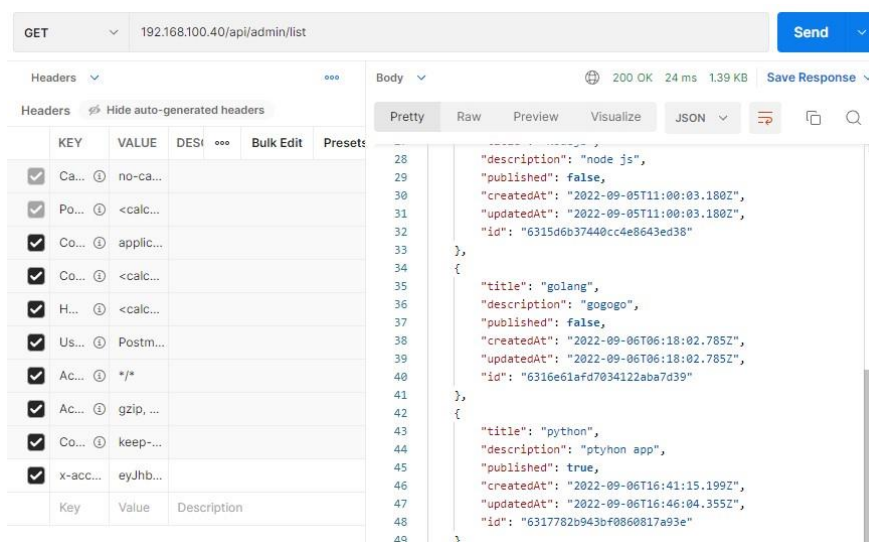
11. Create tutorial baru



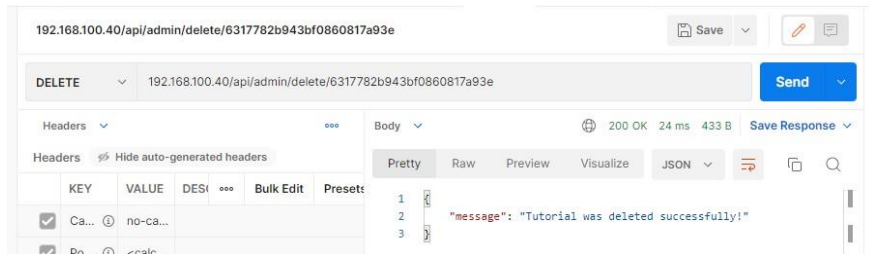
12. Update tutorial python, dengan published menjadi true



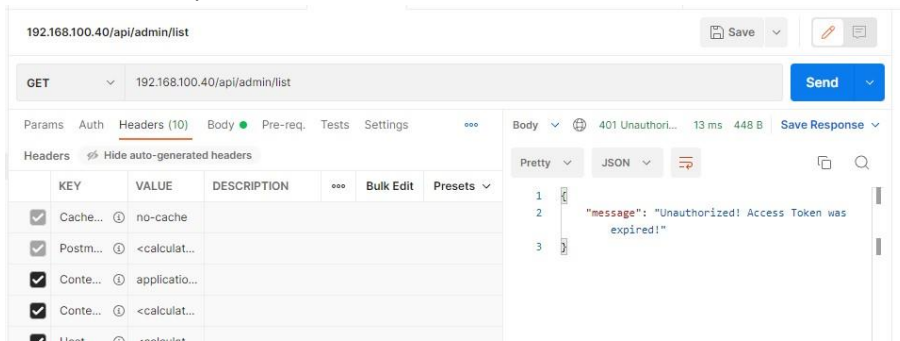
13. Cek tutorial pyhton yang sudah terupdate



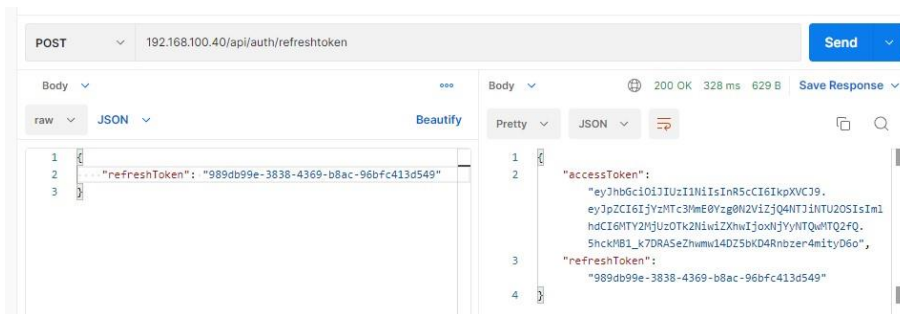
14. Delete tutorial python dengan id "6317782b943bf0860817a93e"



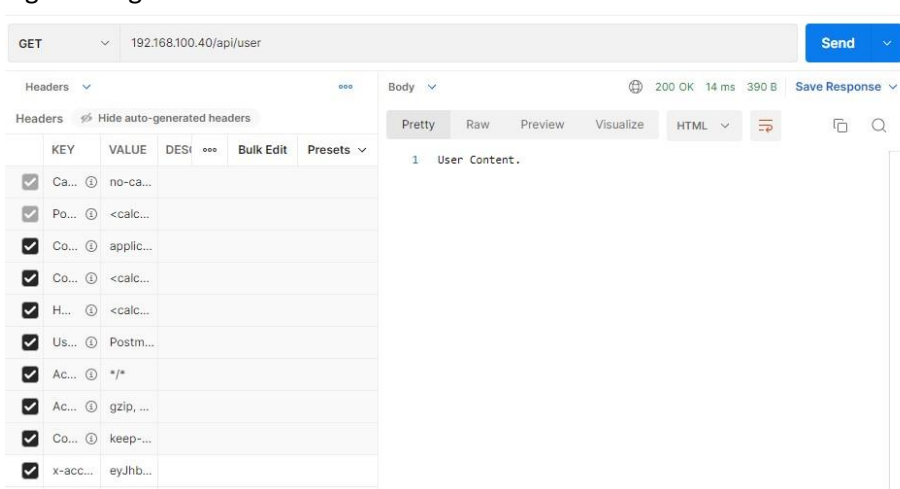
15. Access token expired



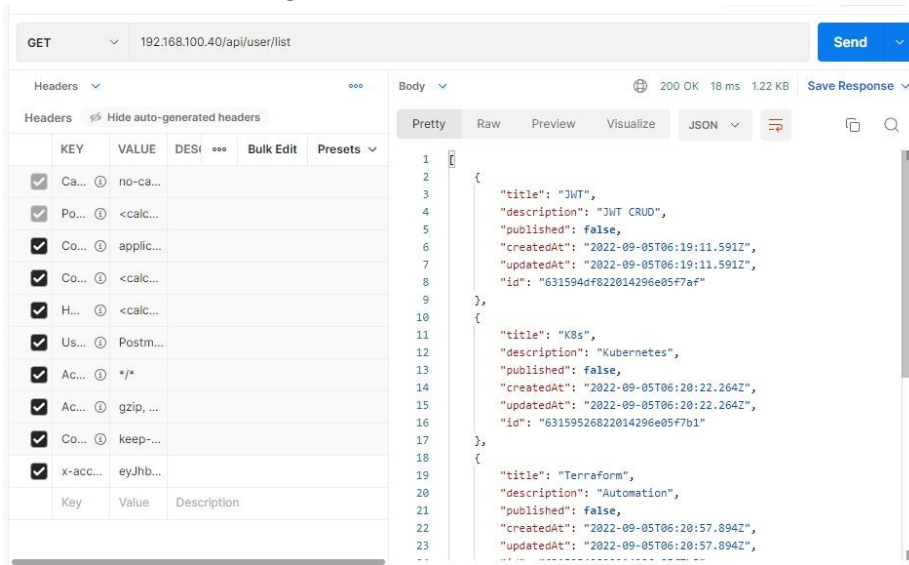
16. Refresh token



17. Signin dengan role user



18. Melihat list tutorial dengan role user



GET 192.168.100.40/api/user/list

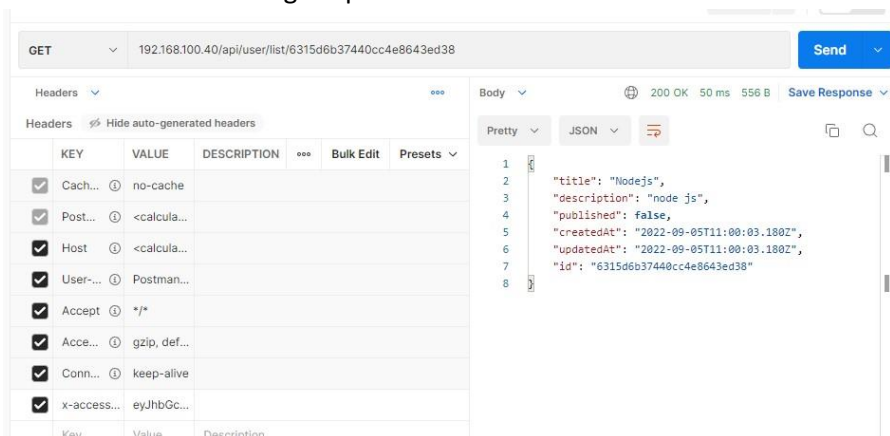
Headers

KEY	VALUE	DESCRIPTION	Bulk Edit	Presets
<input checked="" type="checkbox"/>	Cache-Control	no-cache		
<input checked="" type="checkbox"/>	Postman-Token	<calcula...		
<input checked="" type="checkbox"/>	Content-Type	applic...		
<input checked="" type="checkbox"/>	Content-Type	<calcula...		
<input checked="" type="checkbox"/>	Host	<calcula...		
<input checked="" type="checkbox"/>	User-Agent	Postman...		
<input checked="" type="checkbox"/>	Accept	/*/*		
<input checked="" type="checkbox"/>	Accept-Encoding	gzip, ...		
<input checked="" type="checkbox"/>	Content-Type	keep-alive		
<input checked="" type="checkbox"/>	x-access-token	eyJhbG...		

Body

```
1 {
2   "title": "JWT",
3   "description": "JWT CRUD",
4   "published": false,
5   "createdAt": "2022-09-05T06:19:11.591Z",
6   "updatedAt": "2022-09-05T06:19:11.591Z",
7   "id": "631594df822014296e05f7af"
8 },
9 {
10  "title": "K8s",
11  "description": "Kubernetes",
12  "published": false,
13  "createdAt": "2022-09-05T06:20:22.264Z",
14  "updatedAt": "2022-09-05T06:20:22.264Z",
15  "id": "63159526822014296e05f7b1"
16 },
17 {
18  "title": "Terraform",
19  "description": "Automation",
20  "published": false,
21  "createdAt": "2022-09-05T06:20:57.894Z",
22  "updatedAt": "2022-09-05T06:20:57.894Z",
23  "id": "63159526822014296e05f7b1"
24 }
```

19. Melihat list tutorial dengan spesifik id



GET 192.168.100.40/api/user/list/6315d6b37440cc4e8643ed38

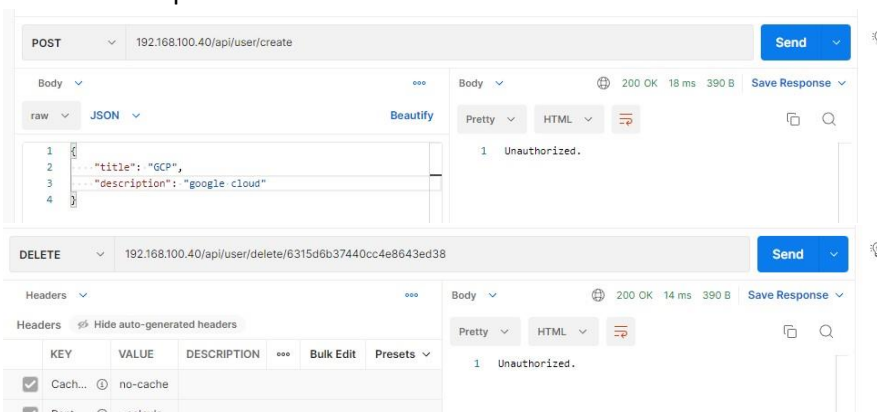
Headers

KEY	VALUE	DESCRIPTION	Bulk Edit	Presets
<input checked="" type="checkbox"/>	Cache-Control	no-cache		
<input checked="" type="checkbox"/>	Postman-Token	<calcula...		
<input checked="" type="checkbox"/>	Host	<calcula...		
<input checked="" type="checkbox"/>	User-Agent	Postman...		
<input checked="" type="checkbox"/>	Accept	/*/*		
<input checked="" type="checkbox"/>	Accept-Encoding	gzip, def...		
<input checked="" type="checkbox"/>	Content-Type	keep-alive		
<input checked="" type="checkbox"/>	x-access-token	eyJhbG...		

Body

```
1 {
2   "title": "Nodejs",
3   "description": "node js",
4   "published": false,
5   "createdAt": "2022-09-05T11:00:03.180Z",
6   "updatedAt": "2022-09-05T11:00:03.180Z",
7   "id": "6315d6b37440cc4e8643ed38"
8 }
```

20. Unauthorized pada role user



POST 192.168.100.40/api/user/create

Body

```
1 {
2   "title": "GCP",
3   "description": "google cloud"
4 }
```

Body

```
1 Unauthorized.
```

DELETE 192.168.100.40/api/user/delete/6315d6b37440cc4e8643ed38

Body

```
1 Unauthorized.
```

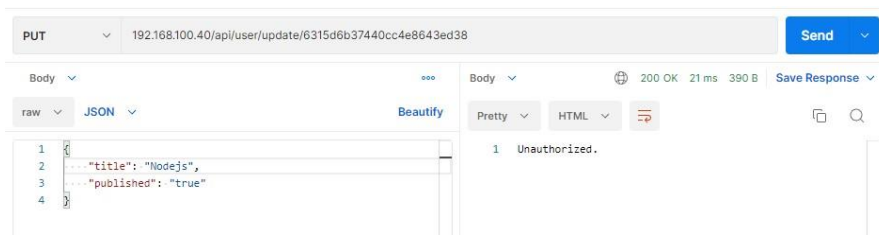


Diagram arsitektur REST API

