TIC3001 Task 3

- Name: Ke Yule
- Student Number: A0211495H E0493826
- Github: https://github.com/keyule/3001-Task3

View the markdown version for better formatting at: https://github.com/keyule/3001-Task3/blob/main/Report/report.md

Task 3 - Authentication & Authorization

> *Note: I pretty much just copied the youtube tutorial provided, but added a few things*

Set up

Auth Server: Port 4000

End Point	Type	Description
/users	GET	Returns all users
/register	POST	Creates a new user
/login	POST	Returns a JWT token and refresh token after login
/token	POST	Returns a new token
/logout	DELETE	Deletes the refresh token

Server: Port 3000

End Point	Type	Description
/posts	GET	Returns all posts of logged in user
/admin	GET	Admin Page for role: admin

Other Information An Admin account already exists:

```
{
  username: "test",
  password: "$2b$10$ogIIWcYWXJ2h19EDa0tkh.YT9hqFEuh9Y0mOnh6gljNxpC.9ZnqKS",
  role: "admin"
}
```

There are two posts created:

```
const posts = [
  {
```

```
    username: 'Kyle',
    title: 'Post 1'
  },
  {
    username: 'Jim',
    title: 'Post 2'
  }
]
```

Demo

Visiting /posts without logging in or without a token

```
GET http://localhost:3000/posts
```

```
HTTP/1.1 401 Unauthorized
X-Powered-By: Express
Content-Type: text/plain; charset=utf-8
Content-Length: 12
ETag: W/"c-dAuDFQrdjS3hezqxDTNgW7AOlYk"
Date: Mon, 17 Apr 2023 00:41:36 GMT
Connection: close

Unauthorized
```

Visiting /admin without logging in or without a token

```
GET http://localhost:3000/admin
```

```
HTTP/1.1 401 Unauthorized
X-Powered-By: Express
Content-Type: text/plain; charset=utf-8
Content-Length: 12
ETag: W/"c-dAuDFQrdjS3hezqxDTNgW7AOlYk"
Date: Mon, 17 Apr 2023 00:50:04 GMT
Connection: close

Unauthorized
```

Registering

```
POST http://localhost:4000/register
Content-Type: application/json
```

```
{
    "username": "Jim", "password": "password"
}
```

```
HTTP/1.1 201 Created
X-Powered-By: Express
Date: Mon, 17 Apr 2023 00:57:17 GMT
Connection: close
Content-Length: 0
```

Logging in

```
POST http://localhost:4000/login
Content-Type: application/json
{
    "username": "Jim", "password": "password"
}
```

```
HTTP/1.1 200 OK
X-Powered-By: Express
Content-Type: application/json; charset=utf-8
Content-Length: 344
ETag: W/"158-FnS38v2wtrQ3cDakn8BDlXr5U64"
Date: Mon, 17 Apr 2023 00:59:06 GMT
Connection: close

{
  "accessToken":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoiSmltIiwicm9sZSI6ImJhc2ljIiwiaWF0
IjoxNjgxNjkzMTQ2LCJleHAiOjE2ODE2OTMyMDZ9.SWBwp79hrdEBVRuRlYG78-
DhTeu98D7V2BC6Ooj_pfk",
  "refreshToken":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoiSmltIiwicm9sZSI6ImJhc2ljIiwiaWF0
IjoxNjgxNjkzMTQ2fQ.RQOcov3Zcn5FlOoaD4YzT--g00anz6dTiSiSAypSdJo"
}
```

Visiting /posts after login

```
GET http://localhost:3000/posts
Authorization: Bearer
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoiSmltIiwicm9sZSI6ImJhc2ljIiwiaWF0I
joxNjgxNjkzMTQ2LCJleHAiOjE2ODE2OTMyMDZ9.SWBwp79hrdEBVRuRlYG78-
DhTeu98D7V2BC6Ooj_pfk
```

```
HTTP/1.1 200 OK
X-Powered-By: Express
Content-Type: application/json; charset=utf-8
Content-Length: 37
ETag: W/"25-+oLv3OVWqMVRmz334tj9PEFk5V4"
Date: Mon, 17 Apr 2023 01:00:02 GMT
Connection: close


[
  {
    "username": "Jim",
    "title": "Post 2"
  }
]
```

Visiting /admin after login

```
GET http://localhost:3000/admin
Authorization: Bearer
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoiSmltIiwicm9sZSI6ImJhc2ljIiwiaWF0I
joxNjgxNjkzMTQ2LCJleHAiOjE2ODE2OTMyMDZ9.SWBwp79hrdEBVRuRlYG78-
DhTeu98D7V2BC6Ooj_pfk
```

```
HTTP/1.1 403 Forbidden
X-Powered-By: Express
Content-Type: text/plain; charset=utf-8
Content-Length: 9
ETag: W/"9-PatfYBLj4Um1qTm5zrukoLhNyPU"
Date: Mon, 17 Apr 2023 01:00:14 GMT
Connection: close

Forbidden
```

Visting /posts after logging in as admin (Returns ALL posts)

```
GET http://localhost:3000/posts
Authorization: Bearer
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoidGVzdCIsInJvbGUiOiJhZG1pbiIsImlhd
CI6MTY4MTY5MzQ2NiwiZXhwIjoxNjgxNjkzNTI2fQ.psxWvWym47ld3MLMdez3MAYgFlO8RON-H-
QvqHopmhc
```

```
HTTP/1.1 200 OK
X-Powered-By: Express
Content-Type: application/json; charset=utf-8
```

```
Content-Length: 74
ETag: W/"4a-1R4wY2kF/sIFyvoxeh6FQWeGVfI"
Date: Mon, 17 Apr 2023 01:04:44 GMT
Connection: close

[
  {
    "username": "Kyle",
    "title": "Post 1"
  },
  {
    "username": "Jim",
    "title": "Post 2"
  }
]
```

Visting /admin after logging in as admin

```
GET http://localhost:3000/admin
Authorization: Bearer
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoidGVzdCIsInJvbGUiOiJhZG1pbiIsImlhd
CI6MTY4MTY5MzQ2NiwiZXhwIjoxNjgxNjkzNTI2fQ.psxWvWym47ld3MLMdez3MAYgFlO8RON-H-
QvqHopmhc
```

```
HTTP/1.1 200 OK
X-Powered-By: Express
Content-Type: text/html; charset=utf-8
Content-Length: 10
ETag: W/"a-3WyjDh8DbzNxVPewAMCEfnC3Qfc"
Date: Mon, 17 Apr 2023 01:04:49 GMT
Connection: close

Admin Page
```

Appendix

Other Requests

Refreshing token

```
POST http://localhost:4000/token
Content-Type: application/json
{
"token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoiSmltIiwicm9sZSI6ImJhc2ljIiwiaWF0
IjoxNjgxNjkzMTQ2fQ.RQOcov3Zcn5FlOoaD4YzT--g00anz6dTiSiSAypSdJo"
}
```

```
HTTP/1.1 200 OK
X-Powered-By: Express
Content-Type: application/json; charset=utf-8
Content-Length: 163
ETag: W/"a3-zbNfK/Rz4efzxMqO1Va4nrvk1Jo"
Date: Mon, 17 Apr 2023 01:08:40 GMT
Connection: close

{
  "accessToken":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoiSmltIiwiaWF0IjoxNjgxNjkzNzIwLCJl
eHAiOjE2ODE2OTM3ODB9.AAwCKiz9piCgYv6WBNELEXTppzTNaTNFyrNSbVRtRM4"
}
```

Logging out (Deleting refresh token)

```
DELETE http://localhost:4000/logout
Content-Type: application/json
{
"token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1lIjoiSmltIiwiaWF0IjoxNjgxNTkyMDI0fQ.X
vJZ1lcR3cXV5A4vXdZa9Q6riEmqCY2louocp7qZWzg"
}
```

```
HTTP/1.1 204 No Content
X-Powered-By: Express
ETag: W/"a-bAsFyilMr4Ra1hIU5PyoyFRunpI"
Date: Mon, 17 Apr 2023 01:10:03 GMT
Connection: close
```

docker-compose.yml

```yaml
version: '3.9'
services:
  server:
    restart: on-failure
    build: ./server
    ports:
      - '3000:3000'
  authserver:
    restart: on-failure
    build: ./authserver
    ports:
      - '4000:4000'
```