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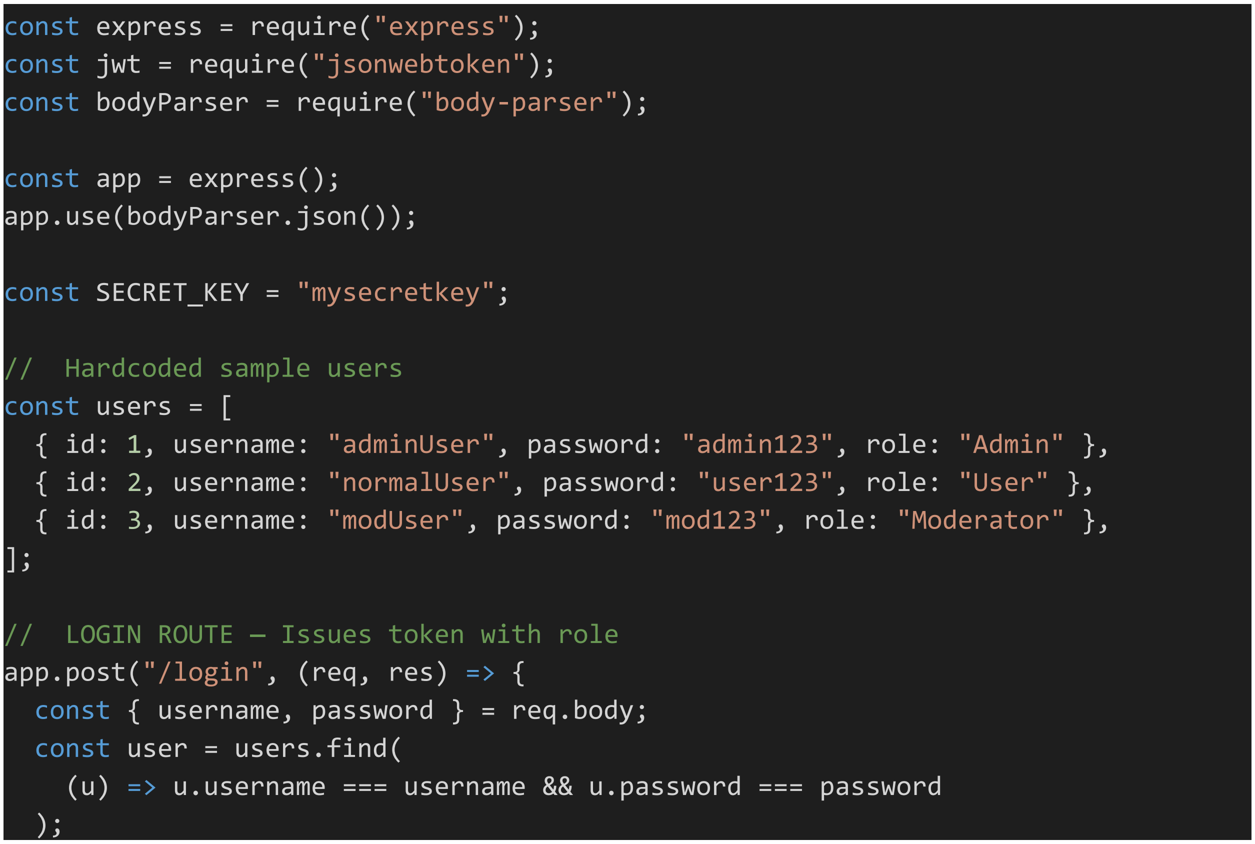
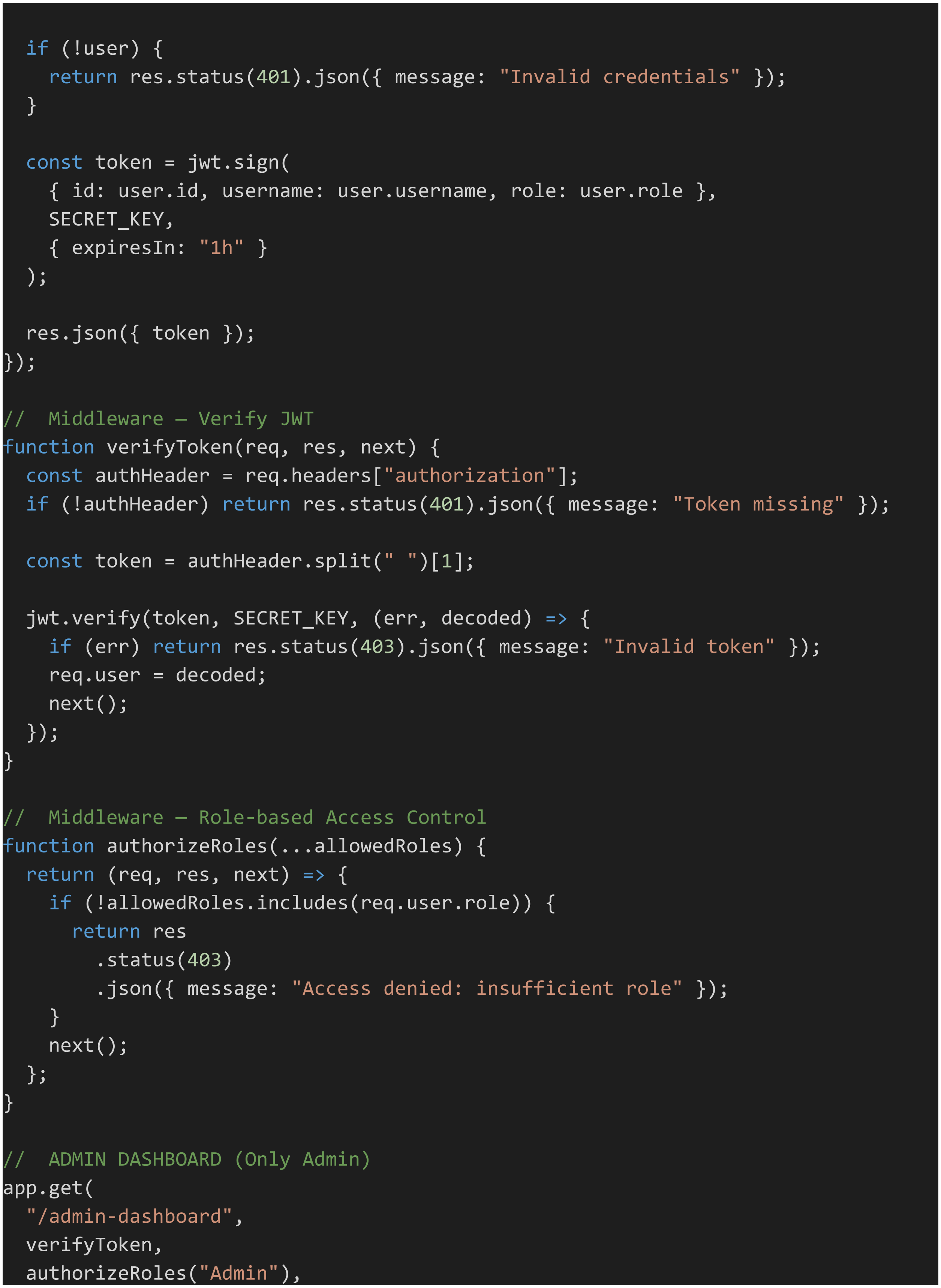
CLASS	622-A

- ➢ Full Stack PRACTICE 8.3
- CODE

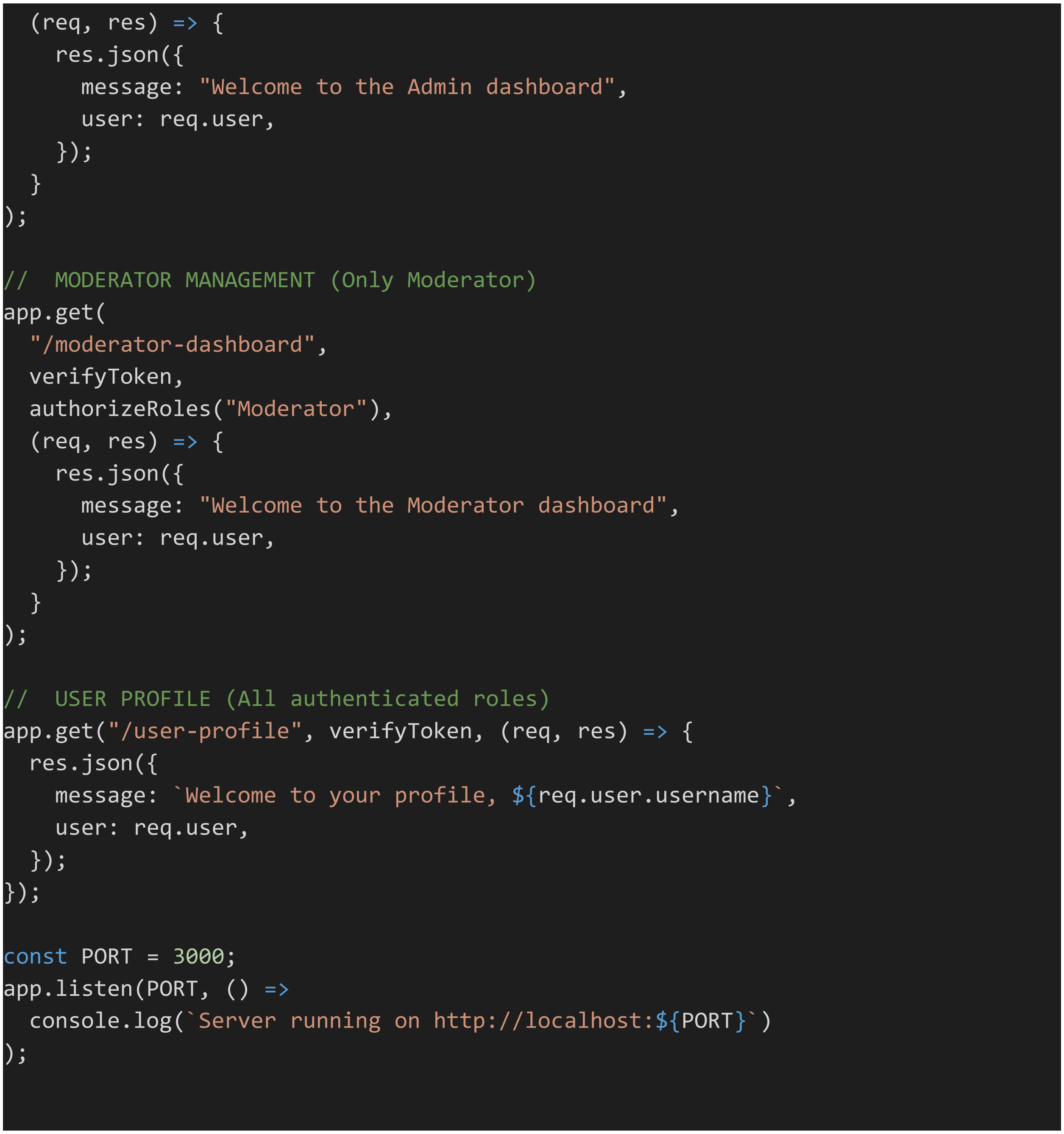
  server.js :::



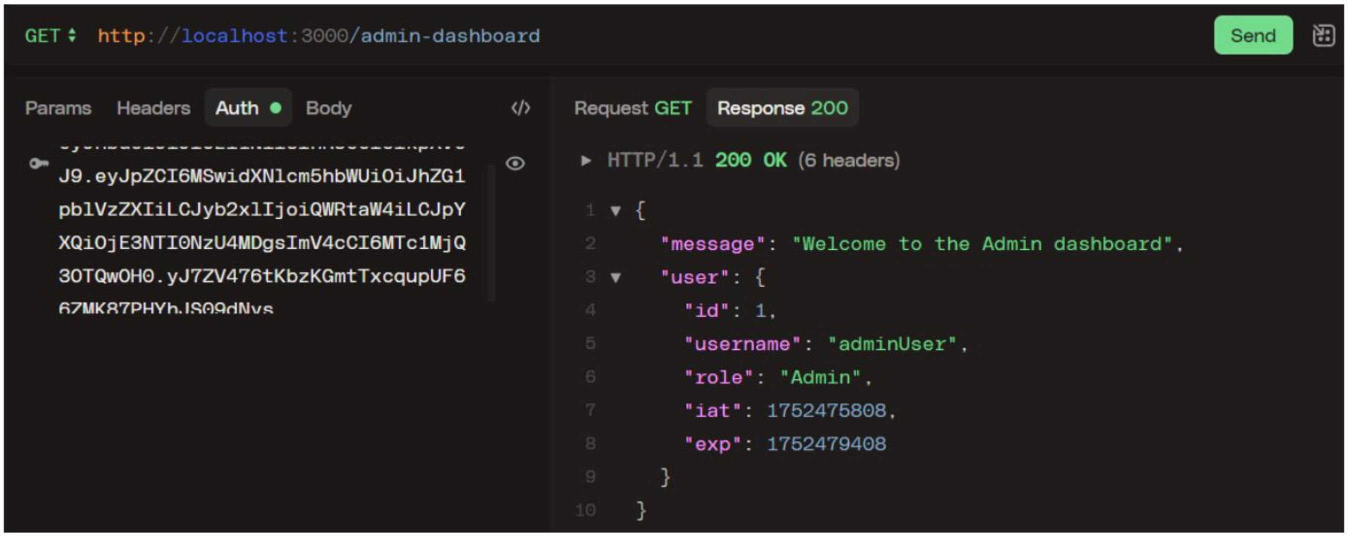
```
const express = require("express");
const jwt = require("jsonwebtoken");
const bodyParser = require("body-parser");

const app = express();
app.use(bodyParser.json());

const SECRET_KEY = "mysecretkey";

//  Hardcoded sample users
const users = [
  { id: 1, username: "adminUser", password: "admin123", role: "Admin" },
  { id: 2, username: "normalUser", password: "user123", role: "User" },
  { id: 3, username: "modUser", password: "mod123", role: "Moderator" },
];

//  LOGIN ROUTE — Issues token with role
app.post("/login", (req, res) => {
  const { username, password } = req.body;
  const user = users.find(
    (u) => u.username === username && u.password === password
  );
```



```
  if (!user) {
    return res.status(401).json({ message: "Invalid credentials" });
  }

  const token = jwt.sign(
    { id: user.id, username: user.username, role: user.role },
    SECRET_KEY,
    { expiresIn: "1h" }
  );

  res.json({ token });
});

//  Middleware – Verify JWT
function verifyToken(req, res, next) {
  const authHeader = req.headers["authorization"];
  if (!authHeader) return res.status(401).json({ message: "Token missing" });

  const token = authHeader.split(" ")[1];

  jwt.verify(token, SECRET_KEY, (err, decoded) => {
    if (err) return res.status(403).json({ message: "Invalid token" });
    req.user = decoded;
    next();
  });
}

//  Middleware – Role-based Access Control
function authorizeRoles(...allowedRoles) {
  return (req, res, next) => {
    if (!allowedRoles.includes(req.user.role)) {
      return res
        .status(403)
        .json({ message: "Access denied: insufficient role" });
    }
    next();
  };
}

//  ADMIN DASHBOARD (Only Admin)
app.get(
  "/admin-dashboard",
  verifyToken,
  authorizeRoles("Admin"),
```



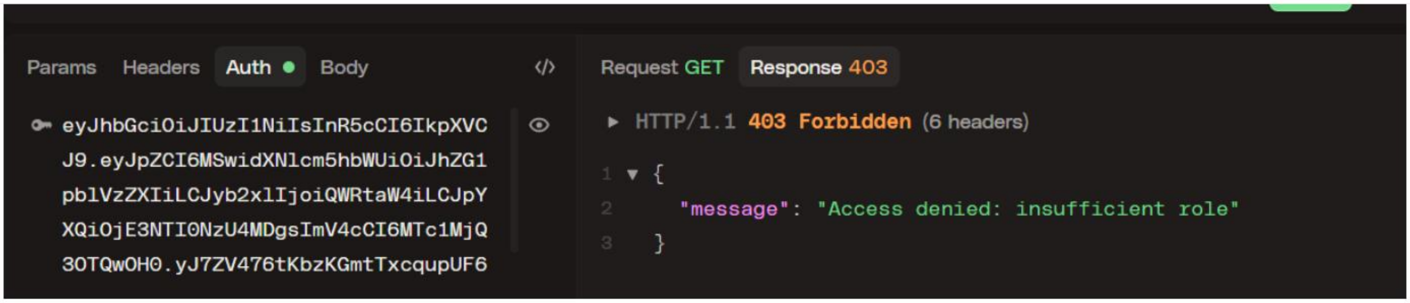
```
  (req, res) => {
    res.json({
      message: "Welcome to the Admin dashboard",
      user: req.user,
    });
  }
);

//  MODERATOR MANAGEMENT (Only Moderator)
app.get(
  "/moderator-dashboard",
  verifyToken,
  authorizeRoles("Moderator"),
  (req, res) => {
    res.json({
      message: "Welcome to the Moderator dashboard",
      user: req.user,
    });
  }
);

//  USER PROFILE (All authenticated roles)
app.get("/user-profile", verifyToken, (req, res) => {
  res.json({
    message: `Welcome to your profile, ${req.user.username}`,
    user: req.user,
  });
});

const PORT = 3000;
app.listen(PORT, () =>
  console.log(`Server running on http://localhost:${PORT}`)
);
```



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

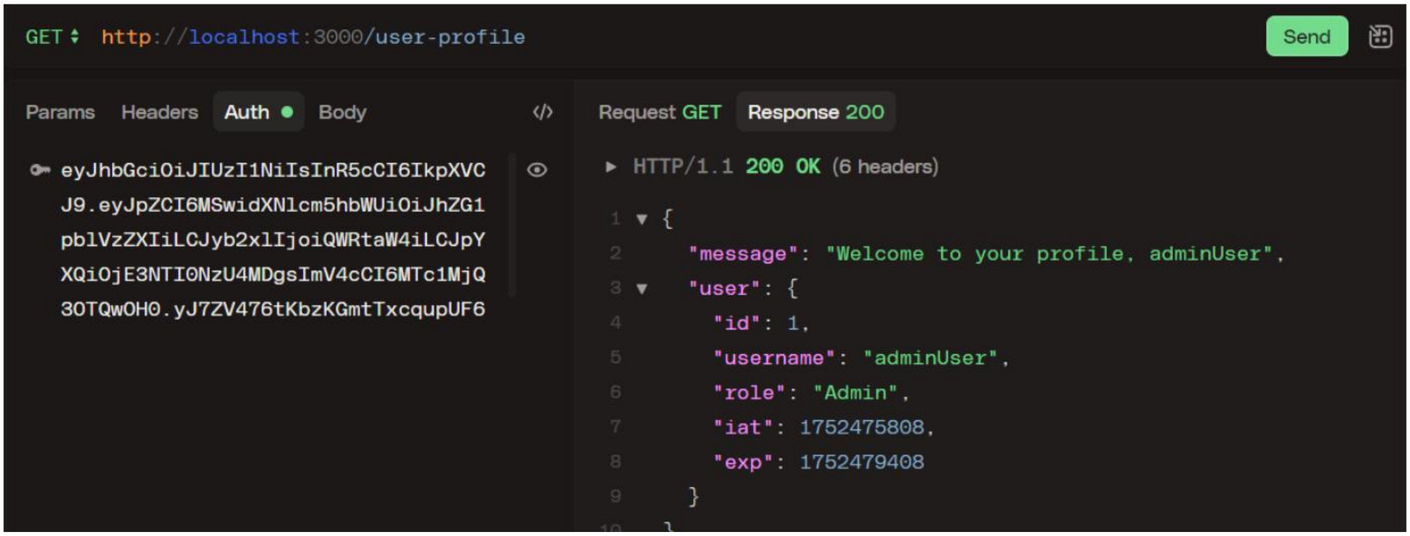
```
J9.eyJpZCI6MSwidXNlcm5hbWUiOiJhZG1
pblVzZXIiLCJyb2xlIjoiQWRtaW4iLCJpY
XQiOjE3NTI0NzU4MDgsImV4cCI6MTc1MjQ
3OTQwOH0.yJ7ZV476tKbzKGmtTxcqupUF6
6ZMK87PHYhJS09dNys
```

```
HTTP/1.1 200 OK (6 headers)
{
  "message": "Welcome to the Admin dashboard",
  "user": {
    "id": 1,
    "username": "adminUser",
    "role": "Admin",
    "iat": 1752475808,
    "exp": 1752479408
  }
}
```



```
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVC
J9.eyJpZCI6MSwidXNlcm5hbWUiOiJhZG1
pblVzZXIiLCJyb2xlIjoiQWRtaW4iLCJpY
XQiOjE3NTI0NzU4MDgsImV4cCI6MTc1MjQ
3OTQwOH0.yJ7ZV476tKbzKGmtTxcqupUF6
```

```
HTTP/1.1 403 Forbidden (6 headers)
{
  "message": "Access denied: insufficient role"
}
```

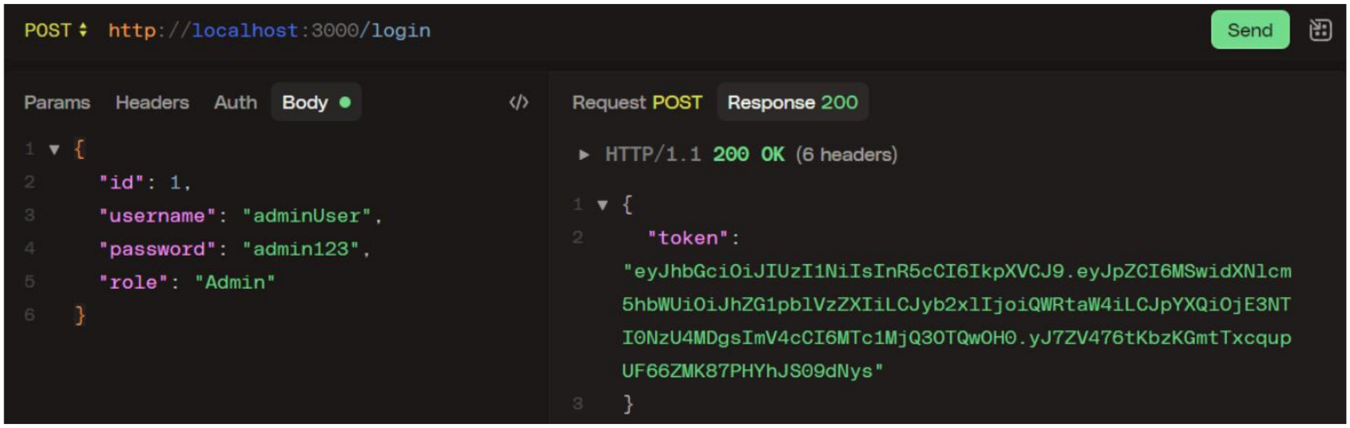


```
GET http://localhost:3000/user-profile
```

```
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVC
J9.eyJpZCI6MSwidXNlcm5hbWUiOiJhZG1
pblVzZXIiLCJyb2xlIjoiQWRtaW4iLCJpY
XQiOjE3NTI0NzU4MDgsImV4cCI6MTc1MjQ
3OTQwOH0.yJ7ZV476tKbzKGmtTxcqupUF6
```

```
HTTP/1.1 200 OK (6 headers)
{
  "message": "Welcome to your profile, adminUser",
  "user": {
    "id": 1,
    "username": "adminUser",
    "role": "Admin",
    "iat": 1752475808,
    "exp": 1752479408
  }
```

OUTPUT:



```
POST http://localhost:3000/login
```

```
{
  "id": 1,
  "username": "adminUser",
  "password": "admin123",
  "role": "Admin"
}
```

```
HTTP/1.1 200 OK (6 headers)
{
  "token":
 "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6MSwidXNlcm
 5hbWUiOiJhZG1pblVzZXIiLCJyb2xlIjoiQWRtaW4iLCJpYXQiOjE3NT
 I0NzU4MDgsImV4cCI6MTc1MjQ3OTQwOH0.yJ7ZV476tKbzKGmtTxcqup
 UF66ZMK87PHYhJS09dNys"
}
```