

WebAPI Hands-on Summary

1. WebAPI Basics with CRUD

- Created EmployeeController with HTTP GET, POST, PUT, DELETE
- Used ActionResult and status codes (200, 400)
- Demonstrated basic controller routing and request handling

2. Swagger Integration and Postman Testing

- Installed Swashbuckle.AspNetCore to enable Swagger
- API browsable at <https://localhost:5001/swagger>
- Routes customized using [Route] attribute
- Tested endpoints via Swagger and Postman

3. Custom Models, Filters, and Exception Handling

- Employee model includes Department and Skill as nested objects
- CustomAuthFilter checks for Bearer token in headers
- CustomExceptionHandler logs exceptions and returns 500
- Demonstrated [FromBody] with complex JSON

4. Update and Delete Operations with Validation

- PUT method updates employee by ID after validation
- DELETE method removes employee by ID
- Returns 400 if ID is invalid or not found
- Tested using Swagger and Postman with example data

5. JWT Authentication and Secure API

- AuthController issues JWT token with user role and expiry
- EmployeeController is protected using [Authorize(Roles)]
- Token checked in request headers via Postman
- Unauthorized access returns 401 error
- Demonstrated token expiration behavior