#### Testing (Using Restfox [Postman alternative]:

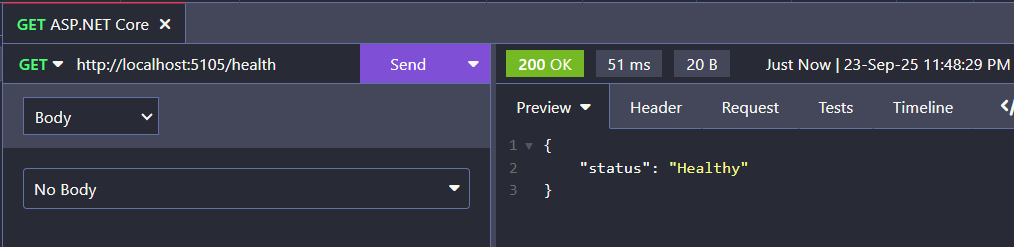
This test result document after implementing activity 3: Implementing and Managing Middleware with Copilot

**1. Endpoints:**

##### ✅ Health Check (no token needed)

* **Method:** GET
* **URL:** http://localhost:5000/health
* **Expected Response:**

{ "status": "Healthy" }



##### ✅ Create User

* **Method:** POST
* **URL:** http://localhost:5000/users
* **Headers:**  
  Authorization: Bearer mysecrettoken
* **Body (JSON, raw):**

{

"username": "alice",

"email": "Alice@Example.com",

"fullName": "Alice Wonderland"

}

* **Expected Response (201):**

{

"id": 1,

"username": "alice",

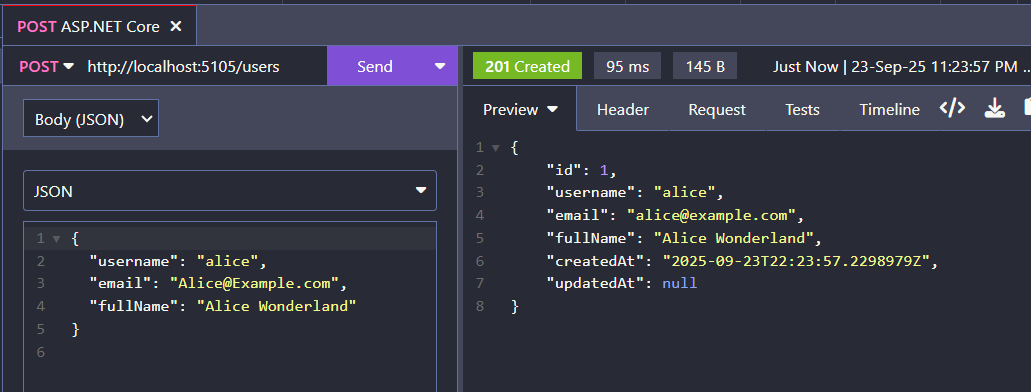
"email": "alice@example.com", // normalized lowercase

"fullName": "Alice Wonderland",

"createdAt": "2025-09-23T00:00:00Z",

"updatedAt": null

}



##### ✅ Get All Users

* **Method:** GET
* **URL:** http://localhost:5000/users
* **Headers:**  
  Authorization: Bearer mysecrettoken
* **Response:**

[

{

"id": 1,

"username": "alice",

"email": "alice@example.com",

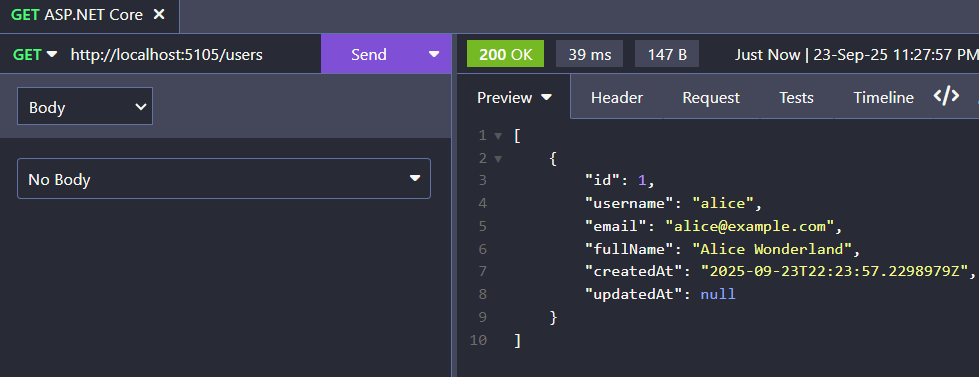
"fullName": "Alice Wonderland",

"createdAt": "2025-09-23T00:00:00Z",

"updatedAt": null

}

]



##### ✅ Get User by ID

* **Method:** GET
* **URL:** http://localhost:5000/users/1
* **Headers:**  
  Authorization: Bearer mysecrettoken
* **Response:**

{

"id": 1,

"username": "alice",

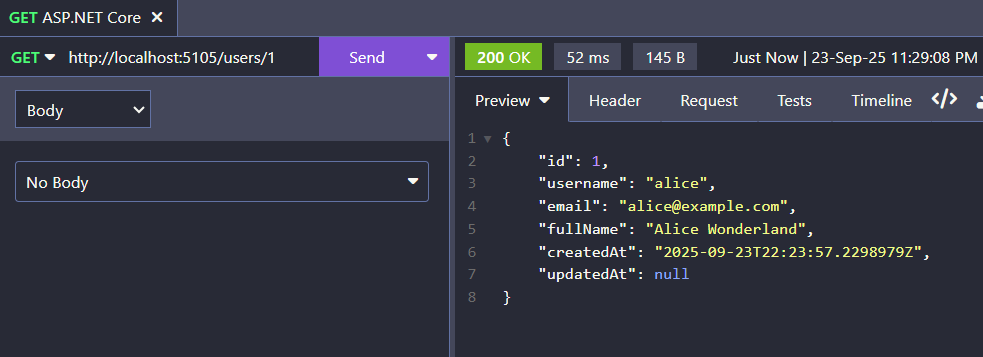
"email": "alice@example.com",

"fullName": "Alice Wonderland",

"createdAt": "2025-09-23T00:00:00Z",

"updatedAt": null

}



##### ✅ Update User

* **Method:** PUT
* **URL:** http://localhost:5000/users/1
* **Headers:**  
  Authorization: Bearer mysecrettoken
* **Body (JSON):**

{

"username": "alice\_updated",

"email": "alice.updated@example.com",

"fullName": "Alice W."

}

* **Expected Response:**

{

"id": 1,

"username": "alice\_updated",

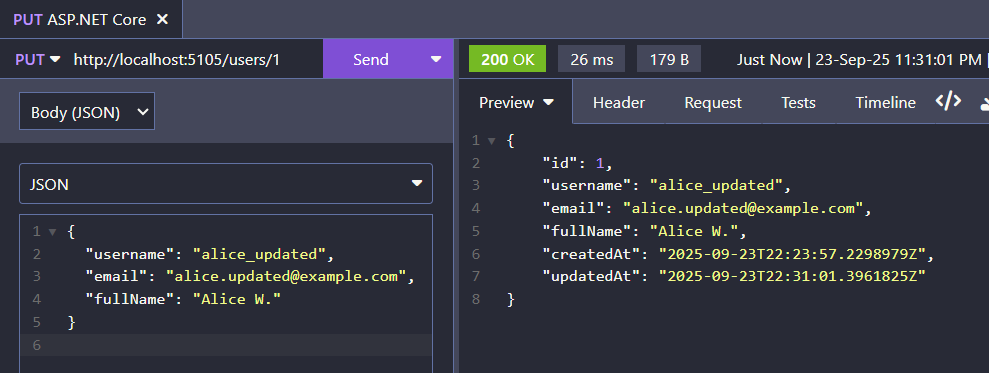
"email": "alice.updated@example.com",

"fullName": "Alice W.",

"createdAt": "2025-09-23T00:00:00Z",

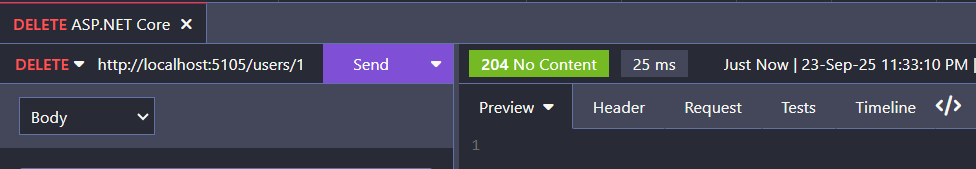
"updatedAt": "2025-09-23T00:10:00Z"

}



##### ✅ Delete User

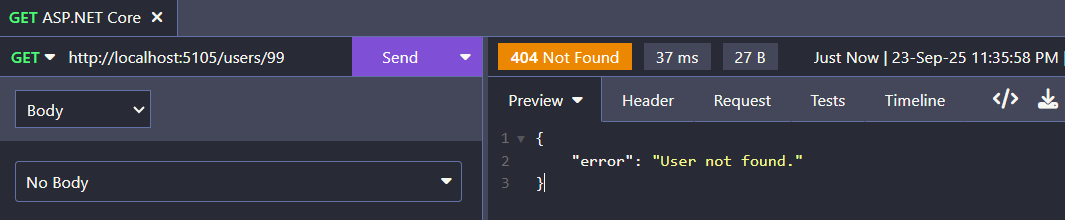
* **Method:** DELETE
* **URL:** http://localhost:5000/users/1
* **Headers:**  
  Authorization: Bearer mysecrettoken
* **Expected Response:** 204 No Content



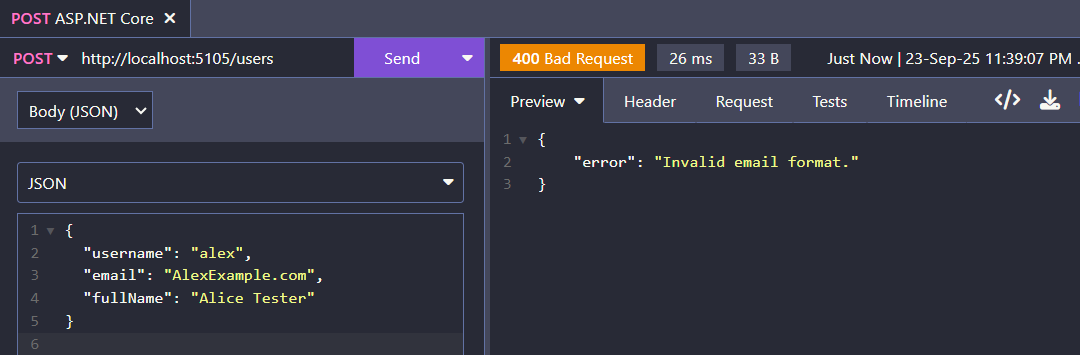
##### ****2. Error Handling Tests****

Try these in Restfox:

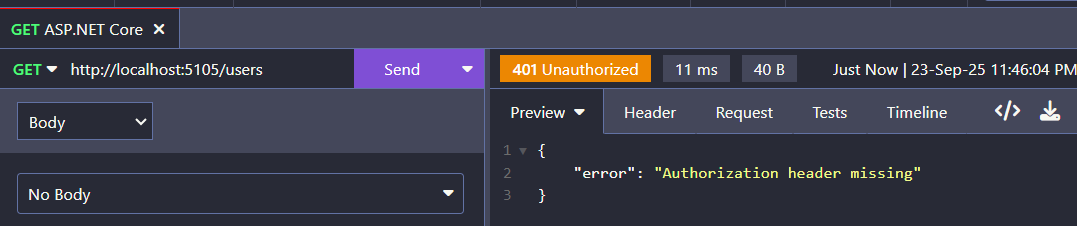
* **Not found:** GET /users/99 → returns 404.



* **Invalid email:** send "email": "Invalid email format" → returns 400.



**Missing token:** remove header → returns 401 Unauthorized.



##### ****3. Check API Logs****

In the terminal running your API, you should see logs for each request, like:

[23/09/2025 22:05:09] GET /health -> 200

[23/09/2025 22:08:55] GET /health -> 200

[23/09/2025 22:11:10] GET /users -> 200

[23/09/2025 22:12:40] POST /users -> 415

[23/09/2025 22:23:57] POST /users -> 201

[23/09/2025 22:27:57] GET /users -> 200

[23/09/2025 22:29:08] GET /users/1 -> 200

[23/09/2025 22:31:01] PUT /users/1 -> 200

[23/09/2025 22:33:10] DELETE /users/1 -> 204

[23/09/2025 22:35:58] GET /users/99 -> 404

[23/09/2025 22:38:45] POST /users/99 -> 405

[23/09/2025 22:39:07] POST /users -> 400

[23/09/2025 22:48:29] GET /health -> 200