**1. Get All Categories**

* **Request Type**: GET
* **Endpoint**: http://localhost:8082/categories
* **Description**: Retrieve a list of all categories.

**Expected Response**:

* **Status**: 200 OK
* **Response Body (example)**:

json

[

{

"id": 1,

"name": "Electronics",

"description": "Electronic devices and gadgets"

},

{

"id": 2,

"name": "Furniture",

"description": "Home and office furniture"

}

]

**2. Get Category by ID**

* **Request Type**: GET
* **Endpoint**: http://localhost:8082/categories/{id}
* **Description**: Retrieve details of a specific category by ID.
* **Example ID**: 1

**Expected Response**:

* **Status**: 200 OK
* **Response Body (example)**:

json

{

"id": 1,

"name": "Electronics",

"description": "Electronic devices and gadgets"

}

**3. Insert Category into Database**

* **Request Type**: POST
* **Endpoint**: http://localhost:8082/categories
* **Description**: Insert a new category into the database.
* **Request Body**:

json

{

"id": 1,

"name": "Electronics",

"description": "Electronic devices and gadgets"

}

**Expected Response**:

* **Status**: 200 OK
* **Response Body (example)**:

json

{

"id": 1,

"name": "Electronics",

"description": "Electronic devices and gadgets"

}

**4. Update Existing Category**

* **Request Type**: PUT
* **Endpoint**: http://localhost:8082/categories/{id}
* **Description**: Update the details of an existing category.
* **Example ID**: 1
* **Request Body**:

json

{

"name": "Used Electronics",

"description": "Used Electronics devices and Gadgets"

}

**Expected Response**:

* **Status**: 200 OK
* **Response Body (example)**:

json

{

"id": 1,

"name": "Used Electronics",

"description": "Used Electronics devices and Gadgets"

}

**5. Delete Existing Category**

* **Request Type**: DELETE
* **Endpoint**: http://localhost:8082/categories/{id}
* **Description**: Delete a category from the database.
* **Example ID**: 1

**Expected Response**:

* **Status**: 204 No Content
* **No response body**.

NEGATIVE TEST CASES

**1. Get Category by Invalid ID**

**Request Type:** GET  
**Endpoint:** http://localhost:8082/categories/invalid-id  
**Test Case:**

* **Description:** Attempt to retrieve a category with an invalid or non-existent ID.
* **Expected Response:**
  + **Status:** 404 Not Found
  + **Response Body (example):**

json

{

    "timestamp": "2024-09-12T12:12:07.337+00:00",

    "status": 404,

    "error": "Not Found",

    "trace": "com.ecommerce.categorymicroservice.exception.ResourceNotFoundException: Category not found with id: 23 java.base/java.lang.Thread.run(Thread.java:1583)\r\n",

    "message": "Category not found with id: 23",

    "path": "/categories/23"

}

**2. Delete Category with Invalid ID**

**Request Type:** DELETE  
**Endpoint:** http://localhost:8082/categories/invalid-id  
**Test Case:**

* **Description:** Attempt to delete a category with an invalid or non-existent ID.
* **Expected Response:**
  + **Status:** 404 Not Found
  + **Response Body (example):**

json

{

  "timestamp": "2024-09-12T12:14:51.371+00:00",

    "status": 404,

    "error": "Not Found",

    "trace": "com.ecommerce.categorymicroservice.exception.ResourceNotFoundException: Category not found with id: 23\r\n\tat java.base/java.lang.Thread.run(Thread.java:1583)\r\n",

    "message": "Category not found with id: 23",

    "path": "/categories/23"

}