Product Management API

# Introduction

The Product Management API provides CRUD operations (Create, Read, Update, Delete) for managing products in the system. This backend service is implemented with RESTful endpoints and is designed to function independently of a frontend while allowing seamless database integration in the future.

# Features

The Product Management API provides the following core features:

1. **Create Products**: Add new products to the system with relevant details.
2. **Retrieve Products**: Fetch all or specific Products.
3. **Update Products**: Modify products details such as name, description, or price.
4. **Delete Products**: Remove products when necessary.

# API Endpoints

* **Base URL:** The API is accessible at **/products/**.
* Endpoints and HTTP Methods:

|  |  |  |
| --- | --- | --- |
| Method | Endpoint | Description |
| GET | /products/ | |  | | --- | | Retrieve all products. |  |  | | --- | |  | |
| POST | /products/ | |  | | --- | | Create a new product. |  |  | | --- | |  | |
| GET | /products/{id}/ | |  | | --- | | Retrieve details of a specific product. |  |  | | --- | |  | |
| PUT | /products/{id}/ | |  | | --- | | Update an existing product. |  |  | | --- | |  | |
| DELETE | /products/{id}/ | Delete a product. |

## Examples

**Create a Product (POST)**

* **Endpoint:** /products/
* **Request Type:** POST
* **Request Body (JSON):**

{

"name": "Gaming Laptop",

"description": "High-performance laptop with RTX 4090",

"price": 2499.99

}

* **Response:**

{

"id": 1,

"name": "Gaming Laptop",

"description": "High-performance laptop with RTX 4090",

"price": "2499.99",

"created\_at": "2025-01-24T18:42:56.459584Z",

"updated\_at": "2025-01-24T18:42:56.459609Z"

}

## Testing the API

* **Manual Testing**

Use tools like **Postman** or **cURL** to manually test the endpoints.

## Additional Notes

1. Error Handling: The API returns appropriate error messages for invalid input data.