**Document for Products API**  
Purpose of creating this API :   
  
This API allows users to filter products based on multiple criteria such as price range, size, and highlighted keywords. If no parameters are provided the API returns the full list of products with highlighted keywords in their descriptions.

**Endpoint**

**HTTP Method**: GET  
**URL**: http://localhost:5015/api/Products/filter

### 

### **Query Parameters**

| **Parameter** | **Type** | **Required** | **Description** |
| --- | --- | --- | --- |
| minprice | decimal | Optional | Minimum price of products to include in the results. Default: No limit. |
| maxprice | decimal | Optional | Maximum price of products to include in the results. Default: No limit. |
| size | string | Optional | Filter by size (e.g., "small", "medium", "large"). Default: Include all sizes. |
| highlight | string | Optional | Comma-separated list of keywords to highlight in product descriptions. If provided, these keywords will be wrapped with <em> tags in the response. |

### **Examples**

#### **1. Filter Products by Price Range, Size, and Highlight**

**Request**:  
GET http://localhost:5015/api/Products/filter?minprice=5&maxprice=20&size=medium&highlight=green,blue

#### **2. Get All Products with Highlighted Keywords**

**Request**:  
GET http://localhost:5015/api/Products/filter?highlight=green,blue

#### **3. Get All Products Without Any Filter**

**Request**:  
GET http://localhost:5015/api/Products/filter

### **Response**

**Content Type**: application/json

#### **Success Response**

* **Status Code**: 200 OK

{

"filteredProducts": [

{

"id": 1,

"name": "Product A",

"description": "This is a <em>green</em> product with great value.",

"price": 15.5,

"sizes": ["small", "medium"]

},

{

"id": 2,

"name": "Product B",

"description": "A durable <em>blue</em> item for daily use.",

"price": 18.0,

"sizes": ["medium", "large"]

}

],

"minPrice": 5.0,

"maxPrice": 20.0,

"size": "medium",

"highlight": ["green", "blue"]

}

#### **Error Responses**

1. **Invalid Query Parameter**
   * **Status Code**: 400 Bad Request

Response:

{

"error": "Invalid query parameters. Please check your input."

}

1. **Internal Server Error**
   * **Status Code**: 500 Internal Server Error

Response:  
{

"error": "An error occurred while processing your request."

}

### **Usage Scenarios**

#### **1. Filter by Price and Size**

* **Scenario**: A user wants to find products priced between $10 and $50, available in "large" size.
* **Request**:  
  GET http://localhost:5015/api/Products/filter?minprice=10&maxprice=50&size=large

#### **2. Highlight Keywords Without Filtering**

* **Scenario**: A user wants to see all products but highlight the words "red" and "premium" in their descriptions.
* **Request**:  
  GET http://localhost:5015/api/Products/filter?highlight=red,premium

### **Testing Notes**

* Ensure the highlight parameter wraps the specified keywords with <em> tags in the description.
* Verify the response handles cases where no filters except highlight are provided.
* Test with invalid or missing parameters to confirm error handling works as expected.

### **Changelog**

* **Version**: 1.0
* **Date**: 23-November-2024
* **Developer**: Vijay Chauhan

This document serves as a guide for users and developers interacting with the ProductsController API.