

웹프레임워크2(N)

-과제1

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1) 설정 파일:

<dao-context.xml>

```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
       xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
       xmlns:context="http://www.springframework.org/schema/context"
       xmlns:tx="http://www.springframework.org/schema/tx"
       xmlns:jpa="http://www.springframework.org/schema/data/jpa"
       xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans.xsd
                           http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-
context-4.3.xsd
                           http://www.springframework.org/schema/data/jpa http://www.springframework.org/schema/data/jpa/spring-
jpa.xsd
                           http://www.springframework.org/schema/tx http://www.springframework.org/schema/tx/spring-tx-4.3.xsd">

    <bean id="dataSource"
          class="org.apache.commons.dbcp2.BasicDataSource"
          destroy-method="close">
        <property name="driverClassName"
                  value="{jdbc.driverClassName}" />
        <property name="url" value="{jdbc.url}" />
        <property name="username" value="{jdbc.username}" />
        <property name="password" value="{jdbc.password}" />
    </bean>

    <context:annotation-config> </context:annotation-config>

    <context:property-placeholder
        location="/WEB-INF/props/jdbc.properties" />

    <bean id="sessionFactory"
          class="org.springframework.orm.hibernate5.LocalSessionFactoryBean">
        <property name="dataSource" ref="dataSource"> </property>
```

```

        <property name="packagesToScan">
            <list>
                <value>kr.ac.hansung.entity</value>
            </list>
        </property>

        <property name="hibernateProperties">
            <props>
                <prop key="hibernate.dialect">org.hibernate.dialect.MySQL8Dialect</prop>
                <prop key="hibernate.hbm2ddl.auto">create</prop>
                <prop key="hibernate.show_sql">true</prop>
                <prop key="hibernate.format_sql">false</prop>
            </props>
        </property>

    </bean>

    <tx:annotation-driven
        transaction-manager="transactionManager" />

    <bean id="transactionManager"
        class="org.springframework.orm.hibernate5.HibernateTransactionManager">
        <property name="sessionFactory" ref="sessionFactory"> </property>
    </bean>

    <context:component-scan base-package="kr.ac.hansung.dao">
    </context:component-scan>

</beans>

```

<service-context.xml>

```

<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans.xsd
        http://www.springframework.org/schema/context http://www.springframework.org/schema/context/spring-
context-4.3.xsd">

    <context:annotation-config> </context:annotation-config>

    <context:component-scan base-package="kr.ac.hansung.service">
    </context:component-scan>

```

```
</beans>
```

<servlet-context.xml>

```
<?xml version="1.0" encoding="UTF-8"?>
<beans:beans xmlns="http://www.springframework.org/schema/mvc"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:beans="http://www.springframework.org/schema/beans"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="http://www.springframework.org/schema/mvc
        http://www.springframework.org/schema/mvc/spring-mvc.xsd
        http://www.springframework.org/schema/beans
        https://www.springframework.org/schema/beans/spring-beans.xsd
        http://www.springframework.org/schema/context
        https://www.springframework.org/schema/context/spring-context.xsd">

    <!-- DispatcherServlet Context: defines this servlet's request-processing infrastructure -->

    <!-- Enables the Spring MVC @Controller programming model -->
    <annotation-driven />

    <!-- Handles HTTP GET requests for /resources/** by efficiently serving up static resources in the
    ${webappRoot}/resources directory -->
    <resources mapping="/resources/**" location="/resources/" />

    <!-- Resolves views selected for rendering by @Controllers to .jsp resources in the /WEB-INF/views directory -->
    <beans:bean class="org.springframework.web.servlet.view.InternalResourceViewResolver">
        <beans:property name="prefix" value="/WEB-INF/views/" />
        <beans:property name="suffix" value=".jsp" />
    </beans:bean>

    <context:component-scan base-package="kr.ac.hansung.controller" />

</beans:beans>
```

2) 컨트롤러 파일:

<ProductController.java>

```
@RestController
@RequestMapping(path = "/api/products")
public class ProductController {

    @Autowired
```

```
private ProductService productService;
```

```
@RequestMapping(method = RequestMethod.GET)
```

```
public ResponseEntity<?> retrieveAllProducts() {
```

```
    // Getting all products in application...
```

```
    final List<Product> products = productService.getAllProducts();
```

```
    if (products.isEmpty()) {
```

```
        return new ResponseEntity<>(HttpStatus.NO_CONTENT);
```

```
    }
```

```
    return new ResponseEntity<List<Product>>(products, HttpStatus.OK);
```

```
}
```

```
@RequestMapping(path =("/{id}", method = RequestMethod.GET)
```

```
public ResponseEntity<Product> retrieveProduct(@PathVariable Long id) {
```

```
    Product product = productService.getProductById(id);
```

```
    if (product == null) {
```

```
        throw new NotFoundException(id);
```

```
    }
```

```
    return new ResponseEntity<Product>(product, HttpStatus.OK);
```

```
}
```

// DTO(Data Transfer Object) : 계층간 데이터 교환을 위한 객체, 여기서는 클라이언트(Postman)에서 오는 데이터를 수신할 목적으로 사용

// Product와 ProductDto와의 차이를 비교해서 살펴보기 바람

```
@RequestMapping(method = RequestMethod.POST)
```

```
public ResponseEntity<Product> createProduct(@RequestBody @Valid ProductDto request) {
```

```
    Product product = productService.createProduct(request.getName(), request.getPrice());
```

```
    return new ResponseEntity<Product>(product, HttpStatus.CREATED);
```

```
}
```

```
@RequestMapping(path =("/{id}", method = RequestMethod.PUT)
```

```
public ResponseEntity<Product> updateProduct(@PathVariable Long id, @RequestBody @Valid ProductDto request) {
```

```
    Product currentProduct = productService.getProductById(id);
```

```
    if (currentProduct == null) {
```

```
        throw new NotFoundException(id);
```

```
    }
```

```
    currentProduct.setName(request.getName());
```

```
    currentProduct.setPrice(request.getPrice());
```

```
    productService.updateProduct(currentProduct);
```

```

        return new ResponseEntity<Product>(currentProduct, HttpStatus.OK);
    }

    @RequestMapping(path = "{id}", method = RequestMethod.DELETE)
    public ResponseEntity<Void> deleteProduct(@PathVariable Long id) {
        // Getting the requiring product; or throwing exception if not found
        final Product product = productService.getProductById(id);

        if(product == null)
            throw new NotFoundException(id);

        // Deleting product from the application...
        productService.deleteProduct(product);

        return new ResponseEntity<>(HttpStatus.NO_CONTENT); //아래와 동일한 기능
        //return ResponseEntity.noContent().build();
    }

    @Getter
    @Setter
    static class ProductDto {

        @NotNull(message = "name is required")
        @Size(message = "name must be equal to or lower than 300", min = 1, max = 300)
        private String name;

        @NotNull(message = "name is required")
        @Min(0)
        private Double price;
    }
}

```

<CategoryController.java>

```

@RestController
@RequestMapping(path = "/api/categories")
public class CategoryController {

    @Autowired
    private CategoryService categoryService;

    @RequestMapping(method = RequestMethod.GET)
    public ResponseEntity<?> retrieveAllCategories() {
        // Getting all categories in application...
        final List<Category> categories = categoryService.getAllCategories();

        if (categories.isEmpty()) {

```

```

        return new ResponseEntity<>(HttpStatus.NO_CONTENT);
    }

    return ResponseEntity.ok(categories);
    // return new ResponseEntity<List<Category>>(categories, HttpStatus.OK);

}

@RequestMapping(path =("/{id}", method = RequestMethod.GET)
public ResponseEntity<?> retrieveCategory(@PathVariable Long id) {
    final Category category = categoryService.getCategoryById(id);
    if (category == null) {
        throw new NotFoundException(id);
    }
    return ResponseEntity.ok(category);
}

// DTO(Data Transfer Object) : 계층간 데이터 교환을 위한 객체, 여기서는 클라이언트(Postman)에서 오는 데이터를
// 수신할 목적으로 사용
// Category와 CategoryDto와의 차이를 비교해서 살펴보기 바람
@RequestMapping(method = RequestMethod.POST)
public ResponseEntity<?> createCategory(@RequestBody @Valid CategoryDto request) {

    // Creating a new category in the application...
    final Category category = categoryService.createCategory(request.getName());

    // return new ResponseEntity<Category>(category, HttpStatus.CREATED);
    return ResponseEntity.status(HttpStatus.CREATED).body(category);
}

@RequestMapping(path =("/{id}", method = RequestMethod.PUT)
public ResponseEntity<?> updateCategory(@PathVariable Long id, @RequestBody @Valid CategoryDto request) {
    Category currentCategory = categoryService.getCategoryById(id);

    if (currentCategory == null) {
        throw new NotFoundException(id);
    }

    currentCategory.setName(request.getName());

    categoryService.updateCategory(currentCategory);

    return ResponseEntity.ok(currentCategory);
}

@RequestMapping(path =("/{id}", method = RequestMethod.DELETE)
public ResponseEntity<?> deleteCategory(@PathVariable Long id) {

```

```

        // Getting the requiring category; or throwing exception if not found
        final Category category = categoryService.getCategoryById(id);

        if (category == null)
            throw new NotFoundException(id);

        // Deleting category from the application...
        categoryService.deleteCategory(category);

        return ResponseEntity.noContent().build();
        // return new ResponseEntity<>(HttpStatus.NO_CONTENT);

    }

    static class CategoryDto {
        @NotNull(message = "name is required")
        @Size(message = "name must be equal to or lower than 100", min = 1, max = 100)
        private String name;

        public String getName() {
            return name;
        }

        public void setName(String name) {
            this.name = name;
        }
    }
}

```

<CategorySubcategoriesController.java>

```

@RestController
@RequestMapping(path = "/api/categories/{parentid}/subcategories")
public class CategorySubcategoriesController {

    @Autowired
    private CategoryService categoryService;

    @RequestMapping(method = RequestMethod.GET)
    public ResponseEntity<?> retrieveAllSubcategories(@PathVariable Long parentid) {

        // Getting the requiring category; or throwing exception if not found
        final Category parent = categoryService.getCategoryById(parentid);
        if( parent == null)
            throw new NotFoundException(parentid);

        // Getting all categories in application...
    }
}

```

```

final Set<Category> subcategories = parent.getChildCategories();

return ResponseEntity.ok(subcategories);
}

@RequestMapping(path =("/{childid}", method = RequestMethod.POST)
public ResponseEntity<?> addSubcategory(@PathVariable Long parentid, @PathVariable Long childid) {
    final Category parent = categoryService.getCategoryById(parentid);
    if (parent == null)
        throw new NotFoundException(parentid);

    final Category child = categoryService.getCategoryById(childid);
    if (child == null)
        throw new NotFoundException(childid);

    if (categoryService.isChildCategory(child, parent)) {
        throw new IllegalArgumentException("category " + parent.getId() + " already contains subcategory " + child.getId());
    }

    categoryService.addChildCategory(child, parent);

    return ResponseEntity.status(HttpStatus.CREATED).body(child);
}

@RequestMapping(path =("/{childid}", method = RequestMethod.DELETE)
public ResponseEntity<?> removeSubcategory(@PathVariable Long parentid, @PathVariable Long childid) {

    // Getting the requiring category; or throwing exception if not found
    final Category parent = categoryService.getCategoryById(parentid);
    if (parent == null)
        throw new NotFoundException(parentid);

    // Getting the requiring category; or throwing exception if not found
    final Category child = categoryService.getCategoryById(childid);
    if (child == null)
        throw new NotFoundException(childid);

    // Validating if association exists...
    if (!categoryService.isChildCategory(child, parent)) {
        throw new IllegalArgumentException("category " + parent.getId() + " does not contain subcategory " +
child.getId());
    }

    // Dis-associating parent with subcategory...
    categoryService.removeChildCategory(child, parent);

    return ResponseEntity.noContent().build();
}

```



```
}
```

<CategoryProductsController.java>

```
@RestController
@RequestMapping(path = "/api/categories/{categoryid}/products")
public class CategoryProductsController {

    @Autowired
    private CategoryService categoryService;

    @Autowired
    private ProductService productService;

    @RequestMapping(method = RequestMethod.GET)
    public ResponseEntity<?> retrieveAllProducts(@PathVariable Long categoryid) {
        final Category category = categoryService.getCategoryById(categoryid);
        if (category == null) {
            throw new NotFoundException(categoryid);
        }

        Set<Product> products = category.getProducts();

        return ResponseEntity.ok(products);
    }

    @RequestMapping(path =("/{productid}", method = RequestMethod.POST)
    public ResponseEntity<?> addProduct(@PathVariable Long categoryid, @PathVariable Long productid) {

        // Getting the requiring category; or throwing exception if not found
        final Category category = categoryService.getCategoryById(categoryid);
        if (category == null)
            throw new NotFoundException(categoryid);

        // Getting the requiring product; or throwing exception if not found
        final Product product = productService.getProductById(productid);
        if (product == null)
            throw new NotFoundException(productid);

        // Validating if association does not exist...
        if (productService.hasCategory(product, category)) {
            throw new IllegalArgumentException(
                "product " + product.getId() + " already contains category " + category.getId());
        }

        // Associating product with category...
        productService.addCategory(product, category);
    }
}
```

```

        return ResponseEntity.status(HttpStatus.CREATED).body(product);
    }

    @RequestMapping(path =("/{productid}", method = RequestMethod.DELETE)
    public ResponseEntity<?> removeProduct(@PathVariable Long categoryid, @PathVariable Long productid) {
        final Category category = categoryService.getCategoryById(categoryid);
        if (category == null)
            throw new NotFoundException(categoryid);

        final Product product = productService.getProductById(productid);
        if (product == null)
            throw new NotFoundException(productid);

        if (!productService.hasCategory(product, category)) {
            throw new IllegalArgumentException(
                "product " + product.getId() + " does not contain category " + category.getId());
        }

        productService.removeCategory(product, category);

        return ResponseEntity.noContent().build();
    }
}

```

Products:

1) Get, <http://localhost:8080/eCommerce/api/products>

GET

http://localhost:8080/eCommerce/api/products

Params

Authorization

Headers (7)

Body

Pre-request Script

Tests

Settings

Body

Cookies

Headers (3)

Test Results

Status: 200 OK

Pretty

Raw

Preview

Visualize

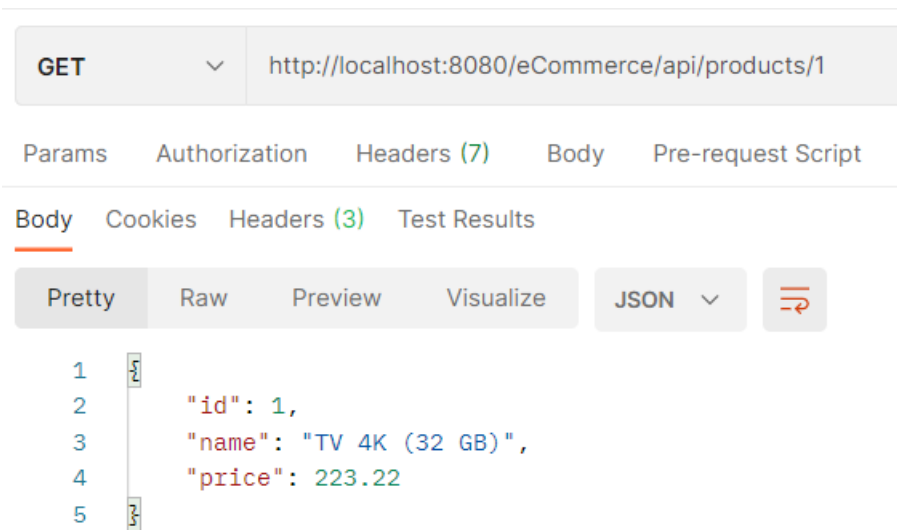
JSON

```

158     "id": 32,
159     "name": "BATH BRUSH BACK SCRUBB MASSAGER SHOWER BODY BACK 13.5 HANDLE SPA PET NEW",
160     "price": 7.49
161 },
162 {
163     "id": 33,
164     "name": "9X SOAP DISPENSER DISH CASE HOLDER CONTAINER BOX BATHROOM CLEAN DRY TRAVEL CARRY",
165     "price": 13.99
166 },
167 {
168     "id": 34,
169     "name": "GENUINE JXE GJ014457 CITRUS SCXNTED LIQUID HANDWASH&#44; ORANGE",
170     "price": 11.63
171 },
172 {
173     "id": 35,
174     "name": "GENUINE JXE GJ014467 ALCOHOL-FREE FOAM HAND SANITIZER&#44; CLEAR",
175     "price": 12.14
176 },
177 {
178     "id": 36,

```

2) Get, <http://localhost:8080/eCommerce/api/products/1>

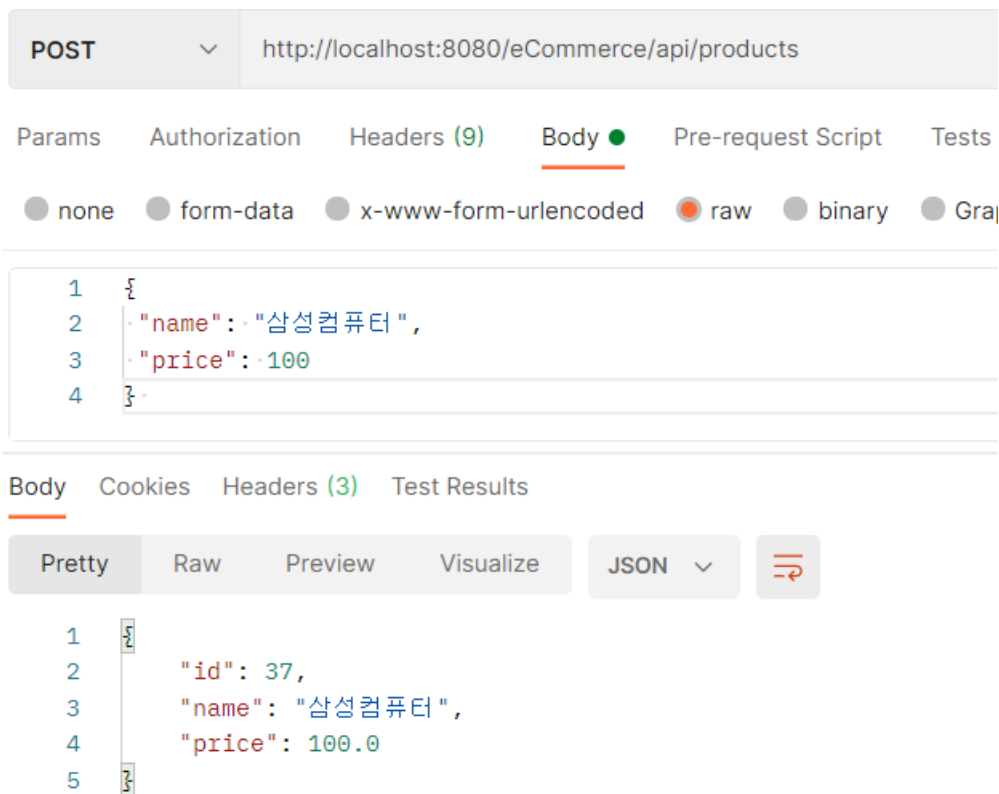


The image shows a Postman GET request interface. The method is 'GET' and the URL is 'http://localhost:8080/eCommerce/api/products/1'. The 'Body' tab is selected, showing a JSON response in 'Pretty' format. The response is a JSON object with 'id', 'name', and 'price' fields.

```
1 {  
2   "id": 1,  
3   "name": "TV 4K (32 GB)",  
4   "price": 223.22  
5 }
```

3) Post, <http://localhost:8080/eCommerce/api/products>, id 37에 생성되는지 확인

{ "name": "삼성컴퓨터", "price": 100 } // body는 postman에서 raw-json format으로 전송



The image shows a Postman POST request interface. The method is 'POST' and the URL is 'http://localhost:8080/eCommerce/api/products'. The 'Body' tab is selected, showing a JSON request in 'Raw' format. The request body is a JSON object with 'name' and 'price' fields. Below the request, the 'Body' tab is also shown with a 'Pretty' format view of the response, which is a JSON object with 'id', 'name', and 'price' fields.

```
1 {  
2   "name": "삼성컴퓨터",  
3   "price": 100  
4 }
```

```
1 {  
2   "id": 37,  
3   "name": "삼성컴퓨터",  
4   "price": 100.0  
5 }
```

4) Put, <http://localhost:8080/eCommerce/api/products/37> { "name": "LG컴퓨터", "price": 100 }

PUT

▼

http://localhost:8080/eCommerce/api/products/37

ParamsAuthorizationHeaders (9)Body●Pre-request Script

● none

● form-data

● x-www-form-urlencoded

● raw

● binary

```
1 {
2   ... "name": "LG컴퓨터",
3   ... "price": 100
4 }
```

BodyCookiesHeaders (3)Test Results

Pretty

Raw

Preview

Visualize

JSON ▼

↻

```
1 {
2   "id": 37,
3   "name": "LG컴퓨터",
4   "price": 100.0
5 }
```

5) Delete, <http://localhost:8080/eCommerce/api/products/37>

DELETE

▼

http://localhost:8080/eCommerce/api/products/37

ParamsAuthHeaders (7)BodyPre-req.TestsSettings

Body ▼

🌐 204 No Content 88 ms 64 B

Pretty

Raw

Preview

Visualize

Text ▼

↻

1

Category:

1-1) Get, <http://localhost:8080/eCommerce/api/categories>

GET http://localhost:8080/eCommerce/api/categories

Params Authorization Headers (7) Body Pre-request Script Tests Settings

Body Cookies Headers (3) Test Results

Pretty Raw Preview Visualize JSON

```
235 },
236 {
237   "id": 4,
238   "name": "Beauty & Personal Care",
239   "products": [],
240   "childCategories": [
241     {
242       "id": 16,
243       "name": "Bath & Shower",
244       "products": [
245         {
246           "id": 32,
247           "name": "BATH BRUSH BACK SCRUBB MASSAGER SHOWER BODY BACK 13.5 HANDLE SPA PET NEW",
248           "price": 7.49
249         },
250         {
251           "id": 33,
252           "name": "9X SOAP DISPENSER DISH CASE HOLDER CONTAINER BOX BATHROOM CLEAN DRY TRAVEL CARRY",
253           "price": 13.99
254         }
255       ]
256     }
257   ]
258 }
```

1-2) Get, <http://localhost:8080/eCommerce/api/categories/1>

```
GET http://localhost:8080/eCommerce/api/categories/1

Params Auth Headers (7) Body Pre-req. Tests Settings

Body 200 OK 87 ms 1.26 KB Save

Pretty Raw Preview Visualize JSON

{
  "id": 1,
  "name": "Electronics",
  "products": [],
  "childCategories": [
    {
      "id": 6,
      "name": "Audio & Video Components",
      "products": [
        {
          "id": 1,
          "name": "TV 4K (32 GB)",
          "price": 223.22
        },
        {
          "id": 2,
          "name": "RCA ANT751 OUTDOOR ANTENNA OPTIMIZED FOR DIGITAL RECEPTION - UPTO 3.3 FT",
          "price": 49.22
        }
      ]
    }
  ]
}
```

1-3) Post, <http://localhost:8080/eCommerce/api/categories>, id 18 카테고리 생성됨

{ "name": "스마트폰" }

The screenshot shows a REST client interface with the following details:

- Method:** POST
- URL:** <http://localhost:8080/eCommerce/api/categories>
- Body Tab:** Selected, showing a JSON payload:

```
{  "name": "스마트폰" }
```
- Response:** Status 201 Created. The response body is displayed in the 'Pretty' view as:

```
{  "id": 18,  "name": "스마트폰",  "products": null,  "childCategories": null }
```

1-4) Put, <http://localhost:8080/eCommerce/api/categories/18>

{ "name": "스마트폰" }

The screenshot shows a REST client interface with the following details:

- Method:** PUT
- URL:** <http://localhost:8080/eCommerce/api/categories/18>
- Body Tab:** Selected, showing a JSON payload:

```
{  "name": "스마트폰" }
```
- Response:** Status 200 OK. The response body is displayed in the 'Pretty' view as:

```
{  "id": 18,  "name": "스마트폰",  "products": [],  "childCategories": [] }
```

PUT ▼ http://localhost:8080/eCommerce/api/categories/18

Params Auth Headers (9) **Body** ● Pre-req. Tests Settings

raw ▼ JSON ▼

```

1  {
2    "name": "태블릿"
3  }

```

Body ▼ 200 OK

Pretty Raw Preview Visualize JSON ▼

```

1  {
2    "id": 18,
3    "name": "태블릿",
4    "products": [],
5    "childCategories": []
6  }

```

1-5) Delete, <http://localhost:8080/eCommerce/api/categories/18>

DELETE ▼ http://localhost:8080/eCommerce/api/categories/18

Params Auth Headers (7) Body Pre-req. Tests Settings

Body ▼ 204 No Content

Pretty Raw Preview Visualize Text ▼

```

1

```

2-1) Get, <http://localhost:8080/eCommerce/api/categories/1/subcategories>

GET ▼ http://localhost:8080/eCommerce/api/categories/1/subcategories Send

Params Auth Headers (7) Body Pre-req. Tests Settings Cook

Body ▼ 200 OK 60 ms 1.2 KB Save Response

Pretty Raw Preview Visualize JSON ▼

```

1  {
2    "id": 6,
3    "name": "Audio & Video Components",
4    "products": [
5      {
6        "id": 1,
7        "name": "TV 4K (32 GB)",
8        "price": 223.22
9      },
10     {
11       "id": 2,
12       "name": "RCA ANT751 OUTDOOR ANTENNA OPTIMIZED FOR DIGITAL RECEPTION
13         - UPTO 3.3 FT",
14       "price": 49.22
15     },
16     {
17       "id": 3,
18       "name": "APC REPLACEMENT BATTERY NO 24",
19       "price": 299.0

```

2-2) subcategory를 생성한 후(id=19), category(id=1)에 연결한다

Post, <http://localhost:8080/eCommerce/api/categories>

{ "name": "스마트폰" }

POST http://localhost:8080/eCommerce/api/categories

Params Auth Headers (9) Body ● Pre-req. Tests Settings

raw JSON

```
1 {
2   "name": "스마트폰"
3 }
```

Body 201 Created

Pretty Raw Preview Visualize JSON

```
1 {
2   "id": 19,
3   "name": "스마트폰",
4   "products": null,
5   "childCategories": null
6 }
```

Post, <http://localhost:8080/eCommerce/api/categories/1/subcategories/19>

POST http://localhost:8080/eCommerce/api/categories/1/subcategories/19

Params Auth Headers (8) Body Pre-req. Tests Settings

none

This request does not have a body

Body 201 Created 205 ms 18

Pretty Raw Preview Visualize JSON

```
1 {
2   "id": 19,
3   "name": "스마트폰",
4   "products": [],
5   "childCategories": []
6 }
```

GET http://localhost:8080/eCommerce/api/categories/1

Params Auth Headers (7) Body Pre-req. Tests Settings

none


This request does not have a body

Body 200 OK 139 ms 1.3

Pretty Raw Preview Visualize JSON


```
1 {
2   "id": 1,
3   "name": "Electronics",
4   "products": [],
5   "childCategories": [
6     {
7       "id": 19,
8       "name": "스마트폰",
9       "products": [],
10      "childCategories": []
11     },
12   ]
13 }
```


2-3) Delete, <http://localhost:8080/eCommerce/api/categories/1/subcategories/19>


DELETE 

http://localhost:8080/eCommerce/api/categories/1/subcategories/19


Params Auth Headers (7) Body Pre-req. Tests Settings


none 

This request does not have a body

Body 


 204 No Content 151 ms

Pretty Raw Preview Visualize Text 



1

3-1) Get, <http://localhost:8080/eCommerce/api/categories/8/products> 먼저 “Computer” 카테고리에 존재하는 Product조회한다


GET 


http://localhost:8080/eCommerce/api/categories/8/products

Send

Params Auth Headers (7) Body Pre-req. Tests Settings

Body   200 OK 91 ms 516 B [Save Response](#)

Pretty Raw Preview Visualize JSON 



```
1 [
2   {
3     "id": 1,
4     "name": "TV 4K (32 GB)",
5     "price": 223.22
6   },
7   {
8     "id": 7,
9     "name": "APXXX MXCBXXX AIR MQD42LL/A 13.3\" LCD NOTEBOOK - INTEL CORE I5
10      (5TH GEN) DUAL-CORE 256 GB SSD S)",
11     "price": 1052.49
12   },
13   {
14     "id": 8,
```

3-2) Product(id=38)를 생성한 후, "Computer" 카테고리에 저장한다.

Post, <http://localhost:8080/eCommerce/api/products>

{ "name": "LG컴퓨터", "price": 100 }

POST ▼ <http://localhost:8080/eCommerce/api/products>

Params Auth Headers (9) **Body** ● Pre-req. Tests Settings

raw ▼ **JSON** ▼

```
1 {  
2   "name": "LG컴퓨터",  
3   "price": 100  
4 }
```

Body ▼ 🌐 201 Created

Pretty Raw Preview Visualize **JSON** ▼ ↺

```
1 {  
2   "id": 38,  
3   "name": "LG컴퓨터",  
4   "price": 100.0  
5 }
```

Post, <http://localhost:8080/eCommerce/api/categories/8/products/38>

POST ▼ <http://localhost:8080/eCommerce/api/categories/8/products/38>

Params Auth Headers (8) **Body** Pre-req. Tests Settings

Body ▼ 🌐 201 Created 92 ms

Pretty Raw Preview Visualize **JSON** ▼ ↺

```
1 {  
2   "id": 38,  
3   "name": "LG컴퓨터",  
4   "price": 100.0  
5 }
```

GET
▼
http://localhost:8080/eCommerce/api/categories/8

Params
Auth
Headers (7)
Body
Pre-req.
Tests
Settings

Body
▼
200 OK

Pretty
Raw
Preview
Visualize
JSON
▼

```

1  {
2    "id": 8,
3    "name": "Computers",
4    "products": [
5      {
6        "id": 1,
7        "name": "TV 4K (32 GB)",
8        "price": 223.22
9      },
10     {
11       "id": 38,
12       "name": "LG컴퓨터",
13       "price": 100.0
14     },
15   ]

```

3-3) Delete, <http://localhost:8080/eCommerce/api/categories/8/products/38>

DELETE
▼
http://localhost:8080/eCommerce/api/categories/8/products/38

Params
Auth
Headers (7)
Body
Pre-req.
Tests
Settings

Body
▼
204 No Content 141 ms

Pretty
Raw
Preview
Visualize
Text
▼

```

1

```

GET
▼
http://localhost:8080/eCommerce/api/categories/8

Params
Auth
Headers (7)
Body
Pre-req.
Tests
Settings

Body
▼
200 OK 70 ms 576 B

Pretty
Raw
Preview
Visualize
JSON
▼

```

1  {
2    "id": 8,
3    "name": "Computers",
4    "products": [
5      {
6        "id": 1,
7        "name": "TV 4K (32 GB)",
8        "price": 223.22
9      },
10     {
11       "id": 7,
12       "name": "APXXX MXCBXXXK AIR MQD42LL/A 13.3\" LCD NOTEBOOK -
13         (5TH GEN) DUAL-CORE 256 GB SSD S)",
14       "price": 1052.49
15     },
16   ]

```