# Exercise 03 - Handling `New Product` Events

## Required Services

The following services are involved and have to be started before the final exercise validation:

- NotificationSrv (`http://localhost:8010`)
- ProductSrv (`http://localhost:8050`)
- WarehouseSrv (`http://localhost:8070`)

## Description

The product management team has decided to establish a new follow-up process when a new product has been added to the DB of the `ProductSrv`. To make their job easier and reduce manual efforts, several automatic actions have to be performed when a new product has been successfully created via `POST /products (experiment.webshop.products.resources.ProductResource)`.

## Tasks

The following extensions to the `createProduct()` method (`experiment.webshop.products.resources.ProductResource`) have to be added as a follow up to a successful finish:

1. **NotificationSrv: Add the product to the internal new product DB.** The `NotificationSrv` has an internal DB with new products. Products can be added by invoking `POST /new-products (experiment.webshop.notifications.resources.NotificationResource)`. The payload for this method is the newly created `experiment.webshop.products.api.Product` instance that is returned from the `storeProduct()` method of the `experiment.webshop.products.db.ProductRepository`. Use the provided Jersey `restClient` instance for this. You can copy and adapt one of the existing invocation examples (e.g. the `OrderSrv`'s marketing mail request from exercise 1, task 4).
2. **NotificationSrv: Notify the sales department about the new product.** The `NotificationSrv` provides functionality for this via `POST /product-mails (experiment.webshop.notifications.resources.NotificationResource)`. The payload for this method is an instance of `experiment.webshop.products.api.NewProductMailRequest`. Use the provided Jersey `restClient` instance for this, in the same fashion as for task 1. Below is an exemplary payload (`product` will of course be the newly created product):

```
{
    "type": "NEW_PRODUCT_MAIL",
    "product": {
        "id": 1,
        "name": "NewTestProduct"
        "categoryId": 1,
        "price": 9.99
    }
}
```

3. **WarehouseSrv: Stock-up on 10 copies of the newly created product.** As a start, the `WarehouseSrv` needs to have 10 copies of the new product available for purchase. This stock-up process can be initiated by invoking `PUT /products/{id}/availability?amount=10 (experiment.webshop.warehouse.resources.WarehouseResource)`. Use the provided Jersey `restClient` instance for this, in the same fashion as for task 1 and 2. Since there is no payload (only the URL parameter `amount`), you need to use an empty string payload as a workaround like so:

```
Invocation.Builder request = restClient.target(url).request();
BaseResponse response = request.put(Entity.json(""), BaseResponse.class)
```

## Validation

When you are finished with all tasks, make sure all required services (see Required Services) and the exercise validation UI is up and running (if not, execute `exercise-validation/build-and-run-validation-ui.bat`) and then navigate to `http://localhost:5001` (**it is important to start from this page, because it will determine which version you are working on**). Click on `Exercise 03` and then on `Start Validation`. If every check is successful (`status: true`), pause your stopwatch and notify an experiment admin to write down your time.