

Exercise 01 - Order Process Changes

Required Services

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

- CustomerSrv (<http://localhost:8000>)
- NotificationSrv (<http://localhost:8010>)
- OrderProcessSrv (<http://localhost:8020>)
- OrderSrv (<http://localhost:8030>)
- ProductSrvFacade (<http://localhost:8040>)
- ProductSrv (<http://localhost:8050>)
- Apache Zookeeper (localhost:2181, starts automatically in the provided Ubuntu VM)
- Apache Kafka (localhost:9092, starts automatically in the provided Ubuntu VM)

Description

The `OrderProcessSrv` is responsible for orchestrating the process of creating a new order, which can be invoked via `POST http://localhost:8020/order-process`. The current process looks as follows (see the `createOrderProcess()` method in the `experiment.webshop.orderprocess.resources.OrderProcessResource` class):

1. The customer's credit rating (1-6) is validated by invoking the `CustomerSrv` via `GET http://localhost:8000/customers/{id}/credit-rating-check` (`experiment.webshop.customers.resources.CustomerResource`). Ratings of 4 or worse are rejected, ratings of 1-3 are accepted.
2. If the credit rating check was successful, the availability of the requested items is checked via the `ProductSrv`. For each item, `GET http://localhost:8050/products/{id}/availability?amount={amount}` (`experiment.webshop.products.resources.ProductResource`) is invoked. A product counts as `available`, if at least 3 copies would remain in stock after fulfilling the new order.
3. If all requested items are available in the necessary capacity, the order is created and stored by invoking the `OrderSrv` via `POST http://localhost:8030/orders` with the original order payload.

After some research, the sales team has decided that this process should now be adjusted and extended.

Tasks

All changes have to be performed in the `OrderProcessSrv`, more precisely within the `createOrderProcess()` method of the `experiment.webshop.orderprocess.resources.OrderProcessResource` class.

1. **Change the credit rating validation logic.** From now on, ratings of 1-4 should be accepted and ratings from 5-6 should be rejected. In short, the worst allowed rating should be increased from 3 to 4.
2. **Change the product availability validation logic.** From now on, at least 2 copies of the ordered product have to remain in stock after fulfilling the new order for the product to count as `available`. In short, the minimal remaining amount should be decreased from 3 to 2.
3. **Add a new final process step.** After creating a new order and before returning the final response, the `NotificationSrv` should be invoked to send a marketing mail with similar products to the customer via

POST <http://localhost:8010/marketing-mails>. Use the provided Jersey `restClient` instance for this. As request payload, you have to create an instance of `experiment.webshop.orders.api.MarketingMailRequest`. An example is provided below.

```
// Invoking the NotificationSrv to send a SIMILAR_PRODUCTS_MAIL for the new order
MarketingMailRequest marketingMailRequest = new
MarketingMailRequest("SIMILAR_PRODUCTS_MAIL", createdOrder);

Invocation.Builder request = restClient.target(notificationSrvUrl).request();
request.post(Entity.json(marketingMailRequest), 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.sh`) 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 01](#) 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.