Demo Subscription Service

API reference guide.

Demo-Subscription-Service is a Spring Boot application that provides REST interfaces for subscribing to the products and manage user subscriptions. It supports the following functionalities:

- Fetch the list of available products and filter them based on the applicable voucher code.
- Fetch the information on a single product.
- Subscribe to a product with a voucher code if applicable.
- Fetch all the subscriptions made by the customer.
- Pause, resume and cancel the subscription on a product.

Rest Endpoints:

1. GET /api/product[?voucherCode=FLAT10]

Retrieves the list of products. Products can be filtered based on a valid voucher code. Returns an error if the voucher code is invalid.

Auth: None

Example: http://localhost:8089/api/product?voucherCode=NY25OFF Response:

```
"productId": 1,
     "name": "Yoga Basics",
    ·· "description": "Full-Body Yoga for Beginners",
     "trainingLevel": "Easy",
     "price": 400.00,
      "status": true,
     "durationInWeeks": 15,
      "accessType": 1,
      "vouchers": [
              "voucherId": 1,
             "code": "FLAT10",
              "description": "Flat 10% off",
              "percentageDiscount": 10,
              "expiryTimestamp": "2021-02-14T06:29:59.000+00:00"
⋅⋅.},
   "productId": 2,
      "name": "Get In Shape",
    "description": "A Mix of Cardio and Full-Body Toning",
     "trainingLevel": "Medium",
     "price": 367.00,
     "status": true,
      "durationInWeeks": 10,
     "accessType": 1,
```

2. GET /api/product/{productId}

Fetch information related to a single product. Returns an error if product id is invalid.

Auth: None

Example: http://localhost:8089/api/product/5

Response:

```
"productId": 5,
... "name": "Body Shape",
... "description": "Total-Body Toning",
... "trainingLevel": "Medium",
... "price": 310.00,
... "status": true,
... "durationInWeeks": 12,
... "accessType": 2,
... "vouchers": [
... "

*
"vouchers": [
... "code": "NY250FF",
... "description": "New year sale! 25% Off",
... "percentageDiscount": 25,
... "expiryTimestamp": "2021-02-28T06:29:59.000+00:00"
```

3. POST /api/subscription/subscribe

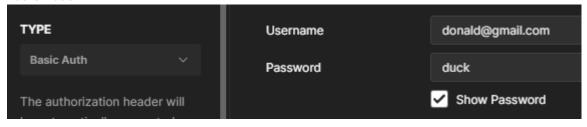
Subscribe to a product with a voucher code if applicable. This endpoint is open to only premium and trial customers. Returns error if –

- Invalid customer or customer has no role as mentioned below.
- Product not found.
- Voucher code is invalid.
- If customer has already subscribed to this product.

Auth: Authenticated customer having role – customer, customer_on_trial

Example: http://localhost:8089/api/subscription/subscribe

Authorization:



Request:

```
requestId": "request001",
"productId": 5,
"startTimestamp": 1613804400000,
"voucherCode": "NY250FF"
```

Response:

```
"subscriptionId": 1,
"startTimestamp": "2021-02-20T07:00:00.000+00:00",
"endTimestamp": "2021-05-15T07:00:00.000+00:00",
"lastPausedTimestamp": null,
"isActive": true,
"isCancelled": false,
"createdTimestamp": "2021-02-14T04:55:41.014+00:00",
"updatedTimestamp": "2021-02-14T04:55:41.014+00:00",
"product": {
    "productId": 5,
    "name": "Body Shape",
    "description": "Total-Body Toning",
    "trainingLevel": "Medium",
    "price": 310.00,
    "durationInWeeks": 12,
  - "accessType": 2
"payment": {
    "paymentId": 1,
    "amount": 232.50,
  "mode": "Credit Card",
    "status": 1
```

4. GET /api/subscription

Fetch all the subscriptions made by the customer. Returns error if invalid customer or customer has no roles as mentioned below.

Auth: Authenticated customer having role - customer, customer_on_trial

Example: http://localhost:8089/api/subscription

Authorization:



Response: (List of subscriptions made by the customer)

5. PATCH /api/subscription/{subscriptionId}/pause

Pause a valid subscription made by the customer. This endpoint is open to premium customers only. Returns error if –

- Invalid customer or customer has no role as mentioned below.
- Subscription not linked to the customer actioning it.
- If subscription is cancelled.
- If customer has already paused this subscription.

Auth: Authenticated customer having role - customer

Example: http://localhost:8089/api/subscription/1/pause

Authorization:



Response:

```
"subscriptionId": 1,
"startTimestamp": "2021-02-20T07:00:00.000+00:00",
"endTimestamp": "2021-05-15T07:00:00.000+00:00",
"lastPausedTimestamp": "2021-02-14T05:30:35.583+00:00",
"isActive": false,
"isCancelled": false,
"createdTimestamp": "2021-02-14T04:55:41.014+00:00",
"updatedTimestamp": "2021-02-14T05:30:35.583+00:00",
"product": {
    "productId": 5,
    "name": "Body Shape",
    "description": "Total-Body Toning",
    "trainingLevel": "Medium",
    "price": 310.00,
    "durationInWeeks": 12,
    "accessType": 2
```

6. PATCH /api/subscription/{subscriptionId}/resume

Resume a valid subscription previously paused by the customer. This endpoint is open to premium customers only.

Returns error if -

- Invalid customer or customer has no role as mentioned below.
- Subscription not linked to the customer actioning it.
- If subscription is cancelled.
- If the subscription is already ongoing.

Auth: Authenticated customer having role – **customer**

Example: http://localhost:8089/api/subscription/1/resume

Authorization:



Response: (Note - endTimeStamp is updated with the difference in days between last paused date and current date)

```
"subscriptionId": 1,
"startTimestamp": "2021-02-20T07:00:00.000+00:00",
"endTimestamp": "2021-05-15T07:00:00.000+00:00",
"lastPausedTimestamp": "2021-02-14T05:30:35.583+00:00",
"isActive": true,
"isCancelled": false,
"createdTimestamp": "2021-02-14T04:55:41.014+00:00",
"updatedTimestamp": "2021-02-14T05:36:31.722+00:00",
"product": {
    "productId": 5,
    "name": "Body Shape",
    "description": "Total-Body Toning",
    "trainingLevel": "Medium",
    "price": 310.00,
    "durationInWeeks": 12,
    "accessType": 2
"payment": {
```

7. DELETE /api/subscription/{subscriptionId}

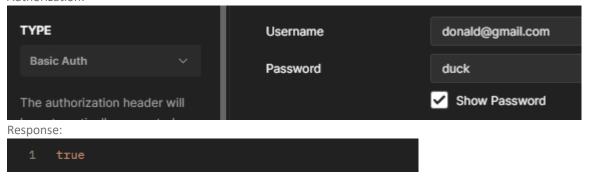
Cancel a valid and active subscription. Returns error if invalid customer or customer has no roles as mentioned below. Returns error if –

- Invalid customer or customer has no role as mentioned below.
- Subscription not linked to the customer actioning it.
- If subscription is cancelled already.

Auth: Authenticated customer having role – customer, customer_on_trial

Example: http://localhost:8089/api/subscription/1

Authorization:



Starting the application in docker environment:

To start the application in docker env, execute the below commands. The application will start with 'qa' profile and connects to MySql db.

cd subscription-service-demo

mvn clean package

docker-compose -f docker-compose.yaml up

Starting the application in local:

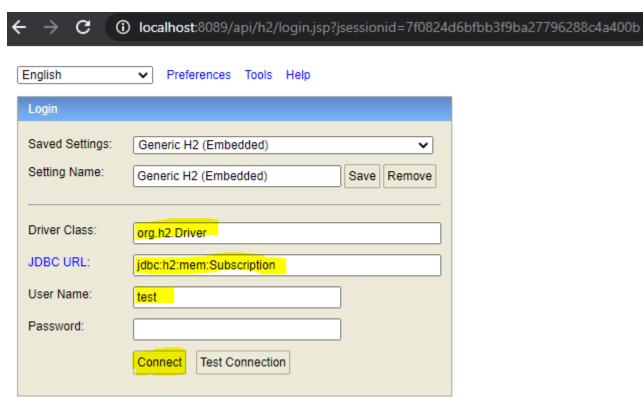
To start the application in local, run com.tst.shop.subscription.SubscriptionServiceApplication as Java application on passing environment variable: spring.profiles.active=local.

Application health: Application health and info can be monitored via actuator management context.

http://localhost:8089/actuator/health

http://localhost:8089/actuator/info

H2 In-memory DB: Local profile uses H2 in-memory database to store the data which can be accessed using H2 console. To open the H2 console, open http://localhost:8089/api/h2 in the browser. The H2 console window should appear as follows:



Initial data set:

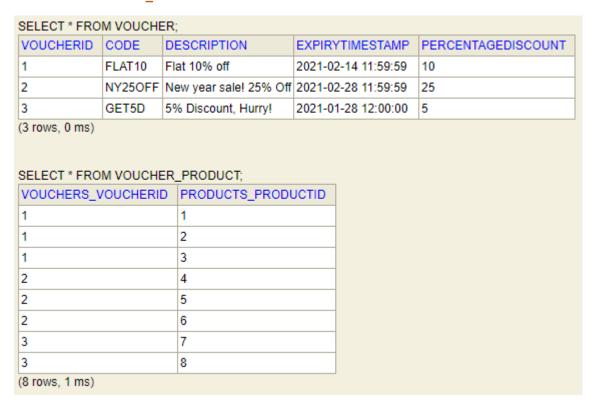
Product table:

PRODUCTID	ACCESSTYPE	DESCRIPTION	DURATIONINWEEKS	NAME	PRICE	STATUS	TRAININGLEVEL
1	1	Full-Body Yoga for Beginners	15	Yoga Basics	400.00	TRUE	Easy
2	1	A Mix of Cardio and Full-Body Toning	10	Get In Shape	367.00	TRUE	Medium
3	2	Holistic Training for Posture and Movement	8	Pure Pilates	290.00	TRUE	Easy
4	2	Fat-Burning Workouts to Get You Lean	6	Fat Burner	280.00	TRUE	Medium
5	2	Total-Body Toning	12	Body Shape	310.00	TRUE	Medium
6	2	Core Strength Training for Sculpted Abs	12	Six Pack	430.00	TRUE	Hard
7	2	Calming and Relaxing Restorative Yoga Flows	6	Yoga Recover	180.00	TRUE	Easy
3	2	Full-Body Dumbbell Circuit Training for Beginners	9	Full Body Circuit	384.00	TRUE	Easy
9	2	Dynamic Stretches to Increase Flexibility and Mobility	7	Mobility	340.00	TRUE	Medium
10	1	A 4-Week Program Perfect for Beginners	4	Full-Body Starter	130.00	TRUE	Easy

Customer table:

SELECT * FROM CUSTOMER;											
CUSTOMERID	ACTIVE	ADDRESS	EMAIL	NAME	PASSWORD	PHONE	ROLE				
1	TRUE	230, West road, Berlin	donald@gmail.com	Donald Duck	duck	7866554422	ROLE_CUSTOMER				
2	TRUE	230, West road, Berlin	leo@gmail.com	Leonardo D	caprio	7866554422	ROLE_USER				
3	TRUE	230, West road, Berlin	tom@gmail.com	Tom Cruise	mission	7866554422	ROLE_CUSTOMER_ON_TRAIL				
4	TRUE	230, West road, Berlin	robin@gmail.com	Robin Goodman	batman	7866554422	ROLE_CUSTOMER				
(4 rows, 2 ms)											

Voucher and Voucher_Product tables:



Unit testing: SpringRunner, Junit4 and Mockito has been used for unit testing. Due to the time constraint, I have demonstrated writing test cases for the 'Pause Subscription' functionality of SubscriptionService class only.

The unit testing status is as follows:

