

Assignment documentation

1. API Gateway - first service

- if client is valid then only allow otherwise 401
- authentication, authorization, routing
- auth token validation should be done here

2. Member - second service

DB → Postgres

a] POST → /member/register

request body

```
1 {
2   "email": "carttest@gmail.com",
3   "password": "Cart@123"
4 }
```

Positive case

```
1 {
2   "success": true,
3   "message": "Registration successful"
4 }
```

Error case

```
1 {
2   "success": false,
3   "message": "Invalid payload",
4   "errorCode": "INVALID_PAYLOAD"
5 }
6 {
7   "success": false,
8   "message": "Email already registered",
9   "errorCode": "EMAIL_ALREADY_EXISTS"
10 }
```

email

password - hashed password

username

register - Password hashed using Spring Security PasswordEncoder

generate one unique member id, which we can use for cart

b] login - Validate password using PasswordEncoder

POST → /member/login (email and password is required)

email

password

issuing token

- Hash password using `BCryptPasswordEncoder`
- Generate unique `memberId` (UUID or long sequence)

Request

```
1 {
2   "email": "carttest@gmail.com",
3   "password": "Cart@123"
```

```
4 }
```

Positive case

```
1 {
2     "success": true,
3     "message": "Login successful",
4     "data": {
5         "email": "carttest@gmail.com"
6     },
7     "accessToken": "eyJhbGciOiJSUzIiNiJ9eyJzdWIi0iJjYXJ0dGVzdEBnbWFpbC5jb20iLCJpc3Mi0iJnYXR1d2F5LXN1cnZpY2UiLCJpYXQi0jE3NjQ40TcxMjIsImV4cCI6MTc2NDkwMDcyMiwidHlwZSI6ImFjY2VzcyJ9.YZr2J08dWrIA83zohLf2cAz90HY2yJhaWLbzvUIrV9xQMciHJzAYFKy7-Jy626p6tn8EJj2qY0MKMS_CCUuk1oY19IMA-Uz0u4i-OMv15DygqReGvM9bjp6fWtc4F8xTL6k7b5LvD7QtpfxrXsZ16EjtHQ6wJP1w19rC4_K5Fw7BjTq5h2fUTY_waCUMq47y2QtMyfHz0JIehlUA_oZnxfo6XwSwU06UNEBO9QznHZT-HnMhIEhLB177CChw_XUF7pDeCfeAxKAZury-dIY1HMTX6R0F0NCvU7p_d2yMT0h0IKpHNNVn7ccNZBDy5LoWmkIrkhBsG91NNLGz7JH1w",
8     "refreshToken": "eyJhbGciOiJSUzIiNiJ9eyJzdWIi0iJjYXJ0dGVzdEBnbWFpbC5jb20iLCJpc3Mi0iJnYXR1d2F5LXN1cnZpY2UiLCJpYXQi0jE3NjQ40TcxMjIsImV4cCI6MTc2NTUwMTkyMiwianRpIjoiZTI3MmEyMWItZWRKMy000TE4LTkwZGUeMDdkNG03Y2NhODiyIiwidHlwZSI6InJZnJlc2gifQ.1enACrz5HapJdnhxzCI3Hf1ngxLN7AdYH04BZQBCF8PzcXkZXAMA2emmjpfHql6zCjkpsBzvoPhcoIwZVsp0bk53ecmhH01Kb8fRscjqoExyGHUnb-rE1kTtJC0CqVtdP8_ExcmbIkZ0Mto9XwF2Eljka8EYqrQ42m3I2We0vvXFxd_X4MIJs_913rS2XBkj2SP_uuB13CZif2qh0geDtC1L86xRhev2KAvbmRiLdhJCHhYIXfcTEnkRoJY87174LuLkt0-aPYW0RRimAaNnkB6xEa27EAY9qB047bA-e7RW1x6flj78exD9J3NRHrbD_6KFeHnLsge6wz-Ucw",
9     "tokenType": "Bearer",
10    "expiresIn": 3600
11 }
```

Error case

```
1 {
2     "success": false,
3     "message": "Invalid email or password",
4     "errorCode": "INVALID_CREDENTIALS"
5 }
```

3. Product - third service

DB → Mongo

need to use post with query param

a]

POST → /product/search?page=0&size=10&searchTerm=searchTermEnteredByUser

getproducts with pagination

Positive case

```
1 {
2     "content": [
3         {
4             "id": "693007779319b7099d1cf866",
5             "sku": "ME931QU2",
6             "name": "Rustic Iron Watch",
7             "description": "Laudantium itaque tempore fuga hic neque quo consectetur corrupti dignissimos repudiandae quas ratione molestiae.",
8             "price": 22.85,
9             "category": "Electronics & Garden",
10            "tags": [
11                "Aluminum",
12                "Concrete",
13                "Cotton",
14                "Bronze"
15            ],
16            "images": [
17                "https://picsum.photos/seed/F53C6B45/600/600",
18                "https://picsum.photos/seed/A3797EFF/600/600",
19                "https://picsum.photos/seed/2A71DC7F/600/600"
20            ]
21        }
22    ],
23    "pageable": {
24        "pageNumber": 0,
25        "pageSize": 10
26    },
27    "totalElements": 10,
28    "totalPages": 1,
29    "last": true
30 }
```

error case

```

1 {
2     "errorCode": "400",
3     "errorMessage": "Product not found with the search term"
4 }
5
6 {
7     "errorCode": "INVALID_PAYLOAD",
8     "errorMessage": "Invalid payload"
9 }

```

b] GET →

/product/{sku}
get product details
sku, product name, product description, price

Positive case

```

1 {
2     "id": "693007779319b7099d1cf866",
3     "sku": "ME931QU2",
4     "name": "Rustic Iron Watch",
5     "description": "Laudantium itaque tempore fuga hic neque quo consectetur corrupti dignissimos repudiandae quas ratione molestiae.",
6     "price": 22.85,
7     "category": "Electronics & Garden",
8     "tags": [
9         "Aluminum",
10        "Concrete",
11        "Cotton",
12        "Bronze"
13    ],
14     "images": [
15         "https://picsum.photos/seed/F53C6B45/600/600",
16         "https://picsum.photos/seed/A3797EFF/600/600",
17         "https://picsum.photos/seed/2A71DC7F/600/600"
18     ]
19 }

```

error case

```

1 {
2     "errorCode": "400",
3     "errorMessage": "Product not found in the system"
4 }

```

c] POST → /createProduct

to create products

Request body

```

1 {
2     "category": "testcategory1",
3     "description": "testdescriptio1",
4     "images": [
5         "testimage1"
6     ],
7     "name": "testname1",
8     "price": 12301,
9     "sku": "testsku1",
10    "tags": [
11        "testtag1"
12    ]
13 }

```

Positive case

```

1 {
2     "success": true,
3     "message": "Product created successfully",
4     "data": {
5         "id": "69314c9a3969c33ed0dadaab",
6         "sku": "testsku1",
7         "name": "testname1",
8         "description": "testdescriptio1",
9         "price": 12301.0,
10        "category": "testcategory1",

```

```

11     "tags": [
12         "testtag1"
13     ],
14     "images": [
15         "testimage1"
16     ]
17 }
18 }
```

error case

```

1 {
2     "errorCode": "400",
3     "errorMessage": "Product name is required"
4 }
```

4. Cart - fourth service

DB → Mongo

a] Add product to cart - with product id and quantity passed in request body

POST → cart/addToCart

List cartItems → productId, productName, quantity, price

Request body

```

1 { "quantity": 1, "sku": "ME931QU2"}
2 member id passed in header
```

Positive case

```

1 {
2     "success": true,
3     "message": "Product added to cart successfully",
4     "data": {
5         "totalPrice": 114.25,
6         "totalQuantity": 5,
7         "items": [
8             {
9                 "id": "693007779319b7099d1cf866",
10                "name": "Rustic Iron Watch",
11                "sku": "ME931QU2",
12                "description": "Laudantium itaque tempore fuga hic neque quo consectetur corrupti dignissimos repudiandae quas ratione
molestiae.",
13                "price": 22.85,
14                "category": "Electronics & Garden",
15                "tags": [
16                    "Aluminum",
17                    "Concrete",
18                    "Cotton",
19                    "Bronze"
20                ],
21                "images": [
22                    "https://picsum.photos/seed/F53C6B45/600/600",
23                    "https://picsum.photos/seed/A3797EFF/600/600",
24                    "https://picsum.photos/seed/2A71DC7F/600/600"
25                ],
26                "quantity": 5
27            }
28        ]
29    },
30    "timestamp": "2025-12-04T10:10:12.697246Z"
31 }
```

error case

```

1 {
2     "success": false,
3     "message": "An unexpected error occurred: Error fetching product details: 400 Bad Request",
4     "data": null,
5     "timestamp": "2025-12-05T01:32:10.030651Z"
6 }
```

b] View cart - getting cart details

GET → cart/items

Request body

```
1 member id passed in header
```

Positive case

```
1 {
2     "success": true,
3     "message": "Cart retrieved successfully",
4     "data": {
5         "totalPrice": 22.85,
6         "totalQuantity": 1,
7         "items": [
8             {
9                 "id": "693007779319b7099d1cf866",
10                "name": "Rustic Iron Watch",
11                "sku": "ME931QU2",
12                "description": "Laudantium itaque tempore fuga hic neque quo consectetur corrupti dignissimos repudiandae quas ratione molestiae.",
13                "price": 22.85,
14                "category": "Electronics & Garden",
15                "tags": [
16                    "Aluminum",
17                    "Concrete",
18                    "Cotton",
19                    "Bronze"
20                ],
21                "images": [
22                    "https://picsum.photos/seed/F53C6B45/600/600",
23                    "https://picsum.photos/seed/A3797EFF/600/600",
24                    "https://picsum.photos/seed/2A71DC7F/600/600"
25                ],
26                "quantity": 1
27            }
28        ]
29    },
30    "timestamp": "2025-12-04T12:10:01.249073Z"
31 }
```

error case

```
1 {
2     "success": false,
3     "message": "Cart not found for user ID: 58080",
4     "data": null,
5     "timestamp": "2025-12-05T01:47:03.429491Z"
6 }
```

c] Delete product from cart

DELETE → /deleteCartItems

Request body

```
1 member id need to be passed in header
```

Positive case

```
1 {
2     "success": true,
3     "message": "Cart items deleted successfully",
4     "data": {
5         "totalPrice": 0.0,
6         "totalQuantity": 0,
7         "items": []
8     },
9     "timestamp": "2025-12-05T01:48:49.488118Z"
10 }
```

error case

```
1 {
2     "success": false,
3     "message": "Cart not found for user ID: 50908908",
4     "data": null,
```

```
5     "timestamp": "2025-12-05T01:49:01.690625Z"
6 }
```

Diagram

