

## DefineX Homework Week3 - Hakan AFAT

1- Unit test; geliřtirdiđimiz projelerdeki componentleri para para, izole řekilde test etmemize denir. Mock data yani sahte oluřturduđumuz objelerden faydalanırız. Bu sayede uygulamamızı ayađa kaldırmadan spring boot zelinde beanlar oluřmadan test edebiliriz.

Integration test ise sistemin bir grup olarak test edilmesini sađlar. Geniř bir bakıř ađısı ile rneđin api a atılacak istek ve gelmesi gereken sonu gibi kontrol edilir.

Kod rnekleri repoda verilecektir.

2- Repo zerinde servisler ayrı ayrı řekilde grlebilir. İstenen kısımlar eklenmiřtir.

```
http://localhost:8080/api/applications/hakan@test.com

GET http://localhost:8080/api/applications/hakan@test.com

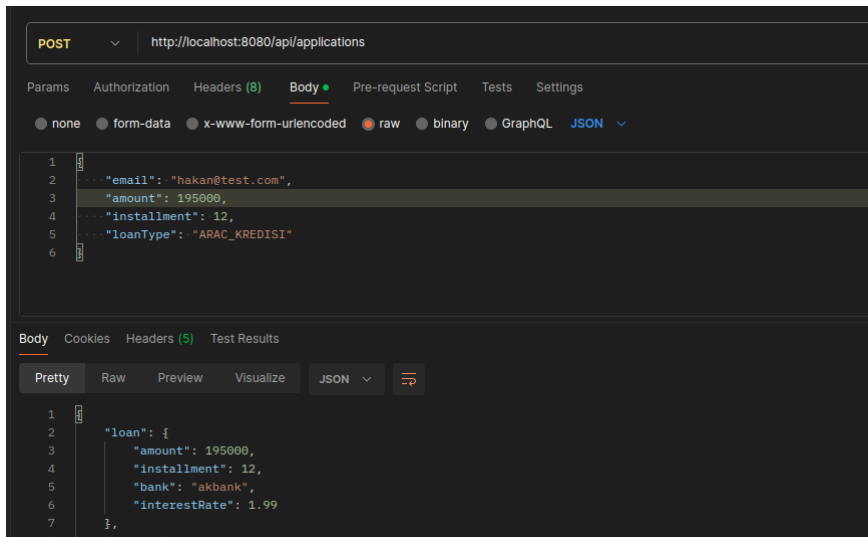
Params Authorization Headers (6) Body Pre-request Script Tests Settings
Body Cookies Headers (6) Test Results Status: 200 OK
Pretty Raw Preview Visualize JSON

49      "applicationStatus": "INITIAL",
50      "loan": {
51        "amount": 190000,
52        "installment": 12,
53        "bank": "akbank",
54        "interestRate": 1.99
55      }
56    },
57    {
58      "userId": 1,
59      "createDate": "2024-03-31T03:18:56.962613547",
60      "applicationStatus": "INITIAL",
61      "loan": {
62        "amount": 195000,
63        "installment": 12,
64        "bank": "akbank",
65        "interestRate": 1.99
66      }
67    },
68    {
69      "userId": 1,
70      "createDate": "2024-03-31T03:20:10.633541613",
71      "applicationStatus": "INITIAL",
72      "loan": {
73        "amount": 19000,
74        "installment": 12,
75        "bank": "garanti",
76        "interestRate": 2.99
77      }
78    }
79  ]
```

```
POST http://localhost:8080/api/applications

Params Authorization Headers (8) Body Pre-request Script Tests Settings
none form-data x-www-form-urlencoded raw binary GraphQL JSON
1  {
2    "email": "hakan@test.com",
3    "amount": 19000,
4    "installment": 12,
5    "loanType": "İHTİYAC_KREDİSİ"
6  }

Body Cookies Headers (5) Test Results
Pretty Raw Preview Visualize JSON
1  {
2    "loan": {
3      "amount": 19000,
4      "installment": 12,
5      "bank": "garanti",
6      "interestRate": 2.99
7    },
```



3- Kafka ve MongoDB kullanılarak exception halinde logların kayıt altına alınması için öncelikle;

<https://www.mongodb.com/docs/kafka-connector/current/tutorials/tutorial-setup/#kafka-connector-tutorial-setup>

sitesi üzerinden base docker compose projesini indirebiliriz. Daha sonrasında MongoDB üzerine kayıt yapacağımız için gerekli sink connector ü devreye alacağız. Bunun için sistemdeki topic name vb. belirten örnek bir config json dosyası hazırlamamız gerekti. Ayrıca docker compose dosyası üzerinde yapılan değişiklik ile portu açtığımızda host makine üzerinden kafka broker a kolayca bağlanabiliriz.

```
39m3-workstation:~/git/cohorts/week-3-phantomxe/kafka/mongodb-kafka-base$ docker exec -it mongol /bin/bash
MongoDB Kafka Sandbox $nano simplesink.json
MongoDB Kafka Sandbox $cat simplesink.json
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 854 100 431 100 423 1426 1399 --:--:-- --:--:-- --:--:-- 2818
{
  "name": "mongo-tutorial-sink",
  "config": {
    "connector.class": "com.mongodb.kafka.connect.MongoSinkConnector",
    "topics": "patika_logs",
    "connection.uri": "mongodb://mongol",
    "key.converter": "org.apache.kafka.connect.storage.StringConverter",
    "value.converter": "org.apache.kafka.connect.json.JsonConverter",
    "value.converter.schemas.enable": "false",
    "database": "patika",
    "collection": "logs",
    "name": "mongo-tutorial-sink"
  },
  "tasks": [1],
  "type": "sink"
}
MongoDB Kafka Sandbox $
```

```
39m3-workstation:~/git/cohorts/week-3-phantomxe/kafka/mongodb-kafka-base$ docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS                               NAMES
32994d44a56   mongodb-kafka-base-setup-mongod:1.0 "bash -c 'sleep 10 &..." 4 minutes ago   Exited (0) 4 minutes ago           8082/tcp           mongol-setup
b3589af72fd9   mongodb-kafka-base-mongod:1.0     "docker-entrypoint.s..." 4 minutes ago   Up 4 minutes                               8082/tcp           mongol
e7ac6da29b0f   confluentinc/cp-kafka-rest:7.2.2   "/etc/confluent/dock..." 4 minutes ago   Up 4 minutes                               8082/tcp           rest-proxy
1c30f60c1392   confluentinc/cp-schema-registry:7.2.2 "/etc/confluent/dock..." 4 minutes ago   Exited (1) 4 minutes ago           8082/tcp           schema-registry
f0b05739b0d4   mongo-kafka-connect                "/etc/confluent/dock..." 4 minutes ago   Up 4 minutes (healthy)               9092/tcp           connect
2372c435e76b   confluentinc/cp-kafka:7.2.2        "/etc/confluent/dock..." 4 minutes ago   Up 4 minutes                               9092/tcp           broker
11128f60131   confluentinc/cp-zookeeper:7.2.2    "/etc/confluent/dock..." 4 minutes ago   Up 4 minutes                               2181/tcp, 2888/tcp, 3888/tcp   zookeeper
91b4678452fa   bitnami/kafka:latest               "/opt/bitnami/script..." 2 days ago      Exited (1) 2 days ago
```

```

MongoDB Kafka Sandbox $status

Kafka topics:

  "topic": "docker-connect-status",
  "topic": "consumer_offsets",
  "topic": "patika.logs",
  "topic": "docker-connect-offsets",
  "topic": "docker-connect-configs",

The status of the connectors:

sink | mongo-tutorial-sink | RUNNING | RUNNING | com.mongodb.kafka.connect.MongoSinkConnector

Currently configured connectors

[
  "mongo-tutorial-sink"
]

Version of MongoDB Connector for Apache Kafka installed:

{"class":"com.mongodb.kafka.connect.MongoSinkConnector","type":"sink","version":"1.11.2"}
{"class":"com.mongodb.kafka.connect.MongoSourceConnector","type":"source","version":"1.11.2"}

```

GlobalExceptionHandler ile bağlantı sayesinde gelen exceptionlar toplanarak kafka ya yazılır. Sink connector ise bu kafka topic i consume edeceğinden MongoDB ye kayıt edilecektir.

Repo üzerindeki servislerde görülebilir.

The screenshot shows the MongoDB Compass interface. On the left, the 'Databases' sidebar lists 'admin', 'config', 'local', and 'patika'. The 'logs' database is selected, and the 'patika.logs' collection is visible. The main panel shows the 'Documents' tab for 'patika.logs'. It includes a search bar, 'ADD DATA' and 'EXPORT COLLECTION' buttons, and a list of log entries. Each entry contains a unique \_id, a timestamp (date), a description of the exception, and the message.

_id	date	description	message
ObjectId('660881fa71a8e605065e2fc4')	"2024-03-31T00:19:54.909139903"	"org.springframework.amqp.AmqpIOException: java.io.IOException at org..."	"exception-kredibizde-service"
ObjectId('66089d8f71a8e605065e2fc6')	"2024-03-31T02:17:35.648294497"	"com.patika.akbankservice.exceptions.NoSuitableLoanException: Loan type..."	"exception-akbank-service"
ObjectId('66089d8f71a8e605065e2fc7')	"2024-03-31T02:17:35.699646410"	"feign.FeignException\$BadRequest: [400] during [POST] to [http://akbank..."	"exception-kredibizde-service"
ObjectId('66089e2471a8e605065e2fc9')	"2024-03-31T02:20:04.020010110"	"feign.FeignException\$BadRequest: [400] during [POST] to [http://akbank..."	"exception-kredibizde-service"

4- Repo üzerinde görülebilir. Endpointlerin çıktıları ekran görüntüleri aşağıdadır.

spring Eureka

HOME LAST 1000 SINCE STARTUP

### System Status

Environment	test	Current time	2024-04-01T18:53:55 +0300
Data center	default	Uptime	00:01
		Lease expiration enabled	false
		Renews threshold	10
		Renews (last min)	2

### DS Replicas

localhost

### Instances currently registered with Eureka

Application	AMIs	Availability Zones	Status
CUSTOMER-SERVICE	n/a (1)	(1)	UP (1) - <a href="#">192.168.1.106:customer-service:8101</a>
HW1V2-GATEWAY	n/a (1)	(1)	UP (1) - <a href="#">192.168.1.106:hw1v2-gateway:8090</a>
INVOICE-SERVICE	n/a (1)	(1)	UP (1) - <a href="#">192.168.1.106:invoice-service:8103</a>
ORDER-SERVICE	n/a (1)	(1)	UP (1) - <a href="#">192.168.1.106:order-service:8102</a>

İlk olarak sipariş oluşturulması ve sipariş numarası alınması

GET

http://localhost:8090/api/orders/create

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

#### Query Params

Key	Value
Key	Value

Body

Cookies

Headers (3)

Test Results

Pretty

Raw

Preview

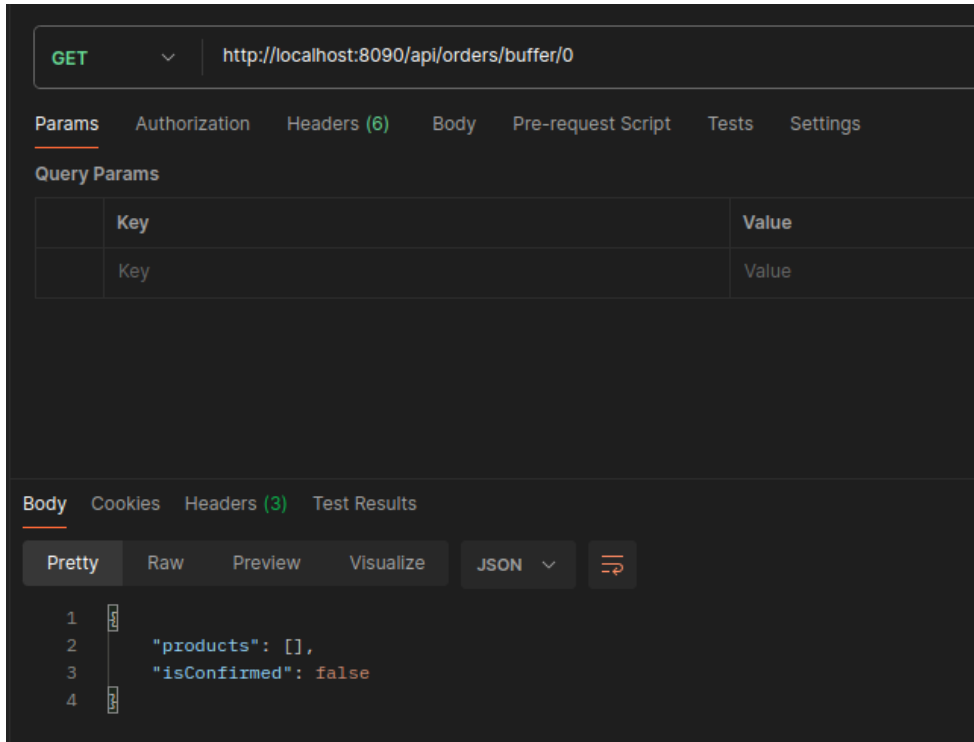
Visualize

JSON

1

0

Sipariş sepetimizin boş olduğu görülüyor.



GET ▼ http://localhost:8090/api/orders/buffer/0

Params Authorization Headers (6) Body Pre-request Script Tests Settings

Query Params

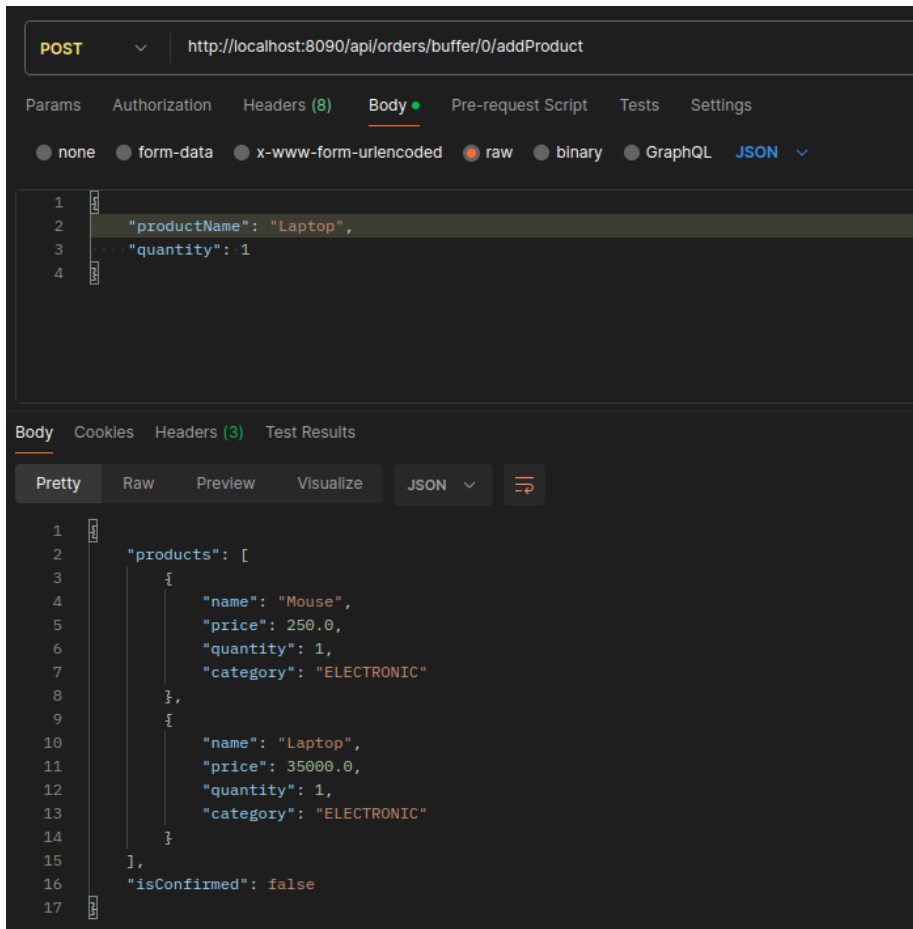
Key	Value
Key	Value

Body Cookies Headers (3) Test Results

Pretty Raw Preview Visualize JSON ▼ ≡

```
1 {
2   "products": [],
3   "isConfirmed": false
4 }
```

Sırası ile iki adet ürün ekliyoruz.



POST ▼ http://localhost:8090/api/orders/buffer/0/addProduct

Params Authorization Headers (8) Body ● Pre-request Script Tests Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL JSON ▼

```
1 {
2   "productName": "Laptop",
3   "quantity": 1
4 }
```

Body Cookies Headers (3) Test Results

Pretty Raw Preview Visualize JSON ▼ ≡

```
1 {
2   "products": [
3     {
4       "name": "Mouse",
5       "price": 250.0,
6       "quantity": 1,
7       "category": "ELECTRONIC"
8     },
9     {
10      "name": "Laptop",
11      "price": 35000.0,
12      "quantity": 1,
13      "category": "ELECTRONIC"
14    }
15  ],
16  "isConfirmed": false
17 }
```

Siparişı tamamlıyoruz.

GET

http://localhost:8090/api/orders/buffer/0/complete/test2@test.com

ParamsAuthorizationHeaders (6)BodyPre-request ScriptTestsSettings

Query Params

	Key	Value	Description
	Key	Value	Description

BodyCookiesHeaders (2)Test Results

Status: 200 OK

PrettyRawPreviewVisualizeText

1

Faturamızı invoices altında görüntüleyebiliriz.

GET

http://localhost:8090/api/invoices/test2@test.com

ParamsAuthorizationHeaders (6)BodyPre-request ScriptTestsSettings

BodyCookiesHeaders (4)Test Results

Status: 200 OK

PrettyRawPreviewVisualizeJSON

```
1 {
2   {
3     "invoiceNumber": 1,
4     "products": [
5       {
6         "name": "Mouse",
7         "price": 250.0,
8         "quantity": 1,
9         "category": "ELECTRONIC"
10      },
11      {
12        "name": "Laptop",
13        "price": 35000.0,
14        "quantity": 1,
15        "category": "ELECTRONIC"
16      }
17    ],
18    "customer": {
19      "name": "Cem",
20      "email": "test2@test.com",
21      "dateOfBirth": "1997-03-03"
22    },
23    "date": "2024-04-01",
24    "totalPrice": 35250.0
25  }
26 }
```