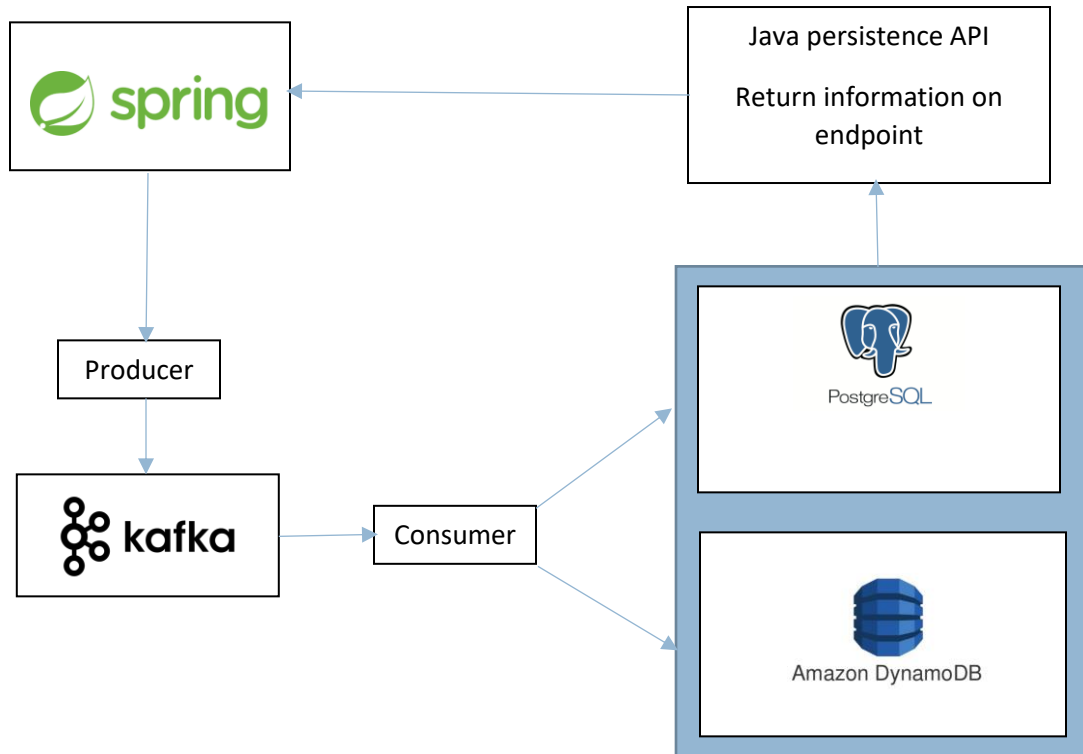


Ejercicio de codificación:

Diagrama



- La base de datos Postgres se inició en un contenedor local
`docker run -d --rm --name postgres -e POSTGRES_PASSWORD=toor4321 -p 5432:5432 postgres`
- Se creó la base de datos y la tabla
 - Create DataBase
`create database enterprise OWNER = postgres;`
 - Create Table
`CREATE TABLE enterprise.employee (idempleado int NOT NULL PRIMARY KEY,nombre varchar NOT NULL,meses int NOT NULL, salario integer NOT NULL);`
- Con el docker-compose ubicado en la ruta "application/docker-compose.yaml" se configuró Kafka en la máquina local ejecutando el comando "`$ docker-compose up -d`"
- Instalamos la base de datos DynamoDB en un contenedor local
`docker run -d -p 8000:8000 --name my-dynamodb amazon/dynamodb-local`

- Instalamos un administrador para DynamoDB
`npm install -g dynamodb-admin`
`set DYNAMO_ENDPOINT=http://localhost:8000`
`dynamodb-admin`

Resultado de la ejecución

- Ejecutamos la aplicación

```

1 package com.appgate.application;
2
3 import
4
5 @SpringBootApplication
6 public class Application {
7
8     public static void main(String[] args) {
9         SpringApplication.run(Application.class, args);
10    }
11
12 }

```

```

2022-10-02 19:35:16.388 INFO 52684 --- [main] o.a.kafka.common.utils.AppInfoParser : Kafka version: 3.1.2
2022-10-02 19:35:16.389 INFO 52684 --- [main] o.a.kafka.common.utils.AppInfoParser : Kafka commitId: f8c07dc3ae0a3265
2022-10-02 19:35:16.389 INFO 52684 --- [main] o.a.kafka.common.utils.AppInfoParser : Kafka startTimeMs: 1664757316388
2022-10-02 19:35:16.391 INFO 52684 --- [main] o.a.k.clients.consumer.KafkaConsumer : [Consumer clientId=consumer-group-id-1, groupId=group-id] Subscribed to top
2022-10-02 19:35:16.421 INFO 52684 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8081 (http) with context path ''
2022-10-02 19:35:16.425 INFO 52684 --- [ntainer#0-0-C-1] org.apache.kafka.clients.Metadata : [Consumer clientId=consumer-group-id-1, groupId=group-id] Resetting the la
2022-10-02 19:35:16.426 INFO 52684 --- [ntainer#0-0-C-1] org.apache.kafka.clients.Metadata : [Consumer clientId=consumer-group-id-1, groupId=group-id] Resetting the la
2022-10-02 19:35:16.426 INFO 52684 --- [ntainer#0-0-C-1] org.apache.kafka.clients.Metadata : [Consumer clientId=consumer-group-id-1, groupId=group-id] Resetting the la
2022-10-02 19:35:16.430 INFO 52684 --- [main] com.appgate.application.Application : Started Application in 5.32 seconds (JVM running for 5.71)
2022-10-02 19:35:16.438 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Discovered group
2022-10-02 19:35:16.441 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] (Re-)joining group
2022-10-02 19:35:16.490 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Request joining g
2022-10-02 19:35:16.491 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] (Re-)joining group
2022-10-02 19:35:16.548 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Successfully join
2022-10-02 19:35:16.550 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Finished assignme
2022-10-02 19:35:16.639 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Successfully sync
2022-10-02 19:35:16.640 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Notifying assign
2022-10-02 19:35:16.643 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Adding newly assi
2022-10-02 19:35:16.678 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Setting offset fo
2022-10-02 19:35:16.678 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Setting offset fo
2022-10-02 19:35:16.678 INFO 52684 --- [ntainer#0-0-C-1] o.a.k.c.c.internals.ConsumerCoordinator : [Consumer clientId=consumer-group-id-1, groupId=group-id] Setting offset fo
2022-10-02 19:35:16.680 INFO 52684 --- [ntainer#0-0-C-1] o.s.k.l.KafkaMessageListenerContainer : group_id: partitions assigned: [my_topic-0, my_topic-1, my_topic-2]

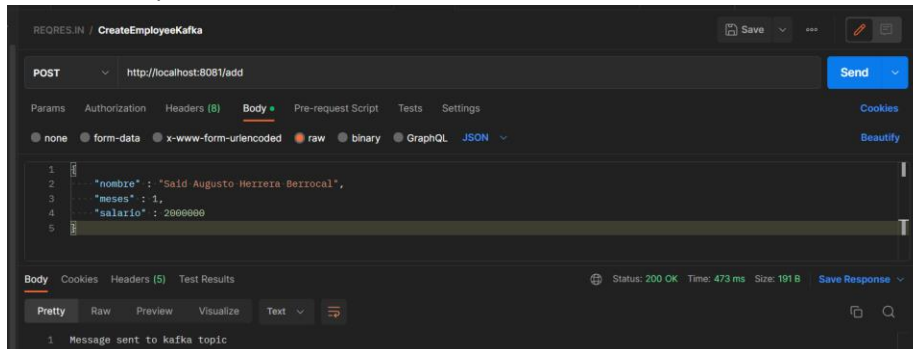
```

- El endpoint a consumir para la creación de empleado es <http://localhost:8081/add> y el body:


```

{
  "nombre" : "John Doe",
  "meses" : 5,
  "salario" : 6000000
}

```
- Enviamos la petición al servicio



- Validamos que el mensaje se procesó y se insertó en las bases de datos

```
2022-10-02 19:45:18.932 INFO 52684 --- [ad | producer-1] o.a.k.c.p.internals.TransactionManager : [Producer clientId=producer-1] ProducerId set to 17 with epoch 0
Message received -> {"payload":{"idEmpleado":null,"nombre":"Said Augusto Herrera Berrocal","meses":1,"salario":2000000},"headers":{"Kafka_topic":"my_topic","id":"d9ea3bae-b61d-Id:a3042327-9ea9-4dde-8b8c-2df85c1a0b09"}
PutItem succeeded:
{}
```

Postgres

select * from employee e

select * from employee where meses>6 and salario>5000000

employee 1 x

select * from employee e Enter a SQL expression to filter results (use Ctrl+Space)

	id_empleado	meses	nombre	salario
1	1	15	John Doe	15.000.000
2	2	15	John Doe	15.000.000
3	3	15	John Doe	16.000.000
4	4	120	John Doe	17.000.000
5	5	2	John Doe	3.000.000
6	6	3	John Doe	4.000.000
7	7	3	John Doe	4.000.000
8	8	4	John Doe	5.000.000
9	9	5	John Doe	6.000.000
10	10	1	Said Augusto Herrera Berrocal	2.000.000

DynamoDb

← → ↻ ⌂ http://localhost:8001/tables/employee

Tables / employee 1 Dark Theme Off

Items (showing 1 - 4) Get Meta Create Item

Scan [Table] employee

Filter Add Filter Remove Key String = Value

Search Previous Page Page 1 Next Page

Actions	id	nombre	idEmpleado	meses	salario
View	"a3042327-9ea9-4dde-8b8c-2df85c1a0b09"	"Said Augusto Herrera Berrocal"	null	1	2000000
View	"ab52d516-9631-43ba-b6a2-3f0d13239e0f"	"John Doe"	null	4	5000000
View	"1ae5764b-53b6-4c75-ae99-67a0263bf3be"	"John Doe"	null	3	4000000
View	"5aa965f8-38df-4b1e-bcd6-d5cb74e7c8f2"	"John Doe"	null	5	6000000

- Ahora consultamos el endpoint para visualizar la información de los datos en la base de datos postgres filtrado por meses y salario <http://localhost:8081/views?month=1&salary=5000000>

```
1 {
2   {
3     "idEmpleado": 1,
4     "nombre": "John Doe",
5     "meses": 15,
6     "salario": 15000000
7   },
8   {
9     "idEmpleado": 2,
10    "nombre": "John Doe",
11    "meses": 15,
12    "salario": 15000000
13  },
14  {
15    "idEmpleado": 3,
16    "nombre": "John Doe",
17    "meses": 15,
18    "salario": 16000000
19  },
20  {
21    "idEmpleado": 4,
22    "nombre": "John Doe",
23    "meses": 120,
24    "salario": 17000000
25  },
26  {
27    "idEmpleado": 9,
28    "nombre": "John Doe",
29    "meses": 5,
30    "salario": 6000000
31  }
32 }
```

- Ahora consultamos el endpoint que nos trae los datos de la base de datos Dynamo
<http://localhost:8081/getemployee> no aparecen todos los datos, porque la implementación de Dynamo se realizó posterior a las pruebas de Postgres

```
1 {
2   "id": "",
3   "name": "Product1",
4   "price": 3000000,
5   "quantity": 10
6 }
7 {
8   "id": "a3042327-9e29-4dde-8b8c-2df05c1a8b09",
9   "idEmpleado": null,
10  "nombre": "Said Augusto Herrera Berrocal",
11  "meses": 1,
12  "salario": 2000000
13 },
14 {
15   "id": "ab52d516-9631-43ba-b6a2-3f0d13239e0f",
16   "idEmpleado": null,
17   "nombre": "John Doe",
18   "meses": 4,
19   "salario": 5000000
20 },
21 {
22   "id": "1ae5764b-53b6-4c75-ae99-67a0263bf3be",
23   "idEmpleado": null,
24   "nombre": "John Doe",
25   "meses": 3,
26   "salario": 4000000
27 },
28 {
29   "id": "5aa965f8-38df-4b1e-bcd6-d5cb74e7c8f2",
30   "idEmpleado": null,
31   "nombre": "John Doe",
32   "meses": 5,
33   "salario": 6000000
34 }
```

Nota: el consumer cuenta con un error, que no consulta el id del empleado creado en la base de datos postgre para insertarlo en la base de datos Dynamo. El cambio será realizado en un próximo reléase.