Project created using containerised kafka (2nd approach)

(The jar files are cleaned using maven clean in the zip code submitted)

1. **VPC Creation:**

2. **RDS**

DB identifier		Role	Engine	Region & AZ	Size	Status	CPU	Current activity	Maintenance
cc7-sweet-home		Instance	MySQL Community	us-east-1c	db.t2.micro	Available	6.00%	21 Connections	none

Connectivity & security

Endpoint & port

Endpoint
cc7-sweet-home.cunbl2aaitp4.us-east-1.rds.amazonaws.com

Port
3306

Networking

Availability Zone
us-east-1c

VPC
vpc-020966a6276b72325

Subnet group
default-vpc-020966a6276b72325

Subnets
subnet-03381486dbe5394f6
subnet-0e844feecdf9dc0bb
subnet-0059339ea1ffdc677
subnet-0e069dc07f168ff7e
subnet-0d49f597cebf33fff
subnet-0c532d43127c8075e

Security

VPC security groups
default (sg-09ca8b52cb23c33ce)
Active

Public accessibility
Yes

Certificate authority
rds-ca-2019

Certificate authority date
August 22, 2024, 10:38 (UTC±10:38)

SecurityGroup for RDS:

Inbound Rules added for
- All Traffic from host: EC2 server where the apps are deployed
- MySQL TCP 3306 from MyIP

3. **EC2 Instance creation: (Ubuntu)**

VPC used from the step1

Inbound Rules for Security Group:

Instance: i-069623256aacb3c0e (sweethome)

Security groups

📋 sg-03a086535c21d11fe (sweethome-docker)

▼ **Inbound rules**

🔍 Filter rules

Security group rule ID	Port range	Protocol	Source	Security groups
sgr-0309830a8f2b4bb19	8083	TCP	0.0.0.0/0	sweethome-docker
sgr-074d021d42505df21	9092	TCP	0.0.0.0/0	sweethome-docker
sgr-07d4df2c8ba99dbde	0 - 65535	TCP	34.232.65.39/32	sweethome-docker
sgr-01776a380a0505a0e	8761	TCP	0.0.0.0/0	sweethome-docker
sgr-0a07bb9c16ae24bac	2181	TCP	0.0.0.0/0	sweethome-docker
sgr-0a58008660c7dbf25	0 - 65535	TCP	49.207.225.162/32	sweethome-docker
sgr-0dffaaef50a6d7243	8080	TCP	0.0.0.0/0	sweethome-docker

Inbound rules set for

- Custom TCP for 8080 - from bookingService
- Custom TCP for 8083 - from paymentService
- Custom TCP for 8761 - from eurekaServer
- Custom TCP for 9092 - from kafka server
- Custom TCP for 2189 - from zookeeper server
- All TCP from EC2 host
- All TCP from MyIP

Volume Creation:

Instance: i-069623256aacb3c0e (sweethome)   ✕

Root device name	Root device type	EBS optimization
📋 /dev/sda1	EBS	disabled

▼ **Block devices**

🔍 Filter block devices

Volume ID	Device name	Volume size (GiB)	Attachment status	Attachment time	Encrypted	KMS key ID	Delete on termination
vol-083d6e4e2a3cf5354	/dev/sda1	16	⊘ Attached	Tue Feb 15 2022 07:56:12 ...	No	–	Yes

▼ **Recent root volume replacement tasks**

[Replace root volume]

Details

Volume ID	Size	Type	Volume status
📋 vol-083d6e4e2a3cf5354 (sweethome)	📋 16 GiB	gp2	⊘ Okay
Volume state	**IOPS**	**Throughput**	**Encryption**
⊘ In-use	100	-	Not encrypted
KMS key ID	**KMS key alias**	**KMS key ARN**	**Snapshot**
-	-	-	📋 snap-0f7a6eae6d90437c4
Availability Zone	**Created**	**Multi-Attach enabled**	**Attached Instances**
us-east-1e	📋 Tue Feb 15 2022 07:56:12 GMT+0530 (India Standard Time)	No	i-069623256aacb3c0e (sweethome): /dev/sda1 (attached)

4. **Login to EC2 Instance:**

Key/Value pair created using PuttyGen:

sweethome-ubuntu-ec2.pem	2/15/2022 7:55 AM	PEM File	2 KB
sweethome-ubuntu-ec2	2/15/2022 7:56 AM	PuTTY Private Key ...	2 KB

ubuntu@ip-10-0-0-202: ~

```
ubuntu@ip-10-0-0-202:~$ pwd
/home/ubuntu
ubuntu@ip-10-0-0-202:~$
```

Successfully logged in

5. **Application Source Code:**

Copy the source code(modules) into the folder /home/ubuntu/sweethome as in the image below

```
ubuntu@ip-10-0-0-202:~$ cd sweethome/
ubuntu@ip-10-0-0-202:~/sweethome$ ls -ltr
total 24
-rw-rw-r-- 1 ubuntu ubuntu 1262 Feb 11 21:00 docker-compose.yaml.bak
drwxrwxr-x 5 ubuntu ubuntu 4096 Feb 15 02:58 eurekaserver
drwxrwxr-x 5 ubuntu ubuntu 4096 Feb 15 04:05 paymentservice
drwxrwxr-x 5 ubuntu ubuntu 4096 Feb 15 10:39 bookingservice
-rw-rw-r-- 1 ubuntu ubuntu 2087 Feb 15 11:15 docker-compose.yaml
drwxrwxr-x 5 ubuntu ubuntu 4096 Feb 15 11:22 notificationservice
ubuntu@ip-10-0-0-202:~/sweethome$
```

Update DockerFile of notificationService with the ec2 server IP
Also replace the ip of the ec2 server in docker-compose.yml

6. Docker Installation:


```
ubuntu@ip-10-0-0-202:~/sweethome$ docker -v
Docker version 20.10.12, build e91ed57
ubuntu@ip-10-0-0-202:~/sweethome$ docker-compose -v
docker-compose version 1.29.2, build 5becea4c
ubuntu@ip-10-0-0-202:~/sweethome$ []
```

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7. Install Docker:

$ sudo apt-get update

$ sudo apt-get install \
       apt-transport-https \
       ca-certificates \
       curl \
       gnupg-agent \
       software-properties-common

$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg

$ echo \
  "deb [arch=$(dpkg --print-architecture)
signed-by=/usr/share/keyrings/docker-archive-keyring.gpg]
https://download.docker.com/linux/ubuntu \
  $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

$ sudo apt-get update
$ sudo apt-get install docker-ce docker-ce-cli containerd.io

ubuntu@ip-10-0-0-202:~$ which docker
/usr/bin/docker
ubuntu@ip-10-0-0-202:~$ docker -v
Docker version 20.10.12, build e91ed57

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8. Install Docker-compose

$ sudo curl -L
"https://github.com/docker/compose/releases/download/1.29.2/docker-compose-$(uname
-s)-$(uname -m)" -o /usr/local/bin/docker-compose

$ sudo chmod +x /usr/local/bin/docker-compose

$ sudo ln -s /usr/local/bin/docker-compose /usr/bin/docker-compose

ubuntu@ip-10-0-0-202:/usr/local/bin$ docker-compose --version
docker-compose version 1.29.2, build 5becea4c

----

9. Install Java and Maven

$ sudo apt install maven
$ mvn -version
$ sudo apt install default-jre -y
$ java -version
$ sudo apt install default-jdk
$ javac -version

```
ubuntu@ip-10-0-0-202:~/sweethome$ mvn -version
Apache Maven 3.6.3
Maven home: /usr/share/maven
Java version: 11.0.13, vendor: Ubuntu, runtime: /usr/lib/jvm/java-11-openjdk-amd64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "5.11.0-1022-aws", arch: "amd64", family: "unix"
ubuntu@ip-10-0-0-202:~/sweethome$ java -version
openjdk version "11.0.13" 2021-10-19
OpenJDK Runtime Environment (build 11.0.13+8-Ubuntu-0ubuntu1.20.04)
OpenJDK 64-Bit Server VM (build 11.0.13+8-Ubuntu-0ubuntu1.20.04, mixed mode)
ubuntu@ip-10-0-0-202:~/sweethome$ javac -version
javac 11.0.13
ubuntu@ip-10-0-0-202:~/sweethome$ []
```

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10. build jars

$ mvn clean install -DskipTests=true

----

11. build image and run container

```
$ docker network create sweethomeservicenet
$ sudo docker network ls
NETWORK ID    NAME                DRIVER    SCOPE
9f23d166b768  bridge              bridge    local
aa9ffd8fbcb9  host                host      local
f2bf1eba0692  none                null      local
4708951173c5  sweethomeservicenet  bridge    local


$ sudo docker build -t sweethome/eurekaserver:1.0.0 .
$ sudo docker run -it --name=eurekaserver -d -p8761:8761 -e
EUREKA_HOST_NAME=34.232.65.39 --net=sweethomeservicenet
sweethome/eurekaserver:1.0.0

$ sudo docker build -t sweethome/paymentsvc:1.0.0 .
$ sudo docker run -it --name=paymentsvc -d -p8083:8083 -e
EUREKA_HOST_NAME=34.232.65.39 -e
MYSQL_HOST=cc7-sweet-home.cunbl2aaitp4.us-east-1.rds.amazonaws.com
--net=sweethomeservicenet sweethome/paymentsvc:1.0.0

$ sudo docker build -t sweethome/bookingsvc:1.0.0 .
$ sudo docker run -it --name=bookingsvc -d -p8080:8080 -e
EUREKA_HOST_NAME=34.232.65.39 -e
MYSQL_HOST=cc7-sweet-home.cunbl2aaitp4.us-east-1.rds.amazonaws.com -e
KAFKA_HOST_NAME=ec2-34-232-65-39.compute-1.amazonaws.com
--net=sweethomeservicenet sweethome/bookingsvc:1.0.0
```

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12. build image and run container using docker-compose

```
$ sudo docker-compose up -d
$ sudo docker-compose down
```

13. Docker images

```
ubuntu@ip-10-0-0-202:~/sweethome$ sudo docker images
REPOSITORY              TAG              IMAGE ID        CREATED         SIZE
sweethome/bookingsvc    1.0.0            faae6b38b89e    2 hours ago     413MB
sweethome/paymentsvc    1.0.0            35e53813fea0    2 hours ago     401MB
sweethome/eurekaserver  1.0.0            0c8272039b9c    2 hours ago     385MB
bitnami/kafka           latest           2780de4611e5    15 hours ago    618MB
bitnami/zookeeper       latest           bf3a0feb8c13    22 hours ago    468MB
openjdk                 14-jdk-alpine    8273876b08aa    2 years ago     340MB
```

```
ubuntu@ip-10-0-0-202:~/sweethome$ sudo docker ps -a
CONTAINER ID   IMAGE                         COMMAND               CREATED            STATUS            PORTS
               NAMES
e553c7513e3d   sweethome/bookingsvc:1.0.0    "java -jar /opt/app/…" About an hour ago  Up About an hour  0.0.0.0:8080->8080/tcp, :::8080->8080/tcp
               bookingsvc
830e7ab6dba0   sweethome/paymentsvc:1.0.0    "java -jar /opt/app/…" About an hour ago  Up About an hour  0.0.0.0:8083->8083/tcp, :::8083->8083/tcp
               paymentsvc
104196cc8550   bitnami/kafka:latest          "/opt/bitnami/script…" About an hour ago  Up About an hour  0.0.0.0:9092->9092/tcp, :::9092->9092/tcp
               sweethome_kafka_1
0f41404265bf   sweethome/eurekaserver:1.0.0  "java -jar /opt/app/…" About an hour ago  Up About an hour  0.0.0.0:8761->8761/tcp, :::8761->8761/tcp
               eurekaserver
cfb2051e6cf5   bitnami/zookeeper:latest      "/opt/bitnami/script…" About an hour ago  Up About an hour  2888/tcp, 3888/tcp, 0.0.0.0:2181->2181/tcp, :::2181->2181/
tcp, 8080/tcp  sweethome_zookeeper_1
```

14. Eureka home

System Status

Environment	N/A			Current time	2022-02-15T13:20:26 +0000
Data center	N/A			Uptime	00:00
				Lease expiration enabled	false
				Renews threshold	5
				Renews (last min)	0

DS Replicas

34.232.65.39

Instances currently registered with Eureka

Application	AMIs	Availability Zones	Status
BOOKING-SERVICE	n/a (1)	(1)	UP (1) - d34dc53088a4:booking-service
PAYMENT-SERVICE	n/a (1)	(1)	UP (1) - c9233d979693:payment-service:8083

General Info

Name	Value
total-avail-memory	96mb
num-of-cpus	2
current-memory-usage	49mb (51%)
server-uptime	00:00
registered-replicas	http://34.232.65.39:8761/eureka/
unavailable-replicas	http://34.232.65.39:8761/eureka/,

Payment_service and Booking_Service registered successfully

15. MySQL workbench:
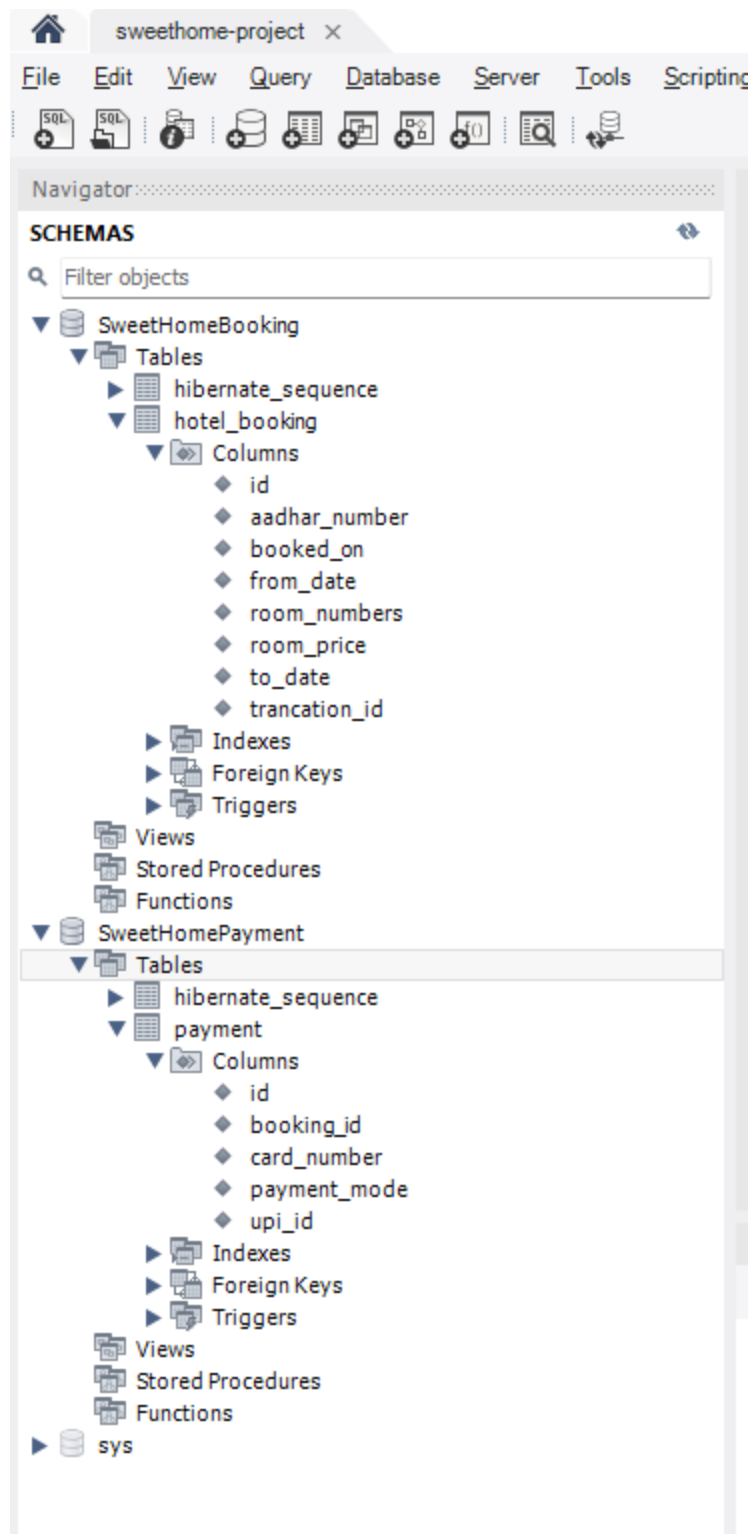
Tables created successfully on start up

16. Test1:
Do booking - success

logs:

17. Do Payment - success

18. Messages in kafka:

Logs:

notificationsvc | 2022-02-15T18:22:52.497925332Z Booking confirmed for user with aadhaar number: Akash Sinha-Aadhar Number | Here are the booking details: BookingInfoEntity{fromDate=2021-07-14 00:00:00.0, toDate=2021-07-18 00:00:00.0, aadharNumber='Akash Sinha-Aadhar Number', roomNumbers='99', roomPrice=4000, trancationId='1', bookedOn=2022-02-15 18:22:41.0}

Database:

id	aadhar_number	booked_on	from_date	room_numbers	room_price	to_date	trancation_id
1	Akash Sinha-Aadhar Number	2022-02-15 18:22:41	2021-07-14 00:00:00	99	4000	2021-07-18 00:00:00	1
2	Akash Sinha-Aadhar Number	2022-02-15 18:25:38	2021-07-15 00:00:00	7,22,56	9000	2021-07-18 00:00:00	2
3	Akash Sinha-Aadhar Number	2022-02-15 18:25:57	2021-07-15 00:00:00	24,24,26,89,34,53	18000	2021-07-18 00:00:00	3
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
1 ●    SELECT * FROM SweetHomePayment.payment;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

id	booking_id	card_number	payment_mode	upi_id
1	1	Test Card 2	CARD	MyUPIId
2	2	Test Card 2	CARD	MyUPIId
3	3	Test Card 2	CARD	MyUPIId
NULL	NULL	NULL	NULL	NULL