# Mobile Brands microservice

The Mobile microservice is developed using SpringBoot and contains a simple feature for fetching the mobile brands based on criteria passed in the request params

# Features

The mobile microservice is composed of the following features for the MVP model.

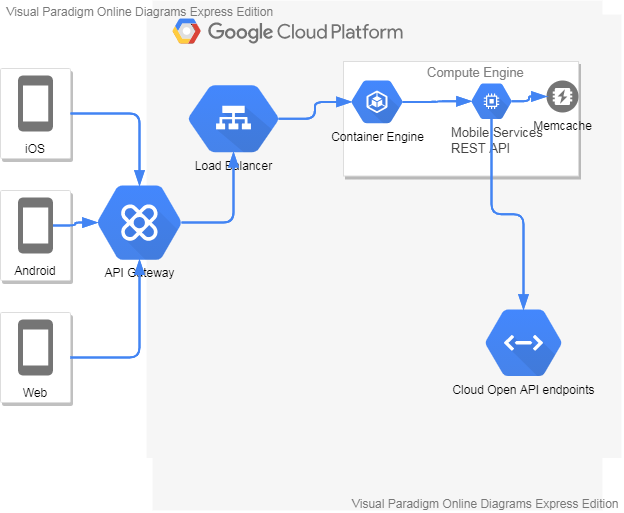
1. The REST API is exposed over internet to fetch the mobile records and filter on criteria provided. The API can be secured by providing a gateway layer to secure the call.
2. The load balancer will balance the load from the client calls and equally distribute the traffic.
3. The API security can be managed using an API gateway layer for security and also for handling multiple clients and data format.
4. The REST API will be deployed in a Container managed platform like Kubernetes regardless of the cloud platform provider.The container management platform helps in scalablity and fault tolerance by replication strategies.
5. For resiliency, the API provides a circuit breaker pattern to handle the 3rd party API downtime.The application uses Netflix for resiliency.
6. The 3rd party OpenAPI is called with a configurable timeout. Currently the timeout is set as 10 seconds.
7. The request parameters are validated for the valid request parameters. The criteria will be any field of the mobile data.
8. The server logs are in place for debugging purpose.

# Enhancements

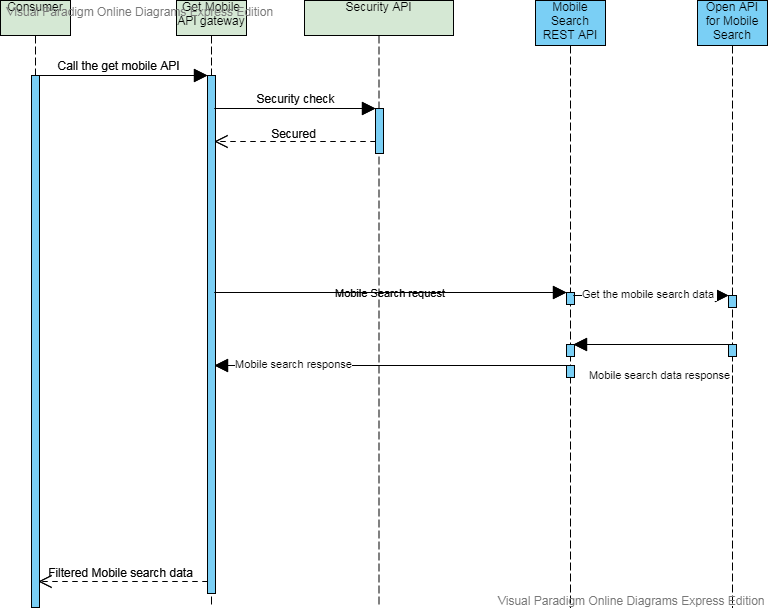
The following enhancements are planned for the next Sprint planning.

1. Setting up a CICD pipeline and deployment in real environment.
2. Since the response is static,the application can be enhanced using a cache mechanism like memcache / Redis API based on complexity of the application in future.
3. The API can be versioned for managing multiple clients in future.
4. Since the OpenAPI endpoint is https protocol,a security layer can be introduced using API gateway.
5. The profiles can be managed for different environments.
6. The monitoring mechanism should be in place.
7. The messages has to be externalized.
8. Integration with Spring security or custom API gateway security.

# Cloud Architecture Diagram



# Flow Diagram



# Samples

# Validation error response case :

curl -X GET \

'http://localhost:8080/mobile/search?sim1212123=eSim&announceDate=2018' \

-H 'Accept: application/json' \

-H 'Postman-Token: 69ddaa32-df8b-42ff-92fe-173b17f3520d' \

-H 'cache-control: no-cache'

**Response :**

400 Bad Request

{

"errors": [

"sim1212123"

],

"message": "The request parameters are invalid"

}

# Success Case:

**Request:**

curl -X GET \

'http://localhost:8080/mobile/search?sim=eSim&announceDate=2018' \

-H 'Accept: application/json' \

-H 'Postman-Token: 954c2f1c-b05a-4d57-bb39-e7d024684e2c' \

-H 'cache-control: no-cache'

**Response:**

**200 OK**

[

{

"id": "25846",

"brand": "Apple",

"phone": "Apple iPad Pro 12.9 (2018)",

"picture": "https://cdn2.gsmarena.com/vv/bigpic/apple-ipad-pro-129-2018.jpg",

"release": {

"announceDate": "2018 October",

"priceEur": "1100"

},

"sim": "Nano-SIM eSIM",

"resolution": "2048 x 2732 pixels",

"hardware": {

"audioJack": "No",

"gps": "Yes with A-GPS",

"battery": "Li-Po 9720 mAh battery (36.71 Wh)"

}

},

{

"id": "22895",

"brand": "Apple",

"phone": "Apple iPad Pro 11",

"picture": "https://cdn2.gsmarena.com/vv/bigpic/apple-ipad-pro-11-2018.jpg",

"release": {

"announceDate": "2018 October",

"priceEur": "880"

},

"sim": "Nano-SIM eSIM",

"resolution": "1668 x 2388 pixels",

"hardware": {

"audioJack": "No",

"gps": "Yes with A-GPS",

"battery": "Li-Po 7812 mAh battery (29.45 Wh)"

}

},

{

"id": "24989",

"brand": "Apple",

"phone": "Apple iPhone XS",

"picture": "https://cdn2.gsmarena.com/vv/bigpic/apple-iphone-xs-new.jpg",

"release": {

"announceDate": "2018 September",

"priceEur": "1150"

},

"sim": "Nano-SIM eSIM",

"resolution": "1125 x 2436 pixels",

"hardware": {

"audioJack": "No",

"gps": "Yes with A-GPS",

"battery": "Li-Ion 2658 mAh battery (10.13 Wh)"

}

},

{

"id": "28994",

"brand": "Apple",

"phone": "Apple iPhone XR",

"picture": "https://cdn2.gsmarena.com/vv/bigpic/apple-iphone-xr-new.jpg",

"release": {

"announceDate": "2018 September",

"priceEur": "850"

},

"sim": "Nano-SIM eSIM",

"resolution": "828 x 1792 pixels",

"hardware": {

"audioJack": "No",

"gps": "Yes with A-GPS",

"battery": "Li-Ion 2942 mAh battery"

}

},

{

"id": "28298",

"brand": "Apple",

"phone": "Apple Watch Series 4",

"picture": "https://cdn2.gsmarena.com/vv/bigpic/apple-watch-series-4-steel.jpg",

"release": {

"announceDate": "2018 September",

"priceEur": "700"

},

"sim": "eSIM",

"resolution": "448 x 368 pixels",

"hardware": {

"audioJack": "No",

"gps": "Yes with A-GPS",

"battery": "Li-Ion battery"

}

},

{

"id": "23131",

"brand": "Apple",

"phone": "Apple Watch Series 4 Aluminum",

"picture": "https://cdn2.gsmarena.com/vv/bigpic/apple-watch-series-4-aluminum.jpg",

"release": {

"announceDate": "2018 September",

"priceEur": "430"

},

"sim": "eSIM",

"resolution": "448 x 368 pixels",

"hardware": {

"audioJack": "No",

"gps": "Yes with A-GPS",

"battery": "Li-Ion battery"

}

},

{

"id": "24748",

"brand": "Apple",

"phone": "Apple iPad 9.7 (2018)",

"picture": "https://cdn2.gsmarena.com/vv/bigpic/apple-ipad-97-2018.jpg",

"release": {

"announceDate": "2018 March",

"priceEur": "350"

},

"sim": "Nano-SIM eSIM",

"resolution": "1536 x 2048 pixels",

"hardware": {

"audioJack": "Yes",

"gps": "Yes with A-GPS",

"battery": "Li-Ion battery (32.4 Wh)"

}

}

]