Newsletter Subscription Service

Problem Statement:

create a service that stores if a user is subscribed to your newsletter. Your service will be called by other services which will:

- tell you that someone subscribed to your newsletter or un-subscribed,
- ask you if a given user should receive the newsletter, or not.
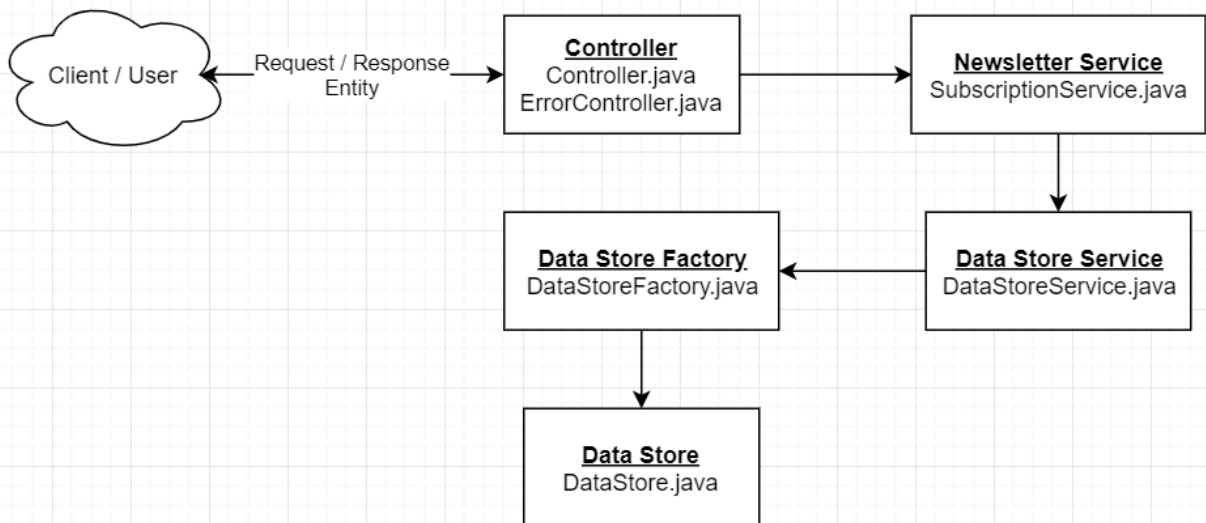
Application:

Build and Run

mvn clean install

mvn spring-boot:run

The application will start at http://localhost:8080

Application Design

REST API Endpoints:

ENDPOINT	HTTP METHOD	DESCRIPTION
/api/subscription/user/{id}	GET	tell if user is subscribed to newsletter or not
/api/subscription/user/{id}	DELETE	To unsubscribe user to newsletter subscription
/api/subscription/user	POST	To subscribe user to newsletter subscription
/api/subscription/user/after/{year}/{month}/{day}	GET	To get all the user subscribed to newsletter after the given date
/api/subscription/user/before/{year}/{month}/{day}	GET	To get all the user subscribed to newsletter before the given date

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IS SUBSCRIBED: /api/subscription/user/{id}

GET http://localhost:8080/api/subscription/user/XXXX

Response: HTTP 200 OK
Content: Application/JSON
{"userId":"XXXX","subscribed":true,"date":"XXXX"}

UNSUBSCIBE: /api/subscription/user/{id}

DELETE http://localhost:8080/api/subscription/user/XXXX

Response: HTTP 200 OK
Content: Application/JSON
{"userId":"XXXX","subscribed":false,"date":"XXXX"}

SUBSCRIBE: /api/subscription/user

POST http://localhost:8080/api/subscription/user
Request: {"userId": "XXXX"}

Response: HTTP 200 OK
Content: Application/JSON
{"userId":"9876","subscribed":true,"date":"XXXX"}

All Subscriptions: /api/subscription/user

GET /api/subscription/user

Response: HTTP 200 OK
Content: Application/JSON

SUBSCRIPTION AFTER DATE: /api/subscription/user?after=10/10/2019

GET http://localhost:8080/api/subscription/user?after=10/10/2019

Response: HTTP 200 OK
Content: Application/JSON

SUBSCRIPTION BEFORE DATE: /api/subscription/user?before=10/10/2019

GET http://localhost:8080/api/subscription/user?before=10/10/2019

Response: HTTP 200 OK
Content: Application/JSON

SUBSCRIPTION BEFORE AND AFTER DATE:
/api/subscription/user?before=10/10/2018&after=10/10/2019

GET http://localhost:8080/api/subscription/user?before=10/10/2018&after=10/10/2019

Response: HTTP 200 OK
Conent: Application/JSON

SUBSCRIPTIONS AFTER DATE: /api/subscription/user/after/{year}/{month}/{day}

GET http://localhost:8080/api/subscription/user/after/2019/10/18

Response: HTTP 200 OK
Content: Application/JSON
[{"userId":"XXXX","subscribed":true,"date":"XXXX"},   +
{"userId":"XXXX","subscribed":true,"date":"XXXX"}]

SUBSCRIPTIONS BEFORE DATE: /api/subscription/user/before/{year}/{month}/{day}

GET http://localhost:8080/api/subscription/user/before/2019/10/18

Response: HTTP 200 OK
Content: Application/JSON
[{"userId":"XXXX","subscribed":true,"date":"XXXX"},   +
{"userId":"XXXX","subscribed":true,"date":"XXXX"}]

Scope of Improvement

- Enhance test cases
- To support types of subscription
- To support future dates for subscription
- To implement caching layer
- To implement pagination for large response
- Docker testing and support
- Logging