Now I have implemented the basic structure for the 3 microservices. In Registration microservice a basic Get and Post rest service is implemented as well.

Now I should implement login service.

I will use spring security, OAuth and JWT for authentication, authorization and exception handling.

Note: Do not do the mistake of putting Boot Application java class in package other than the maven or gradle group name.

In config(HttpSecurity http) method where you extend WebSecurityConfigrerAdapator if you do not want default spring’s login page the do not add .formLogin() in the http.. chain of antMatchers().

Hey “Optional” in java 8 is basically to avoid NullPointerException. It is just a wrapper around the class it refers. With helper methods and support of functional programming abilities of java8.

Note about @Autowired and @Bean

By @Bean we tell the spring to manage this class so that whenever I ask for it give it to me.

@Autowired is asking for a managed class or bean.

Struggled to get Authorization part of spring working.

Steps

1: extend for the @Configuration class were we have @WebsecurityConfigurer with WebSecurityConfigurerAdaptar.

2: here in this class we can use the overloaded config method for HttpSecurity as argument were we give antMatchers.

3: to tell spring what roles are available for a user we use argument in one of the config methods AuthenticationManagerBuilder and we call our Custom UserService which has extends Springs provided UserService. There the important method is loadByUserName, in here we actually return the particular user.

4: important note is the overridden getAuthorities method need to be provded with the actuall Role text appended with “Role\_”

Now my plan is to start working on other 2 microservices. The registration and login microsrvice structure is almost complete. This service will be used by the other two services. The login is a token mechanism, so the registration of donor and host will create respective roles for them. First time when they register will create their login id and password that will be send to them on their mobile number and email. After this when they try to login, they actually interact with the login microservice, which authenticate and generate token for them and redirect thm to the home page of their respective microservice. The token will also be send to the respective microservice so that the request and response cycle between the user and microservices remains seamless.

I plan to store the token info in cache usng redis cache.

Note : The messaging model is Publish/Subscriber model.

I will use RabbitMQ for inter-microservices communication, also will use RabbitMQ container on docker.

The thing to note is that spring provide this under their project of spring cloud stream it is not spring cloud bus. Spring cloud bus is a different project that is used for changing configuration of the microservices remotely. It has @refresh annotation for that purpose.

I also plan to use different db for each microservice.

Follow the link for inter-microservice communication

<https://piotrminkowski.wordpress.com/2018/06/15/building-and-testing-message-driven-microservices-using-spring-cloud-stream/>

I need to upscale the messaging service because I will be using multiple instances of each microservice.

To run RabbitMQ execute following steps,

Open an elevated command line (Run as Administrator)

Navigate to the sbin directory of the RabbitMQ Server installation directory. In my case the path is C:\Program Files (x86)\RabbitMQ Server\rabbitmq\_server-3.3.4\sbin

Run the following command to enable the plugin rabbitmq-plugins.bat enable rabbitmq\_management

Then, re-install the RabbitMQ service using the commands below:

rabbitmq-service.bat stop

rabbitmq-service.bat install

rabbitmq-service.bat start

to run on docker just run the following command,

docker run -d --hostname my-rabbit-msg --name majnu-rabbit micdenny/rabbitmq-windows

check once RabbitMQ server is up <http://127.0.0.1:15672>

Starting with the microservices first we need to build config server.