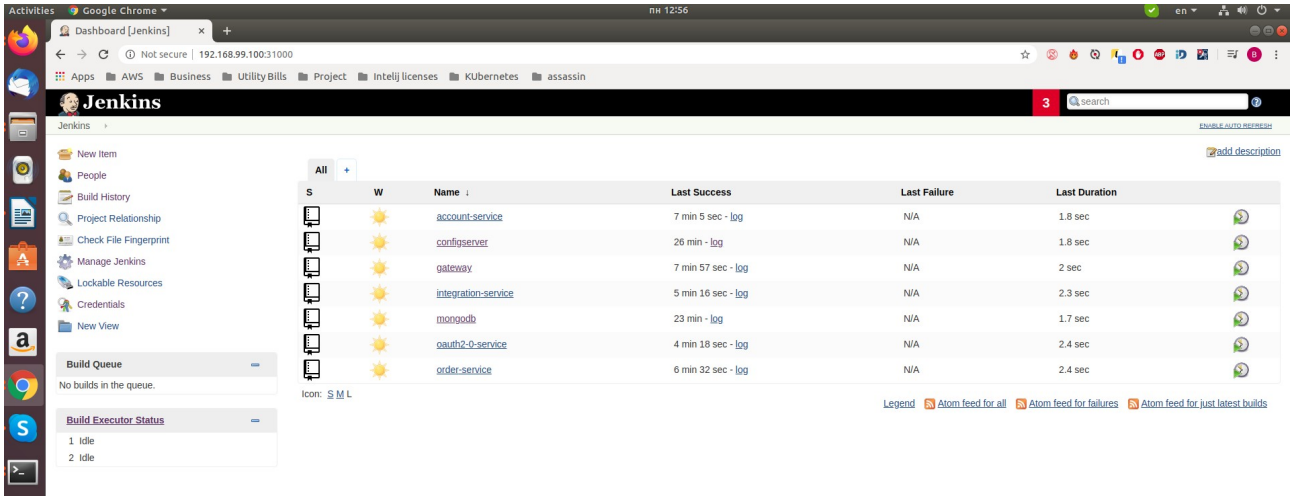
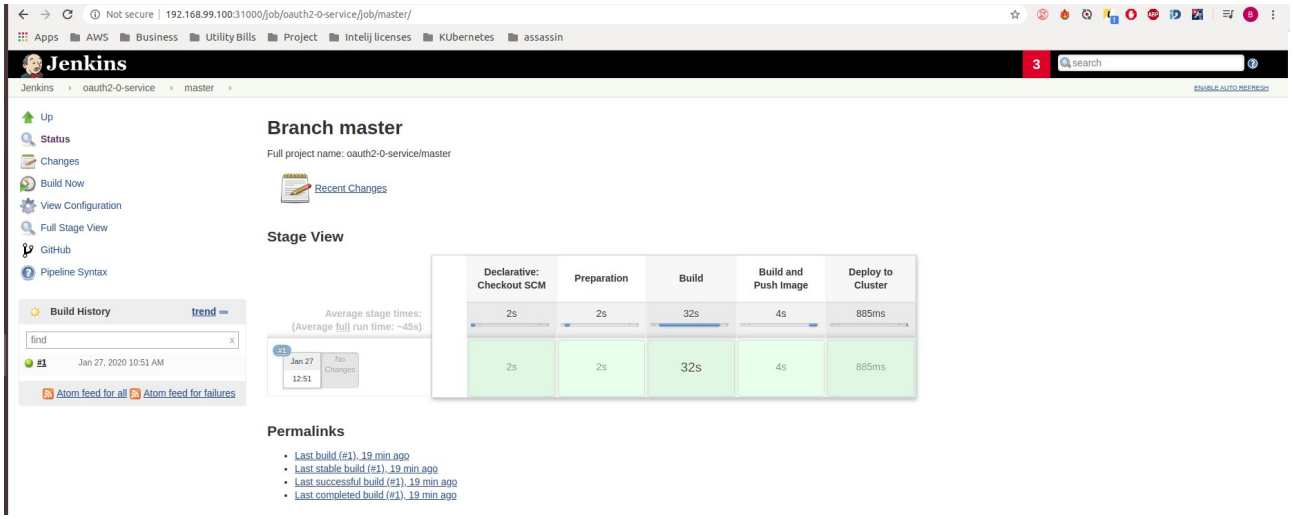
1) Deployed Jenkins as Kubernetes Pod to practice with setting up simple CI/CD platform for my project. All services are deployed successfully on GitHub WebHook on merge to master

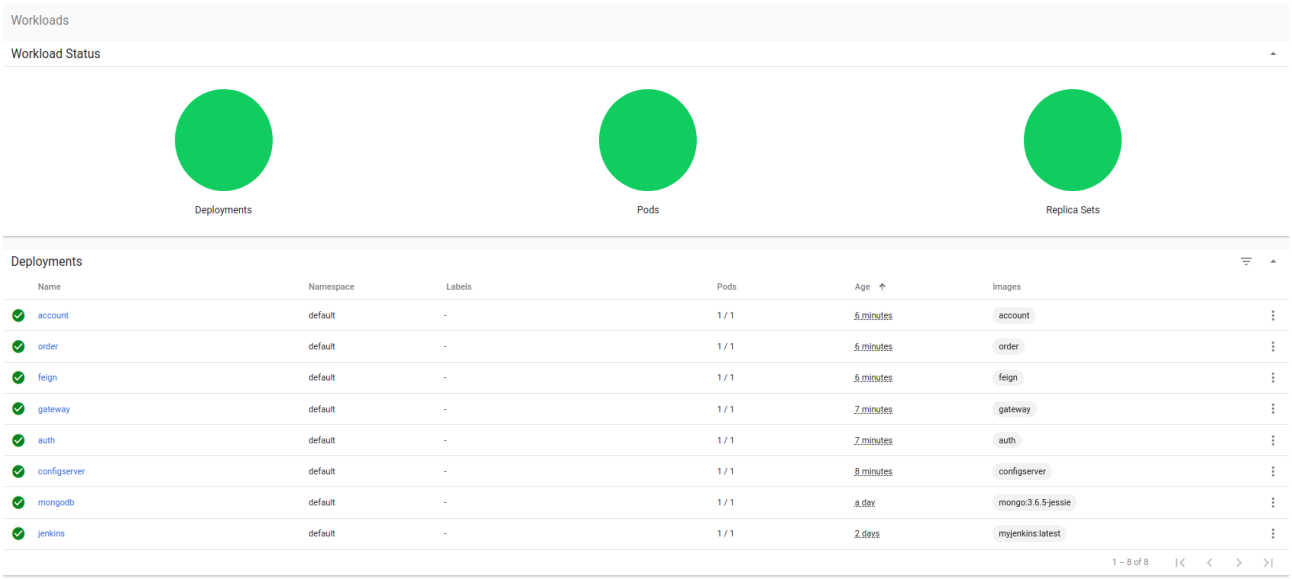


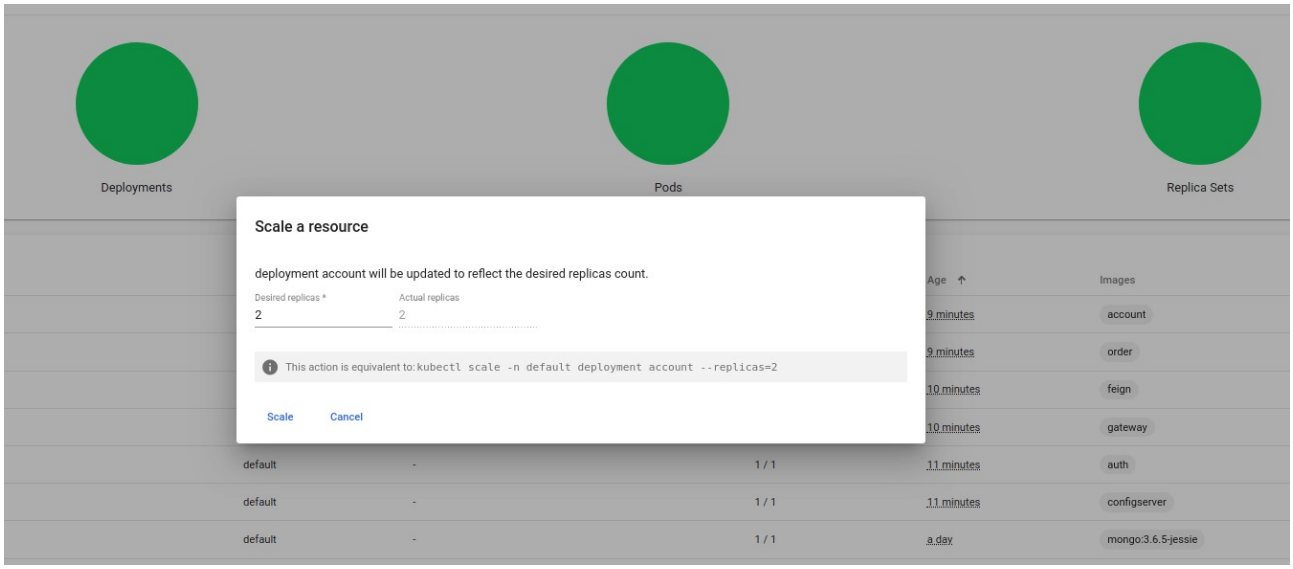


2) Here you can see all deployed pods

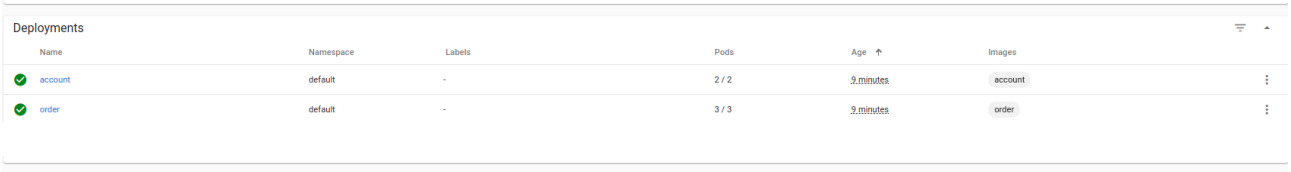
```
user@sys-009:~/Documents/03. Education/financial-stock-broker-2/jenkins$ kubectl get all
NAME                                 READY   STATUS    RESTARTS   AGE
pod/account-5b5797b599-mmq8r         1/1     Running   0          21m
pod/auth-984864b7b-r4x4v             1/1     Running   0          18m
pod/configserver-768cf48485-mqntv    1/1     Running   0          39m
pod/feign-656f4cc9f5-7qf7f           1/1     Running   0          18m
pod/gateway-74754c568d-pvqbz         1/1     Running   2          21m
pod/jenkins-9f877b65c-75jhp          1/1     Running   0          65m
pod/mongodb-7dc4596644-5zx7s         1/1     Running   0          38m
pod/order-6fdfccbf5d-zhlb4           1/1     Running   0          19m

NAME                        TYPE        CLUSTER-IP      EXTERNAL-IP   PORT(S)                       AGE
service/account             NodePort    10.96.165.133   <none>        8081:31380/TCP                21m
service/auth                NodePort    10.96.59.143    <none>        8084:32540/TCP                18m
service/configserver        NodePort    10.96.153.46    <none>        8888:32251/TCP                39m
service/feign               NodePort    10.96.14.96     <none>        8099:30715/TCP                18m
service/fleetman-mongodb    ClusterIP   10.96.73.215    <none>        27017/TCP                     38m
service/gateway             NodePort    10.96.128.130   <none>        5000:31547/TCP                21m
service/jenkins             NodePort    10.96.89.69     <none>        8080:31000/TCP,50000:32370/TCP   65m
service/kubernetes          ClusterIP   10.96.0.1       <none>        443/TCP                       66m
service/order               NodePort    10.96.196.242   <none>        8092:32457/TCP                19m

NAME                                READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/account             1/1     1            1           21m
deployment.apps/auth                1/1     1            1           18m
deployment.apps/configserver        1/1     1            1           39m
deployment.apps/feign               1/1     1            1           18m
deployment.apps/gateway             1/1     1            1           21m
deployment.apps/jenkins             1/1     1            1           65m
deployment.apps/mongodb             1/1     1            1           38m
deployment.apps/order               1/1     1            1           19m

NAME                                           DESIRED   CURRENT   READY   AGE
replicaset.apps/account-5b5797b599             1         1         1       21m
replicaset.apps/auth-984864b7b                 1         1         1       18m
replicaset.apps/configserver-768cf48485        1         1         1       39m
replicaset.apps/feign-656f4cc9f5               1         1         1       18m
replicaset.apps/gateway-74754c568d             1         1         1       21m
replicaset.apps/jenkins-9f877b65c              1         1         1       65m
replicaset.apps/mongodb-7dc4596644             1         1         1       38m
replicaset.apps/order-6fdfccbf5d               1         1         1       19m
```

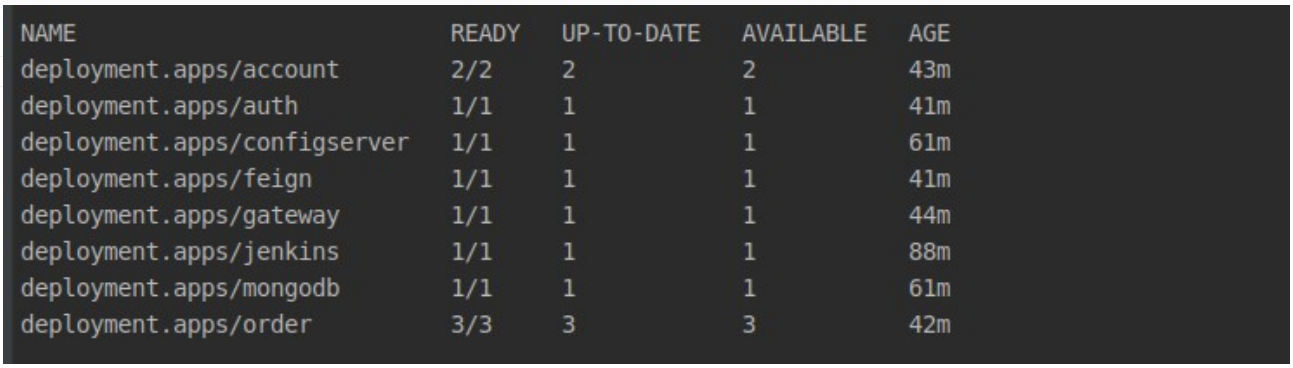
3) Setup of Kubernetes UI for management of deployment.
Example of scaling services



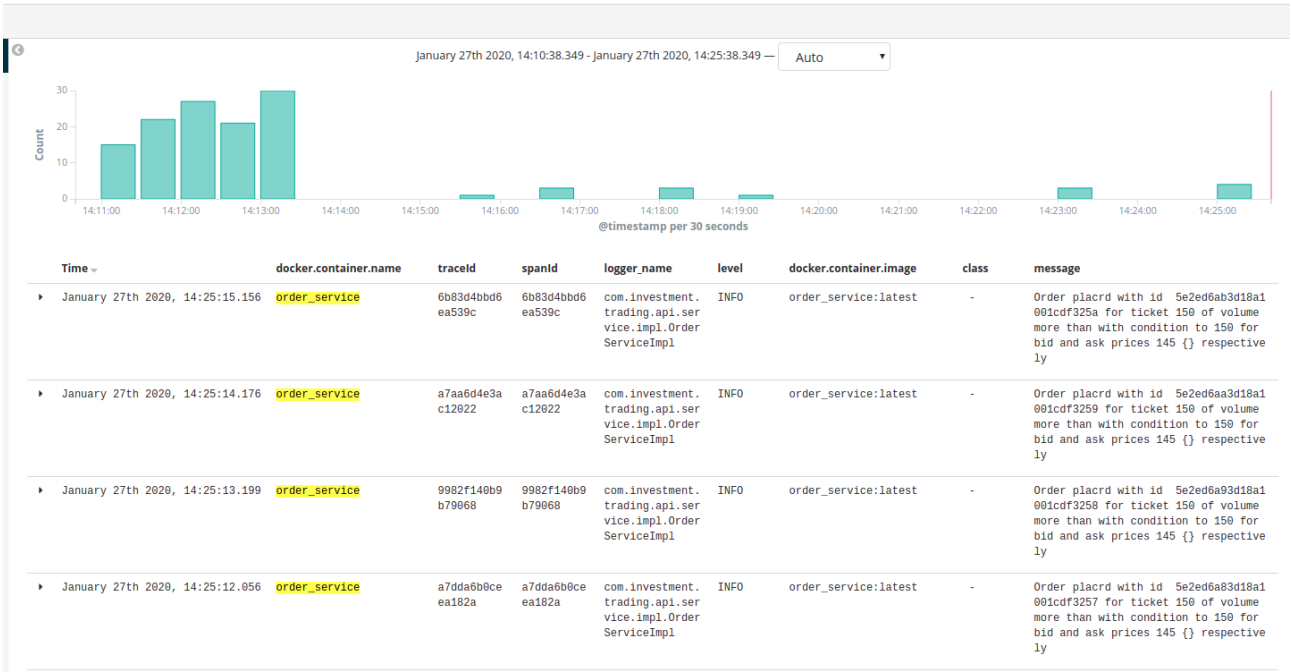


4) We can check if our services have scaled up as expected

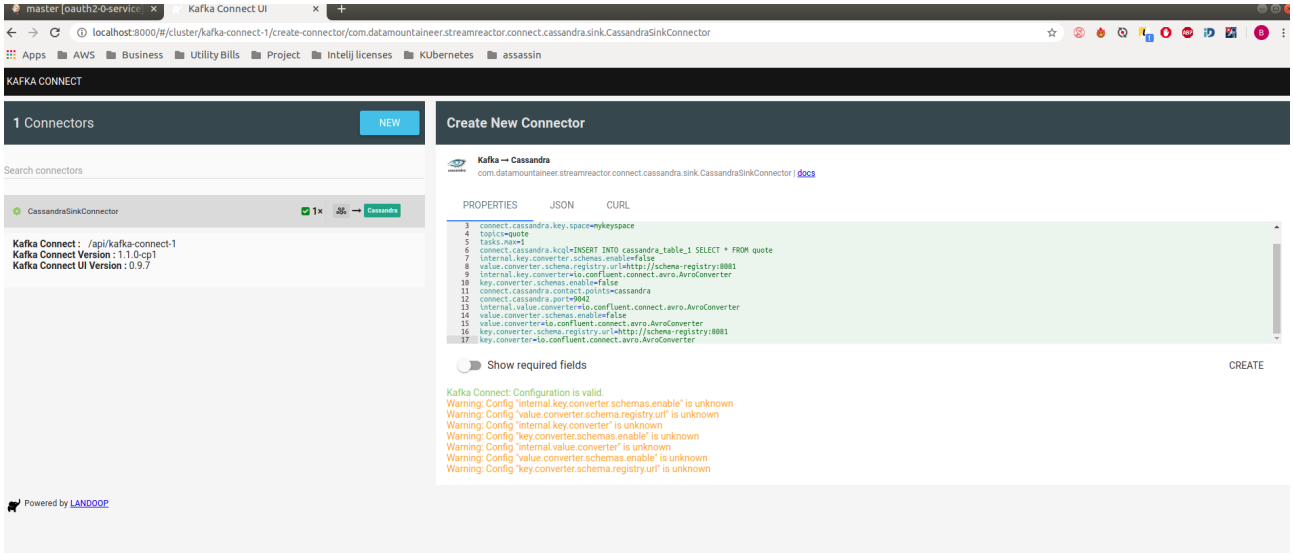


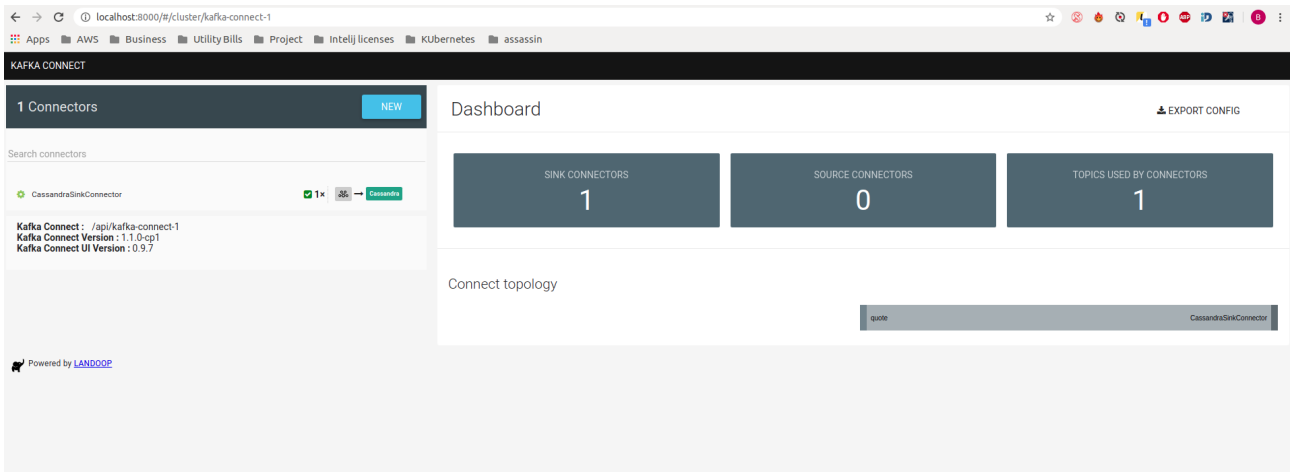


5) Using ELK to trace logs



5) Kafka Connect with Cassandra setup





6) Data sent to Kafka topic are sent to Cassandra Sink in Kafka as Avro:

```
root@broker:/# kafka-console-consumer --bootstrap-server localhost:9092  --topic quote --from-beginning
g1&2019-12-20 16:00:0MSFT157.5200157.5300157.4000
                                                785507157.2400
g2&2019-12-20 15:59:0MSFT157.4600157.5300157.5250
                                                214735157.4600
g3&2019-12-20 15:58:0MSFT157.4300157.5000157.4650
                                                146344157.4200
g4&2019-12-20 15:57:0MSFT157.4000157.4600157.4400
                                                167296157.3800
g5&2019-12-20 16:00:0MSFT157.5200157.5300157.4000
                                                785507157.2400
g6&2019-12-20 15:59:0MSFT157.4600157.5300157.5250
                                                214735157.4600
g7&2019-12-20 15:58:0MSFT157.4300157.5000157.4650
                                                146344157.4200
g8&2019-12-20 15:57:0MSFT157.4000157.4600157.4400
                                                167296157.3800
g9&2019-12-20 16:00:0MSFT157.5200157.5300157.4000
                                                785507157.2400
```

in Cassandra mirrorred through Kafka Connect:

```
cqlsh:mykeyspace> select * from cassandra_table_1;

 id | close | date | high | low | open | ticket | volume
----+-------+------+------+-----+------+--------+--------

(0 rows)
cqlsh:mykeyspace> select * from cassandra_table_1;

 id  | close    | date                | high     | low      | open     | ticket | volume
-----+----------+---------------------+----------+----------+----------+--------+--------
  g3 | 157.4650 | 2019-12-20 15:58:00 | 157.5000 | 157.4200 | 157.4300 |   MSFT | 146344
  g2 | 157.5250 | 2019-12-20 15:59:00 | 157.5300 | 157.4600 | 157.4600 |   MSFT | 214735
 g10 | 157.5250 | 2019-12-20 15:59:00 | 157.5300 | 157.4600 | 157.4600 |   MSFT | 214735
  g6 | 157.5250 | 2019-12-20 15:59:00 | 157.5300 | 157.4600 | 157.4600 |   MSFT | 214735
  g8 | 157.4400 | 2019-12-20 15:57:00 | 157.4600 | 157.3800 | 157.4000 |   MSFT | 167296
  g7 | 157.4650 | 2019-12-20 15:58:00 | 157.5000 | 157.4200 | 157.4300 |   MSFT | 146344
  g5 | 157.4000 | 2019-12-20 16:00:00 | 157.5300 | 157.2400 | 157.5200 |   MSFT | 785507
  g1 | 157.4000 | 2019-12-20 16:00:00 | 157.5300 | 157.2400 | 157.5200 |   MSFT | 785507
  g4 | 157.4400 | 2019-12-20 15:57:00 | 157.4600 | 157.3800 | 157.4000 |   MSFT | 167296
 g11 | 157.4650 | 2019-12-20 15:58:00 | 157.5000 | 157.4200 | 157.4300 |   MSFT | 146344
 g12 | 157.4400 | 2019-12-20 15:57:00 | 157.4600 | 157.3800 | 157.4000 |   MSFT | 167296
  g9 | 157.4000 | 2019-12-20 16:00:00 | 157.5300 | 157.2400 | 157.5200 |   MSFT | 785507
```

Avro schema in Schema Registry Client