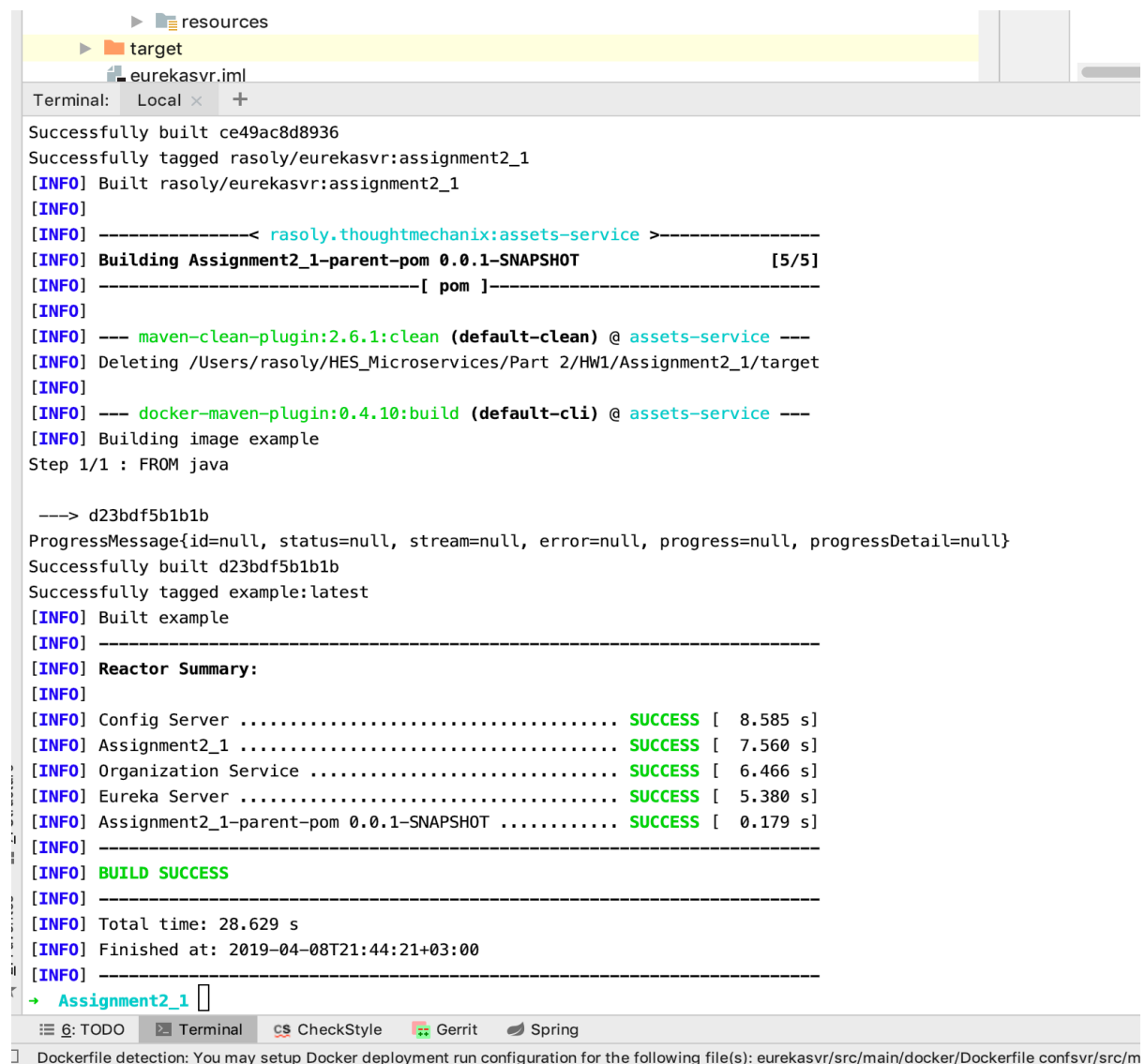


In this assignment, I will cover and implement service discovery agent with two services which are registered to this agent. The discovery service will be implemented using Eureka-Server. I have introduced a new project, with reference to Eureka-Server at the pom.xml file as suggested at the assignment detailed, set up an application.yaml file with suitable port, client, server and service-URL configurations. Then, I've implemented three interactable clients: Spring Discovery client, Rest Template client and Netflix Feign client. I've also introduced the Docker's run.sh files of the Asset & Organization services with the Eureka Service's port, so they could register to the discovery service.

Running mvn clean package docker:build :



```
resources
target
eurekasvr.iml
Terminal: Local x +
Successfully built ce49ac8d8936
Successfully tagged rasoly/eurekasvr:assignment2_1
[INFO] Built rasoly/eurekasvr:assignment2_1
[INFO]
[INFO] -----< rasoly.thoughtmechanix:assets-service >-----
[INFO] Building Assignment2_1-parent-pom 0.0.1-SNAPSHOT [5/5]
[INFO] -----[ pom ]-----
[INFO]
[INFO] --- maven-clean-plugin:2.6.1:clean (default-clean) @ assets-service ---
[INFO] Deleting /Users/rasoly/HES_Microservices/Part 2/HW1/Assignment2_1/target
[INFO]
[INFO] --- docker-maven-plugin:0.4.10:build (default-cli) @ assets-service ---
[INFO] Building image example
Step 1/1 : FROM java
----> d23bdf5b1b1b
ProgressMessage{id=null, status=null, stream=null, error=null, progress=null, progressDetail=null}
Successfully built d23bdf5b1b1b
Successfully tagged example:latest
[INFO] Built example
[INFO]
[INFO] Reactor Summary:
[INFO]
[INFO] Config Server ..... SUCCESS [ 8.585 s]
[INFO] Assignment2_1 ..... SUCCESS [ 7.560 s]
[INFO] Organization Service ..... SUCCESS [ 6.466 s]
[INFO] Eureka Server ..... SUCCESS [ 5.380 s]
[INFO] Assignment2_1-parent-pom 0.0.1-SNAPSHOT ..... SUCCESS [ 0.179 s]
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 28.629 s
[INFO] Finished at: 2019-04-08T21:44:21+03:00
[INFO]
--> Assignment2_1
6: TODO Terminal CheckStyle Gerrit Spring
Dockerfile detection: You may setup Docker deployment run configuration for the following file(s): eurekasvr/src/main/docker/Dockerfile confsvr/src/m
```

`docker-compose -f docker/common/docker-compose.yml up :`

```
Terminal: Local x +
organizationservice_1 | 2019-04-08 18:56:38.853 INFO 21 --- [      main] c.n.e.EurekaDiscoveryClientConfiguration : Updating port to 8085
organizationservice_1 | 2019-04-08 18:56:38.859 INFO 21 --- [      main] c.t.organization.Application           : Started Application in 40.248 seconds (JVM running for 41.971
eurekaserver_1        | 2019-04-08 18:56:39.020 INFO 7 --- [io-8761-exec-10] c.n.e.registry.AbstractInstanceRegistry : Registered instance ASSETSSERVICE/ba4c416d8912:assetsservice:8
eurekaserver_1        | 2019-04-08 18:56:39.022 INFO 7 --- [io-8761-exec-10] c.n.e.registry.AbstractInstanceRegistry : Registered instance ORGANIZATIONSERVICE/512ca4e1d0f4:organizat
ue)
eurekaserver_1        | 2019-04-08 18:56:39.023 INFO 7 --- [io-8761-exec-10] c.n.e.registry.AbstractInstanceRegistry : Registered instance ORGANIZATIONSERVICE/7201a6c74a1c:organizat
ue)
eurekaserver_1        | 2019-04-08 18:56:55.204 INFO 7 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 0ms
organizationservice2_1 | 2019-04-08 18:57:06.775 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Disable delta property : false
organizationservice2_1 | 2019-04-08 18:57:06.776 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Single vip registry refresh property : null
organizationservice2_1 | 2019-04-08 18:57:06.776 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Force full registry fetch : false
organizationservice2_1 | 2019-04-08 18:57:06.776 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application is null : false
organizationservice2_1 | 2019-04-08 18:57:06.776 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Registered Applications size is zero : true
organizationservice2_1 | 2019-04-08 18:57:06.776 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application version is -1: false
organizationservice2_1 | 2019-04-08 18:57:06.776 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Getting all instance registry info from the eureka server
organizationservice2_1 | 2019-04-08 18:57:06.809 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : The response status is 200
assetsservice_1       | 2019-04-08 18:57:07.308 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Disable delta property : false
assetsservice_1       | 2019-04-08 18:57:07.308 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Single vip registry refresh property : null
assetsservice_1       | 2019-04-08 18:57:07.309 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Force full registry fetch : false
assetsservice_1       | 2019-04-08 18:57:07.309 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application is null : false
assetsservice_1       | 2019-04-08 18:57:07.309 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Registered Applications size is zero : true
assetsservice_1       | 2019-04-08 18:57:07.309 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application version is -1: false
assetsservice_1       | 2019-04-08 18:57:07.309 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Getting all instance registry info from the eureka server
assetsservice_1       | 2019-04-08 18:57:07.346 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : The response status is 200
organizationservice_1 | 2019-04-08 18:57:07.965 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Disable delta property : false
organizationservice_1 | 2019-04-08 18:57:07.965 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Single vip registry refresh property : null
organizationservice_1 | 2019-04-08 18:57:07.965 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Force full registry fetch : false
organizationservice_1 | 2019-04-08 18:57:07.965 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application is null : false
organizationservice_1 | 2019-04-08 18:57:07.965 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Registered Applications size is zero : true
organizationservice_1 | 2019-04-08 18:57:07.966 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application version is -1: false
organizationservice_1 | 2019-04-08 18:57:07.966 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Getting all instance registry info from the eureka server
organizationservice_1 | 2019-04-08 18:57:07.997 INFO 21 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : The response status is 200
eurekaserver_1        | 2019-04-08 18:57:55.206 INFO 7 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 70ms
eurekaserver_1        | 2019-04-08 18:58:55.207 INFO 7 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 69ms

6: TODO Terminal CheckStyle Gerrit Spring
Dockerfile detection: You may setup Docker deployment run configuration for the following file(s): eurekasvr/src/main/docker/Dockerfile confsvr/src/main/docker/Dockerfile organization-service/src/main/docker/Dockerfile asset-service/src/main/... (18
```

## Calling organization service in the registry:

GET	http://localhost:8761/eureka/apps/organizationservice	
Key	Value	Description

body Cookies Headers (3) Test Results Status: 200 OK

Pretty Raw Preview XML

```
1 <application>
2   <name>ORGANIZATIONSERVICE</name>
3   <instance>
4     <instanceId>512ca4e1d0f4:organizationservice:8085</instanceId>
5     <hostName>172.23.0.3</hostName>
6     <app>ORGANIZATIONSERVICE</app>
7     <ipAddr>172.23.0.3</ipAddr>
8     <status>UP</status>
9     <overriddenstatus>UNKNOWN</overriddenstatus>
10    <port enabled="true">8085</port>
11    <securePort enabled="false">443</securePort>
12    <countryId>1</countryId>
13    <dataCenterInfo class="com.netflix.appinfo.InstanceInfo$DefaultDataCenterInfo">
14      <name>MyOwn</name>
15    </dataCenterInfo>
16    <leaseInfo>
17      <renewalIntervalInSecs>30</renewalIntervalInSecs>
18      <durationInSecs>90</durationInSecs>
19      <registrationTimestamp>1554749799021</registrationTimestamp>
20      <lastRenewalTimestamp>1554750097176</lastRenewalTimestamp>
21      <evictionTimestamp>0</evictionTimestamp>
22      <serviceUpTimestamp>1554749798108</serviceUpTimestamp>
23    </leaseInfo>
24    <metadata class="java.util.Collections$EmptyMap"/>
25    <homePageUrl>http://172.23.0.3:8085/</homePageUrl>
26    <statusPageUrl>http://172.23.0.3:8085/info</statusPageUrl>
27    <healthCheckUrl>http://172.23.0.3:8085/health</healthCheckUrl>
28    <vipAddress>organizationservice</vipAddress>
29    <secureVipAddress>organizationservice</secureVipAddress>
```

# Calling asset service in the registry:

http://localhost:8761/eureka/apps/assetsservice

GET

http://localhost:8761/eureka/apps/assetsservice

Params

Authorization

Headers

Body

Pre-request Script

Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

body

Cookies

Headers (3)

Test Results

Status: 200 OK

Pretty

Raw

Preview

XML

1

<application>

2

<name>ASSETSSERVICE</name>

3

<instance>

4

<instanceId>ba4c416d8912:assetsservice:8080</instanceId>

5

<hostName>172.23.0.4</hostName>

6

<app>ASSETSSERVICE</app>

7

<ipAddr>172.23.0.4</ipAddr>

8

<status>UP</status>

9

<overriddenstatus>UNKNOWN</overriddenstatus>

10

<port enabled="true">8080</port>

11

<securePort enabled="false">443</securePort>

12

<countryId>1</countryId>

13

<dataCenterInfo class="com.netflix.appinfo.InstanceInfo\$DefaultDataCenterInfo">

14

<name>MyOwn</name>

15

</dataCenterInfo>

16

<leaseInfo>

17

<renewalIntervalInSecs>30</renewalIntervalInSecs>

18

<durationInSecs>90</durationInSecs>

19

<registrationTimestamp>1554749799019</registrationTimestamp>

20

<lastRenewalTimestamp>1554750247052</lastRenewalTimestamp>

21

<evictionTimestamp>0</evictionTimestamp>

22

<serviceUpTimestamp>1554749798124</serviceUpTimestamp>

23

</leaseInfo>

Getting assets of an organization using an ID from the schema.sql:

http://localhost:8080/v1/organizations/org-1/assets/

GET

http://localhost:8080/v1/organizations/org-1/assets/

Params

Authorization

Headers

Body

Pre-request Script

Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

body

Cookies

Headers (4)

Test Results

Status: 200 OK

Pretty

Raw

Preview

JSON

1

[

2

{

3

"assetId": "asset0",

4

"organizationId": "org-1",

5

"assetName": "tangible1",

6

"assetType": "tangible"

7

},

8

{

9

"assetId": "asset1",

10

"organizationId": "org-1",

11

"assetName": "tangible2",

12

"assetType": "tangible"

13

}

14

]

Getting a specific asset of the above organization id:

http://localhost:8080/v1/organizations/org-1/assets/asset0

GET

http://localhost:8080/v1/organizations/org-1/assets/asset0

Params

Authorization

Headers

Body

Pre-request Script

Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

body

Cookies

Headers (4)

Test Results

Status: 200 OK

Pretty

Raw

Preview

JSON

1

{

2

"assetId": "asset0",

3

"organizationId": "org-1",

4

"assetName": "tangible1",

5

"assetType": "tangible"

6

}

## Information output about the above request :

```
r.availabilityFilteringRule.activeConnectionsLimit = 2147483647
assetsservice_1 | 2019-04-08 19:07:24.907 INFO 22 --- [nio-8080-exec-5] c.n.u.concurrent.ShutdownEnabledTimer : Shutdown hook installed for: NFLoadBalancer-PingTimer-organizationservice
assetsservice_1 | 2019-04-08 19:07:25.008 INFO 22 --- [nio-8080-exec-5] c.netflix.loadbalancer.BaseLoadBalancer : Client:organizationservice instantiated a LoadBalancer:DynamicServerListLoadBalancer:{NFLoadBalancer:name=organizationservice,current list of Servers=[],Load balancer stats=Zone stats: {},Server stats: []}ServerList:null
assetsservice_1 | 2019-04-08 19:07:25.020 INFO 22 --- [nio-8080-exec-5] c.n.l.DynamicServerListLoadBalancer : Using serverListUpdater PollingServerListUpdater
assetsservice_1 | 2019-04-08 19:07:25.090 INFO 22 --- [nio-8080-exec-5] c.netflix.config.ChainedDynamicProperty : Flipping property: organizationservice.ribbon.ActiveConnectionsLimit to use NEXT property: niws.loadbalancer.availabilityFilteringRule.activeConnectionsLimit = 2147483647
assetsservice_1 | 2019-04-08 19:07:25.094 INFO 22 --- [nio-8080-exec-5] c.n.l.DynamicServerListLoadBalancer : DynamicServerListLoadBalancer for client organizationservice initialized: DynamicServerListLoadBalancer:{NFLoadBalancer:name=organizationservice,current list of Servers=[172.23.0.3:8085, 172.23.0.6:8085],Load balancer stats=Zone stats: {defaultzone=[Zone:defaultzone; Instance count:2; Active connections count: 0; Circuit breaker tripped count: 0; Active connections per server: 0.0;]},Server stats: [{Server:172.23.0.6:8085; Zone:defaultzone; Total Requests:0; Successive connection failure:0; Total blackout seconds:0; Last connection made:Thu Jan 01 00:00:00 GMT 1970; First connection made: Thu Jan 01 00:00:00 GMT 1970; Active Connections:0; total failure count in last (1000) msec:0; average resp time:0.0; 90 percentile resp time:0.0; 95 percentile resp time:0.0; min resp time:0.0; max resp time:0.0; stddev resp time:0.0}]
assetsservice_1 | [Server:172.23.0.3:8085; Zone:defaultzone; Total Requests:0; Successive connection failure:0; Total blackout seconds:0; Last connection made:Thu Jan 01 00:00:00 GMT 1970; First connection made: Thu Jan 01 00:00:00 GMT 1970; Active Connections:0; total failure count in last (1000) msec:0; average resp time:0.0; 90 percentile resp time:0.0; 95 percentile resp time:0.0; min resp time:0.0; max resp time:0.0; stddev resp time:0.0}]
assetsservice_1 | ]]ServerList:org.springframework.cloud.netflix.ribbon.eureka.DomainExtractingServerList@519db96
organizationservice2_1 | 2019-04-08 19:07:25.493 INFO 21 --- [nio-8085-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring FrameworkServlet 'dispatcherServlet'
organizationservice2_1 | 2019-04-08 19:07:25.493 INFO 21 --- [nio-8085-exec-1] o.s.web.servlet.DispatcherServlet : FrameworkServlet 'dispatcherServlet': initialization started
organizationservice2_1 | 2019-04-08 19:07:25.532 INFO 21 --- [nio-8085-exec-1] o.s.web.servlet.DispatcherServlet : FrameworkServlet 'dispatcherServlet': initialization completed in 39 ms
organizationservice2_1 | 2019-04-08 19:07:25.718 INFO 21 --- [nio-8085-exec-1] o.h.h.i.QueryTranslatorFactoryInitiator : HHH000397: Using ASTQueryTranslatorFactory
organizationservice2_1 | Hibernate: select organizati0.organization_id as organiza1_0, organizati0.contact_email as contact_2_0, organizati0.contact_name as contact_3_0, organizati0.contact_phone as contact_4_0, organizati0.name as name5_0 from organizations organizati0 where organizati0.organization_id=?
assetsservice_1 | 2019-04-08 19:07:26.028 INFO 22 --- [erListUpdater-0] c.netflix.config.ChainedDynamicProperty : Flipping property: organizationservice.ribbon.ActiveConnectionsLimit to use NEXT property: niws.loadbalancer.availabilityFilteringRule.activeConnectionsLimit = 2147483647
eurekaserver_1 | 2019-04-08 19:07:55.212 INFO 7 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 69ms
assetsservice_1 | Hibernate: select asset0.asset_id as asset1_0, asset0.asset_name as asset_na2_0, asset0.asset_type as asset_ty3_0, asset0.organization_id as organiza4_0 from assets asset0 where asset0.organization_id=? and asset0.asset_id=?
organizationservice2_1 | Hibernate: select organizati0.organization_id as organiza1_0, organizati0.contact_email as contact_2_0, organizati0.contact_name as contact_3_0, organizati0.name as name5_0 from organizations organizati0 where organizati0.organization_id=?
eurekaserver_1 | 2019-04-08 19:08:55.213 INFO 7 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 69ms
```

### Run Dashboard

Multiple Spring Boot run configurations were detected....

## Same request, using Spring Discovery Client:

Method: GET URL: http://localhost:8080/v1/organizations/org-1/assets/asset0/discovery

Headers: Authorization Headers Body Pre-request Script Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

ly Cookies Headers (4) Test Results Status: 200 OK Time

Pretty Raw Preview JSON

```
1 {
2   "assetId": "asset0",
3   "organizationId": "org-1",
4   "assetName": "tangible1",
5   "assetType": "tangible"
6 }
```

## Output:

```
eureka-server_1 | 2019-04-08 19:09:55.212 INFO 7 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 69m
asset-service_1 | Hibernate: select asset0.asset_id as asset_id1_0, asset0.asset_name as asset_na2_0, asset0.asset_type as asset_ty3_0, asset0.organization_
ation_id=? and asset0.asset_id=?
asset-service_1 | I am using the discovery client
organization-service2_1 | Hibernate: select organization0.organization_id as organiza1_0, organization0.contact_email as contact_2_0, organization0.contact_name as contact_
0_name as name5_0 from organizations organization0 where organization0.organization_id=?
eureka-server_1 | 2019-04-08 19:10:52.092 INFO 7 --- [hresholdUpdater] c.n.e.r.PeerAwareInstanceRegistryImpl : Current renewal threshold is : 6
eureka-server_1 | 2019-04-08 19:10:55.212 INFO 7 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 68m
organization-service2_1 | 2019-04-08 19:11:34.978 INFO 21 --- [trap-executor-0] c.n.d.s.r.aws.ConfigClusterResolver : Resolving eureka endpoints via configuration
```



Same request, using Feign Client:

GET

http://localhost:8080/v1/organizations/org-1/assets/asset0/feign

Params

Authorization

Headers

Body

Pre-request Script

Tests

KEY	VALUE	DESCRIP
Key	Value	Descrip

Body

Cookies

Headers (4)

Test Results

Status: 200

Pretty

Raw

Preview

JSON

1

{

2

"assetId": "asset0",

3

"organizationId": "org-1",

4

"assetName": "tangible1",

5

"assetType": "tangible"

6

}

Output:

```
assetsservice_1 | Hibernate: select asset0.asset_id as asset_id1_0, asset0.asset_name as asset_na2_0, asset0.asset_type as asset_ty3_0,
tion_id=? and asset0.asset_id=?
assetsservice_1 | I am using the feign client
rganizationservice2_1 | Hibernate: select organizati0.organization_id as organiza1_0, organizati0.contact_email as contact_2_0, organizati0.co
)_name as name5_0 from organizations organizati0 where organizati0.organization_id=?
|
```



Same request, using RestTemplate client:

GET

http://localhost:8080/v1/organizations/org-1/assets/asset0/rest

Params

Authorization

Headers

Body

Pre-request Script

Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body

Cookies

Headers (4)

Test Results

Status: 200 OK

Pretty

Raw

Preview

JSON

1

{

2

"assetId": "asset0",

3

"organizationId": "org-1",

4

"assetName": "tangible1",

5

"assetType": "tangible"

6

}

Output:

assetsservice\_1 | Hibernate: select asset0.asset\_id as asset\_id1\_0, asset0.asset\_name as asset\_na2\_0, asset0.asset\_type as asset\_ty3\_0  
  and asset0.asset\_id=? and asset0.asset\_id=?

assetsservice\_1 | I am using the rest client

organizationservice\_1 | Hibernate: select organizati0.organization\_id as organiza1\_0, organizati0.contact\_email as contact\_2\_0, organizati0.