

In this assignment, I will cover the implementation of various Client Resiliency Patterns using Hystrix. Most of the implementation will be to add utilities and helper class around Asset-Service and re-implement the method getAssetByOrg. We will review timeouts, default values, bulk executions – using random multiple calls.

Running mvn clean package docker:build :

```
[INFO] -----[ pom ]-----
[INFO]
[INFO] --- maven-clean-plugin:2.6.1:clean (default-clean) @ assets-service ---
[INFO] Deleting /Users/rasoly/HES_Microservices/Part 2/HW2/Assignment2_2/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 [ 8.446 s]
[INFO] Assignment2_2 ..... SUCCESS [ 7.371 s]
[INFO] Organization Service ..... SUCCESS [ 6.167 s]
[INFO] Eureka Server ..... SUCCESS [ 5.467 s]
[INFO] Assignment2_2-parent-pom 0.0.1-SNAPSHOT ..... SUCCESS [ 0.204 s]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 28.200 s
[INFO] Finished at: 2019-04-08T23:05:56+03:00
[INFO] -----
```

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

```
eureka-server_1 | 2019-04-08 20:06:57.727 INFO 6 --- [nio-8761-exec-8] c.n.e.registry.AbstractInstanceRegistry : Registered instance ORGANIZATIONSERVICE/08d207dfc643:organization
assetsservice_1 | 2019-04-08 20:06:57.984 INFO 22 --- [main] c.n.e.EurekaDiscoveryClientConfiguration : Registering application assetsservice with eureka with status
eureka-server_1 | 2019-04-08 20:06:58.099 INFO 6 --- [nio-8761-exec-1] c.n.e.registry.AbstractInstanceRegistry : Registered instance ORGANIZATIONSERVICE/495c10b37b72:organization
eureka-server_1 | 2019-04-08 20:06:58.145 INFO 6 --- [io-8761-exec-10] c.n.e.registry.AbstractInstanceRegistry : Registered instance ASSETSSERVICE/6a5601a71593:assetsservice:8
assetsservice_1 | 2019-04-08 20:06:58.237 INFO 22 --- [main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8080 (http)
assetsservice_1 | 2019-04-08 20:06:58.239 INFO 22 --- [main] c.n.e.EurekaDiscoveryClientConfiguration : Updating port to 8080
assetsservice_1 | 2019-04-08 20:06:58.245 INFO 22 --- [main] r.t.a.AssetsServiceApplication : Started AssetsServiceApplication in 36.65 seconds (JVM running)
eureka-server_1 | 2019-04-08 20:06:58.667 INFO 6 --- [nio-8761-exec-2] c.n.e.registry.AbstractInstanceRegistry : Registered instance ASSETSSERVICE/6a5601a71593:assetsservice:8
eureka-server_1 | 2019-04-08 20:07:16.903 INFO 6 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 0ms
organizationsservice_2_1 | 2019-04-08 20:07:25.168 INFO 24 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Disable delta property : false
organizationsservice_2_1 | 2019-04-08 20:07:25.168 INFO 24 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Single vip registry refresh property : null
organizationsservice_2_1 | 2019-04-08 20:07:25.168 INFO 24 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Force full registry fetch : false
organizationsservice_2_1 | 2019-04-08 20:07:25.169 INFO 24 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application is null : false
organizationsservice_2_1 | 2019-04-08 20:07:25.169 INFO 24 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Registered Applications size is zero : true
organizationsservice_2_1 | 2019-04-08 20:07:25.169 INFO 24 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application version is -1: false
organizationsservice_2_1 | 2019-04-08 20:07:25.169 INFO 24 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Getting all instance registry info from the eureka server
organizationsservice_2_1 | 2019-04-08 20:07:25.211 INFO 24 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : The response status is 200
organizationsservice_1 | 2019-04-08 20:07:26.383 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Disable delta property : false
organizationsservice_1 | 2019-04-08 20:07:26.383 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Single vip registry refresh property : null
organizationsservice_1 | 2019-04-08 20:07:26.383 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Force full registry fetch : false
organizationsservice_1 | 2019-04-08 20:07:26.383 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application is null : false
organizationsservice_1 | 2019-04-08 20:07:26.383 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Registered Applications size is zero : true
organizationsservice_1 | 2019-04-08 20:07:26.384 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Application version is -1: false
organizationsservice_1 | 2019-04-08 20:07:26.384 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : Getting all instance registry info from the eureka server
organizationsservice_1 | 2019-04-08 20:07:26.415 INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient : The response status is 200
eureka-server_1 | 2019-04-08 20:08:16.004 INFO 6 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 66ms
```

After few clicks - Error from the assets service:

GET

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

Send

Params

Authorization

Headers

Body

Pre-request Script

Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body

Cookies

Headers (5)

Test Results

Status: 500 Internal Server Error Time: 1088 ms Size: 457 B

Pretty

Raw

Preview

JSON

```
1 {
2   "timestamp": 1554756411789,
3   "status": 500,
4   "error": "Internal Server Error",
5   "exception": "com.netflix.hystrix.exception.HystrixRuntimeException",
6   "message": "getAssetByOrg timed-out and fallback failed.",
7   "path": "/v1/organizations/org-1/assets/"
8 }
```

After few more clicks, works properly:

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

Send

Params

Authorization

Headers

Body

Pre-request Script

Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body

Cookies

Headers (4)

Test Results

Status: 200 OKTime: 25 msSize: 368 B

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}

After configuring the timeout to 12 seconds, it doesn't fail.

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

Send

Params

Authorization

Headers

Body

Pre-request Script

Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body

Cookies

Headers (4)

Test Results

Status: 200 OKTime: 25 msSize: 368 B

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}

Fallback implementation of getAssetsByOrg:

GET ▼ http://localhost:8080/v1/organizations/org-1/assets/ Send ▼

Params Authorization Headers Body Pre-request Script Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

body Cookies Headers (4) Test Results Status: 200 OK Time: 937 ms Size: 306 B

Pretty Raw Preview JSON ≡

```
1 [
2   {
3     "assetId": "123456",
4     "organizationId": "org-1",
5     "assetName": "Sorry no asset information currently available",
6     "assetType": null
7   }
8 ]
```

Bulkhead around getAssetByOrg:

GET ▼ http://localhost:8080/v1/organizations/org-1/assets/ Send ▼

Params Authorization Headers Body Pre-request Script Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

body Cookies Headers (4) Test Results Status: 200 OK Time: 25 ms Size: 368 B

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:

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

Params Authorization Headers Body Pre-request Script Tests

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body Cookies Headers (4) Test Results Status: 200 OK Time: 35 ms Size: 273 B

Pretty Raw Preview JSON

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

And the above is the same when running with test correlation id.
Output:

```
ation_id=? and asset0_asset_id=?  
organizationsservice2_1 | Hibernate: select organization0.organization_id as organiza1_0, organization0.contact_email as contact_2_0, organization0.contact_name as contact_3_0, or  
0_name as name5_0 from organizations organization0 where organization0.organization_id=?  
eureka-server_1 | 2019-04-09 19:18:12.246 INFO 7 --- [a-EvictionTimer] c.n.e.registry.AbstractInstanceRegistry : Running the evict task with compensationTime 68ms  
assetsservice_1 | 2019-04-09 19:19:08.734 DEBUG 20 --- [nio-8080-exec-8] r.t.a.assets.utils.UserContextFilter : UserContextFilter Correlation id: TEST-CORRELATION-ID  
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, asset0_organization_id as or  
ation_id=? and asset0_asset_id=?
```