In this assignment, I will cover the implementation of Zuul mapping and routing service, using two additional services:

1. Organization-New – to differ between the two organization when routing.
2. Special Routes – to support different request routing between services.

Most of the implementation during this assignment will be through re-configuring the application.yml of the Zuul project. Through different executions, the request will be routed to either "old" or "new" organization services, using the Special Routes service.

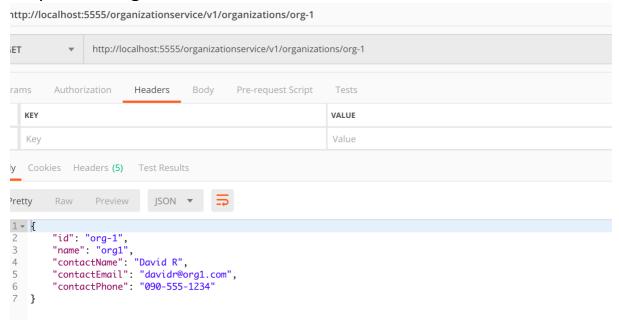## Running mvn clean package docker:build :

```
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] Zuul Proxy Server .................................. SUCCESS [ 10.289 s]
[INFO] Config Server ...................................... SUCCESS [  4.348 s]
[INFO] Asset Server ....................................... SUCCESS [  6.983 s]
[INFO] Organization Service ............................... SUCCESS [  6.133 s]
[INFO] Eureka Server ...................................... SUCCESS [  5.557 s]
[INFO] New Version of Organization Service ................ SUCCESS [  7.515 s]
[INFO] Special Routes Service ............................. SUCCESS [  8.012 s]
[INFO] assignment2_3-parent-pom 0.0.1-SNAPSHOT ............ SUCCESS [  0.175 s]
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time: 49.616 s
[INFO] Finished at: 2019-04-13T20:32:32+03:00
[INFO] ------------------------------------------------------------------------
```

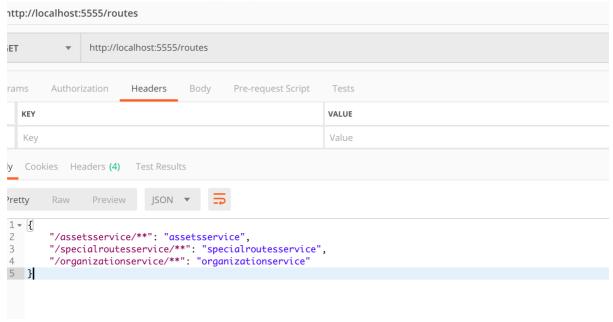# docker-compose -f docker/common/docker-compose.yml up

```
eurekaserver_1          | 2019-04-14 19:49:18.686  INFO 7 --- [nio-8761-exec-1] c.n.e.registry.AbstractInstanceRegistry  : Registered instance ORGANIZATIONSERVICE/f87efb4
alse)
organizationservice_1   | 2019-04-14 19:49:18.904  INFO 22 --- [           main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8085 (http)
organizationservice_1   | 2019-04-14 19:49:18.908  INFO 22 --- [           main] c.n.e.EurekaDiscoveryClientConfiguration : Updating port to 8085
organizationservice_1   | 2019-04-14 19:49:18.916  INFO 22 --- [           main] r.t.organization.Application             : Started Application in 68.68 seconds (JVM runn
orgservice-new_1        | 2019-04-14 19:49:18.984  INFO 21 --- [           main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8087 (http)
orgservice-new_1        | 2019-04-14 19:49:18.994  INFO 21 --- [           main] c.n.e.EurekaDiscoveryClientConfiguration : Updating port to 8087
orgservice-new_1        | 2019-04-14 19:49:19.015  INFO 21 --- [           main] r.t.organization.Application             : Started Application in 68.789 seconds (JVM run
eurekaserver_1          | 2019-04-14 19:49:19.122  INFO 7 --- [nio-8761-exec-3] c.n.e.registry.AbstractInstanceRegistry  : Registered instance ORGANIZATIONSERVICE/5e906b8
rue)
eurekaserver_1          | 2019-04-14 19:49:19.123  INFO 7 --- [nio-8761-exec-3] c.n.e.registry.AbstractInstanceRegistry  : Registered instance ORGANIZATIONSERVICE/f87efb4
rue)
assetsservice_1         | 2019-04-14 19:49:20.067  INFO 22 --- [           main] c.n.e.EurekaDiscoveryClientConfiguration : Registering application assetsservice with eur
assetsservice_1         | 2019-04-14 19:49:20.136  INFO 22 --- [           main] o.s.c.support.DefaultLifecycleProcessor  : Starting beans in phase 2147483647
specialroutes-service_1 | 2019-04-14 19:49:20.190  INFO 21 --- [           main] c.n.e.EurekaDiscoveryClientConfiguration : Registering application specialroutesservice w
assetsservice_1         | 2019-04-14 19:49:20.191  INFO 22 --- [           main] ration$HystrixMetricsPollerConfiguration : Starting poller
specialroutes-service_1 | 2019-04-14 19:49:20.282  INFO 21 --- [           main] o.s.c.support.DefaultLifecycleProcessor  : Starting beans in phase 2147483647
eurekaserver_1          | 2019-04-14 19:49:20.327  INFO 7 --- [nio-8761-exec-6] c.n.e.registry.AbstractInstanceRegistry  : Registered instance ASSETSSERVICE/71448b09e137:
specialroutes-service_1 | 2019-04-14 19:49:20.337  INFO 21 --- [           main] ration$HystrixMetricsPollerConfiguration : Starting poller
eurekaserver_1          | 2019-04-14 19:49:20.421  INFO 7 --- [nio-8761-exec-7] c.n.e.registry.AbstractInstanceRegistry  : Registered instance SPECIALROUTESSERVICE/1d73df
=false)
assetsservice_1         | 2019-04-14 19:49:20.431  INFO 22 --- [           main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8080 (http)
assetsservice_1         | 2019-04-14 19:49:20.434  INFO 22 --- [           main] c.n.e.EurekaDiscoveryClientConfiguration : Updating port to 8080
assetsservice_1         | 2019-04-14 19:49:20.440  INFO 22 --- [           main] r.t.a.AssetsServiceApplication           : Started AssetsServiceApplication in 70.179 sec
specialroutes-service_1 | 2019-04-14 19:49:20.580  INFO 21 --- [           main] s.b.c.e.t.TomcatEmbeddedServletContainer : Tomcat started on port(s): 8910 (http)
specialroutes-service_1 | 2019-04-14 19:49:20.583  INFO 21 --- [           main] c.n.e.EurekaDiscoveryClientConfiguration : Updating port to 8910
specialroutes-service_1 | 2019-04-14 19:49:20.590  INFO 21 --- [           main] r.t.specialroutes.Application            : Started Application in 71.394 seconds (JVM run
eurekaserver_1          | 2019-04-14 19:49:20.842  INFO 7 --- [nio-8761-exec-8] c.n.e.registry.AbstractInstanceRegistry  : Registered instance ASSETSSERVICE/71448b09e137:
eurekaserver_1          | 2019-04-14 19:49:20.843  INFO 7 --- [nio-8761-exec-8] c.n.e.registry.AbstractInstanceRegistry  : Registered instance SPECIALROUTESSERVICE/1d73df
=true)
organizationservice_1   | 2019-04-14 19:49:47.766  INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient    : Disable delta property : false
organizationservice_1   | 2019-04-14 19:49:47.766  INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient    : Single vip registry refresh property : null
organizationservice_1   | 2019-04-14 19:49:47.766  INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient    : Force full registry fetch : false
organizationservice_1   | 2019-04-14 19:49:47.766  INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient    : Application is null : false
organizationservice_1   | 2019-04-14 19:49:47.766  INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient    : Registered Applications size is zero : true
organizationservice_1   | 2019-04-14 19:49:47.766  INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient    : Application version is -1: false
organizationservice_1   | 2019-04-14 19:49:47.766  INFO 22 --- [freshExecutor-0] com.netflix.discovery.DiscoveryClient    : Getting all instance registry info from the eu
```

Use Case 1 - Zuul's application.yml files mappings are commented out:

Request to Organization service :

http://localhost:5555/organizationservice/v1/organizations/org-1

iET ▼	http://localhost:5555/organizationservice/v1/organizations/org-1

rams   Authorization   **Headers**   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

ly   Cookies   Headers (5)   Test Results

Pretty   Raw   Preview   JSON ▼   ⇥

```
1 ▾ {
2       "id": "org-1",
3       "name": "org1",
4       "contactName": "David R",
5       "contactEmail": "davidr@org1.com",
6       "contactPhone": "090-555-1234"
7   }
```

Zuul's service route mapping:

http://localhost:5555/routes

iET ▼	http://localhost:5555/routes

rams   Authorization   **Headers**   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

ly   Cookies   Headers (4)   Test Results

Pretty   Raw   Preview   JSON ▼   ⇥

```
1 ▾ {
2       "/assetsservice/**": "assetsservice",
3       "/specialroutesservice/**": "specialroutesservice",
4       "/organizationservice/**": "organizationservice"
5   }
```

Use Case 2 -Zuul's application.yml – shortening the organization name to /organization/**:

Getting an organization:

http://localhost:5555/organization/v1/organizations/org-1

GET ▼   http://localhost:5555/organization/v1/organizations/org-1

rams   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

ly   Cookies   Headers (5)   Test Results

Pretty   Raw   Preview   JSON ▼   ⇄

1 ▾ {
2   "id": "org-1",
3   "name": "org1",
4   "contactName": "David R",
5   "contactEmail": "davidr@org1.com",
6   "contactPhone": "090-555-1234"
7   }

Checking routes:

http://localhost:5555/routes

GET ▼   http://localhost:5555/routes

rams   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

ly   Cookies   Headers (4)   Test Results

Pretty   Raw   Preview   JSON ▼   ⇄

1 ▾ {
2   "/organization/**": "organizationservice",
3   "/assetsservice/**": "assetsservice",
4   "/specialroutesservice/**": "specialroutesservice",
5   "/organizationservice/**": "organizationservice"
6   }

Use Case 3 – mapping assetsservice to /assets/** :

Getting organization:

http://localhost:5555/organization/v1/organizations/org-1

| ET ▼ | http://localhost:5555/organization/v1/organizations/org-1 |

rams   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

ly   Cookies   Headers (5)   Test Results

Pretty   Raw   Preview   JSON ▼

```json
1 ▾ {
2       "id": "org-1",
3       "name": "org1",
4       "contactName": "NEW::David R",
5       "contactEmail": "davidr@org1.com",
6       "contactPhone": "090-555-1234"
7 }
```

Checking routes:

http://localhost:5555/routes

| GET ▼ | http://localhost:5555/routes |

Params   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

Body   Cookies   Headers (4)   Test Results

Pretty   Raw   Preview   JSON ▼

```json
1 ▾ {
2       "/organization/**": "organizationservice",
3       "/assetsservice/**": "assetsservice",
4       "/specialroutesservice/**": "specialroutesservice",
5       "/organizationservice/**": "organizationservice"
6 }
```

Use Case 4 – organizationservice to ignored-services:

Getting organization:

http://localhost:5555/organization/v1/organizations/org-1

| GET ▾ | http://localhost:5555/organization/v1/organizations/org-1 |

Params   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

Body   Cookies   Headers (5)   Test Results

Pretty   Raw   Preview   JSON ▾

```
1  {
2      "id": "org-1",
3      "name": "org1",
4      "contactName": "NEW::David R",
5      "contactEmail": "davidr@org1.com",
6      "contactPhone": "090-555-1234"
7  }
```

Checking routes:

http://localhost:5555/routes

| GET ▾ | http://localhost:5555/routes |

Params   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

Body   Cookies   Headers (4)   Test Results

Pretty   Raw   Preview   JSON ▾

```
1  {
2      "/organization/**": "organizationservice",
3      "/assetsservice/**": "assetsservice",
4      "/specialroutesservice/**": "specialroutesservice",
5      "/organizationservice/**": "organizationservice"
6  }
```

Use Case 5 – applying /api route as prefix:

Getting organization:

http://localhost:5555/api/organization/v1/organizations/org-1

GET ▼ http://localhost:5555/api/organization/v1/organizations/org-1

Params Authorization Headers Body Pre-request Script Tests

KEY	VALUE
Key	Value

Body Cookies Headers (5) Test Results

Pretty Raw Preview JSON ▼

```
1 ▾ {
2       "id": "org-1",
3       "name": "org1",
4       "contactName": "David R",
5       "contactEmail": "davidr@org1.com",
6       "contactPhone": "090-555-1234"
7   }
```

Checking routes:

http://localhost:5555/routes

GET ▼ http://localhost:5555/routes

Params Authorization Headers Body Pre-request Script Tests

KEY	VALUE
Key	Value

Body Cookies Headers (4) Test Results

Pretty Raw Preview JSON ▼

```
1 ▾ {
2       "/api/organization/**": "organizationservice",
3       "/api/assets/**": "assetservice",
4       "/api/assetsservice/**": "assetsservice",
5       "/api/specialroutesservice/**": "specialroutesservice",
6       "/api/organizationservice/**": "organizationservice"
7   }
```

Use Case 6 – map assetservice to static route with port 8081:

Getting organization:

http://localhost:5555/organization/v1/organizations/org-1

| GET ▼ | http://localhost:5555/organization/v1/organizations/org-1 |

Params   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

Body   Cookies   Headers (4)   Test Results

Pretty   Raw   Preview   Auto ▼   ⇄

1 |

Checking routes:

http://localhost:5555/routes

| GET ▼ | http://localhost:5555/routes |

Params   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

Body   Cookies   Headers (4)   Test Results

Pretty   Raw   Preview   JSON ▼   ⇄

```
1 ▾ {
2       "/assetservice/**": "http://assetservice-static:8081",
3       "/organization/**": "organizationservice",
4       "/assetsservice/**": "assetsservice",
5       "/specialroutesservice/**": "specialroutesservice",
6       "/organizationservice/**": "organizationservice"
7  }
```

Use Case 7 – map assetservice to static route with port 8081 & 8082:

Check routes, without /api prefix:

http://localhost:5555/routes

GET ▼	http://localhost:5555/routes

Params   Authorization   Headers   Body   Pre-request Script   Tests

KEY	VALUE
Key	Value

Body   Cookies   Headers (4)   Test Results

Pretty   Raw   Preview   JSON ▼   ⇥

```
1 ▾ {
2       "/assetservice/**": "asset-static",
3       "/organization/**": "organizationservice",
4       "/organizationservice/**": "organizationservice",
5       "/specialroutesservice/**": "specialroutesservice",
6       "/assetsservice/**": "assetsservice"
7   }
```