

```
MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/exam...
ataIfNeeeded(KafkaConsumer, java:1261)
  at org.apache.kafka.clients.consumer.KafkaConsumer.poll(KafkaConsumer, java:1226)
  at org.apache.kafka.clients.consumer.KafkaConsumer.poll(KafkaConsumer, java:1206)
  at org.platformmlambda.kafka.services.EventConsumer.run(EventConsumer, java:156)
Caused by: java.lang.ClassNotFoundException: org.apache.kafka.common.requests.OffsetFetchForLeaderEpochRequest$PartitionData
  at java.base/java.net.URLClassLoader.findClass(URLClassLoader, java:471)
  at java.base/java.lang.ClassLoader.loadClass(ClassLoader, java:588)
  at org.springframework.boot.loader.LaunchedURLClassLoader.loadClass(LaunchedURLClassLoader, java:151)
  at java.base/java.lang.ClassLoader.loadClass(ClassLoader, java:521)
... 16 more

Elite8300@Elite8300-PC MINGW64 ~/Documents/CNRefactory/ACNMercury/mercury/example/rest-example
$

MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/conn...
by the remote host)
2021-06-12 08:11:44.209 INFO org.platformmlambda.services.MonitorService:180 - S
topped presence.in.33359.6, 20210611d1925bbdede9426db58f856dca3b9cd6
2021-06-12 08:11:44.209 INFO org.platformmlambda.core.system.ServiceQueue:90 - p
resence.out.33359.6 stopped
2021-06-12 08:11:44.211 INFO org.platformmlambda.core.system.ServiceQueue:90 - p
resence.in.33359.6 stopped
2021-06-12 08:11:44.211 INFO org.platformmlambda.core.system.WsRegistry:129 - Se
ssion=5 (presence.in.33359.6, presence.out.33359.6) released
2021-06-12 08:11:44.211 INFO org.platformmlambda.services.MonitorService:278 - t
ell group 1 that 20210611d1925bbdede9426db58f856dca3b9cd6 has left
2021-06-12 08:11:44.214 INFO org.platformmlambda.services.MonitorService:123 - M
ember 20210611d1925bbdede9426db58f856dca3b9cd6 left
2021-06-12 08:11:44.216 INFO org.platformmlambda.services.TopicController:173 -
multiplex.0001-002 released by 20210611d1925bbdede9426db58f856dca3b9cd6

Elite8300@Elite8300-PC MINGW64 ~/Documents/CNRefactory/ACNMercury/mercury/connec
tions/adapters/kafka/kafka-presence
$

MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/exam...
2021-06-12 08:11:46.536 INFO org.platformmlambda.cloud.services.ServiceRegistry:
219 [ 20210611de62da7a52b64816bed94f07a615c59b disconnected
2021-06-12 08:11:46.536 INFO org.platformmlambda.cloud.services.ServiceRegistry:
344 [ async.http.request 20210611de62da7a52b64816bed94f07a615c59b unregistered
2021-06-12 08:11:46.536 INFO org.platformmlambda.cloud.services.ServiceRegistry:
344 [ notification.manager 20210611de62da7a52b64816bed94f07a615c59b unregistr
d
2021-06-12 08:11:46.536 INFO org.apache.kafka.common.metrics.Metrics:668 [ Met
rics scheduler closed
2021-06-12 08:11:46.536 INFO org.apache.kafka.common.metrics.Metrics:672 [ Clo
sing reporter org.apache.kafka.common.metrics.JmxReporter
2021-06-12 08:11:46.537 INFO org.apache.kafka.common.metrics.Metrics:678 [ Met
rics reporters closed
2021-06-12 08:11:46.539 INFO org.platformmlambda.kafka.services.EventConsumer:27
8 [ Unsubscribed service.monitor.1
2021-06-12 08:11:47.297 INFO org.platformmlambda.core.websocket.client.Persisten
TwsClient:115 [ Just disconnected

Elite8300@Elite8300-PC MINGW64 ~/Documents/CNRefactory/ACNMercury/mercury/exampl
es/lambda-example
$

MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/conn...
rics scheduler closed
2021-06-12 08:11:46.525 INFO org.apache.kafka.common.metrics.Metrics:672 [ Clo
sing reporter org.apache.kafka.common.metrics.JmxReporter
2021-06-12 08:11:46.525 INFO org.apache.kafka.common.metrics.Metrics:678 [ Met
rics reporters closed
2021-06-12 08:11:46.528 INFO org.platformmlambda.kafka.services.EventConsumer:27
8 [ Unsubscribed multiplex.0001.1
2021-06-12 08:11:46.529 INFO org.apache.kafka.common.metrics.Metrics:668 [ Met
rics scheduler closed
2021-06-12 08:11:46.529 INFO org.apache.kafka.common.metrics.Metrics:672 [ Clo
sing reporter org.apache.kafka.common.metrics.JmxReporter
2021-06-12 08:11:46.529 INFO org.apache.kafka.common.metrics.Metrics:678 [ Met
rics reporters closed
2021-06-12 08:11:46.533 INFO org.platformmlambda.kafka.services.EventConsumer:27
8 [ Unsubscribed service.monitor.1
2021-06-12 08:11:47.430 INFO org.platformmlambda.core.websocket.client.Persisten
TwsClient:115 [ Just disconnected

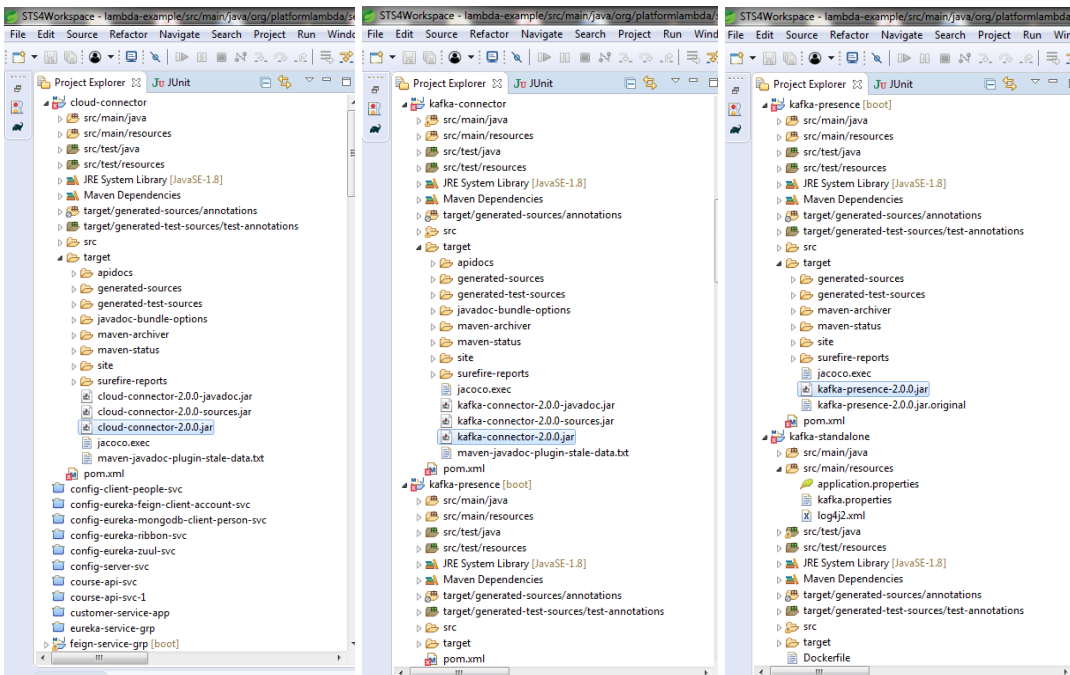
Elite8300@Elite8300-PC MINGW64 ~/Documents/CNRefactory/ACNMercury/mercury/exampl
es/lambda-example
$

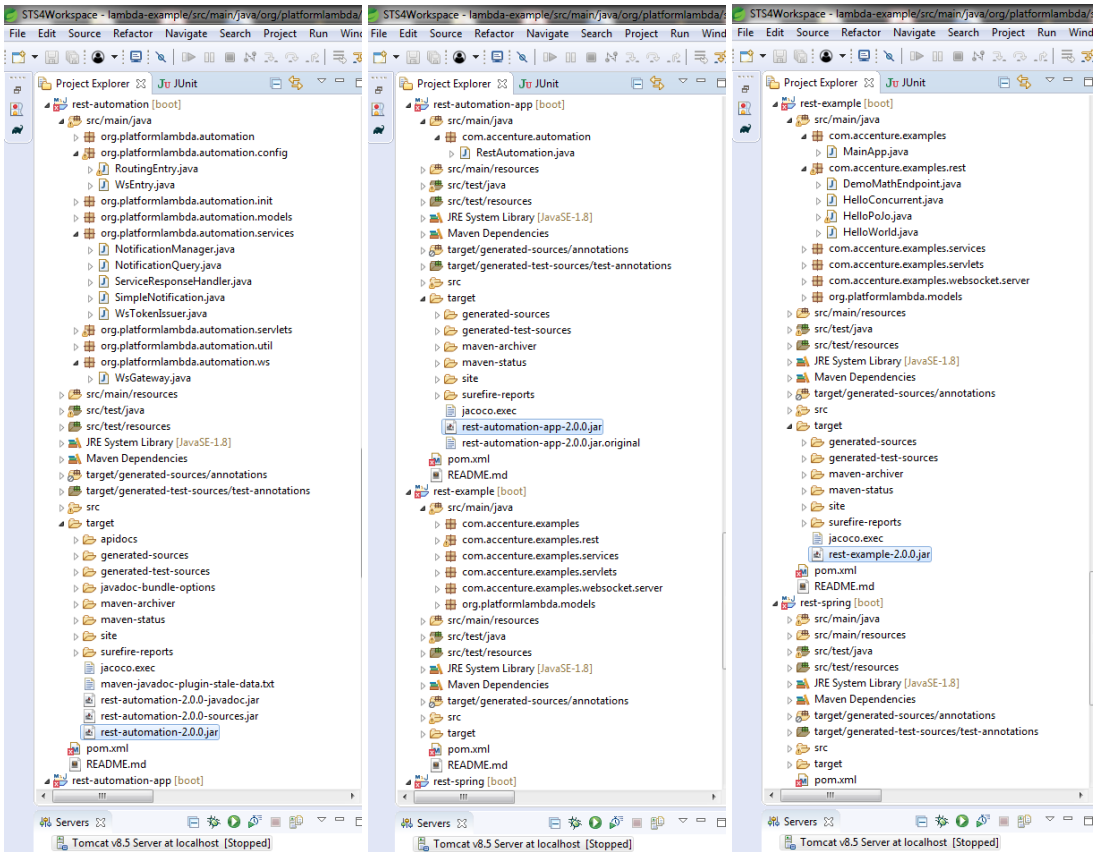
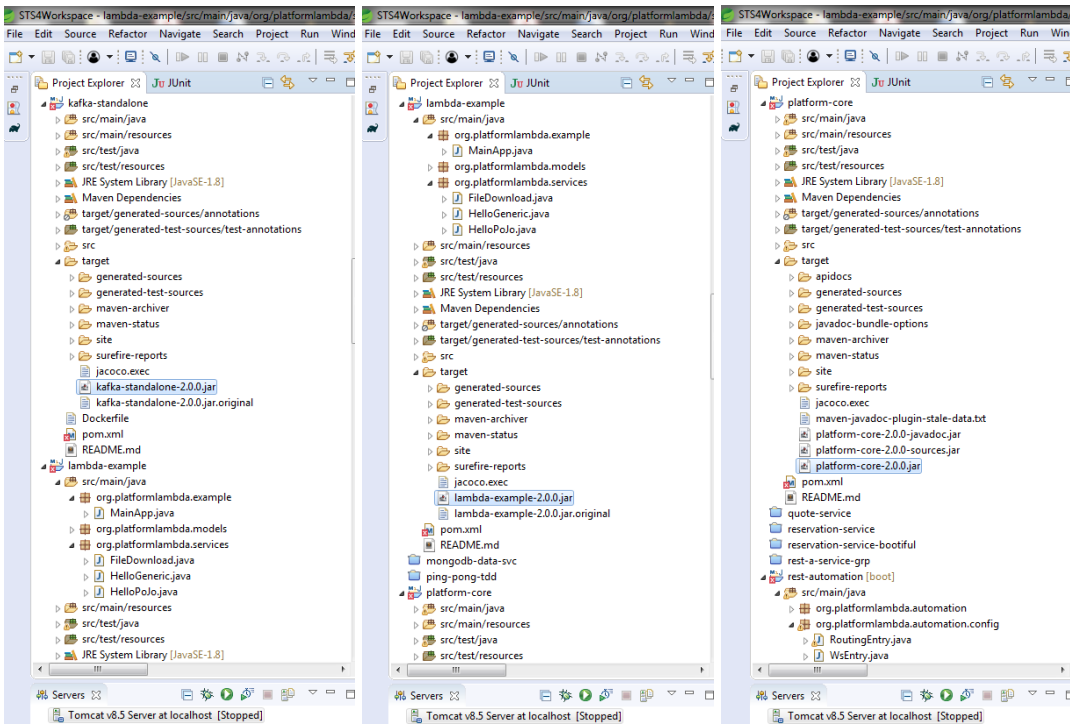
MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/conn...
2021-06-12 07:50:21.959 INFO kafka.controller.KafkaController:66 - [Controller
id=0] Resuming preferred replica election for partitions:
2021-06-12 07:50:21.959 INFO kafka.controller.KafkaController:66 - [Controller
id=0] Starting replica leader election (PREFERRED) for partitions triggered by
ZKTriggered
2021-06-12 07:50:22.313 INFO kafka.controller.KafkaController:66 - [Controller
id=0] Starting the controller scheduler
2021-06-12 07:50:27.314 INFO kafka.controller.KafkaController:66 - [Controller
id=0] Processing automatic preferred replica leader election
2021-06-12 07:55:27.318 INFO kafka.controller.KafkaController:66 - [Controller
id=0] Processing automatic preferred replica leader election
2021-06-12 08:00:27.323 INFO kafka.controller.KafkaController:66 - [Controller
id=0] Processing automatic preferred replica leader election
2021-06-12 08:05:27.328 INFO kafka.controller.KafkaController:66 - [Controller
id=0] Processing automatic preferred replica leader election
2021-06-12 08:10:27.332 INFO kafka.controller.KafkaController:66 - [Controller
id=0] Processing automatic preferred replica leader election

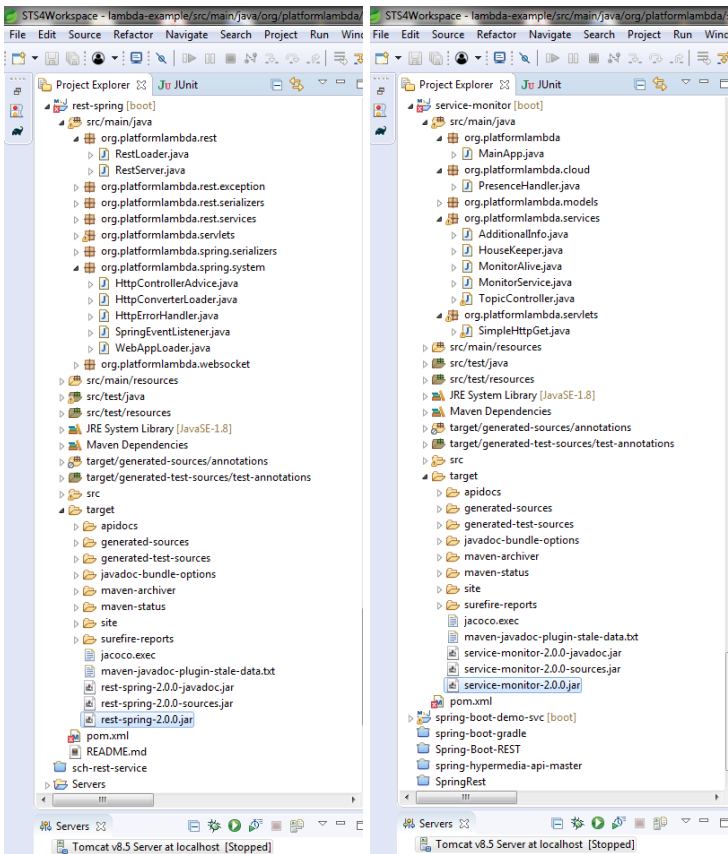
Elite8300@Elite8300-PC MINGW64 ~/Documents/CNRefactory/ACNMercury/mercury/connec
tions/adapters/kafka/kafka-standalone
$

MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/exten...
344 - hello.download 20210611d576fa6584b4397b445863d83b0b7bf unregistered
2021-06-12 08:11:46.536 INFO org.platformmlambda.cloud.services.ServiceRegistry:
344 - hello.world 20210611d576fa6584b4397b445863d83b0b7bf unregistered
2021-06-12 08:11:46.541 INFO org.platformmlambda.cloud.services.ServiceRegistry:
344 - hello.generic 20210611d576fa6584b4397b445863d83b0b7bf unregistered
2021-06-12 08:11:46.541 INFO org.platformmlambda.cloud.services.ServiceRegistry:
344 - hello.pogo 20210611d576fa6584b4397b445863d83b0b7bf unregistered
2021-06-12 08:11:46.542 INFO org.platformmlambda.automation.services.Notification
Manager:149 [ Offline
2021-06-12 08:11:46.766 INFO org.platformmlambda.core.websocket.client.Persisten
TwsClient:115 - Just disconnected
2021-06-12 08:11:53.932 WARN org.apache.kafka.clients.NetworkClient:780 - [Prod
ucer clientId=de62da7a52b64816bed94f07a615c59bps1] Connection to node 0 (/127.0.
0.1:9092) not be established. Broker may not be available.
2021-06-12 08:11:55.083 WARN org.apache.kafka.clients.NetworkClient:780 - [Prod
ucer clientId=de62da7a52b64816bed94f07a615c59bps1] Connection to node 0 (/127.0.
0.1:9092) could not be established. Broker may not be available.

Elite8300@Elite8300-PC MINGW64 ~/Documents/CNRefactory/ACNMercury/mercury/extens
ions/rest-automation-app
$
```







```
MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/exam...
started
2021-06-11 08:06:32.002 INFO org.platformlambda.core.system.Platform:208 [Sta
rtting cloud.connector.kafka using org.platformlambda.kafka.KafkaConnector
2021-06-11 08:06:32.005 WARN org.platformlambda.cloud.CloudConnectorConfig:83 [ Ski
pping file:/tmp/config/kafka.properties - \tmp\config\kafka.properties (The syst
em cannot find the path specified)
2021-06-11 08:06:32.006 INFO org.platformlambda.cloud.CloudConnectorConfig:80 [ Loa
ding config from classpath:/kafka.properties
2021-06-11 08:06:33.020 INFO org.platformlambda.kafka.KafkaConnector:150 [ Ret
rying... Kafka cluster [127.0.0.1:9092] is not reachable
2021-06-11 08:06:34.021 ERROR org.platformlambda.kafka.KafkaConnector:91 [ Kafk
a cluster failure [127.0.0.1:9092] - Unreachable
2021-06-11 08:06:34.121 INFO org.platformlambda.websocket.WsLoader:82 [ Stoppe
d
2021-06-11 08:06:34.129 INFO org.springframework.scheduling.concurrent.ThreadPoo
lTaskExecutor:218 [ Shutting down ExecutorService 'applicationTaskExecutor'

Elite8300@Elite8300-PC MINGW64 ~/Documents/CNRefactory/ACNMercury/mercury/exampl
es/rest-example
$

MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/conn...
Elite8300@Elite8300-PC MINGW64 ~/Documents/CNRefactory/ACNMercury/mercury/connec
tors/adapters/kafka/kafka-presence
$ java -jar target/kafka-presence-2.0.0.jar

=====
:: Spring Boot ::
(v2.4.4)

2021-06-11 08:30:38.633 INFO org.springframework.boot.web.embedded.tomcat.Tomcat
WebServer:108 - Tomcat initialized with port(s): 8080 (http)
Jun 11, 2021 8:30:38 AM org.apache.coyote.AbstractProtocol init
INFO: Initializing ProtocolHandler ["http-nio-8080"]
Jun 11, 2021 8:30:38 AM org.apache.catalina.core.StandardService startInternal
INFO: Starting service [Tomcat]
Jun 11, 2021 8:30:38 AM org.apache.catalina.core.StandardEngine startInternal

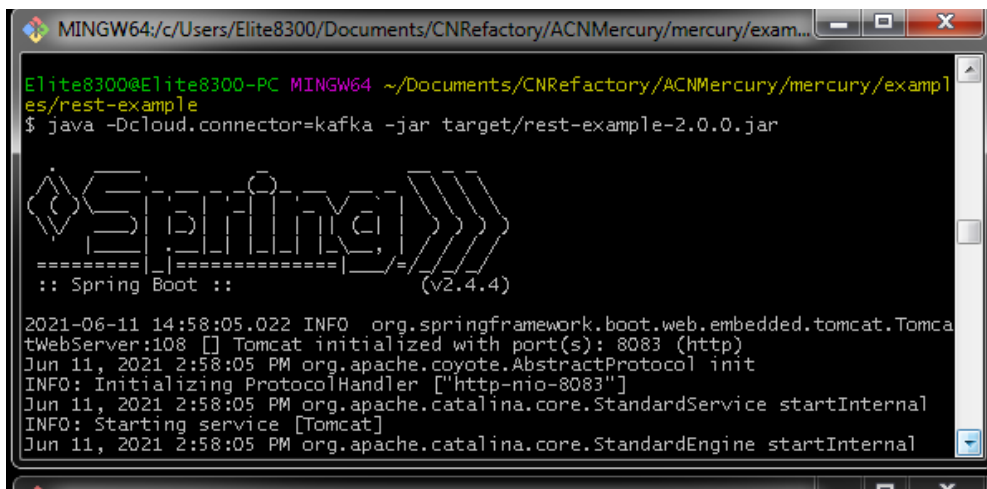
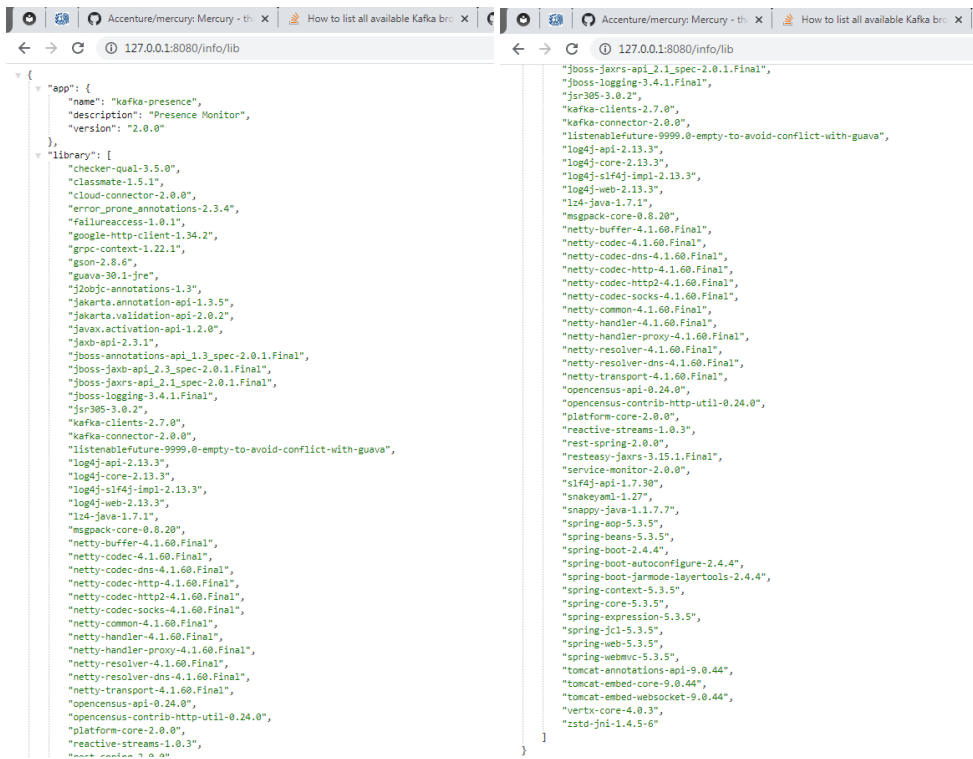
MINGW64/c/Users/Elite8300
Elite8300@Elite8300-PC MINGW64 ~
$

MINGW64/c/Users/Elite8300/Documents/CNRefactory/ACNMercury/mercury/connec
tors/adapters/kafka/kafka-standalone
$ java -jar target/kafka-standalone-2.0.0.jar
2021-06-11 08:21:11.787 INFO org.platformlambda.core.system.AppStarter:107 - Sta
rtting org.platformlambda.example.MainApp
2021-06-11 08:21:12.921 INFO org.platformlambda.system.EmbeddedZk:51 - Clean up
transient Zookeeper working directory at \tmp\zookeeper
2021-06-11 08:21:13.114 INFO org.apache.zookeeper.server.ServerCnxnFactory:135
- Using org.apache.zookeeper.server.NIOServerCnxnFactory as server connection fa
ctory
2021-06-11 08:21:13.121 INFO org.apache.zookeeper.server.NIOServerCnxnFactory:6
73 - Configuring NIO connection handler with 10s sessionless connection timeout,
1 selector thread(s), 8 worker threads, and 64 kB direct buffers.
2021-06-11 08:21:13.124 INFO org.apache.zookeeper.server.NIOServerCnxnFactory:6
86 - binding to port 0.0.0.0/0.0.0.0:2181
2021-06-11 08:21:13.150 INFO org.apache.zookeeper.server.ZooKeeperServer:109 -
Server environment izookeeper.version=3.5.8-f439ca583e70862c3068a1f2a7d4d068ec33
```

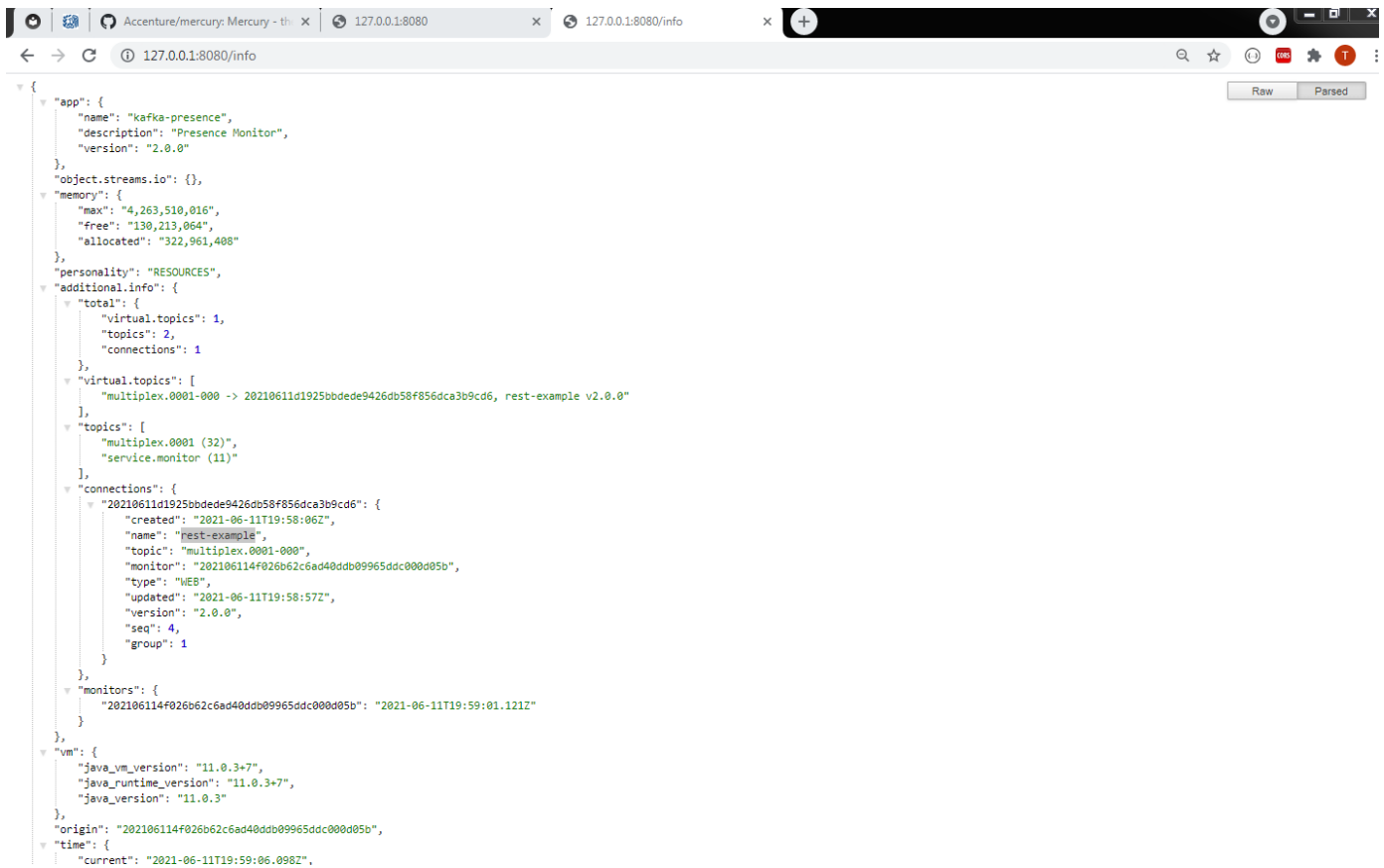
```
Accenture/mercury: Mercury - th | How to list all available Kafka bro | confluentinc/kafka-rest: Confluen | 127.0.0.1:8080/info
127.0.0.1:8080/info
Raw Parsed
{
  "app": {
    "name": "kafka-presence",
    "description": "Presence Monitor",
    "version": "2.0.0"
  },
  "object.streams.io": {},
  "memory": {
    "max": "4,263,510,016",
    "free": "231,650,976",
    "allocated": "322,961,408"
  },
  "personality": "RESOURCES",
  "additional.info": {
    "total": {
      "virtual.topics": 0,
      "topics": 1,
      "connections": 0
    },
    "virtual.topics": [],
    "topics": [
      "service.monitor (11)"
    ],
    "connections": {},
    "monitors": {
      "202106114f026b62c6ad40ddb09965ddc000d05b": "2021-06-11T13:32:49.906Z"
    }
  },
  "vm": {
    "java_vm_version": "11.0.3+7",
    "java_runtime_version": "11.0.3+7",
    "java_version": "11.0.3"
  },
  "origin": "202106114f026b62c6ad40ddb09965ddc000d05b",
  "time": {
    "current": "2021-06-11T13:33:09.356Z",
    "start": "2021-06-11T13:30:39.824Z"
  }
}
```

This is the kafka Broker_0 information at 127.0.0.1:8080/info

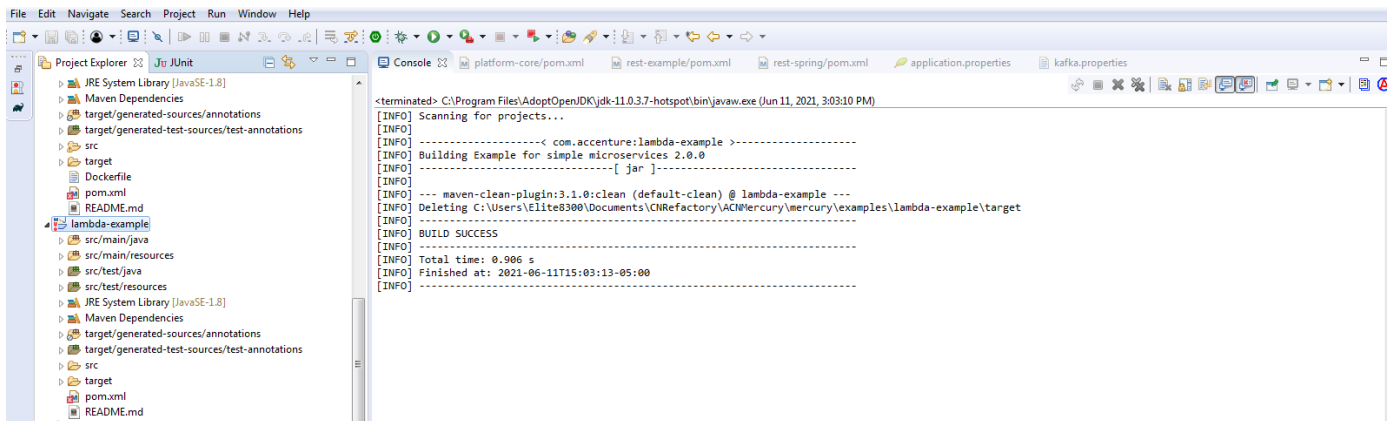
```
Accenture/mercury: Mercury - th | How to list all available Kafka bro | confluentinc/kafka-rest: Confluen | 127.0.0.1:8080/health
127.0.0.1:8080/health
Raw Parsed
{
  "upstream": [
    {
      "route": "cloud.connector.health",
      "service": "kafka",
      "topics": "on-demand",
      "href": "127.0.0.1:9092",
      "message": "Loopback test took 4 ms; System contains 1 topic",
      "required": true,
      "statusCode": 200
    }
  ],
  "origin": "202106114f026b62c6ad40ddb09965ddc000d05b",
  "name": "kafka-presence",
  "status": "UP"
}
```



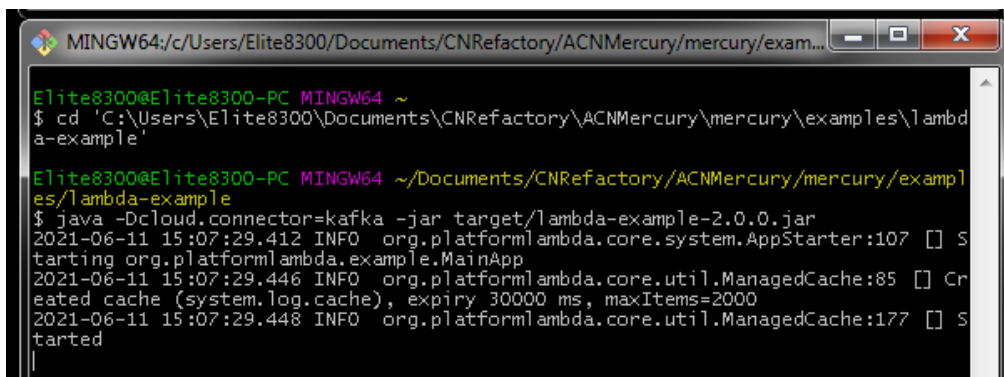
Start the rest-example using the JAR file



The rest-example app is now connected over the multiplex.0001.000 channel



Do a Maven clean & install for the lambda-example project to get the JAR file created



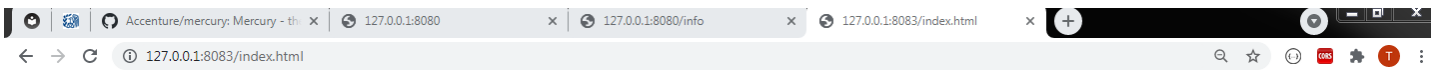
Run the lambda-example-2.0.0.jar file using the **\$ java -Dcloud.connector=kafka -jar target/lambda-example-2.0.0.jar**

```
{
  "app": {
    "name": "kafka-presence",
    "description": "Presence Monitor",
    "version": "2.0.0"
  },
  "object.streams.io": {},
  "memory": {
    "max": "4,263,510,016",
    "free": "278,459,720",
    "allocated": "322,961,408"
  },
  "personality": "RESOURCES",
  "additional.info": {
    "total": {
      "virtual.topics": 2,
      "topics": 2,
      "connections": 2
    },
    "virtual.topics": [
      "multiplex.0001-000 -> 20210611d1925bbdede9426db58f856dca3b9cd6, rest-example v2.0.0",
      "multiplex.0001-001 -> 2021061142db5a812387419f8b6a9a189e326dd0, lambda-example v2.0.0"
    ],
    "topics": [
      "multiplex.0001 (32)",
      "service.monitor (11)"
    ],
    "connections": {
      "2021061142db5a812387419f8b6a9a189e326dd0": {
        "created": "2021-06-11T20:07:30Z",
        "name": "lambda-example",
        "topic": "multiplex.0001-001",
        "monitor": "202106114f026b62c6ad40ddb09965ddc000d05b",
        "type": "APP",
        "updated": "2021-06-11T20:08:46Z",
        "version": "2.0.0",
        "seq": 5,
        "group": 1
      },
      "20210611d1925bbdede9426db58f856dca3b9cd6": {
        "created": "2021-06-11T19:58:06Z",
        "name": "rest-example",
        "topic": "multiplex.0001-000",
        "monitor": "202106114f026b62c6ad40ddb09965ddc000d05b",
        "type": "WEB",
        "updated": "2021-06-11T20:08:58Z",
        "version": "2.0.0",
        "seq": 28,
        "group": 1
      }
    }
  },
  "monitors": {
    "202106114f026b62c6ad40ddb09965ddc000d05b": "2021-06-11T20:14:21.481Z"
  },
  "vm": {
    "java_vm_version": "11.0.3+7",
    "java_runtime_version": "11.0.3+7",
    "java_version": "11.0.3"
  },
  "origin": "202106114f026b62c6ad40ddb09965ddc000d05b",
  "time": {
    "current": "2021-06-11T20:14:26.072Z",
    "start": "2021-06-11T13:30:39.824Z"
  }
}
```

Both the rest-example web app and the lambda-example app are now running and detected by the presence monitor and assigned different channels

	Application Name	App Type	Copies	Virtual Topic
1	rest-example	Web		Multiplex.0001.000
2	Lambda-example	App		Multiplex.0001.001

```
1 #
2 # Application name, version and description are displayed under the management endpoint "/info".
3 #
4 # When running under IDE, spring.application.name and info.app.version will be used.
5 # Otherwise, the application name and version are retrieved from the packaged JAR file.
6 #
7 spring.application.name=resst
8 info.app.version=1.0.0
9 info.app.description=Rest Example
10 #
11 # Server port when running locally
12 # This value will be overridden automatically when deployed to cloud
13 #
14 server.port=8083
15 spring.jmx.cache.enabled=false
16 #
17 # DO NOT CHANGE the URL path for static content
18 #
19 spring.mvc.static-path-pattern=/**
20 #
21 # Where to load the static files
```



Your application is running

[INFO endpoint](#)

[Library dependency list](#)

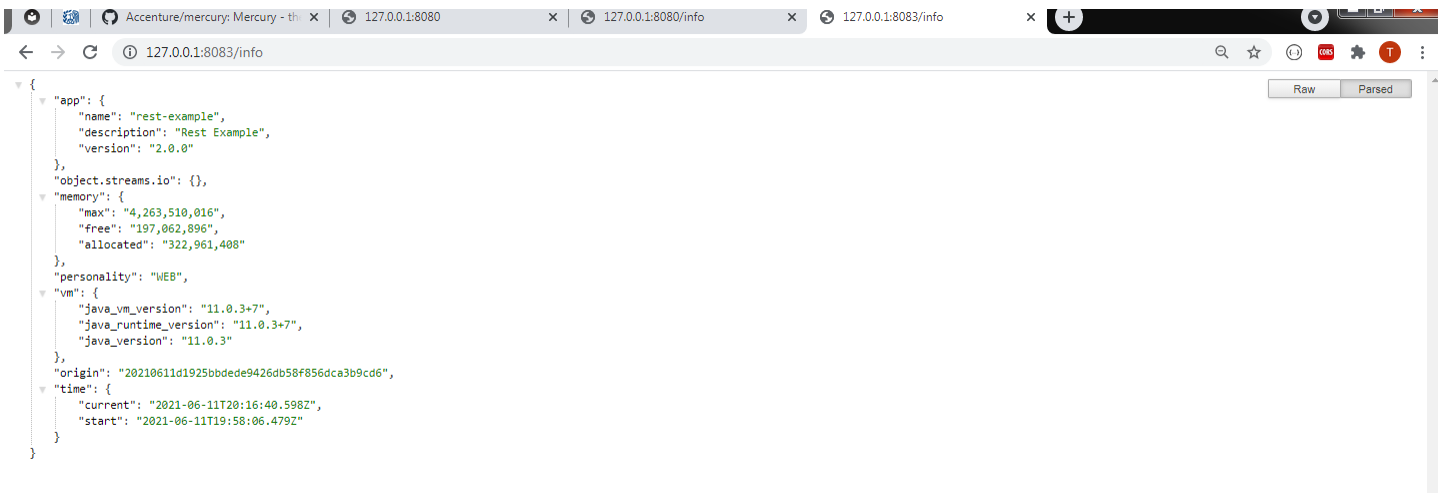
[Service list](#)

[Health endpoint](#)

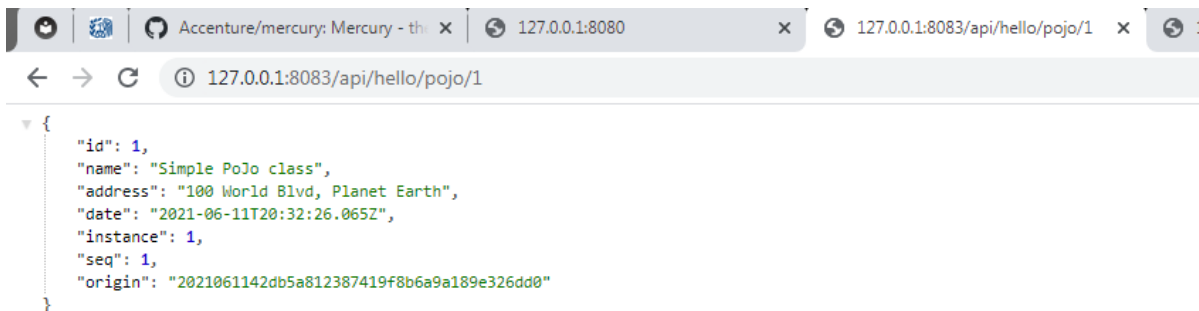
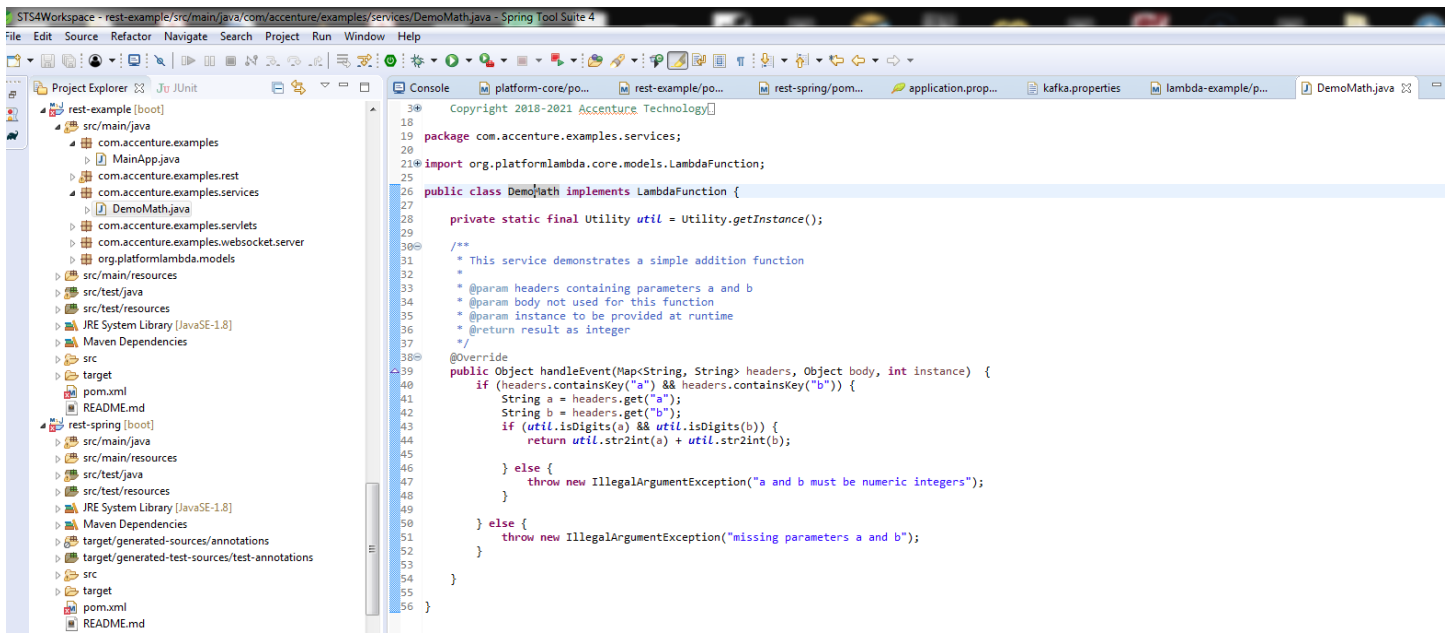
[Hello World demo](#)

[Hello World that sends 10 parallel requests](#)

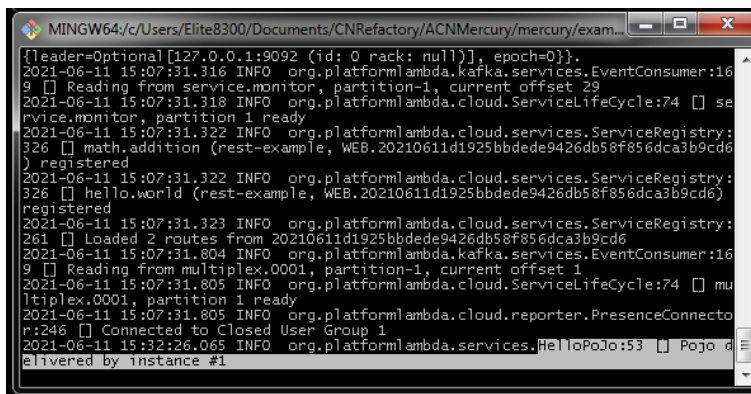
Access the rest-example landing page at **127.0.0.1:8083/index.html**



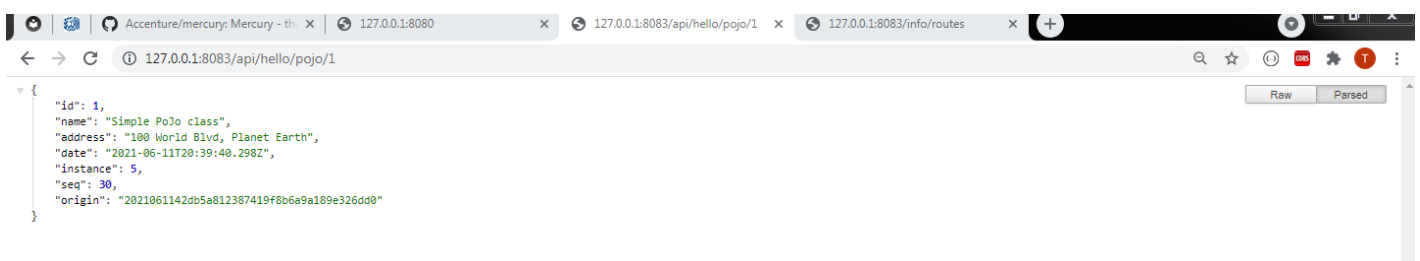
Access the rest-example 2 service routes (math.addition, hello.world) and the lambda-example's 4 (hello.download, hello.world, hello.generic, hello.pojo) **service routes** at **127.0.0.1:8083/info/routes**



Make a hello.pojo request to <http://127.0.0.1:8083/api/hello/pojo/1> endpoint



The request is routed from the rest-example web app's /api/hello.pojo controller endpoint to the lambda-example app's hello.pojo function via Kafka.



Start a 2nd instance of the lambda-example app, it should connect to the Kafka Presence and start serving requests too

```

{
  "app": {
    "name": "kafka-presence",
    "description": "Presence Monitor",
    "version": "2.0.0"
  },
  "object.streams.io": {},
  "memory": {
    "max": "4,263,510,016",
    "free": "290,385,160",
    "allocated": "322,961,408"
  },
  "personality": "RESOURCES",
  "additional.info": {
    "total": {
      "virtual.topics": 3,
      "topics": 2,
      "connections": 3
    },
    "virtual.topics": [
      "multiplex.0001-000 -> 20210611d1925bbdede9426db58f856dca3b9cd6, rest-example v2.0.0",
      "multiplex.0001-001 -> 20210611d42db5a812387419f8b6a9a189e326dd0, lambda-example v2.0.0",
      "multiplex.0001-002 -> 20210611d576fa6584b4397b445863d83b0b7bf, lambda-example v2.0.0"
    ],
    "topics": [
      "multiplex.0001 (32)",
      "service.monitor (11)"
    ],
    "connections": {
      "20210611d42db5a812387419f8b6a9a189e326dd0": {
        "created": "2021-06-11T20:07:30Z",
        "name": "lambda-example",
        "topic": "multiplex.0001-001",
        "monitor": "20210611d4f026b62c6ad40ddb09965ddc000d05b",
        "type": "APP",
        "updated": "2021-06-11T20:45:51Z",
        "version": "2.0.0"
      }
    }
  }
}

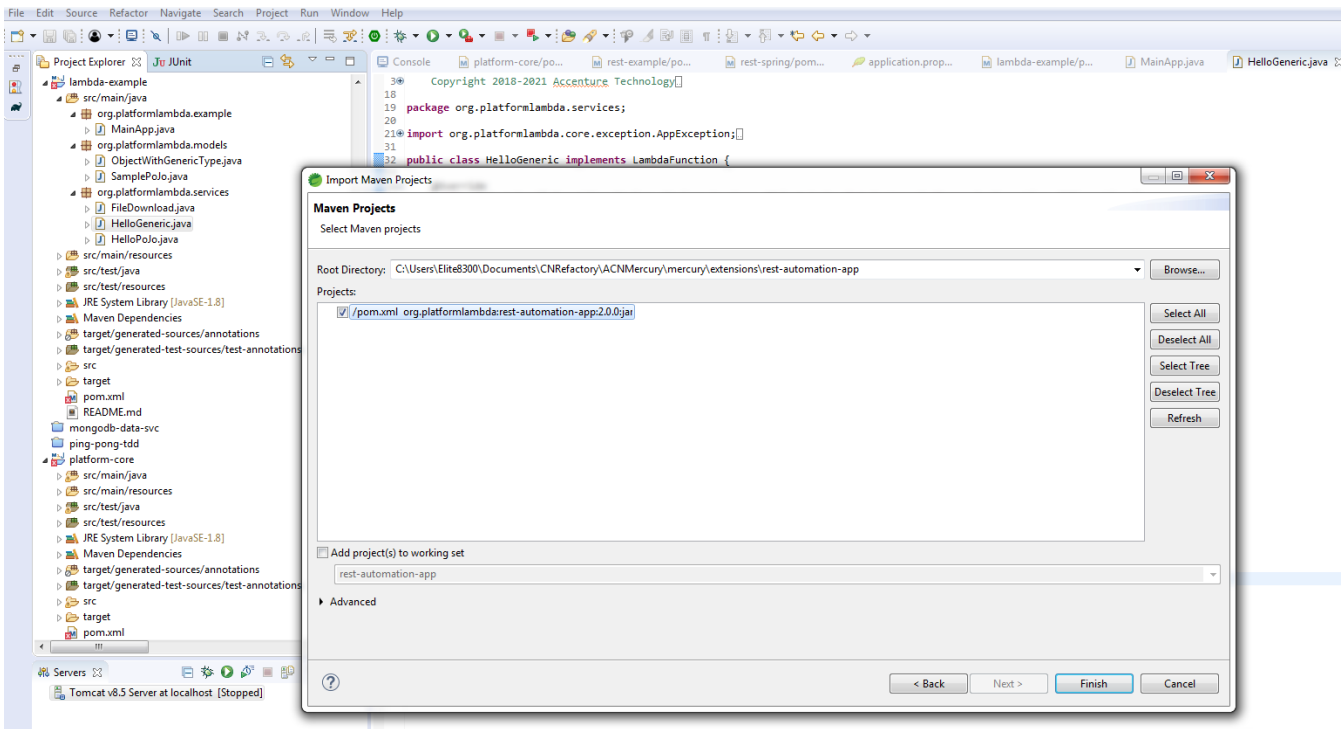
```

```

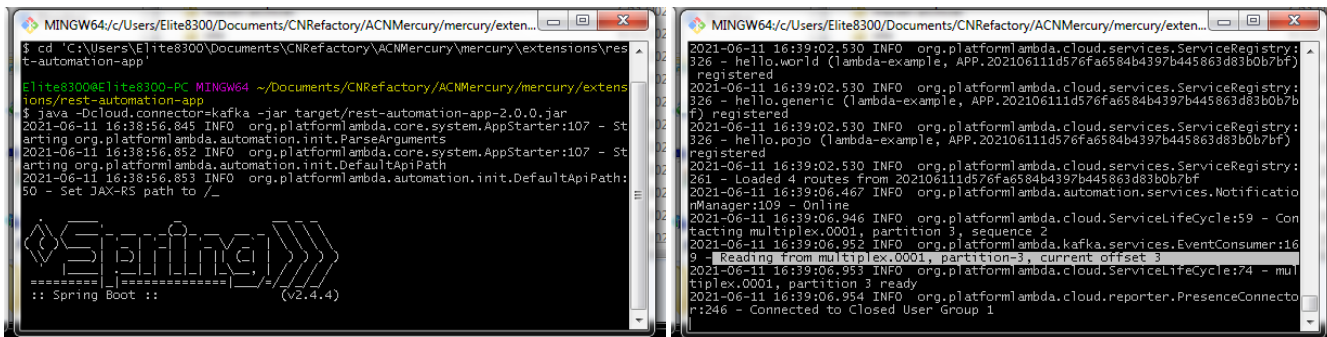
{
  "app": {
    "name": "rest-example",
    "description": "Rest Example",
    "version": "2.0.0"
  },
  "routing": {
    "routes": {
      "math.addition": {
        "20210611d1925bbdede9426db58f856dca3b9cd6": "rest-example, WEB"
      },
      "hello.download": {
        "20210611d42db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "20210611d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      },
      "hello.world": {
        "20210611d42db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "20210611d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP",
        "20210611d1925bbdede9426db58f856dca3b9cd6": "rest-example, WEB"
      },
      "hello.generic": {
        "20210611d42db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "20210611d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      },
      "hello.pojo": {
        "20210611d42db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "20210611d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      }
    },
    "nodes": {
      "20210611d42db5a812387419f8b6a9a189e326dd0": "multiplex.0001-001, 2021-06-11T20:44:11Z",
      "20210611d576fa6584b4397b445863d83b0b7bf": "multiplex.0001-002, 2021-06-11T20:44:10Z",
      "20210611d1925bbdede9426db58f856dca3b9cd6": "multiplex.0001-000, 2021-06-11T20:43:58Z"
    },
    "origin": "20210611d1925bbdede9426db58f856dca3b9cd6",
    "name": "rest-example, v2.0.0",
    "group": 1
  }
}

```

Now we see 2 instances of the lambda-example functions available on topics multiplex.0001-000 and multiplex.0001-002.



Import, clean, build:compile and install the rest-automation app in mercury/extensions/rest-automation-app



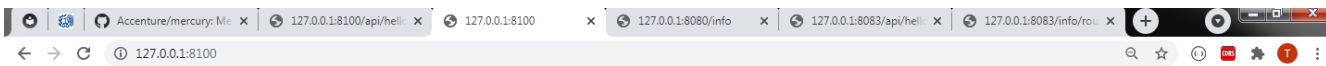
Run the rest-automation-app using the command `$ java -Dcloud.connector=kafka -jar target/rest-automation-app-2.0.0.jar`

```
127.0.0.1:8083/info/routes

{
  "app": {
    "name": "rest-example",
    "description": "Rest Example",
    "version": "2.0.0"
  },
  "routing": {
    "routes": {
      "math.addition": {
        "20210611d1925b0dede9426db58f856dca3b9cd6": "rest-example, WEB"
      },
      "hello.download": {
        "2021061142db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "20210611d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      },
      "async.http.request": {
        "20210611de62da7a52b64816bed94f07a615c59b": "rest-automation-app, REST"
      },
      "hello.world": {
        "2021061142db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "20210611d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP",
        "20210611d1925b0dede9426db58f856dca3b9cd6": "rest-example, WEB"
      },
      "hello.generic": {
        "2021061142db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "20210611d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      },
      "notification.manager": {
        "20210611de62da7a52b64816bed94f07a615c59b": "rest-automation-app, REST"
      },
      "hello.pojio": {
        "2021061142db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "20210611d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      }
    },
    "nodes": {
      "2021061142db5a812387419f8b6a9a189e326dd0": "multiplex.0001-001, 2021-06-11T21:53:23Z",
      "20210611d576fa6584b4397b445863d83b0b7bf": "multiplex.0001-002, 2021-06-11T21:53:23Z",
      "20210611d1925b0dede9426db58f856dca3b9cd6": "multiplex.0001-000, 2021-06-11T21:53:10Z",
      "20210611de62da7a52b64816bed94f07a615c59b": "multiplex.0001-003, 2021-06-11T21:53:11Z"
    },
    "origin": "20210611d1925b0dede9426db58f856dca3b9cd6",
    "name": "rest-example, v2.0.0",
    "group": 1
  }
}
```

```
127.0.0.1:8080/info

{
  "app": {
    "name": "kafka-presence",
    "description": "Presence Monitor",
    "version": "2.0.0"
  },
  "object.streams.io": {},
  "memory": {
    "max": "4,263,510,016",
    "free": "224,093,456",
    "allocated": "322,961,488"
  },
  "personality": "RESOURCES",
  "additional.info": {
    "total": {
      "virtual.topics": 4,
      "topics": 2,
      "connections": 4
    },
    "virtual.topics": [
      "multiplex.0001-000 -> 20210611d1925b0dede9426db58f856dca3b9cd6, rest-example v2.0.0",
      "multiplex.0001-001 -> 2021061142db5a812387419f8b6a9a189e326dd0, lambda-example v2.0.0",
      "multiplex.0001-002 -> 20210611d576fa6584b4397b445863d83b0b7bf, lambda-example v2.0.0",
      "multiplex.0001-003 -> 20210611de62da7a52b64816bed94f07a615c59b, rest-automation-app v2.0.0"
    ],
    "topics": [
      "multiplex.0001 (32)",
      "service.monitor (11)"
    ],
    "connections": {
      "2021061142db5a812387419f8b6a9a189e326dd0": {
        "created": "2021-06-11T20:07:30Z",
        "name": "lambda-example",
        "topic": "multiplex.0001-001",
        "monitor": "202106114f026b62c6ad48db09965ddc000d05b",
        "type": "APP",
        "updated": "2021-06-11T21:39:38Z",
        "version": "2.0.0",
        "seq": 223,
        "group": 1
      },
      "20210611d576fa6584b4397b445863d83b0b7bf": {
        "created": "2021-06-11T20:42:03Z",
        "name": "lambda-example",
        "topic": "multiplex.0001-002",
        "monitor": "202106114f026b62c6ad48db09965ddc000d05b",
        "type": "APP",
        "updated": "2021-06-11T21:39:38Z",
        "version": "2.0.0",
        "seq": 140,
        "group": 1
      }
    }
  }
}
```



REST automation

[INFO endpoint](#)

[Library dependency list](#)

[Service list](#)

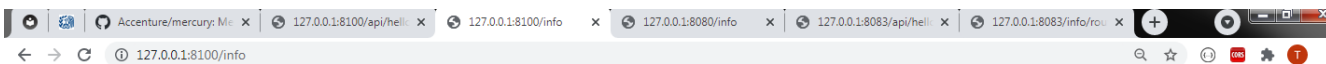
[Health endpoint](#)

You may embed your UI application (HTML/CSS/JS bundle) or put the files in the local file system.

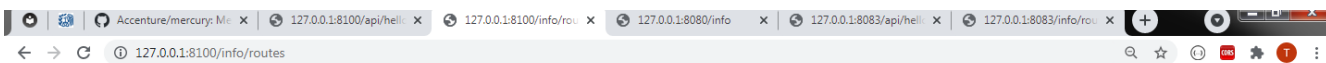
For example, to use the bundle in the /tmp/html folder.

```
java -jar rest-automation.jar -html file:/tmp/html
```

The rest-automation-app is now running on **port 8100** and registered with the Presence Monitor, it is using the virtual topic/channel multiplex.0001-003 for communication

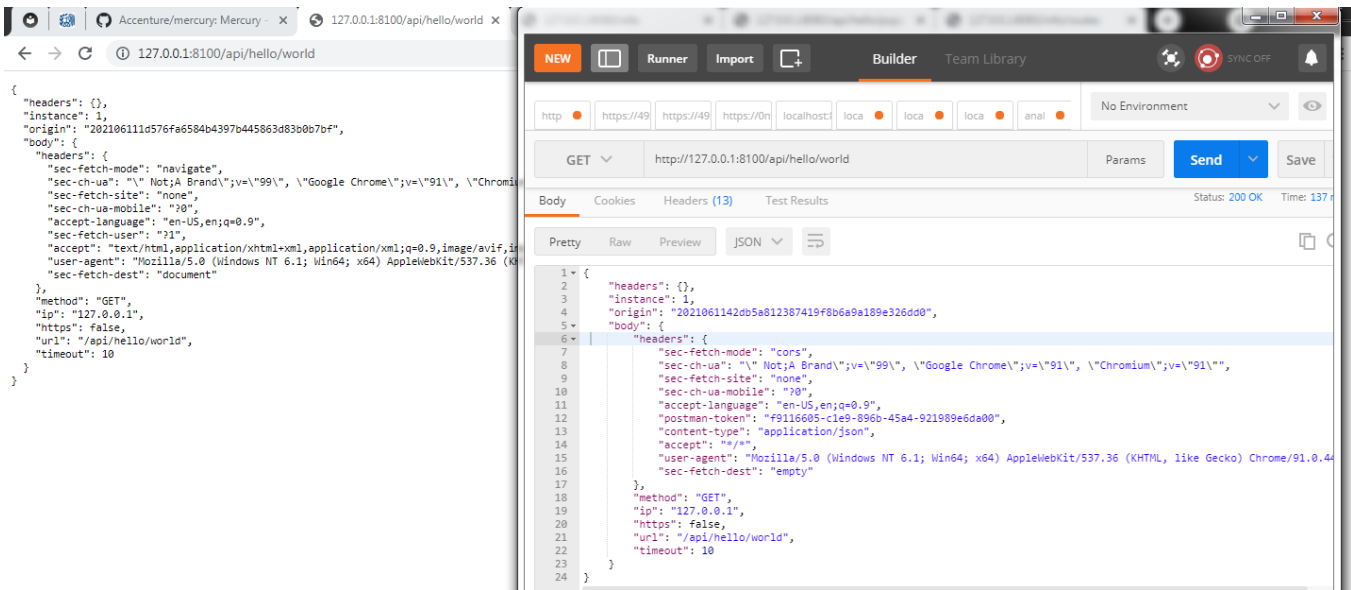


```
{
  "app": {
    "name": "rest-automation-app",
    "description": "REST automation application",
    "version": "2.0.0"
  },
  "object.streams.io": {},
  "memory": {
    "max": "4,263,510,016",
    "free": "219,225,304",
    "allocated": "322,961,408"
  },
  "personality": "REST",
  "vm": {
    "java_vm_version": "11.0.3+7",
    "java_runtime_version": "11.0.3+7",
    "java_version": "11.0.3"
  },
  "origin": "20210611de62da7a52b64816bed94f07a615c59b",
  "time": {
    "current": "2021-06-11T21:55:52.150Z",
    "start": "2021-06-11T21:39:00.324Z"
  }
}
```

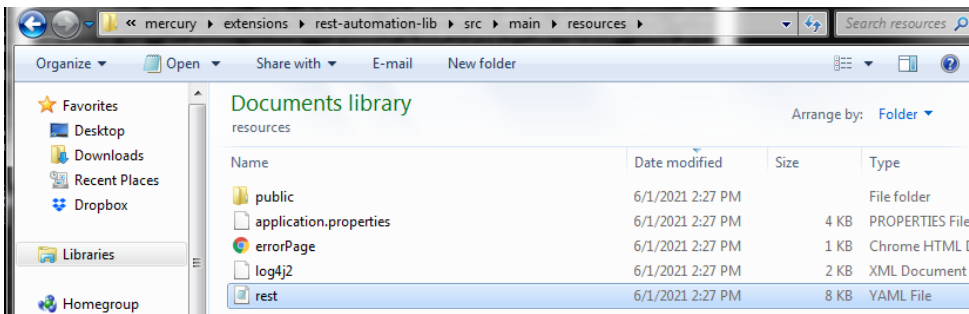


```
{
  "app": {
    "name": "rest-automation-app",
    "description": "REST automation application",
    "version": "2.0.0"
  },
  "routing": {
    "routes": {
      "math.addition": {
        "20210611d1925bbdede9426db58f856dca3b9cd6": "rest-example, WEB"
      },
      "async.http.request": {
        "20210611de62da7a52b64816bed94f07a615c59b": "rest-automation-app, REST"
      },
      "hello.download": {
        "2021061142db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "202106111d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      },
      "hello.world": {
        "2021061142db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "202106111d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP",
        "20210611d1925bbdede9426db58f856dca3b9cd6": "rest-example, WEB"
      },
      "hello.generic": {
        "2021061142db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "202106111d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      },
      "notification.manager": {
        "20210611de62da7a52b64816bed94f07a615c59b": "rest-automation-app, REST"
      },
      "hello.pojo": {
        "2021061142db5a812387419f8b6a9a189e326dd0": "lambda-example, APP",
        "202106111d576fa6584b4397b445863d83b0b7bf": "lambda-example, APP"
      }
    },
    "nodes": {
      "2021061142db5a812387419f8b6a9a189e326dd0": "multiplex.0001-001, 2021-06-11T21:56:18Z",
      "202106111d576fa6584b4397b445863d83b0b7bf": "multiplex.0001-002, 2021-06-11T21:56:18Z",
      "20210611d1925bbdede9426db58f856dca3b9cd6": "multiplex.0001-000, 2021-06-11T21:56:30Z",
      "20210611de62da7a52b64816bed94f07a615c59b": "multiplex.0001-003, 2021-06-11T21:56:31Z"
    },
    "origin": "20210611de62da7a52b64816bed94f07a615c59b",
    "name": "rest-automation-app, v2.0.0",
    "group": 1
  }
}
```

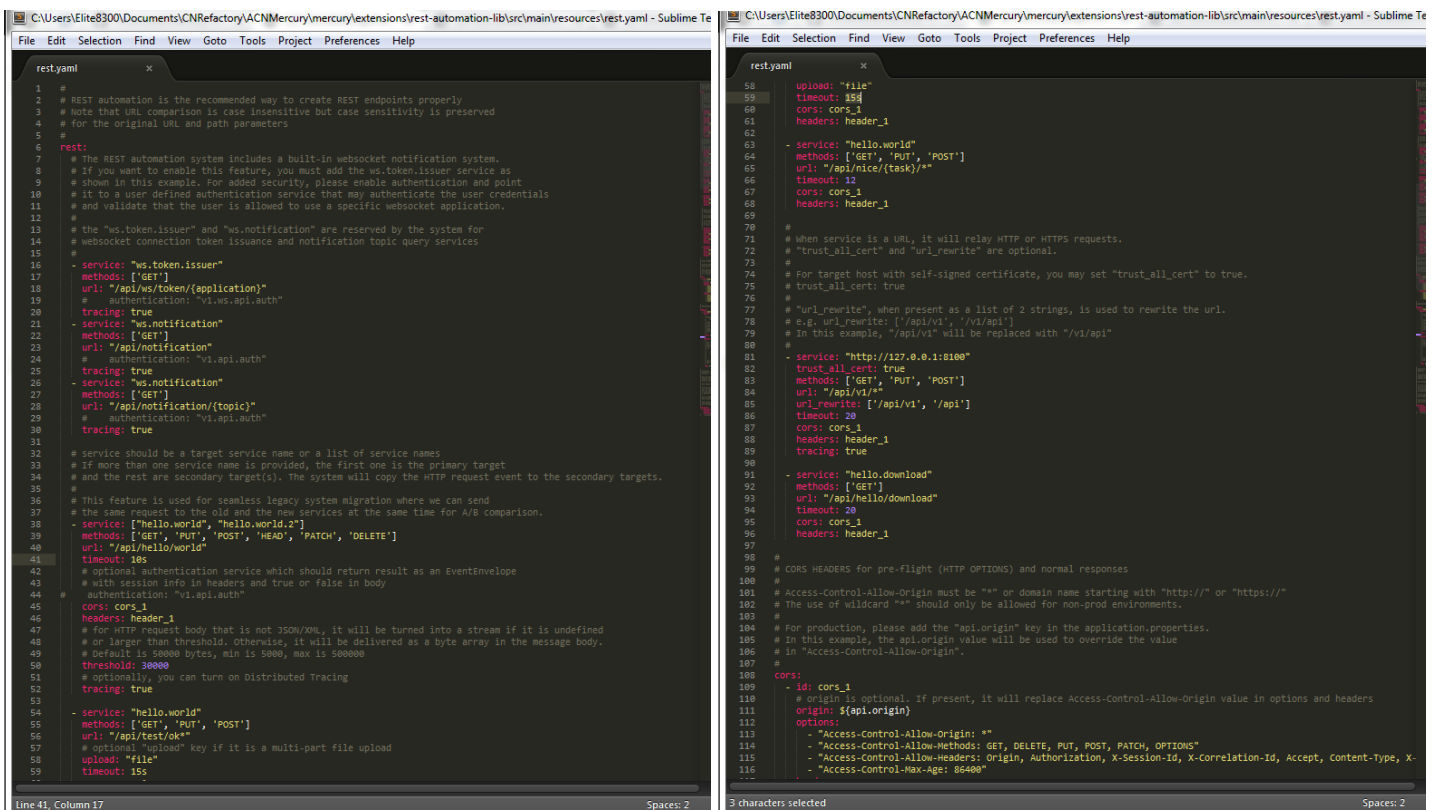
These are the routes available from the rest-automation-app instance on port 8100



We can now access the hello.world function on the lambda-example app via the rest-automation-app on port 8100



Open the rest.yml file in the rest-automation-lib's resources folder that define the REST Automation application to see the available endpoints for calling the lambda functions available.



```
restyaml
115 - "Access-Control-Allow-Headers: Origin, Authorization, X-Session-Id, X-Correlation-Id, Accept, Content-Type, X-
116 - "Access-Control-Max-Age: 86400"
117 headers:
118 - "Access-Control-Allow-Origin: *"
119 - "Access-Control-Allow-Methods: GET, DELETE, PUT, POST, PATCH, OPTIONS"
120 - "Access-Control-Allow-Headers: Origin, Authorization, X-Session-Id, X-Correlation-Id, Accept, Content-Type, X-
121 - "Access-Control-Allow-Credentials: true"
122 #
123 # add/drop/keep HTTP request and response headers
124 #
125 headers:
126 - id: header_1
127 request:
128 #
129 # headers to be inserted
130 #
131 # add: ["hello-world: nice"]
132 #
133 # keep and drop are mutually exclusive where keep has precedent over drop
134 # i.e. when keep is not empty, it will drop all headers except those to be kept
135 # when keep is empty and drop is not, it will drop only the headers in the drop list
136 # e.g.
137 # keep: ['X-session-id', 'user-agent']
138 # drop: ['Upgrade-Insecure-Requests', 'cache-control', 'accept-encoding', 'host', 'connection']
139 #
140 drop: ['Upgrade-Insecure-Requests', 'cache-control', 'accept-encoding', 'host', 'connection']
141 #
142 response:
143 #
144 # the system can filter the response headers set by a target service
145 # but it cannot remove any response headers set by the underlying servlet container.
146 # However, you may override non-essential headers using the "add" directive. e.g. the "server" header.
147 # i.e. don't touch essential headers such as content-length.
148 #
149 # keep: ['only_this_header_and_drop_all']
150 # drop: ['drop_only_these_headers', 'another_drop_header']
151 #
152 # add: ["server: mercury 1.12"]
153 #
154 # You may want to add cache-control to disable browser and CDN caching.
155 # add: ["Cache-Control: no-cache, no-store", "Pragma: no-cache", "Expires: Thu, 01 Jan 1970 00:00:00 GMT"]
156 #
157 # add: ["Cache-Control: no-cache, no-store", "Pragma: no-cache", "Expires: Thu, 01 Jan 1970 00:00:00 GMT"]
158 #
159 #
160 # websocket automation is designed primarily for real-time notification.
161 # However, you may also use it to receive messages from a browser or external application.
162 #
163 # You can also send notification events using the NotificationService API
164 # Please refer to user guide for details.
165 # https://github.com/Accenture/mercury/tree/master/docs/guides
166 #
167 # The format of a valid web-socket URL is /ws/api/(application):(token)?query_parameters
168 #
169 # In the following example entry, the application name is "notification".
170 # You can use the websocket connection with or without notification feature.
171 # If you want notification feature, set "subscribe" to true and your UI can send subscription API via
172 # a websocket connection. If you allow the UI to send notification events to other browsers, you can turn on "publish".
173 #
```

```
restyaml
151 #
152 # add: ["server: mercury 1.12"]
153 #
154 # You may want to add cache-control to disable browser and CDN caching.
155 # add: ["Cache-Control: no-cache, no-store", "Pragma: no-cache", "Expires: Thu, 01 Jan 1970 00:00:00 GMT"]
156 #
157 # add: ["Cache-Control: no-cache, no-store", "Pragma: no-cache", "Expires: Thu, 01 Jan 1970 00:00:00 GMT"]
158 #
159 #
160 # websocket automation is designed primarily for real-time notification.
161 # However, you may also use it to receive messages from a browser or external application.
162 #
163 # You can also send notification events using the NotificationService API
164 # Please refer to user guide for details.
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166 #
167 # The format of a valid web-socket URL is /ws/api/(application):(token)?query_parameters
168 #
169 # In the following example entry, the application name is "notification".
170 # You can use the websocket connection with or without notification feature.
171 # If you want notification feature, set "subscribe" to true and your UI can send subscription API via
172 # a websocket connection. If you allow the UI to send notification events to other browsers, you can turn on "publish".
173 #
174 # If you want to handle the input programmatically at the backend, you can set a "recipient" route name
175 # that points to a custom function that you provide.
176 #
177 # When publish/subscribe features are set to false, you must provide a "recipient" function otherwise
178 # the websocket becomes a "no-op" connection, thus wasting networking resources.
179 #
180 websocket:
181 - application: "notification"
182 publish: true
183 subscribe: true
184 # recipient: "my.ws.handler"
185 #
186 #
```