



LAB- Using Hystrix as Circuit Breaker

In this lab, you will be working on projects under 05-spring-cloud-hystrix working set.

Start EurekaServer in 03-01-eureka-server-common

Start QuotesService By running QuotesApplication.java inside 05-01-quotes-service-solution

Start PortfolioService by running PortfolioApplication.java inside 05-02-portfolio-service-start

Open <http://localhost:5001> and observe that quotes service and portfolio service are registered in Eureka

From Eureka Console, get the base URL of Portfolio Service and make a request to `portfolioservice baseUrl +/portfolio/{your userid which you created}`

You should get your portfolio details displayed as json

Now kill quotes service application.

Portfolio Service internally makes rest call to quotes service. Open `QuotesServiceImpl.getQuotes` method and observe the code.

Now give a request to `portfolioservice baseUrl +/portfolio/{your userid which you created}`

You should get 500 status code.

We want fallback logic to be executed if the call to microservice fails.

We can use hystrix to achieve this behaviour.

Add following dependency in pom.xml of 05-02-portfolio-service-start

```
<dependency>
    <groupId>org.springframework.cloud</groupId>
    <artifactId>spring-cloud-starter-hystrix</artifactId>
</dependency>
```

Open `PortfolioApplication.java` and complete TODO-1

Complete TODO-2 in `QuoteServiceImpl` to enable hystrix command.

Now restart the portfolio Application and give request. You should observe that Portfolio service will not fail because of failure in Quotes service.



How Does Hystrix Work?

See the code inside `HystrixCircuitBreakerConfiguration` and `HystrixCommandAspect`

Visit the following page to see configuration parameters for Hystrix Command
<https://github.com/Netflix/Hystrix/wiki/Configuration>

```
<dependency>
  <groupId>org.springframework.cloud</groupId>
  <artifactId>spring-cloud-starter-hystrix</artifactId>
</dependency>

<dependency>
  <groupId>org.springframework.cloud</groupId>
  <artifactId>spring-cloud-starter-hystrix-dashboard</artifactId>
</dependency>
<dependency>
  <groupId>org.springframework.boot</groupId>
  <artifactId>spring-boot-starter-actuator</artifactId>
</dependency>
```

Hystrix Dashboard

Configure Following dependency in pom.xml

Open `HystrixDashboard.java` in 05-03-hystrix-dashboard project and complete TODO-1 to enable hystrix dashboard.

Open `bootstrap.yml` under `src/main/resources` and observe that the serverport is configured as 5555.

Run `HystrixDashboard.java` .

Now open `http://localhost:5555/hystrix` in browser

In the text box , enter base url of `portfolioservice/hystrix.stream` and submit.

You should see Circuit status for all the Hystrix commands and Thread pool status.

Can you make the circuit for `getQuotes` to open ?

What are the number of failures which will open the circuit?

Congratulations!! You know how to use Hystrix and Hystrix



Dashboard