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SECTION:13

## LAB-12

Extend the previously developed microservice architecture for KL University's online registration system to utilize Eureka for service discovery and showcase the services in the Eureka client with specific port numbers.

a) Student Service:

i) Continue using the Student Service API to manage student information.

b) Course Service:

i) Continue using the Course Service API to manage courses.

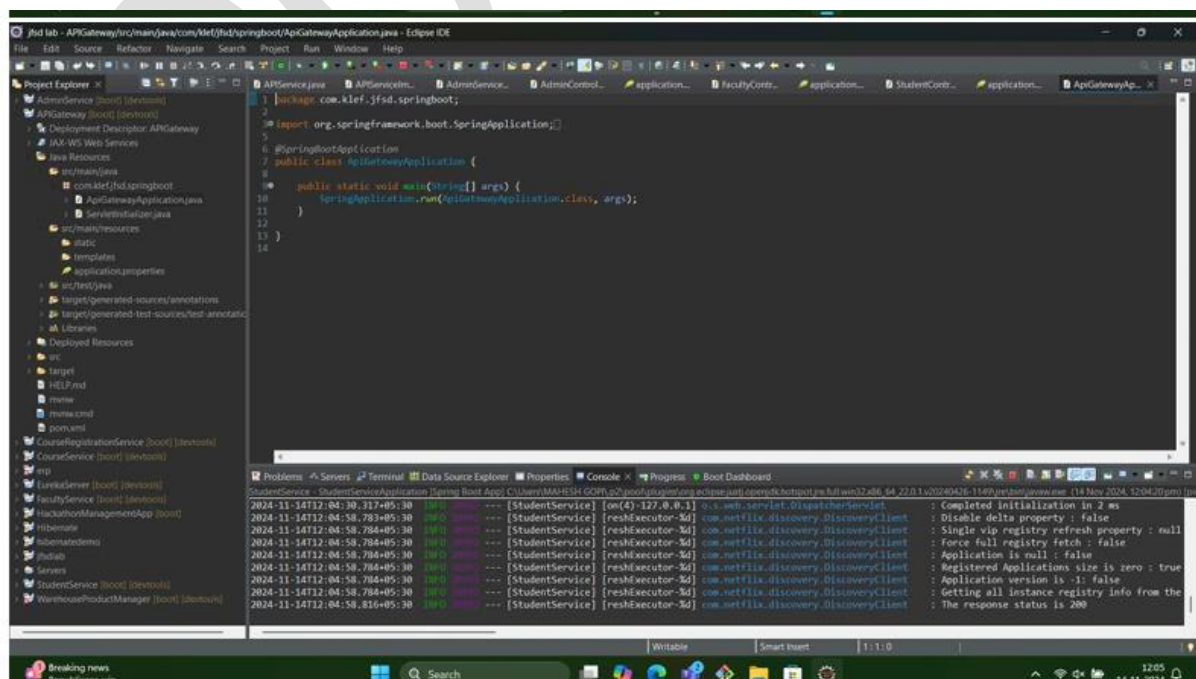
c) Course Registration Service:

i) Continue using the Course Registration Service API to handle the registration process and track the courses and sections selected by students.

❖ Use Spring Cloud Eureka for service discovery.

❖ Ensure all services are properly registered and visible in the Eureka client, demonstrating the microservice architecture with specific port numbers.

❖ Implement API Gateway to implement Single Port numbers which will be directed individual Eureka Servers based on patterns.



```
1 package com.klef.jfsd.springboot;
2
3 import org.springframework.boot.SpringApplication;
4
5 @SpringBootApplication
6 public class ApiGatewayApplication {
7     public static void main(String[] args) {
8         SpringApplication.run(ApiGatewayApplication.class, args);
9     }
10 }
11
12
13
14
```

2024-11-14T12:04:30.317+05:30 INFO --- [StudentService] [on(4)-127.0.0.1] o.s.web.servlet.DispatcherServlet : Completed initialization in 2 ms

2024-11-14T12:04:30.783+05:30 INFO --- [StudentService] [refreshExecutor-36] com.netflix.discovery.DiscoveryClient : Disable delta property : false

2024-11-14T12:04:30.784+05:30 INFO --- [StudentService] [refreshExecutor-36] com.netflix.discovery.DiscoveryClient : Single vip registry refresh property : null

2024-11-14T12:04:30.784+05:30 INFO --- [StudentService] [refreshExecutor-36] com.netflix.discovery.DiscoveryClient : Force full registry fetch : false

2024-11-14T12:04:30.784+05:30 INFO --- [StudentService] [refreshExecutor-36] com.netflix.discovery.DiscoveryClient : Application is null : false

2024-11-14T12:04:30.784+05:30 INFO --- [StudentService] [refreshExecutor-36] com.netflix.discovery.DiscoveryClient : Registered Applications size is zero : true

2024-11-14T12:04:30.784+05:30 INFO --- [StudentService] [refreshExecutor-36] com.netflix.discovery.DiscoveryClient : Application version is : 1: false

2024-11-14T12:04:30.784+05:30 INFO --- [StudentService] [refreshExecutor-36] com.netflix.discovery.DiscoveryClient : Getting all instance registry info from the

2024-11-14T12:04:30.816+05:30 INFO --- [StudentService] [refreshExecutor-36] com.netflix.discovery.DiscoveryClient : The response status is 200

The screenshot shows the Eclipse IDE interface. The Project Explorer on the left displays the project structure for 'APGateway'. The main editor shows the 'ServletInitializer' class, which extends 'SpringBootServletInitializer'. The console at the bottom displays logs for 'StudentService' and 'APGateway'.

```
import org.springframework.boot.builder.SpringApplicationBuilder;

public class ServletInitializer extends SpringBootServletInitializer {

    @Override
    protected SpringApplicationBuilder configure(SpringApplicationBuilder application) {
        return application.sources(APGatewayApplication.class);
    }
}
```


Console logs:

```
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [on(4)-127.0.0.1] ... web.servlet.DispatcherServlet : Completed initialization in 2 ms
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [refreshExecutor-MD] sun.net.http.HttpClient : Disable delta property : false
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [refreshExecutor-MD] sun.net.http.HttpClient : Single vip registry refresh property : null
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [refreshExecutor-MD] sun.net.http.HttpClient : Force full registry fetch : false
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [refreshExecutor-MD] sun.net.http.HttpClient : Application is null : false
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [refreshExecutor-MD] sun.net.http.HttpClient : Registered Applications size is zero : true
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [refreshExecutor-MD] sun.net.http.HttpClient : Application version is -1 : false
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [refreshExecutor-MD] sun.net.http.HttpClient : Setting all instance registry info from the
2024-11-14T12:04:30.317+05:30 [INFO] [main] --- [StudentService] [refreshExecutor-MD] sun.net.http.HttpClient : The response status is 200
```

The screenshot shows a web browser window displaying a REST client interface. The URL bar shows 'localhost:2001/admin/viewallposts'. The JSON body is as follows:

```
{
  "title": "sunt aut facere repellat provident occaecati excepturi optio reprehenderit",
  "body": "quia et suscipit\nsuscipit recusandae consequuntur expedita et cum\nreprehenderit molestiae ut ut quas tota\nmostrum rerum est autem sunt rem eveniet architecto"
},
{
  "userId": 1,
  "id": 2,
  "title": "qui est esse",
  "body": "est rerum tempore vitae\nsequi sint nihil reprehenderit dolor beatae ea dolores neque\nfugiat blanditiis voluptate porro vel nihil molestiae ut reiciendis\nqui aperiam non debitis possimus qui neque nisi nulla"
},
{
  "userId": 1,
  "id": 3,
  "title": "ea molestias quasi exercitationem repellat qui ipsa sit aut",
  "body": "et justo sed quo labore\voluptatem occaecati nemo eligendi aut\nad\voluptatem doloribus vel accusantium quis pariatur\nmolestiae porro eius odio et labore et velit aut"
},
{
  "userId": 1,
  "id": 4,
  "title": "cum et est occaecati",
  "body": "ullam et saepe reiciendis voluptatem adipisci\nsit amet autem assumenda provident rerum culpa\nquis hic commodi nesciunt rem tenetur doloremque ipsam iure\nquis sunt voluptatem rerum illo velit"
},
{
  "userId": 1,
  "id": 5,
  "title": "nesciunt quas odio",
  "body": "repudiandae veniam quaerat sunt sed\nnulla ut fugiat sit autem sed est\nvoluptatem omnis possimus esse voluptatibus qui\nvelit aut tenetur dolor neque"
},
{
  "userId": 1,
  "id": 6,
  "title": "dolorem eum magni eos aperiam quia",
  "body": "ut aspernatur corporis harum nihil quis provident sequi\nmollitia nobis aliquid molestiae\nperspiciatis et ea nemo ab reprehenderit accusantium quas\nvoluptate dolores velit et doloremque molestiae"
},
{
  "userId": 1,
  "id": 7,
  "title": "magnam faciliis autem",
  "body": "dolore placeat quibusdam ea quo vitae\nmagni quis enim qui quis quo nemo aut saepe\nquidem repellat excepturi ut quia\nsunt ut sequi eos ea sed quas"
},
{
  "userId": 1,
  "id": 8,
  "title": "dolorem dolore est ipsam",
  "body": "dignissimos aperiam dolorem qui eum\nfacilis quibusdam animi sint suscipit qui sint possimus cum\nquaerat magni maiores excepturi\nipsam ut commodi dolor voluptatum modi aut vitae"
},
{
  "userId": 1,
  "id": 9,
  "title": "nesciunt iure omnis dolorem tempora et accusantium",
  "body": "consectetur animi nesciunt iure dolorem\nvenia qua ad\veniam autem ut quam aut nobis\nest est aut quod aut provident voluptas autem voluptas"
}
```

```
localhost:2002/admin/display?id=1
1 {
2   "userId": 1,
3   "id": 1,
4   "title": "sunt aut facere repellat provident occaecati excepturi optio reprehenderit",
5   "body": "quis et suscipit\ntusipit recusandae consequuntur expedita et cum\nreprehenderit molestiae ut ut quas totam\nnostrum rerum est autem sunt rem eveniet architecto"
6 }
7
8 }
```

HOME LAST 1000 SINCE STARTU

### System Status

Environment	test	Current time	2024-11-15T21:27:54 +0530
Data center	default	Uptime	00:00
		Lease expiration enabled	false
		Renews threshold	1
		Renews (last min)	0

EMERGENCY! EUREKA MAY BE INCORRECTLY CLAIMING INSTANCES ARE UP WHEN THEY'RE NOT. RENEWALS ARE LESSER THAN THRESHOLD AND HENCE INSTANCES ARE NOT BEING EXPIRED JUST TO BE SAFE.

### DS Replicas

Instances currently registered with Eureka

Application	AMIs	Availability Zones	Status
No instances available			

### General Info