**Microservices**

**Document contains:**

* **Non-business components:**
* ***Business Microservice***
* **End Points**
* **Future Insight**

**Non-business components:**

* Eureka Discovery
* Gateway
* Config Server
* Open feign
* 3 Business Microservice

1. **Eureka Discovery:**

Eureka Server allows microservices to register themselves and discover other services. Each microservice instance registers with the Eureka server and provides metadata about itself, such as host, port, health indicators, etc.

1. **API Gateway**

Spring Cloud Gateway provides a flexible and powerful routing mechanism that allows you to route HTTP requests to different backend services based on various criteria such as URL paths, headers, query parameters, or cookies. This routing capability is essential for handling complex microservices architectures.

1. **Config Server**

Spring Cloud Config Server allows you to store and manage application configuration properties external to your microservices. Instead of embedding configuration details within each service, you can externalize them to a centralized repository.

1. **OpenFeign**

It allows developers to define HTTP client interfaces using annotations, similar to Spring MVC controllers. These interfaces represent remote RESTful services, and OpenFeign dynamically generates the implementation based on these interfaces.

1. **Business Microservice**

Created 3 business services (Inventory, Order, Product) & used OpenFeign to make communication between 2 services.

Order Service, Inventory Service are going to interact with each other.

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| ***Business Microservice*** | | |
| ***Service*** | ***Explanation*** | ***Entity*** |
| Product Service | Create and view products, acts as Product Catalog. | Product |
| Order Service | Can Order Products. | Order |
| Inventory Service | Can check if product is in stock or not. | Inventory |

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| ***End Points*** | | |
| ***API*** | ***Request*** | ***response*** |
| http://localhost:8077/api/product/add | {  "name": "Product 1",  "description": "Product-1",  "price": 21000  } | **Status:201 Created** |
| http://localhost:8077/api/product/getAll | - | [  {  "id": 1,  "name": "Product 1",  "description": "Product-1",  "price": 21000.00  },  {  "id": 2,  "name": "Product 1",  "description": "Product-1",  "price": 21000.00  }  ] |
| http://localhost:8075/api/order/add | {  "orderLineItemDtoList": [  {  "skuCode": "Iphone\_16",  "price": 2100,  "quantity": 20  }  ]  } | **“Order Placed Successfully”** |
| http://localhost:8076/api/inventory?skuCode=iphone\_16 | - | [      {          "skuCode": "iphone\_16",          "inStock": true      }  ] |

* **Future Insight**
* Add Security to project
* Monitoring using Prometheus & Grafana