Spring Cloud Tutorials

Lab1 -> Consul Server

a) Install Consul Server ->

   Click Consul.exe

b) To run Consul Server
   From command prompt -> consul agent -dev

c) Point to Consul UI

   http://localhost:8050

Lab2 -> Simple Service

a) Spring Starter Project -> lab_Simple_Service
b) Add the below dependencies

   Actuator, Consul Discovery, Web

c) Add the below entries in application.yml
```yaml
server:
  port: 9080
spring:
  application:
    name: simple-microservice
  cloud:
    consul:
      host: localhost
      port: 8500
```

d). Add the below code in SimpleService

```java
@EnableDiscoveryClient
@SpringBootApplication
public class SimpleService {

    public static void main(String[] args) {
        SpringApplication.run(SimpleService.class, args);
}
}

@RestController
class SimpleController {

    @RequestMapping("/")
    public String disp()
    {
        return "hi.. from microservice";
```

```
    }
  }
}
```

Lab3 -> Other Service

a) Spring Starter Project -> OtherService
b) Add the below dependencies

Actuator, Consul Discovery, Web

c) Add the below entries in application.yml
```yaml
server:
  port: 9081
spring:
  application:
    name: other-microservice
  cloud:
    consul:
      host: localhost
      port: 8500
```

d) Java class -> OtherService
```java
@EnableDiscoveryClient
@SpringBootApplication
public class OtherService {

    @LoadBalanced
    @Bean
    public RestTemplate loadbalancedRestTemplate() {
        return new RestTemplate();
    }

    public static void main(String[] args) {
        SpringApplication.run(OtherService.class, args);
    }
}
```

e) Java class -> OtherController
```java
@RestController
public class OtherController {

    @Autowired
    RestTemplate restTemplate;

     @RequestMapping("/")
        public String disp()
        {
            System.out.println("done###################");
        return  restTemplate.getForObject
                ("http://simplemicroservice", String.class);
        }
}
```

Lab4 -> Feign Client

    a) Spring Starter Project -> FeignClient

    b) Add the below dependencies
       Actuator, Consul Discovery, Web,Feign

    c) application.yml

```yaml
server:
  port: 9082
spring:
 application:
    name: Feign-microservice
   cloud:
     consul:
       host: localhost
       port: 8500
```

    d) Java class -> FeignClient

```java
@EnableDiscoveryClient
@EnableFeignClients
@SpringBootApplication
public class FeignClient {
        public static void main(String[] args) {
    SpringApplication.run(FeignClient.class, args);
        }
}
```

    e) Interface -> SimpleClient

```java
@FeignClient("simple-microservice"
public interface SimpleClient {

        @RequestMapping("/")
        public String disp();
}
```

    f) Class -> FeignController

```java
@RestController
public class FeignController {

        @Autowired
        SimpleClient client;

        @RequestMapping("/")
        public String simpleDisp()
        {
        return client.disp();
        }
}
```

Lab 5 -> Config Server

a) Spring Starter Project -> ConfigServer
b) Add the below dependencies
c) Class -> ConfigServer

```java
@SpringBootApplication
@EnableConfigServer
public class ConfigServer {

public static void main(String[] args) {
            SpringApplication.run(ConfigServer.class, args);
        }
}
```

d) Application.yml

```yaml
spring:
  cloud:
    config:
      server:
        native:
          search-locations: classpath:/shared
      #  git:
      #      uri: https://github.com/kbastani/spring-boot-microservice-config

  profiles:
      active: native

server:
  port: 8889
```

e) Create "shared" folder under src/main/resources
f) Create two files -> simple_microservice.yml , other_microservice.yml
   Add the below entries in application.yml

```yaml
spring:
  cloud:
    consul:
      host: localhost
      port: 8500
```

g) Add the below dependency in SimpleService -> pom.xml

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

h) Add the below entries in SimpleService-> application.yml

```yaml
spring:
  cloud:
```

config:
  uri: http://localhost:8889

i) Add the below dependency in OtherService -> pom.xml
      <dependency>
          <groupId>org.springframework.cloud</groupId>
          <artifactId>spring-cloud-starter-config</artifactId>
      </dependency>
j) Add the below entries in OtherService-> application.yml
  spring:
   cloud:
    config:
     uri: http://localhost:8889