Case Study 1: Java-Based Configuration

Project: Online Food Ordering System

Configuration Type: Java-based (@Configuration, @Bean)

1.Customer.java

```
package com.foodorder.model;
public class Customer {
    private String name;
    private String contact;
    private String preferredCuisine;

    public Customer(String name, String contact, String preferredCuisine) {
        this.name = name;
        this.contact = contact;
        this.preferredCuisine = preferredCuisine;
    }

    public String getName() { return name; }
    public String getContact() { return contact; }
    public String getPreferredCuisine() { return preferredCuisine; }
}
```

2.Restaurant.java

```
package com.foodorder.model;
import java.util.List;
public class Restaurant {
```

```java
    private String name;
    private String location;
    private List<String> cuisines;

    public Restaurant(String name, String location, List<String> cuisines) {
        this.name = name;
        this.location = location;
        this.cuisines = cuisines;
    }

    public String getName() { return name; }
    public String getLocation() { return location; }
    public List<String> getCuisines() { return cuisines; }
}
```

3.FoodOrderService.java

```java
package com.foodorder.service;
import com.foodorder.model.Customer;
import com.foodorder.model.Restaurant;
import java.util.List;
public class FoodOrderService {
    private Customer customer;
    private List<Restaurant> restaurants;

    public FoodOrderService(Customer customer, List<Restaurant> restaurants) {
        this.customer = customer;
        this.restaurants = restaurants;
    }
    public void placeOrder() {
        System.out.println("Customer: " + customer.getName());
        System.out.println("Searching for cuisine: " + customer.getPreferredCuisine());
        for (Restaurant r : restaurants) {
            if (r.getCuisines().contains(customer.getPreferredCuisine())) {
                System.out.println("Order placed at: " + r.getName());
                return;
            }
        }
        System.out.println("No restaurant available for the preferred cuisine.");
    }
}
```

4.AppConfig.java

```
package com.foodorder.config;
import com.foodorder.model.*;
import com.foodorder.service.FoodOrderService;
import org.springframework.context.annotation.*;
import java.util.List;
@Configuration
public class AppConfig {

   @Bean
    public Customer customer() {
        return new Customer("John", "999-888-7777", "Italian");
    }
    @Bean
    public Restaurant r1() {
        return new Restaurant("Italiano Bistro", "City Center", List.of("Italian", "Mexican"));
    }

    @Bean
    public Restaurant r2() {
        return new Restaurant("Spice Villa", "Suburbs", List.of("Indian", "Thai"));
    }

    @Bean
    public List<Restaurant> restaurants() {
        return List.of(r1(), r2());
    }

    @Bean
    public FoodOrderService foodOrderService() {
        return new FoodOrderService(customer(), restaurants());
    }
}
```

5.MainApp.java

```
package com.foodorder.main;
import com.foodorder.config.AppConfig;
import com.foodorder.service.FoodOrderService;
import org.springframework.context.annotation.AnnotationConfigApplicationContext;

public class MainApp {
    public static void main(String[] args) {
        AnnotationConfigApplicationContext context =
            new AnnotationConfigApplicationContext(AppConfig.class);

        FoodOrderService service = context.getBean(FoodOrderService.class);
        service.placeOrder();

        context.close();
    }
}
```