Centralized Exception Handling in Spring Boot

Introduction

In modern applications, effective error handling is crucial for providing a smooth user experience and maintaining application stability. Exception handling is essential for managing runtime errors, allowing developers to respond smoothly to unexpected issues. However, managing exceptions in large Spring Boot applications can become complicated if each controller or service handles them separately.

Here we learn how to use @ControllerAdvice/@RestControllerAdvice and @ExceptionHandler to master global exception handling, making your application simpler, easier to manage, and more efficient.

What is global exception handling in spring boot

In Spring Boot, global exception handling allows you to manage errors for the entire application from one central place, instead of handling exceptions in each controller or method separately.

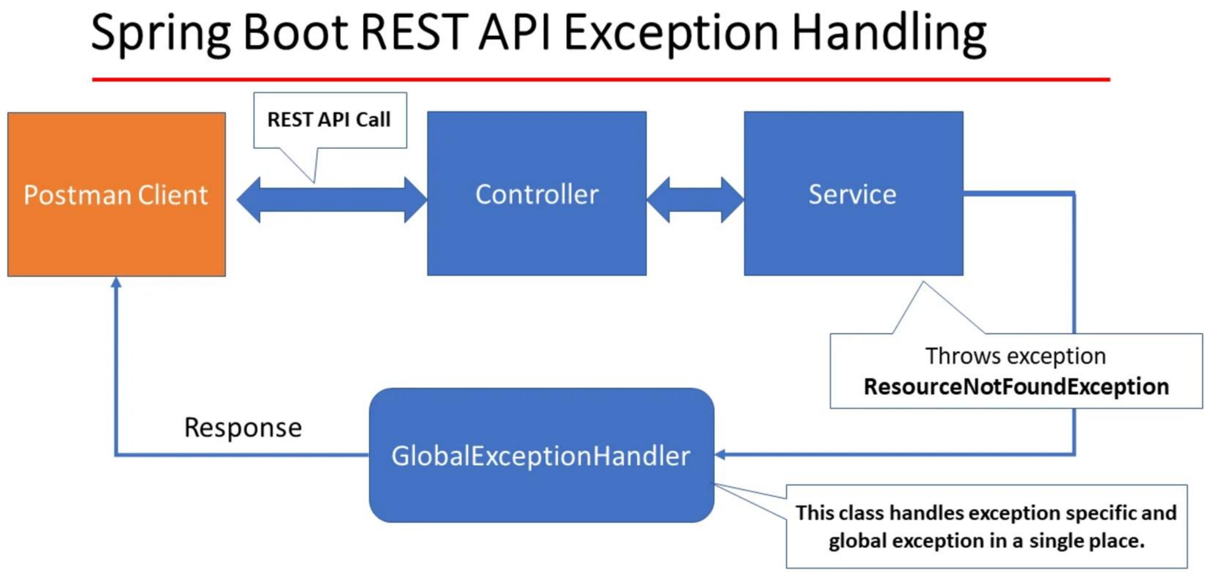
This approach makes your code cleaner and ensures consistent error responses.

Global exception handling in Spring Boot offers several benefits, including

- **Improved user experience**
  - A consistent strategy for error management helps maintain a seamless user experience.
- **Easier code maintenance**
  - Centralized exception-handling logic makes it easier to update error-handling strategies without modifying multiple places in the codebase.
- **Efficient debugging and issue resolution**
  - A centralized approach allows for unified logging and analytics of exceptions.

Spring Boot provides two main tools for global exception handling

- @ControllerAdvice/@RestControllerAdvice is an annotation in Spring Boot that defines a global exception handler. It allows you to manage exceptions for all controllers in a centralized manner, making error handling more efficient and keeping your code clean and organized.
- @ExceptionHandler is an annotation used within a @ControllerAdvice/@RestControllerAdvice class to define methods that handle specific exceptions. It allows you to create custom responses for different types of exceptions that occur in your Spring Boot application.


Spring Boot REST API Exception Handling
REST API Call
Postman Client
Controller
Service
Throws exception
ResourceNotFoundException
Response
GlobalExceptionHandler
This class handles exception specific and global exception in a single place.