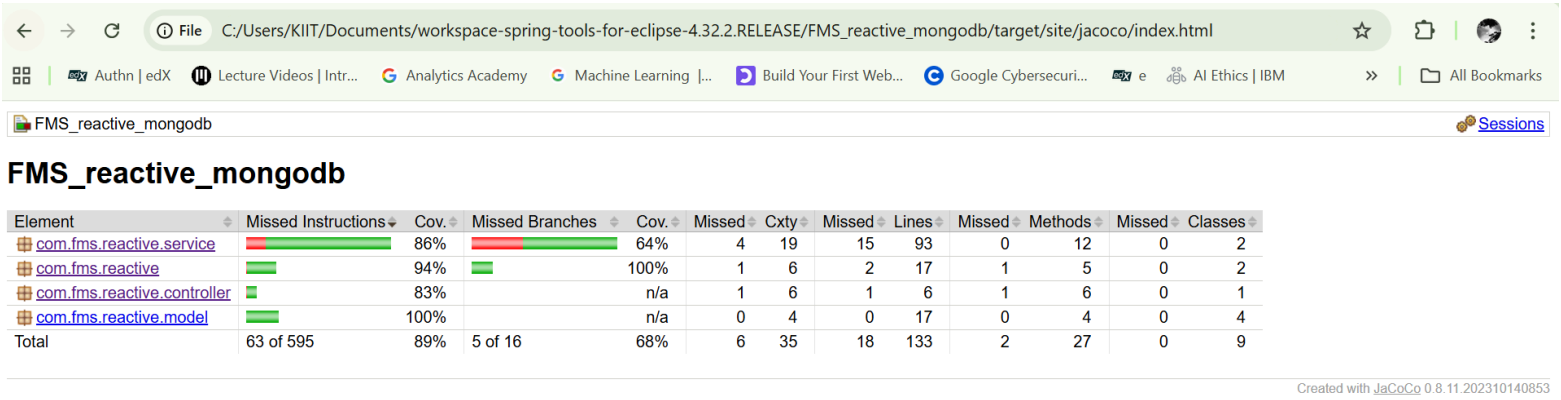
FLIGHT MANAGEMENT SYSTEM

(Webflux + MongoDB)

Debashrita Mandal

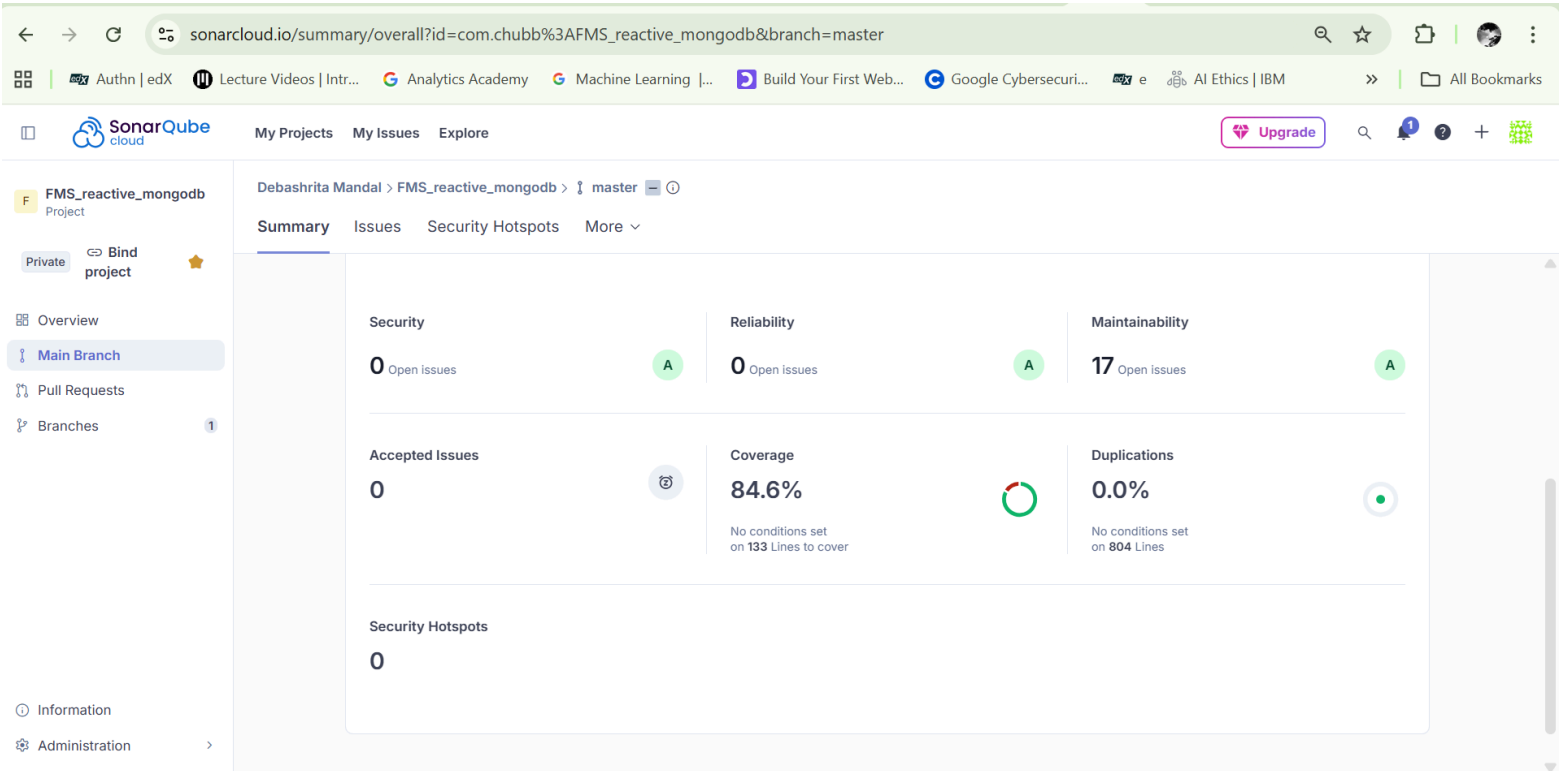
JACOCO REPORT:

Code Coverage: 89%



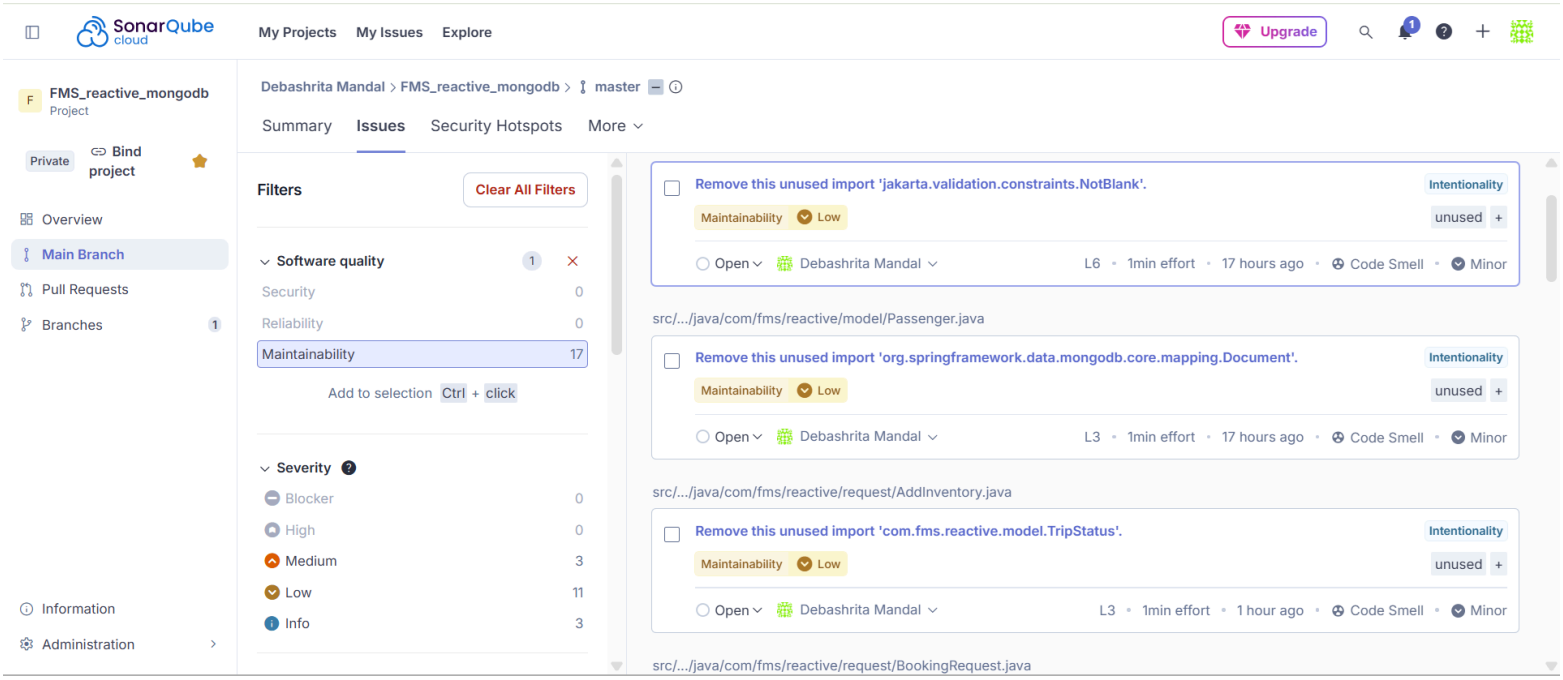
SONARQUBE REPORT

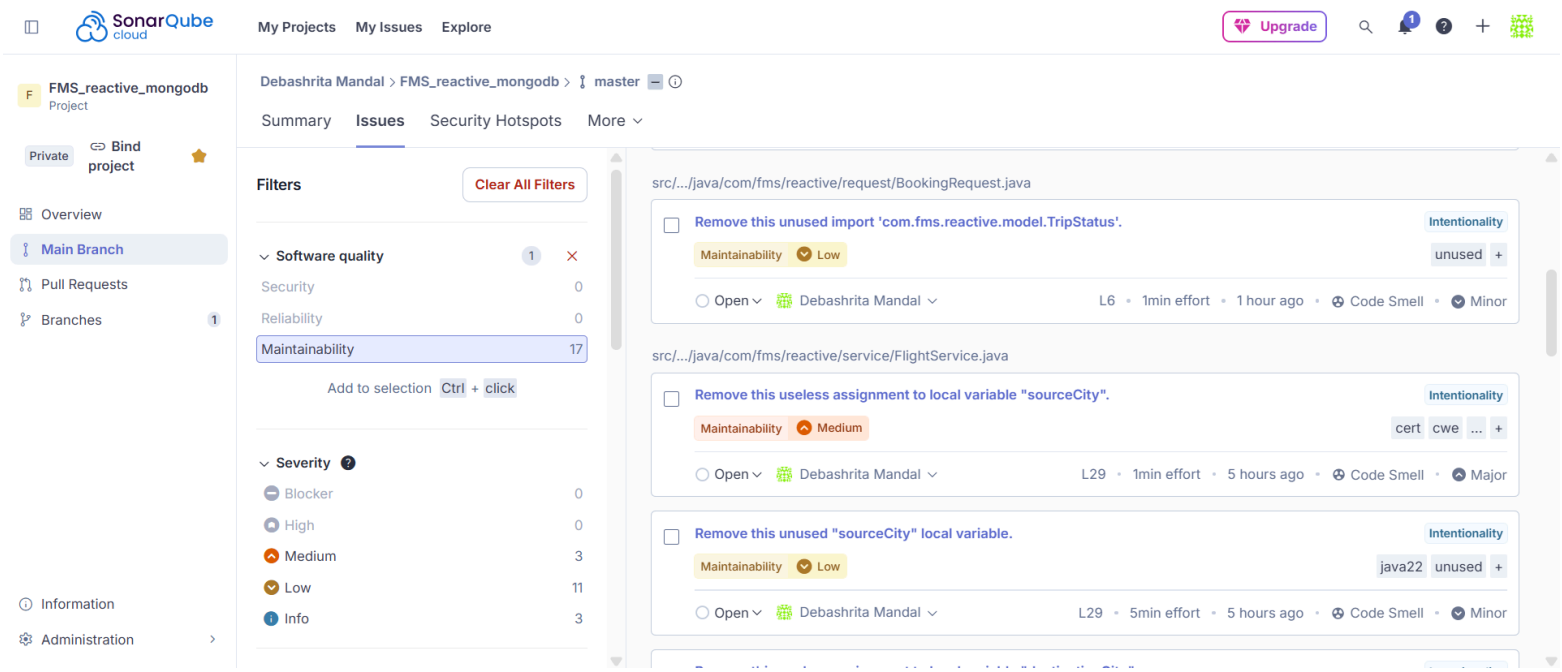
Code Coverage: 84.6%

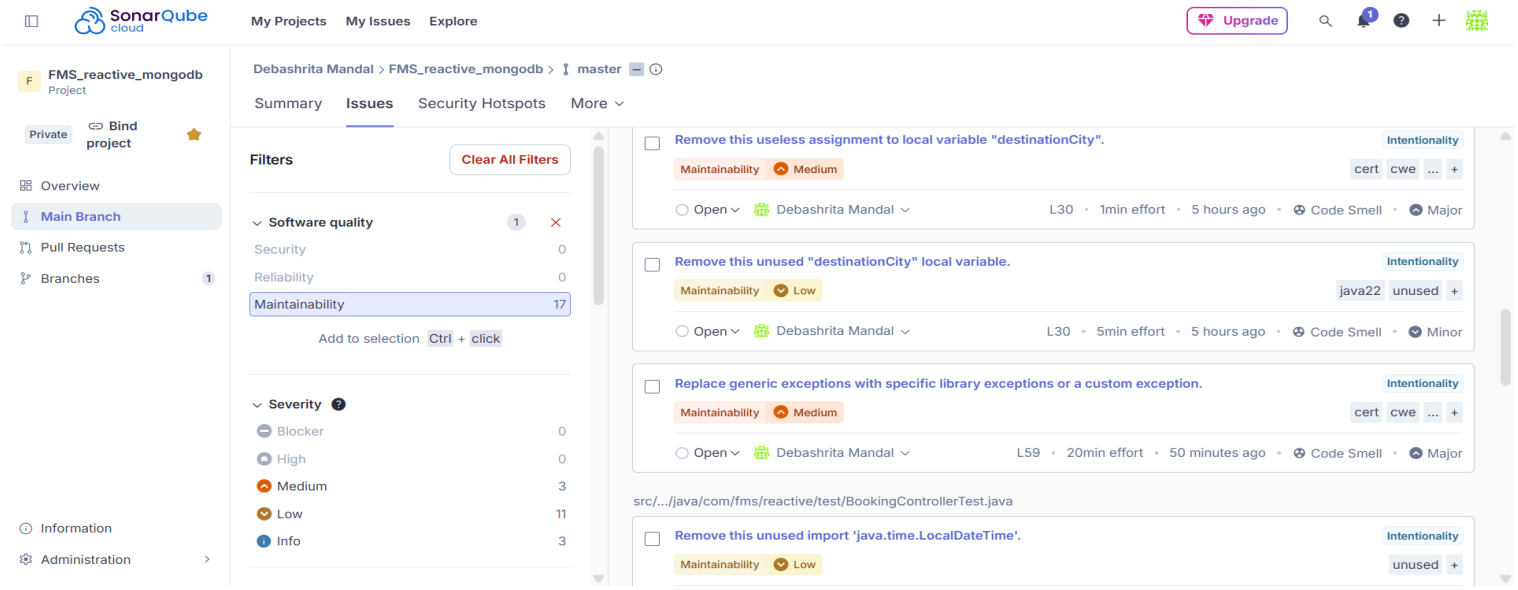


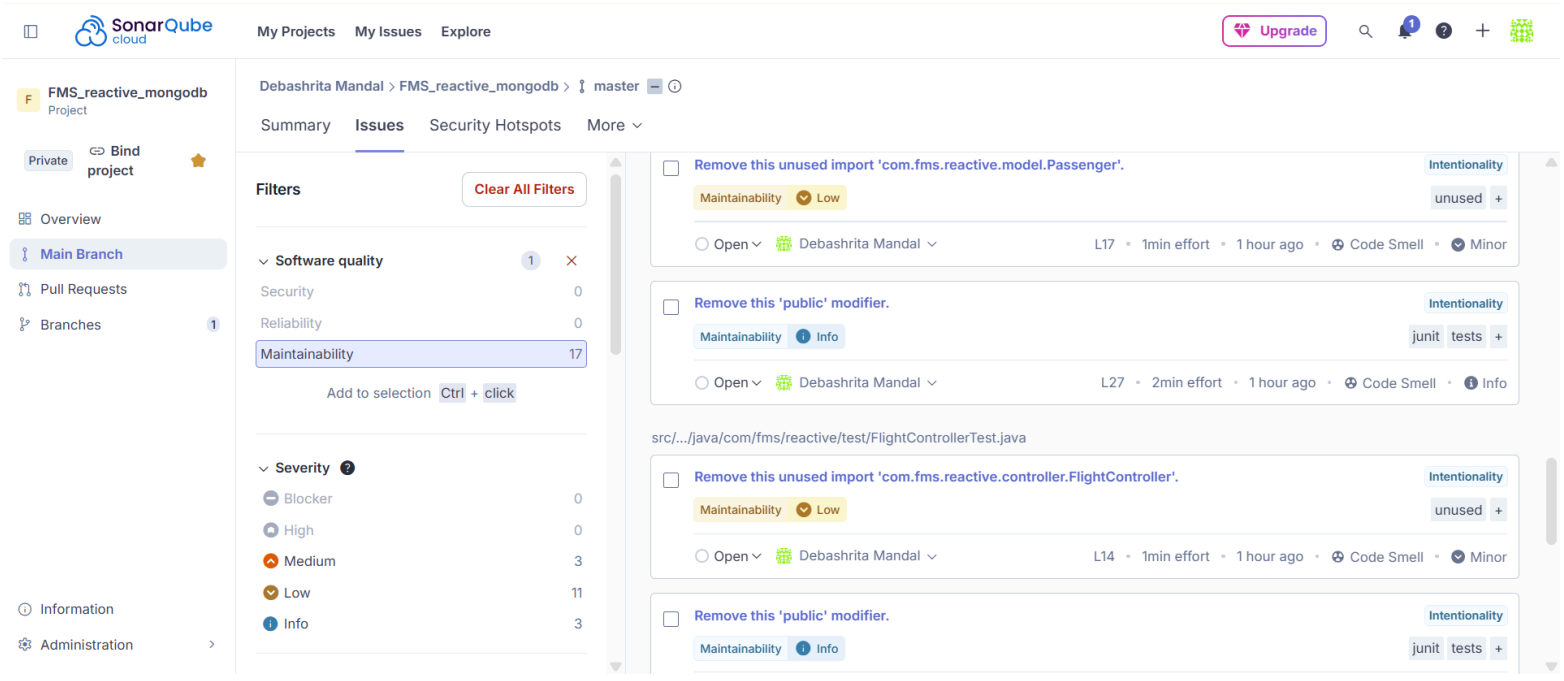
SONARQUBE INITIAL MAINTAINABILITY ISSUES:

Total Count: 17






SonarQube cloud
My Projects
My Issues
Explore
Upgrade
FMS_reactive_mongodb
Project
Private
Bind project
Overview
Main Branch
Pull Requests
Branches 1
Information
Administration
Debashrita Mandal > FMS_reactive_mongodb > master
Summary
Issues
Security Hotspots
More
Filters
Clear All Filters
Software quality 1
Security 0
Reliability 0
Maintainability 17
Add to selection Ctrl + click
Severity
Blocker 0
High 0
Medium 3
Low 11
Info 3
Remove this useless assignment to local variable "destinationCity".
Intentionality
Maintainability Medium
cert cwe ... +
Open Debashrita Mandal L30 • 1min effort • 5 hours ago • Code Smell • Major
Remove this unused "destinationCity" local variable.
Intentionality
Maintainability Low
java22 unused +
Open Debashrita Mandal L30 • 5min effort • 5 hours ago • Code Smell • Minor
Replace generic exceptions with specific library exceptions or a custom exception.
Intentionality
Maintainability Medium
cert cwe ... +
Open Debashrita Mandal L59 • 20min effort • 50 minutes ago • Code Smell • Major
src/.../java/com/fms/reactive/test/BookingControllerTest.java
Remove this unused import 'java.time.LocalDateTime'.
Intentionality
Maintainability Low
unused +


SonarQube cloud
My Projects
My Issues
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Upgrade
FMS_reactive_mongodb
Project
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Main Branch
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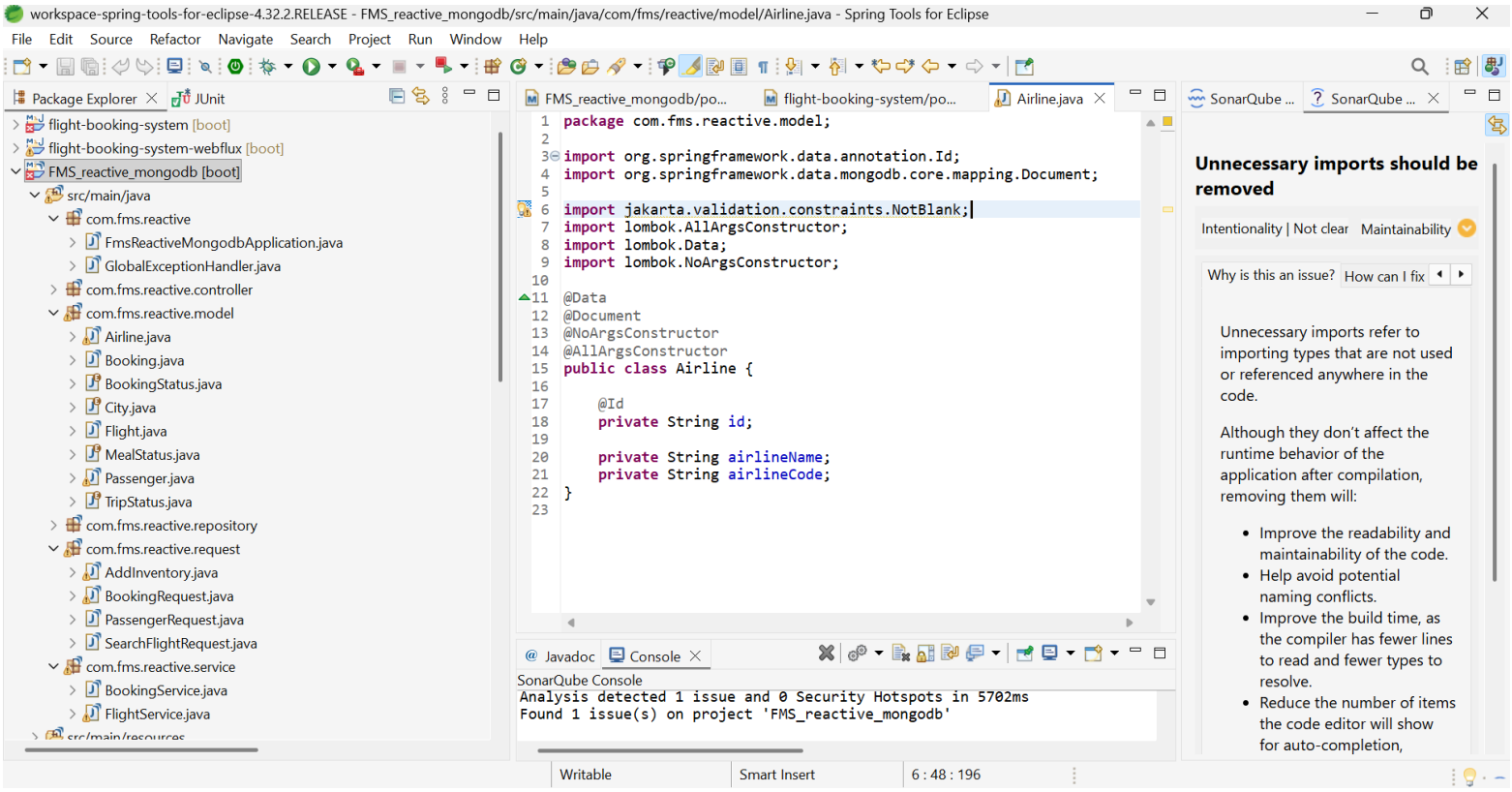
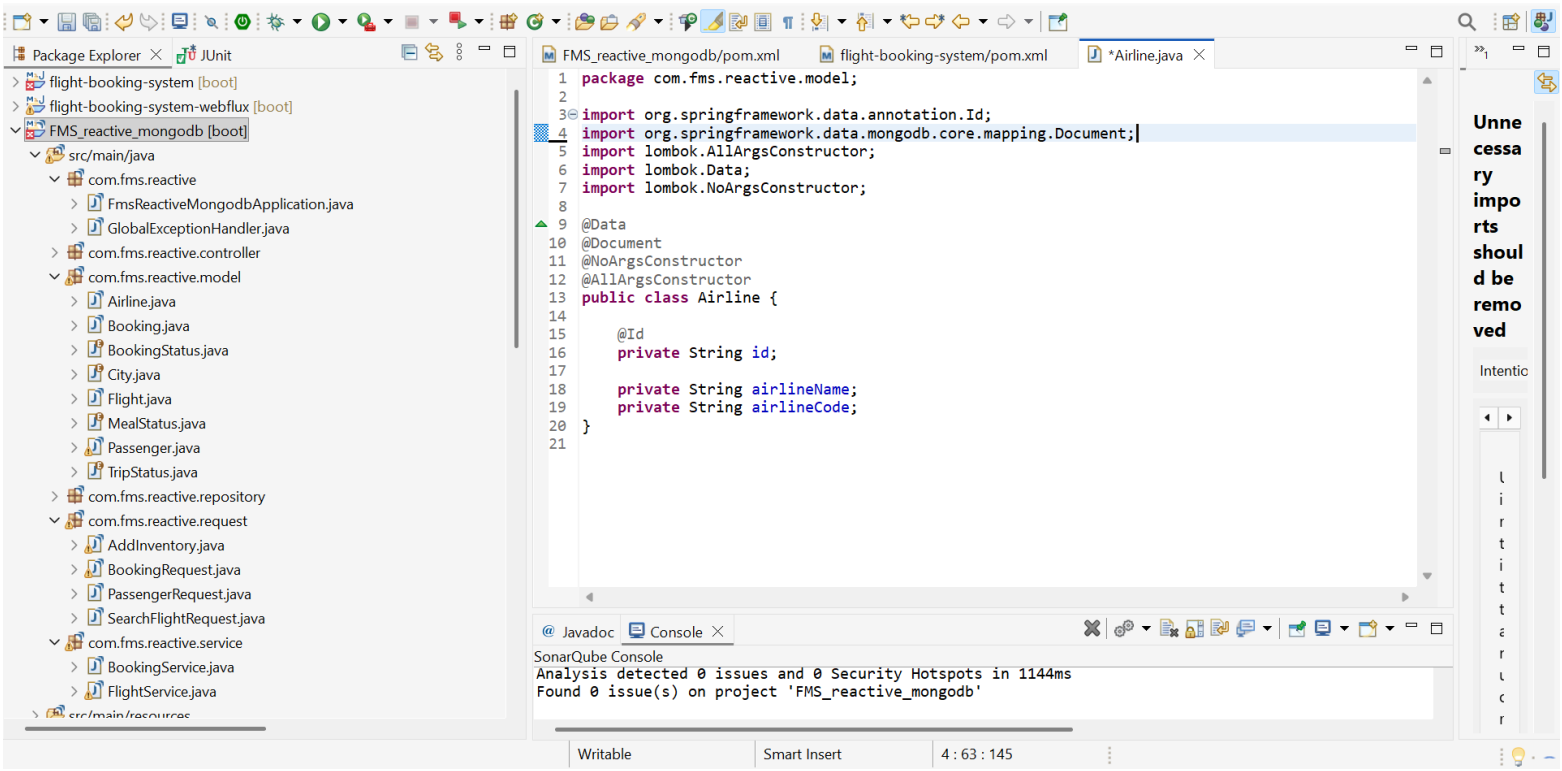
Branches 1
Information
Administration
Debashrita Mandal > FMS_reactive_mongodb > master
Summary
Issues
Security Hotspots
More
Filters
Clear All Filters
Software quality 1
Security 0
Reliability 0
Maintainability 17
Add to selection Ctrl + click
Severity
Blocker 0
High 0
Medium 3
Low 11
Info 3
Remove this unused import 'com.fms.reactive.model.Passenger'.
Intentionality
Maintainability Low
unused +
Open Debashrita Mandal L17 • 1min effort • 1 hour ago • Code Smell • Minor
Remove this 'public' modifier.
Intentionality
Maintainability Info
junit tests +
Open Debashrita Mandal L27 • 2min effort • 1 hour ago • Code Smell • Info
src/.../java/com/fms/reactive/test/FlightControllerTest.java
Remove this unused import 'com.fms.reactive.controller.FlightController'.
Intentionality
Maintainability Low
unused +
Open Debashrita Mandal L14 • 1min effort • 1 hour ago • Code Smell • Minor
Remove this 'public' modifier.
Intentionality
Maintainability Info
junit tests +

HANDLING THE ISSUES

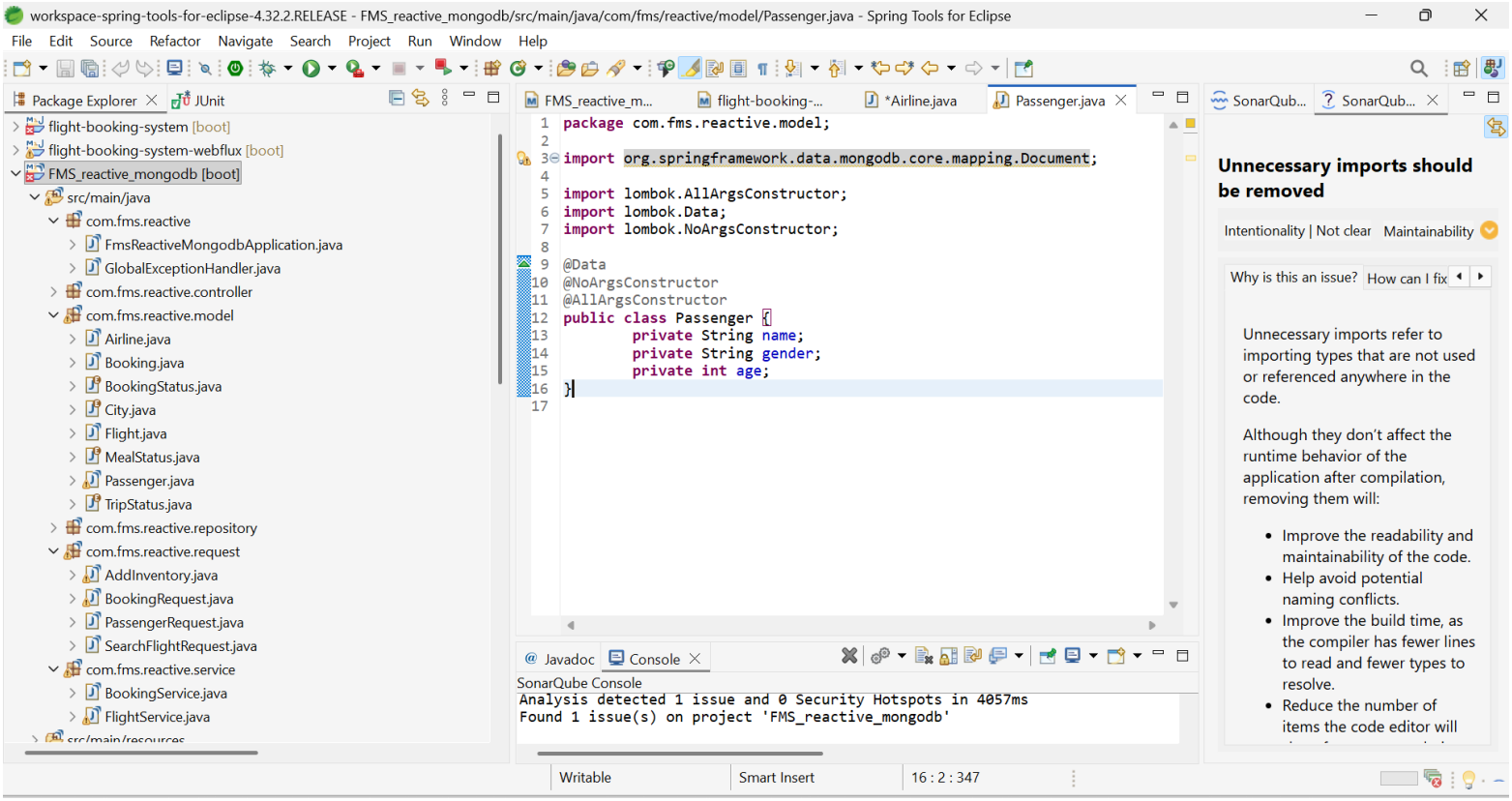
1. Remove this unused import 'jakarta.validation.constraints.NotBlank'.



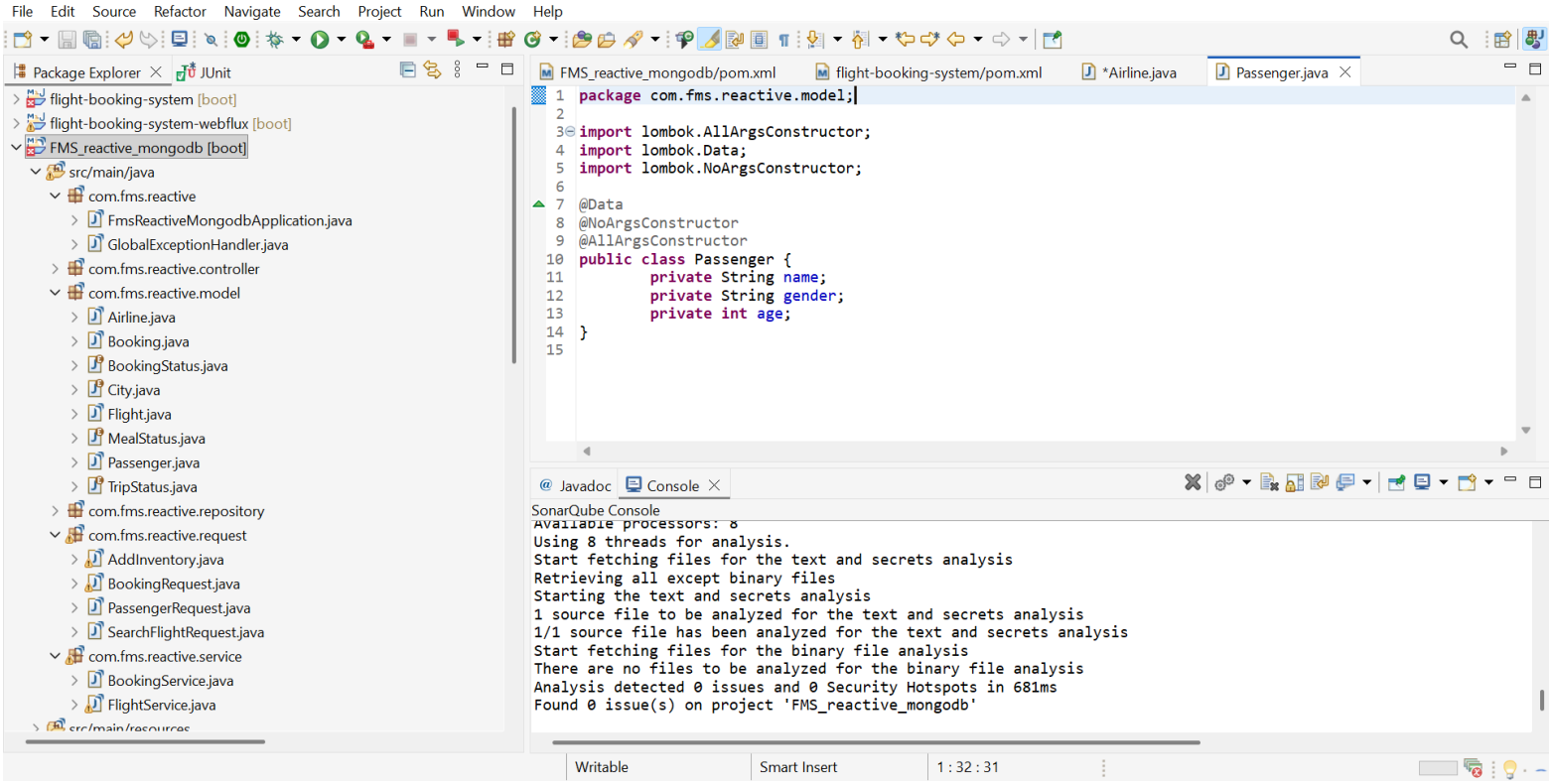
Fix: Removed the unnecessary import



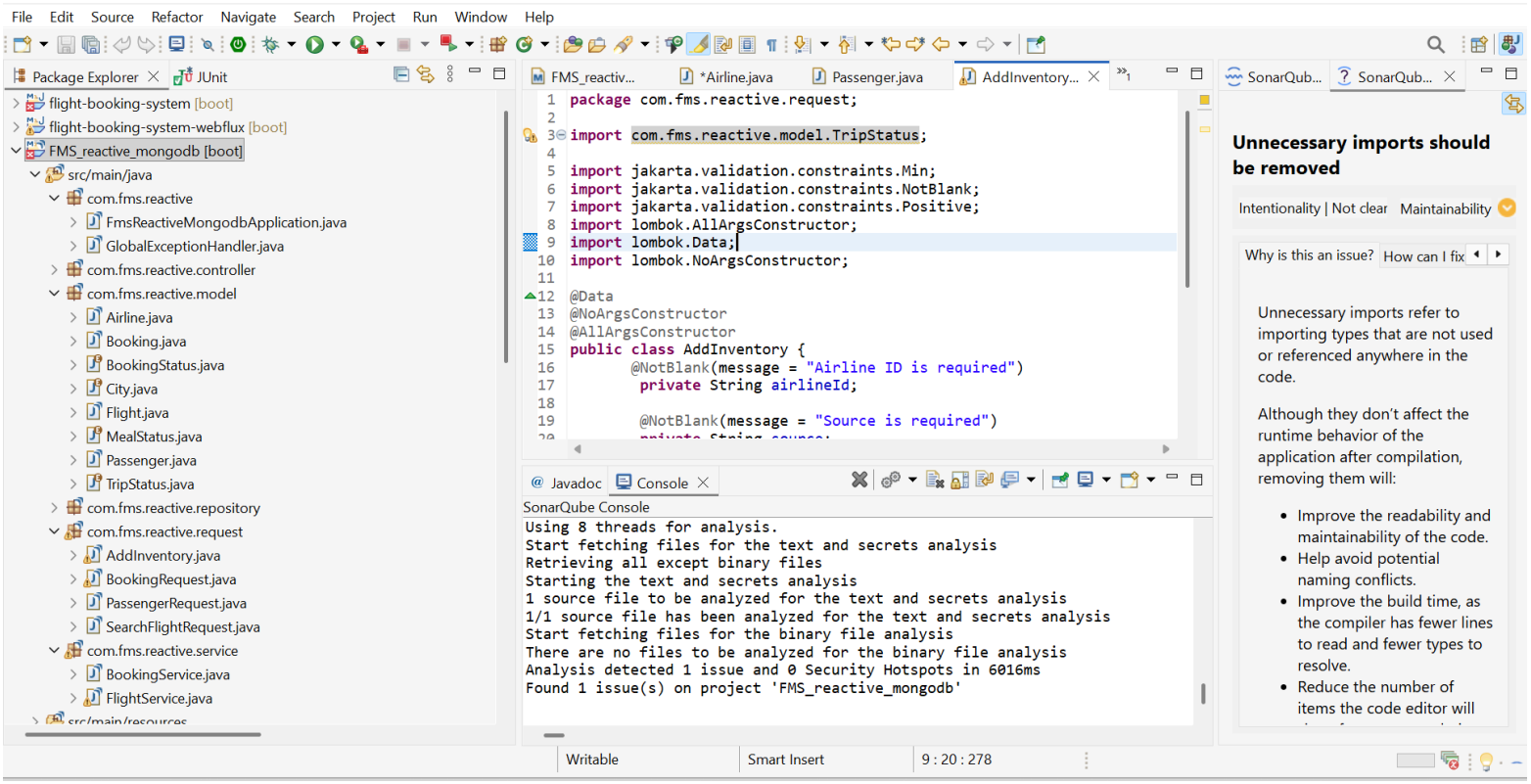
2. Remove this unused import 'org.springframework.data.mongodb.core.mapping.Document'.



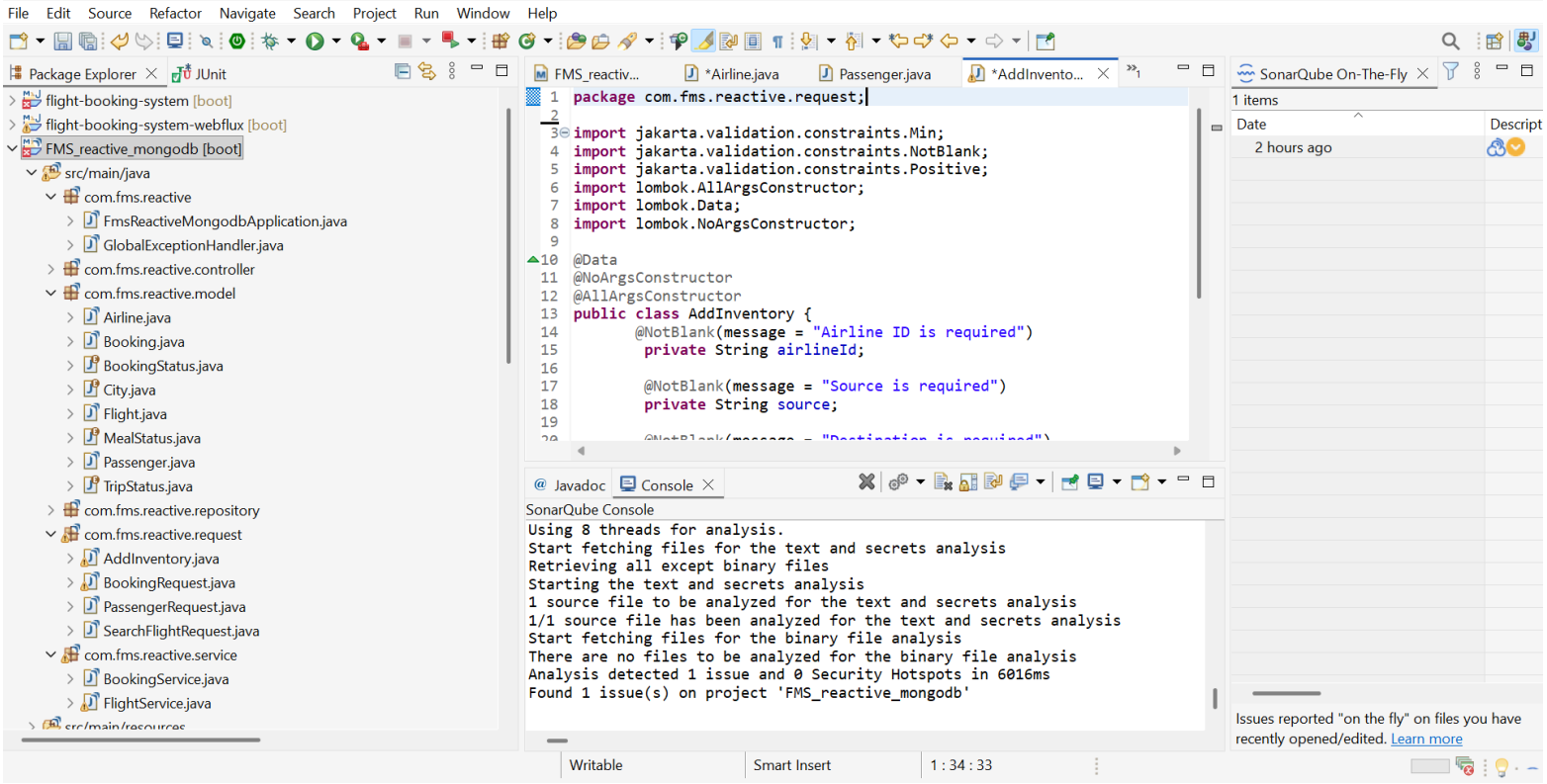
Fix: Removed the unnecessary import.



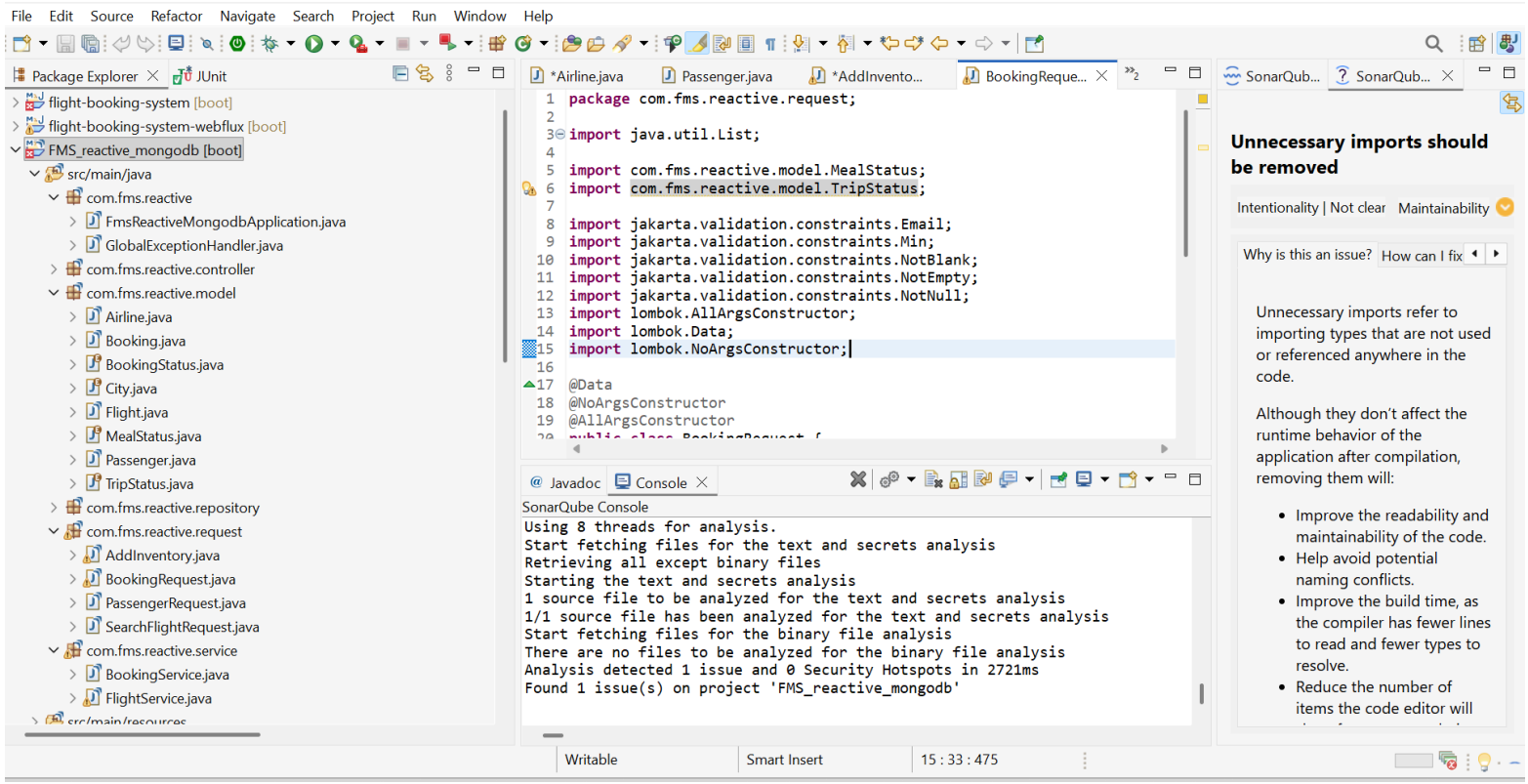
3. Remove this unused import 'com.fms.reactive.model.TripStatus'.



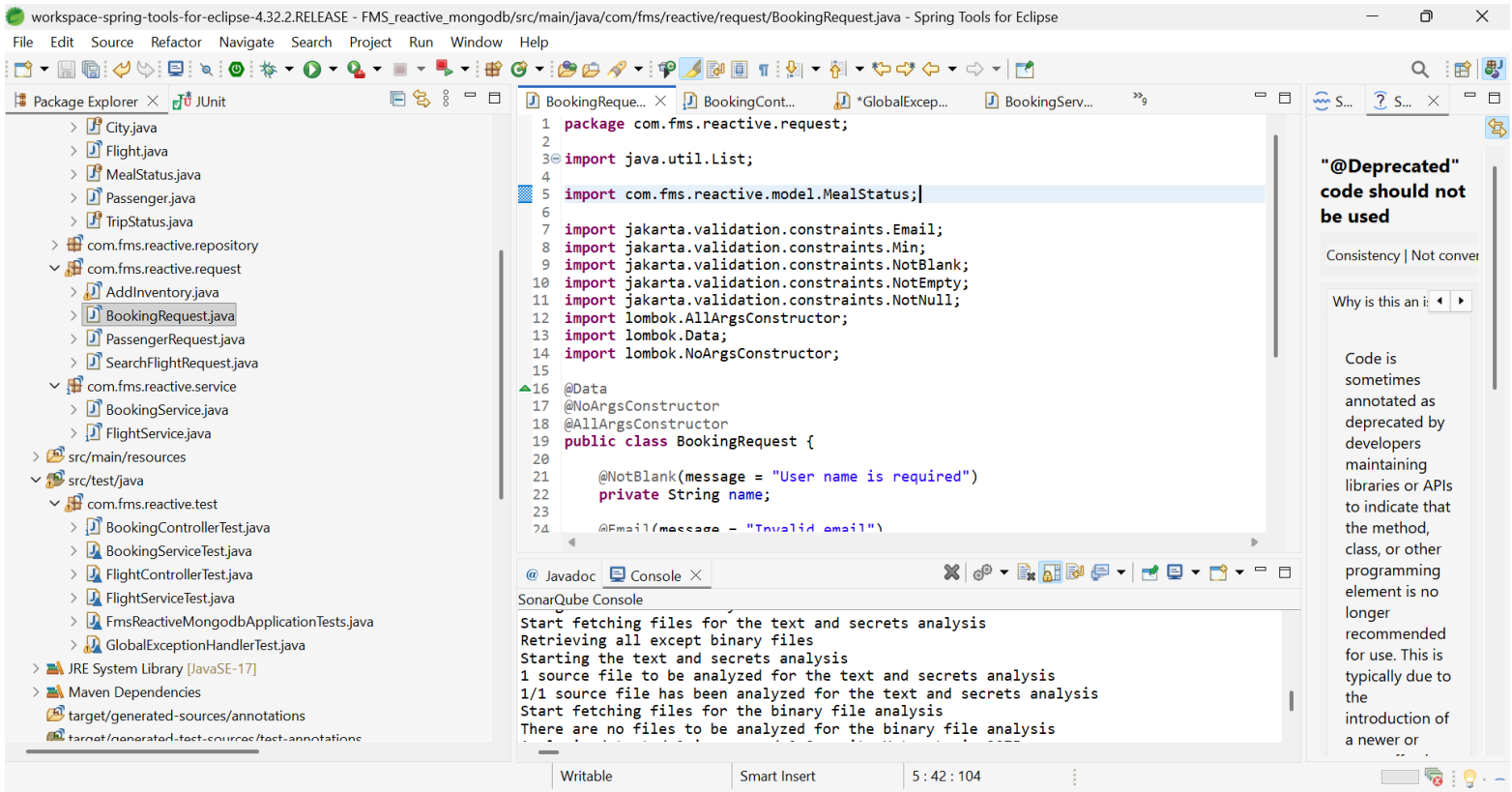
Fix: Removed the unnecessary import.



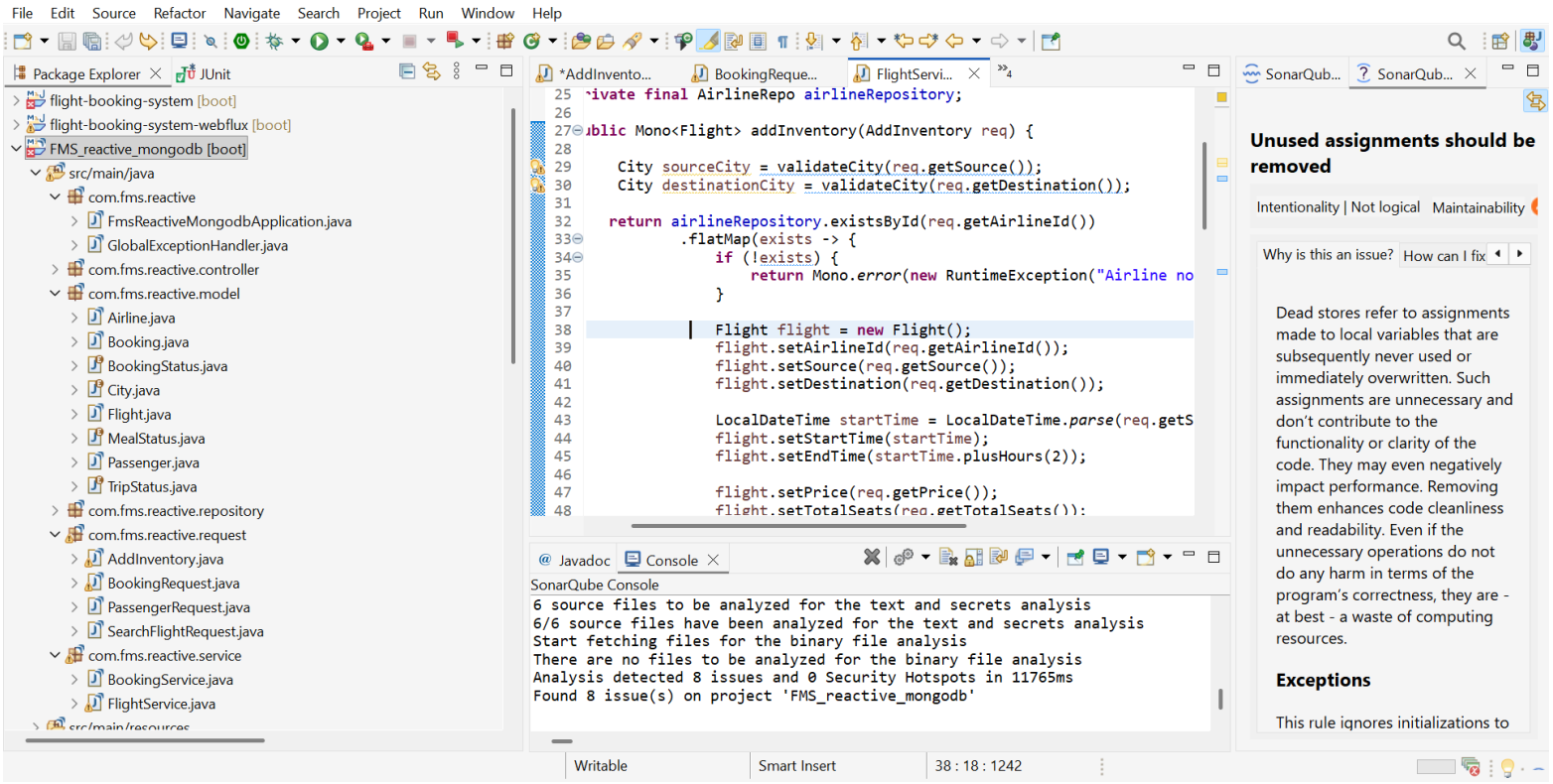
4. Remove this unused import 'com.fms.reactive.model.TripStatus'.



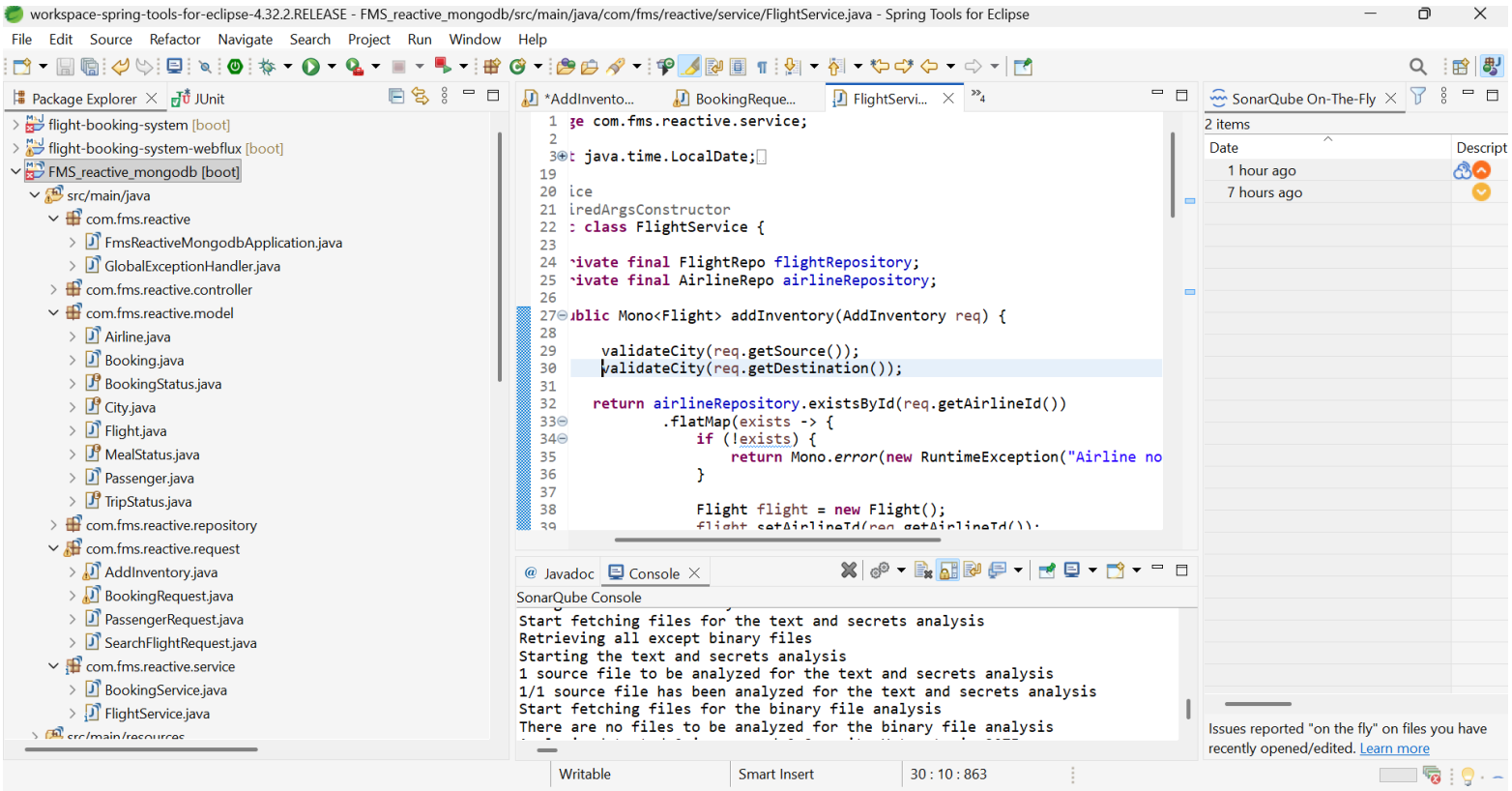
Fix: Removed the unnecessary import.



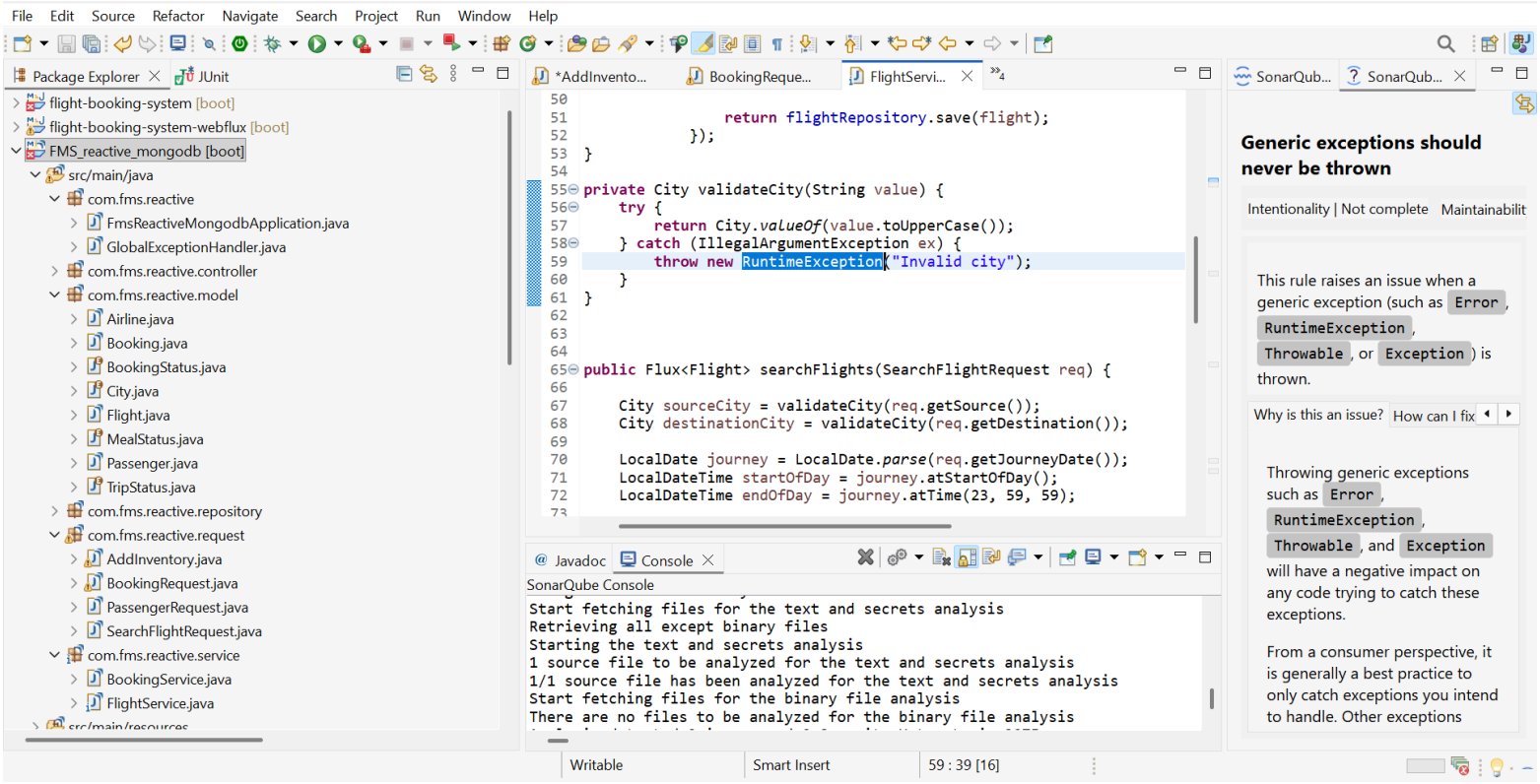
5. **Remove this useless assignment to local variable "sourceCity".**
6. **Remove this useless assignment to local variable "destinationCity".**
7. **Remove this unused "sourceCity" local variable.**
8. **Remove this unused "destinationCity" local variable.**



Fix: Removed the unused variables.

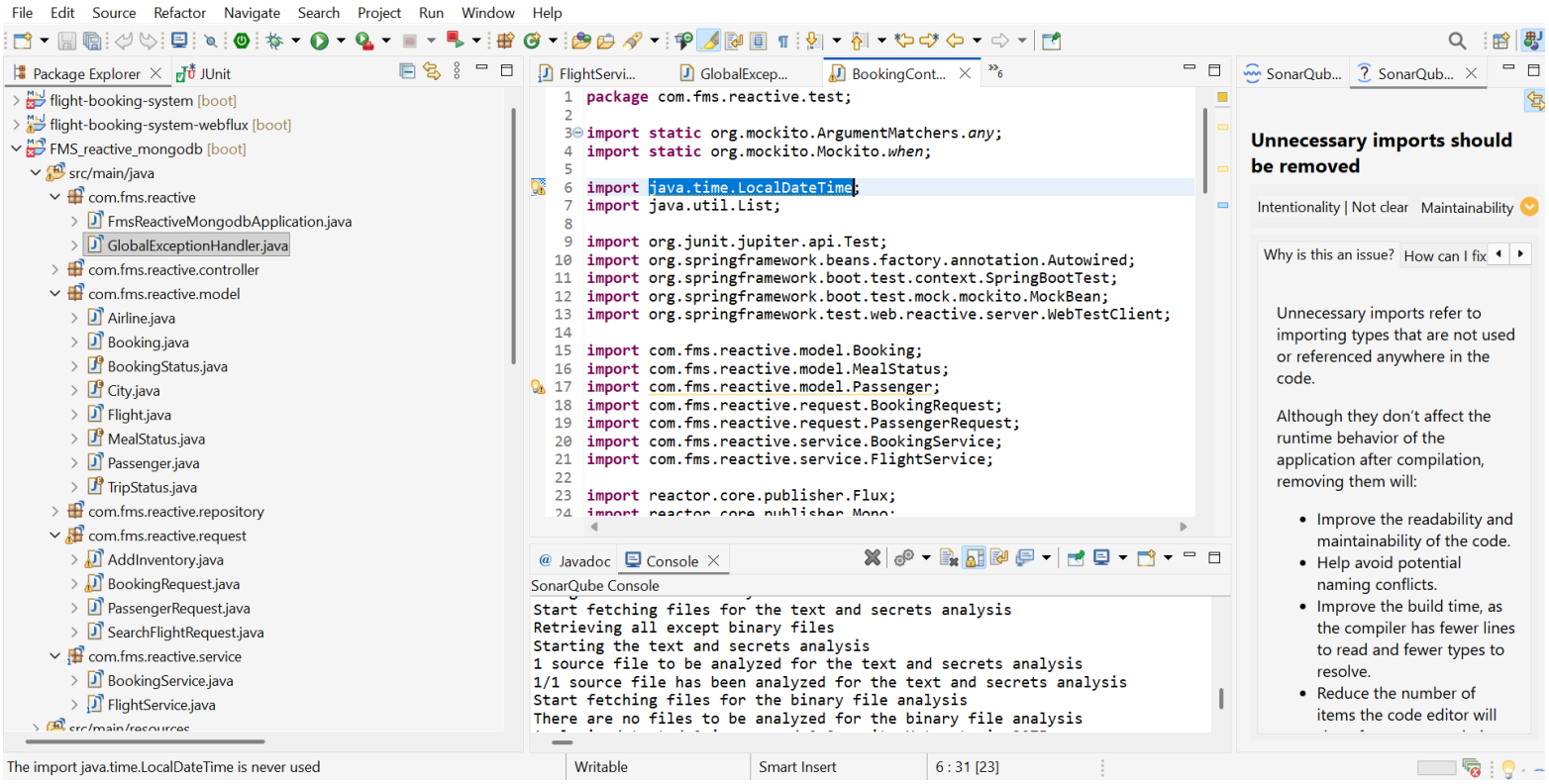


9. Replace generic exceptions with specific library exceptions or a custom exception.

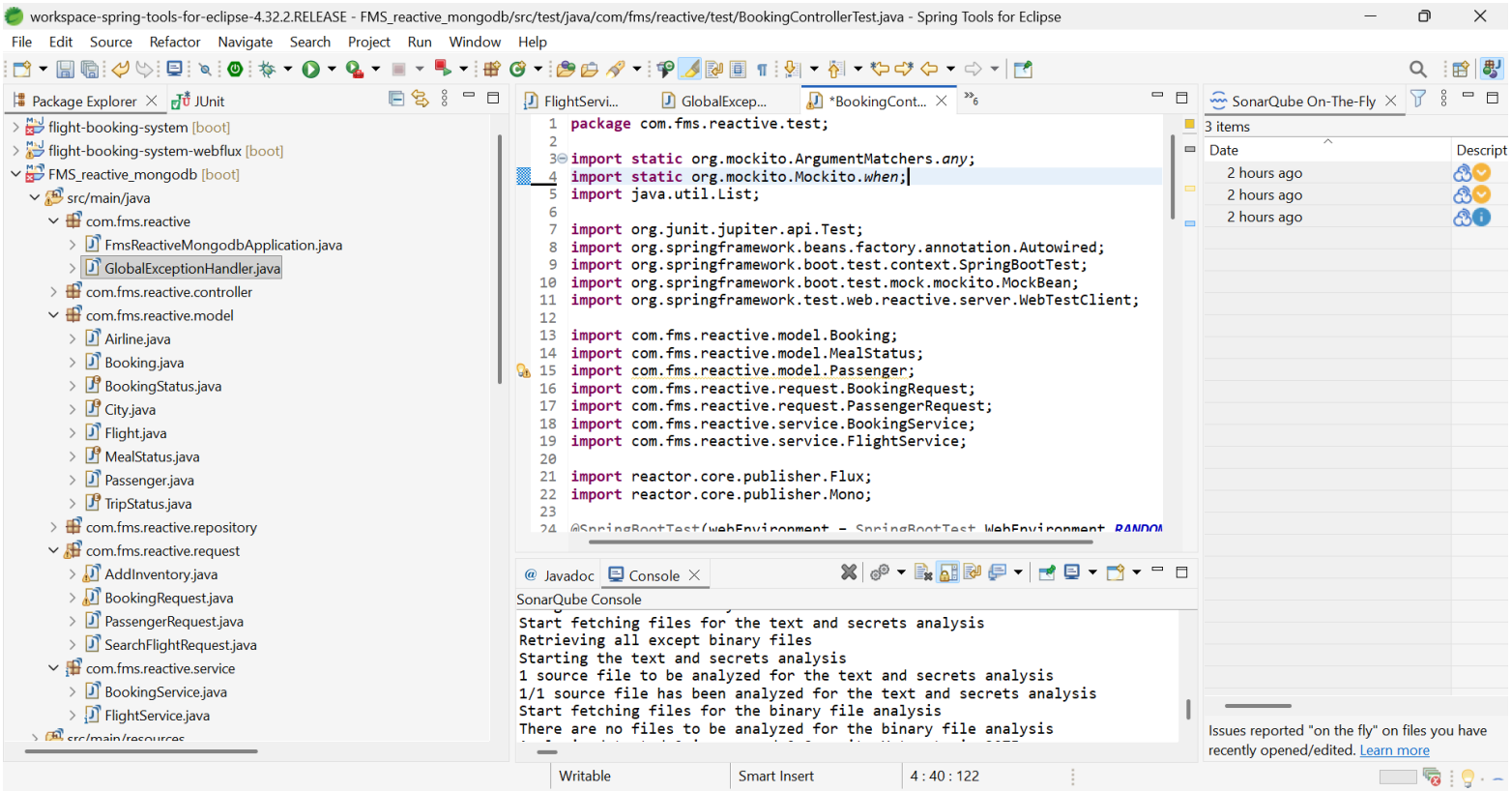


Fix: Working on the fix, which will require a full restructuring of the Global Error Handling system.

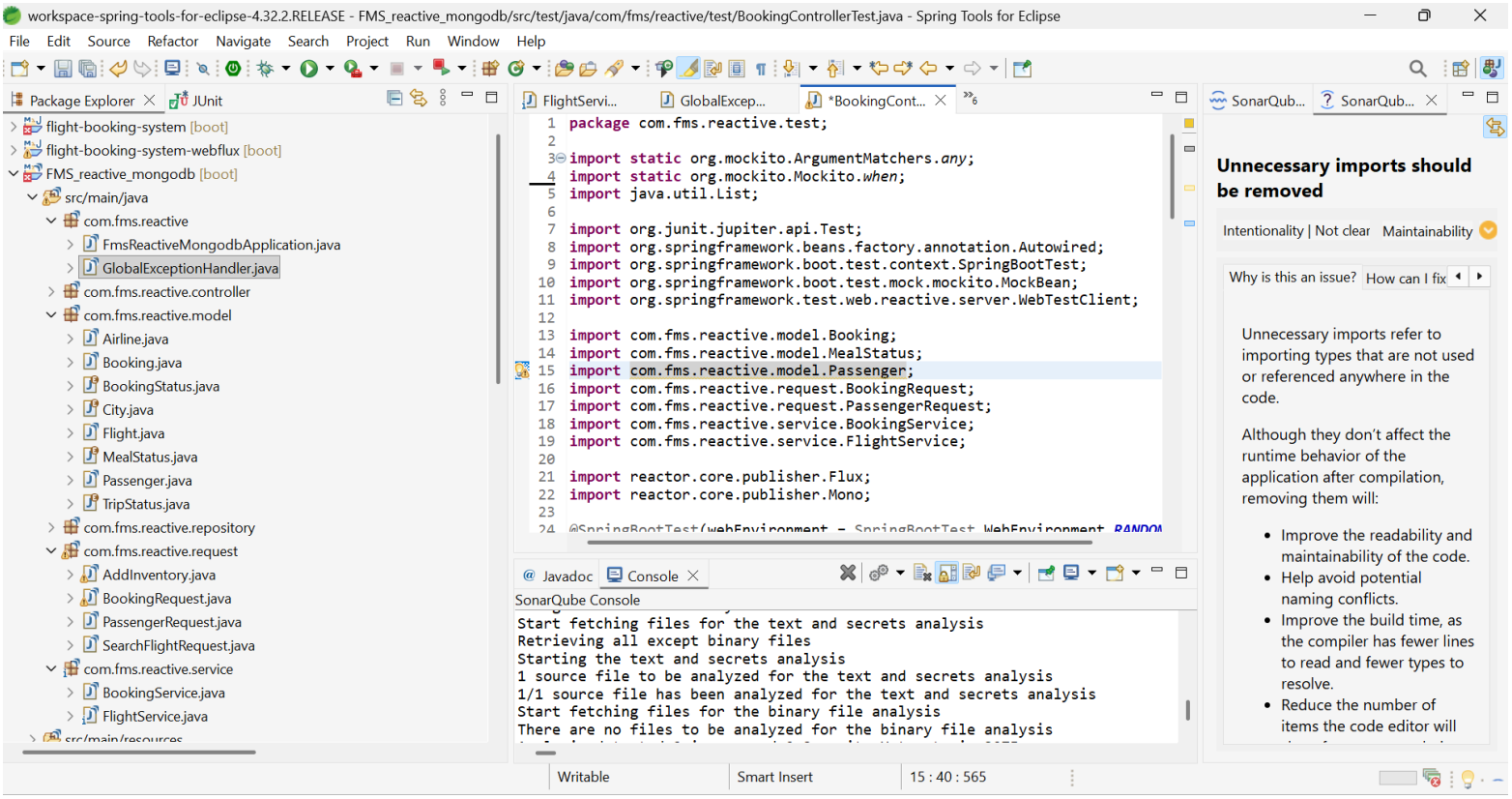
10.Remove this unused import 'java.time.LocalDateTime'.



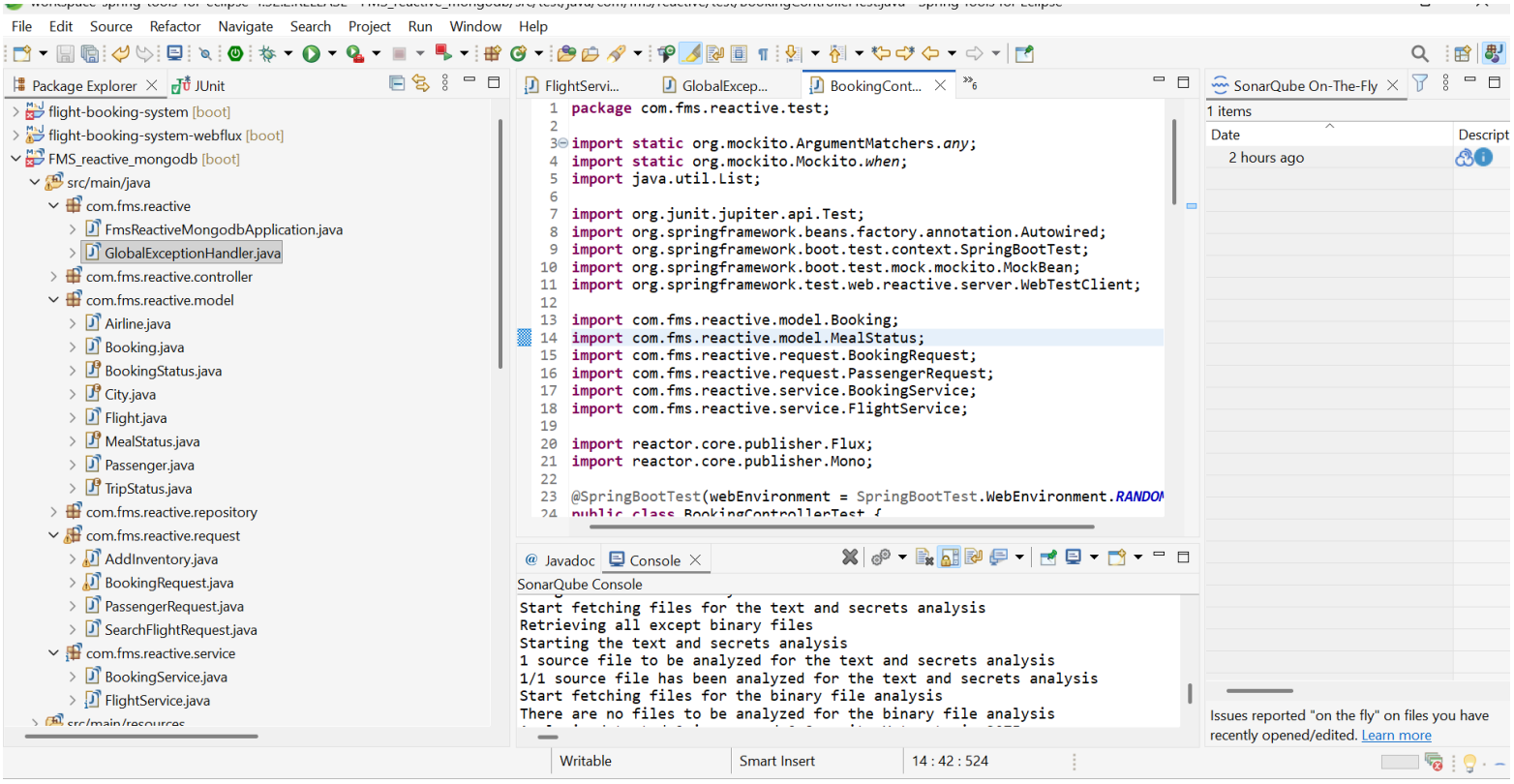
Fix: Removed the unnecessary import.



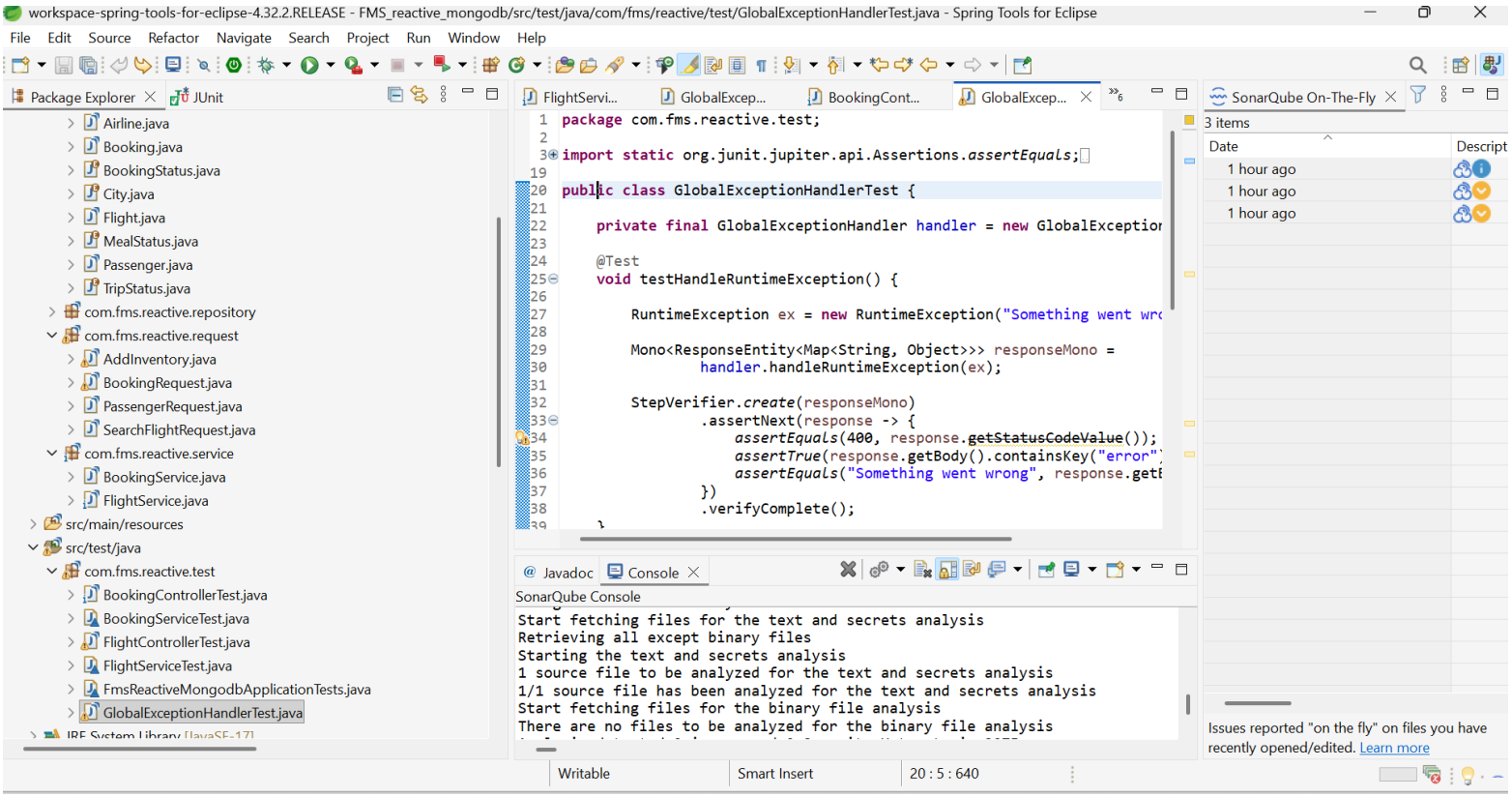
11. Remove this unused import 'com.fms.reactive.model.Passenger'.



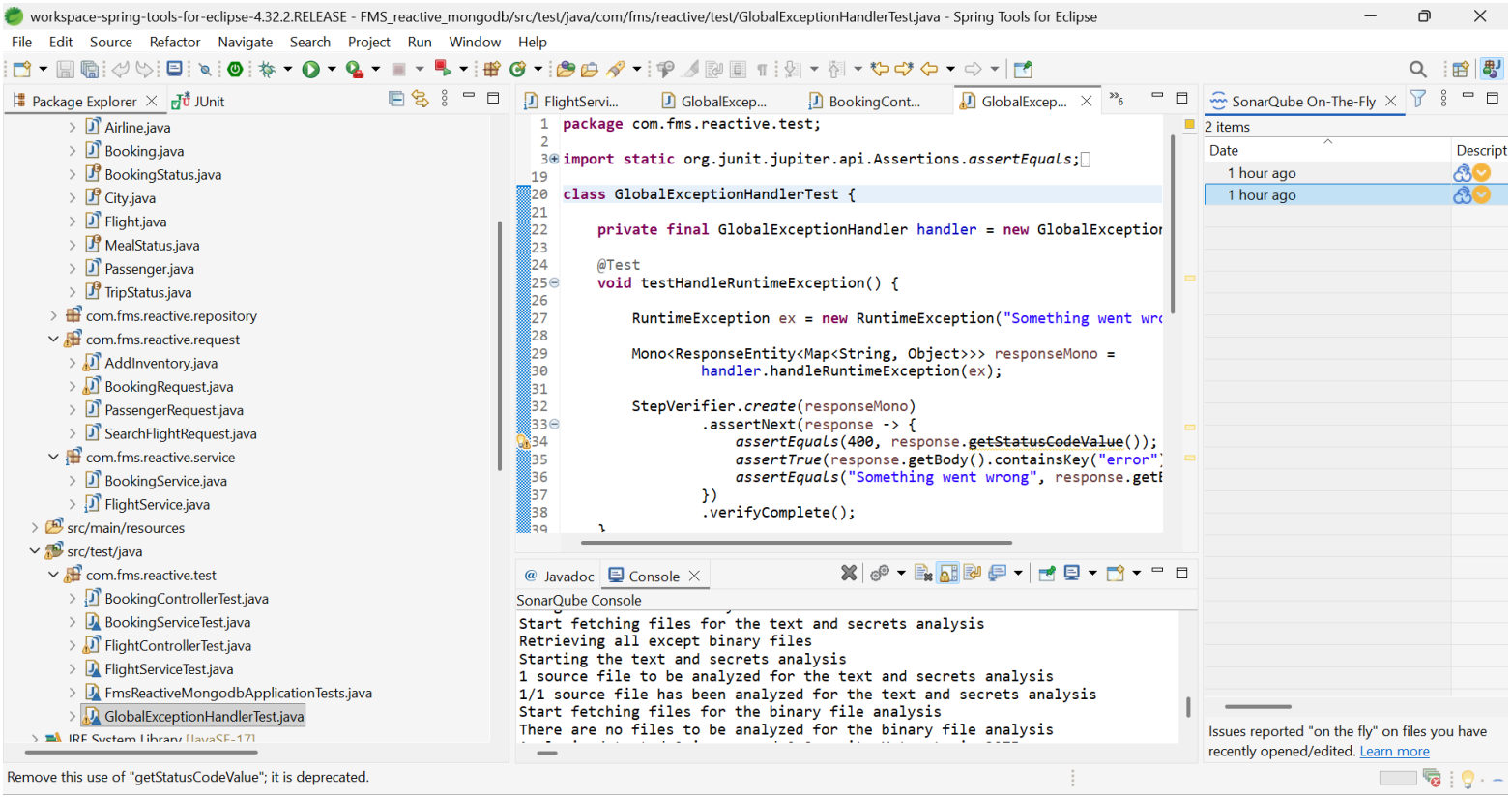
Fix: Removed the unnecessary import.



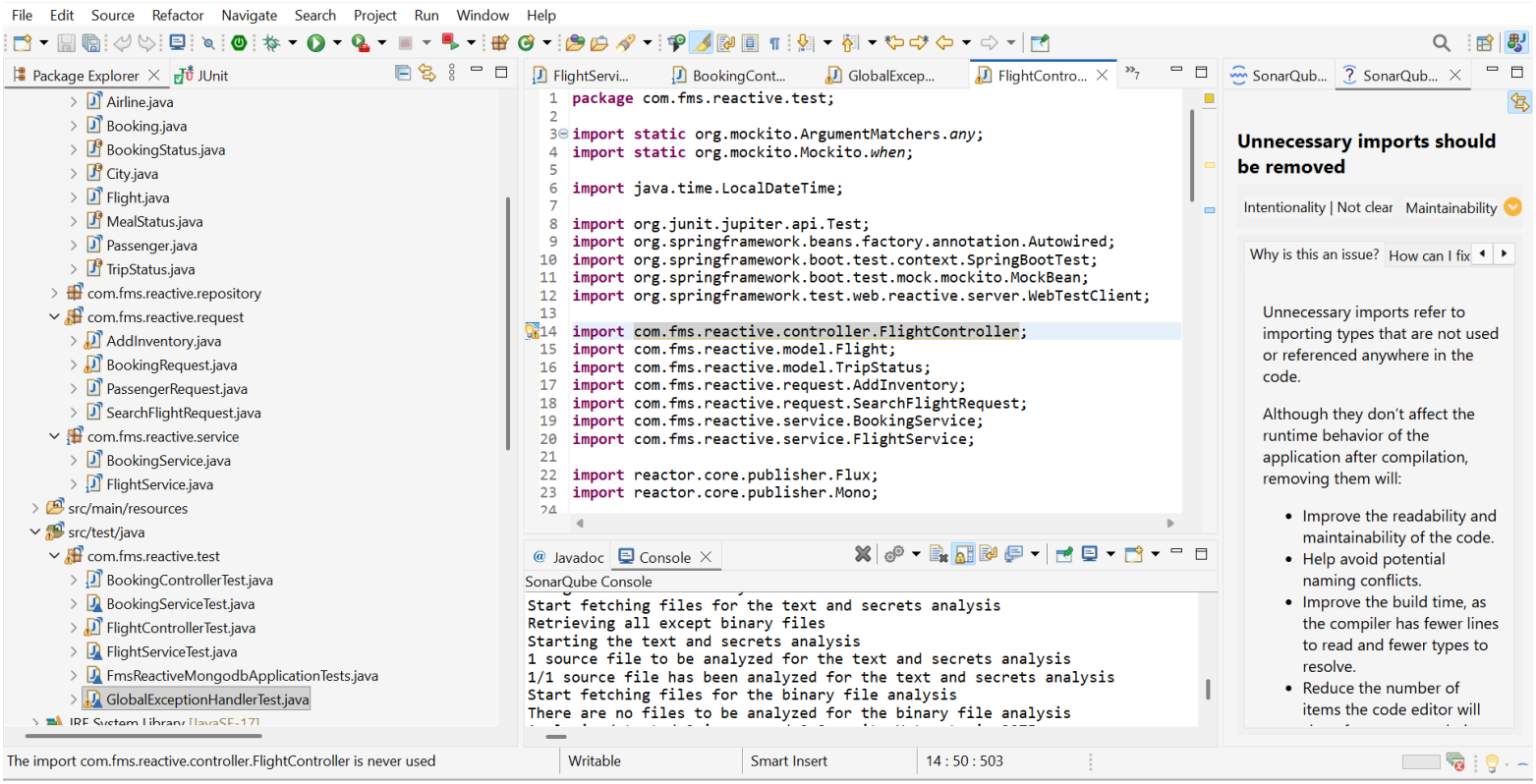
12. Remove this 'public' modifier.



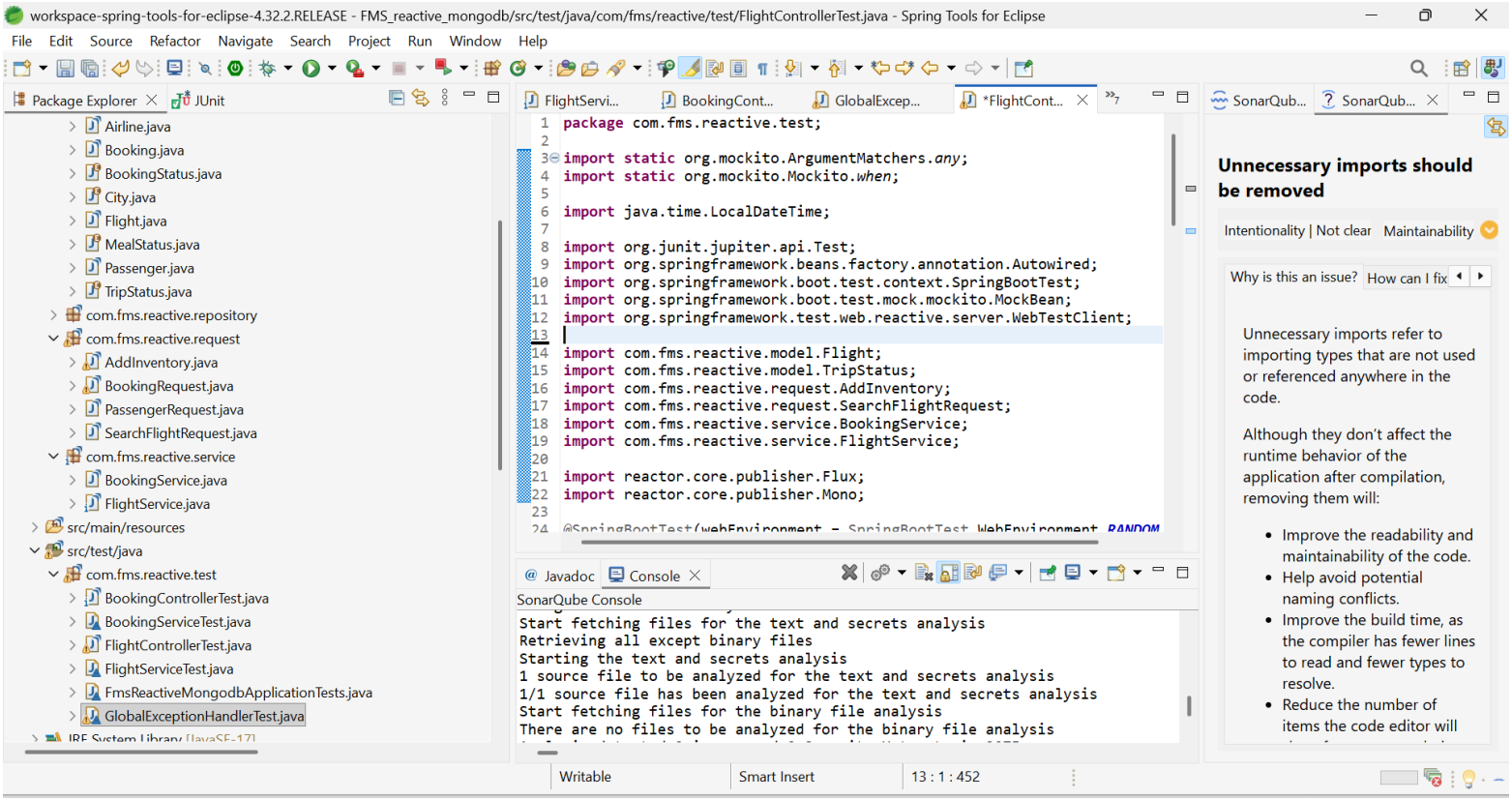
Fix: Removed the unnecessary import.



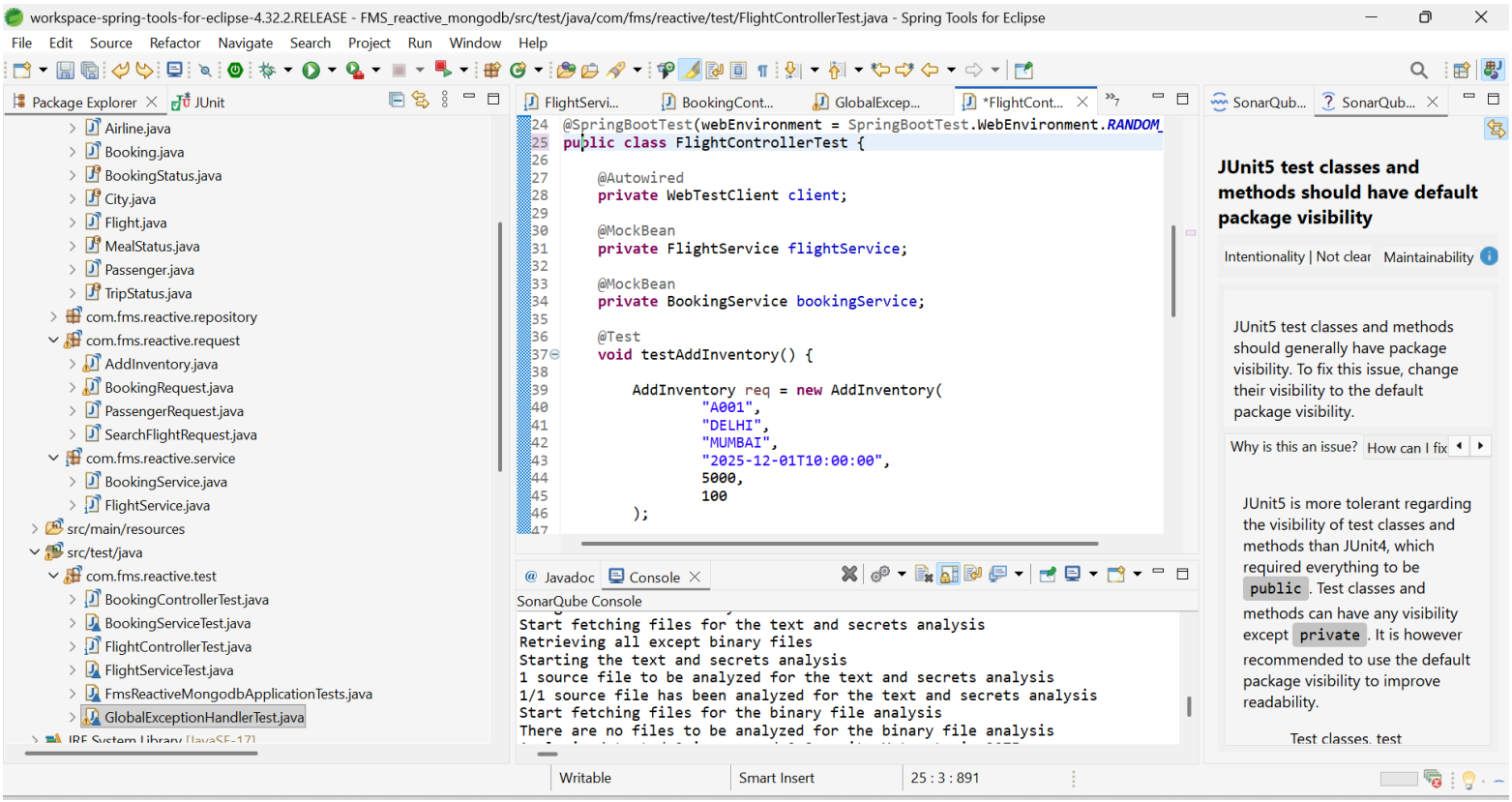
13. Remove this unused import 'com.fms.reactive.controller.FlightController'.



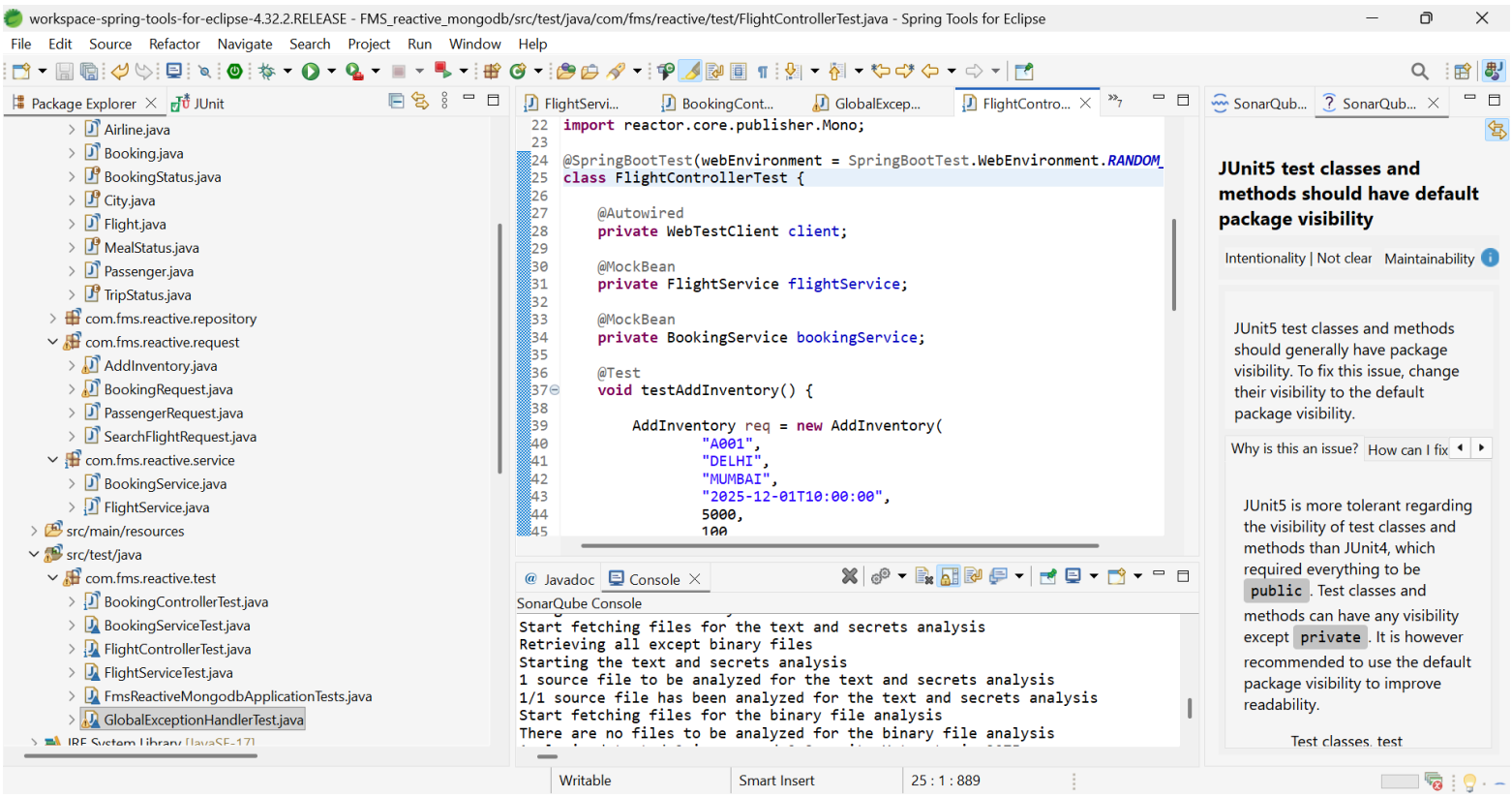
Fix: Removed the import.



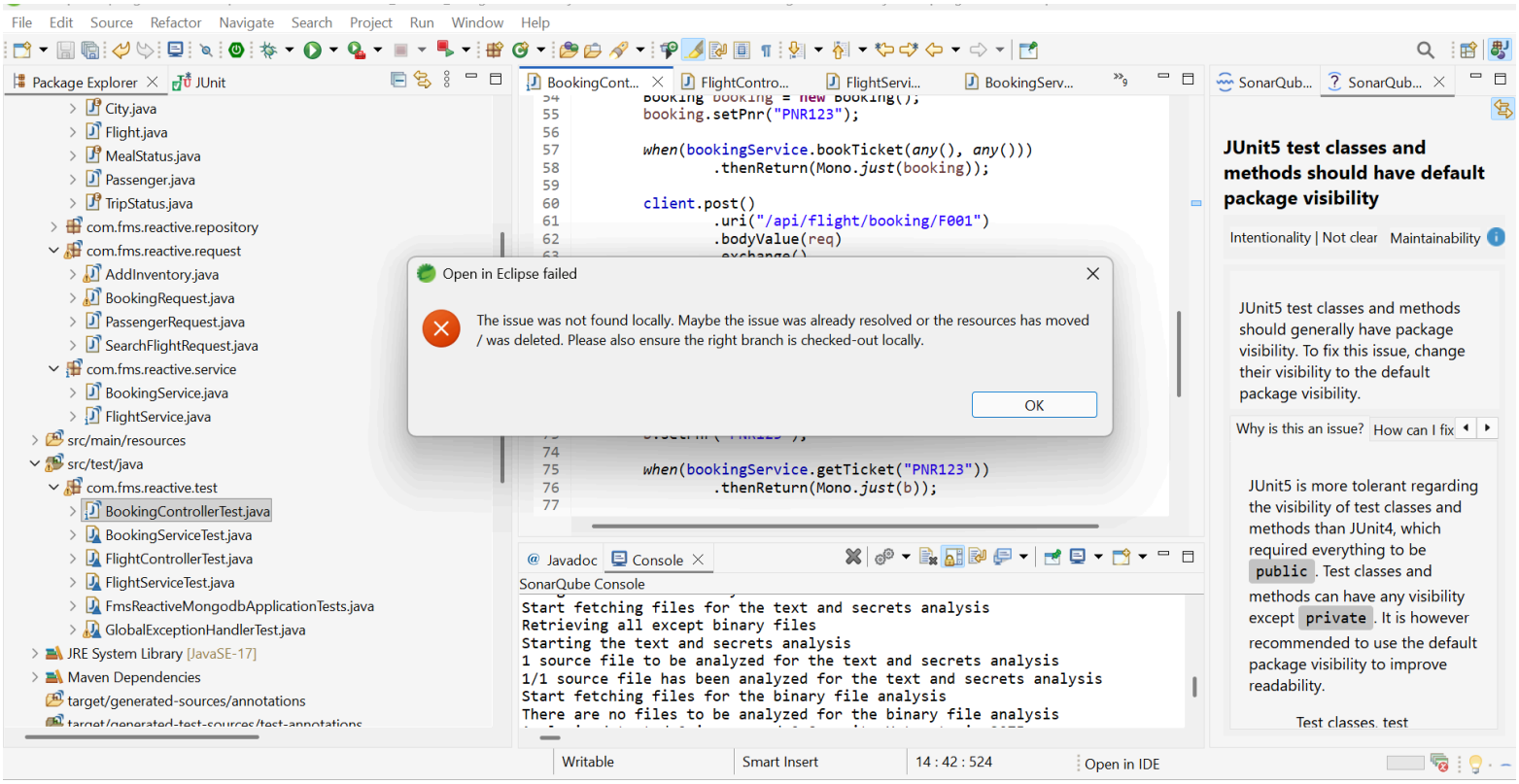
14. Remove this 'public' modifier.



Fix: Removed the public modifier.

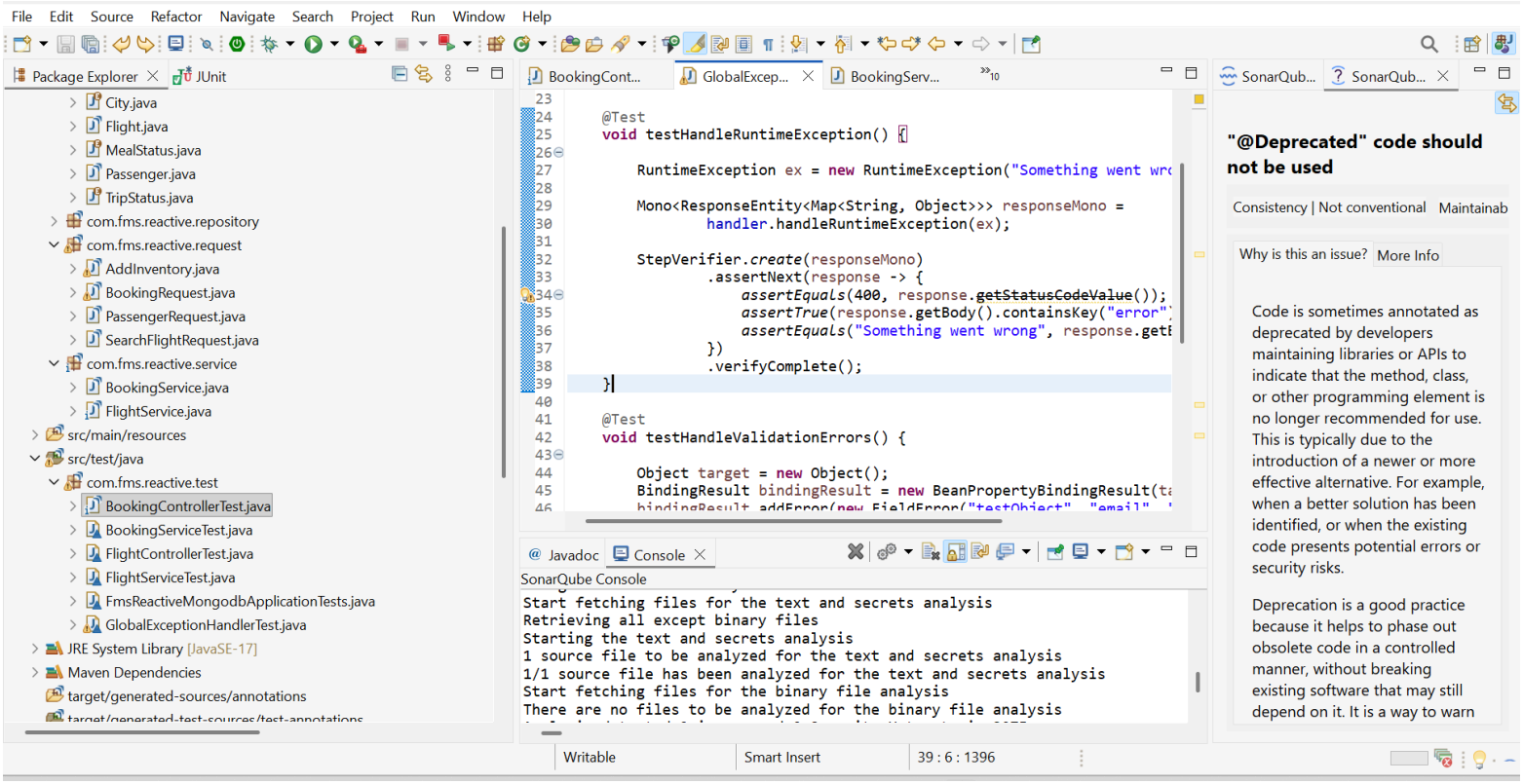


15. Remove this public modifier

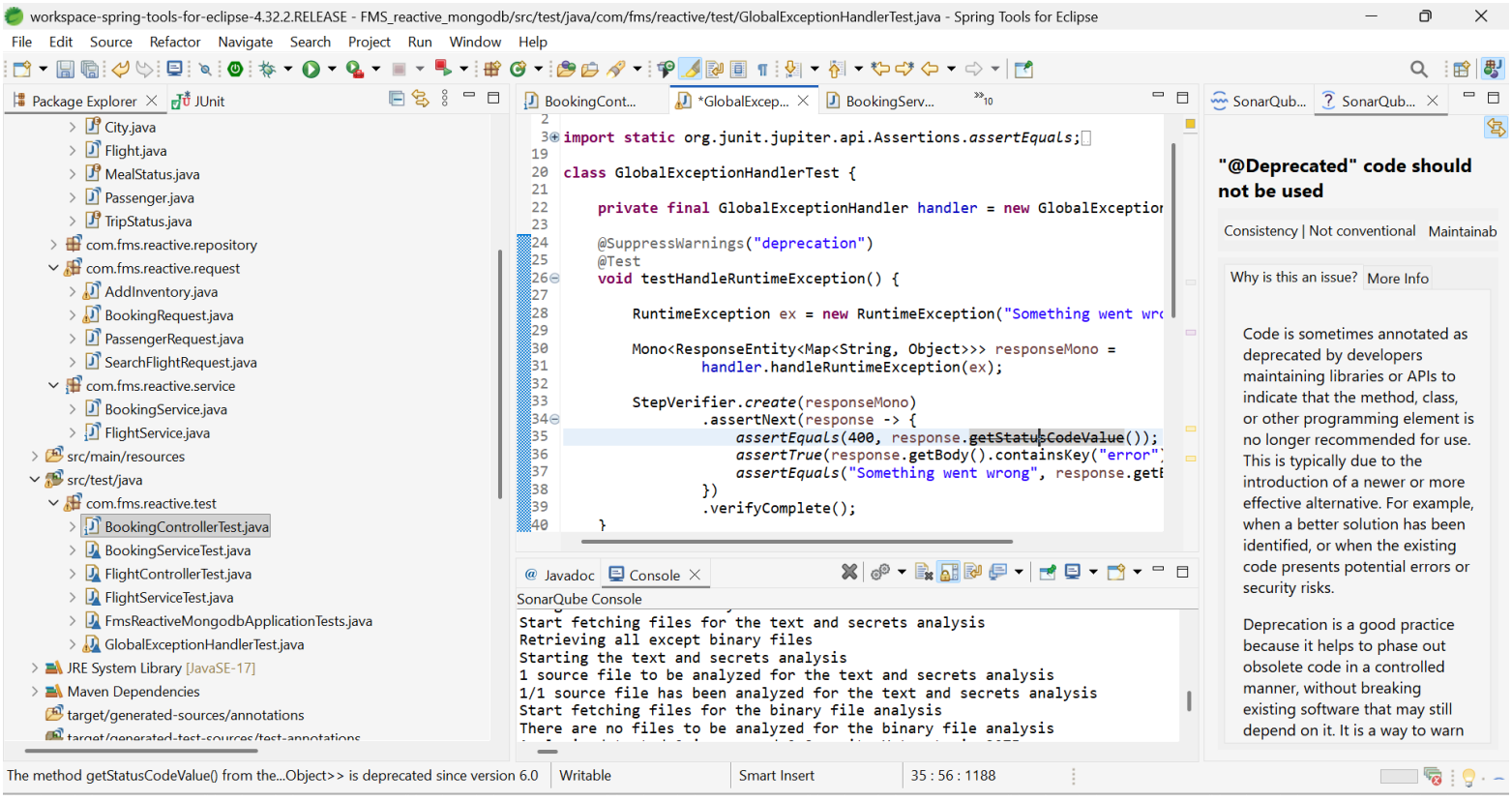


Fix: The issue was not found locally.

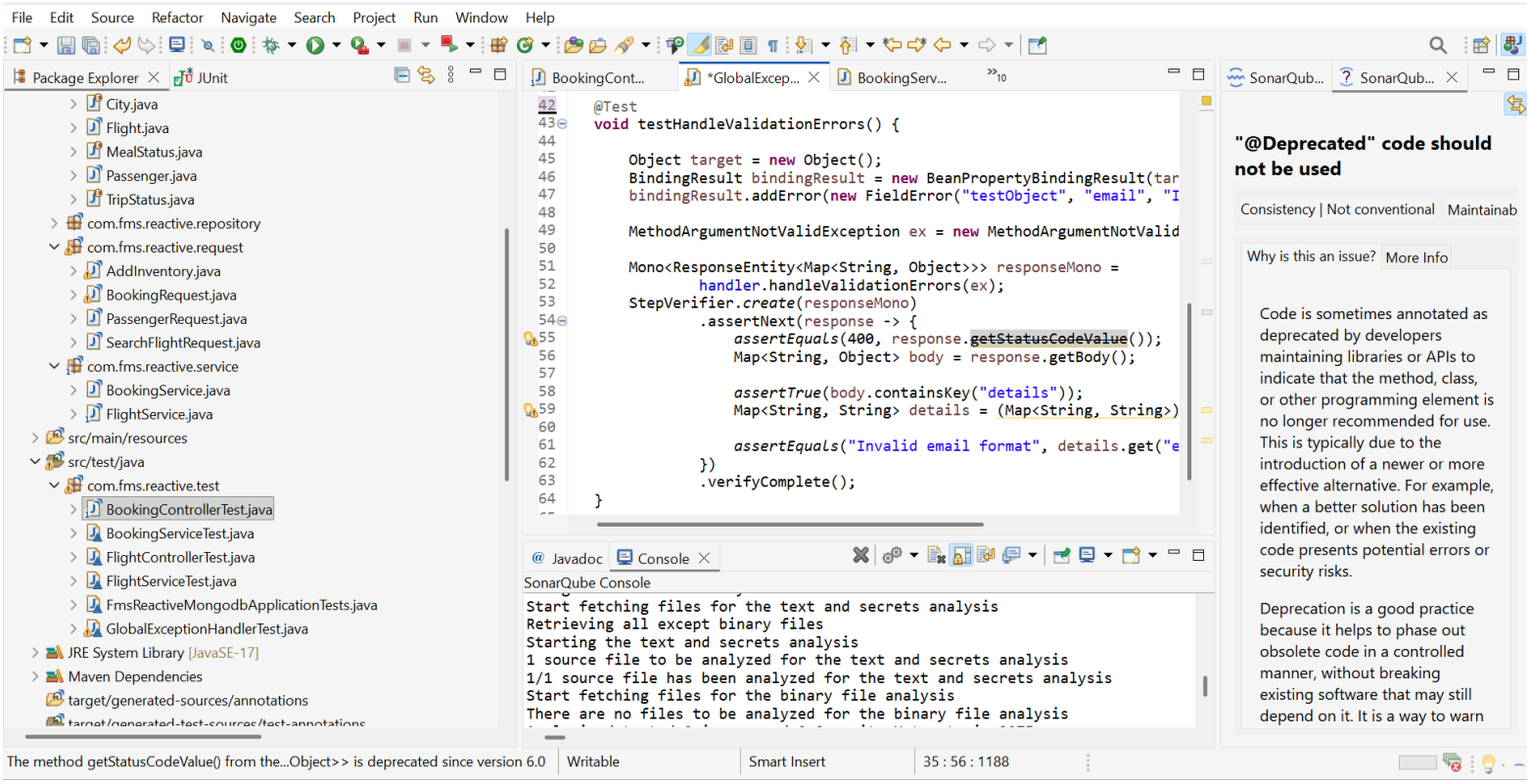
16. Remove this use of "getStatusCodeValue"; it is deprecated.



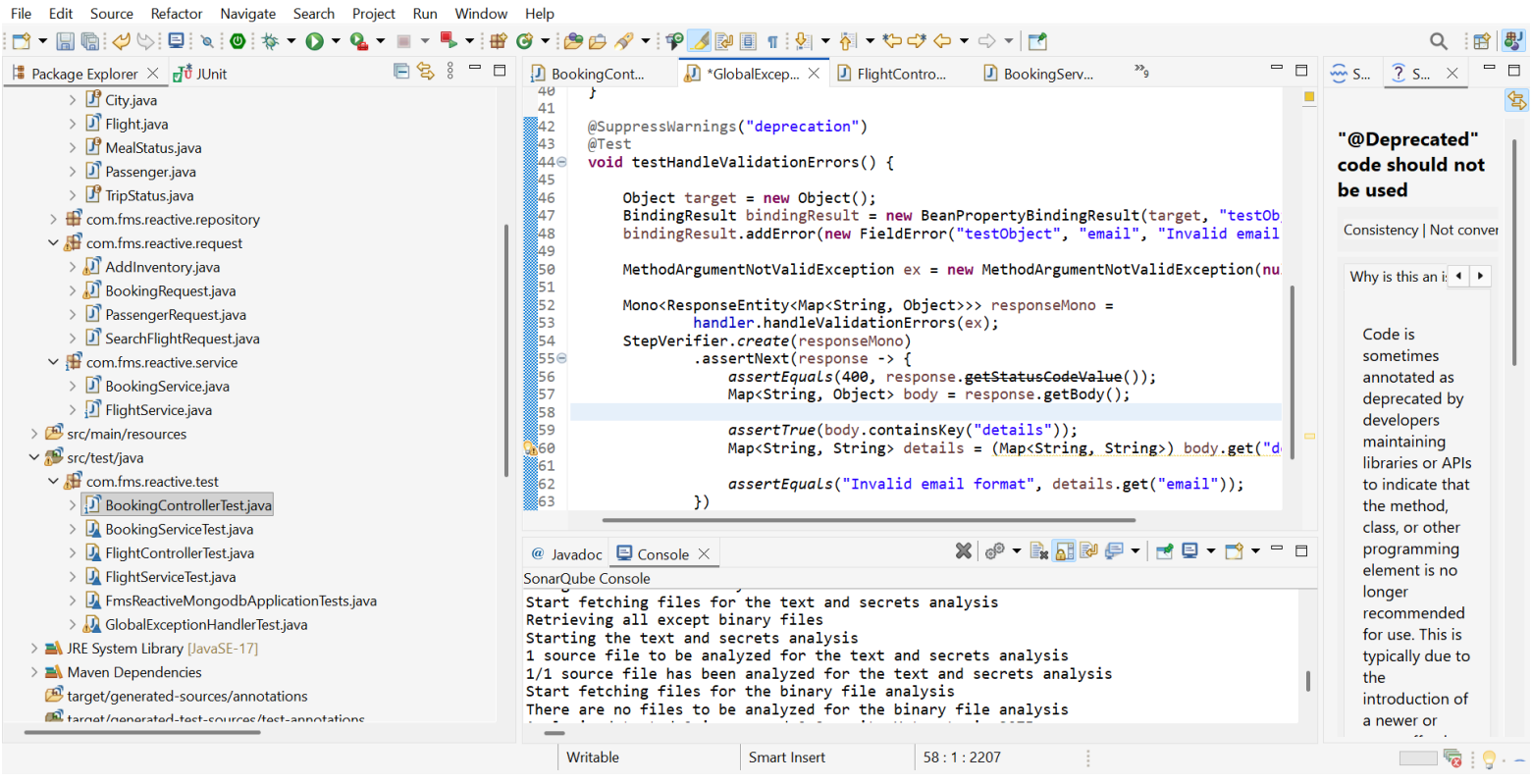
Fix: Added @SuppressWarnings("deprecation")



17. Remove this use of "getStatusCodeValue"; it is deprecated.

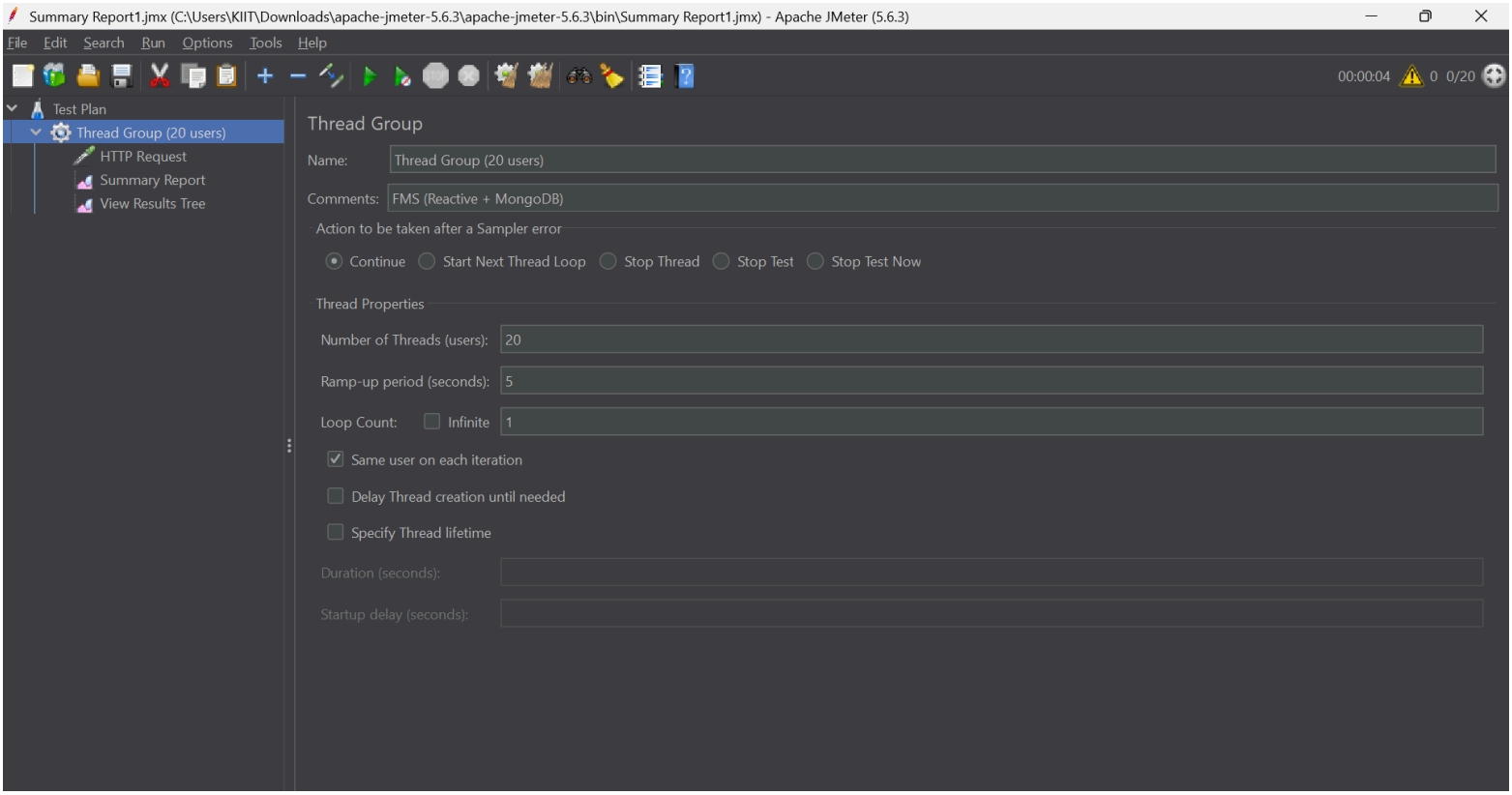


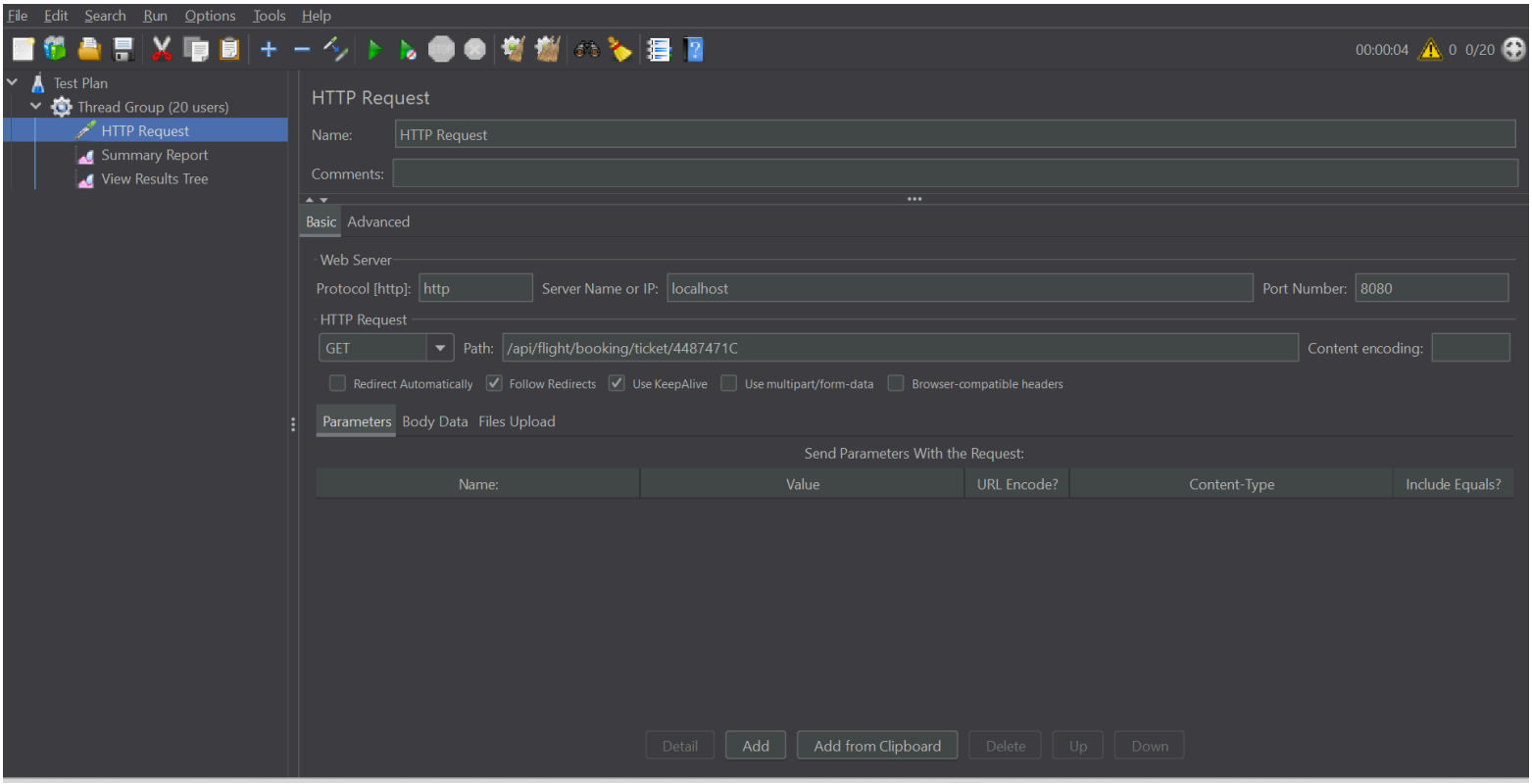
Fix: Added @SuppressWarnings("deprecation")

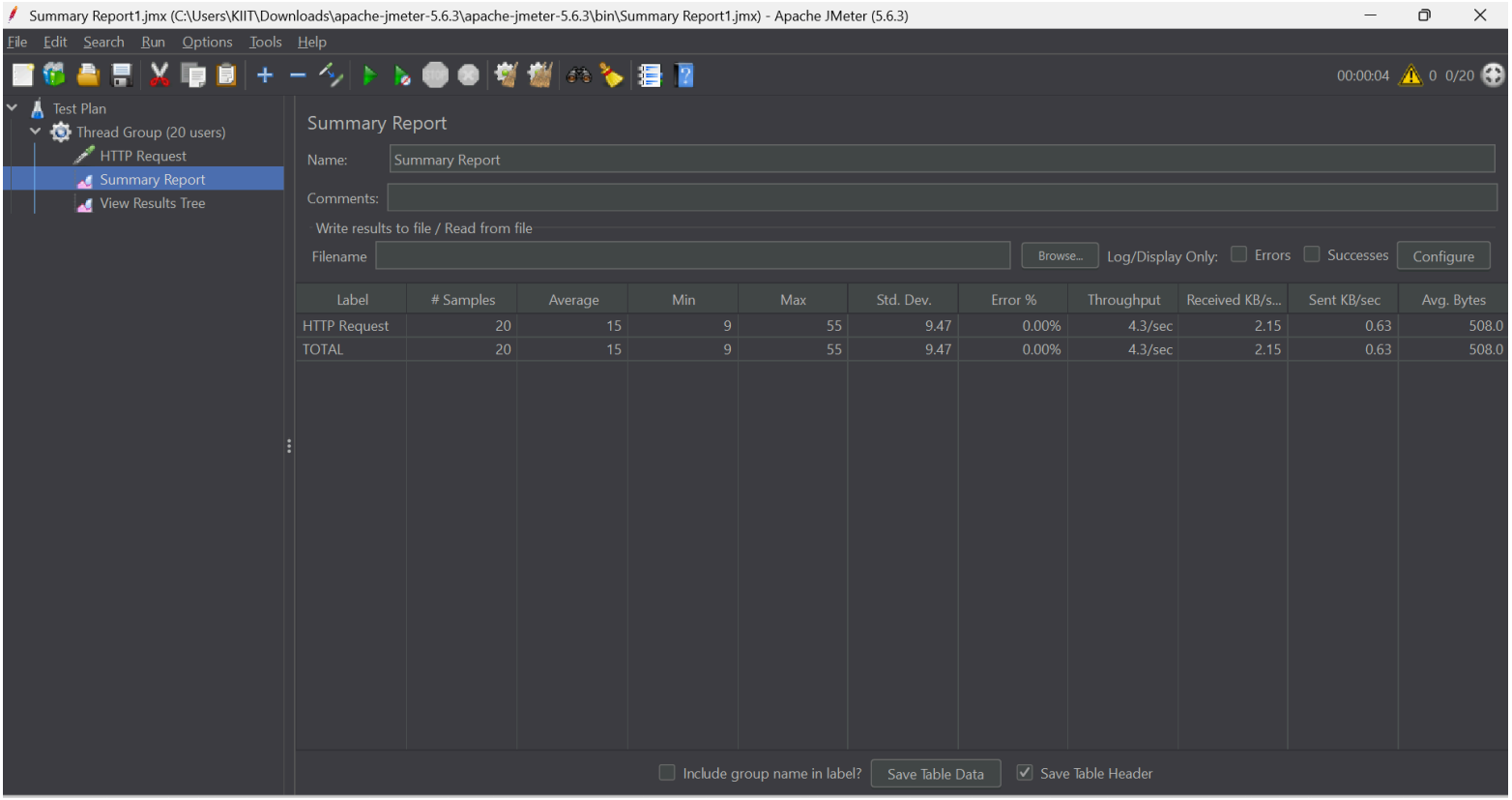


JMETER TESTING

CASE 1: 20 Users



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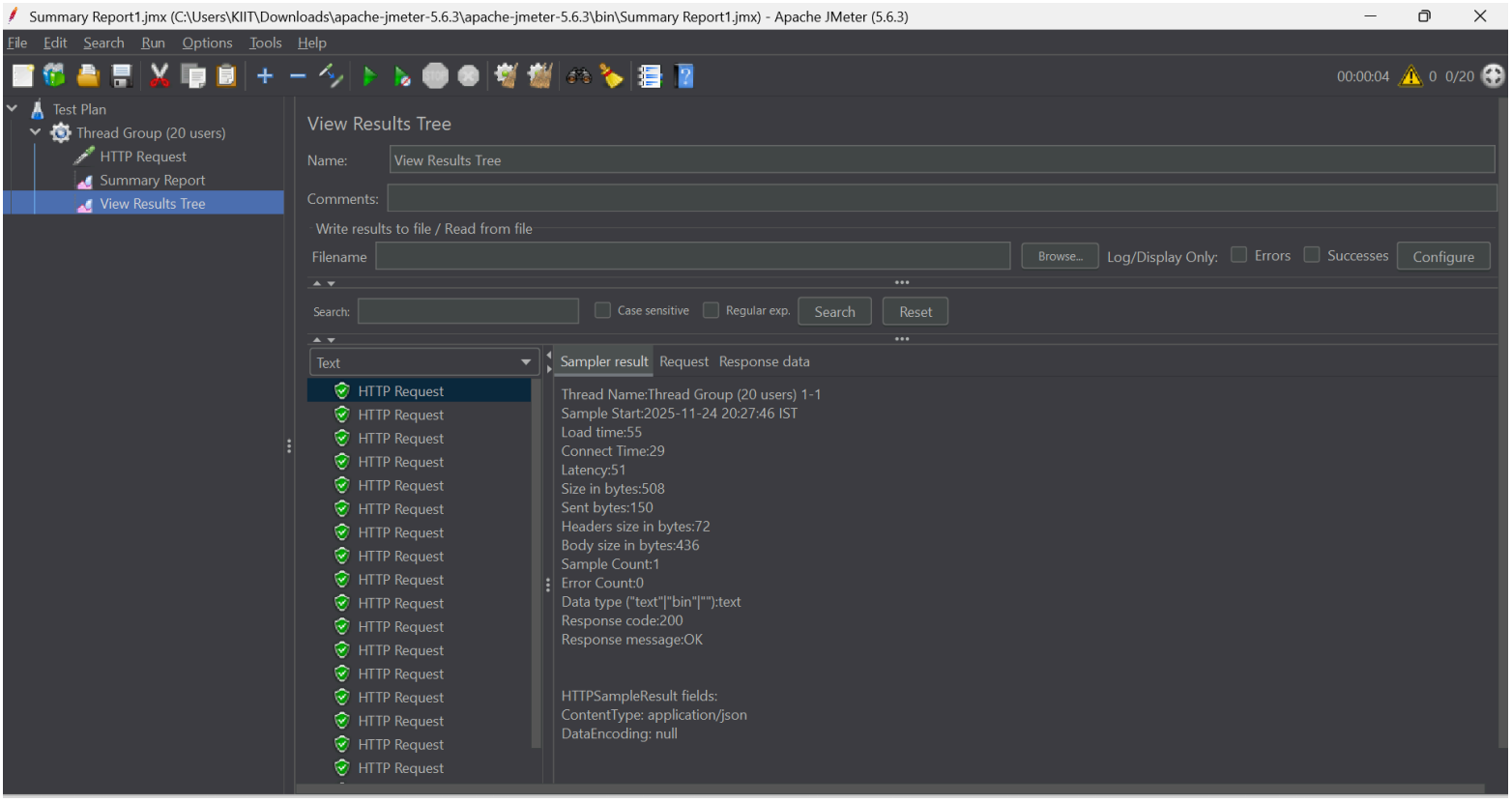
File Edit Search Run Options Tools Help
00:00:04 0 0/20
Test Plan
Thread Group (20 users)
HTTP Request
Summary Report
View Results Tree
Summary Report
Name: Summary Report
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display Only: Errors Successes
Configure
Label # Samples Average Min Max Std. Dev. Error % Throughput Received KB/s... Sent KB/sec Avg. Bytes
HTTP Request 20 15 9 55 9.47 0.00% 4.3/sec 2.15 0.63 508.0
TOTAL 20 15 9 55 9.47 0.00% 4.3/sec 2.15 0.63 508.0
Include group name in label?
Save Table Data
Save Table Header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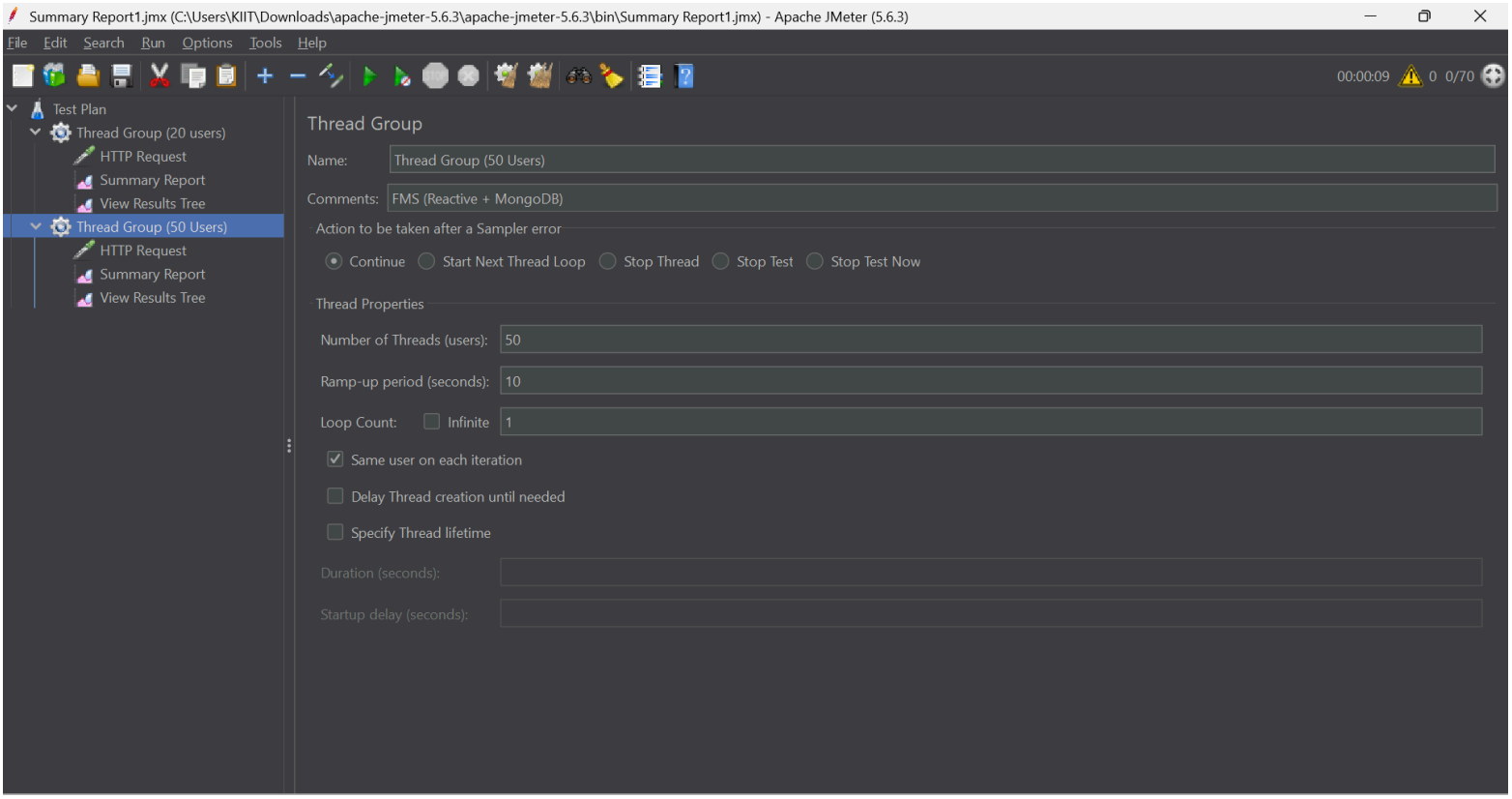
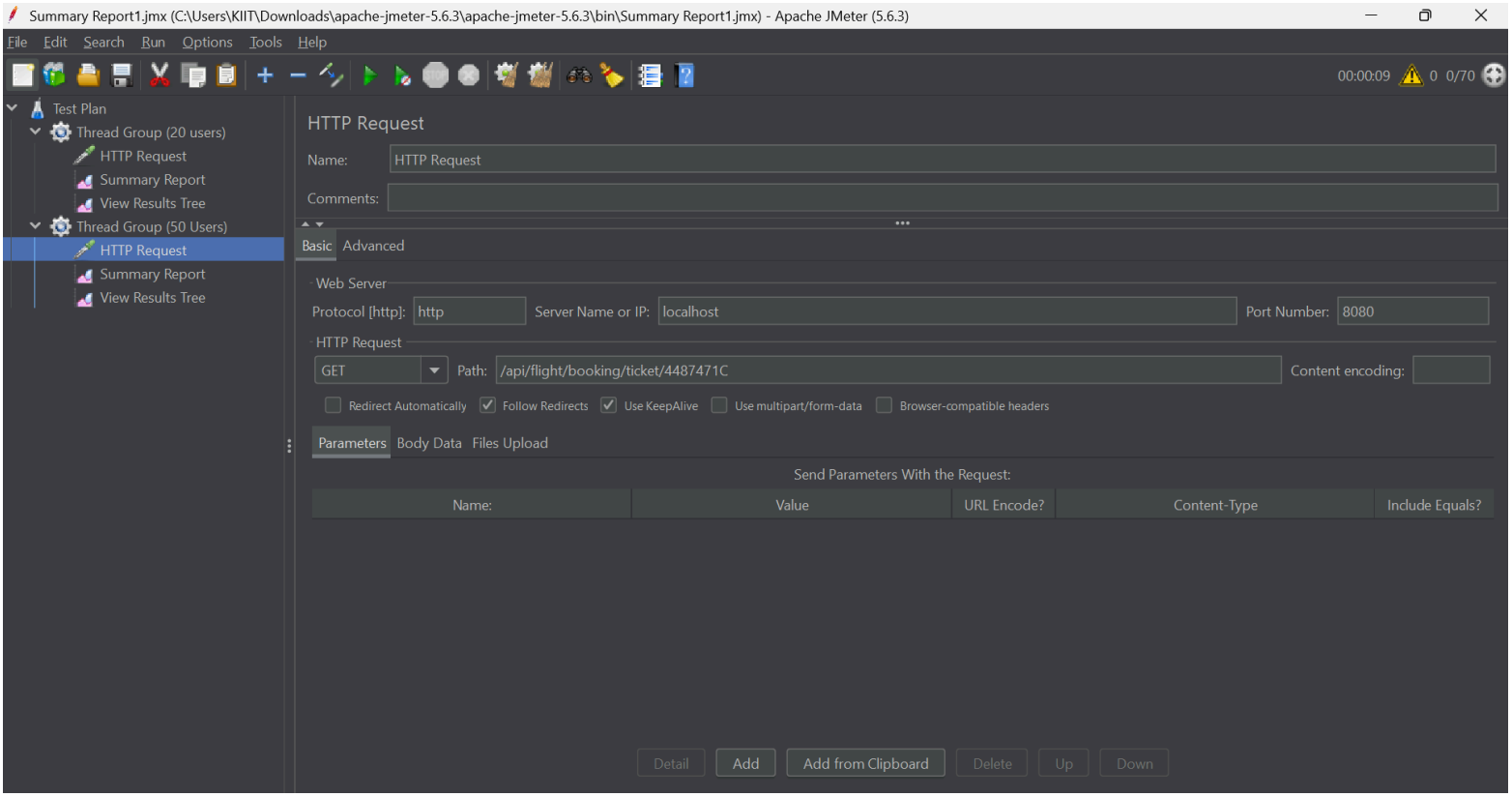
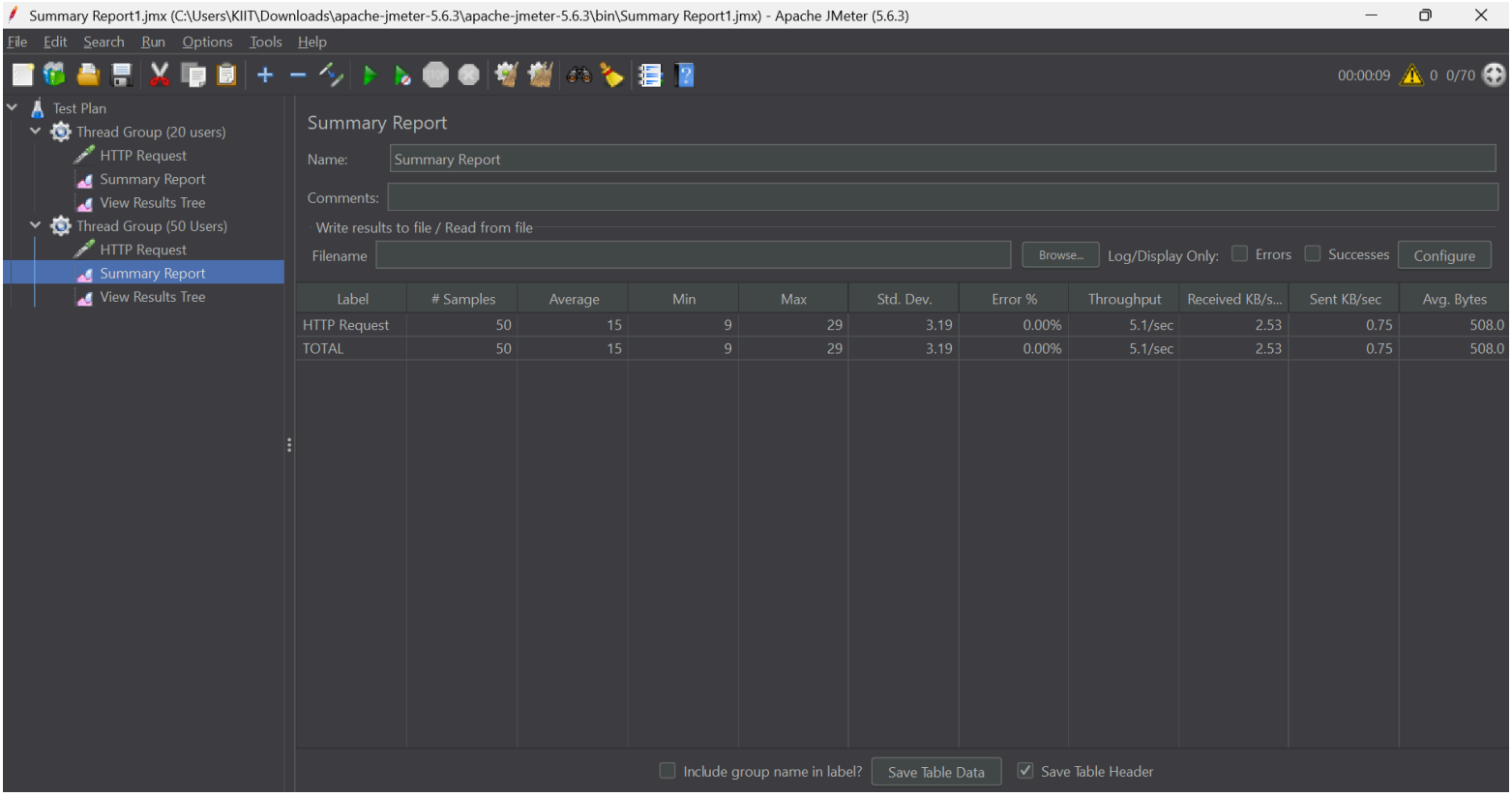
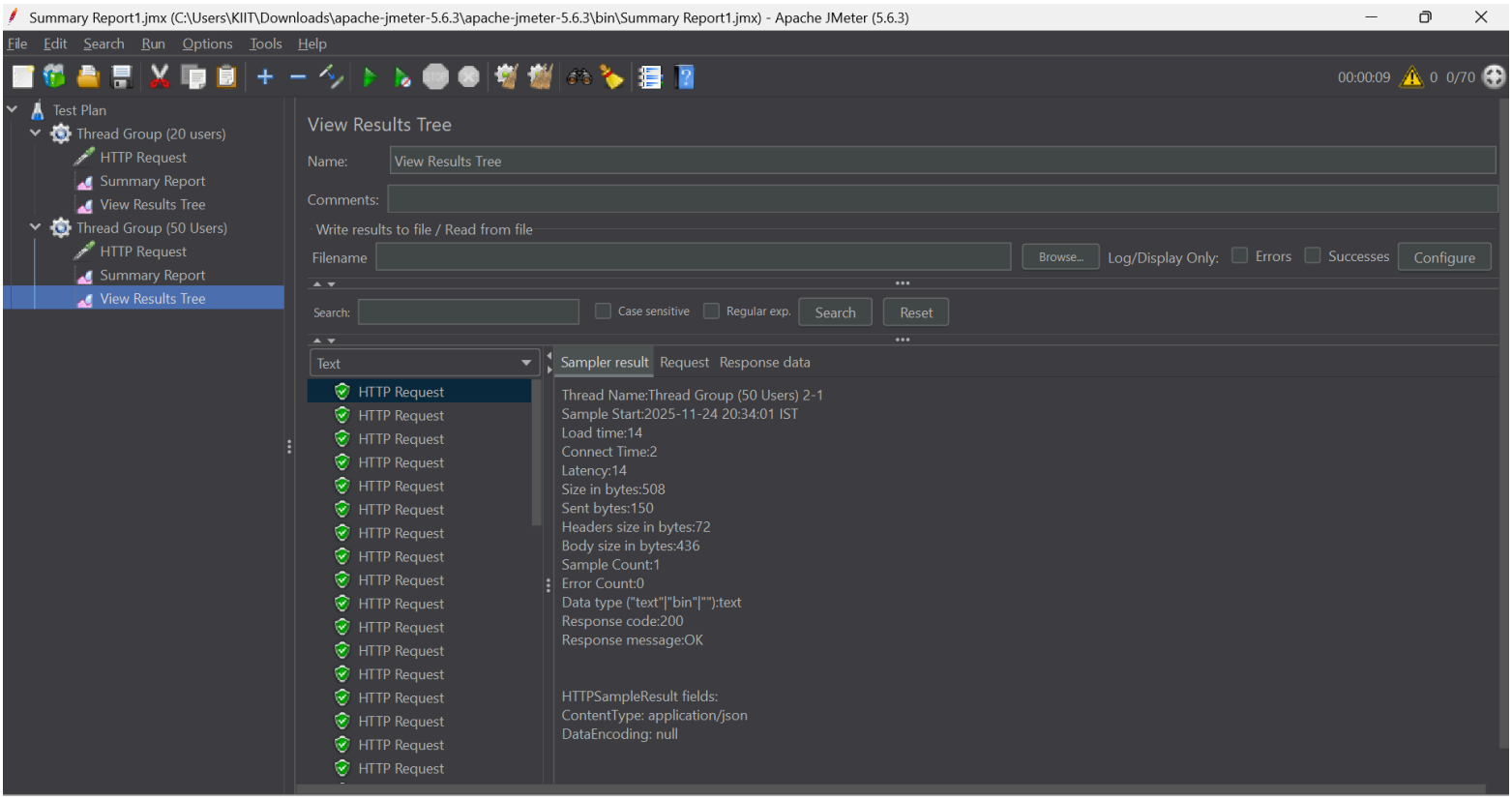
File Edit Search Run Options Tools Help
00:00:04 0 0/20
Test Plan
Thread Group (20 users)
HTTP Request
Summary Report
View Results Tree
View Results Tree
Name: View Results Tree
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display Only: Errors Successes
Configure
Search:
Case sensitive
Regular exp.
Search
Reset
Text
Sampler result
Request
Response data
HTTP Request
Thread Name:Thread Group (20 users) 1-1
Sample Start:2025-11-24 20:27:46 IST
Load time:55
Connect Time:29
Latency:51
Size in bytes:508
Sent bytes:150
Headers size in bytes:72
Body size in bytes:436
Sample Count:1
Error Count:0
Data type ("text"|"bin"|""):text
Response code:200
Response message:OK
HTTPSampleResult fields:
ContentType: application/json
DataEncoding: null

CASE 2: 50 Users

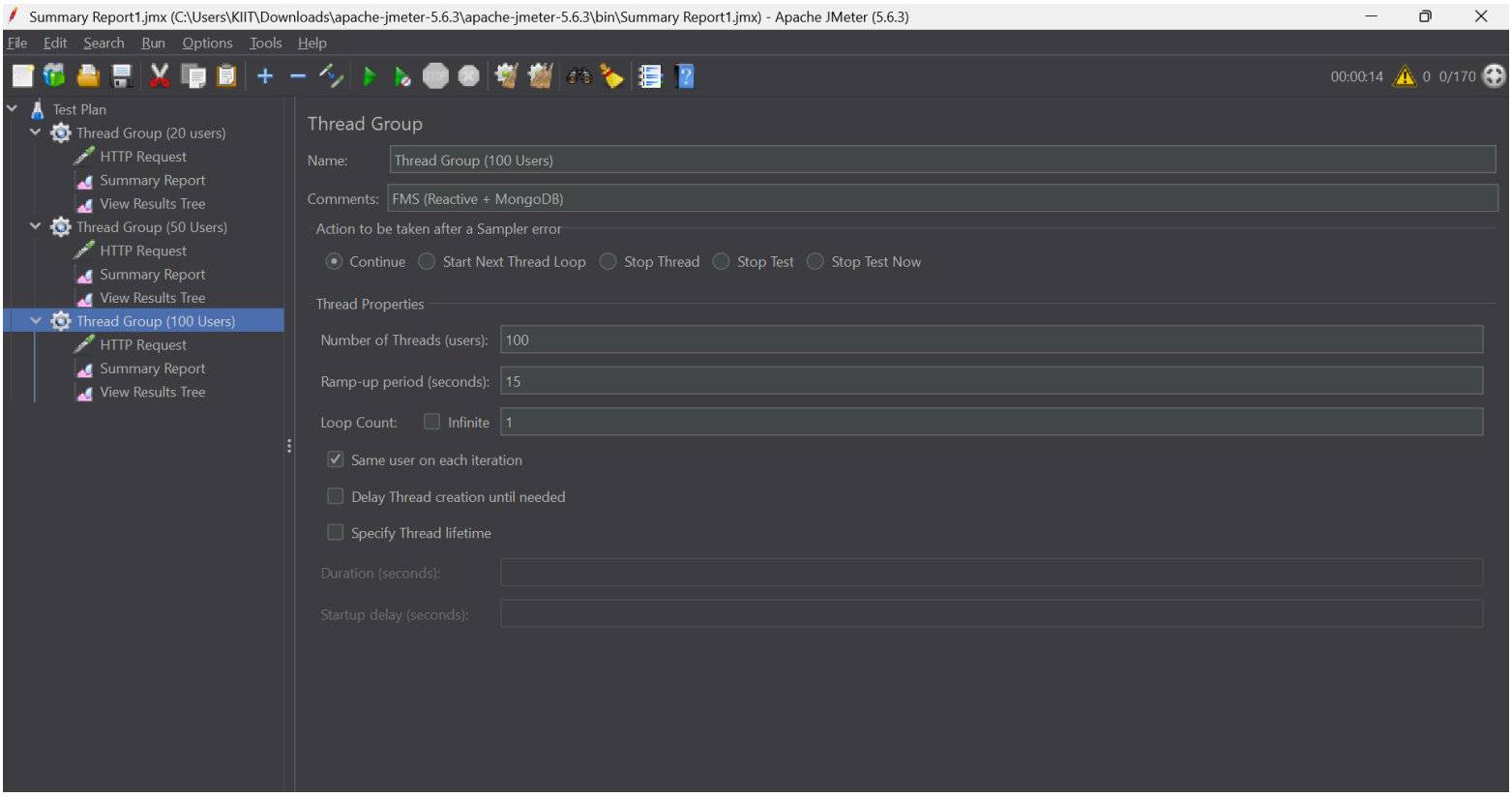


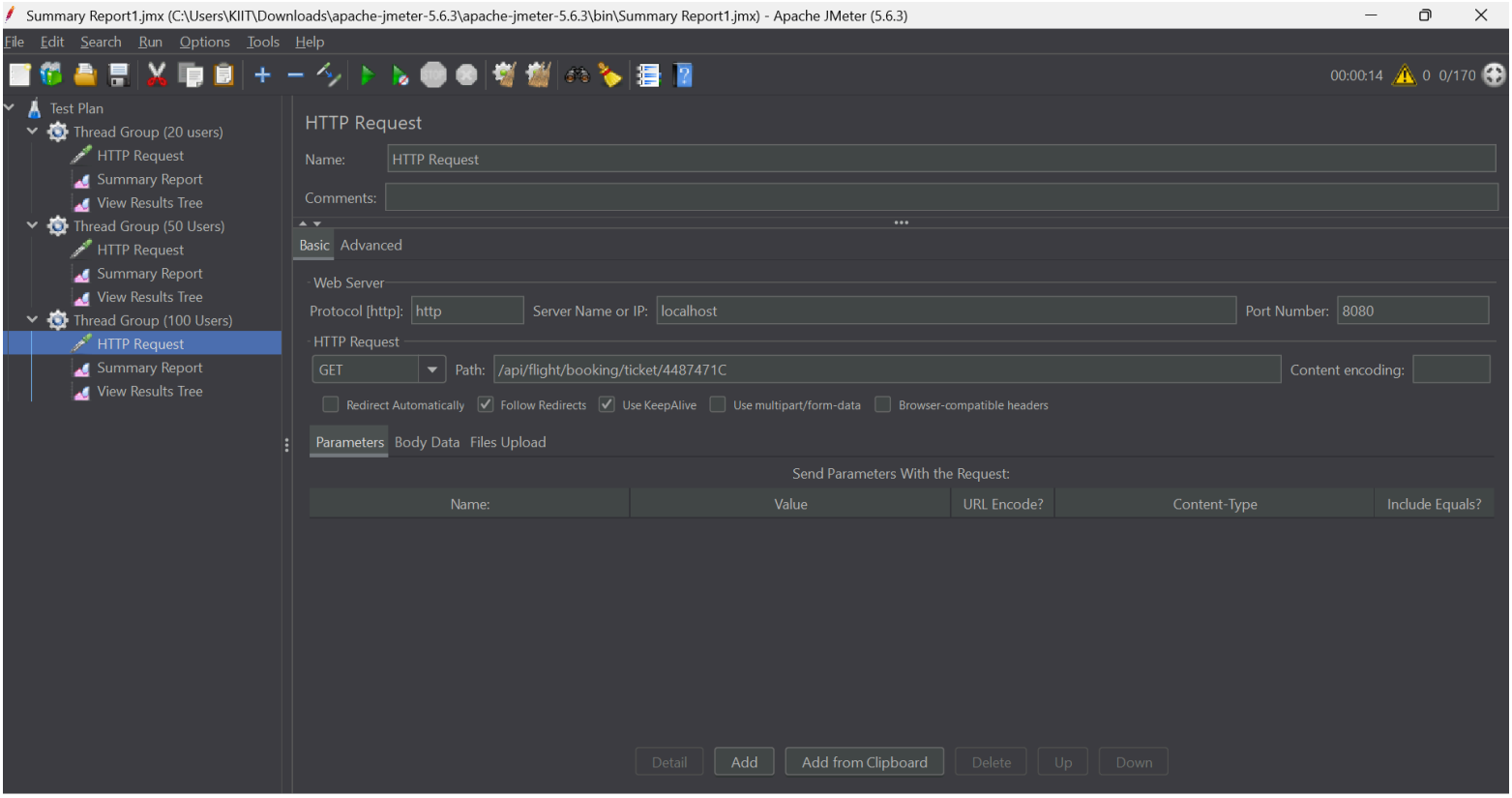


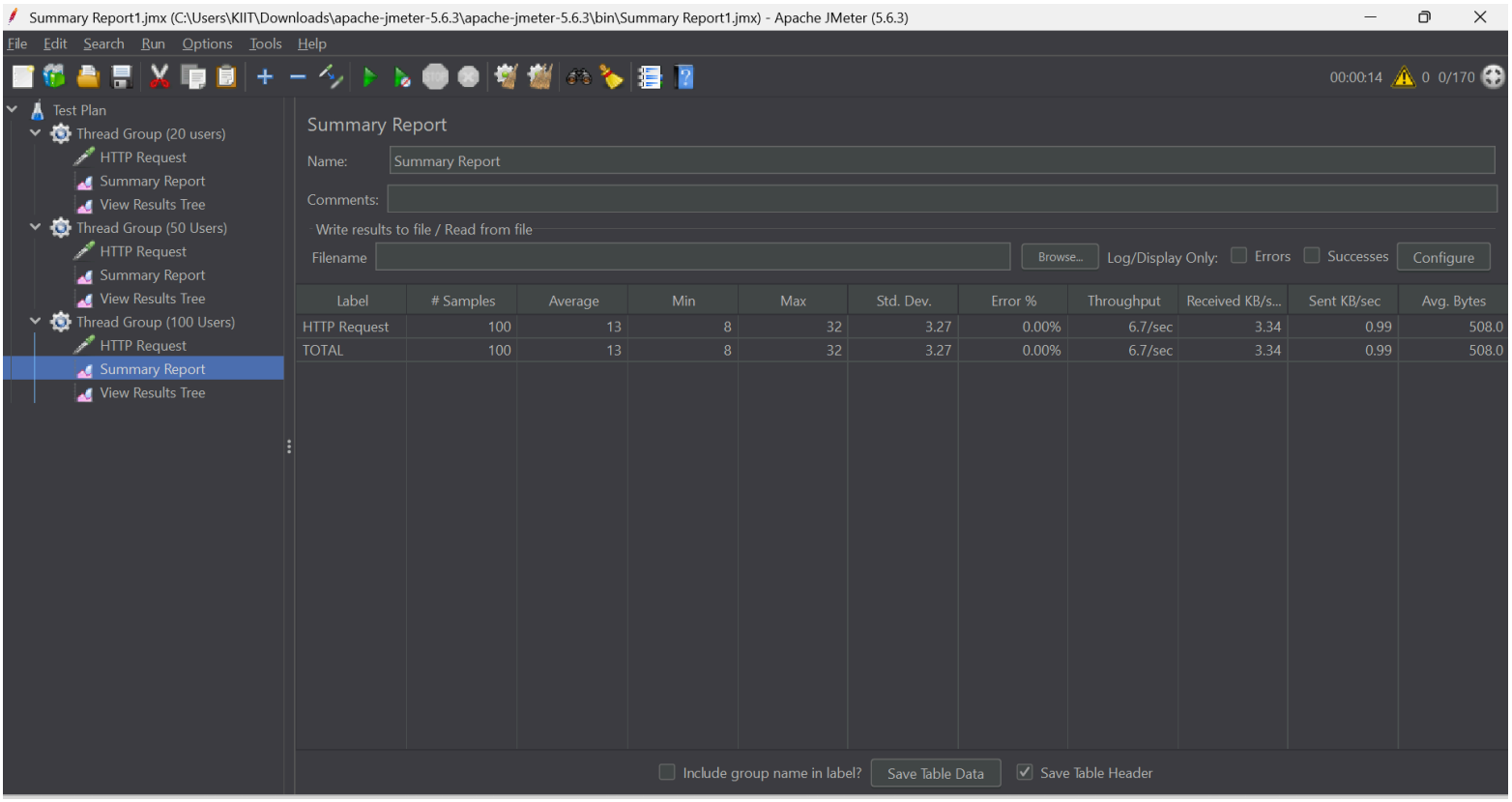

Summary Report1.jmx (C:\Users\KIIT\Downloads\apache-jmeter-5.6.3\apache-jmeter-5.6.3\bin\Summary Report1.jmx) - Apache JMeter (5.6.3)
File Edit Search Run Options Tools Help
00:00:09 0 0/70
Test Plan
Thread Group (20 users)
HTTP Request
Summary Report
View Results Tree
Thread Group (50 Users)
HTTP Request
Summary Report
View Results Tree
Summary Report
Name: Summary Report
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display Only: Errors Successes
Configure
Label # Samples Average Min Max Std. Dev. Error % Throughput Received KB/s... Sent KB/sec Avg. Bytes
HTTP Request 50 15 9 29 3.19 0.00% 5.1/sec 2.53 0.75 508.0
TOTAL 50 15 9 29 3.19 0.00% 5.1/sec 2.53 0.75 508.0
Include group name in label?
Save Table Data
Save Table Header

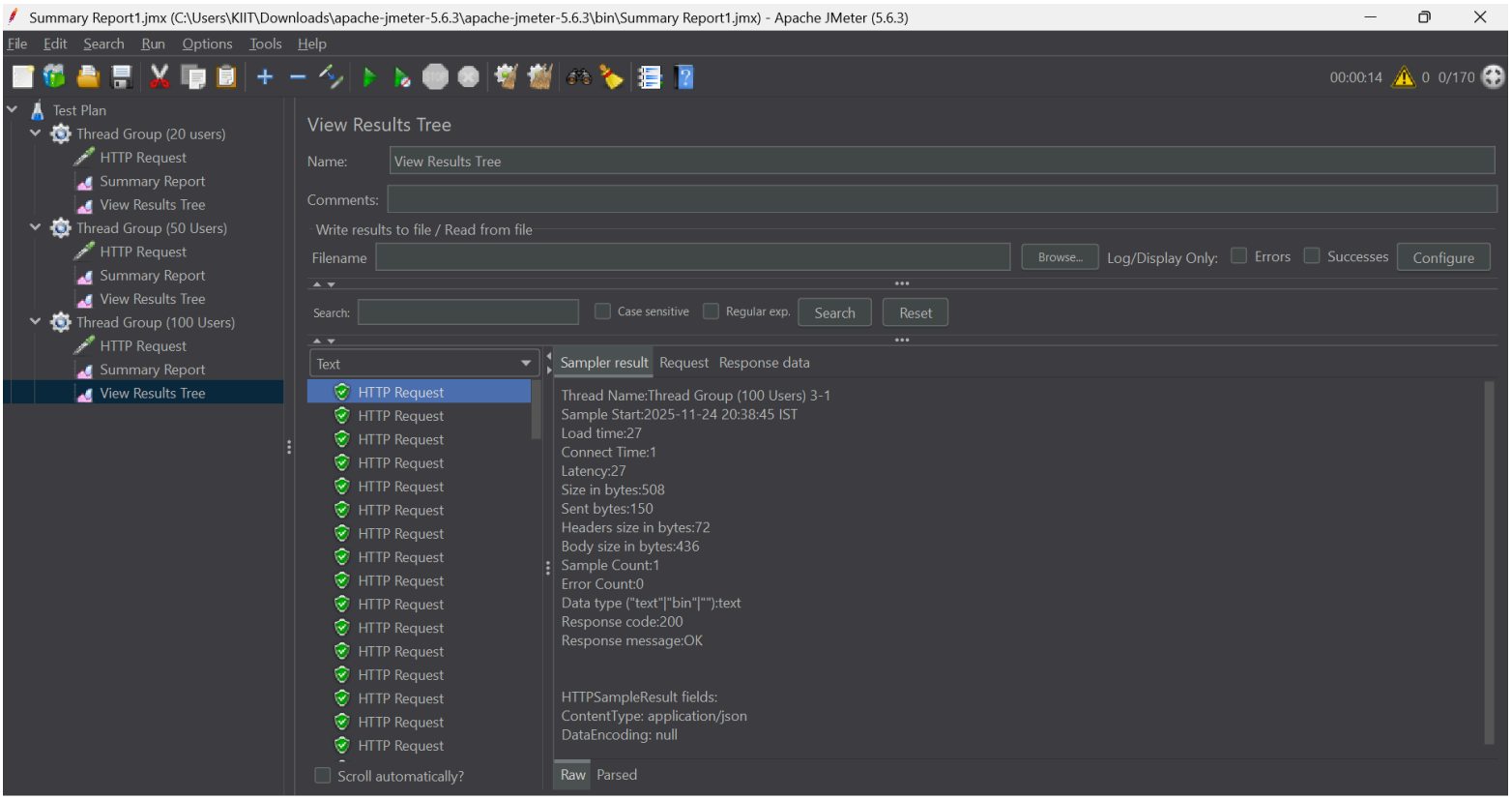

Summary Report1.jmx (C:\Users\KIIT\Downloads\apache-jmeter-5.6.3\apache-jmeter-5.6.3\bin\Summary Report1.jmx) - Apache JMeter (5.6.3)
File Edit Search Run Options Tools Help
00:00:09 0 0/70
Test Plan
Thread Group (20 users)
HTTP Request
Summary Report
View Results Tree
Thread Group (50 Users)
HTTP Request
Summary Report
View Results Tree
View Results Tree
Name: View Results Tree
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display Only: Errors Successes
Configure
Search:
Case sensitive
Regular exp.
Search
Reset
Text
HTTP Request
Sampler result
Request
Response data
Thread Name:Thread Group (50 Users) 2-1
Sample Start:2025-11-24 20:34:01 IST
Load time:14
Connect Time:2
Latency:14
Size in bytes:508
Sent bytes:150
Headers size in bytes:72
Body size in bytes:436
Sample Count:1
Error Count:0
Data type ("text"|"bin"|""):text
Response code:200
Response message:OK
HTTPSampleResult fields:
ContentType: application/json
DataEncoding: null

CASE 3: 100 Users



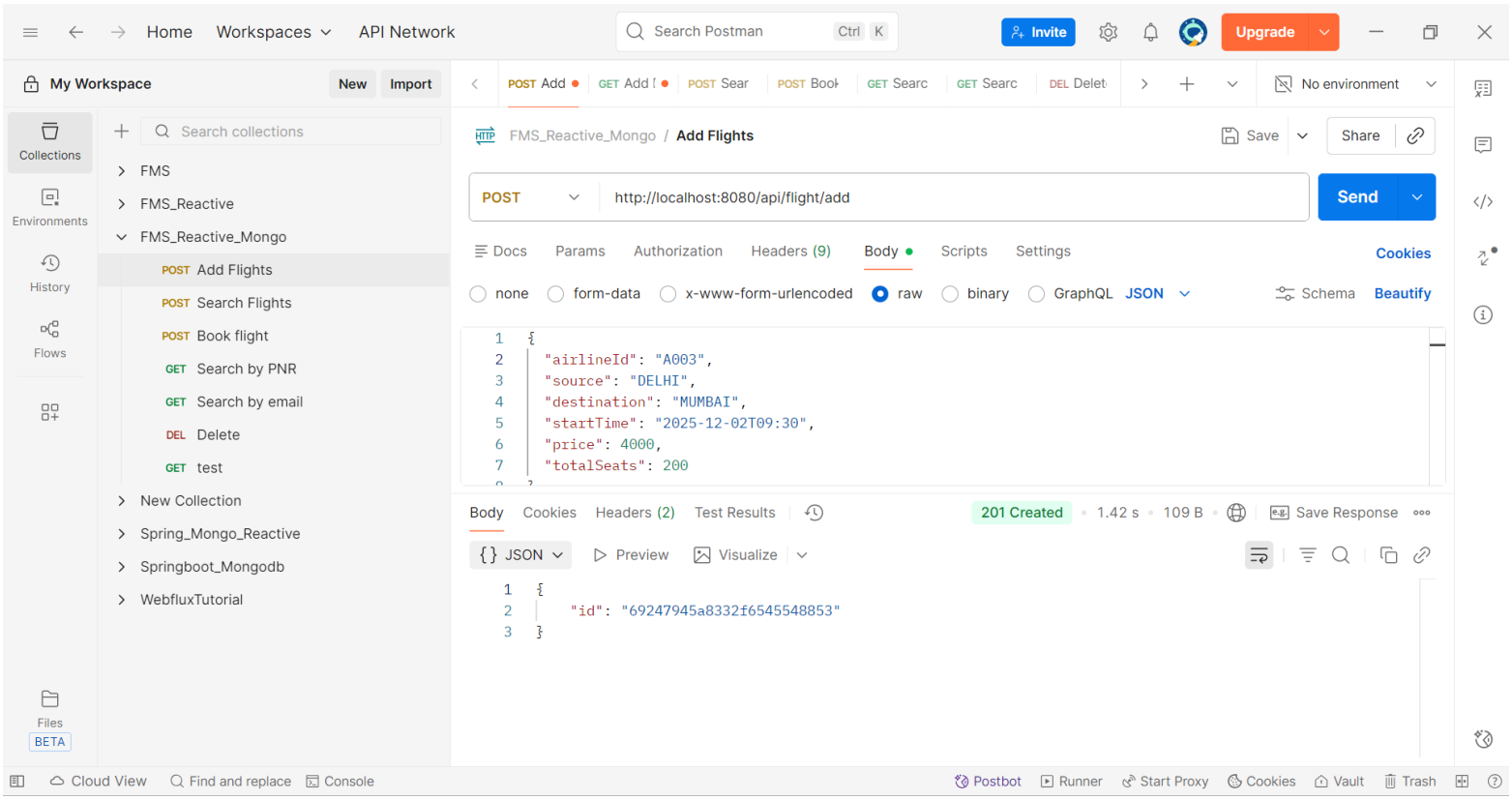



Summary Report1.jmx (C:\Users\KIIT\Downloads\apache-jmeter-5.6.3\apache-jmeter-5.6.3\bin\Summary Report1.jmx) - Apache JMeter (5.6.3)
File Edit Search Run Options Tools Help
00:00:14 0 0/170
Test Plan
Thread Group (20 users)
HTTP Request
Summary Report
View Results Tree
Thread Group (50 Users)
HTTP Request
Summary Report
View Results Tree
Thread Group (100 Users)
HTTP Request
Summary Report
View Results Tree
Summary Report
Name: Summary Report
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display Only: Errors Successes
Configure
Label # Samples Average Min Max Std. Dev. Error % Throughput Received KB/s... Sent KB/sec Avg. Bytes
HTTP Request 100 13 8 32 3.27 0.00% 6.7/sec 3.34 0.99 508.0
TOTAL 100 13 8 32 3.27 0.00% 6.7/sec 3.34 0.99 508.0
Include group name in label?
Save Table Data
Save Table Header

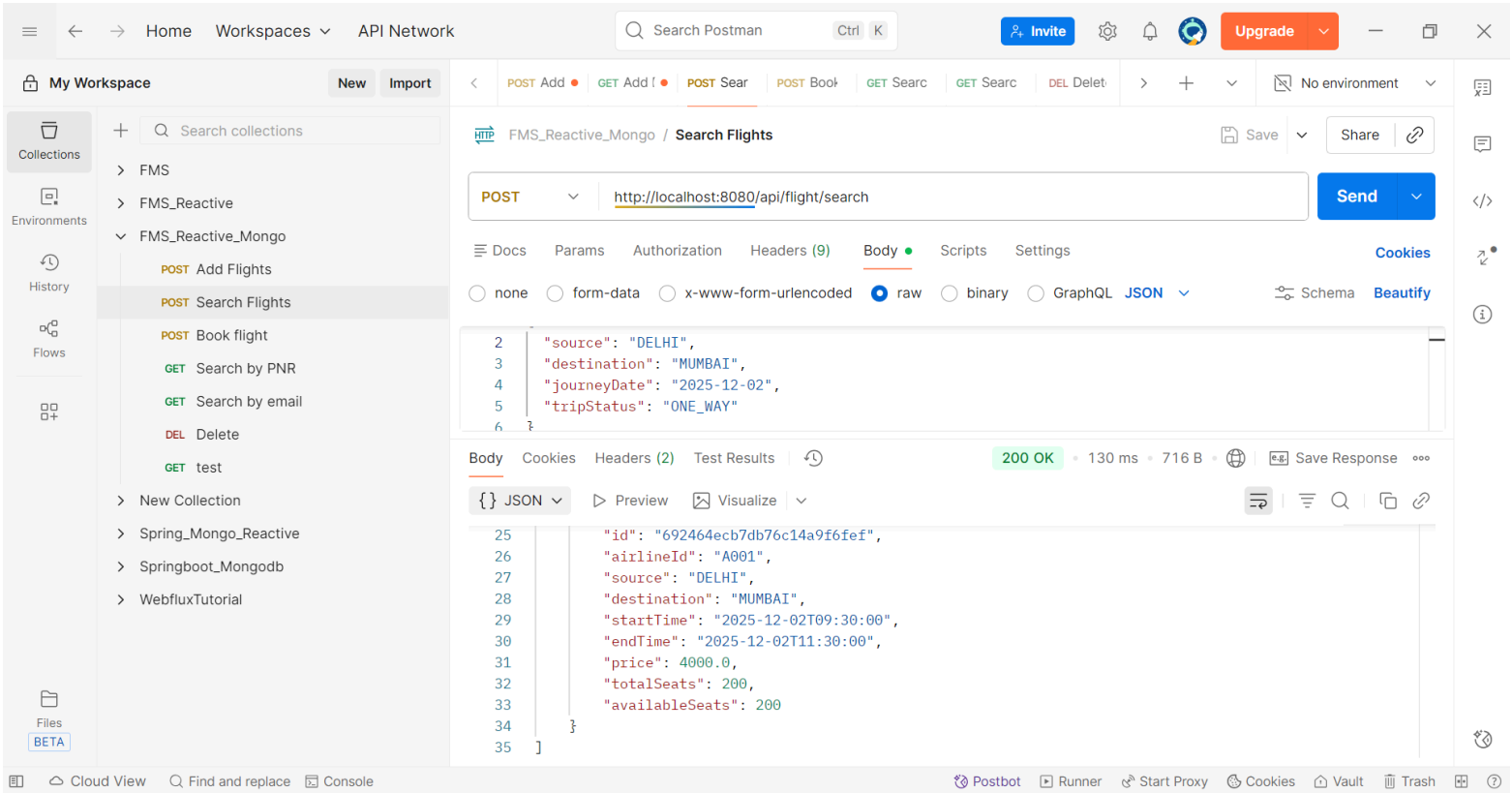

Summary Report1.jmx (C:\Users\KIIT\Downloads\apache-jmeter-5.6.3\apache-jmeter-5.6.3\bin\Summary Report1.jmx) - Apache JMeter (5.6.3)
File Edit Search Run Options Tools Help
00:00:14 0 0/170
Test Plan
Thread Group (20 users)
HTTP Request
Summary Report
View Results Tree
Thread Group (50 Users)
HTTP Request
Summary Report
View Results Tree
Thread Group (100 Users)
HTTP Request
Summary Report
View Results Tree
View Results Tree
Name: View Results Tree
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display Only: Errors Successes
Configure
Search:
Case sensitive
Regular exp.
Search
Reset
Text
HTTP Request
Sampler result
Request
Response data
Thread Name:Thread Group (100 Users) 3-1
Sample Start:2025-11-24 20:38:45 IST
Load time:27
Connect Time:1
Latency:27
Size in bytes:508
Sent bytes:150
Headers size in bytes:72
Body size in bytes:436
Sample Count:1
Error Count:0
Data type ("text"|"bin"|""):text
Response code:200
Response message:OK
HTTPSampleResult fields:
ContentType: application/json
DataEncoding: null
Scroll automatically?
Raw
Parsed

POSTMAN API ENDPOINT TESTING

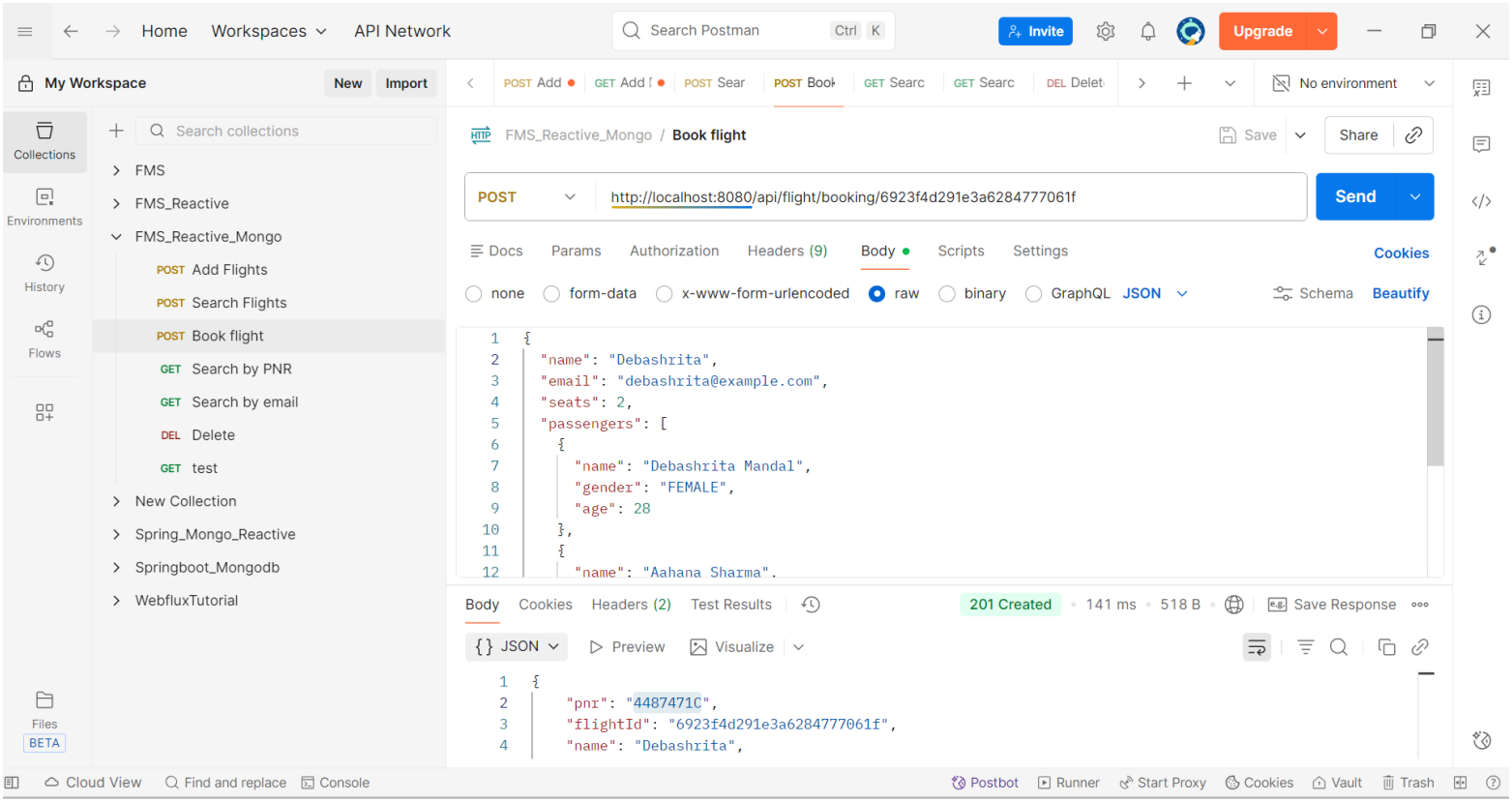
1. POST: http://localhost:8080/api/flight/add



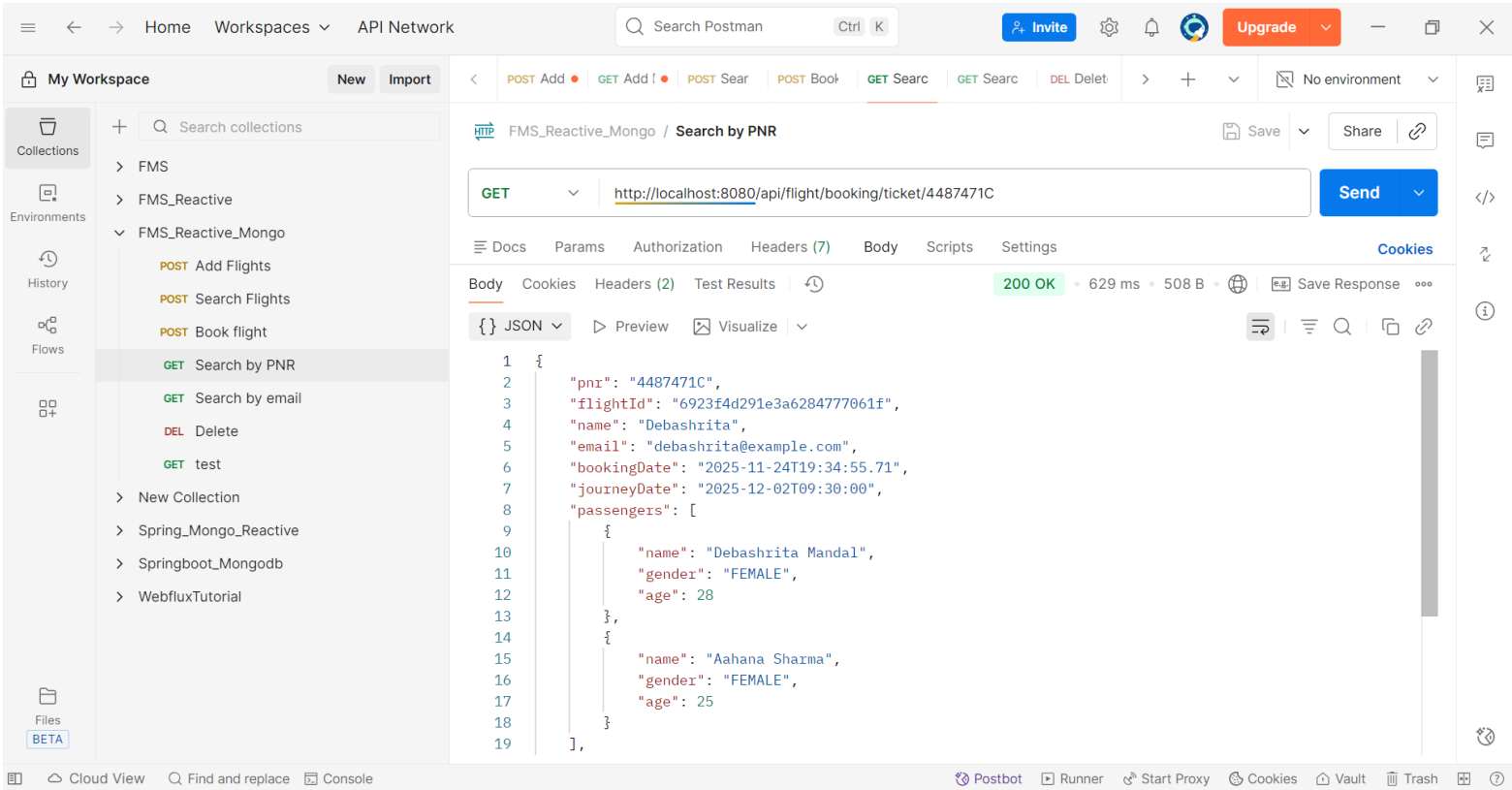
2. POST: http://localhost:8080/api/flight/search



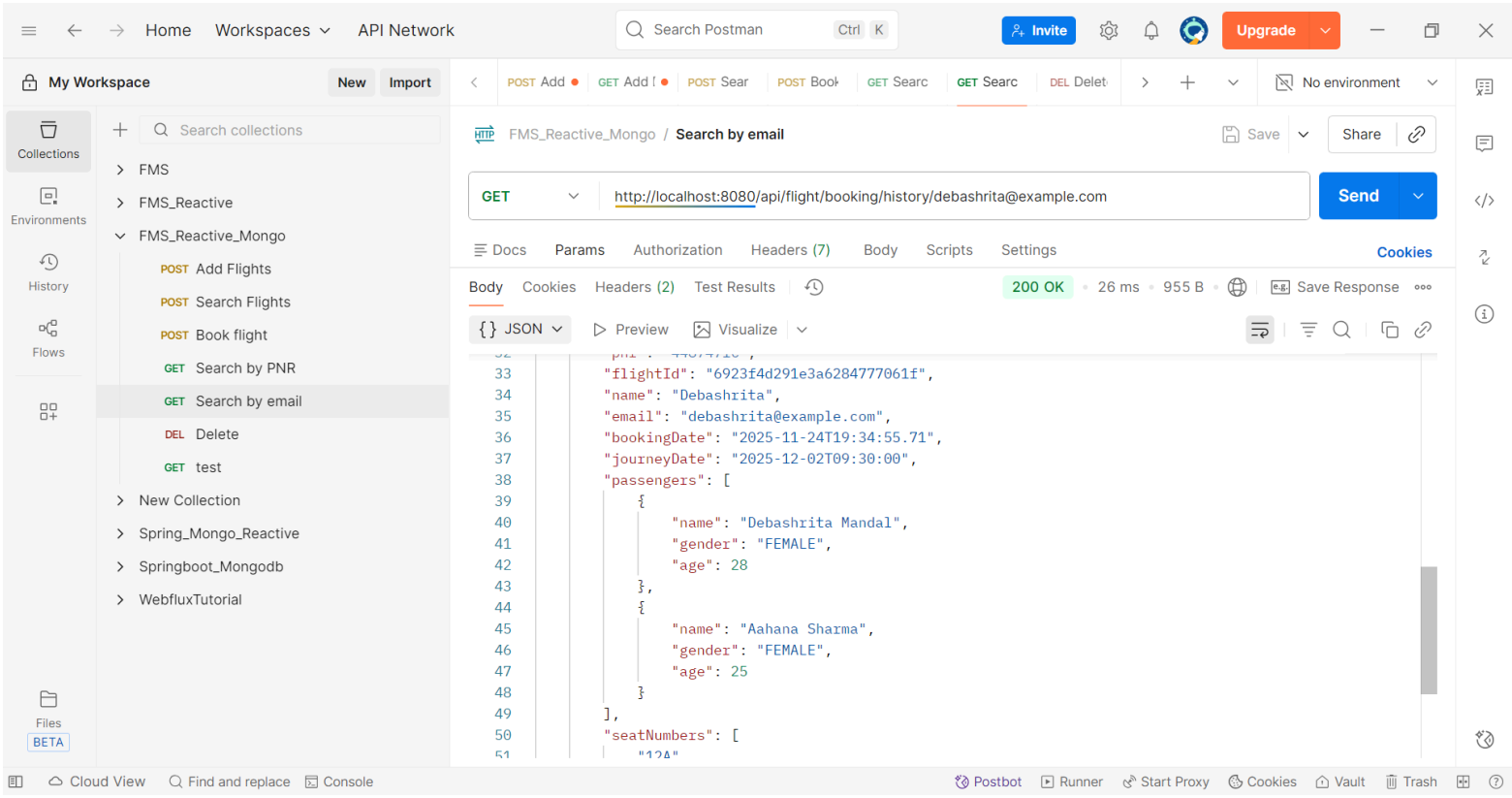
3. POST: http://localhost:8080/api/flight/booking/6923f4d291e3a6284777061f



4. GET: http://localhost:8080/api/flight/booking/ticket/4487471C



5. GET: http://localhost:8080/api/flight/booking/history/debashrita@example.com



6. DELETE: http://localhost:8080/api/flight/booking/cancel/4487471C