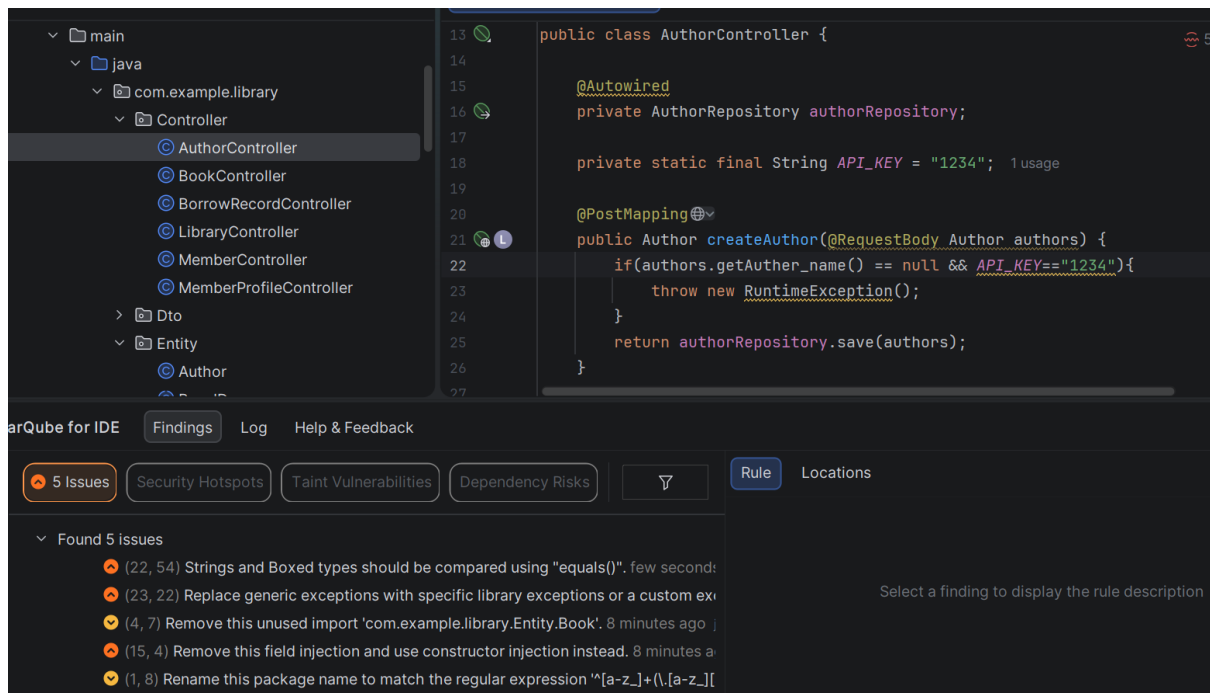
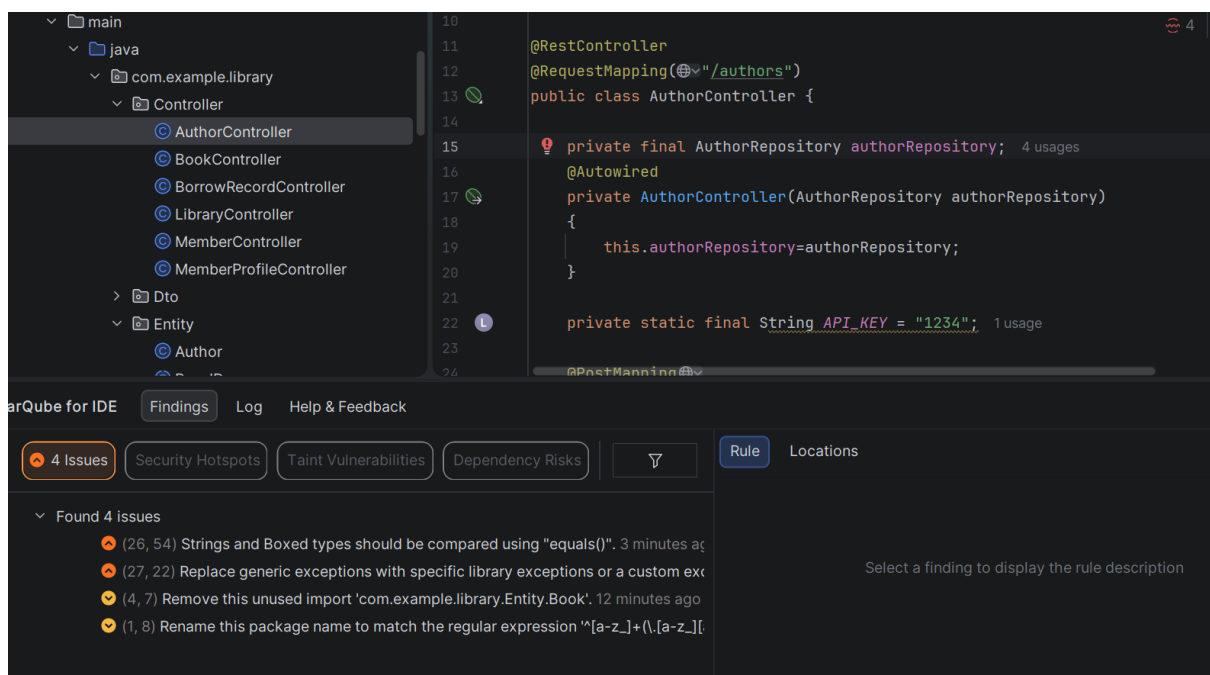


**SonarQube :** It is automatically analyse code quality and security by detecting bugs and security issue.

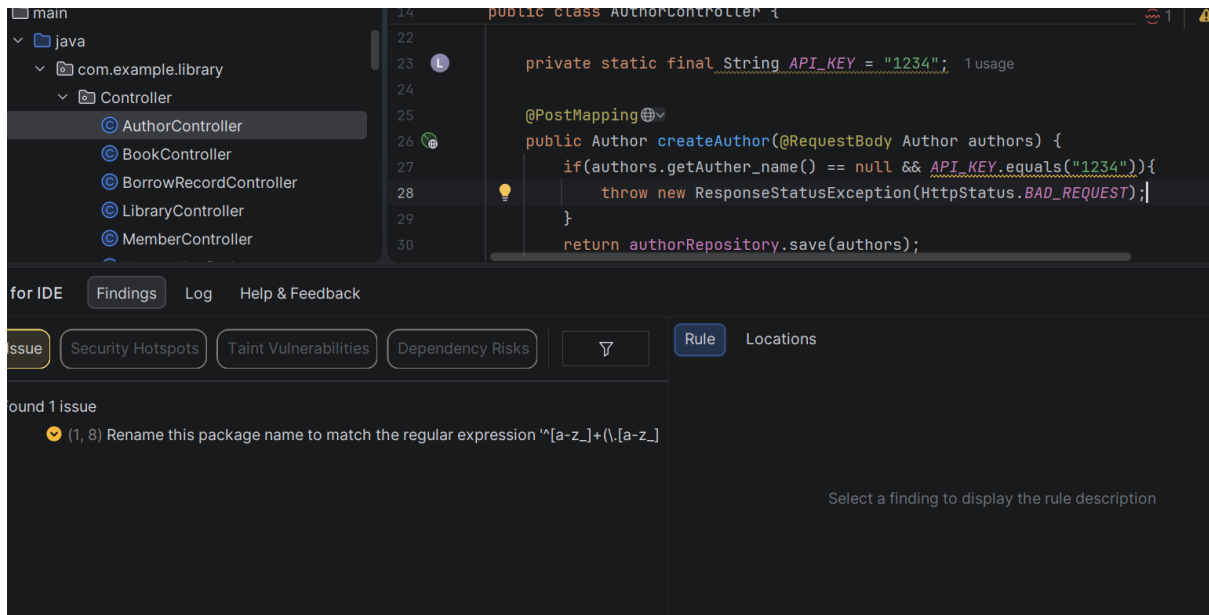


⇒ In this image you can see 5 issues are there so for solve them all first I solve Dependency injection issues so I remove field injection because it break immutability and make code harder to test so I use constructor injection to solve this issue.

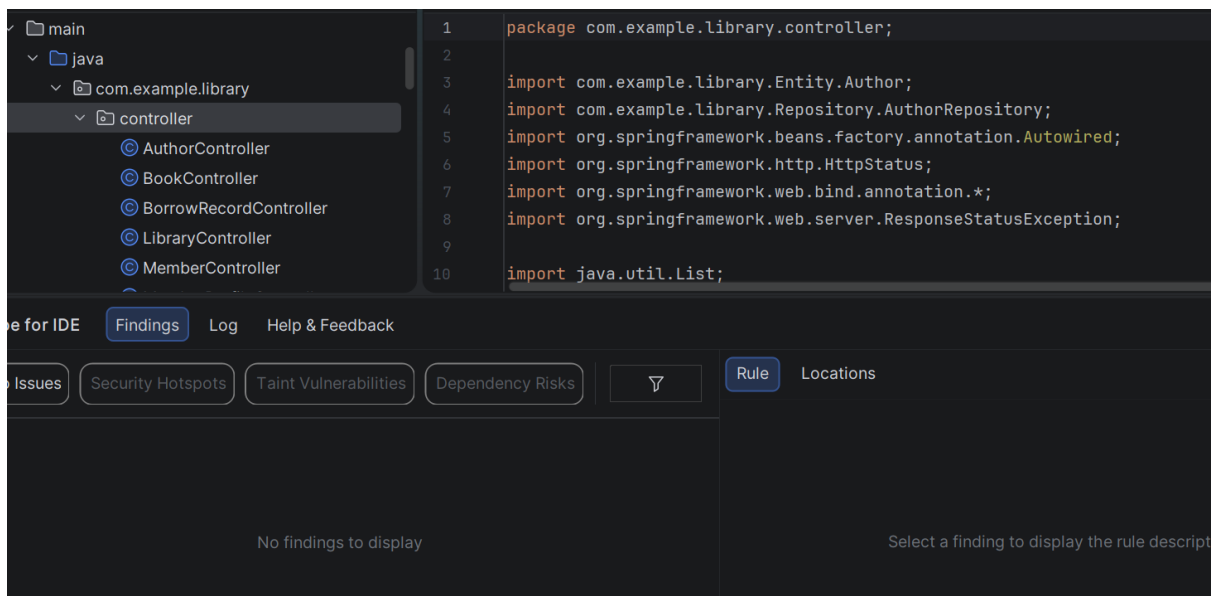


⇒ Then I solve string and box type comparison issue so using equals() I solve that and then I remove unused import and then replace generic exception run time

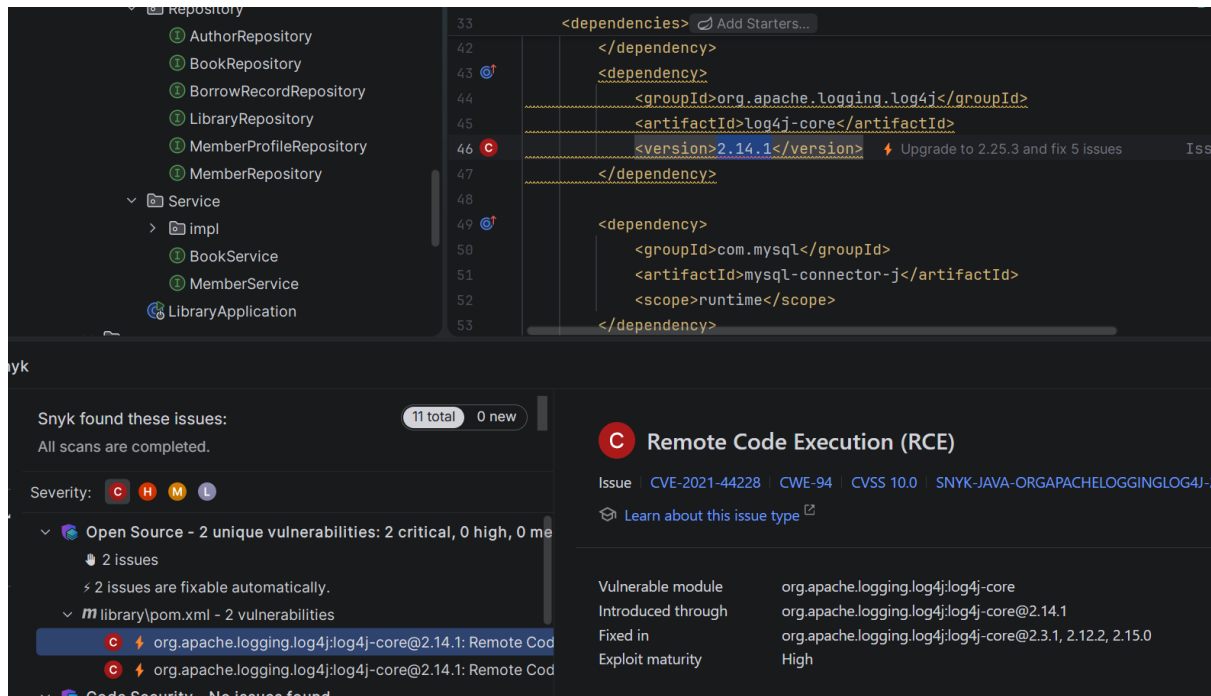
exception to response status exception to make meaningful and improve API quality and solve issue.



⇒ Then at last I rename package to controller to solve last regular expression issue.



## Snyk : To find and solve vulnerable issues.



The screenshot shows the Snyk IDE interface. On the left, a project tree lists various repositories and services. The main editor displays a code snippet with XML dependencies. A red circle highlights a vulnerability in the `log4j-core` dependency, version `2.14.1`. A tooltip indicates that upgrading to `2.25.3` will fix 5 issues.

**Snyk found these issues:** 11 total, 0 new. All scans are completed.

Severity: C H M L

Open Source - 2 unique vulnerabilities: 2 critical, 0 high, 0 medium

- 2 issues
- 2 issues are fixable automatically.
- library/pom.xml - 2 vulnerabilities
- org.apache.logging.log4j:log4j-core@2.14.1: Remote Code Execution (RCE)
- org.apache.logging.log4j:log4j-core@2.14.1: Remote Code Execution (RCE)

Code Security - No issues found

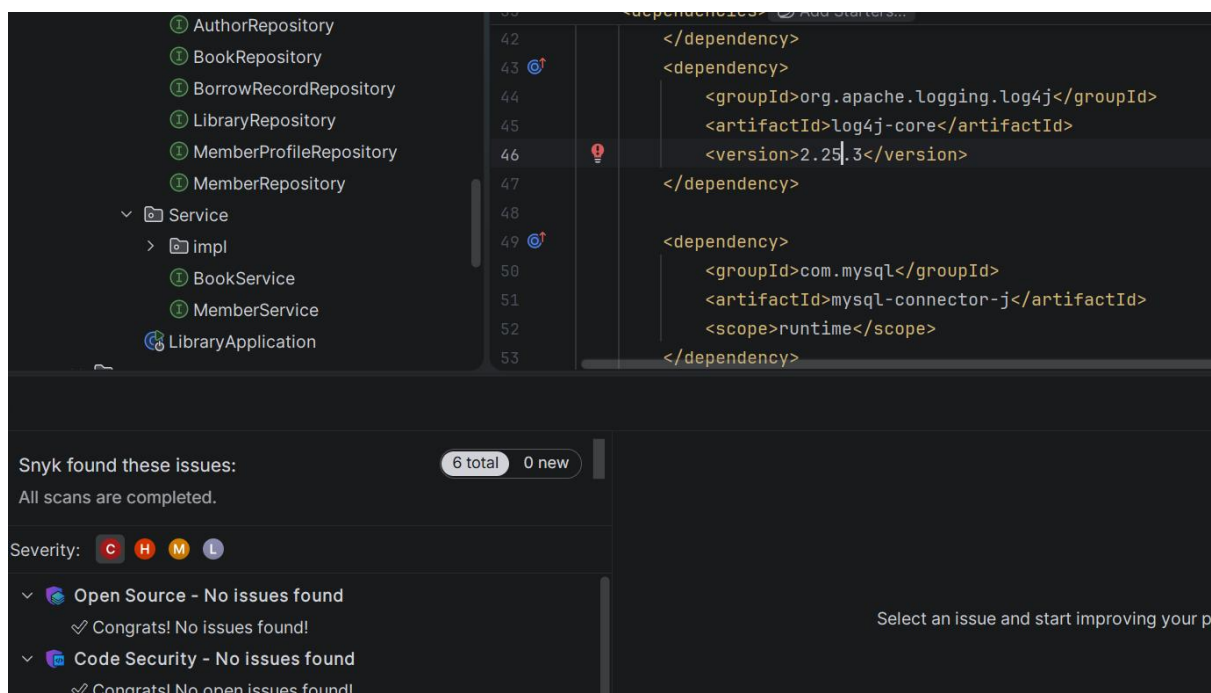
**Remote Code Execution (RCE)**

Issue: CVE-2021-44228, CWE-94, CVSS 10.0, SNYK-JAVA-ORGAPACHELOGGINGLOG4J-...

Learn about this issue type

Vulnerable module	org.apache.logging.log4j:log4j-core
Introduced through	org.apache.logging.log4j:log4j-core@2.14.1
Fixed in	org.apache.logging.log4j:log4j-core@2.3.1, 2.12.2, 2.15.0
Exploit maturity	High

⇒ In this image you can see like one vulnerable issue is come because I use very older versions so it not safe because from this dependency any other outsider hacker hack our project so I update that version to solve this problem.



The screenshot shows the Snyk IDE interface after updating the `log4j-core` dependency to version `2.25.3`. The main editor displays the updated XML dependencies. The Snyk scan results show that all vulnerabilities have been resolved.

**Snyk found these issues:** 6 total, 0 new. All scans are completed.

Severity: C H M L

Open Source - No issues found

- ✔ Congrats! No issues found!

Code Security - No issues found

- ✔ Congrats! No open issues found!

Select an issue and start improving your project

exception

- GlobalExceptionHandler

repository

- api-docs.json
- EmployeeRepository
- REST\_Api\_Demo\_Copy.postman\_collectio

security

- AuthFilter

service

- EmployeeService
- EmpDemoApplication

resources

```
2 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://
31 </properties>
32 <dependencies> Add Starters...
33
34 <dependency>
35 <groupId>org.springframework.boot</groupId>
36 <artifactId>spring-boot-starter-web</artifactId>Issues: 30 | Critical:
37 </dependency>
38
39 <dependency>
40 <groupId>org.springframework.boot</groupId>
41 <artifactId>spring-boot-starter-data-jpa</artifactId>
42 </dependency>
```

Snyk

Snyk found these issues: 40 total 0 new

All scans are completed.

Severity: C H M L

emp-demo\pom.xml - 3 vulnerabilities

- C org.apache.tomcat.embed:tomcat-embed-core@10.1.26:
- C org.apache.tomcat.embed:tomcat-embed-core@10.1.26:
- C org.apache.tomcat.embed:tomcat-embed-core@10.1.26:

Code Security - No issues found

Configuration - No issues found

Time-of-check Time-of-use (TOCTOU) Race Condition

Issue | CVE-2024-50379 | CWE-367 | CVSS 9.2 | SNYK-JAVA-ORGAPACHETOMCATEMBED-8523186

Learn about this issue type

Vulnerable module	org.apache.tomcat.embed:tomcat-embed-core
Introduced through	org.springframework.boot:spring-boot-starter-web@3.3.2
Fixed in	org.apache.tomcat.embed:tomcat-embed-core@9.0.98, 10.1.34, 11.0.2
Exploit maturity	Proof of Concept

⇒ In this the version issue I solve by giving proper version to dependency.

EmployeeRepository

- REST\_Api\_Demo\_Copy.postman\_collectio

security

- AuthFilter

service

- EmployeeService
- EmpDemoApplication

resources

```
32 <dependencies> Add Starters...
33
34 <dependency>
35 <groupId>org.springframework.boot</groupId>
36 <artifactId>spring-boot-starter-web</artifactId>
37 <version>3.3.2</version>
38 </dependency>
39
```

Snyk

Snyk found these issues: 40 total 0 new

All scans are completed.

Severity: C H M L

Open Source - No issues found

Code Security - No issues found

Configuration - No issues found

Select an issue and start improving your project.