# CS 305 Module Two Static Testing Summary Template

### Graphical user interface, text, application Description automatically generatedRun Dependency Check

### Document Results

* Hibernate-validator-6.0.18.Final.jar
  + Hibernate’s Bean Validation reference implementation
  + A flaw was found in Hibernate Validator version 6.1.2.Final. A bug in the message interpolation processor enables invalid EL expressions to be evaluated as if they were valid. This flaw allows attackers to bypass input sanitation (escaping, stripping) controls that developers may have put in place when handling user-controlled data in error messages.
* Jackson-databind-2.10.2.jar
  + General data-binding functionality for Jackson: works on core streaming API
  + A flaw was found in FasterXML Jackson Databind, where it did not have entity expansion secured properly. This flaw allows vulnerability to XML external entity (XXE) attacks. The highest threat from this vulnerability is data integrity.
* log4j-api-2.12.1.jar
  + The Apache Log4j API
  + Improper validation of certificate with host mismatch in Apache Log4j SMTP appender. This could allow an SMTPS connection to be intercepted by a man-in-the-middle attack which could leak any log messages sent through that appender.
* Logback-core-1.2.3.jar
  + Logback-core module
  + In logback version 1.2.7 and prior versions, an attacker with the required privileges to edit configurations files could craft a malicious configuration allowing to execute arbitrary code loaded from LDAP servers.
* Snakeyaml-1.25.jar
  + YAML 1.1 parser and emitter for Java
  + The Alias feature in SnakeYAML 1.18 allows entity expansion during a load operation, a related issue to CVE-2003-1564.
* spring-aop-5.2.3.RELEASE.jar
  + Spring AOP
  + In Spring Framework versions 5.2.0 - 5.2.8, 5.1.0 - 5.1.17, 5.0.0 - 5.0.18, 4.3.0 - 4.3.28, and older unsupported versions, the protections against RFD attacks from CVE-2015-5211 may be bypassed depending on the browser used through the use of a jsessionid path parameter.
  + In Spring Framework versions 5.3.0 - 5.3.10, 5.2.0 - 5.2.17, and older unsupported versions, it is possible for a user to provide malicious input to cause the insertion of additional log entries.
  + In Spring Framework, versions 5.2.x prior to 5.2.15 and versions 5.3.x prior to 5.3.7, a WebFlux application is vulnerable to a privilege escalation: by (re)creating the temporary storage directory, a locally authenticated malicious user can read or modify files that have been uploaded to the WebFlux application, or overwrite arbitrary files with multipart request data.
* Spring-core-5.2.3.RELEASE.jar
  + Spring Core
  + In Spring Framework versions 5.2.0 - 5.2.8, 5.1.0 - 5.1.17, 5.0.0 - 5.0.18, 4.3.0 - 4.3.28, and older unsupported versions, the protections against RFD attacks from CVE-2015-5211 may be bypassed depending on the browser used through the use of a jsessionid path parameter.
  + In Spring Framework versions 5.3.0 - 5.3.10, 5.2.0 - 5.2.17, and older unsupported versions, it is possible for a user to provide malicious input to cause the insertion of additional log entries.
  + In Spring Framework, versions 5.2.x prior to 5.2.15 and versions 5.3.x prior to 5.3.7, a WebFlux application is vulnerable to a privilege escalation: by (re)creating the temporary storage directory, a locally authenticated malicious user can read or modify files that have been uploaded to the WebFlux application, or overwrite arbitrary files with multipart request data.
* Tomcat-embed-core-9.0.30jar – one of the most extensive lists
  + Core Tomcat implementation
  + The refactoring present in Apache Tomcat 9.0.28 to 9.0.30, 8.5.48 to 8.5.50 and 7.0.98 to 7.0.99 introduced a regression. The result of the regression was that invalid Transfer-Encoding headers were incorrectly processed leading to a possibility of HTTP Request Smuggling if Tomcat was located behind a reverse proxy that incorrectly handled the invalid Transfer-Encoding header in a particular manner. Such a reverse proxy is considered unlikely.
  + A specially crafted sequence of HTTP/2 requests sent to Apache Tomcat 10.0.0-M1 to 10.0.0-M5, 9.0.0.M1 to 9.0.35 and 8.5.0 to 8.5.55 could trigger high CPU usage for several seconds. If a sufficient number of such requests were made on concurrent HTTP/2 connections, the server could become unresponsive.
  + An h2c direct connection to Apache Tomcat 10.0.0-M1 to 10.0.0-M6, 9.0.0.M5 to 9.0.36 and 8.5.1 to 8.5.56 did not release the HTTP/1.1 processor after the upgrade to HTTP/2. If a sufficient number of such requests were made, an OutOfMemoryException could occur leading to a denial of service.
  + The payload length in a WebSocket frame was not correctly validated in Apache Tomcat 10.0.0-M1 to 10.0.0-M6, 9.0.0.M1 to 9.0.36, 8.5.0 to 8.5.56 and 7.0.27 to 7.0.104. Invalid payload lengths could trigger an infinite loop. Multiple requests with invalid payload lengths could lead to a denial of service.
* Tomcat-embed-websocket-9.0.30.jar – another very extensive list
  + Core Tomcat implementation
  + The refactoring present in Apache Tomcat 9.0.28 to 9.0.30, 8.5.48 to 8.5.50 and 7.0.98 to 7.0.99 introduced a regression. The result of the regression was that invalid Transfer-Encoding headers were incorrectly processed leading to a possibility of HTTP Request Smuggling if Tomcat was located behind a reverse proxy that incorrectly handled the invalid Transfer-Encoding header in a particular manner. Such a reverse proxy is considered unlikely.
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### Interpret Results

* When a dependency check is run, it seems that there are some false positives present. These false positives can give some important information about the application because there must have been some reason why it was set. Going through all the checks will enable you to see what is more important. It will give the effects of proof-reading if going over each check one by one.
* What seems to be a very common fix between all positives is to upgrade to the most current issue. At time of writing the code, there may have been security flaws with each individual program, but with time have updated and corrected these flaws.