# CS 305 Module Two Coding Static Testing

## Run Dependency Check

## Document Results

* accessors-smart-1.2.jar
  + **CVE-2021-27568:** An issue was discovered in netplex json-smart-v1 through 2015-10-23 and json-smart-v2 through 2.4. An exception is thrown from a function, but it is not caught, as demonstrated by NumberFormatException. When it is not caught, it may cause programs using the library to crash or expose sensitive information.
* asm-5.0.4.jar – No CVE data
* evo-inflector-1.2.2.jar – No CVE data
* jackson-core-2.10.2.jar – No CVE data
* jackson-databind-2.10.2.jar
  + **CVE-2020-25649:** 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.
  + **CVE-2020-36518**: jackson-databind before 2.13.0 allows a Java StackOverflow exception and denial of service via a large depth of nested objects.
* jakarta.annotation-api-1.3.5.jar – No CVE data
* json-path-2.4.0.jar – No CVE data
* json-smart-2.3.jar
  + **CVE-2021-27568**: An issue was discovered in netplex json-smart-v1 through 2015-10-23 and json-smart-v2 through 2.4. An exception is thrown from a function, but it is not caught, as demonstrated by NumberFormatException. When it is not caught, it may cause programs using the library to crash or expose sensitive information.
  + **CVE-2021-31684**: A vulnerability was discovered in the indexOf function of JSONParserByteArray in JSON Smart versions 1.3 and 2.4 which causes a denial of service (DOS) via a crafted web request.
* jul-to-slf4j-1.7.30.jar – No CVE data
* log4j-api-2.12.1.jar
  + **CVE-2020-9488:** 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. Fixed in Apache Log4j 2.12.3 and 2.13.1
* log4j-to-slf4j-2.12.1.jar – No CVE data
* logback-core-1.2.3.jar
  + **CVE-2021-42550**: 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.
* slf4j-api-1.7.30.jar – No CVE data
* snakeyaml-1.25.jar
  + **CVE-2017-18640:** The Alias feature in SnakeYAML before 1.26 allows entity expansion during a load operation, a related issue to CVE-2003-1564.
  + **CVE-2022-25857:** The package org.yaml:snakeyaml from 0 and before 1.31 are vulnerable to Denial of Service (DoS) due missing to nested depth limitation for collections.
  + **CVE-2022-38749**
  + **CVE-2022-38752**
  + **CVE-2022-38751:** Using snakeYAML to parse untrusted YAML files may be vulnerable to Denial of Service attacks (DOS). If the parser is running on user supplied input, an attacker may supply content that causes the parser to crash by stackoverflow.
* spring-boot-2.2.4.RELEASE.jar
  + **CVE-2022-27772:** \*\* UNSUPPORTED WHEN ASSIGNED \*\* spring-boot versions prior to version v2.2.11.RELEASE was vulnerable to temporary directory hijacking. This vulnerability impacted the org.springframework.boot.web.server.AbstractConfigurableWebServerFactory.createTempDir method. NOTE: This vulnerability only affects products and/or versions that are no longer supported by the maintainer.
* spring-boot-starter-web-2.7.3.jar – No CVE data
* spring-core-5.2.3.RELEASE.jar
  + **CVE-2022-22965:** A Spring MVC or Spring WebFlux application running on JDK 9+ may be vulnerable to remote code execution (RCE) via data binding. The specific exploit requires the application to run on Tomcat as a WAR deployment. If the application is deployed as a Spring Boot executable jar, i.e. the default, it is not vulnerable to the exploit. However, the nature of the vulnerability is more general, and there may be other ways to exploit it.
  + **CVE-2021-22118:** 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.
  + **CVE-2020-5421:** 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.
  + **CVE-2022-22950:** Spring Framework versions 5.3.0 - 5.3.16 and older unsupported versions, it is possible for a user to provide a specially crafted SpEL expression that may cause a denial of service condition.
  + **CVE-2022-22971:** In spring framework versions prior to 5.3.20+ , 5.2.22+ and old unsupported versions, application with a STOMP over WebSocket endpoint is vulnerable to a denial of service attack by an authenticated user.
  + **CVE-2022-22968:** In Spring Framework versions 5.3.0 - 5.3.18, 5.2.0 - 5.2.20, and older unsupported versions, the patterns for disallowedFields on a DataBinder are case sensitive which means a field is not effectively protected unless it is listed with both upper and lower case for the first character of the field, including upper and lower case for the first character of all nested fields within the property path.
  + **CVE-2022-22970:** In spring framework versions prior to 5.3.20+ , 5.2.22+ and old unsupported versions, applications that handle file uploads are vulnerable to DoS attack if they rely on data binding to set a MultipartFile or javax.servlet.Part to a field in a model object.
  + **CVE-2021-22060:** In Spring Framework versions 5.3.0 - 5.3.13, 5.2.0 - 5.2.18, and older unsupported versions, it is possible for a user to provide malicious input to cause the insertion of additional log entries. This is a follow-up to CVE-2021-22096 that protects against additional types of input and in more places of the Spring Framework codebase.
  + **CVE-2021-22096:** 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.
* spring-data-commons-2.2.4.RELEASE.jar – No CVE data
* spring-data-rest-core-3.2.4.RELEASE.jar – No CVE data
* spring-data-rest-webmvc-3.7.2.jar – No CVE data
* spring-hateoas-1.0.3.RELEASE.jar – No CVE data
* spring-plugin-core-2.0.0.RELEASE.jar – No CVE data
* spring-web-5.2.3.RELEASE.jar
  + **CVE-2016-1000027:** Pivotal Spring Framework through 5.3.16 suffers from a potential remote code execution (RCE) issue if used for Java deserialization of untrusted data. Depending on how the library is implemented within a product, this issue may or not occur, and authentication may be required. NOTE: the vendor's position is that untrusted data is not an intended use case. The product's behavior will not be changed because some users rely on deserialization of trusted data.
  + **CVE-2022-22965:** A Spring MVC or Spring WebFlux application running on JDK 9+ may be vulnerable to remote code execution (RCE) via data binding. The specific exploit requires the application to run on Tomcat as a WAR deployment. If the application is deployed as a Spring Boot executable jar, i.e. the default, it is not vulnerable to the exploit. However, the nature of the vulnerability is more general, and there may be other ways to exploit it.
  + **CVE-2021-22118:** 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.
  + **CVE-2020-5421:** 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.
  + **CVE-2022-22950:** In Spring Framework versions 5.3.0 - 5.3.16 and older unsupported versions, it is possible for a user to provide a specially crafted SpEL expression that may cause a denial of service condition.
  + **CVE-2022-22971:** In spring framework versions prior to 5.3.20+ , 5.2.22+ and old unsupported versions, application with a STOMP over WebSocket endpoint is vulnerable to a denial of service attack by an authenticated user.
  + **CVE-2022-22968:** In Spring Framework versions 5.3.0 - 5.3.18, 5.2.0 - 5.2.20, and older unsupported versions, the patterns for disallowedFields on a DataBinder are case sensitive which means a field is not effectively protected unless it is listed with both upper and lower case for the first character of the field, including upper and lower case for the first character of all nested fields within the property path.
  + **CVE-2022-22970:** In spring framework versions prior to 5.3.20+ , 5.2.22+ and old unsupported versions, applications that handle file uploads are vulnerable to DoS attack if they rely on data binding to set a MultipartFile or javax.servlet.Part to a field in a model object.
  + **CVE-2021-22060:** In Spring Framework versions 5.3.0 - 5.3.13, 5.2.0 - 5.2.18, and older unsupported versions, it is possible for a user to provide malicious input to cause the insertion of additional log entries. This is a follow-up to CVE-2021-22096 that protects against additional types of input and in more places of the Spring Framework codebase.
  + **CVE-2021-22096:** 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.
* tomcat-embed-core-9.0.30.jar
  + **CVE-2020-1938**: When using the Apache JServ Protocol (AJP), care must be taken when trusting incoming connections to Apache Tomcat. Tomcat treats AJP connections as having higher trust than, for example, a similar HTTP connection. If such connections are available to an attacker, they can be exploited in ways that may be surprising. In Apache Tomcat 9.0.0.M1 to 9.0.0.30, 8.5.0 to 8.5.50 and 7.0.0 to 7.0.99, Tomcat shipped with an AJP Connector enabled by default that listened on all configured IP addresses. It was expected (and recommended in the security guide) that this Connector would be disabled if not required. This vulnerability report identified a mechanism that allowed: - returning arbitrary files from anywhere in the web application - processing any file in the web application as a JSP Further, if the web application allowed file upload and stored those files within the web application (or the attacker was able to control the content of the web application by some other means) then this, along with the ability to process a file as a JSP, made remote code execution possible. It is important to note that mitigation is only required if an AJP port is accessible to untrusted users. Users wishing to take a defence-in-depth approach and block the vector that permits returning arbitrary files and execution as JSP may upgrade to Apache Tomcat 9.0.31, 8.5.51 or 7.0.100 or later. A number of changes were made to the default AJP Connector configuration in 9.0.31 to harden the default configuration. It is likely that users upgrading to 9.0.31, 8.5.51 or 7.0.100 or later will need to make small changes to their configurations.
  + **CVE-2020-11996:** 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.
  + **CVE-2020-13934:** 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.
  + **CVE-2020-13935:** 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.
  + **CVE-2020-17527:** While investigating bug 64830 it was discovered that Apache Tomcat 10.0.0-M1 to 10.0.0-M9, 9.0.0-M1 to 9.0.39 and 8.5.0 to 8.5.59 could re-use an HTTP request header value from the previous stream received on an HTTP/2 connection for the request associated with the subsequent stream. While this would most likely lead to an error and the closure of the HTTP/2 connection, it is possible that information could leak between requests.
  + **CVE-2021-25122:** When responding to new h2c connection requests, Apache Tomcat versions 10.0.0-M1 to 10.0.0, 9.0.0.M1 to 9.0.41 and 8.5.0 to 8.5.61 could duplicate request headers and a limited amount of request body from one request to another meaning user A and user B could both see the results of user A's request.
  + **CVE-2021-41079:** Apache Tomcat 8.5.0 to 8.5.63, 9.0.0-M1 to 9.0.43 and 10.0.0-M1 to 10.0.2 did not properly validate incoming TLS packets. When Tomcat was configured to use NIO+OpenSSL or NIO2+OpenSSL for TLS, a specially crafted packet could be used to trigger an infinite loop resulting in a denial of service.
  + **CVE-2022-29885:** The documentation of Apache Tomcat 10.1.0-M1 to 10.1.0-M14, 10.0.0-M1 to 10.0.20, 9.0.13 to 9.0.62 and 8.5.38 to 8.5.78 for the EncryptInterceptor incorrectly stated it enabled Tomcat clustering to run over an untrusted network. This was not correct. While the EncryptInterceptor does provide confidentiality and integrity protection, it does not protect against all risks associated with running over any untrusted network, particularly DoS risks.
  + **CVE-2021-30640:** A vulnerability in the JNDI Realm of Apache Tomcat allows an attacker to authenticate using variations of a valid user name and/or to bypass some of the protection provided by the LockOut Realm. This issue affects Apache Tomcat 10.0.0-M1 to 10.0.5; 9.0.0.M1 to 9.0.45; 8.5.0 to 8.5.65.
  + **CVE-2022-34305:** In Apache Tomcat 10.1.0-M1 to 10.1.0-M16, 10.0.0-M1 to 10.0.22, 9.0.30 to 9.0.64 and 8.5.50 to 8.5.81 the Form authentication example in the examples web application displayed user provided data without filtering, exposing a XSS vulnerability.
  + **CVE-2021-24122:** When serving resources from a network location using the NTFS file system, Apache Tomcat versions 10.0.0-M1 to 10.0.0-M9, 9.0.0.M1 to 9.0.39, 8.5.0 to 8.5.59 and 7.0.0 to 7.0.106 were susceptible to JSP source code disclosure in some configurations. The root cause was the unexpected behaviour of the JRE API File.getCanonicalPath() which in turn was caused by the inconsistent behaviour of the Windows API (FindFirstFileW) in some circumstances.
  + **CVE-2021-33037:** Apache Tomcat 10.0.0-M1 to 10.0.6, 9.0.0.M1 to 9.0.46 and 8.5.0 to 8.5.66 did not correctly parse the HTTP transfer-encoding request header in some circumstances leading to the possibility to request smuggling when used with a reverse proxy. Specifically: - Tomcat incorrectly ignored the transfer encoding header if the client declared it would only accept an HTTP/1.0 response; - Tomcat honoured the identify encoding; and - Tomcat did not ensure that, if present, the chunked encoding was the final encoding.
  + **CVE-2019-17569:** 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.
  + **CVE-2020-1935:** In Apache Tomcat 9.0.0.M1 to 9.0.30, 8.5.0 to 8.5.50 and 7.0.0 to 7.0.99 the HTTP header parsing code used an approach to end-of-line parsing that allowed some invalid HTTP headers to be parsed as valid. This led 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.
  + **CVE-2020-13943:** If an HTTP/2 client connecting to Apache Tomcat 10.0.0-M1 to 10.0.0-M7, 9.0.0.M1 to 9.0.37 or 8.5.0 to 8.5.57 exceeded the agreed maximum number of concurrent streams for a connection (in violation of the HTTP/2 protocol), it was possible that a subsequent request made on that connection could contain HTTP headers - including HTTP/2 pseudo headers - from a previous request rather than the intended headers. This could lead to users seeing responses for unexpected resources.
* tomcat-embed-el-9.0.30.jar – No CVE data
* tomcat-embed-websocket-9.0.30.jar
  + **CVE-2020-1938**: When using the Apache JServ Protocol (AJP), care must be taken when trusting incoming connections to Apache Tomcat. Tomcat treats AJP connections as having higher trust than, for example, a similar HTTP connection. If such connections are available to an attacker, they can be exploited in ways that may be surprising. In Apache Tomcat 9.0.0.M1 to 9.0.0.30, 8.5.0 to 8.5.50 and 7.0.0 to 7.0.99, Tomcat shipped with an AJP Connector enabled by default that listened on all configured IP addresses. It was expected (and recommended in the security guide) that this Connector would be disabled if not required. This vulnerability report identified a mechanism that allowed: - returning arbitrary files from anywhere in the web application - processing any file in the web application as a JSP Further, if the web application allowed file upload and stored those files within the web application (or the attacker was able to control the content of the web application by some other means) then this, along with the ability to process a file as a JSP, made remote code execution possible. It is important to note that mitigation is only required if an AJP port is accessible to untrusted users. Users wishing to take a defence-in-depth approach and block
  + **CVE-2020-8022:** A Incorrect Default Permissions vulnerability in the packaging of tomcat on SUSE Enterprise Storage 5, SUSE Linux Enterprise Server 12-SP2-BCL, SUSE Linux Enterprise Server 12-SP2-LTSS, SUSE Linux Enterprise Server 12-SP3-BCL, SUSE Linux Enterprise Server 12-SP3-LTSS, SUSE Linux Enterprise Server 12-SP4, SUSE Linux Enterprise Server 12-SP5, SUSE Linux Enterprise Server 15-LTSS, SUSE Linux Enterprise Server for SAP 12-SP2, SUSE Linux Enterprise Server for SAP 12-SP3, SUSE Linux Enterprise Server for SAP 15, SUSE OpenStack Cloud 7, SUSE OpenStack Cloud 8, SUSE OpenStack Cloud Crowbar 8 allows local attackers to escalate from group tomcat to root. This issue affects: SUSE Enterprise Storage 5 tomcat versions prior to 8.0.53-29.32.1. SUSE Linux Enterprise Server 12-SP2-BCL tomcat versions prior to 8.0.53-29.32.1. SUSE Linux Enterprise Server 12-SP2-LTSS tomcat versions prior to 8.0.53-29.32.1. SUSE Linux Enterprise Server 12-SP3-BCL tomcat versions prior to 8.0.53-29.32.1. SUSE Linux Enterprise Server 12-SP3-LTSS tomcat versions prior to 8.0.53-29.32.1. SUSE Linux Enterprise Server 12-SP4 tomcat versions prior to 9.0.35-3.39.1. SUSE Linux Enterprise Server 12-SP5 tomcat versions prior to 9.0.35-3.39.1. SUSE Linux Enterprise Server 15-LTSS tomcat versions prior to 9.0.35-3.57.3. SUSE Linux Enterprise Server for SAP 12-SP2 tomcat versions prior to 8.0.53-29.32.1. SUSE Linux Enterprise Server for SAP 12-SP3 tomcat versions prior to 8.0.53-29.32.1. SUSE Linux Enterprise Server for SAP 15 tomcat versions prior to 9.0.35-3.57.3. SUSE OpenStack Cloud 7 tomcat versions prior to 8.0.53-29.32.1. SUSE OpenStack Cloud 8 tomcat versions prior to 8.0.53-29.32.1. SUSE OpenStack Cloud Crowbar 8 tomcat versions prior to 8.0.53-29.32.1.
  + **CVE-2020-11996:** 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.
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  + **CVE-2022-34305:** In Apache Tomcat 10.1.0-M1 to 10.1.0-M16, 10.0.0-M1 to 10.0.22, 9.0.30 to 9.0.64 and 8.5.50 to 8.5.81 the Form authentication example in the examples web application displayed user provided data without filtering, exposing a XSS vulnerability.
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  + **CVE-2021-33037:** Apache Tomcat 10.0.0-M1 to 10.0.6, 9.0.0.M1 to 9.0.46 and 8.5.0 to 8.5.66 did not correctly parse the HTTP transfer-encoding request header in some circumstances leading to the possibility to request smuggling when used with a reverse proxy. Specifically: - Tomcat incorrectly ignored the transfer encoding header if the client declared it would only accept an HTTP/1.0 response; - Tomcat honoured the identify encoding; and - Tomcat did not ensure that, if present, the chunked encoding was the final encoding.
  + **CVE-2019-17569:** 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.
  + **CVE-2020-1935:** In Apache Tomcat 9.0.0.M1 to 9.0.30, 8.5.0 to 8.5.50 and 7.0.0 to 7.0.99 the HTTP header parsing code used an approach to end-of-line parsing that allowed some invalid HTTP headers to be parsed as valid. This led 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.
  + **CVE-2020-13943:** If an HTTP/2 client connecting to Apache Tomcat 10.0.0-M1 to 10.0.0-M7, 9.0.0.M1 to 9.0.37 or 8.5.0 to 8.5.57 exceeded the agreed maximum number of concurrent streams for a connection (in violation of the HTTP/2 protocol), it was possible that a subsequent request made on that connection could contain HTTP headers - including HTTP/2 pseudo headers - from a previous request rather than the intended headers. This could lead to users seeing responses for unexpected resources.

## Analyze Results

* accessors-smart-1.2.jar - Assume all input is malicious. Use an "accept known good" input validation strategy, i.e., use a list of acceptable inputs that strictly conform to specifications. Reject any input that does not strictly conform to specifications, or transform it into something that does.
* jackson-databind-2.10.2.jar
  + **CVE-2020-25649:** Update to latest version
  + **CVE-2020-36518**: Update to latest version
* json-smart-2.3.jar
  + **CVE-2021-27568**: Update to latest version
  + **CVE-2021-31684**: Update to latest version
* log4j-api-2.12.1.jar
  + **CVE-2020-9488:** Update to latest version. Fixed in Apache Log4j 2.12.3 and 2.13.1
* logback-core-1.2.3.jar
  + **CVE-2021-42550**: Update to latest version
* snakeyaml-1.25.jar
  + **CVE-2017-18640:** Update to latest version
  + **CVE-2022-25857:** Update to latest version
  + **CVE-2022-38749:** Update to latest version
  + **CVE-2022-38752:** Update to latest version
  + **CVE-2022-38751:** Update to latest version
* spring-boot-2.2.4.RELEASE.jar
  + **CVE-2022-27772:** Update to latest version
* spring-core-5.2.3.RELEASE.jar - Users of affected versions should apply the following mitigation: 5.3.x users should upgrade to 5.3.17+. 5.2.x users should upgrade to 5.2.20+.
  + **CVE-2022-22965:**
  + **CVE-2021-22118:**
  + **CVE-2020-5421**
  + **CVE-2022-22950**
  + **CVE-2022-22971**
  + **CVE-2022-22968**
  + **CVE-2022-22970**
  + **CVE-2021-22060**
  + **CVE-2021-22096**
* spring-web-5.2.3.RELEASE.jar – Update to version 5.3.22
  + **CVE-2016-1000027:**
  + **CVE-2022-22965:**
  + **CVE-2021-22118:**
  + **CVE-2020-5421:**
  + **CVE-2022-22950:**
  + **CVE-2022-22971**
  + **CVE-2022-22968**
  + **CVE-2022-22970:**
  + **CVE-2021-22060:**
  + **CVE-2021-22096:**
* tomcat-embed-core-9.0.30.jar – Update to version 8.5.82
  + **CVE-2020-1938**
  + **CVE-2020-11996**
  + **CVE-2020-13934:**
  + **CVE-2020-13935:**
  + **CVE-2020-17527:**
  + **CVE-2021-25122:**
  + **CVE-2021-41079:**
  + **CVE-2022-29885:**
  + **CVE-2021-30640:**
  + **CVE-2022-34305:**
  + **CVE-2021-24122:**
  + **CVE-2021-33037:**
  + **CVE-2019-17569:**
  + **CVE-2020-1935**
  + **CVE-2020-13943:**
* tomcat-embed-websocket-9.0.30.jar - Update to version 8.5.82
  + **CVE-2020-1938**:
  + **CVE-2020-8022:**
  + **CVE-2020-11996:**
  + **CVE-2020-13934:**
  + **CVE-2020-13935:**
  + **CVE-2020-17527:**
  + **CVE-2021-25122:**
  + **CVE-2021-41079:**
  + **CVE-2022-29885:**
  + **CVE-2021-30640:**
  + **CVE-2022-34305:**
  + **CVE-2021-24122:**
  + **CVE-2021-33037:**
  + **CVE-2019-17569:**
  + **CVE-2020-1935:**
  + **CVE-2020-13943:**