

# 3131789 - Mitigate Log4j CVE-2021-44228 Vulnerability in SAP Business One

<b>Version</b>	7	<b>Type</b>	SAP Knowledge Base Article
<b>Language</b>	English	<b>Master Language</b>	English
<b>Release Status</b>	Released to Customer	<b>Category</b>	How To
<b>Component</b>	SBO-CRO-SEC (Security in SAP Business One software)	<b>Released On</b>	13.01.2022

Please find the original document at <https://launchpad.support.sap.com/#/notes/3131789>

## Symptom

- Vulnerability CVE-2021-44228 for log4j
- How does this impact SAP Business One
- log4j is an apache library used commonly in java applications. This particular issue was identified in **log4j2** and fixed in log4j 2.15.0.

## Environment

SAP Business One

## Resolution

SAP has provided a feature package addressing this issue as per SAP Note [3131740](#). Customers need to implement or upgrade to SAP Business One FP2111.

## Workaround

Please assess the workaround applicability for your SAP landscape prior to implementation.

Note that this workaround is a temporary fix and is not a permanent solution. SAP strongly recommends to apply the corrections outlined in the security note, which can be done in lieu of the workaround or after the workaround is implemented.

**When using SAP Business One or SAP Business One, version for SAP HANA (version >= 9.3 PL07 and <= 10.0 FP2108) and the component Workflow is installed, you can mitigate the vulnerability for Workflow with the following procedure:**

1. Open the package *C:\Program Files (x86)\sap\SAP Business One ServerTools\Workflow\workflow-service.war* in winrar. (Right click open in winrar.)
2. Traverse to *WEB-INF\lib\log4j-core-2.13.3.jar* and remove the *JndiLookup* class from the classpath: *org/apache/logging/log4j/core/lookup/JndiLookup.class*. For version >= 9.3 PL07 and < 10.0 FP2008, traverse to *WEB-INF\lib\log4j-core-2.11.1.jar*, and do the operation.
3. Accept the update archive.
4. Restart the *SAP Business One Workflow Engine* from the windows services.

**When using SAP Business One (version >= 10.0 FP 2008 and <= 10.0 FP 2108) and the component License Server is installed, you can mitigate the vulnerability for License Server with the following**

**procedure:**

1. Open the package *C:\Program Files (x86)\SAP\SAP Business One ServerTools\LicenseHTTPS\webapps\LicenseControlCenter.war* in winrar. (Right click *LicenseControlCenter.war* and open it with winrar).
2. Traverse to *WEB-INF\lib\log4j-core-2.7.jar* and remove the *JndiLookup* class from the classpath: *org/apache/logging/log4j/core/lookup/JndiLookup.class*.
3. Accept the update archive.
4. Restart the *SAP Business One Server Tools Service* from the windows services.

**When using SAP Business One (version >= 10.0 FP 2008 and <= 10.0 FP 2108) and the component Service Layer is installed, you can mitigate the vulnerability for Service Layer with the following procedure:**

1. Go to the 64-bit Server Tools installation folder (for example, *C:\Program Files\SAP\SAP Business One ServerTools*).
2. Navigate into the *ServiceLayerController* webapp folder:  
*.\ServiceLayer\ServiceLayerController\webapps*
3. Right click the *ServiceLayerController.war* and open it with winrar.
4. Traverse to *WEB-INF\lib\log4j-core-2.7.jar*, double-click it and you will see the folder structure of *log4j-core-2.7.jar*.
5. Find the file *JndiLookup.class* from the class path: *org/apache/logging/log4j/core/lookup* and delete this file.
6. Accept the updated archive.
7. Restart the 64-bit *SAP Business One Server Tools Service* from the windows services.

**When using SAP Business One (version >= 10.0 FP 2105 and <= 10.0 FP2108) and the component Job Service is installed, you can mitigate the vulnerability for Job Service with the following procedure:**

1. Open the package *C:\Program Files (x86)\SAP\SAP Business One ServerTools\ReportingService\webapps\ReportingService.war* in winrar. (Right click open in winrar.)
2. Traverse to *WEB-INF\lib\log4j-core-2.14.0.jar* and remove the *JndiLookup* class from the classpath: *org/apache/logging/log4j/core/lookup/JndiLookup.class*
3. Accept the update archive.
4. Restart the *SAP Business One Server Tools Service* from the windows services.

**When using SAP Business One (version >= 10.0 FP 2008 and <= 10.0 FP 2108) and the component Extension Manager(SLD) is installed, you can mitigate the vulnerability for Extension Manager with the following procedure:**

1. Open the package *C:\Program Files (x86)\SAP\SAP Business One ServerTools\ExtensionManager\webapps\ExtensionManager.war* in winrar. (Right click *ExtensionManager.war* and open it in winrar.)
2. Traverse to *WEB-INF\lib\log4j-core-2.7.jar* and remove the *JndiLookup* class from the classpath: *org/apache/logging/log4j/core/lookup/JndiLookup.class*.
3. Accept the update archive.
4. Restart the *SAP Business One Server Tools Service* from the windows services.

**When using SAP Business One, version for SAP HANA (version >= 10.0 FP 2008 and <= 10.0 FP 2108) and the component License Server is installed, you can mitigate the vulnerability for License Server with the following procedure:**

1. Go to the server tools installation directory (for example, */usr/sap/SAPBusinessOne*)
2. Navigate into the License's webapps directory:

*/usr/sap/SAPBusinessOne/ServerTools/License/webapps*

3. Run the following command to remove the *JndiLookup.class* of *log4j-core-2.7.jar* from *LicenseControlCenter.war*:

```
unzip LicenseControlCenter.war WEB-INF/lib/log4j-core-2.7.jar -d .
zip -q -d WEB-INF/lib/log4j-core-2.7.jar org/apache/logging/log4j/core/lookup/JndiLookup.class
zip LicenseControlCenter.war WEB-INF/lib/log4j-core-2.7.jar
rm -r WEB-INF
```

4. Restore the permission of *LicenseControlCenter.war* by running the following command:

```
chown b1service0:b1service0 LicenseControlCenter.war
```

5. Restart the server tools.

**When using SAP Business One, version for SAP HANA (version  $\geq$  10.0 FP 2008 and  $\leq$  10.0 FP 2108) and the component Service Layer is installed, you can mitigate the vulnerability for Service Layer with the following procedure:**

1. Go to the server tools installation directory (for example, */usr/sap/SAPBusinessOne*)
2. Navigate into the *ServiceLayer Controller's* webapps directory:

*/usr/sap/SAPBusinessOne/ServiceLayer/ServiceLayerController/webapps*

3. Run the following command to remove the *JndiLookup.class* of *log4j-core-2.7.jar* from *ServiceLayerController.war*:

```
unzip ServiceLayerController.war WEB-INF/lib/log4j-core-2.7.jar -d .
zip -q -d WEB-INF/lib/log4j-core-2.7.jar org/apache/logging/log4j/core/lookup/JndiLookup.class
zip ServiceLayerController.war WEB-INF/lib/log4j-core-2.7.jar
rm -r WEB-INF
```

4. Restore the permission of *ServiceLayerController.war* by running the following command:

```
chown b1service0:b1service0 ServiceLayerController.war
```

5. Restart the server tools.

**When using SAP Business One, version for SAP HANA (version  $\geq$  10.0 FP 2105 and  $\leq$  10.0 FP2108) and the component Job Service is installed, you can mitigate the vulnerability for Job Service with the following procedure:**

1. Go to the server tools installation directory (e.g. */usr/sap/SAPBusinessOne*)
2. Navigate into the *ReportingService Controller's* webapps directory:

*/usr/sap/SAPBusinessOne/ServerTools/ReportingService/webapps*

4. Run the following command to remove the *JndiLookup.class* of *log4j-core-2.14.0.jar* from *ReportingService.war*:

```
unzip ReportingService.war WEB-INF/lib/log4j-core-2.14.0.jar -d .
zip -q -d WEB-INF/lib/log4j-core-2.14.0.jar org/apache/logging/log4j/core/lookup/JndiLookup.class
zip ReportingService.war WEB-INF/lib/log4j-core-2.14.0.jar
rm -r WEB-INF
```

5. Restore the permission of *ReportingService.war* by running the following command

```
chown b1service0:b1service0 ReportingService.war
```

6. Restart the server tools.

**When using SAP Business One, version for SAP HANA (version >= 10.0 FP 2008 and <= 10.0 FP 2108) and the component Extension Manager(SLD) is installed, you can mitigate the vulnerability for Extension Manager with the following procedure:**

1. Go to the server tools installation directory (for example, */usr/sap/SAPBusinessOne*)
2. Navigate into the *ExtensionManager's* webapps directory:

```
/usr/sap/SAPBusinessOne/ServerTools/ExtensionManager/webapps
```

3. Run the following command to remove the *JndiLookup.class* of *log4j-core-2.7.jar* from *ExtensionManager.war*:

```
unzip ExtensionManager.war WEB-INF/lib/log4j-core-2.7.jar -d .
zip -q -d WEB-INF/lib/log4j-core-2.7.jar org/apache/logging/log4j/core/lookup/JndiLookup.class
zip ExtensionManager.war WEB-INF/lib/log4j-core-2.7.jar
rm -r WEB-INF
```

4. Restore the permission of *ExtensionManager.war* by running the following command:

```
chown b1service0:b1service0 ExtensionManager.war
```

5. Restart the server tools.

**When SAP Business One Integration Framework (B1 10.0 FP2105, and B1 10.0 FP2108) is installed, the vulnerability for Integration Framework can be mitigated with the following procedure:**

**Option 1:** Switch off the execution of the Crystal Reports in the integration framework:

1. Go to *%InstallationDir%\IntegrationServer\Tomcat\webapps\B1iXcellerator*.
2. Edit the *xcellerator.cfg* file, and change *xcl.reporting=false*.
3. Restart the *Tomcat* or *Integration Service*.

Side effect: The reporting processing functionality will be disabled.

**Option 2:**

1. Copy *%InstallationDir%\IntegrationServer\Tomcat\webapps\B1iXcellerator\WEB-INF\lib\log4j-core.jar* to a temp directory, named as *%TempDir%*
2. Use command line, and cd to temp dir *%TempDir%*
3. Run *> jar -xvf log4j-core.jar* and move the temp *log4j-core.jar* to another dir
4. Go *%TempDir%\org\apache\logging\log4j\core\lookup* and Delete *JndiLookup.class*
5. Use command line, and cd to *%TempDir%* again
6. Run *> jar -cvf log4j-core.jar*.
7. Stop *B1i Tomcat / Integration Service*

8. Copy the *log4j-core.jar* from temp dir and overwrite the jar file in  
*%InstallationDir%\IntegrationServer\Tomcat\webapps\B1iXcellerator\WEB-INF\lib\log4j-core.jar*
9. Restart *B1i Tomcat / Integration Service*

## See Also

- <https://nvd.nist.gov/vuln/detail/CVE-2021-44228>

## Keywords

Log4J, CVE-2021-44228, B1, vulnerability, bug

## Products

SAP Business One 10.0  
SAP Business One 10.0, version for SAP HANA  
SAP Business One 9.3  
SAP Business One 9.3, version for SAP HANA

## This document refers to

SAP Note/KBA	Title
3131740	[CVE-2021-44228] Remote Code Execution vulnerability associated with Apache Log4j 2 component used in SAP Business One

[Terms of use](#) | [Copyright](#) | [Trademark](#) | [Legal Disclosure](#) | [Privacy](#)