

# Apache Log4j 2.x Security Vulnerabilities (CVE-2021-44228 & CVE-2021-45046) - Impact on Windchill, Navigate, & SOLR

## Steps to Apply to SOLR:

### Steps to upgrade log4j in SOLR to version 2.16.0

- **Download log4j jars using links provided:**
  - Log4j-web - <https://repo1.maven.org/maven2/org/apache/logging/log4j/log4j-web/2.16.0/log4j-web-2.16.0.jar>
  - Log4j-1.2-api - <https://repo1.maven.org/maven2/org/apache/logging/log4j/log4j-1.2-api/2.16.0/log4j-1.2-api-2.16.0.jar>
  - Log4j-slf4j-impl - <https://repo1.maven.org/maven2/org/apache/logging/log4j/log4j-slf4j-impl/2.16.0/log4j-slf4j-impl-2.16.0.jar>
  - Log4j-api - <https://repo1.maven.org/maven2/org/apache/logging/log4j/log4j-api/2.16.0/log4j-api-2.16.0.jar>
  - Log4j-core - <https://repo1.maven.org/maven2/org/apache/logging/log4j/log4j-core/2.16.0/log4j-core-2.16.0.jar>
  
- **Solr installed in standalone mode**
  1. Stop solr server.
  2. Browse to <Solr\_Server>/solr/server/lib/ext directory, remove all the log4j\*.jar(s) and add the downloaded log4j 2.16.0 jars (listed above) here.
  3. Browse to <Solr\_Server>/solr/server/solr-webapp/WEB-INF/lib directory, remove all the log4j\*.jar(s) and add the downloaded log4j 2.16.0 jars (listed above) here.
  4. Start solr server.
  
- **Solr installed in cloud mode**
  1. Stop all solr servers in the cloud ensemble.
  2. Browse to <Solr\_Server>/solr/server/lib/ext directory, remove all the log4j\*.jar(s) and add the downloaded log4j 2.16.0 jars (listed above) here.
  3. Browse to <Solr\_Server>/solr/server/solr-webapp/WEB-INF/lib directory, remove all the log4j\*.jar(s) and add the downloaded log4j 2.16.0 jars (listed above) here.
  4. Repeat steps 2 and 3 for each solr server in the ensemble.
  5. Start all solr servers in the ensemble.