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# Micro Focus Security ArcSight SmartConnectors

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## Configuration Guide for Lumension PatchLink Scanner DB SmartConnector

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# Contents

- SmartConnector for Lumension PatchLink Scanner DB ..... 5
- Product Overview ..... 6
- Configuration ..... 7
  - Access Requirements ..... 7
  - Downloading the JDBC Driver ..... 8
- Installing the SmartConnector ..... 9
  - Preparing to Install the SmartConnector ..... 9
  - Installing and Configuring the SmartConnector ..... 9
  - Adding JDBC Driver to the Connector Appliance/ArcSight Management Center .....12
- Device Event Mapping to ArcSight Fields .....13
  - Lumension PatchLink Scanner v6.4 Mappings to ArcSight ESM Events .....13
- Troubleshooting .....15
- Send Documentation Feedback ..... 17

# SmartConnector for Lumension PatchLink Scanner DB

This guide provides information for installing the SmartConnector for Lumension PatchLink Scanner DB and configuring the database for vulnerability scanner report event collection. This product was formerly known as Harris STAT Scanner.

# Product Overview


The Lumension PatchLink Scanner is a stand-alone vulnerability scanning solution that includes comprehensive reports, local scan engine Role-Based Access Control (RBAC), automation features, and a vulnerability database.

# Configuration

The SmartConnector will require network access to the host where Lumension PatchLink's SQL database is running. Although it is not mandatory, ArcSight recommends that a read-only user is created for the ArcSight SmartConnector. For information about creating a read-only user for Microsoft SQL Server, see your Microsoft SQL Server documentation.

The SmartConnector for *SmartConnector for Lumension PatchLink Scanner DB*, as other vulnerability scanners, supports the following modes of operation:

**Interactive:** The Interactive mode is designed to be used by an operator that requires only certain reports to be sent to ArcSight. In this mode, the connector first retrieves a list of the scan reports contained in the database and presents it in a UI window so that the scan reports to be sent to the SmartConnector can be chosen. After you click **Send**, all the selected scanner reports are sent to ArcSight.

 **Important:** In this mode, the connector must not be run as a service.

**Automatic:** The automatic mode is designed to automatically import the reports from the database to the ArcSight Manager whenever a new scan is performed by using the application. In this mode, the connector queries the database constantly to check for new completed scans. When the SmartConnector detects that a new scan has been successfully completed, it sends the report to the ArcSight ESM Manager. Because it is designed to run in unattended mode, the SmartConnector can be run as a service.

## Access Requirements

The following tables are queried for events and require host access:

- Machine Table
- Scan Table
- Scan Output Table
- Vulnerability Info Table
- Risk Table

## Downloading the JDBC Driver

The SmartConnector installation requires JDBC driver to be present. During the installation process, you will be directed to leave the wizard and copy the JDBC driver file you downloaded to a SmartConnector folder.



**Note:** Different versions of the JDBC driver are required for different SQL Server database versions. The name of the jar file may be different for some JDBC driver versions. Make sure that you use the correct driver for your database version

Refer to the following information to download the correct jar file depending on the JRE version used by the SmartConnector:

- SmartConnector Version 8.3.0 uses JRE 1.8.0\_312 and supports jar files from version mssql-jdbc-6.4.0.jre8.jar to mssql-jdbc-9.4.0.jre8.jar.
- SmartConnector Version 7.2.1 and later use JRE 1.8 and require sqljdbc42.jar (available with Microsoft JDBC Driver 6.0 for SQL Server)
- SmartConnector Version 7.1.2 and later use JRE 1.7 and require sqljdbc41.jar (available with Microsoft JDBC Driver 6.0 for SQL Server)
- Earlier versions of SmartConnector run JRE 1.6 and require sqljdbc4.jar (available with Microsoft JDBC Driver 4.0 for SQL Server)

For more information and to download the MS SQL Server JDBC Driver, see [aa937724](#)



# Installing the SmartConnector

The following sections provide instructions to install and configure your selected SmartConnector.

ArcSight recommends that you do not install database connectors on the database server or any mission critical servers as this could cause performance issues.

## Preparing to Install the SmartConnector

Before you install any SmartConnectors, make sure that the Micro Focus ArcSight products with which the connectors will communicate have already been installed correctly (such as ArcSight ESM or ArcSight Logger).

For complete product information, refer to the *Administrator's Guide to ArcSight Platform*, available on [ArcSight Documentation](#).

If you are adding a connector to the ArcSight Management Center, see the *ArcSight Management Center Administrator's Guide* available on [ArcSight Documentation](#) for instructions.

Before installing the SmartConnector, make sure that the following are available:

- Local access to the machine where the SmartConnector is to be installed
- Administrator passwords

## Installing and Configuring the SmartConnector

1. Start the installation wizard.
2. Follow the instructions in the wizard to install the core software.
3. Exit the installation wizard.
4. Copy the jar file associated with the version of the driver that you downloaded earlier to `$ARCSIGHT_HOME/current/user/agent/lib`
5. (Optional) To use JDBC driver with SmartConnectors to connect to Microsoft SQL Servers by using Windows authentication, copy the `sqljdbc_auth.dll` file from the JDBC driver download to the `$ARCSIGHT_HOME\jre\bin` directory.

An example of The JDBC driver download path for SQL JDBC driver is:

- For version 4.0 for 32-bit environment is `sqljdbc_4.0\enu\auth\x86\sqljdbc_auth.dll`
- For 64-bit environment, `sqljdbc_4.0\enu\auth\x64\sqljdbc_auth.dll`



**Note:** If you are upgrading the SmartConnector, you must copy the authentication file to `$ARCSIGHT_HOME\jre\bin` again after update, as the upgrade process overwrites the `$ARCSIGHT_HOME\jre\bin` directory.

6. To add JDBC Driver to ArcMC or Connector Appliance, see [Adding JDBC Driver to the Connector Appliance/ArcSight Management Center](#).
7. Copy certificate and JDBC files to SmartConnector folders as follows:
  - Copy the `jssecacerts` certificate that you installed during the device configuration to the SmartConnector installation folder `$ARCSIGHT_HOME/current/jre/lib/security`.



**Note:** You must copy this file again to the installation folder after upgrading the SmartConnector as this file gets overwritten during the upgrade process.

- Copy the `vjdbc.jar` and `commons-logging-1.1.jar` files to the SmartConnector installation folder `$ARCSIGHT_HOME/current/user/agent/lib`. These files are located in the lib directory that was created when you downloaded the JDBC driver and unzipped the package.
8. Browse to `$ARCSIGHT_HOME/current/bin`, then double-click `runagentsetup.bat` file to start the SmartConnector Configuration Wizard.
  9. Specify the relevant Global Parameters, when prompted.
  10. Select **Lumension PatchLink Scanner DB** from the Type drop-down, then click **Next**.
  11. Enter the required SmartConnector parameters to configure the SmartConnector, then click **Next**.

Parameter	Description
JDBC/ODBC Driver	Select the <code>com.microsoft.sqlserver.jdbc.SQLServerDriver</code> driver.
Database URL	<p>Enter <code>jdbc:sqlserver://&lt;MS SQL Server Host Name or IP Address&gt;:1433;DatabaseName=&lt;MS SQL Server Database Name&gt;</code> . Replace with actual values for <i>&lt;MS SQL Server Host Name or IP Address&gt;</i> and <i>&lt;MS SQL Server Database Name&gt;</i>.</p> <p><b>Note:</b> If using Windows authentication append <code>;integratedSecurity=true</code> to the end of the URL string. Make sure that you use the name or instance of the database configured during installation or audit. For example:  <code>jdbc:sqlserver://mysqlserver:1433;DatabaseName=mydatabase;integratedSecurity=true</code></p>
Database User	Database user name that was used when you created the ODBC data source.
Database Password	Database password for the user
Mode	<ul style="list-style-type: none"> <li>Interactive Mode displays reports that are available to be sent to the ArcSight Manager.</li> <li>Automatic Mode automatically sends reports to the ArcSight Manager.</li> </ul>

12. Select a destination and configure parameters.
13. Specify a name for the connector.
14. If you have selected ArcSight Manager as the destination, the certificate import window for the ArcSight Manager is displayed. Select **Import the certificate to the connector from destination** and click **Next**. (If you select **Do not import the certificate to connector from destination**, the connector installation will end.) The certificate is imported and the **Add connector Summary** window is displayed.
15. Select whether you want to run the connector as a service or in the standalone mode.
16. Complete the installation.
17. Run the SmartConnector.

For instructions about upgrading the connector or modifying parameters, see [SmartConnector Installation and User Guide](#).



**Note:** When using Windows authentication, after completing the connector installation, if running on a Windows Server, change the service account to use the Windows account that should log in to the database. The connector will use the account used to start the service, regardless of the account value setting entered in the connector setup process.

## Adding JDBC Driver to the Connector Appliance/ArcSight Management Center

After downloading and extracting the JDBC driver, upload the driver into the repository and apply it to the required containers, as follows:

1. From the Connector Appliance/ArcSight Management Center, select **Setup > Repositories**.
2. Select **JDBC Drivers** from the left pane and click the **JDBC Drivers** tab.
3. Click **Upload to Repository**.
4. From the **Repository File Creation Wizard**, select **Individual Files**, then click **Next**.
5. Retain the default selection and click **Next**.
6. Click **Upload** and locate and select the .jar file you downloaded.
7. Click **Submit** to add the specified file to the repository and click **Next** to continue.
8. After adding all the files you require, click **Next**.
9. In the **Name** field, enter a descriptive name for the zip file (for example, JDBCdriver). Click **Next**.
10. Click **Done** to complete the process. The newly added file is displayed in the **Name** field under **Add Connector JDBC Driver File**.
11. To apply the driver file, select the driver .zip file and click the up arrow to invoke the **Upload Container Files** wizard. Click **Next**.
12. Select one or more containers into which you want to upload the driver, then click **Next**.
13. Click **Done** to complete the process.
14. Add the connector through the Connector Appliance/ArcSight Management Center interface. For more information, see the *Connector Appliance/ArcSight Management Center Online Help*.

## Device Event Mapping to ArcSight Fields

The following section lists the mappings of ArcSight data fields to the device's specific event definitions. See the *ArcSight Console User's Guide* for more information about the ArcSight data fields.

### Lumension PatchLink Scanner v6.4 Mappings to ArcSight ESM Events

ArcSight ESM Field	Device-Specific Field
Application Protocol	SERVER_TYPE
Category Technique	Vulnerability Category
Destination Address	IP
Destination Host Name	DNS_NAME
Destination Mac Address	MAC_ADDRESS
Destination Port	PORT_NUM
Destination User Name	USER_NAME
Device Custom Date 1	LAST_LOGON
Device Custom Date 2	PW_CHANGED
Device Event class ID	VULN_ID
Device Product	'PatchLink Scanner'
Device Receipt Time	END_SCAN_TIME
Device Vendor	'Lumension'
Event Name	JobName
File Path	OS_NAME   SHARE_PATH   USER_HOME_DIR
File Permission	SHARE_PERMISSION
File Type	SHARE_TYPE

ArcSight ESM Field	Device-Specific Field
Message	PORT_BANNER   SERVICE_DESC   All of (FULL_NAME:, FULL_NAME, DESCR:, USER_DESC)
Name	PORT_DESC   Operating System   SERVICE_NAME   SHARE_NAME   User Account   VulnCount   AlternateVulns   VulnInfo
Transport Protocol	PORT_TYPE (T=TCP, U=UDP)

# Troubleshooting

## **"What do I do when the connector can't reconnect to the MS SQL Server database?"**

In some cases, connectors using MS SQL Server databases are unable to reconnect to the database after losing and reacquiring network connection. Restarting the connector will resolve this problem.

## **"How do I deploy SQL Server Native Client?"**

When deploying an application that is dependent on SQL Server Native Client, you will need to redistribute SQL Server Native Client with your application. Unlike Microsoft Data Access Components (MDAC), which is now a component of the operating system, SQL Server Native Client is a component of SQL Server. Therefore, it is important to install SQL Server Native Client in your development environment and redistribute SQL Server Native Client with your application.

The SQL Server Native Client redistributable installation program, named sqlncli.msi, is available on the SQL Server installation media and is available as one of the SQL Server Feature Pack components on the Microsoft Download site. For more information about deploying SQL Server Native Client with your application, see "Deploying Applications with SQL Server Native Client" available from Microsoft.

## **"Why does my connection to SQL Server fail/hang?"**

Oracle has released Java 6 update 30 (6u30) that behaves differently from JRE 6u29, causing possible database connection problems for SQL Server database connectors using JDBC connection. These connection problems can occur with JRE 1.6.0\_29 (6u29) and later versions.

Microsoft recommends using JRE 6u30 (and above) instead of JRE 6u29. Apply the "SQL Server 2008 R2 Service Pack 1 Cumulative Update 6" patch to the SQL server if you are experiencing connection failures or hangs.

## **"Why am I receiving the message 'Login failed for user 'sqluser'. The user is not associated with a trusted SQL Server connection.'"**

Only Microsoft JDBC driver v4 or later support integrated authentication. The driver also does not provide function to supply Windows authentication credentials such as user name and password. In such cases, the applications must use SQL Server Authentication. When installing the connector on a non-Windows platform, configure the Microsoft SQL Server for Mixed Mode Authentication or SQL Server Authentication.

**"How can I keep the connector from becoming clogged with events after being shut down for awhile?"**

If the connector is shut down for some time on an active database, a lot of events can accumulate that can clog the connector on restart. The `preservestate` parameter can be used to avoid this situation. This parameter is enabled (true) by default. Setting `preservestate` to disabled (false) in the `agent.properties` file allows the connector to skip the old events and start from real time. The `agent.properties` file is located in the `$ARCSIGHT_HOME\current\user\agent` folder. Restart the connector for your change to take effect.

**"What do I do when I receive "Connector parameters did not pass the verification with error ..." message?"**

You may not have the correct version of jar file. When you download the JDBC driver, the version of the jar file depends on the version of JRE the connector uses. Versions 7.2.1 and later use JRE 1.8 and require `sqljdbc42.jar`. Versions 7.1.2 and later use JRE 1.7 and require `sqljdbc41.jar`. Prior versions of the connector that run JRE 1.6 require `sqljdbc4.jar`.



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