



# ArcSight SmartConnectors

Software Version: CE 24.4

## Configuration Guide for Microsoft SharePoint Server DB SmartConnector

Document Release Date: October 2024

Software Release Date: October 2024

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# Configuration Guide for Microsoft SharePoint Server DB SmartConnector

This guide provides information for installing the SmartConnector for Microsoft SharePoint Server DB and configuring the device for event collection.

This guide provides a high level overview of ArcSight SmartConnectors.

## Intended Audience

This guide provides information for IT administrators who are responsible for managing the ArcSight software and its environment.

## Additional Documentation

The ArcSight SmartConnector documentation library includes the following resources:

- [Technical Requirements Guide for SmartConnector](#), which provides information about operating system, appliance, browser, and other support details for SmartConnector.
- [Installation and User Guide for SmartConnectors](#), which provides detailed information about installing SmartConnectors.
- [Configuration Guides for ArcSight SmartConnectors](#), which provides information about configuring SmartConnectors to collect events from different sources.
- [Configuration Guide for SmartConnector Load Balancer](#), which provides detailed information about installing Load Balancer.

For the most recent version of this guide and other ArcSight SmartConnector documentation resources, visit the [documentation site for ArcSight SmartConnectors](#).

## Contact Information

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# Product Overview

Microsoft SharePoint Server is a Web application platform associated with intranet content management and document management. SharePoint provides central management, governance, and security controls.

Microsoft SharePoint logs events that monitor usage and performance. It also logs events that monitor and audit resources. The SmartConnector for SharePoint parses audit logs.

 The preferred SharePoint setup method is to use SQL Server Authentication.

## Prerequisites

This section provides instructions for configuring the Microsoft SharePoint Server Database to send events to the ArcSight SmartConnector.

SharePoint can be implemented in two ways: as a stand-alone server or as part of a new or existing server farm. As a stand-alone server, the enterprise features will not be available and everything is done on the same box. This implementation is not supported because you cannot log to a SQL Database Server whether remote or local. (However, during the stand-alone installation, an SQL Server Express Edition is automatically installed locally.) Also, in a stand-alone configuration, you cannot create a server farm or join one.

As part of a new or existing server farm, SharePoint installs with all of its features. This is the implementation that the connector supports.



Supporting audit logs in a stand-alone implementation requires an API that communicates with the internal database.

If you are using the Audit Collection Services (ACS) agent with Microsoft SharePoint, use the SmartConnector for Microsoft Audit Collection System DB.

## 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](#).  
[Download Microsoft JDBC Driver 6.0 for SQL Server](#).

- SmartConnector Version 7.1.2 and later use JRE 1.7 and require sqljdbc41.jar.  
[Download Microsoft JDBC Driver 6.0 for SQL Server.](#)
- Earlier versions of SmartConnector run JRE 1.6 and require sqljdbc4.jar, which is available with Microsoft JDBC Driver 4.0 for SQL Server.

For more information related to the Microsoft JDBC driver, see [Microsoft Documentation](#).

# Installing the SmartConnector

The following sections provide instructions for installing and configuring your selected SmartConnector.

ArcSight recommends 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 OpenText 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
- Minimum DB privileges - OpenText recommends the following minimum permissions to access the database:
  - Explicit CONNECT permission
  - Explicit SELECT permission
  - Public role
  - db\_datareader\_role

For more information about any specific permission, see the documentation of the specific database.

## 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 `$ARCSIGHT_HOME/current/user/agent/lib`
5. To use JDBC driver with SmartConnectors to connect to Microsoft SQL Servers by using Windows authentication, copy the `sqljdbc_auth.dll` file from the JDBC driver download to the `$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`

To use the latest version of SQL JDBC Driver such as 9.4:

- Copy the `mssql-jdbc-9.4.0.jre8.jar` file associated with the version of the driver that you downloaded earlier to `$ARCSIGHT_HOME/current/user/agent/lib`
- Copy the `mssql-jdbc_auth-9.4.0.x64.dll` file from the JDBC driver download to the `$ARCSIGHT_HOME\jre\bin` directory.



**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. 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 `$ARCSIGHT_HOME/current/user/agent/lib`. These files are located in the lib directory that was created when you downloaded the JDBC driver and unzipped the package.
7. Browse to `$ARCSIGHT_HOME/current/bin`, then double-click `runagentsetup.bat` file to start the SmartConnector Configuration Wizard.
  8. Specify the relevant Global Parameters, when prompted.
  9. Select **Microsoft SharePoint Server DB** and click **Next**.
  10. Enter the required parameters to configure the SmartConnector, then click **Next**.

Parameter	Description
JDBC/ODBC Driver	Select the <code>com.microsoft.sqlserver.jdbc.SQLServerDriver</code> driver.
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 the actual values for <code>&lt;MS SQL Server Host Name or IP Address&gt;</code> and <code>&lt;MS SQL Server Database Name&gt;</code>.</p> <p>To configure JDBC Driver and Windows Authentication, add <code>;integratedSecurity=true</code> to the JDBC URL entry for the connection to your database.</p> <div style="border: 1px solid #0070c0; padding: 5px; margin-top: 10px;">  <p><b>Note:</b> The name or instance of the database configured at installation or audit time must be used. For example, <code>jdbc:sqlserver://mysqlserver:1433;DatabaseName=mydatabase;integratedSecurity=true</code></p> </div>
User	Enter the user name of the MS SQL Server DB user with appropriate database privilege.
Password	Enter the password for the database user.
Event Types	Specify the appropriate event types. The default event type is <code>audit_content</code> .

Make sure that the SmartConnector settings match the settings you entered in the data source configuration for the machine upon which you are installing the SmartConnector.

11. Click **Export** to export the host name data you have entered into the table into a CSV file.
12. Click **Import** to select a CSV file to import into the table rather than add the data manually. See the SmartConnector Installation and User Guide for more information.
13. Select a [destination and configure parameters](#).
14. Specify a name for the connector.
15. (Conditional) 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 then click **Next**. The certificate is imported and the **Add connector Summary** window is displayed.



**Note:** If you select Do not import the certificate to connector from destination, the connector installation will end.

16. Select whether you want to install the connector as a service or in the standalone mode.
17. Complete the installation.
18. [Run the SmartConnector](#).

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



**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 the 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.

### SharePoint 2016/2013/2010/2019 Audit Data Mappings

ArcSight ESM Field	Device-Specific Field
Additional data	UserType
Additional data	webDescription
Additional data	webID
Device Custom String 2	Event ID
Device Custom String 3	Item Version
Device Custom String 4	Database Name
Device Custom String 6	Group Name
Device Event Category	One of("Custom Audit Event", "Internal Audit Event")
Device Event Class ID	Custom_Event_Name
Device Product	'SharePoint'
Device Receipt Time	Time_Occured
Device Vendor	'Microsoft'
External ID	Item_ID
File Id	Doc_Location
File ModificationTime	Doc_Time
File Name	Doc_Location
File Path	Doc_Location
File Type	Item_Type (1=Document, 3=Item, 4=List, 5=Folder, 6=Site, or 7=Site Collection)
Message	Event_Data
Name	Custom_Event_Name
Old FileId	Doc_ID
Old FileName	UI_Version

ArcSight ESM Field	Device-Specific Field
Old FileType	Doc_Type
Request Context	All of (EventData, Event_ID, Permission, EventMessage)
Source Address	Machine_IP
Source Host Name	Machine_Name
Source NT Domain	Extract NTDomain (User_Name)
Source Process Name	Event_Source
Source User Id	User_ID
Source User Name	Extract User Name(User_Name)
Source User Privileges	Permission

## SharePoint Query General Mappings

ArcSight ESM Field	Device-Specific Field
Device Custom Number 1	Permission Level ID
Device Custom Number 2	New Audit Mask
Device Custom String 2	Event ID
Device Custom String 3	Item Version

## Mappings for Audit Event 1

ArcSight ESM Field	Device-Specific Field
Message	",VersionMajor, ". ", VersionMinor, " was checked out."

## Mappings for Audit Event 2

ArcSight ESM Field	Device-Specific Field
Message	All of (VersionMajor, '.', VersionMinor, 'is the new version of the document.')

## Mappings for Audit Event 3

ArcSight ESM Field	Device-Specific Field
Message	'Viewed item'

## Mappings for Audit Event 4

ArcSight ESM Field	Device-Specific Field
Message	One of ('All versions were deleted and moved to the Recycle Bin', 'All versions were deleted completely')

## Mappings for Audit Event 5

ArcSight ESM Field	Device-Specific Field
Device Custom Number 3	Group ID
File Name	EventMessage
Message	'Updated Item'

## Mappings for Audit Event 6

ArcSight ESM Field	Device-Specific Field
File Name	ProfileTargetName
File Type	FileID
Message	All of (ProfileDescription, 'The location is', ProfileTargetName)

## Mappings for Audit Event 7

ArcSight ESM Field	Device-Specific Field
File ID	RelatedItemID
File Type	RelatedItemType (1=Document, 3=Item, 4=List, 5=Folder, 6=Site, 7=Site Collection)
FileName	RelatedItemLocation
Message	All of ('Deleted child at', RelatedItemLocation, 'GUID=', RelatedItemID)

## Mappings for Audit Event 8

ArcSight ESM Field	Device-Specific Field
Message	All of ('Change in the schema of the object on those columns:', FieldRefColName, FieldColName)
Request URL	FieldSourceID

## Mappings for Audit Event 10

ArcSight ESM Field	Device-Specific Field
Message	"Restoration of deleted items from the site collection recycle bin"

## Mappings for Audit Event 12

ArcSight ESM Field	Device-Specific Field
Message	Both ('Copying object to', EventMessage)
Request URL	EventMessage

## Mappings for Audit Event 13

ArcSight ESM Field	Device-Specific Field
File Name	NewRelativeURL
Message	All of ('Moving object to', NewRelativeURL)

## Mappings for Audit Event 14

ArcSight ESM Field	Device-Specific Field
Device Custom Number 2	New Audit Mask
Message	Both ('The new audit mask is', NewAuditMask)

## Mappings for Audit Event 15

ArcSight ESM Field	Device-Specific Field
Additional data	EventMessage
Message	'The search term and the object that is searched.'

## Mappings for Audit Event 16

ArcSight ESM Field	Device-Specific Field
File ID	RelatedItemID
File Name	RelatedItemNewName
Message	All of ('Moved child to', RelatedItemNewName, 'GUID=', RelatedItemID)

## Mappings for Audit Event 30

ArcSight ESM Field	Device-Specific Field
Destination User ID	UserID
Device Custom Number 3	Group ID
Device Custom String 6	Group Name
Message	All of ('New group', NewGroupName, '(Group ID=', NewGroupID,') was created by user ID', UserID)

## Mappings for Audit Event 31

ArcSight ESM Field	Device-Specific Field
Device Custom Number 3	Group ID
Message	All of ('Group ID', NewGroupID, 'was deleted')

## Mappings for Audit Event 32

ArcSight ESM Field	Device-Specific Field
Destination NT Domain	UserName
Destination User ID	NewUserID
Destination User Name	UserName
Device Custom Number 3	Group ID
Message	All of ('Member ID', NewUserID, 'was added to group ID', NewGroupID)

## Mappings for Audit Event 33

ArcSight ESM Field	Device-Specific Field
Destination User ID	UserID
Device Custom Number 3	Group ID
Message	'Member ID', UserID, 'was deleted from group ID', NewGroupID)

## Mappings for Audit Event 34

ArcSight ESM Field	Device-Specific Field
Device Custom Number 1	Permission Level ID
Message	All of ('New permission level:', PermissionLevelName, 'was created. The ID is', PermissionLevelID)
Source User Privileges	PermissionLevelName

## Mappings for Audit Event 35

ArcSight ESM Field	Device-Specific Field
Device Custom Number 1	Permission Level ID
Message	All of ('Permission level ID', PermissionLevelID, 'was deleted')

## Mappings for Audit Event 36

ArcSight ESM Field	Device-Specific Field
Device Custom Number 1	Permission Level ID
Message	All of ('Updated permission:', PermissionLevelName, 'level ID', PermissionLevelID)
Source User Privileges	PermissionLevelName

## Mappings for Audit Event 38

ArcSight ESM Field	Device-Specific Field
Additional data	SubsiteGUID
Destination User Privileges	Permission
Device Custom Number 3	Group ID
Message	All of ('Updated permission (Permission ID =', RoleID, 'for group or user ID', PrincipalID)

## Mappings for Audit Events 39, 40

ArcSight ESM Field	Device-Specific Field
Additional data	URL
Additional data	SubsiteGUID
Message	All of ('The URL of the subsite is', URL, 'GUID of the subsite is', SubsiteGUID)

## Mappings for Audit Event 50

ArcSight ESM Field	Device-Specific Field
End Time	DeleteEntriesEndDate
Message	All of ('Deleted', DeleteEntriesRows', entries at ', DeleteEntriesEndDate)

## Mappings for Audit Event 100

ArcSight ESM Field	Device-Specific Field
Device Custom String 1	Policy Name
Device Custom String 5	Policy ID
Message	Both (CustomPolicyDescription, CustomPolicyStatement)

# 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`.

please confirm that when customer used MySQL JDBC driver 5.1.38, they had issue to receive events. And the workaround is to apply older driver 5.0.8, after that connector is able to received events.

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