



# ArcSight SmartConnectors

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## Configuration Guide for Dell ChangeAuditor DB SmartConnector

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# Contents

- Configuration Guide for SmartConnector for Dell ChangeAuditor DB ..... 4
- Product Overview ..... 5
- Prerequisites ..... 6
  - Enabling Event Logging in ChangeAuditor ..... 6
  - Downloading the JDBC Driver ..... 6
- Installing and Configuring the SmartConnector ..... 8
  - Preparing to Install Connector ..... 8
  - Installing and Configuring the SmartConnector ..... 8
  - Adding the JDBC driver through the Connector Appliance or ArcMc ..... 10
- Device Event Mapping to ArcSight Fields ..... 12
  - Dell ChangeAuditor Event Mappings to ArcSight ESM Fields ..... 12
  - Dell ChangeAuditor Event 6.9 Mappings to ArcSight ESM Fields ..... 13
- Troubleshooting ..... 16
- Send Documentation Feedback ..... 18

# Configuration Guide for SmartConnector for Dell ChangeAuditor DB

This guide provides information for installing the SmartConnector for Dell ChangeAuditor DB and configuring the device for event collection.  
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## Product Overview

Change Auditor helps in speed resolution of security issues and misconfigurations, enabling a better understanding and forensic analysis of events and trends. It helps IT staff, security, and compliance teams audit, alert, and protect from unauthorized activities against Active Directory and Windows File changes using a whitelist/blacklist permission model.

Change Auditor for Active Directory tracks all Microsoft(R) Active Directory configuration changes in real time. From Group Policy and Schema events to group and operational changes, it tracks, audits, reports, and alerts on changes that impact your directory, without the overhead of native auditing.

Change Auditor provides visibility into enterprise-wide activities from one central console, enabling customers to see how data is being handled in relation to other events.

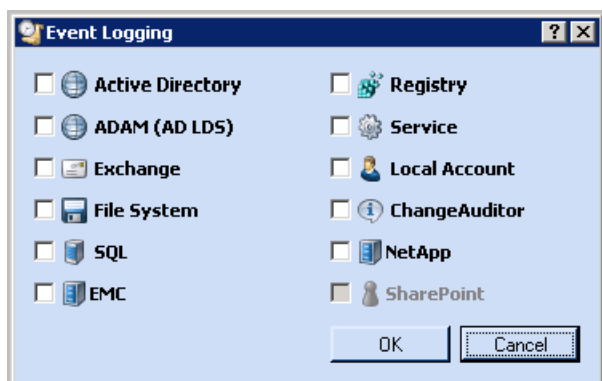
## Prerequisites

### Enabling Event Logging in ChangeAuditor

You must configure the ChangeAuditor to log events before you install the SmartConnector.

To configure event logging in ChangeAuditor for Active Directory:

1. Open the **Administration Tasks** tab in the ChangeAuditor Agent Configuration page.
2. From the left-hand pane, select **Agent** from the Configuration task list.
3. Select the **Event Logging** tool bar button.



4. Select the type of event logging to be enabled.

If an option is disabled, this indicates that you do not have the corresponding component licensed.

5. Click **OK**.

For more information, see the *ChangeAuditor User Guide*.

## 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 and Configuring the SmartConnector

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

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

## Preparing to Install Connector

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

## 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`

For using 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.

7. Browse to `$ARCSIGHT_HOME/current/bin`, then double-click `runagentsetup` file to start the SmartConnector Configuration Wizard.
8. Specify the relevant Global Parameters, when prompted.
9. Select **Dell ChangeAuditor DB** from the Type drop-down, then click **Next**.
10. Select the following parameter details to configure the SmartConnector, then click **Next**.
11. Select the following device details to configure the SmartConnector, then click **Next**.

Parameter	Description
URL	The following default value is shown for JDBC drivers: jdbc:sqlserver://<MS SQL Server Host Name or IP Address>:1433;DatabaseName=<MS SQL Server Database Name>. Substitute actual values for <MS SQL Server Host Name or IP Address> and <MS SQL Server Database Name>.
User	Enter the login name of the user you created on the DB machine in "Create a New Database User for Microsoft SQL Server."
Password	Enter the password assigned to the DB SQL Server user.
Event Types	Default is "activedirectory_content".

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.
18. 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 through the Connector Appliance or ArcMc

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.

### Dell ChangeAuditor Event Mappings to ArcSight ESM Fields

ArcSight ESM Field	Device-Specific Field
Agent (Connector) Severity	high=High,Checker,Red, medium=Medium,Yellow, low=None,Low,Green,Blue,Local
Destination Address	UserAddressIPv4
Destination FQDN	ServerFQDN
Destination Host Name	One of(EventMessage,ServerName)
Destination NT Domain	EventMessage
Destination Process Name	ProcessName
Device Action	ActionName
Device Custom Date1	TimeBatched
Device Custom IPv6 Address 3	UserAddressIPv6 (Device Custom IPv6 Address3)
Device Custom Number 1	TimeOfDay (Time of Day)
Device Custom String 2	InitiatorUserName (Initiator User Name)
Device Custom String 3	UserMail (Email Address)
Device Custom String 4	ObjectName (Object Name)
Device Custom String 5	ObjectClass (Object Class)
Device Custom String 6	ObjectCanonical (Object Canonical)
Device Event Class ID	EventClassID
Device Facility	FacilityName
Device Product	'Change Auditor for Active Directory'
Device Receipt Time	TimeReceived

ArcSight ESM Field	Device-Specific Field
Device Severity	SeverityName
Device Vendor	'Dell'
End Time	TimeDetected
Event Outcome	ResultName
External ID	EventID
File Hash	fileHash
File Name	fileName
File Path	filePath
Name	EventClassName
Source Address	SourceAddress
Source FQDN	DomainFQDN
Source Host Name	UserAddress
Source NT Domain	DomainName
Source Process Name	EventSource
Source Service Name	ServiceName
Source User Name	One of (UserName, UserAccount)

## Dell ChangeAuditor Event 6.9 Mappings to ArcSight ESM Fields

ArcSight ESM Field	Device-Specific Field
Agent (Connector) Severity	high=High,Checker,Red, medium=Medium,Yellow, low=None,Low,Green,Blue,Local
Destination Address	UserAddressIPv4
Destination FQDN	ServerFQDN
Destination Host Name	One of(EventMessage,ServerName)
Destination NT Domain	EventMessage
Destination Process Name	ProcessName
Device Action	ActionName
Device Custom Date1	TimeBatched

ArcSight ESM Field	Device-Specific Field
Device Custom IPv6 Address 3	UserAddressIPv6 (Device Custom IPv6 Address3)
Device Custom Number 1	TimeOfDay (Time of Day)
Device Custom Number 2	AAD_ActivityOrigin
Device Custom Number 2 Label	"Activity Origin"
Device Custom Number 3	AAD_TargetSyncType
Device Custom Number 3 Label	"Target Sync Type"
Device Custom String 2	InitiatorUserName (Initiator User Name)
Device Custom String 3	UserMail (Email Address)
Device Custom String 4	ObjectName (Object Name)
Device Custom String 5	ObjectClass (Object Class)
Device Custom String 6	ObjectCanonical (Object Canonical)
Device Event Category	AAD_Category
Device Event Class ID	EventClassID
Device Facility	FacilityName
Device Product	'Change Auditor for Active Directory'
Device Receipt Time	TimeReceived
Device Severity	SeverityName
Device Vendor	'Dell'
End Time	TimeDetected
Event Outcome	ResultName
External ID	EventID
File Hash	fileHash
File Name	fileName
File Path	filePath
File Permission	User_IsAdministrator
Name	EventClassName
Old File Name	AAD_TenantDisplayName
Old File Path	AAD_TenantDefaultDomain

ArcSight ESM Field	Device-Specific Field
Old File Type	AAD_ActivityType
Reason	AAD_ActivityStatusReason
Request Client Application	AAD_TargetDisplayName
Request Context	Origin_ADSiteName
Request Cookies	O365_Operation
Request URL	O365_SiteUrle
Source Address	SourceAddress
Source FQDN	DomainFQDN
Source Host Name	UserAddress
Source NT Domain	DomainName
Source Process Name	EventSource
Source Service Name	ServiceName
Source User Name	One of (UserName, UserAccount)

# 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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