

Dell™ Change Auditor for SQL Server® 6.6

User Guide



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Legend

 **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

 **WARNING:** A WARNING icon indicates a potential for property damage, personal injury, or death.

 **IMPORTANT NOTE, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

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Dell Change Auditor for SQL Server Overview

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Introduction

Dell™ Change Auditor for SQL Server® provides database auditing to secure SQL database assets with extensive, customizable auditing and reporting for all critical SQL Server® changes including broker, database, object, performance, and transaction events, plus errors and warnings. SQL auditing helps tighten enterprise-wide change and control policies by tracking user and administrator activity such as database additions and deletions, granting and removing SQL access, etc.

To enable SQL Server auditing, you must assign templates to the Change Auditor agents which define the SQL instances and event classes to be audited.

NOTE: SQL auditing is only available if you have licensed the Change Auditor for SQL Server service. The product will not prevent you from using these features, however, associated events will not be captured unless the proper license is applied.

Deployment requirements

For a successful deployment of Change Auditor for SQL Server, ensure that your environment meets the minimum system requirements. Refer to the *Dell™ Change Auditor Installation Guide* for the Change Auditor requirements and details on installing Change Auditor and deploying Change Auditor agents.

SQL Server Auditing requirements

Change Auditor license requirement:

- Change Auditor for SQL Server

Supported SQL Server® versions:

- Microsoft® SQL Server 2005
- Microsoft SQL Server 2008 SP1, SP2 or SP3
- Microsoft SQL Server 2008 R2, SP1 or SP2
- Microsoft SQL Server 2012 or SP1
- Microsoft SQL Server 2014 CU3

Client components/features

The following table lists the client components and features that require a valid Change Auditor for SQL Server license. The product will not prevent you from using these features; however, associated events will not be captured unless the proper license is applied.

- NOTE:** To hide unlicensed Change Auditor features from the Administration Tasks tab (including unavailable audit events throughout the client), use the **Action | Hide Unlicensed Components** menu command. Note this command is only available when the Administration Tasks tab is the active page.

Table 1. Change Auditor for SQL Server client components/features

Client page	Feature
Administration Tasks tab	<div>Agent Configuration page</div> <ul style="list-style-type: none">Event Logging - enable/disable SQL Server® event logging <div>Audit Task list:</div> <ul style="list-style-type: none">SQL <div>NOTE: See SQL Server Auditing for information on creating templates to define SQL Server auditing or to enable SQL Server event logging.</div>
Events	<div>Facilities:</div> <ul style="list-style-type: none">SQL Broker EventSQL CLR EventSQL Cursors EventSQL Database EventSQL Deprecation EventSQL Errors and Warnings EventSQL Full Text EventSQL Locks EventSQL Objects EventSQL OLEDB EventSQL Performance EventSQL Progress Report EventSQL Query Notifications EventSQL Scan EventSQL Security Audit EventSQL Server EventSQL Session EventSQL Stored Procedures EventSQL Transactions EventSQL TSQL EventSQL User-Configurable Event
Search Properties	<div>What tab</div> <ul style="list-style-type: none">Subsystem SQL <div>NOTE: See SQL Searches/Reports for information on using the What tab to create custom SQL search queries.</div>
Searches page	<div>Built-in reports:</div> <ul style="list-style-type: none">All reports that include the events in the facilities listed above.

Table 1. Change Auditor for SQL Server client components/features

Client page	Feature
Advanced tab/Search Results page	<p>Columns:</p> <ul style="list-style-type: none"> • SQL Application Name • SQL Client Process ID • SQL Database ID • SQL Database Name • SQL Event Class • SQL Event SubClass • SQL Host Name • SQL Instance Name • SQL IsSystem • SQL Linked Server Name • SQL Object ID • SQL Object ID2 • SQL Object Name • SQL Object Type • SQL Owner ID • SQL Owner Name • SQL Parent Name • SQL Provider Name • SQL Row Counts • SQL Session Login Name • SQL SPID • SQL Success • SQL Text Data

Table 1. Change Auditor for SQL Server client components/features

Client page	Feature
Alert Body Configuration dialog - Event Details tab	Variables (email tags): <ul style="list-style-type: none"> • SQL_APPLICATIONNAME • SQL_CLIENTPROCESSID • SQL_DATABASEID • SQL_DATABASENAME • SQL_EVENTCLASS • SQL_EVENTSUBCLASS • SQL_HOSTNAME • SQL_INSTANCENAME • SQL_ISSYSTEM • SQL_LINKEDSERVERNAME • SQL_OBJECTID • SQL_OBJECTID2 • SQL_OBJECTNAME • SQL_OBJECTTYPE • SQL_OWNERID • SQL_OWNERNAME • SQL_PARENTNAME • SQL_PROVIDERNAME • SQL_ROWCOUNTS • SQL_SESSIONLOGINNAME • SQL_SPID • SQL_SUCCESS • TEXTDATA

NOTE: See the *Dell™ Change Auditor User Guide* for a description of these email tags and how to configure alert email notifications.

This document has been prepared to assist you in becoming familiar with Change Auditor for SQL Server. This User Guide contains information about the additional features that are available when a valid Change Auditor for SQL Server license has been applied. It is intended for network administrators, consultants, analysts, and any other IT professionals using the product.

NOTE: The *Dell™ Change Auditor User Guide* explains the core functionality available in Change Auditor regardless of the product license that has been applied. In addition, there are separate user guides available that describe the additional functionality added to Change Auditor when the different auditing modules are licensed. The supplemental user guides include:

- Dell™ Change Auditor for Active Directory® User Guide
- Dell™ Change Auditor for Active Directory® Queries User Guide
- Dell™ Change Auditor for EMC® User Guide
- Dell™ Change Auditor for Exchange User Guide
- Dell™ Change Auditor for Logon Activity User Guide
- Dell™ Change Auditor for NetApp® User Guide
- Dell™ Change Auditor for SharePoint® User Guide
- Dell™ Change Auditor for SonicWALL™ User Guide
- Dell™ Change Auditor for SQL Server® User Guide
- Dell™ Change Auditor for Windows® File Servers User Guide

Getting Started

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- [Verify license is applied](#)
- [Apply SQL Auditing template](#)
- [Make changes to the default SQL instance and run a report](#)

Introduction

To capture SQL events in Change Auditor, you must first complete the following steps to define the SQL instances to be audited and the events to be captured:

- 1 Assign the pre-defined 'Best Practice SQL Auditing Template', that audits key SQL events that occur on the default SQL instance, to an agent configuration.

Or create a new SQL Auditing template which specifies the SQL instance(s) and events to be audited and assign this template to an agent configuration.
- 2 Assign the agent configuration to Change Auditor agents.

This chapter provides a high-level view of the tasks to get you started using Change Auditor for SQL Server. It assumes you have successfully installed/licensed Change Auditor for SQL Server.

Verify license is applied

To verify that Change Auditor for SQL Server is licensed:

- 1 From the member server where Change Auditor is installed, launch the License Manager (**Start | All Programs | Dell | Change Auditor | License Manager**).
- 2 On the About Change Auditor dialog, verify that the **License Status** field is set to 'Installed' for Change Auditor for SQL Server.
- 3 If the **License Status** field indicates that Change Auditor for SQL Server is 'Uninstalled', click the **Update License** button to locate and apply the appropriate license.

Apply SQL Auditing template

Change Auditor for SQL Server ships with a pre-defined SQL Auditing template, named Best Practice SQL Auditing Template, that can be applied to an agent configuration to audit the default SQL instance to capture key SQL events or used as a starting point for creating a new SQL Auditing template.

The following steps walk you through the process of applying the pre-defined SQL Auditing template to get you started.

To assign the Best Practices SQL Auditing template to an agent configuration:

- 1 Open the Administration Tasks tab.
- 2 Click the **Configuration** task button at the bottom of the navigation pane (left-hand pane).
- 3 Select **Agent** (in the Configuration task list) to open the Agent Configuration page.
- 4 Click the **Configurations** tool bar button.

This will display the Configuration Setup dialog, which contains a list of configuration definitions available.
- 5 On the Configuration Setup dialog, use one of the following methods to assign this template to an agent configuration:
 - Select the Best Practices SQL Auditing template and ‘drag and drop’ it onto a configuration in the Configuration list.
 - Select a configuration from the Configuration list and ‘drag and drop’ it onto the Best Practices SQL Auditing template.
 - Select a configuration, then select the Best Practices SQL Auditing template, right-click and select **Assign**.
 - Select a configuration, then select the Best Practices SQL Auditing template, click in the corresponding **Assigned** cell and click **Yes**.
- 6 Click the **OK** button to close the Configuration Setup dialog and return to the Agent Configuration page.
- 7 Select an agent from the list, click the **Assign** tool bar button and then select the agent configuration to be assigned to the agent from the displayed dialog. Click **OK** to save your selection and close the Agent Assignment dialog.
- 8 On the Agents Configuration page, select the agent(s) assigned to use the modified agent configuration (**Auditing** appears in the **SQL** column) and click the **Refresh Configuration** tool bar button. This will ensure the agent(s) are using the latest configuration.

NOTE: If you do not refresh the agent’s configuration, the agent will automatically check for a new agent configuration based on the polling interval setting (located on the System Settings tab of the Configuration Setup dialog). The default is every 15 minutes.

Make changes to the default SQL instance and run a report

- 1 To test SQL Server® auditing, make some changes to the default SQL instance.

For example:

 - add a database user
 - add a database role
 - grant or revoke database access to a database user
 - delete the database user added above
 - delete the database role added above
- 2 Launch the Change Auditor client (**Start | All Programs | Dell | Change Auditor | Change Auditor Client**) to review the events generated.
- 3 Open the Searches tab.

- 4 Expand the **Shared | Built-in | Recommended Best Practice | SQL** folder in the left pane.
- 5 Locate and double-click **All SQL Events** in the right pane.
A new Search Results tab is added to the client displaying the SQL events that were captured.
- 6 Double-click an event from the Search Results grid to display the event details for the selected event.

SQL Server Auditing

- [Introduction](#)
- [SQL Auditing page](#)
- [SQL Auditing templates](#)
- [SQL Auditing wizard](#)
- [SQL Server event logging](#)

Introduction

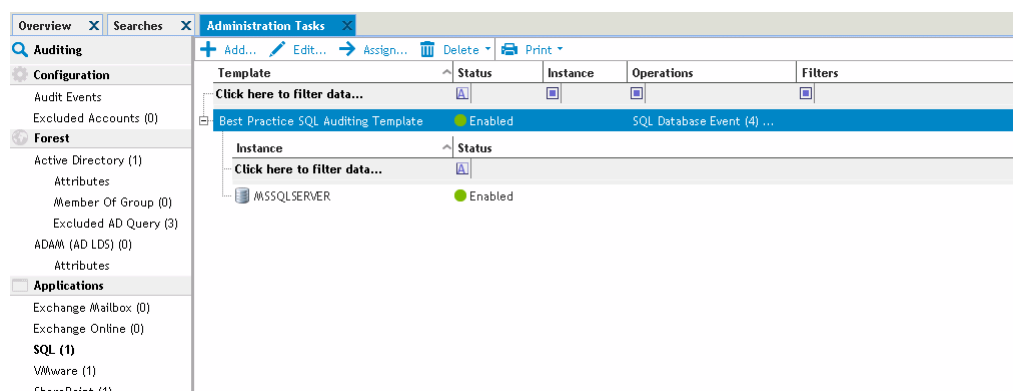
The SQL Auditing page on the Administration Tasks tab displays details about each SQL Auditing template created and allows you to add new auditing templates or modify and delete templates. It will initially contain an entry for the Best Practice SQL Auditing Template that ships with Change Auditor.

This chapter provides instructions for creating SQL Auditing templates, as well as a description of the Best Practice SQL Auditing template, SQL Server Auditing page and SQL Auditing wizard. For a description of the dialogs mentioned in this chapter, refer to the online help. For more information about agent configurations, refer to the *Dell™ Change Auditor User Guide*.

SQL Auditing page

The SQL Auditing page is displayed when **SQL** is selected from the Auditing task list in the navigation pane of the Administration Tasks tab. From this page you can launch the SQL Auditing wizard to specify the SQL instance(s) and the operations to be audited. You can also edit existing templates and remove templates that are no longer being used.

NOTE: Authorization to use the administration tasks on the Administrations Tasks tab is defined using the Application User Interface page under the Configuration task list. If you are denied access to the tasks on this page, refer to the *Dell™ Change Auditor User Guide* for more information on how to gain access.



The SQL Auditing page contains an expandable view of all the SQL Auditing templates that have been defined. Initially, only the Best Practice SQL Auditing template will be listed on this page. To add a new template to this list, click the **Add** tool bar button. Once added, the following information is provided for each template:

Template

Displays the name assigned to the template when it was created.

Status

Indicates whether the auditing template is enabled or disabled.

Instance

This field is used for filtering data.

Operations

Displays the events selected for auditing on the Events tab of the wizard. Hover your mouse over this cell to view all of the events included in the template.

Filters

Displays the column filters applied to a template.

Click the expansion box to the left of the Template name to expand this view and display the following details for each template:

Instance

Displays the name of the SQL instance selected on the first page of the wizard.

Status

Indicates whether auditing for the selected instance is enabled or disabled.

NOTE: The cells directly under the main heading rows are used for filtering data. That is, as you enter characters into these cells, the client will redisplay the templates that meet the search criteria (i.e., comparison operator and characters entered). For more details about using the data filtering function provided throughout the Change Auditor client, see the *Dell™ Change Auditor User Guide*.

SQL Auditing templates

In order to enable SQL Server® auditing in Change Auditor, you must add a SQL Auditing template to an agent configuration, which can then be assigned to the appropriate Change Auditor agents. Change Auditor for SQL Server ships with a pre-defined SQL Auditing template that can be used to audit key events on the default SQL server instance or you can create a new SQL auditing template to specify the SQL instance(s) and SQL Server operations to be audited.

Best Practice SQL Auditing template

The Best Practice SQL Auditing template is a pre-defined SQL Auditing template that audits the default SQL instance for the following SQL Server operations:

- Audit Add DB User
- Audit Add Login
- Audit Add Login to Server Role
- Audit Add Member to DB Role
- Audit Add Role
- Audit Change Database Owner
- Audit Change Member in DB Role
- Audit Create Database


- Audit Drop Database
- Audit Drop DB User
- Audit Drop Login from Server Role
- Audit Drop Member from DB Role
- Audit Drop Role
- Audit Grant Database Access to DB User
- Audit Revoke Database Access from DB User
- Data File Auto Grow
- Data File Auto Shrink
- Log File Auto Grow
- Log File Auto Shrink

You can assign this pre-defined SQL Auditing template to an agent configuration or can use it as a base for creating your own SQL Auditing templates.

For instruction on how to assign the default Best Practices SQL Auditing template to an agent configuration, see [Getting Started](#).

To create a new SQL auditing template:

NOTE: You can use the Best Practice SQL Auditing Template as a starting point for creating a new template. That is, you can edit this pre-defined template to add additional SQL Server operations or define column filters. You can also, add a new instance to the auditing list and copy the pre-defined operations and filters to the new instance. See the [To modify a template](#) procedure for more information.

- 1 Open the Administration Tasks tab.
- 2 Click the **Auditing** task button at the bottom of the navigation pane (left pane).
- 3 Select **SQL** (under the Applications heading in the Auditing task list) to open the SQL Auditing page.
- 4 Click the **Add** tool bar button to launch the SQL Auditing wizard which will step you through the process of creating a SQL Auditing template.
- 5 From the first page of the wizard, enter a name for the template and select the SQL instance to be audited.
 - Select the **Default** option to audit the default instance. Select **Add** to add it to the SQL Instance list.
 - Select the **Named** option to audit a named instance. Select the browse button , select a SQL instance from the list displayed and click **OK** to close the dialog. Click **Add** to add the SQL instance to the auditing list.
 - Select **All Instances** to audit all the SQL instances on the server. Click **Add** to add it to the SQL Instance list.
- 6 On the second page of the wizard, select the operations (facilities or event classes) that are to be audited. At least one event must be selected.
 Select an entry from the list box at the top of the page, expand the **Add** button and click one of the following commands:
 - Use the **Add | Add This Event** button to add individual events.
 - Use the **Add | Add All Events in Facility** option to add all events in the selected facility.
- 7 On the third page of the wizard, optionally define column filters to capture only a subset of transactions.
 - Select/highlight an entry from the data grid.

- In the **Filter where** fields, enter the operator and value to be used in the filter. In the first field (left) use the drop-down menu to select the operator (e.g., Like or Not Like; =, !=, <= or >=). The operators listed are based on the entry selected in the **Filters** list above. In the second field (right) enter the value or string to be used in the filter.

NOTE: The following wildcard characters can be used in LIKE expressions for non-exact string matches:

- Use an asterisk (*) to match zero or more characters.
- Use a percent sign (%) to match zero or more characters.
- Use an underscore (_) to match a single character.

- Click the **Add** button to add it to the Filter list at the bottom of the page.

NOTE: To add multiple filters, select the column filter row after which the new filter is to be added, and then use the **Filter where** fields to specify the new criteria. By default, when multiple filters are specified these filters are 'ANDed' together and all filters must be met in order to be considered a match. To use the 'OR' operator instead, click in the left-most column of a column filter row and select OR from the drop-down. When filters are 'ORed' together, then only one of the filters must be met in order to be considered a match.

Filter where...	Column	Operator	Value
DatabaseName	LIKE	Quest%	
DatabaseName	LIKE	Dell%	

When both 'AND' and 'OR' operators are present in the filter list, 'ORed' filters are evaluated first and their results are used by the 'AND' filter.

- 8 To create the template without assigning it to an agent configuration, click the **Finish** button.

Clicking the **Finish** button will create the template, close the wizard, and return to the SQL Auditing page, where the newly created template will now be listed.

- 9 To create the template and assign it to an agent configuration, expand the **Finish** button and select **Finish and Assign to Agent Configuration**.

On the Configuration Setup dialog, use one of the following methods to assign this template to an agent configuration:

- Select the newly created template and 'drag and drop' it onto a configuration in the Configuration list.
- Select a configuration from the Configuration list and 'drag and drop' it onto the newly created template.
- Select a configuration, then select the newly created template, right-click and select **Assign**.
- Select a configuration, then select the newly created template, click in the corresponding **Assigned** cell and click **Yes**.

- 10 If this configuration is not assigned to any agents, you will need to assign it to one or more installed agents to capture the specified SQL events.

- On the Agent Configuration page, select one or more agents from the agent list and click the **Assign** tool bar button.
- On the Agent Assignment dialog, select the configuration definition to be assigned to the selected agent(s) and click the **OK** button.
- On the Agent Configuration page, select the agent(s) assigned to use the modified agent configuration and click the **Refresh Configuration** tool bar button. This will ensure the agent(s) are using the latest configuration.

① **NOTE:** If you do not refresh the agent's configuration, the agent will automatically check for a new agent configuration based on the polling interval setting (located on the System Settings tab of the Configuration Setup dialog). The default is every 15 minutes.

① **IMPORTANT:** When multiple SQL Auditing templates are assigned to an agent configuration, the criteria specified in the last template assigned to the agent takes precedence.

To modify a template:

- 1 On the SQL Auditing page, select the template to be modified and click the **Edit** tool bar button or right-click command.
- 2 This will display the SQL Auditing wizard, where you can modify the SQL instance, events and/or filters included in the template. For example:
 - On the first page of wizard, you can change the name of the template or add a new SQL instance to the selected auditing template.
 - ① **NOTE:** If you add a new instance to the SQL instance list and wish to use the same operations and filters that were previously defined for a SQL instance that is already in the list, simply click on the 'old' SQL instance and drag and drop it onto the 'new' entry.
 - On the second page of the wizard, you can add or remove SQL events from the selected auditing template.
 - On the third page of the wizard, you can add, modify or remove column filters from the selected auditing template.
- 3 Click the **Finish** button or expand the **Finish** button and select **Finish and Assign to Agent Configuration**.

To disable an auditing template:

The disable feature allows you to temporarily stop auditing the specified SQL instance without having to remove the auditing template or individual SQL instance from a template.

- 1 On the SQL Auditing page, use one of the following methods to disable an auditing template:
 - Place your cursor in the **Status** cell for the template to be disabled, click the arrow control and select **Disabled**.
 - Right-click the template to be disabled and select **Disable**.

The entry in the **Status** column for the template will change to 'Disabled'.

- 2 To re-enable the auditing template, use the **Enable** option in either the **Status** cell or right-click menu.

To disable the auditing of a SQL instance in a template:

- 1 On the SQL Auditing page, use one of the following methods to disable a SQL instance in an auditing template:
 - Place your cursor in the **Status** cell for the SQL instance to be disabled, click the arrow control and select **Disabled**.
 - Right-click the SQL instance to be disabled and select **Disable**.

The entry in the **Status** column for the selected SQL instance will change to 'Disabled'.

- 2 To re-enable the auditing of a SQL instance, use the **Enable** option in either the **Status** cell or right-click menu.

To delete an auditing template:

- 1 On the SQL Auditing page, use one of the following methods to delete a template:
 - Select the template to be deleted and click the **Delete | Delete Template** tool bar button.
 - Right-click the template to be deleted and select **Delete**.

- 2 A dialog will be displayed confirming that you want to delete the selected template. Click **Yes**.

To delete a SQL instance from a template:

- 1 On the SQL Auditing page, use one of the following methods to delete a SQL instance from an auditing template:
 - Select the SQL instance to be deleted and click the **Delete | Delete SQL Instance** tool bar button.
 - Right-click the SQL instance to be deleted and select **Delete**.
- 2 A dialog will be displayed confirming that you want to delete the selected SQL instance from the template. Click **Yes**.

NOTE: If the SQL instance is the last one in the template, deleting this SQL instance will also delete the template.

SQL Auditing wizard

The SQL Auditing wizard is displayed when you click the **Add** or **Edit** tool bar button on the SQL Auditing page. This wizard steps you through the process of creating a new template, identifying the SQL instances to be included in the template. You will also use this wizard to modify a previously defined template.

The following table provides a description of the fields and controls in the SQL Auditing wizard.


NOTE: A red flashing icon indicates that you have not yet entered the required information. Hovering your cursor over this icon displays a tool tip explaining what needs to be entered.

Table 2. SQL Auditing wizard

Create or modify a SQL Auditing Template page

On the first page of the wizard, enter a name for the template and select the SQL instance to be audited.

Table 2. SQL Auditing wizard

Template Name	Enter a descriptive name for the template being created.
Audit SQL Instance	<p>Select one of the following options:</p> <ul style="list-style-type: none"> • Default - This option is selected by default and will use the default SQL instance (MSSQLSERVER) found on an agent that is using the SQL Server® Auditing template. • Named - Select this option to use a named instance instead of the default SQL instance. When this option is selected, the name field will be activated allowing you to enter a SQL named instance. Or use the browse button  to the right of this field to select from a list of available servers. Selecting the browse button will display the Select a SQL Instance dialog which displays a list of available servers. • All Instances - Select this option to audit all SQL instances on a SQL server.
Add	<p>Use the Add button to move the entry in the Audit SQL Instance text box to the selection list.</p> <p>NOTE: Even if you select the Default SQL instance or All Instances, you must click the Add button to include it in the SQL Instance list.</p>
Remove	Select an entry in the selection list and click the Remove button to remove it from the template.
SQL Instance list	<p>The list box, located across the bottom of this page, displays the SQL instances selected for auditing.</p> <p>NOTE: If you add a new named instance to the SQL instance list and wish to use the same operations and filters that were previously defined for a SQL instance that is already in the list, simply click on the 'old' SQL instance and drag and drop it onto the 'new' entry.</p>

Select the changes in the SQL instance(s) to audit page

From this page, select the SQL Server operations (event classes) that are to be audited on the selected SQL instance. You must select at least one operation.

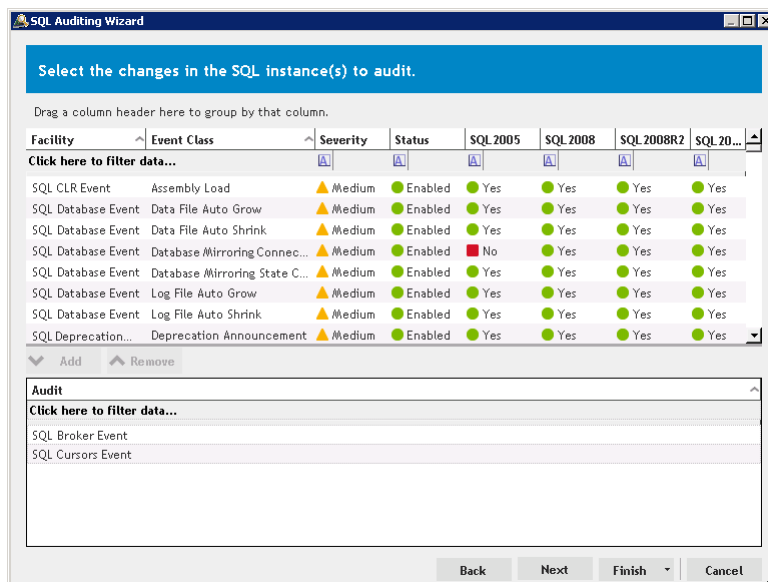


Table 2. SQL Auditing wizard

Event Classes

The data grid across the top of the page displays all of the SQL event classes available for auditing. Select/highlight an event class and use the appropriate add option to add either the individual event class or all events in the selected facility.

This grid displays the following information for each event class:

- **Facility** - displays the facility to which each event class belongs
- **Event Class** - displays the events available for auditing
- **Severity** - displays the current severity level assigned to each event
- **Status** - indicates whether the event is currently enabled or disabled
- **SQL2005** - indicates whether the event class is available in SQL 2005
- **SQL2008** - indicates whether the event class is available in SQL 2008
- **SQL2008R2** - indicates whether the event class is available in SQL 2008 R2
- **SQL2012** - indicates whether the event class is available in SQL 2012

Add Add This Event	Click the Add button and select the Add This Event option to add the selected event class to the Audit list box at the bottom of the page.
Add Add All Events in Facility	Click the Add button and select the Add All Events in Facility option to add all event classes in the selected facility to the Audit list box at the bottom of the page.
Remove	Use the Remove button to remove the selected entry from the Audit list box.
Selection list	This list box displays the facilities and/or event classes to be included in the selected auditing template.

(Optional) Select column filters page

Using the Select Column Filters page you can optionally define column filters to limit the data retrieved. These filters allow you to capture only the required information in high traffic databases.

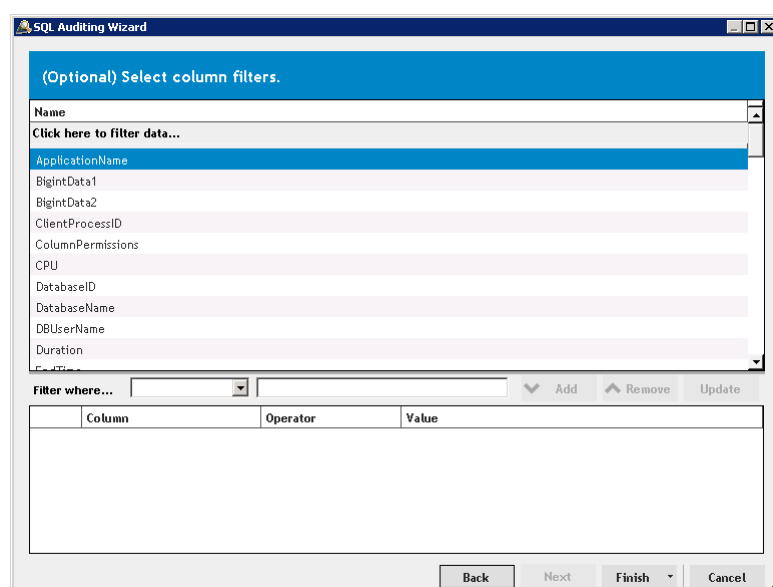
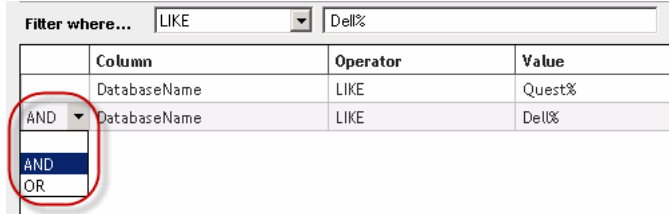


Table 2. SQL Auditing wizard

Filters	<p>The data grid across the top of the page displays the SQL columns available for filtering. Select/highlight an entry and then use the Filter where fields to define the operator and values to be used in the filter.</p>
Filter where ...	<p>In the first field (left) use the drop-down menu to select the operator (e.g., Like or Not Like; =, !=, <= or >=). The operators listed are based on the entry selected in the Filters list above.</p> <p>In the second field (right) enter the value or string to be used in the filter.</p> <p>NOTE: Valid wildcard characters that can be used in LIKE expressions for non-exact string matches include:</p> <ul style="list-style-type: none"> Asterisk (*) to match zero or more characters Percent sign (%) to match zero or more characters Underscore (_) to match a single character <p>For example, to limit the data retrieval to all databases that begin with 'Change' (e.g., Change Auditor, ChangeAuditor_Archive_2011, ChangeManager, etc.)</p> <ul style="list-style-type: none"> Select DatabaseName from the Filters list. Select LIKE in the first field. Enter Change% in the second field. Click Add to add it to the list. <p>NOTE: To add multiple filters, select the column filter row after which the new filter is to be added, and then use the Filter where fields to specify the new criteria. By default, when multiple filters are specified these filters are 'ANDed' together and all filters must be met in order to be considered a match. To use the 'OR' operator instead, click in the left-most column of a column filter row and select OR from the drop-down. When filters are 'ORed' together, then only one of the filters must be met in order to be considered a match.</p> 
Add	Click the Add button to move the filter entered above to the Column Filter list at the bottom of the page.
Remove	Use the Remove button to remove the selected entry from the Column Filter list.
Modify	Use the Modify button to change the operator or value of the filter selected in the Column Filter list.
Column Filter list	This list box displays the column filters defined for this SQL Auditing template.

SQL Server event logging

In addition to real-time event auditing, you can enable event logging to capture SQL Server® events locally in a Windows® event log. This event log can then be collected using Dell™ InTrust™ to satisfy long-term storage requirements.

For SQL Server events, event logging is disabled by default. When enabled, only configured SQL server activities are sent to the Change Auditor for SQL Server event log. See the *Dell™ Change Auditor for SQL Server® Event Reference Guide* for a list of the events that can be sent to this event log.

To enable SQL Server event logging:

- 1 Open the Administration Tasks tab.
- 2 Click the **Configuration** task button at the bottom of the navigation pane.
- 3 Select **Agent** in the Configuration task list to display the Agent Configuration page.
- 4 Click the **Event Logging** tool bar button.
- 5 On the Event Logging dialog, select **SQL**.
- 6 Click **OK** to save your selection and close the dialog.

SQL Searches/Reports

- [Introduction](#)
- [Create custom SQL searches](#)

Introduction

Change Auditor for SQL Server provides you with the ability to search, report and alert on changes to all SQL instances being audited or changes made to a specific SQL instance, SQL database or SQL Server® object.

This chapter explains how to create a custom SQL search using the What tab. For a description of the dialogs mentioned in this chapter, refer to the online help.

Create custom SQL searches

The following scenarios explain how to use the What tab to create custom SQL searches.

- NOTE:** If you wanted to, you can use the other search properties tabs to define additional criteria:
- **Who** - allows you to search for events generated by a specific user, computer or group
 - **Where** - allows you to search for events captured by a specific agent or within a specific domain or site
 - **When** - allows you to search for events that occurred within a specific date/time range
 - **Origin** - allows you to search for events that originated from a specific workstation or server

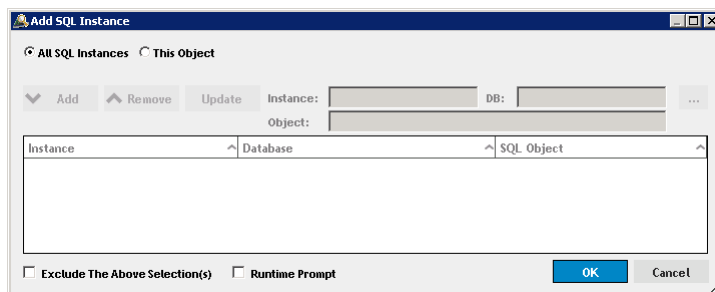
To search all SQL instances:

- 1 Open the Searches page.
- 2 In the explorer view (left pane), expand and select the folder where you want to save your search.
Selecting the **Private** folder will create a search that only you can run and view, whereas selecting the **Shared** folder will create a search which can be run and viewed by all Change Auditor users.
- 3 Click the **New** tool bar button at the top of the Searches page (or right-click a folder and select the **New | New Search** menu command).
This will activate the Search Properties tabs across the bottom of the Searches page.
- 4 On the Info tab, enter a name and description for the search.
- 5 Open the What tab, expand the **Add** tool bar button and select **Subsystem | SQL**.
- 6 On the Add SQL Instance dialog, select **All SQL Instances**.
- 7 Click the **OK** button to save your selection and close the dialog.
- 8 Once you have defined the search criteria to be used, you can either save the search definition or run the search.
 - To save the search definition without running it, click **Save**.

- To save and run the search, click **Run**.
- 9 When this search is run, Change Auditor will search for the SQL events based on the search criteria specified on the What tab and display the results in a new search results page.

To search a specific SQL instance, database or object:

- 1 Open the Searches page.
- 2 In the explorer view (left pane), expand and select the folder where you want to save your search.
Selecting the **Private** folder will create a search that only you can run and view, whereas selecting the **Shared** folder will create a search which can be run and viewed by all Change Auditor users.
- 3 Click the **New** tool bar button at the top of the Searches page (or right-click a folder and select the **New | New Search** menu command).
This will activate the Search Properties tabs across the bottom of the Searches page.
- 4 On the Info tab, enter a name and description for the search.
- 5 Open the What tab, expand the **Add** tool bar button and select **Subsystem | SQL**.
- 6 On the Add SQL Instance dialog, select **This Object**.



- 7 When the **This Object** option is selected, you must fill in at least one of the following fields to define the SQL object(s) to be included in the search:
 - **Instance** - Enter the name of the SQL instance or click the browse button ... to the far right to select from a list. Selecting the browse button will display the Select a SQL Instance and Database dialog which provides a list of SQL instances and associated databases from which you can select the instance and database to be used. If you leave this field blank, Change Auditor will search for SQL events based on the entries made in the **DB** and/or **Object** fields for all audited SQL instances.
 - **DB** - Enter the name of the SQL database to be used or use the browse button ... to the far right to select from a list. Selecting the browse button will display the Select a SQL Instance and Database dialog which provides a list of SQL instances and associated databases from which you can select the instance and database to be used. If you leave this field blank, Change Auditor will search for SQL events based on the entries made in the **Instance** and/or **Object** fields for all audited SQL databases.
 - **Object** - Enter a SQL Server® object to be included in the search definition. If you leave this field blank, Change Auditor will search for SQL events based on the entries made in the **Instance** and/or **DB** fields for all audited SQL Server objects.

Once you have specified the SQL instance, database and/or object to be included in the search definition, click **Add** to add it to the Selection list at the bottom of the dialog.

- NOTE:** Select the **Exclude the Above Selection(s)** check box if you want to search for changes to all SQL instances EXCEPT those listed in the 'what' list.
- NOTE:** Select the **Runtime Prompt** check box on this dialog to prompt for a SQL instance every time the search is run.

- 8 Once you have selected the SQL instance, database and/or object to be included in the search, click the **OK** button to save your selection and close the dialog.
- 9 Once you have defined the search criteria to be used, you can either save the search definition or run the search.
 - To save the search definition without running it, click **Save**.
 - To save and run the search, click **Run**.
- 10 When this search is run, Change Auditor will search for the SQL events based on the search criteria specified on the What tab and display the results in a new search results page.

To search for a SQL instance that already has an audited SQL event in the database:

- 1 Open the Searches page.
- 2 In the explorer view (left pane), expand and select the folder where you want to save your search.

Selecting the **Private** folder will create a search that only you can run and view, whereas selecting the **Shared** folder will create a search which can be run and viewed by all Change Auditor users.
- 3 Click the **New** tool bar button at the top of the Searches page (or right-click a folder and select the **New | New Search** menu command).

This will activate the Search Properties tabs across the bottom of the Searches page.
- 4 On the Info tab, enter a name and description for the search.
- 5 Open the What tab, expand the **Add with Events** tool bar button and select **Subsystem | SQL**.
- 6 On the Add SQL Instance dialog, select an instance from the list and click the **Add** button to add it to the selection list at the bottom of the page.
- 7 Click **OK** to save your selection and close the dialog.
- 8 Once you have defined the search criteria to be used, you can either save the search definition or run the search.
 - To save the search definition without running it, click **Save**.
 - To save and run the search, click **Run**.
- 9 When this search is run, Change Auditor will search for the SQL events based on the search criteria specified on the What tab and display the results in a new search results page.

Disabled SQL Events

This appendix provides an alphabetical list of the SQL events that are disabled by default in Change Auditor. If you want to audit for these events, use the Audit Events page on the Administration Tasks tab to enable these events.

Table 3. Disabled SQL events

Event Class disabled by default	Facility
Audit Change Audit - Audit Started	SQL Security Audit Event
Audit Change Audit - Audit Stopped	SQL Security Audit Event
Audit Create Object with Derived Permission	SQL Security Audit Event
Audit Drop Object with Derived Permission	SQL Security Audit Event
Audit Schema Object Access	SQL Security Audit Event
Audit Server Alter Trace	SQL Security Audit Event
Auto Stats - Async Completed	SQL Performance Event
Auto Stats - Async Queued	SQL Performance Event
Auto Stats - Async Starting	SQL Performance Event
Auto Stats - Sync	SQL Performance Event
Blocked Process Report	SQL Errors and Warnings Event
Broker: Message Classify - Delayed	SQL Broker Event
Degree of Parallelism - Delete	SQL Performance Event
Degree of Parallelism - Insert	SQL Performance Event
Degree of Parallelism - Select	SQL Performance Event
Degree of Parallelism - Update	SQL Performance Event
Error Logged	SQL Errors and Warnings Event
Event Logged	SQL Errors and Warnings Event
Exception	SQL Errors and Warnings Event
Exec Prepared SQL	SQL TSQL Event
Execution Warnings - Query Timeout	SQL Errors and Warnings Event
Execution Warnings - Query Wait	SQL Errors and Warnings Event
Lock: Acquired	SQL Locks Event
Lock: Cancel	SQL Locks Event
Lock: Escalation	SQL Locks Event
Lock: Released	SQL Locks Event
Lock: Timeout	SQL Locks Event
Lock: Timeout (timeout > 0)	SQL Locks Event
Object: Altered - Begin	SQL Objects Event
Object: Altered - Commit	SQL Objects Event
Object: Created - Begin	SQL Objects Event
Object: Created - Commit	SQL Objects Event

Table 3. Disabled SQL events

Event Class disabled by default	Facility
Object: Deleted - Begin	SQL Objects Event
Object: Deleted - Commit	SQL Objects Event
Performance Statistics - Cache Query Destroyed	SQL Performance Event
Performance Statistics - New Batch SQL Text	SQL Performance Event
Performance Statistics - Queries in Ad Hoc Statement Compiled	SQL Performance Event
Performance Statistics - Queries in Stored Procedure Compiled	SQL Performance Event
Prepare SQL	SQL TSQL Event
QN:Dynamics - Clock Run Finished	SQL Query Notifications Event
QN:Dynamics - Clock Run Started	SQL Query Notifications Event
QN:Dynamics - Master Cleanup Task Finished	SQL Query Notifications Event
QN:Dynamics - Master Cleanup Task Started	SQL Query Notifications Event
RPC:Completed	SQL Stored Procedures Event
RPC:Starting	SQL Stored Procedures Event
Scan:Started	SQL Scan Event
Scan:Stopped	SQL Scan Event
Showplan All	SQL Performance Event
Showplan All for Query Compile	SQL Performance Event
Showplan Statistics Profile	SQL Performance Event
Showplan Text	SQL Performance Event
Showplan Text (Unencoded)	SQL Performance Event
Showplan XML	SQL Performance Event
Showplan XML for Query Compile	SQL Performance Event
Showplan XML Statistics Profile	SQL Performance Event
SQL:BatchCompleted	SQL TSQL Event
SQL:BatchStarting	SQL TSQL Event
SQL:FullTextQuery	SQL Performance Event
SQL:StmtCompleted	SQL TSQL Event
SQL:StmtRecompile - Deferred Compile	SQL TSQL Event
SQL:StmtRecompile - Set Option Changed	SQL TSQL Event
SQL:StmtRecompile - Statistics Changed	SQL TSQL Event
SQL:StmtStarting	SQL TSQL Event
SQLTransaction Begin	SQL Transactions Event
SQLTransaction Commit	SQL Transactions Event
SQLTransaction Rollback	SQL Transactions Event
SQLTransaction Savepoint	SQL Transactions Event
SP:CacheHit - Compplan Hit	SQL Stored Procedures Event
SP:CacheHit - Execution Context Hit	SQL Stored Procedures Event
SP:CacheMiss	SQL Stored Procedures Event
SP:Completed	SQL Stored Procedures Event
SP:Recompile - Recompile DNR	SQL Stored Procedures Event
SP:Recompile - Set Option Changed	SQL Stored Procedures Event
SP:Recompile - Statistics Changed	SQL Stored Procedures Event

Table 3. Disabled SQL events

Event Class disabled by default	Facility
SP:Starting	SQL Stored Procedures Event
SP:StmtStarting	SQL Stored Procedures Event
TransactionLog	SQL Transactions Event
Unprepare SQL	SQL TSQL Event
User Error Message	SQL Errors and Warnings Event
XQuery Static Type	SQL TSQL Event

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The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. In addition, the portal provides direct access to product support engineers through an online Service Request system.

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- View Knowledge Base articles
- Obtain product notifications
- Download software. For trial software, go to [Trial Downloads](#).
- View how-to videos
- Engage in community discussions
- Chat with a support engineer