ApexSQL Audit

Version 2019.x

Release Notes and Requirements

System requirements

Hardware	Quad-core 2.0 GHz CPU 8GB memory 1GB disk space (for starting the Central repository database - disk space requirements depend on the amount of audited data and can go to TB for some environments)
SQL Server	SQL Server 2005 and higher [1]
OS	Windows 7 SP1/Windows Server 2008 R2 SP1 and higher [1]
Port	TCP port 64561 on all SQL Server instances (configurable)
Software	.NET Framework 4.7.2 or higher SQL Server 2008 or higher [1], for the Central repository database
Note	SQL Server Express edition is not recommended for the Central repository database, due to the database size limitation
Permissions and additional requirements	Windows user account with administrative privileges Central repository database must be located on the central ApexSQL Audit instance See ApexSQL Audit - Permissions and requirements

Supported Software

Windows version				
Windows 7 SP1 & Windows Server 2008 R2 SP1	Windows Server 2012	Windows 8.1 & Windows Server 2012 R2	Windows 10 & Windows Server 2016	Windows Server 2019
✔	✔	✔	✔	✔

SQL Server version [3]									
	2005	2008	2012	2014	2016	2017		2019 CTP 3	
						Windows	Linux [2]	Windows	Linux [2]
ApexSQL Audit	✔	✔	✔	✔	✔	✔		✔	

SQL Server edition [3]						
	Express	Standard	Enterprise	Azure SQL Database		Amazon RDS for SQL Server
				Single Database, Elastic Pool	Managed Instance	
ApexSQL Audit	✔	✔	✔			

[1] Central repository requires SQL Server 2008 or greater. SQL Server Express edition is not recommended due to the database size limitation

[2] Tested on Ubuntu 16.04

Getting Started

For further information about installation and getting started, please check the [Quest Knowledge Base](#) or [ApexSQL Getting Started](#)

Release Notes [(release history)](#)

Release:	2019.04.1654
Date:	April 2, 2020

Changes:

- Central instance configuration step has been moved to the beginning of the installation wizard

Release:	2019.04.1648
Date:	January 15, 2020

Fixes:

- Auditing configuration is not appliable when database objects are used as a filter condition via SQL Audit auditing technology
- Schedule task complete unsuccessfully in case there is no audit evidence based on reporting template filters
- Error validating assembly due to special characters are included in the assembly name
- "Saving configuration was not successful" in specific case on SQL 2012
- Extended events or SQL Audit based auditing will not run for databases including symbols
- Events are not being audited on SQL 2005 and SQL 2008
- Before/after values are shown as empty if part of columns is not audited via BA for update operations
- Audit login, Audit logout and Audit login failed events are not audited for SQL 2012 or lower
- Auditing events are not populated for login groups used as a filter condition
- Unhandled exception occurs while obtaining data from an empty SQL Audit file
- Before After sub-report in extracted file is empty in specific case
- EXEC operation audited via Extended Events is not parsed correctly

Release:	2019.02.1638
Date:	November 19, 2019

Enhancements:

- Support for SQL Server 2019

Fixes:

- Auditing configuration is incorrectly deployed for Extended Events technology via Advanced filters when login, database or application name conditions are used
- Data collecting technology is always set to auto for Failover Cluster instances in agent auditing properties
- Database and Login information is missing in the 'Audit login failed' event when data collection via SQL Audit is applied
- "Saving configuration was successful" is incorrectly shown even when before-after configuration was not applied
- Auditing configuration is incorrectly deployed for SQL Audit technology via Advanced filters when login, SQL text constrain filter or application name conditions are used
- Before-after triggers deployment fails due to NULL object reference in specific case

Release:	2019.01.1635
Date:	October 7, 2019

Enhancements:

- Extended Events can now be used as an auditing mechanism for SQL Server 2012 or higher
- SQL Audit can now be used as an auditing mechanism for SQL Server 2017 or higher
- Up to 200% smaller overhead when using SQL Auditing or Extended Events auditing technologies
- Up to 200% faster processing of audited data when using SQL Auditing or Extended Events auditing technologies
- SQL Text data is now customizable in auditing configuration on both server and database levels
- Dynamic date/time filters are now available in advanced filters as well
- MDF file location can now be customized in the Central Repository installer

Fixes:

- End of installation process will needlessly prompt Windows restart
- Report summary icons are not showing proper objects
- Report summary is missing information of the applied compliance standard
- System databases are not distinctively shown in browse database dialogs
- "No such host is known" message is shown when user initiates the send logs from GUI that is not connected to the central

- x86 SQL Server instances are not listed in the repository installer drop-menu
- "Group by" checkbox remains checked after ungroup is chosen in the report/schedule history
- Control buttons are missing in grid view header in Archiving history
- Operation overview status check enters infinite loop and affects GUI performance if there are no events on the selected SQL Server instance
- Central repository database is listed in the maintenance wizard controls
- Administrator credentials are not saved upon expanding the Advanced options in the Auditing agent properties dialog
- Account validation of remote GUI fails in case where Domain Controller machine does not share the same version of .NET runtime environment with the Central
- There is no control for MDF file configuration in the Central Repository installer
- Operation state is shown as "Failure" in case when "IN (x,y)" condition is used in SQL Query
- Loading packages from 2016 to 2018 product version fails
- Excluded database objects with similar name to included objects are shown in the reports
- "Trial period has ended" message is shown in the Status tab when the central machine is rebooted or when the application is updated, even though it was activated previously
- "Archiving failed" error is encountered when report scheduler that was used to generate report is deleted and full report schedule history still exists
- "Network connectivity monitor" built-in alert notifications are not being triggered when network connection with auditing instance is lost
- Archiving old database during the installation process fails in specific case
- Fixing server connection process crashes application in specific case
- ApexSQL Audit GUI will use all available CPU resources while refreshing the status without waiting for the ongoing refresh status process to complete
- The "Create login operation" state is always shown as "successful"
- DBCC operation is collected twice for same transaction in auditing trail
- Create/Drop statistics are incorrectly recognized as Alter table operation
- Save button is generating a report preview when list of columns is changed
- Operation "Drop sequence" is not being audited
- Operation "Create sequence" is not being audited
- The latest updated version is not stored in archive if upgrade process fails but has made an update on any newer version
- Global info is not updated in the status bar after product activation
- Default HIPAA and Basel II reporting templates ignores the time range filter configuration
- Default HIPAA and Basel II reporting templates always switch to advanced filter type when time-range is not set to "All days"
- Pre-defined reporting templates do not take custom time filter into account
- Archiving history list is using single page
- Internal events are not listed in the internal event type
- Weekly schedule always executes on Sundays
- Link for testing e-mail configuration is not presented as a hyperlink in 4k resolution

Release:	2018.09.1618
Date:	June 21, 2019

Changes:

- Software Transaction Agreement is added as a new step in the installation wizard and updated in accordance with https://www.quest.com/legal/sta.aspx

Release:	2018.09.1612
Date:	May 09, 2019

Enhancements:

- Repository archiving can now be scheduled
- Purge data from specific time range
- Split repository archives to multiple databases based on time and/or size
- Large reports are now automatically split into multiple files
- Scheduled report email information and details can now be customized
- Historical overview and details of scheduled report jobs are now available

Fixes:

- The Make new folder button is missing in the Browse for folder dialog during the installation
- Installation folder must be provided even if the previous tool version is detected and the upgrade process is initiated
- Saving report changes fails when only Internal events are included in the report
- Warning message is shown repeatedly when configuring alert conditions in case when any SQL Server instance is not connectable
- Information in the test summary for Cc and Bcc fields will overlap each other if multiple entries are added to the To, Cc, Bcc fields
- Total operations counter does not count in before-after events
- "Updating before-After configuration failed" error is encountered when updating before-after configuration on Windows Server 2019
- The application does not block adding the unsupported SQL Server versions to be configured for auditing with a misleading result due to the inability of starting such configurations
- Alerts are not being triggered for databases that belong to an availability group
- Before-after column filter does not filter out records for the tables that share the same column name with the tables that are filtered in
- The application closes when the value for "on day" reporting schedule settings is set to value greater than 31
- Search/find alerts will not include results which include appropriate value in the alert description
- Only "equal or greater than" operator is available in the SQL Script based alert condition
- "Folder browsing in remote client not supported. Write directory path from central instance manually" error is encountered when trying to browse for folder during the manual archiving wizard using remote client
- The Object type "table" is not available in the advanced filter configuration

- Remote SQL Server instances can be targeted when installing the Central Repository Database
- "An error occurred while processing request on central instance" error is encountered when generating excel reports which reach Excel 65.000 rows limitation
- If scheduled reports are empty they still get send to configured email recipients
- Email reports are always zipped
- Before-after auditing will show auditing values even in cases when execution of DML operations ended unsuccessfully in High Availability AlwaysOn environment
- It is not possible to copy/paste a login name when adding user
- Apply button is missing in the E-mail recipient list
- Reports are not showing data when state success/failure filters are used for internal events
- The "Add table" ribbon is not shown when server is highlighted in the server tree
- Alerts with the same name can be added using import/export alert
- Importing Advanced filter configuration fails in case when there is no previous configuration on the specific SQL Server instance
- "Object reference not set to an instance of an object" error is encountered when refreshing 'Add server' form
- Remote client users are not informed that the archiving process is in progress
- Two consecutive information messages are shown if archiving process fails
- Browse for folder dialog is not affected with theme selection
- Named failover cluster instances (FCI) are incorrectly recognized as passive
- It is not possible to copy/paste a password field in the agent auditing properties
- Exclude filter on database object does not exclude stored procedures
- "Package loading failed" error is encountered when updating application from version 2016 to 2018
- Scheduled report is not triggered on time after central instance converts to summer/winter time
- Multiple schedule executions are shown if the schedule includes multiple output formats
- Schedule log is missing info/column on execution success/fail and execution time
- Before-after auditing will not capture events when FIPS Windows feature is enabled
- Fixed permissions are not inherited for the users inside the defined AD group
- Fixed application mode (Administrator) is automatically assigned for the DC admins
- Archiving process info messages are not affected with theme selection
- Going back through the schedule wizard will show email config even if email send is disabled
- Application crashed in case of a backtrack from the second step to the first step in the schedule wizard
- Status overview does not retrieve data information for SQL Cluster instances
- Last operation in status overview displays IP address instead of SQL Server name for SQL Cluster instances
- Report schedule history is not refreshed after scheduled job is executed
- Application crashes with unhandled exception when switching from simple to advance filter type while an operation state is defined in simple filter
- "An error occurred while processing request on central instance" error is encountered when exporting before-after events to CSV format
- No data is shown in the before-after report if the "Object name is not xyz" condition is used
- Tampering with Schedule and ArchiveSchedule tables will not trigger integrity breach

Changes:

- The application now requires Microsoft .NET Framework 4.7.2
- Central repository now initially requires 1GB diskspace (down from 5GB)

Release:	2018.08.1535
Date:	February 06, 2019

Enhancements:

- A warning is now displayed in case when connection with an incompatible UI version to the central instance is initiated
- Package data is now encrypted

Fixes:

- "No events found" report results are shown if before/after value filter is used while pulling data from archive
- Table and column names are invisible in the before-after column filter in the reports
- "An error occurred while processing request on central instance" error is encountered when generating reports with large number of events
- CRD becomes unresponsive when multi GUI instances are running on the same machine and archiving is initiated
- Server and database objects are not displayed in advanced configuration filter when configuring Failover cluster instances
- Server and database objects are not displayed in advanced before-after configuration filter for Failover cluster instances
- Server list does not show audited SQL Server instances and databases if an audited database is not accessible
- Alerts history list is cleared if refresh or navigation buttons are used
- "Problem occurred on central instance" alert remains active in the status tab in case of database inactivity even after the triggered alert has been deleted
- Stopping the report exporting or preview generation processes incorrectly informs user that archiving process is in progress
- Incorrect number of alerts is shown when alerts are filtered by severity level
- Only first compliance configuration template is applied in case multiple compliance templates are used to overwrite existing configuration without applying templates in-between
- Retrieving auditing agent data does not retrieve previous information about client hostname when server is being edited
- Temporary files location does not point to the last configured location in the agent auditing properties window
- "Central repository inactivity" alert is shown as active even after the alert has been resolved
- Create/Alter trigger operations are not being audited

- "Saving configuration was not successful" error is encountered when adding specific tables for before-after auditing
- Expanding/collapsing tree view in the reports tab will trigger a configuration change and prompt to save/discard
- Application does not inform user on incorrect time-date filter setup if start time is greater than the end time in the reports
- Traces including before-after audited data are not being processed in case that they include special characters in the name like: "-", "," etc.
- "Error adding database(s)" error is encountered when adding databases for auditing in case a SQL Server instance which does not host chosen databases is selected in the server tree
- Server list does not show audited SQL Server instances and databases in case a table added for before-after auditing is renamed
- Server list does not show audited SQL Server instances and databases in case an audited database is deleted from SQL Server instance
- "Preview unsuccessful" is encountered when using more than 5 filters in the report when generating report preview
- A link to the output folder is missing in the schedule summary
- Application UI freezes and indefinitely remains in responding state when trying to disable a running schedule
- Empty reports are generated in case when archived repository which is included in the data sources list is removed from the SQL Server instance
- Imported system alerts cannot be deleted

Release:	2018.07.1511
Date:	November 07, 2018

Fixes:

- "Error Sequence contains no elements" error is encountered when new auditing instance is added and chosen in the Alert history
- Before-after alerts are not being triggered
- User is not informed that the SQL user is missing "View server state" property when making changes to the table audited for before-after changes
- Unable to apply configuration in case when database objects are filtered with include/exclude property
- User with reader privileges can change his account role
- ApexSQL Audit fails to start in case domain account has been added via Display name instead of account name
- Unable to run ApexSQL Audit UI on domain controller machine when local account is used
- Server-side components fail to start Windows thread if external exception is encountered
- Connectivity alerts are recognized as suspected tampering
- Status windows shows no information in case of reinstall
- SQL server name including lower case characters is shown in upper case letters in advanced filters reports

- "The proposed new database owner is already a user or aliased in the database" error is encountered when upgrading to the latest application version in a specific case

Changes:

- The logon credentials are no longer mandatory in the SMTP configuration wizard

Release:	2018.06.1506
Date:	September 27, 2018

Enhancements:

- New error handling and send logs functionality
- Improved application installer with a dark theme
- New application icon
- Various filters based on alert details have been added to the alerts history pane
- Alerts can now be copied and exported
- Server-side components on remote instances are now automatically uninstalled when main application uninstall performed
- The SQL script can now be directly tested within the alert wizard
- Filter 'by state' has been added to the report preview
- Triggered alerts can now be marked as resolved
- The Primary key column value is now included in the auditing reports when auditing before-after values
- Before-after events can now be filtered by column in the report preview
- Before-after events can now be filtered by before-value and after-value in the report preview
- Bulk-inserts can now be audited for before-after values

Fixes:

- Application crashes when accessing schedules if there is an existing expired schedule
- In case when several SELECT operations are executed and audited consecutively, they get merged into one audited event which is then repeated 3 times
- ALTER database operation is reported as successful even if the execution has failed
- Certificate related operations are not audited
- Server-level DROP operations state is presented as N/A even in cases when operations have been successfully executed
- Server selection changes to the first server in the list when switching to the advanced filter
- Application fails to display notification that server-side components cannot be installed directly to an FCI node via Add server functionality
- The 'SQL Server connectivity monitor' alert is incorrectly raised during the repository archiving process
- The 'Disk space' information is shown as N/A in cases when a disk drive is located on a remote network machine

- Time input for the Scheduler reverts to the default value if custom date is used
- The 'Internal error -2' error is encountered if temporary folder location finishes with the '\' symbol
- Before-after triggers can't be applied when there is already an existing database trigger with defined 'last' property
- The 'At least one action must be selected' warning message is displayed when creating a new schedule in case when no other schedules are active
- The tooltip in the Auditing agent properties dialog does not match the dark theme
- Several elements are overlapping in the configuration pane in 4k resolution
- Before-after auditing doesn't successfully audit the data when nested CLR triggers exist in cross-referenced tables
- The before-after triggers are not removed on application uninstall in a specific case
- The 'There is already an object named 'Accounts#Const' in the database' error is encountered when upgrading from 2107 to 2018 version in a specific case
- Audited event is not captured in case a SQL View from non-audited database executes SELECT on an audited database
- The EXEC events are not audited
- The 'Provided user name is not recognized as a Windows user or user group' error is encountered when adding user accounts in case when central repository host name has been changed
- The "Object reference not set to an instance of an object" error is encountered when adding entries to the email recipient list in a specific case
- The email recipient list for an existing alert is not updated when the change is executed via Options dialog
- Saving changes in a report template collapses previously expanded level tree view
- Default template is incorrectly selected after changes are saved on a custom report template
- Previously added local user account is recognized as a domain account in a specific case
- Changes are not remembered for the edited mail recipient in case when only existing information is updated, and no new information is added to the existing recipients
- Changes in the options dialog are rolled back if user switches to another tab in the options
- User is not informed if different application version is being used when connecting via remote GUI
- SQL text is being truncated in the report preview in specific cases
- Status overview does not change the state in case when auditing instance connection is severed
- GUI freezes when updating the configuration for the unresponsive auditing instances
- The alert counter inside the status bar is not following the current history active alerts
- Application does not notify the user if server-side components are not installed on the cluster node when adding active/passive server for auditing

Changes:

- The 'System' alerts can no longer be deleted
- The 'ApexSQLAuditBeforeAfter' temporary database is no longer used to temporarily store before-after audited data
- A separate SQL trace is now used for each database audited for before-after changes

- Database triggers created for the purpose of before-after auditing no longer require 'first' or 'last' triggering property

Release:	2018.05.1444
Date:	July 23, 2018

Enhancements:

- The server-side components can now be automatically installed from within the application GUI when adding SQL Server instances in the domain environment
- The Inactive repository alert has been added to notify when no auditing information has been inserted into the central repository database during a specified time-period
- Application level security has been added. Individual users or groups can now be added to administrator, power user and data reader roles

Fixes:

- The "String or binary data would be truncated" error is encountered when audited batch insert has more than 8000 characters
- Adding a new SQL Server to the before-after configuration via remote client fails in a specific case
- The State column is missing in the Schedules panel
- The "Insufficient privileges" warning message is shown when adding a database for the before-after auditing even though user has administrative privileges in a specific case
- Auditing configuration information is not shown when navigating from the Status tab to the Configure tab
- Part of the batch inserts information is cut-off in the report preview
- Missing information message that the creation of before-after triggers has failed
- Adding servers in the AlwaysOn environment fails when non-default port is used by the listener
- Missing information on the affected SQL Server instance in the Last operation details in application overview
- The "Failed to remove database" error is encountered if database is removed from the before-after auditing in case an auditing configuration has not been previously applied
- Server-side components are not installed on all nodes and replicas when adding clustered servers for auditing
- The "Central repository inactivity" alert remains active even after the issue has been resolved
- The application gets unresponsive when there is a delay while loading the reports
- The number of active alerts in the ribbon always shows zero active alerts
- The "Username and password are incorrect" error is encountered when upgrading to a new version with credentials previously saved by the application
- Missing information on checked objects is missing in the summary, if all objects are manually included
- The "SQL Server connectivity monitor" alert is triggering for the passive node in the cluster
- The Browse for folder button is missing in the Servers properties form

- The Cancel button is missing in the Generating preview pop-up form
- Checkboxes are missing on the group level when objects are grouped in the object filter
- The central repository database is not checked by default in the verify integrity check
- The Alert history grid is missing headers
- The CTRL+C and CTRL+V shortcuts are not working in text fields in the Email recipient list form
- The Update statistics operation is incorrectly displayed as alter table operation in the reports
- The "Server was not added for auditing" error is encountered when servers belonging to the cluster is added for auditing in case when server ping is disabled in the network/domain
- The "Object reference not set to an instance of an object" error is encountered when applying compliance filter to the specific set of databases
- The Alert history grid is not groupable by columns
- The before-after values for the very first operation are not included in the exported report
- The Schedules panel is missing a header for the grid
- Server-level status overview is missing the Operation overview info for the selected SQL Server instance
- The Alert history grid does not include alert name column
- The "Error stopping server" message is shown when trying to stop server when connection to the server is severed
- The schedule summary is not shown in the final step of the schedule creation wizard

Changes:

- The standalone reporting application has been removed

Release:	2018.04.1438
Date:	June 27, 2018

Fixes:

- The Always On primary replica hosted by SQL Server Fail Over Cluster Instance is not recognized when server is added for auditing
- Server-side components are not installed on all nodes and replicas when adding clustered instance for auditing
- Connection to the SQL Server fails while adding server for auditing in Always On environments when custom TCP port is configured for Availability group listener
- Overwriting report templates keeps the last modified settings in the UI reporting pane after changes are saved

Release:	2018.03.1429
Date:	May 07, 2018

Fixes:

- The "Unknown error has occurred " error is encountered when launching standalone instance of the application
- The "error adding database(s)" error is encountered when adding a database for auditing in case specific custom object types are used

Release:	2018.02.1425
Date:	March 27, 2018

Enhancements:

- More intuitive warnings and messages – more than 100 messages and warnings have been updated for better user experience
- Various application and auditing information is now available in the status bar including repository and servers state, disk space, repository size, active alerts and more
- Information on the central instance, disk, RAM is now available in the Status form for virtual machines hosting audited SQL Servers

Fixes:

- The before-after auditing triggers are not created on SQL Server 2017 in specific cases
- The before-after auditing triggers are not created on SQL Server 2008 in a specific case
- It is not possible to apply an auditing filter if at least one server event is not selected first
- Installation wizard is missing information that Windows restart is required after .NET Framework 4.7.1 is installed
- Auditing report changes to advance mode If date/time filter is configured while report is in the simple mode
- The "Sending log files has failed" error is encountered if Send logs command is initiated while the connection to the remotely audited machine is unavailable
- The 'Could not start collecting logs' error is encountered when sending application log files while Outlook is running
- Several buttons are missing from the Resources tab in the main ribbon when "Connection to the central repository" window is initiated
- The 'The email configuration validation error' message is encountered when changing UI theme after other options have already been changed in different Options tabs
- Columns dragged away from the preview grid are not unchecked in the Columns list

Changes:

- Checked options/fields are no longer marked with colored ribbon when checked

Release:	2018.01.1409
Date:	January 05, 2018

Enhancements:

- Relative date filter
- Multiple client application instances support
- High DPI and 4K resolution support
- Applied concepts of Visual Language Dictionary for Visual Studio for iconography, imagery, colors, menus, fonts, formatting and other GUI elements
- Auditing configuration for GDPR standard is added
- Out-of-the-box report for GDPR standard is added
- Scheduled reports can now be run on demand

Fixes:

- Filters are not applied to scheduled reports
- Previews are not created if central repository is larger than 50GB
- Multi-select in report preview does not work
- Application performs checks vs before-after database even when before-after auditing is not configured
- Database auditing configurations cannot be implemented in specific case
- All checkboxes are not checked when "Check all" checkbox is used
- The "Error changing configuration. Settings will be reverted" error is encountered when switching from simple to advanced filter if include/exclude objects, logins or application options are configured in the simple filter
- The add database screen shows only server level operations that can be selected but not related to databases
- Remove auditing instance is turned off and needs to be manually started after application update is performed
- The database list and object list forms are empty in a specific case
- Quarantine folder is not automatically cleared when quarantined items are processed
- The application freezes and has to be closed via task manager if the timeout is hit when checking for server-side components on remote instances
- Configured auditing filters disappear from the server list in a specific case
- Generating a report to excel file fails if cell value exceeds 32767 characters
- Application fails to inform the user if the database that is not an actual repository archive is added as a datasource
- The "end time" can be set before "start time" which makes created schedule unusable
- The "Error running report schedules" error is encountered if reports couldn't be generated before the generation timeout elapses
- The "The system cannot find the file specified" error is encountered if accessing temporary folder that cannot be accessed from the central instance
- The "Value cannot be null. Parameter name: source" error is encountered when Send logs button is used in ApexSQL Audit Reports
- SQL Server 2017 is not shown in the "add server" form if default instance naming is used

Changes:

- New light, blue and dark themes are now available
- The application now requires Microsoft .NET Framework 4.7.1