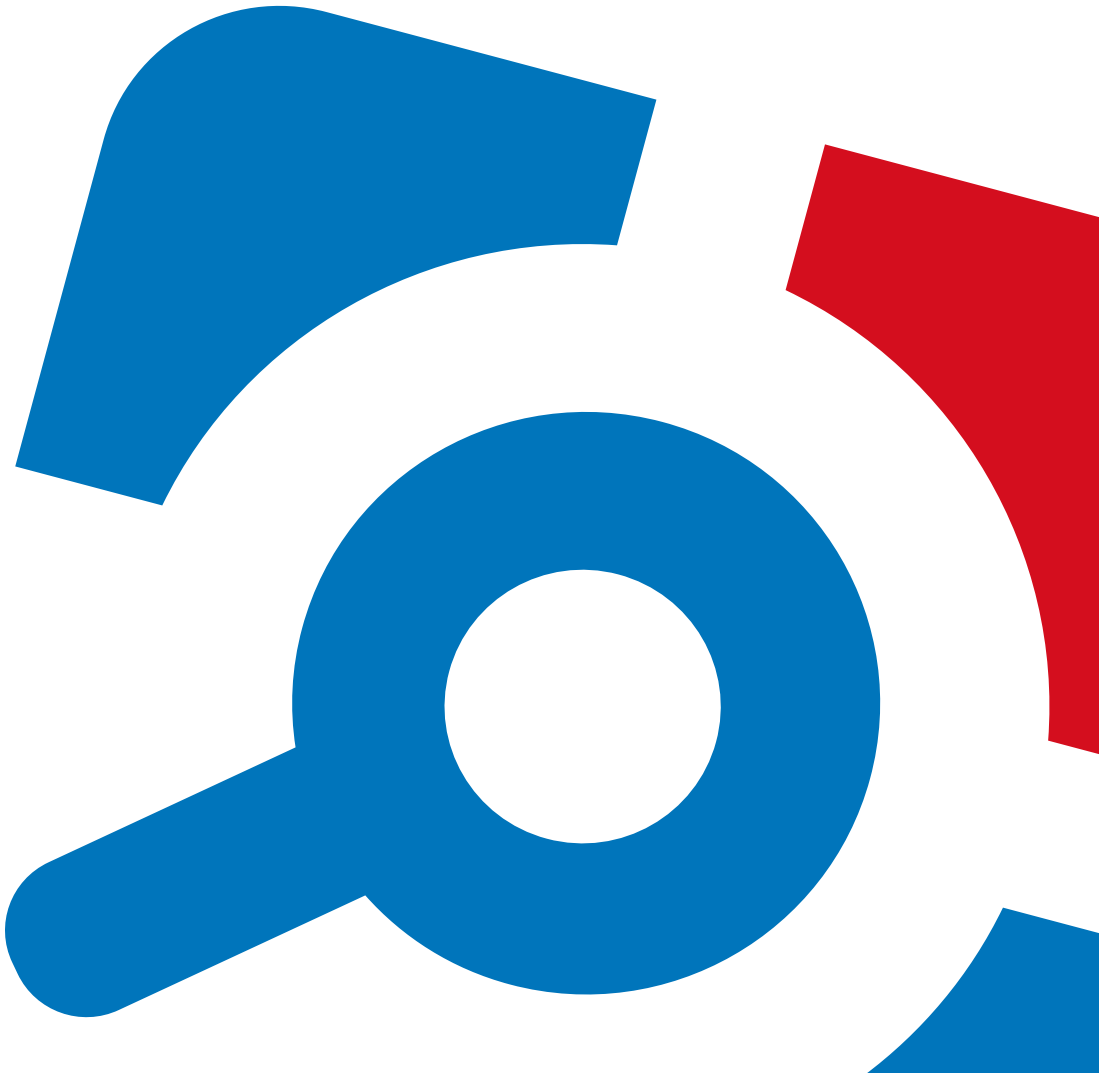
netwrix

Netwrix Auditor for SQL Server

Quick-Start Guide

Version: 8.5
10/17/2016



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1. Introduction

This guide is intended for the first-time users of Netwrix Auditor for SQL Server. It can be used for evaluation purposes, therefore, it is recommended to read it sequentially, and follow the instructions in the order they are provided. After reading this guide you will be able to:

- Install and configure Netwrix Auditor
- Create a Managed Object to start auditing a SQL Server instance
- Launch data collection
- See how Netwrix Auditor enables complete visibility

NOTE: This guide only covers the basic configuration and usage options for auditing SQL Server with Netwrix Auditor. For advanced installation scenarios and configuration options, as well as for information on various reporting possibilities and other product features, refer to:

- Netwrix Auditor Installation and Configuration Guide
- Netwrix Auditor Administrator's Guide
- Netwrix Auditor User Guide

1.1. Netwrix Auditor Overview

Netwrix Auditor is a visibility and governance platform that enables control over changes, configurations and access in hybrid cloud IT environments to protect sensitive data regardless of its location. The platform provides security analytics to detect anomalies in user behavior and investigate threat patterns before a data breach occurs.

Netwrix Auditor includes applications for Active Directory, Azure AD, Exchange, Office 365, Windows file servers, EMC storage devices, NetApp filer appliances, SharePoint, Oracle Database, SQL Server, VMware, and Windows Server. Empowered with a RESTful API and user activity video recording, the platform delivers visibility and control across all of your on-premises or cloud-based IT systems in a unified way.

Major benefits:

- Detect insider threats—on premises and in the cloud
- Pass compliance audits with less effort and expense
- Increase productivity of IT security and operations teams

Netwrix Auditor for SQL Server detects and reports on all changes to SQL Server configuration and database content.

2. Netwrix Auditor System Requirements

This section lists the requirements for the systems that are going to be audited with Netwrix Auditor, and for the computer where the product is going to be installed.

2.1. Supported Audited Systems

The table below lists systems that can be audited with Netwrix Auditor for SQL Server:

Audited System	Supported Versions
SQL Server	• Microsoft SQL Server 2008 • Microsoft SQL Server 2008 R2 • Microsoft SQL Server 2012 • Microsoft SQL Server 2014 • Microsoft SQL Server 2016

2.2. Requirements to Install Netwrix Auditor

This section provides the requirements for the computer where Netwrix Auditor is going to be installed. Refer to the following sections for detailed information:

- Hardware Requirements
- Software Requirements

2.2.1. Hardware Requirements

Before installing Netwrix Auditor, make sure that your hardware meets the following requirements:

Hardware Component	Minimum	Recommended
Processor	Intel or AMD 32 bit, 2 GHz	Intel Core 2 Duo 2x 64 bit, 3 GHz Preferably a virtual machine

Hardware Component	Minimum	Recommended
RAM	2 GB	8 GB
Disk space	• 500 MB physical disk space for the product installation • 30 GB for the file-based Long-Term Archive • 500 MB for the SQL Server-based Audit Database where audit data is going to be stored **NOTE:** These are rough estimations, calculated for evaluation of Netwrix Auditor for SQL Server. Refer to Netwrix Auditor Installation and Configuration Guide for complete information on the Netwrix Auditor disk space requirements.	
Screen resolution	1280 x 1024	1920 x 1080 and higher

2.2.2. Software Requirements

The table below lists the minimum software requirements for the Netwrix Auditor installation:

Component	Requirements
Operating system	• Windows Desktop OS (64-bit): Windows 7 SP1, Windows 8.1 • Windows Server OS (64-bit): Windows Server 2008 R2 SP1, Windows Server 2012/2012 R2
Framework	• .Net Framework 3.5 SP1
Installer	• Windows Installer 3.1 and above

3. Review Components Checklist

To speed up the evaluation process, Netwrix recommends you to ensure that the following services and components are up and running prior to the Netwrix Auditor installation.

Service or component	Recommendations
Network and audited system	Test connectivity to your audited system. Make sure you can access it by its NetBIOS and DNS names from the computer where you intend to install Netwrix Auditor—use the nslookup command-line tool to look up domain names.
SQL Server 2014 with SSRS (optional step)	Although Netwrix Auditor provides a convenient interface for downloading SQL Server 2014 Express right from Netwrix Auditor Administrator Console, it is recommended to deploy SQL Server instance in advance. Test your SQL Server connectivity. **NOTE:** Netwrix Auditor provides an option to verify SSRS settings right in the Netwrix Auditor Administrator Console.

Test account	Netwrix recommends you to create a special account with extensive privileges. This account should have sufficient permissions to:
	• Collect audit data. See Configure Data Processing Account Rights and Permissions for more information.
	• Access data stored in the SQL Server instance:
	  • The account must be assigned the **Database owner (db_owner)** role and the **dbcreator** server role.
	  • The account must be assigned the **Content Manager** role on the SSRS Home folder.
	• Make test changes in your environment.

3.1. Configure Data Processing Account Rights and Permissions

The Data Processing Account is used to collect audit data from the target systems. To ensure successful data collection, the Data Processing Account must comply with the following requirements depending on the audited system.

NOTE: The information in this section is outside the quick-start guide scope and is provided for reference only. See Netwrix Auditor Installation and Configuration Guide for detailed instructions on how to configure your Data Processing Account.

Audited system	Rights and permissions
SQL Server	***On the target server:*** • The **System Administrator** role on the target SQL Server

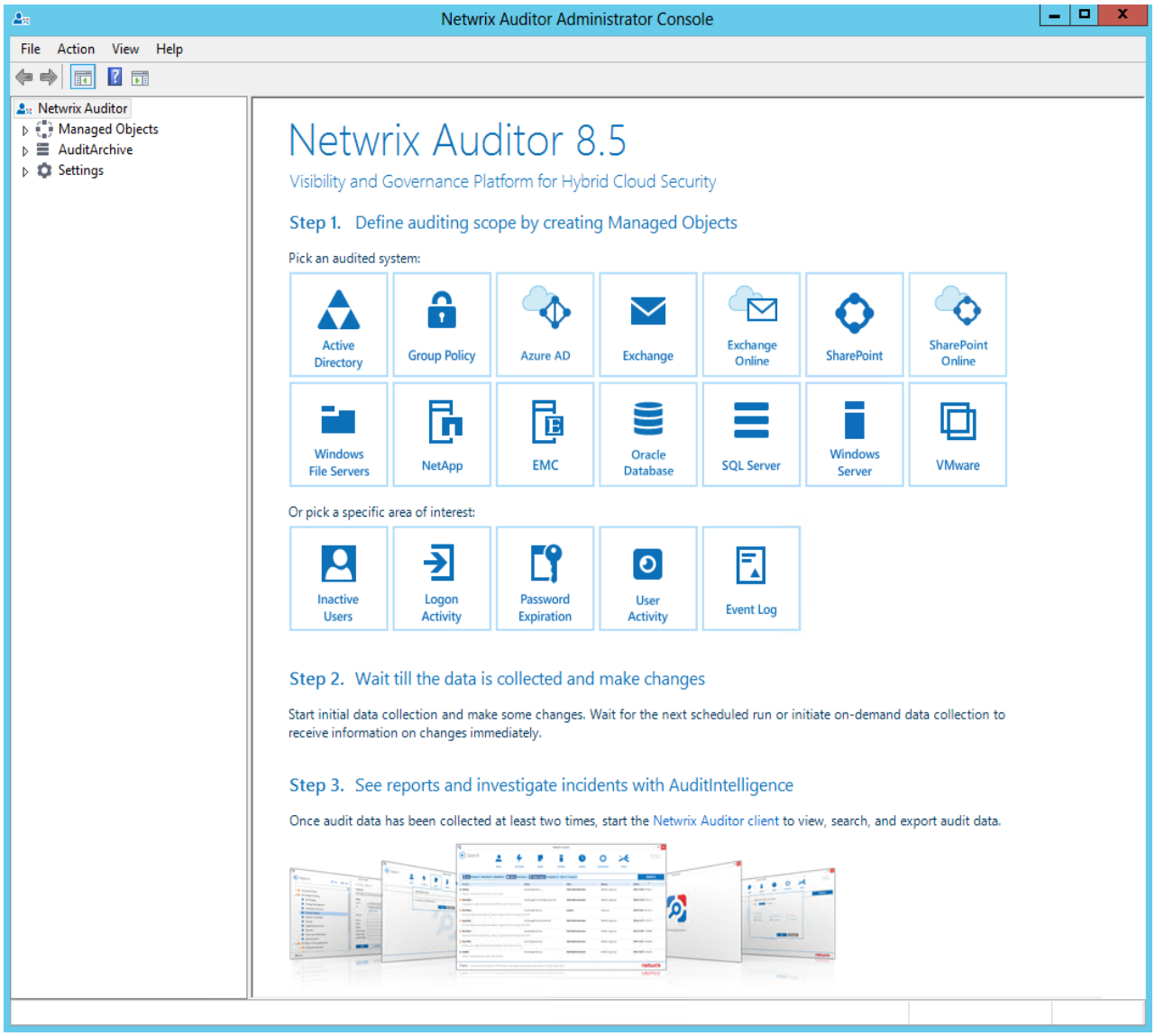
4. Install the Product

To install Netwrix Auditor

1. Download Netwrix Auditor 8.5 on Netwrix website.
2. Unpack the installation package. The following window will be displayed on successful operation completion:

3. Follow the instructions of the setup wizard. When prompted, accept the license agreement.
4. On the **Select Installation Type** step, select **Full installation**.
5. On the **Destination Folder** step, specify the installation folder.
6. Click **Install**.

After a successful installation, Netwrix Auditor shortcuts will be added to the **Start** menu/screen and Netwrix Auditor Administrator Console will open.


Netwrix Auditor Administrator Console
File
Action
View
Help
Netwrix Auditor
Managed Objects
AuditArchive
Settings
Netwrix Auditor 8.5
Visibility and Governance Platform for Hybrid Cloud Security
Step 1. Define auditing scope by creating Managed Objects
Pick an audited system:
Active Directory
Group Policy
Azure AD
Exchange
Exchange Online
SharePoint
SharePoint Online
Windows File Servers
NetApp
EMC
Oracle Database
SQL Server
Windows Server
VMware
Or pick a specific area of interest:
Inactive Users
Logon Activity
Password Expiration
User Activity
Event Log
Step 2. Wait till the data is collected and make changes
Start initial data collection and make some changes. Wait for the next scheduled run or initiate on-demand data collection to receive information on changes immediately.
Step 3. See reports and investigate incidents with AuditIntelligence
Once audit data has been collected at least two times, start the Netwrix Auditor client to view, search, and export audit data.

5. Create Managed Object to Audit SQL Server

To start auditing your IT Infrastructure with Netwrix Auditor, you must create a Managed Object. A Managed Object is a container within Netwrix Auditor that stores information on the auditing scope, the Data Processing Account used for data collection, Audit Database settings, etc.

Create a Managed Object to audit SQL Server

1. On the main Netwrix Auditor Administrator Console page, click the **SQL Server** tile to launch the **New Managed Object** wizard.
2. On the **Select Managed Object Type** step, select **Computer Collection** as a Managed Object type.
3. On the **Specify Default Data Processing Account** step, click **Specify Account**.

   Enter the default Data Processing Account that will be used by Netwrix Auditor for data collection. For a full list of the rights and permissions required for the Data Processing Account, and instructions on how to configure them, refer to Netwrix Auditor Installation and Configuration Guide.
4. On the **Specify Email Settings** step, specify the email settings that will be used for Change Summaries, reports and real-time alerts delivery. Netwrix Auditor automatically detects SMTP settings or you can provide them manually. Complete the following fields:

Option	Description
SMTP server	Enter your SMTP server name. It can be your company's Exchange server or any public mail server (e.g., Gmail, Yahoo).
Port	Specify your SMTP server port number.
Sender address	Enter the address that will appear in the **From** field. **NOTE:** It is recommended to click **Verify**. The system will send a test message to the specified email address and inform you if any problems are detected.
SMTP Authentication	Select this checkbox if your mail server requires the SMTP authentication.
User name	Enter a user name for the SMTP authentication.

Option	Description
Password	Enter a password for the SMTP authentication.
Confirm password	Confirm the password.
Use Secure Sockets Layer encrypted connection (SSL)	Select this checkbox if your SMTP server requires SSL to be enabled.
Implicit SSL connection mode	Select this checkbox if the implicit SSL mode is used, which means that an SSL connection is established before any meaningful data is sent.

5. On the **Specify Computer Collection Name** step, enter the computer collection name.
6. On the **Audit Database Settings** step, make sure that the **Make audit data available via summary emails only** checkbox is cleared. By default, the Audit Database is created automatically and is used to store collected audit data.

   Select one of the following:

   - **Automatically install and configure a new instance of SQL Server Express Edition** to automatically install and configure SQL Server 2014 Express with Advanced Services.
   - **Use an existing SQL Server instance with SQL Server Reporting Services** to use an already installed SQL Server instance. Netwrix Auditor detects local SQL Server instance automatically and pre-populates the fields.

   Complete the following fields:

Option	Description
	SQL Server Settings
SQL Server instance	Specify the name of the SQL Server instance to store audit data.
Authentication	Select the authentication type you want to use to connect to the SQL Server instance: • Windows authentication • SQL Server authentication
User name	Specify the account to be used to connect to the SQL Server instance. **NOTE:** This account must be granted the **database owner (db_**

Option	Description
	owner) role and the **dbcreator** server role. See Netwrix Auditor Installation and Configuration Guide for more information.
Password	Enter a password.
	SQL Server Reporting Services Settings
Report Server URL	Specify the Report Server URL. Make sure that the resource is reachable.
Report Manager URL	Specify the Report Manager URL. Make sure that the resource is reachable.
User name	Specify the account to be used to connect to SSRS.
Password	Enter a password.

7. On the **Add Items to Computer Collection** step, select items that you want to audit. Click **Add**, select an item type and specify a SQL Server instance. You can add several instances to collection.
8. On the **Configure SQL Server Auditing Settings** step, define your auditing scope.
9. On the **Configure SQL Server Change Summary Delivery Settings** step, enter your email.
10. On the last step, review your Managed Object settings and make sure **Run data collection now** is enabled. Click **Finish** to exit the wizard. The newly created Managed Object will appear under the **Managed Objects** node.

    When a new Managed Object is created, Netwrix Auditor starts collecting data from the audited IT infrastructure. The first data collection runs automatically and gathers information on the audited system's current configuration state. Netwrix Auditor uses this information as a benchmark to collect data on changes. After the first data collection has finished, an email notification is sent to your email stating that the analysis has completed.

6. Make Test Changes

Now that the product has collected a snapshot of the audited system's current configuration state, you can make test changes to see how they will be reported by Netwrix Auditor.

For example, make the following test changes:

- Create a table
- Create a stored procedure

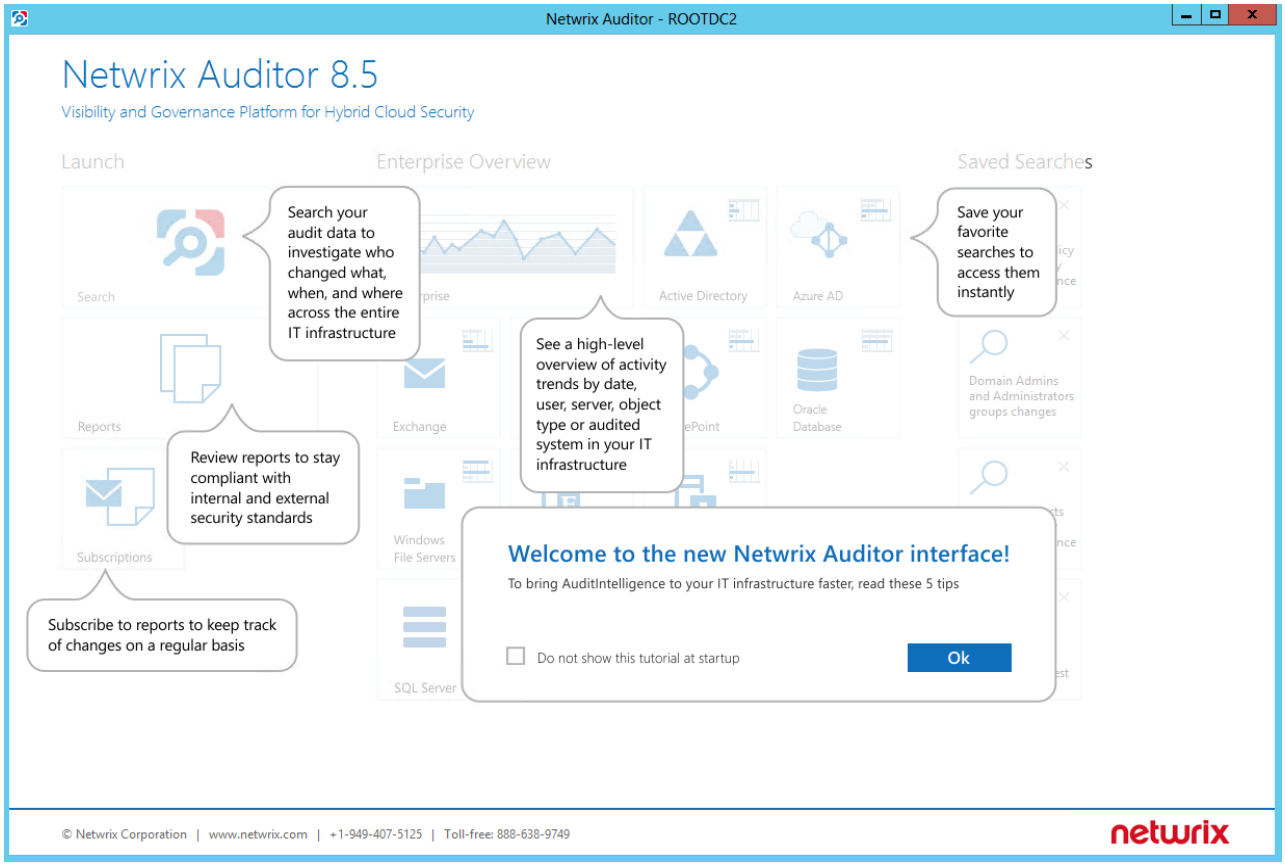
NOTE: Before making any test changes to your environment, ensure that you have the sufficient rights, and that the changes conform to your security policy.

7. See How Netwrix Auditor Enables Complete Visibility

After you have made test changes to the audited environment, you can see how Netwrix Auditor brings AuditIntelligence into your IT infrastructure and enables its complete visibility. This section explains how to review your test changes in the Netwrix Auditor client and Change Summary.

To launch the Netwrix Auditor client

- Navigate to **Start** → **Netwrix Auditor**.



Review the following for additional information:

- Review a Change Summary
- Browse Data with AuditIntelligence Search
- Review SQL Server Overview
- Review the All SQL Server Activity Report

In order not to wait for a scheduled data collection and a Change Summary generation, launch data collection manually.

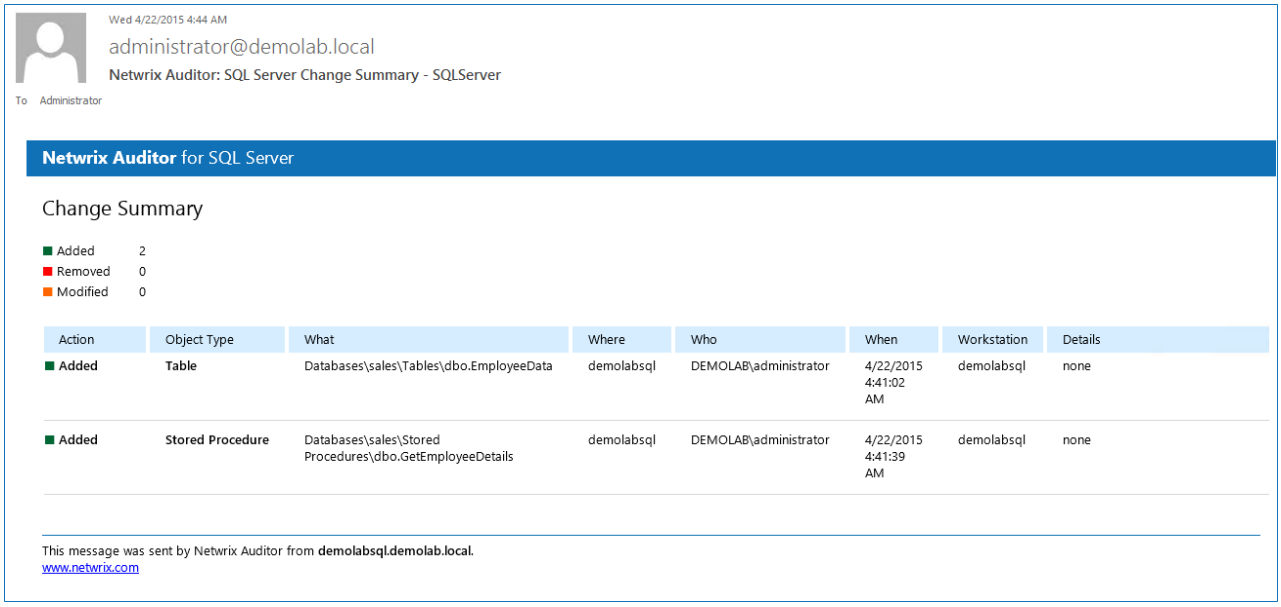
To launch data collection manually

1. In the Netwrix Auditor Administrator Console, navigate to **Managed Objects** → **your_Managed_Object_name**.
2. In the right pane, click **Run**.
3. Check your mailbox for an email notification and make sure that the data collection has completed successfully.

7.1. Review a Change Summary

A Change Summary is email that lists all changes that occurred since the last Change Summary delivery. By default, a Change Summary is generated daily at 3:00 AM and delivered to the specified recipients. You can also launch data collection and a Change Summary generation manually.

After the data collection has completed, check your mailbox for a Change Summary and see how your test changes are reported:



Wed 4/22/2015 4:44 AM

administrator@demolab.local

Netwrix Auditor: SQL Server Change Summary - SQLServer

To Administrator

Netwrix Auditor for SQL Server

Change Summary

Added 2
Removed 0
Modified 0

Action	Object Type	What	Where	Who	When	Workstation	Details
Added	**Table**	Databases\sales\Tables\dbo.EmployeeData	demolabsql	DEMOLAB\administrator	4/22/2015 4:41:02 AM	demolabsql	none
Added	**Stored Procedure**	Databases\sales\Stored Procedures\dbo.GetEmployeeDetails	demolabsql	DEMOLAB\administrator	4/22/2015 4:41:39 AM	demolabsql	none

This message was sent by Netwrix Auditor from **demolabsql.demolab.local**.
www.netwrix.com

The example Change Summary provides the following information:

Column	Description
Action	Shows the type of action that was performed on the object.
Object Type	Shows the type of the object.

Column	Description
What	Shows the name of the changed object or its path.
Where	Shows the name of the SQL Server instance where the change occurred.
Who	Shows the name of the account under which the change was made.
When	Shows the exact time when the change occurred.
Workstation	Shows the name of the computer where the user was logged on when the change was made.
Details	Shows the before and after values of the modified object, object attributes, etc.

7.2. Browse Data with AuditIntelligence Search

Netwrix Auditor delivers complete visibility into your IT infrastructure. Its convenient AuditIntelligence search interface enables you to investigate incidents and browse audit data collected across the entire IT infrastructure. When running a search in Netwrix Auditor, you are not limited to a certain audited system, change type, or object name. You can create flexible searches that provide you with precise results on *who* changed *what*, and *when* and *where* each change was made.

After collecting initial data, making test changes to your environment and running data collection again, you can review changes in details with AuditIntelligence search.

To browse your audit data and see you test changes

1. On the main Netwrix Auditor page, navigate to **Search**.
2. Add search filters to your search by clicking on a corresponding icon and providing a value. By default, all entries that contain this filter value are shown. For an exact match, use quotation marks.

   Filters are used to narrow your search results. To create a unique set of filters, you can:

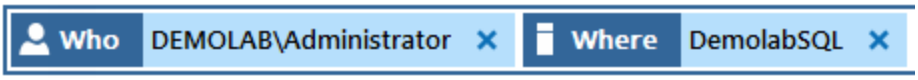
   - Add different filters to your search. Search results will be sorted by all selected filters since they work as a logical conjunction (e.g., **Who***: Administrator* AND **Action***: Added*).
   - Specify several values in the same filter to search for any of them (e.g., **Action***: Modified* OR **Action***: Removed*). To do this, select a filter again and specify a new value.

   For example, consider adding these filters:

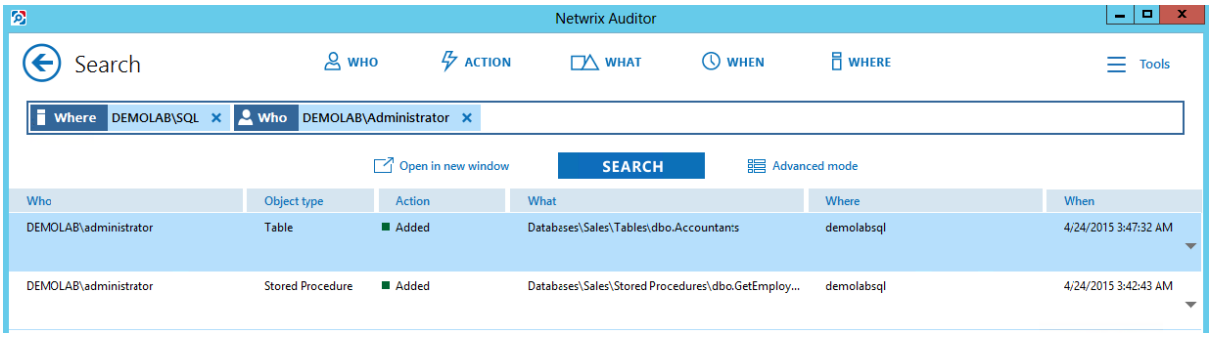
Filter	Value
WHO	Specify an account you used to connect to your SQL Server instance and make test changes.
WHERE	Specify your SQL Server instance name.

NOTE: Refer to Netwrix Auditor User Guide for detailed instructions on how to apply filters and change match types.

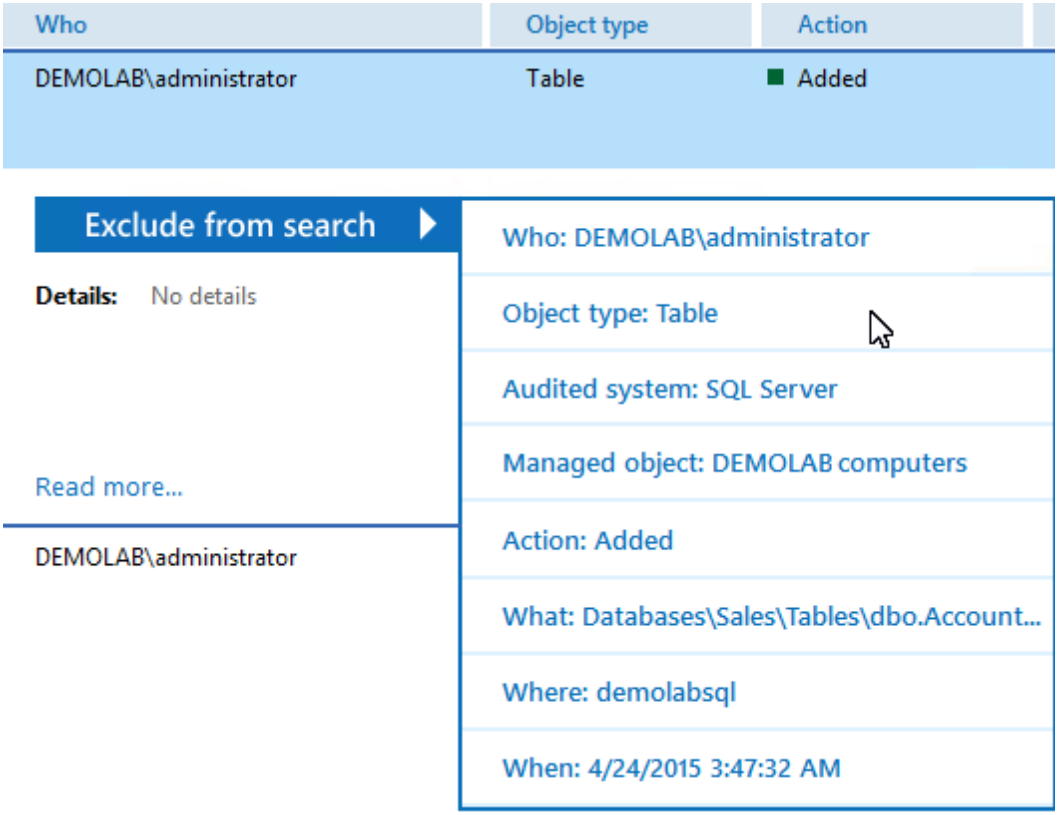
As a result, you will see the following filters in the **Search** field:



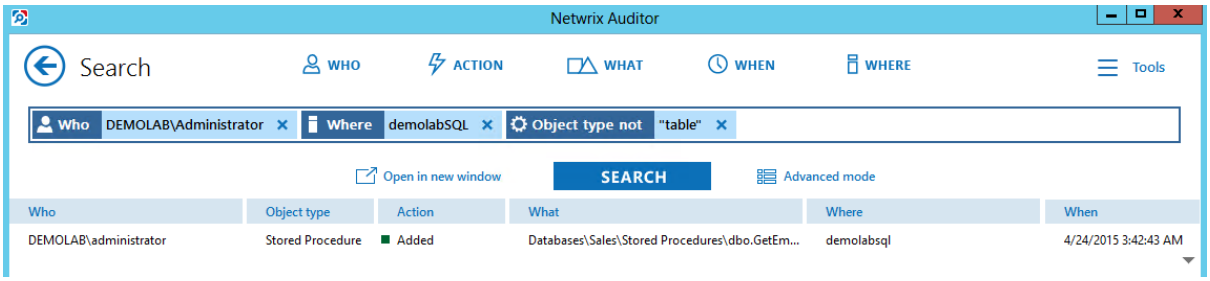
3. Click **Search**.



4. Now, you can narrow your search and modify it right from the search results pane. Double-click any entry that contains excess data, select **Exclude from search** and specify a filter, e.g., **Object type**: *Table* to leave information on a stored procedure you created.



Your **Search** field will be updated, the **Object type not** filter will be added. Make sure to click **Search** again to update your search results.



5. Having reviewed your search results, navigate to **Tools**.
   - Click **Export data** to save your search results as a *.pdf or *.csv file.
   - Click **Save search** to save the selected set of filters. This search will be added to the **Saved Searches** section on the main Netwrix Auditor page, so that you will be able to access it instantly. Refer to Netwrix Auditor User Guide for detailed instructions on how to create saved searches.

7.3. Review SQL Server Overview

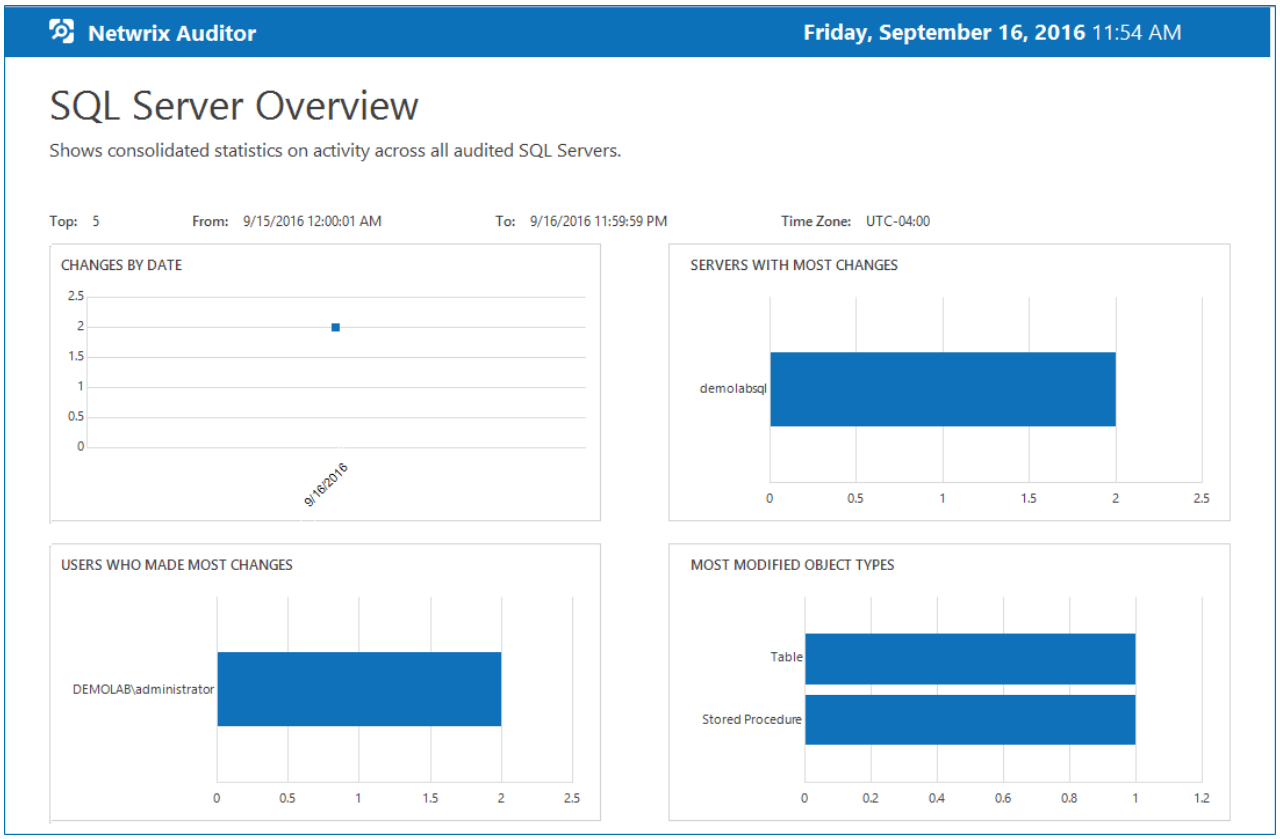
Enterprise Overview provides a high-level overview of activity trends by date, user, server, object type or audited system in your IT infrastructure. The **Enterprise** diagram aggregates data on all Managed Objects

and all audited systems, while system-specific diagrams provide quick access to important statistics within one audited system.

After collecting initial data, making test changes to your environment and running data collection again, you can get at-a-glance statistics for changes with the **SQL Server Overview**.

To see how your changes are reported with SQL Server Overview

1. On the main Netwrix Auditor page, navigate to the **Enterprise Overview** section.
2. Click the **SQL Server** tile to open it.
3. Review your changes.
4. Click on any chart to jump to a table report with the corresponding grouping and filtering of data.



7.4. Review the All SQL Server Activity Report

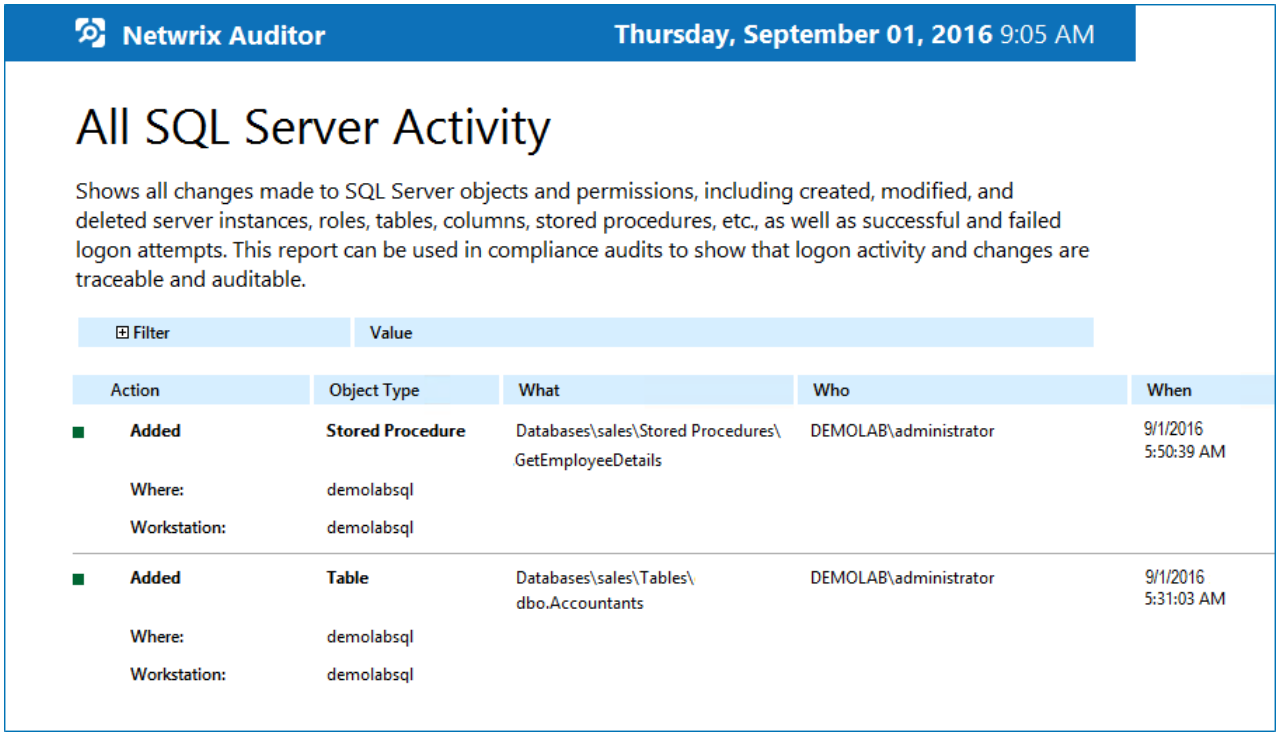
Netwrix Auditor allows generating audit reports based on Microsoft SQL Server Reporting Services (SSRS). The Netwrix Auditor client provides a variety of predefined reports that aggregate data from the entire audited IT infrastructure, an individual system, or a Managed Object.

Change reports can be found under the **Reports** → **SQL Server** and provide a narrower insight into what is going on in the audited infrastructure and help you stay compliant with various standards and regulations (FISMA, HIPAA, PCI, SOX, etc.).

After collecting initial data, making test changes to your environment and running data collection again, you can take advantage of the reports functionality.

To see how your changes are listed in the report

1. In the Netwrix Auditor client, navigate to **Reports** → **SQL Server**.
2. Select the **SQL Server Activity** report.
3. Click **View** to open the report.



Netwrix Auditor Thursday, September 01, 2016 9:05 AM

All SQL Server Activity

Shows all changes made to SQL Server objects and permissions, including created, modified, and deleted server instances, roles, tables, columns, stored procedures, etc., as well as successful and failed logon attempts. This report can be used in compliance audits to show that logon activity and changes are traceable and auditable.

Filter	Value

Action	Object Type	What	Who	When
Added	**Stored Procedure**	Databases\sales\Stored Procedures\GetEmployeeDetails	DEMOLAB\administrator	9/1/2016 5:50:39 AM
Where:	demolabsql			
Workstation:	demolabsql			
Added	**Table**	Databases\sales\Tables\dbo.Accountants	DEMOLAB\administrator	9/1/2016 5:31:03 AM
Where:	demolabsql			
Workstation:	demolabsql			

8. Related Documentation

The table below lists all documents available to support Netwrix Auditor for SQL Server:

Document	Description
Netwrix Auditor Installation and Configuration Guide	Provides detailed instructions on how to install Netwrix Auditor, and explains how to configure your environment for auditing.
Netwrix Auditor Administrator's Guide	Provides step-by-step instructions on how to configure and use the product.
Netwrix Auditor User Guide	Provides detailed instructions on how to enable complete visibility with AuditIntelligence.
Netwrix Auditor Integration API Guide	Provides step-by-step instructions on how to leverage Netwrix Auditor audit data with on-premises and cloud auditing solutions using RESTful API.
Netwrix Auditor Release Notes	Lists the known issues that customers may experience with Netwrix Auditor 8.5, and suggests workarounds for these issues.