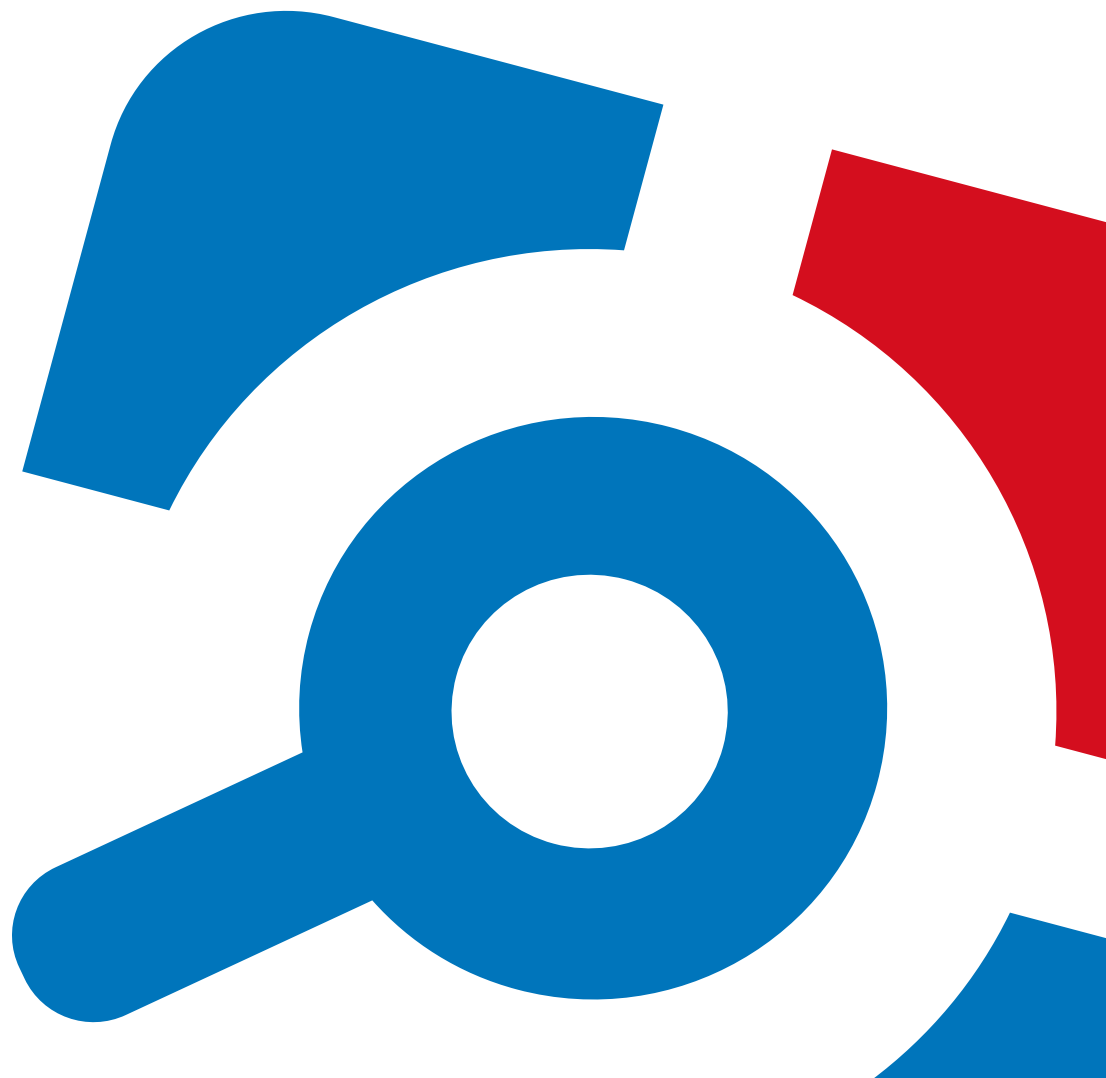


Netwrix Auditor for VMware Quick-Start Guide

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1. Introduction

This guide is intended for the first-time users of Netwrix Auditor for VMware. 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 monitoring plan to start auditing a virtual infrastructure
- Launch data collection
- See how Netwrix Auditor enables complete visibility

NOTE: This guide only covers the basic configuration and usage options for auditing VMware 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 Online Help Center](#).

1.1. Netwrix Auditor Features and Benefits

Netwrix Auditor is a visibility platform for user behavior analysis and risk mitigation that enables control over changes, configurations and access in hybrid IT environments to protect 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, Active Directory Federation Services, Azure AD, Exchange, Office 365, Windows file servers, EMC storage devices, NetApp filer appliances, Nutanix Files, network devices, SharePoint, Oracle Database, SQL Server, VMware, Windows Server, and User Activity. Empowered with a RESTful API, 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

To learn how Netwrix Auditor can help you achieve your specific business objectives, refer to [Netwrix Auditor Best Practices Guide](#).

Netwrix Auditor for VMware detects and reports on all changes made to ESX servers, folders, clusters, resource pools, virtual machines and their virtual hardware configuration.

2. Prerequisites and 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.

To learn about Netwrix Auditor licenses, refer to the following Netwrix Knowledge Base article: [Netwrix Auditor Licensing FAQs](#). To learn how to install a license, refer to [Licenses](#).

To learn about ports and protocols required for product operation, refer to [Protocols and Ports Required for Netwrix Auditor](#).

To learn about security roles and permissions required for product operation, refer to [Configure Netwrix Auditor Service Accounts](#).

2.1. Supported Data Sources

This section lists platforms and systems that can be monitored with Netwrix Auditor for VMware.

Active Directory domain

[Supported Data Sources](#)

[Supported Data Sources](#)

[Supported Data Sources](#)

[Supported Data Sources](#)

Exchange

[Supported Data Sources](#)

Office 365 and Azure AD

[Supported Data Sources](#)

[Supported Data Sources](#)

[Supported Data Sources](#)

SharePoint

[Supported Data Sources](#)

File storage systems

[Supported Data Sources](#)

[Supported Data Sources](#)[Supported Data Sources](#)[Supported Data Sources](#)

Network devices

[Supported Data Sources](#)

Databases

[Supported Data Sources](#)[Considerations for Oracle Database Auditing](#)[Supported Data Sources](#)

Windows server

[Supported Data Sources](#)[Supported Data Sources](#)[Supported Data Sources](#)[Supported Data Sources](#)

VMware server

[VMware](#)

Data source	Supported Versions
VMware	<ul style="list-style-type: none"> VMware ESX/ESXi: 6.0 – 6.7, 7.0 VMware vCenter Server: 6.0 – 6.7, 7.0

2.1.1. Considerations for Oracle Database Auditing

Starting with version 9.95, Netrix Auditor for Oracle Database is focused on versions 12c and above. It means that Oracle Database 11g users will not be able to benefit from latest features and improvements of the product. Oracle Database 11g users should also consider its support expiration dates set by the vendor. So, when planning your Netrix Auditor deployment, consider the following:

- Several limitations apply to Oracle 11g support in Netrix Auditor 9.96:
 - Oracle wallets are not supported
 - Lightweight drivers for Oracle Instant Client are not supported

- Netwrix Auditor client UI does not display any warnings and / or errors regarding to trail audit mode operation
- If you are using Oracle Database 11g and Netwrix Auditor 9.9 (or earlier) and do not plan to upgrade your deployment, you will have all 9.9 capabilities unchanged.
- If you are using Oracle Database 11g and have performed seamless upgrade to Netwrix Auditor 9.9.6, the audit data collection will operate properly. However, consider [General Considerations and Known Issues](#) and keep in mind Oracle Database 11g support expiration dates.

If you are using Oracle Database 12c or later, make sure you have **Unified auditing** mode enabled. Otherwise, Netwrix Auditor may not operate properly. Refer to [Migrate to Unified Audit](#) for more information.

Check out the following documentation sections:

- - [Software Requirements](#)
 - [Configure Oracle Database for Monitoring](#)

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

This section provides estimations of the resources required for Netwrix Auditor deployment.

IMPORTANT! Consider that actual hardware requirements will depend on your monitored infrastructure, the number of users in your environment, and activities that occur in the infrastructure per day. It is strongly recommended that you go through the [Deployment Planning](#) section before you start the installation.

Requirements provided in this section apply to a clean installation on a server without any additional roles or third-party applications installed.

Below you can find rough estimations, calculated for evaluation of Netwrix Auditor for VMware. Refer to [Netwrix Online Help Center](#) for more information on the Netwrix Auditor hardware requirements.

You can deploy Netwrix Auditor on a virtual machine running Microsoft Windows guest OS on the corresponding virtualization platform, in particular:

- VMware vSphere
- Microsoft Hyper-V
- Nutanix AHV

Note that Netwrix Auditor supports only Windows OS versions listed in the [Software Requirements](#) section.

2.2.1.0.1. Scenario 1

Netwrix Auditor and SQL Server instance will be deployed on different servers.

Requirements below apply to Netwrix Auditor server.

Hardware component Evaluation, PoC or starter environment

2.2.1.0.2. Scenario 2

Netwrix Auditor server and SQL Server instance will be deployed on the same machine.

IMPORTANT! In large and extra -large environments, installation of Netwrix Auditor and SQL Server on the same server is not recommended. Instead, deploy an SQL Server instance on a separate server or cluster that meets the requirement in Scenario 1. Refer to related Microsoft guidelines.

Hardware component	Evaluation, PoC or starter environment
Processor	2 cores
RAM	8 GB
Disk space	100 GB—System drive 100 GB—Data drive (Long-Term Archive and SQL Server)

2.2.2. Software Requirements

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

Component	Requirements
Operating system (English-only)	Windows Server OS: <ul style="list-style-type: none"> • Windows Server 2019 • Windows Server 2016 • Windows Server 2012 R2 • Windows Server 2012

Component	Requirements
	Windows Desktop OS (64-bit): <ul style="list-style-type: none">• Windows 10• Windows 8.1
.NET Framework	<ul style="list-style-type: none">• .NET Framework 4.5 and above.
Installer	<ul style="list-style-type: none">• Windows Installer 3.1 and above

2.2.2.1. Using SSRS-based Reports

SQL Server Reporting Services are needed for this kind of reports (see [SQL Server Reporting Services](#)). If you plan to export or print such reports, check the requirements below.

Export

To export SSRS-based reports, **Internet Explorer** must be installed on the machine where Netwrix Auditor client runs.

Internet Options must be configured to allow file downloads for the **Local intranet** zone:

1. Select **Internet Options** and click **Security**.
2. Select **Local intranet** zone and click **Custom level**.
3. In the **Settings** list, locate **Downloads >File download** and make sure the **Enabled** option is selected.

Printing

To print SSRS-based reports, SSRS Report Viewer and Netwrix Auditor Client require ActiveX Control to be installed and enabled on the local machine. See this [Knowledge Base article](#) for details.

You can, for example, open any SSRS-based report using Internet Explorer and click **Print**. Internet Explorer will prompt for installation of the additional components it needs for printing. Having them installed, you will be able to print the reports from Netwrix Auditor UI as well.

3. Review Components Checklist

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

Service or component	Recommendations
Network and target systems or servers that work as your data sources	Test connectivity to your data source. Make sure you can access it by its NetBIOS and FQDN name from the computer where you intend to install Netrix Auditor—use the nslookup command-line tool to look up domain names.
SQL Server with Reporting Services (or Advanced Services) 2008 or higher.	<p>Supported SQL Server versions are listed here.</p> <p>Consider maximum database size in different versions. Make your choice based on the size of the environment you are going to monitor, the number of users, and other factors. Remember that maximum database size in Express editions may be insufficient.</p> <p>NOTE: Although Netrix Auditor provides a convenient way to download SQL Server 2014 Express edition right from the product, it is recommended to deploy SQL Server instance in advance.</p> <p>If installed separately, remember to test SQL Server connectivity.</p>
Test account	<p>Netrix recommends you to create a special account with extensive privileges. This account should have sufficient permissions to:</p> <ul style="list-style-type: none"> • Collect audit data. See Data Collecting Account for more information. • Access data stored in the SQL Server instance: <ul style="list-style-type: none"> • 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. Data Collecting Account

This is a service account that Netrix Auditor uses to collect audit data from the monitored items (domains, OUs, servers, etc.). Netrix recommends creating a dedicated service account for that

purpose. Depending on the data source your monitoring plan will process, the account must meet the corresponding requirements (see the table below).

NOTE: If you are going to enable integration with Netwrix Data Classification (NDC Provider), additional server roles must be assigned to the account. See [For NDC Provider](#) for more information.

For more information about NDC provider, refer to the

Starting with version 9.96, you can use group Managed Service Account (gMSA) as data collecting account. Currently, the following data sources are supported: Active Directory (also for Group Policy and Logon Activity), Windows Server, File Server (currently for Windows File Servers), SQL Server, SharePoint.

For more details about gMSA usage, see [Using Group Managed Service Account \(gMSA\)](#).

The gMSA should also meet the related requirements (see the table below).

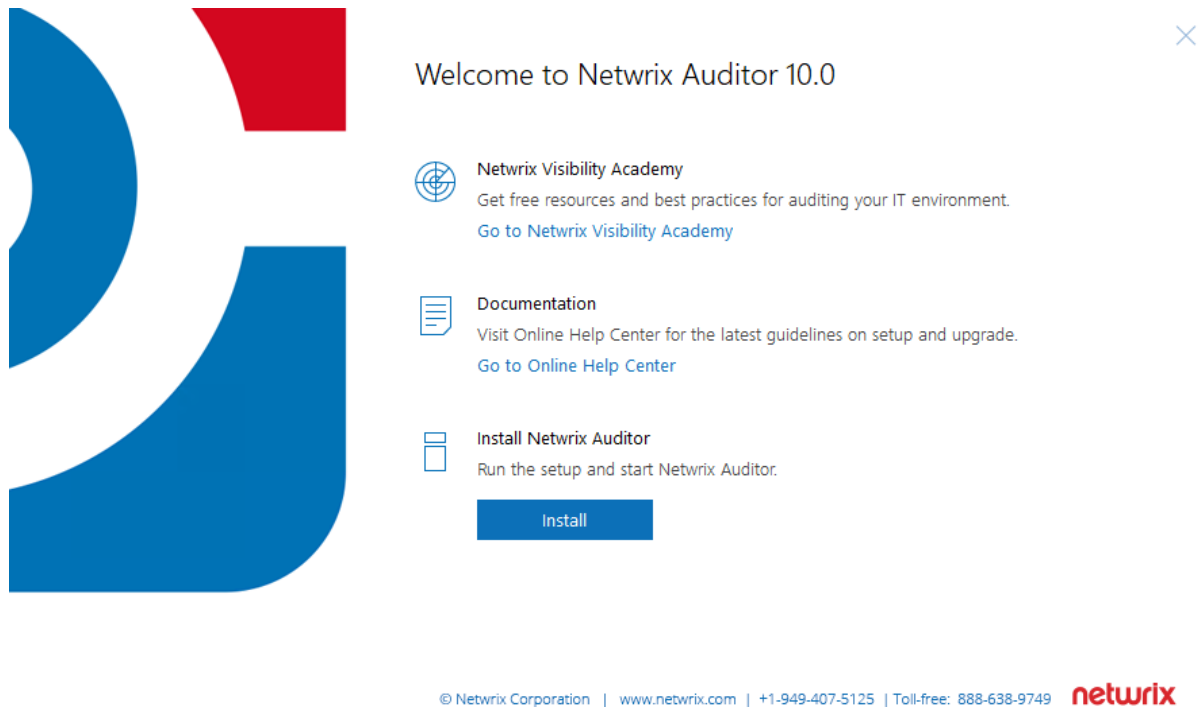
NOTE: The information in this section is outside the quick-start guide scope and is provided for reference only. For detailed instructions on how to configure the data collecting account to access your audited platform or application, see [Netwrix Auditor Online Help Center](#).

Data source	Required rights and permissions:
VMware	For VMware Server Auditing
NDC Provider	

4. Install the Product

To install Netwrix Auditor

1. Download Netwrix Auditor 10 from [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. On the **Netwrix Customer Experience Program** step, you are invited to take part in the Netwrix Customer Experience Program. It is optional on your part to help Netwrix improve the quality, reliability, and performance of Netwrix products and services. If you accept, Netwrix collects statistical information on how the Licensee uses the product in accordance with applicable law. Select **Skip** if you do not want to participate in the program.

NOTE: You can always opt-out of the Netwrix Customer Experience Program later. See [Netwrix Online Helpcenter](#) for instructions on how to cancel participation in the program.

7. Click **Install**.

After a successful installation, Netwrix Auditor shortcut will be added to the **Start** menu/screen and the product will start. Review the following for more information about the product navigation: [First Launch](#).

Netrix Auditor - CORPSQL (CORP\Administrator) - □ ×

Netrix Auditor 10.0

[Customize](#) [Settings](#) [Help](#)

NEW MONITORING PLAN (+)

SEARCH ACTIVITY RECORDS

REPORTS

BEHAVIOR ANOMALIES

CONFIGURATION

- Monitoring plans
- Subscriptions
- Alert settings

RISK ASSESSMENT

Take action

COMPLIANCE MAPPING

LIVE NEWS

8

HEALTH STATUS

Some issues occurred

Welcome to Netrix Auditor

Get started to collect data in your IT infrastructure

- ✓ Create a monitoring plan to start auditing your environment
 - Make sure that your monitoring plan is configured properly
 - Run search to investigate incidents and browse collected data

Close to view statistics across the audited IT infrastructure

ALERTS 7 days

TRIGGERED

0

0% over previous 7 days

ENVIRONMENT STATS

Users	5
Groups	48
Files and folders	0

Recalculate

MONITORING PLANS OVERVIEW

Ready	4
Pay attention	0
Take action	3

ACTIVITY RECORDS 7 days

COLLECTED

30



5. Monitoring Plans

To start auditing your environment and analyzing user behavior with Netrix Auditor, create a monitoring plan.

A monitoring plan defines data collection, notification, and storage settings.

To start collecting data, and add items to its scope.

So, to collect data from your environment, you need to do the following:

1. Specify a data source and create a monitoring plan with a wizard. See [Create a New Plan](#) for more information.
2. Add items to be monitored. An item is a specific object you want to audit. As soon as the item is added, to the monitoring plan, Netrix Auditor starts collecting data from it. See [Add Items for Monitoring](#) for more information.

5.1. Using historical data

For many data sources, you can instruct Netrix Auditor to collect state-in-time data along with event data. For that, Netrix Auditor uses state-in-time snapshots of the relevant system (for example, see [Data Collection from VMware Servers](#)).

To keep users up-to-date on actual system state, Netrix Auditor updates the latest snapshot on the regular basis. Thus, only the latest snapshot is available for ongoing reporting in Netrix Auditor.

However, you may need to generate reports based on the historical data. For that, you must import the historical snapshots to the database.

NOTE: To import snapshots, you must be assigned the *Global administrator* or the *Global reviewer* role. See [Assign Roles](#) for more information.

To import historical snapshots:

1. Select the monitoring plan you need.
2. Select the required data source and click **Edit data source** on the right to open its properties.
3. Click **General** on the left.
4. In the **Manage historical snapshots** section, click **Manage**.
5. In the **Manage Snapshots** window, select the snapshots that you want to import — use the arrows to move the selected snapshots to the **Snapshots available for reporting** list. When finished, click **OK**.

5.2. Create a New Plan

On the main Netrix Auditor page, click the **All data sources** tile in the **Quick Start** section.

Then follow the steps of the Monitoring Plan Wizard:

- Choose a data source for monitoring
- Specify an account for collecting data
- Specify default SQL Server instance and configure the Audit Database to store your data
- Configure notification settings
- Specify the recipients who will receive daily activity summaries
- Specify a plan name

5.2.1. Settings for Data Collection

At this step of the wizard, specify the account that Netrix Auditor will use to access the data source, and general settings for data collection.

Option	Description
Specify the account for collecting data	<p>Provide a user name and a password for the account that Netrix Auditor will use to collect data. By default, the user name is prepopulated with your account name.</p> <p>Make sure the account has sufficient permissions to collect data. For a full list of the rights and permissions, and instructions on how to configure them, refer to Data Collecting Account. Netrix recommends creating a special service account with extended permissions.</p> <p>NOTE: If you want to audit network devices or Azure AD/Office 365 infrastructure, you can use any account here.</p>

5.2.2. Default SQL Server Instance

To provide searching, alerting and reporting capabilities, Netrix Auditor needs an SQL Server where audit data will be stored in the databases. To store data from the data sources included in the monitoring plan, the wizard creates an Audit Database for each plan. At this step, you should specify the default SQL Server instance that will host Netrix Auditor databases. To read more, refer to [SQL Server and Audit Database](#).

NOTE: Alternatively, you can instruct Netrix Auditor not to store data to the databases but only to the repository (Long-Term Archive) – in this scenario, you will only be able to receive activity summaries. Reporting and alerting capabilities will not be provided.

NOTE: Make sure the **Disable security intelligence and make data available only in activity summaries** checkbox is cleared.

Select one of the following options:

- **Install a new instance of Microsoft SQL Server Express automatically** — this option is available at the first run of the wizard. It allows you to deploy SQL Server 2016 SP2 Express with Advanced Services on the local machine. This SQL Server will be used as default host for Netwrix Auditor databases.
- **Use an existing SQL Server instance** — select this option to use an existing SQL Server instance.

NOTE: Local SQL Server instance is detected automatically, and input fields are pre-populated with its settings.

Complete the following fields:

Option	Description
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: <ul style="list-style-type: none"> • Windows authentication • SQL Server authentication
User name	Specify the account to be used to connect to the SQL Server instance. <p>NOTE: This account must be granted the database owner (db_owner) role and the dbcreator server role.</p>
Password	Enter a password.

IMPORTANT! If you want to use Group Managed Service Account (gMSA) to access the SQL Server instance hosting the database, consider that in this case Netwrix Auditor will not be able to generate SSRS-based reports (due to [Microsoft limitations](#)).

5.2.3. Database Settings

At this step, you need to specify a database where Netwrix Auditor will store data collected from the data sources included in this monitoring plan.

NOTE: It is strongly recommended to target each monitoring plan at a separate database.

Make sure the **Disable security intelligence and make data available only in activity summaries** checkbox is cleared and **Use default SQL Server settings** is checked.

Audit Database

Specify the database to store your data and configure settings.

Disable security intelligence and make data available only in activity summaries

Database:

Use default SQL Server settings

Specify custom connection parameters

Authentication:

User name:

Password:

Configure the following:

Setting	Description
<p>Disable security intelligence ...</p>	<p>Only select this option if you do not want your data to be stored in the database. In this case, you will only be able to receive activity summaries. Reporting and alerting capabilities will not be provided.</p> <p>To store data to the database, leave this check box cleared.</p>
<p>Database</p>	<p>Default database name is <i>Netwrix_Auditor_<monitoring_plan_name></i>.</p> <p>It is recommended that you enter a meaningful name for the database here. It may include the data source type (e.g. <i>Exchange_Audit_Data</i> or <i>OracleSrv02_Audit_Data</i>), or so.</p> <p>If you decided to use the existing SQL Server instance instead of dedicated, you may want to use <i>Netwrix_Auditor</i> prefix to distinguish Netwrix Auditor databases</p>

Setting	Description
	from others.
Use default SQL Server settings	Select this option if you want Netwrix Auditor to connect to the SQL Server instance using the default settings you specified Default SQL Server Instance .
Specify custom connection parameters	Select this option to use custom credentials when connecting to SQL Server. Specify authentication method and the account that Netwrix Auditor will use. Make sure this account has sufficient rights to connect to SQL Server and work with the databases. See Configure Audit Database Account for details.

Netwrix Auditor will connect to the default SQL Server instance and create a database with the specified name on it.

NOTE: Global settings that apply to all databases with audit data (including retention period and SSRS server used for reporting) are available on the **Audit Database** page of Netwrix Auditor settings. See [Audit Database](#) for details.

5.2.4. SMTP Server Settings

When you create the first monitoring plan, you are prompted to specify the email settings that will be used for activity and health summaries, reports and alerts delivery. For the monitoring plans that follow, Netwrix Auditor will automatically detect SMTP settings; however, for your first plan you should provide them manually. See [this section](#) for details.

5.2.5. Email Notification Recipients

Specify who will receive daily emails: [Activity Summary Email](#) on changes in the monitored infrastructure, and [Health Summary Email](#) on Netwrix Auditor operations and health.

Click **Add Recipient** and enter your email.

NOTE: It is recommended to click **Send Test Email**. The system will send a test message to the specified email address and inform you if any problems are detected.

5.2.6. Monitoring Plan Summary

At this step of the wizard, to provide a meaningful name and optional description for your monitoring plan.

To start collecting data, you should specify the objects (items) that belong to the target data source and should be processed according to the settings of this monitoring plan. For example, for Exchange data source the item will be your Exchange server, for Windows Server data source - computer, IP range or AD container, and so on. To add items right after finishing the monitoring plan wizard, select the **Add item now** checkbox. See [Add Items for Monitoring](#) for details.

5.3. Add Items for Monitoring

Once you completed monitoring plan wizard and specified data sources, add items for monitoring.

Each data source has a dedicated item type. Netrix Auditor automatically suggests item types associated with your data source.

5.3.1. VMware ESX/ESXi/vCenter

Complete the following fields:

Option	Description
General	
Specify VMware ESX, ESXi, or vCenter for monitoring	Specify the ESX or ESXi host URL, or vCenter Server URL.
Specify the account for collecting data	Select the account that will be used to collect data for this item.
Virtual Machines	
Specify monitoring restrictions	<p>Select the virtual machines to be excluded from search results, reports and Activity Summaries. To add VMs to the list, click Add. Then provide the full path of the machine to exclude. Consider the following:</p> <ul style="list-style-type: none"> • To exclude a <u>single VM</u>, provide its full path as shown in the "What" column of reports and Activity Summary, for example: <code>Vcenters\VCenterServer021\VMs\vm01</code>. • To exclude <u>several VMs</u>, you can define a mask using a wildcard, for example: <ul style="list-style-type: none"> ◦ <code>*\TestVM*</code> — exclude VMs with names starting with <code>TestVM</code> (e.g., <code>TestVM01</code>, <code>TestVM_new</code>), located anywhere. ◦ <code>*TestVM*</code> — exclude VMs with names containing <code>TestVM</code> (e.g., <code>MyTestVM02</code>).

Option	Description
	<p>TIP: In addition to the restrictions for a monitoring plan, you can use the *.txt files to collect more granular audit data. Note that the new monitoring scope restrictions apply together with previous exclusion settings configured in the *.txt files. Review the following for more information: Exclude Objects from Monitoring Scope.</p>

5.4. Launch Data Collection Manually and Update Status

If you do not want to wait until a scheduled data collection, you can launch it manually.

NOTE: Not applicable to Netwrix Auditor for User Activity. For this data source, the product sends real-time data about sessions and activity.

Along with data collection, the following actions will be performed:

- An Activity Summary email will be generated and sent to the specified recipients. It will list all changes that occurred since the last scheduled or on-demand Activity Summary delivery.
- Changes that occurred between data collections will be written to the Long-Term Archive and the Audit Database, and become available in the Netwrix Auditor client.
- A state-in-time data will be updated.

To launch data collection manually

1. Navigate to **All monitoring plans** → your monitoring plan, select **Edit**.
2. In the right pane, click **Update**.

NOTE: Depending on the size of the monitored environment and the number of changes, data collection may take a while.

6. Make Test Changes

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

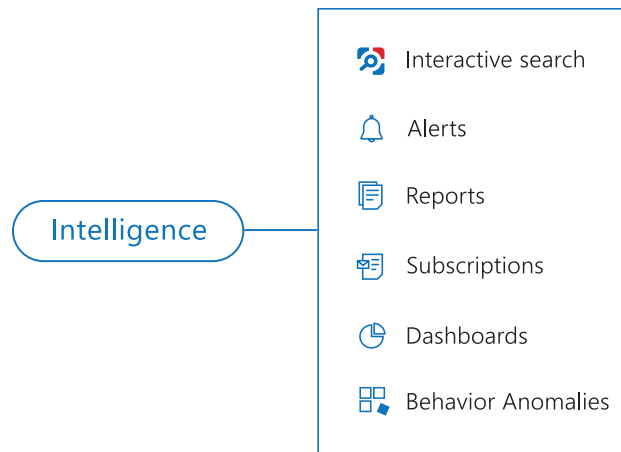
NOTE: Before making any test changes to your environment, ensure that you have the sufficient rights, and that the changes conform to your security policy.

For example, make the following test changes:

- Create a virtual machine
- Modify the virtual machine's name

7. See How Netwrix Auditor Enables Complete Visibility

After you have made test changes to your environment, you can see how Netwrix Auditor brings security intelligence into your IT infrastructure and enables complete visibility. Take a closer look at the **Intelligence** section. It contains everything you need to enable complete visibility in your environment.



This chapter explains how to review your test changes with some of the Intelligence options and Activity Summary. Review the following for additional information:

- [Review an Activity Summary](#)
- [Review Overview Dashboard](#)
- [Review the All Changes Report](#)
- [Browse Data with Intelligence Search](#)

In order not to wait for a scheduled Activity Summary generation, force data collection and email delivery.

To launch data collection manually

1. Navigate to **Monitoring Plans** and select your plan in the list.
2. Click **Edit**.
3. In the your monitoring plan settings, click **Update** in the right pane.
4. Check your mailbox for an email notification and make sure that the data collection has completed successfully.

7.1. Review an Activity Summary

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

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

Action	Object type	What	Item	Where	Who	When	Details
Modified	VirtualMachine	\ha-folder-root\ha-datacenter\vm\server16	https://VirtualCenterServer.shroot.loc:443	https://VirtualCenterServer.shroot.loc:443	vpxuser	4/11/2017 10:02:25 PM	Added Advanced Configuration (VMCI.FILTER.ENABLE): "true" Added Advanced Configuration (VMCI0.UNRESTRICTED): "true" Name changed from "vm16" to "server16"
Added	VirtualMachine	\ha-folder-root\ha-datacenter\vm\server16	https://VirtualCenterServer.shroot.loc:443	https://VirtualCenterServer.shroot.loc:443	root	4/11/2017 10:02:07 PM	none

The example Activity 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.
What	Shows the name of the changed object or its path.
Item	Shows the item associated with the selected monitoring plan.
Where	Shows VMware Center URL (click on the link to navigate to this object).
Who	Shows the name of the account under which the change was made.
When	Shows the exact time when the change occurred.
Details	Shows the before and after values of the modified object, object attributes, etc.

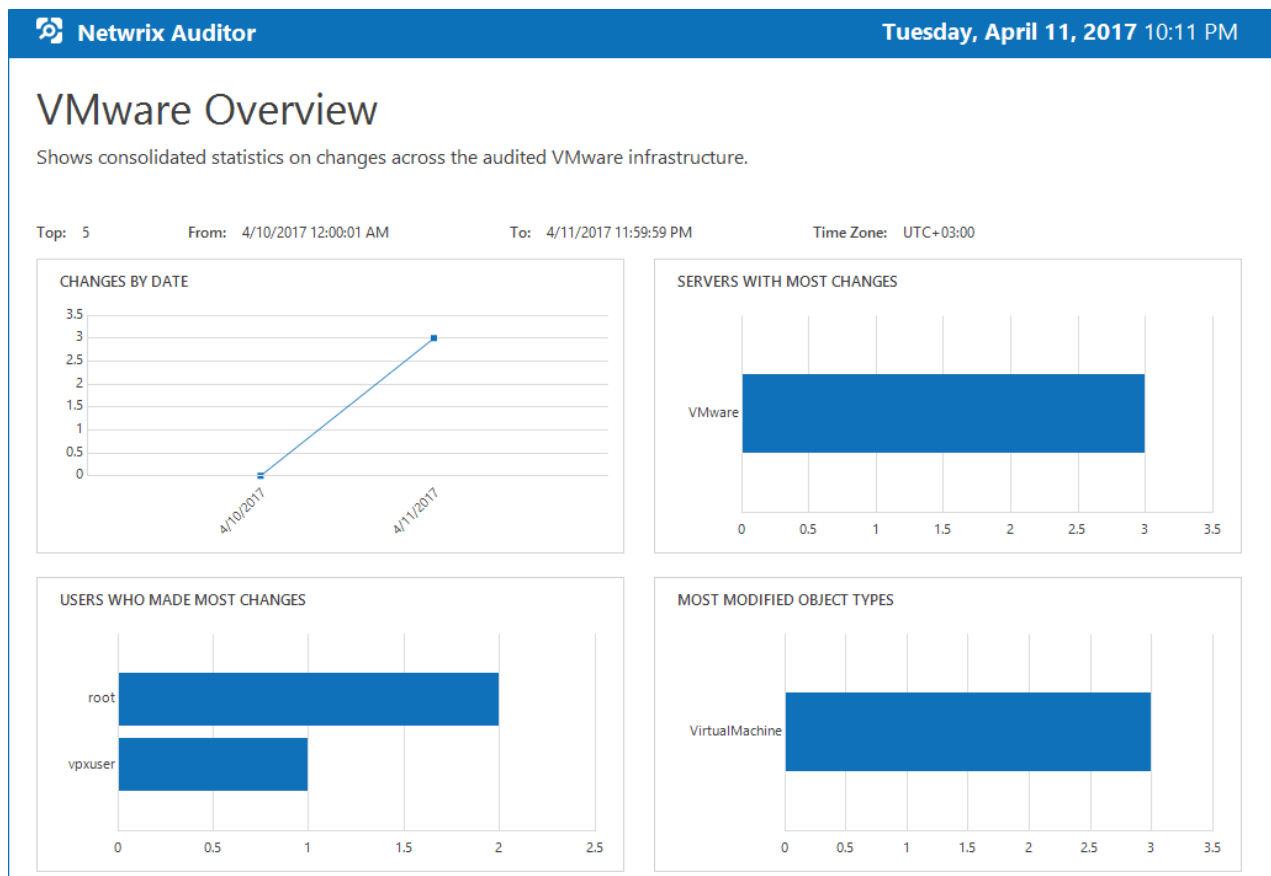
7.2. Review Overview Dashboard

Overview diagram provides a high-level overview of activity trends by date, user, server, object type or data source in your IT infrastructure. The **Overview** diagram aggregates data on all monitoring plans and all data sources, while system-specific diagrams provide quick access to important statistics within one data source.

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 **VMware Overview**.

To see how your changes are reported with VMware Overview

1. On the main Netrix Auditor page, navigate to the **Intelligence** section and click the **Reports** tile.
2. Expand the **Predefined** → **VMware** reports.
3. Select the **VMware Overview** report and click **View**.
4. Review your changes.
5. Click on any chart to jump to a table report with the corresponding grouping and filtering of data.



7.3. Review the All Changes Report

The Netwrix Auditor client provides a variety of predefined reports that aggregate data from the entire audited IT infrastructure or individual data sources.

Change and activity reports can be found under the **Reports** → **Predefined** → **your data source type** 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. On the main Netwrix Auditor page, navigate to **Reports** → **Predefined** → **your data source**.
2. Select the **All VMware Changes** report.
3. Click **View** to open the report.

Filter		Value		
Action	Object Type	What	Who	When
■ Added Where:	VirtualMachine	\ha-folder-root\ha-datacenter\vm\ server16 https://VirtualCenterServer.shroot.loc:443	root	4/11/2017 10:02:07 PM
■ Modified Where: Name changed from "vm16" to "server16" Added Advanced Configuration (VMCI.FILTER.ENABLE): true Added Advanced Configuration (VMCI0.UNRESTRICTED): true	VirtualMachine	\ha-folder-root\ha-datacenter\vm\ server16 https://VirtualCenterServer.shroot.loc:443	vpxuser	4/11/2017 10:02:25 PM

7.4. Browse Data with Intelligence Search

Netwrix Auditor delivers complete visibility into your IT infrastructure. Its convenient interactive search interface enables you to investigate incidents and browse data collected across the entire IT infrastructure. When running a search, you are not limited to a certain data source, 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 Intelligence search.

To browse your audit data and see you test changes

1. On the main Netrix Auditor page, navigate to **Intelligence** → **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.

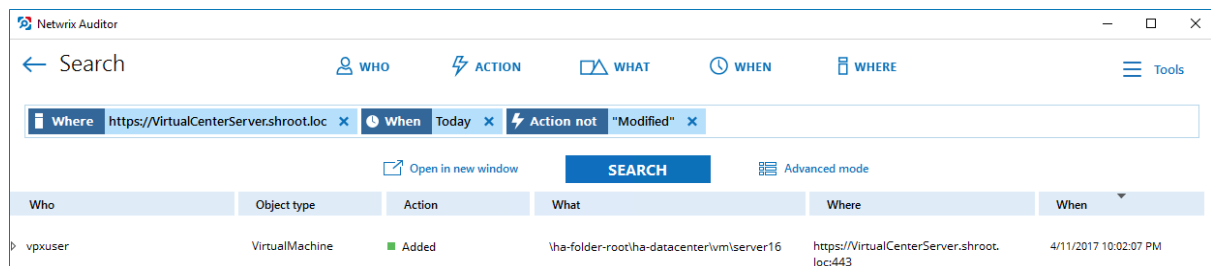
Filters are used to narrow your search results. To create a unique set of filters, you can:

- 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.

NOTE: Refer to [Netrix Online Helpcenter](#) for detailed instructions on how to apply filters and change match types


3. Click **Search**.
4. Now, you can narrow your search and modify it right from the search results pane. Click any entry that contains excess data, select **Exclude from search** in the **Details** section and specify a filter, e.g., **Action: Modified** to leave information on newly created virtual machines only.

Your **Search** field will be updated, the **Action not equal to** 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 **Save as report** to save the selected set of filters. This search will be added to the **Custom** section inside **Reports**, so that you will be able to access it instantly. Refer to [Custom Search-Based Reports](#) for detailed instructions on how to create saved searches.
 - Click **Create alert** to get instant email or SMS notifications on suspicious activity that matches your current search criteria. You only need to specify a name for a new alert, add recipient and assign a risk score. The selected set of search criteria will be associated with the new alert automatically. Refer to [Alerts](#) for detailed instructions on how to create and configure alerts.

Try making more similar test changes to provoke an alert. For example:



Wed 4/12/2017 5:48 PM

Administrator

Netrix Auditor Alert: New Virtual Machines

To Administrator

Netrix Auditor Alert

New Virtual Machines

Who: vpxuser
Action: Added
Object type: VirtualMachine
What: \ha-folder-root\ha-datacenter\vm\vm12
When: 4/12/2017 1:24:34 PM
Where: <https://VirtualCenterServer.shroot.loc:443>
Data source: VMware
Monitoring plan: VMware
Item: <https://VirtualCenterServer.shroot.loc:443> (VMware ESX/ESXi/vCenter)
RID: 201704121028354162AE83DE94B37456BAA58A52493B1BB6A
Details: none


Once you have received the alert, click the **Behavior Anomalies** tile on the main Netrix Auditor page to see how the product identifies potentially harmful users and displays their risk scores. Drill-down to user profile to review anomalies and mitigate risks. Refer to [Netrix Online Helpcenter](#) for more information on behavior anomalies and risk scores.

Netrix Auditor - WORKSTATIONSQL
— □ ×


← **User Profile (vpxuser)**

Home > Behavior Anomalies > User Profile (vpxuser)

RISK SCORE TIMELINE From: 9/27/2017 To: 10/6/2017



Alert time	Alert name	Risk score	Status
9/29/2017 7:52:36 AM	Program Installation	70	Active

 **vpxuser**

Total risk score: **70**

[Show user activity](#)

Filters

[Customize view](#)

All filters selected

[Show reviewed anomalies](#)

Actions

[Mark all as reviewed](#)

[Refresh](#)

8. Related Documentation

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

Document	Description
Netwrix Auditor Online Help Center	Gathers information about Netwrix Auditor from multiple sources and stores it in one place, so you can easily search and access any data you need for your business. Read on for details about the product configuration and administration, its security intelligence features, such as interactive search and alerts, and Integration API capabilities.
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 Administration Guide	Provides step-by-step instructions on how to configure and use the product.
Netwrix Auditor Intelligence Guide	Provides detailed instructions on how to enable complete visibility with Netwrix Auditor interactive search, report, and alert functionality.
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 10, and suggests workarounds for these issues.