

# Netwrix Auditor for VMware Quick-Start Guide

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# Table of Contents

|  |    |
|--|----|
| 1. Introduction .....  | 4  |
| 1.1. Netwrix Auditor Features and Benefits .....             | 4  |
| 1.2. How It Works: Data Collection from VMware Servers ..... | 5  |
| 2. Prerequisites and System Requirements .....               | 7  |
| 2.1. Supported Data Sources .....                            | 7  |
| 2.2. Requirements to Install Netwrix Auditor .....           | 7  |
| 2.2.1. Hardware Requirements .....                           | 8  |
| 2.2.2. Software Requirements .....                           | 8  |
| 3. Review Components Checklist .....                         | 10 |
| 3.1. Configure Data Collecting Account .....                 | 10 |
| 4. Installing Netwrix Auditor .....                          | 12 |
| 5. Monitoring Plans .....                                    | 14 |
| 5.1. Create a New Plan .....                                 | 14 |
| 5.1.1. Settings for Data Collection .....                    | 14 |
| 5.1.2. Default SQL Server Instance .....                     | 15 |
| 5.1.3. Database Settings .....                               | 16 |
| 5.1.4. SMTP Server Settings .....                            | 18 |
| 5.1.5. Email Notification Recipients .....                   | 18 |
| 5.1.6. Monitoring Plan Summary .....                         | 18 |
| 5.2. Add Items for Monitoring .....                          | 19 |
| 5.2.1. VMware ESX/ESXi/vCenter .....                         | 19 |
| 6. Make Test Changes .....                                   | 20 |
| 7. See How Netwrix Auditor Enables Complete Visibility ..... | 21 |
| 7.1. Review an Activity Summary .....                        | 22 |
| 7.2. Review VMware Overview .....                            | 23 |
| 7.3. Review the All VMware Changes Report .....              | 24 |
| 7.4. Browse Data with Intelligence Search .....              | 25 |
| 8. Related Documentation .....                               | 31 |

# 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, Azure AD, Exchange, Office 365, Windows file servers, EMC storage devices, NetApp filer appliances, 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:

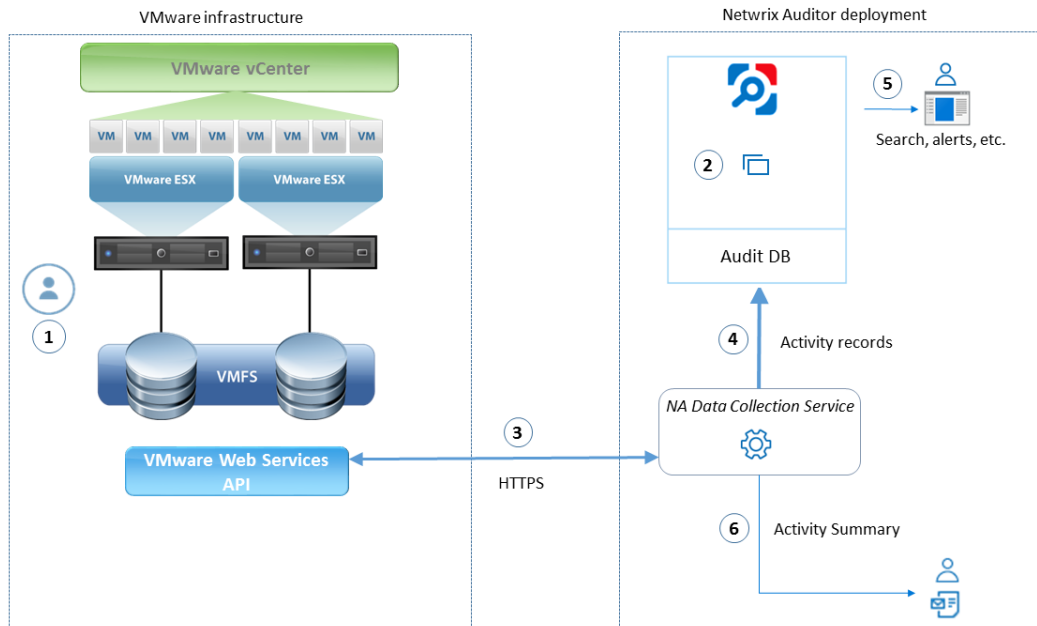
- Detect insider threats—on premises and in the cloud
- Pass compliance audits with less effort and expense
- Increase productivity of IT security and operations teams

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. Netwrix Auditor for User Activity collects and reports on user actions performed within a session and can be configured to capture a video of users' activity on the audited computers.

## 1.2. How It Works: Data Collection from VMware Servers

On a high level, data collection process for VMware servers works as follows:



1. VMware administrator prepares a dedicated service account with sufficient permissions to collect data from VMware servers. This account must have at least **Read Only** role on those servers. For more information on VMware vSphere roles and permissions assignment, refer to [this VMware article](#).
2. Netwrix administrator does the following:
  - Creates a monitoring plan in Netwrix Auditor, specifying the service account (prepared at step 1) as a data collecting account in the **Monitoring Plan wizard**. Then s/he adds items to the monitoring plan – these are VMware servers to collect data from.
  - Configures alerts related to VMware data source. Current version does not include predefined alerts for that data source, so follow the [instructions](#) to create and configure the necessary alerts.

**NOTE:** Remember to set the filter to “Data Source equals VMware”.

3. **Netwrix Auditor Data Collection Service** starts periodic (every 15 min) data collection sessions. The results of each session include:
  - VMware infrastructure snapshot collected from the monitored items, i.e. VMware vCenter or ESX(i) host
  - VMware events that occurred since the previous data collection. Data is retrieved via **VMware web services API** using HTTPS protocol.

4. **Netwrix Auditor Data Collection Service** processes collected data into the proprietary format (Activity Records). Each Activity Record contains initiator's account, time, action, and other details.
  - To determine what has changed in the configuration, it compares a state snapshot from VMware server with the previously taken.
  - To get '*Who*' (initiator) and '*When*' (date and time) information for the detected changes, the product uses VMware events data.
5. Netwrix Auditor Server then writes the Activity Records to the audit database (default retention – 180 days) and long-term archive (default retention – 120 months).
6. Users can work with collected data in Netwrix Auditor client UI: run search, view reports, and so on. If you have configured alerting in Netwrix Auditor, then the activities that match the certain criteria will trigger the alerts. Recipients will be notified by email, and response actions will be taken, if configured.
7. Netwrix Auditor also generates an Activity Summary once a day (by default, at 3 AM) and sends it to the specified recipients. This email lists VMware infrastructure changes and activities collected by Netwrix Auditor during the last 24 hours.

## 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

The table below lists systems that can be monitored with Netwrix Auditor for VMware:

| Data source | Supported Versions   |
|-------------|--|
| VMware      | <ul style="list-style-type: none"><li>VMware vSphere (ESX) 6.0 – 6.7</li><li>VMware vSphere Hypervisor (ESXi) 6.0 – 6.7</li><li>VMware vCenter Server 6.0 – 6.7</li><li><b>NOTE:</b> .NET Framework <a href="#">4.5</a> or <a href="#">4.6</a> on the computer where Netwrix Auditor Server resides required to audit VMware vSphere 6.5 or 6.7.</li></ul> |

### 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 rough estimations of the resources required for Netwrix Auditor PoC or evaluation deployment. 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.

The metrics provided in this section are valid for clean installation on a server without any additional roles or third part applications installed on it. The use of virtual machine is recommended.

Below you can find rough estimations, calculated for evaluation of Netwrix Auditor for VMware. Refer to [Netwrix Online Help Center](#) for complete 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.

| Hardware component Starter, evaluation, or small environment |  |
|--|--|
| Processor  | 2 cores  |
| RAM  | 4 GB   |
| Disk space   | 100 GB—System drive                                  |
|  | 100 GB—Data drive (Long-Term Archive and SQL Server) |
| Screen resolution  | Minimum 1280 x 1024                                  |
|  | Recommended 1920 x 1080 or higher                    |

## 2.2.2. Software Requirements

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

| Component        | Requirements   |
|------------------|--|
| Operating system | Windows Server OS: <ul style="list-style-type: none"><li>• Windows Server 2019</li><li>• Windows Server 2016</li></ul> |



| Component      | Requirements  |
|----------------|---|
|                | <ul style="list-style-type: none"><li>• Windows Server 2012 R2</li><li>• Windows Server 2012</li><li>• Windows Server 2008 R2 SP1</li></ul> Windows Desktop OS (64-bit): <ul style="list-style-type: none"><li>• Windows 10</li><li>• Windows 8.1</li><li>• Windows 7 SP1</li></ul> |
| .NET Framework | <ul style="list-style-type: none"><li>• .NET Framework <a href="#">3.5 SP1</a>.</li></ul> <p><b>NOTE:</b> To audit VMware vSphere 6.7 or 6.5, .NET Framework 4.5 or 4.6 is required.</p>  |
| Installer      | <ul style="list-style-type: none"><li>• <a href="#">Windows Installer 3.1</a> and above</li></ul>   |

## 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 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 Netwrix 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 <a href="#">here</a>.</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><b>NOTE:</b> Although Netwrix 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>Netwrix recommends you to create a special account with extensive privileges. This account should have sufficient permissions to:</p> <ul style="list-style-type: none"> <li>• Collect audit data. See <a href="#">Configure Data Collecting Account</a> for more information.</li> <li>• Access data stored in the SQL Server instance: <ul style="list-style-type: none"> <li>• The account must be assigned the <b>Database owner (db_owner)</b> role and the <b>dbcreator</b> server role.</li> <li>• The account must be assigned the <b>Content Manager</b> role on the SSRS Home folder.</li> </ul> </li> <li>• Make test changes in your environment.</li> </ul> |

### 3.1. Configure Data Collecting Account

This service account is used to collect audit data from the data source items; it is specified during the monitoring plan creation:

## New Monitoring Plan

### Specify the account for collecting data

User name:

Password:

Note: Make sure the account has sufficient permissions to access and collect data from your data sources. [Learn more...](#)

### Specify data collection settings

☒ Enable network traffic compression

☒ Adjust audit settings automatically

Note: Netwrix Auditor will continually enforce the relevant audit policies in your environment. [Learn more...](#)

☐ Collect data for state-in-time reports

Netwrix recommends creating a special service account for that purpose. Depending on the data source your monitoring plan will process, the account must meet the corresponding requirements.

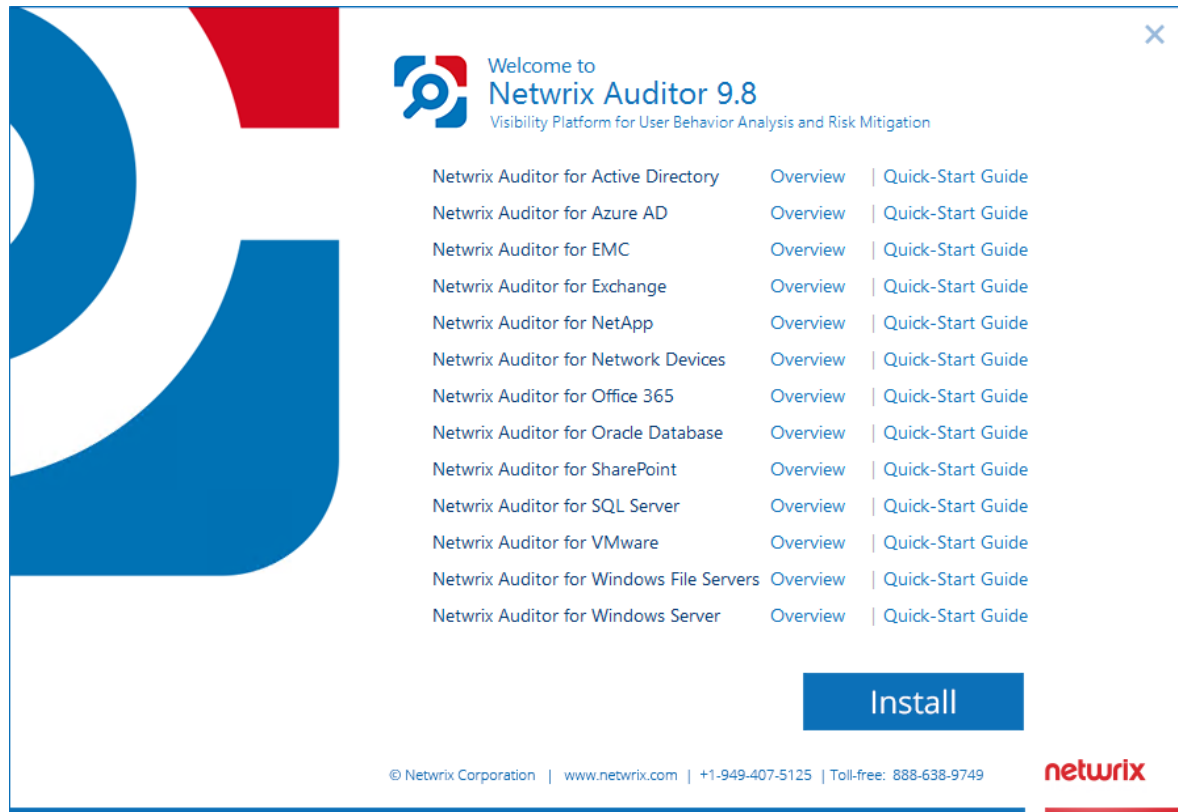
**NOTE:** The information in this section is outside the quick-start guide scope and is provided for reference only. See [Netwrix Online Help Center](#) for detailed instructions on how to configure your Data Processing Account.

| Data source | Required rights and permissions:   |
|-------------|--|
| VMware      | <p><b><i>On the target server:</i></b></p> <ul style="list-style-type: none"> <li>At least <b>Read-only</b> role on the audited hosts</li> </ul> |

## 4. Installing Netwrix Auditor

### To install Netwrix Auditor

1. Download Netwrix Auditor 9.8 from [Netwrix website](#).
2. Unpack the installation package. The following window will be displayed on successful operation completion:

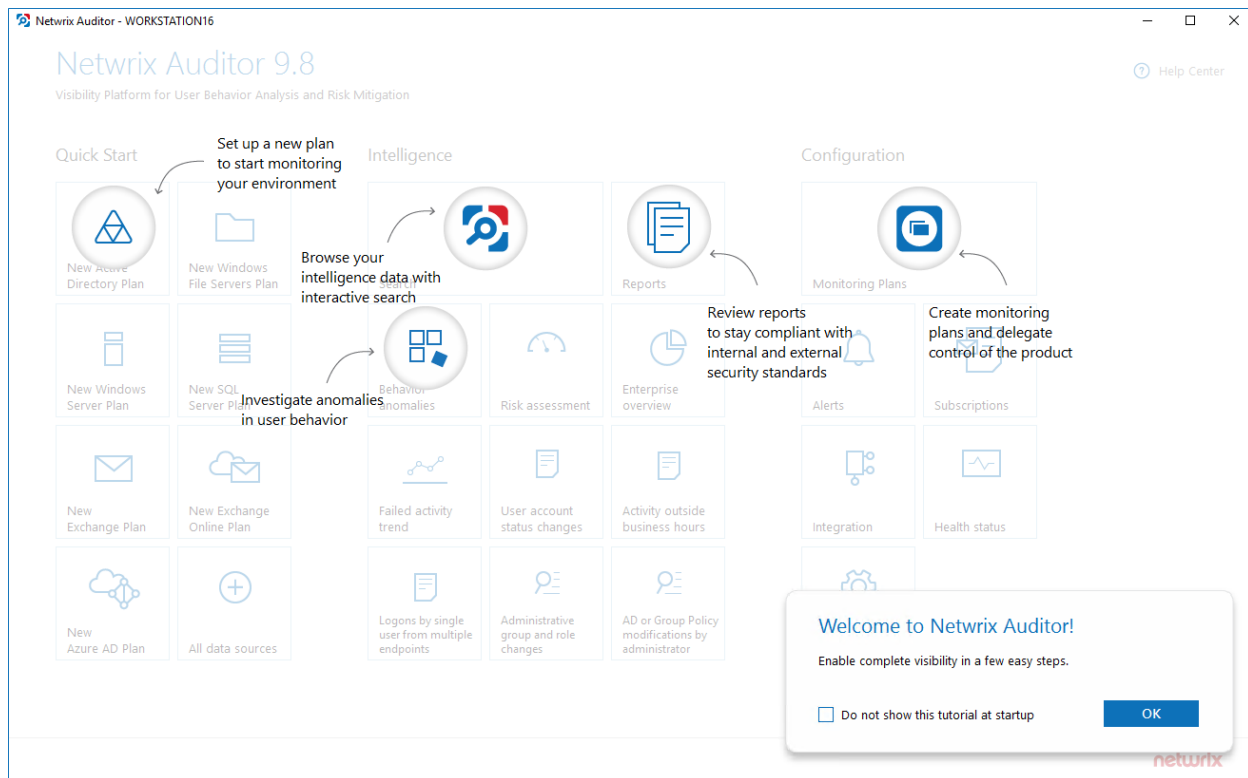


3. Follow the instructions of the setup wizard. When prompted, accept the license agreement.
4. On the **Select Installation Type** step, select **Full installation**.
5. On the **Destination Folder** step, specify the installation folder.
6. On the **Netwrix Customer Experience Program** step, you are 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.



## 5. Monitoring Plans

To start auditing your environment and analyzing user behavior with Netwrix Auditor, create a monitoring plan. All your monitoring plans are listed in the **Monitoring Plans** section.

A monitoring plan defines your data sources and general data collection, notification, and storage settings. To start collecting data, choose a data source, such as VMware, and add items to its scope. Item is a specific object you want to audit. All data sources and items in your plan share common settings so that you can supervise and manage several data collections as one.

On a high level, you should perform the following steps to start monitoring your environment:

1. Specify a data source and create a monitoring plan with a wizard. See [Create a New Plan](#) for more information.
2. Add items for monitoring. Netwrix Auditor does not collect data until you specify an item. See [Add Items for Monitoring](#) for more information.

### 5.1. Create a New Plan

On the main Netwrix 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

#### 5.1.1. Settings for Data Collection

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

### New Monitoring Plan

Specify the account for collecting data

User name:

Password:

Note: Make sure the account has sufficient permissions to access and collect data from your data sources. [Learn more...](#)

Specify data collection settings

☒ Enable network traffic compression

☒ Adjust audit settings automatically

Note: Netwrix Auditor will continually enforce the relevant audit policies in your environment. [Learn more...](#)

☐ Collect data for state-in-time reports

| Option                                  | Description  |
|---|--|
| Specify the account for collecting data | <p>Provide a user name and a password for the account that Netwrix 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 <a href="#">Configure Data Collecting Account</a>. Netwrix recommends creating a special service account with extended permissions.</p> |

## 5.1.2. Default SQL Server Instance

To provide searching, alerting and reporting capabilities, Netwrix 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 Netwrix Auditor databases. To read more, refer to [SQL Server and Audit Database](#).

**NOTE:** Alternatively, you can instruct Netwrix 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 2014 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"> <li>• Windows authentication</li> <li>• SQL Server authentication</li> </ul>   |
| User name           | Specify the account to be used to connect to the SQL Server instance. <p><b>NOTE:</b> This account must be granted the <b>database owner (db_owner)</b> role and the <b>dbcreator</b> server role. See <a href="#">Configure Audit Database Account</a> for more information.</p> |
| Password            | Enter a password.   |

### 5.1.3. 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: 

Netwrix\_Auditor\_Monitoring\_Exchange

☐ Use default SQL Server settings

☒ Specify custom connection parameters

Authentication:

Windows authentication

User name:

corp\administrator

Password:

.....

Back

Next

Cancel

Configure the following:

| Setting                           | Description   |
|-----------------------------------|---|
| Disable security intelligence ... | <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>  |
| Database                          | <p>Default database name is <i>Netwrix_Auditor_&lt;monitoring_plan_name&gt;</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 <a href="#">Default SQL Server Instance</a> .   |
| Specify custom connection parameters | <p>Select this option to use custom credentials when connecting to SQL Server. Specify authentication method and the account that Netwrix Auditor will use.</p> <p>Make sure this account has sufficient rights to connect to SQL Server and work with the databases. See <a href="#">Configure Audit Database Account</a> for details.</p> |

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.

### 5.1.4. 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.

### 5.1.5. 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.

### 5.1.6. 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.

## 5.2. 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. Netwrix Auditor automatically suggests item types associated with your data source.

### 5.2.1. VMware ESX/ESXi/vCenter

Complete the following fields:

| Option  | Description   |
|---|---|
| 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. |

## 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.

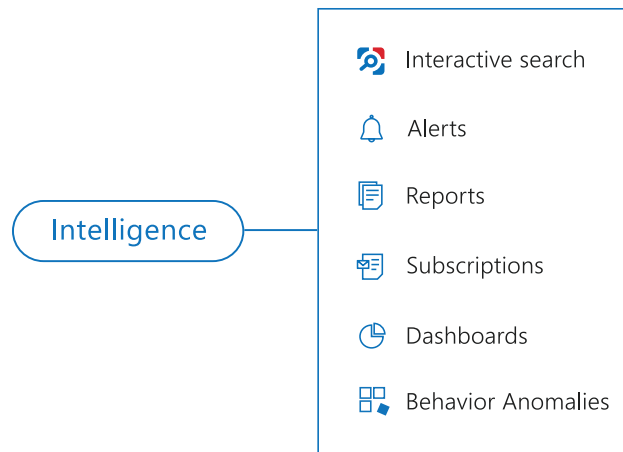
For example, make the following test changes:

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

**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 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 VMware Overview](#)
- [Review the All VMware 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:

**Netwrix Auditor for VMware**

**Activity Summary**

■ Added 1  
 ■ Removed 0  
 ■ Modified 1

| Action   | Object type    | What                                      | Item  | Where   | Who     | When                  | Details  |
|----------|----------------|---|---|---|---------|-----------------------|--|
| Modified | VirtualMachine | \ha-folder-root\ha-datacenter\vm\server16 | <a href="https://VirtualCenterServer.shroot.loc:443">https://VirtualCenterServer.shroot.loc:443</a> | <a href="https://VirtualCenterServer.shroot.loc:443">https://VirtualCenterServer.shroot.loc:443</a> | vpxuser | 4/11/2017 10:02:25 PM | Added Advanced Configuration (VMCI.FILTER.ENABLE): "true"<br>Added Advanced Configuration (VMCI0.UNRESTRICTED): "true"<br>Name changed from "vm16" to "server16" |
| Added    | VirtualMachine | \ha-folder-root\ha-datacenter\vm\server16 | <a href="https://VirtualCenterServer.shroot.loc:443">https://VirtualCenterServer.shroot.loc:443</a> | <a href="https://VirtualCenterServer.shroot.loc:443">https://VirtualCenterServer.shroot.loc:443</a> | 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. |

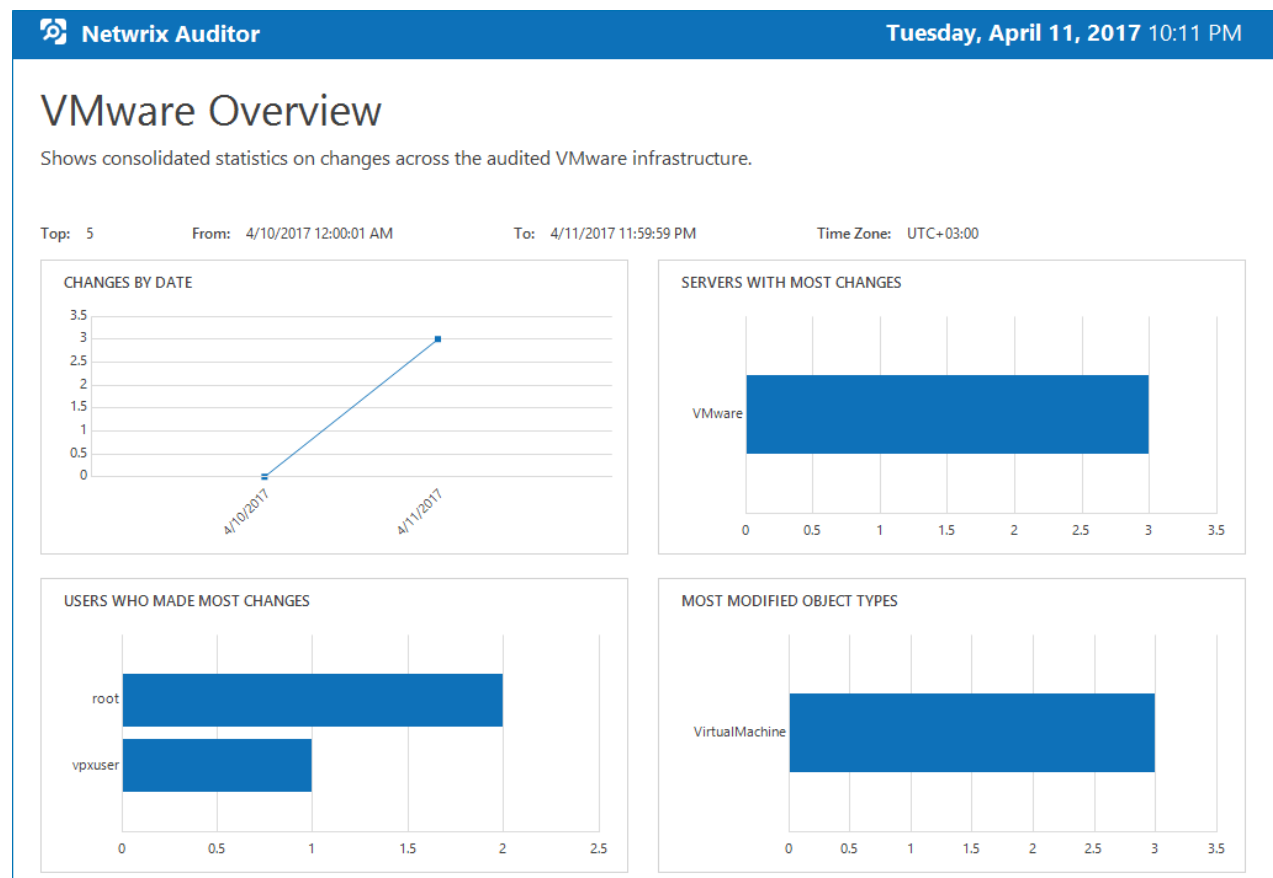
## 7.2. Review VMware Overview

**Enterprise** diagram provides a high-level overview of activity trends by date, user, server, object type or data source in your IT infrastructure. The **Enterprise** 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 Netwrix 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 VMware Changes Report

The Netrix 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** → **VMware** 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 Netrix Auditor page, navigate to **Reports** → **Predefined** → **VMware**.
2. Select the **All VMware Changes** report.
3. Click **View** to open the report.

Netrix Auditor

Wednesday, March 20, 2019 5:10 AM


All User Activity

Shows video recordings of user activity.

| Filter | Value |
|--------|-------|
|--------|-------|

| Who                | Where                    | When                                 | What                               |
|--------------------|--------------------------|--------------------------------------|------------------------------------|
| CORP\administrator | workstation16.corp.local | <a href="#">3/19/2019 4:16:33 AM</a> | Windows Explorer   Program Manager |
| CORP\administrator | workstation16.corp.local | <a href="#">3/20/2019 3:47:57 AM</a> | Session end                        |
| CORP\administrator | workstation16.corp.local | <a href="#">3/20/2019 3:48:06 AM</a> | Session start                      |
| CORP\administrator | workstation16.corp.local | <a href="#">3/20/2019 3:48:10 AM</a> | Session end                        |



 Netrix Auditor

Tuesday, April 11, 2017 10:13 PM

# All VMware Changes

Shows all changes to VMware infrastructure objects and settings, including hosts, containers, resource pools, and virtual machines.

Filter

Value

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

## 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 Netwrix 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.

For example, consider adding these filters:

| Filter  | Value                          |
|---|--------------------------------|
|  | Specify your VMware host name. |
| <b>WHERE</b>  |                                |
|  | Specify a timeframe.           |
| <b>WHEN</b>   |                                |

**NOTE:** Refer to [Netwrix Online Helpcenter](#) 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:



 **Where** `https://VirtualCenterServer.shroot.loc` 
 **When** `Today` 

3. Click **Search**.

Netwrix Auditor

← Search WHO ACTION WHAT WHEN WHERE Tools



**Where** `https://VirtualCenterServer.shroot.loc`  **When** `Today` 



 Open in new window **SEARCH**  Advanced mode

| Who                                    | Object type    | Action   | What                                       | Where                                      | When                  |
|--|----------------|----------|--|--|-----------------------|
| root                                   | VirtualMachine | Modified | \\ha-folder-root\ha-datacenter\vm\server16 | https://VirtualCenterServer.shroot.loc:443 | 4/11/2017 10:03:58 PM |
| Name changed from "vm16" to "server16" |                |          |  |  |                       |
| vpuser                                 | VirtualMachine | Added    | \\ha-folder-root\ha-datacenter\vm\server16 | https://VirtualCenterServer.shroot.loc:443 | 4/11/2017 10:02:07 PM |

Netwrix Auditor - WORKSTATION16

← Search Who Action What When Where Tools

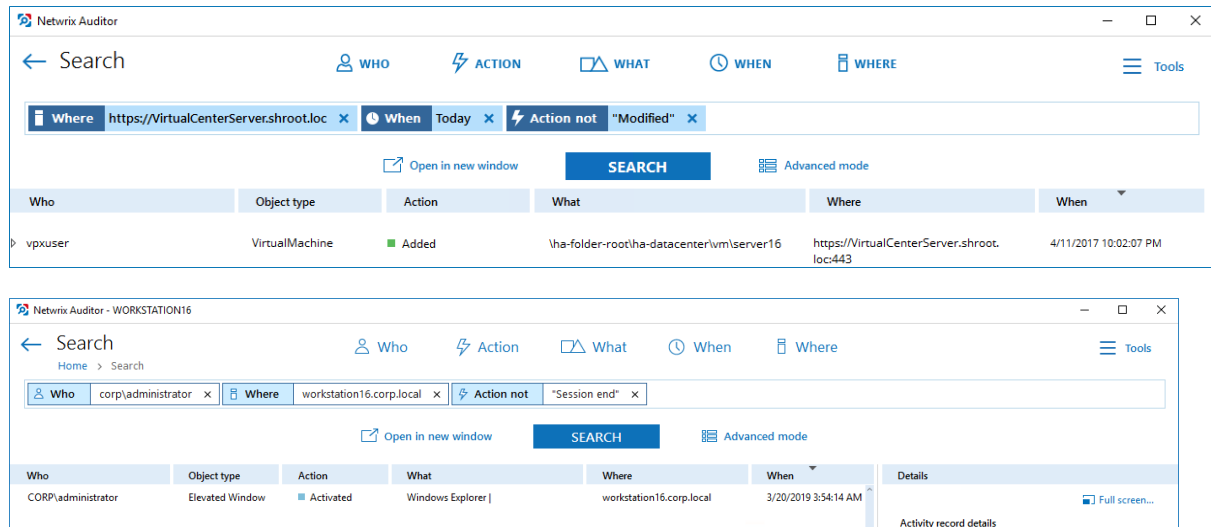
Who `corp\administrator`  Where `workstation16.corp.local` 

 Open in new window **SEARCH**  Advanced mode

| Who                | Object type     | Action      | What                                     | Where                    | When                 | Details   |
|--------------------|-----------------|-------------|--|--------------------------|----------------------|---|
| CORPladministrator | Elevated Window | Activated   | Netwrix Auditor   Netwrix Auditor - W... | workstation16.corp.local | 3/20/2019 4:49:57 AM | <b>Activity record details</b><br>Data source: User Activity (Video)<br>Monitoring plan: UAVR |
| CORPladministrator | User session    | Session end | Lock                                     | workstation16.corp.local | 3/20/2019 3:52:21 AM |   |

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** 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**  
**Netwrix Auditor Alert: New Virtual Machines**

To Administrator


**Netwrix 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:           | <a href="https://VirtualCenterServer.shroot.loc:443">https://VirtualCenterServer.shroot.loc:443</a>                           |
| Data source:     | VMware  |
| Monitoring plan: | VMware  |
| Item:            | <a href="https://VirtualCenterServer.shroot.loc:443">https://VirtualCenterServer.shroot.loc:443</a> (VMware ESX/ESXi/vCenter) |
| RID:             | 201704121028354162AE83DE94B37456BAA58A52493B1BB6A   |
| Details:         | none  |



Wed 3/20/2019 4:48 PM  
**Administrator**  
**Netwrix Auditor Alert: Elevated Windows**

To  Administrator

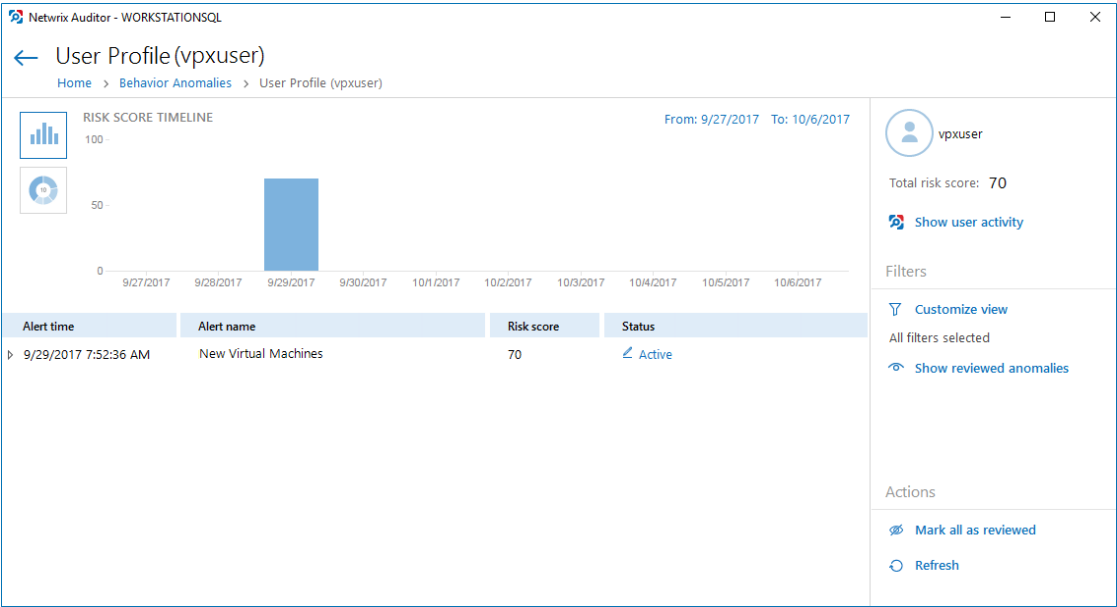
**Netwrix Auditor Alert**

**Elevated Windows**

|                  |   |
|------------------|---|
| Who:             | CORP\administrator                                  |
| Action:          | Activated   |
| Object type:     | Elevated Window                                     |
| What:            | Windows Shell Experience Host   Jump List for Skype |
| When:            | 3/20/2019 6:46:36 AM                                |
| Where:           | workstation16.corp.local                            |
| Workstation:     | workstation16.corp.local                            |
| MAC:             |   |
| Data source:     | User Activity (Video)                               |
| Monitoring plan: | UAVR  |
| Item:            | 172.28.6.31 (Computer)                              |
| RID:             | 2019032013480413961400F6FFC85423AB0943129BCBBFFF4   |

This message was sent by Netwrix Auditor from **Workstation16.corp.local**.  
[www.netwrix.com](http://www.netwrix.com)

Once you have received the alert, click the **Behavior Anomalies** tile on the main Netwrix 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 [Netwrix Online Helpcenter](#) for more information on behavior anomalies and risk scores.



## 8. Related Documentation

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

| Document   | Description   |
|--|---|
| <a href="#">Netwrix Auditor Online Help Center</a>                   | 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. |
| <a href="#">Netwrix Auditor Installation and Configuration Guide</a> | Provides detailed instructions on how to install Netwrix Auditor, and explains how to configure your environment for auditing.  |
| <a href="#">Netwrix Auditor Administration Guide</a>                 | Provides step-by-step instructions on how to configure and use the product.   |
| <a href="#">Netwrix Auditor Intelligence Guide</a>                   | Provides detailed instructions on how to enable complete visibility with Netwrix Auditor interactive search, report, and alert functionality.   |
| <a href="#">Netwrix Auditor Integration API Guide</a>                | Provides step-by-step instructions on how to leverage Netwrix Auditor audit data with on-premises and cloud auditing solutions using RESTful API.   |
| <a href="#">Netwrix Auditor Release Notes</a>                        | Lists the known issues that customers may experience with Netwrix Auditor 9.8, and suggests workarounds for these issues.   |