

Integrating Box with File Access Manager

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Capabilities

This connector enables you to use IdentityIQ File Access Manager to access and analyze data stored in Box and do the following:

- Analyze the structure of your stored data.
- Monitor user activity in the resources.
- Classify the data being stored.
- Verify user permissions on the resources, and compare them against requirements.

See the IdentityIQ File Access Manager documentation for a full description.

Box Connector Prerequisites

Box User Permissions

During the OAuth authorization process, a Box for Business Team Admin user must grant the SailPoint Box Application access to the data on Box.

Communications Requirements

Requirement	Source	Destination	Port
File Access Manager Mes- sage Broker	Permissions Collector / Data Classification Collector	RabbitMQ	5671
File Access Manager Access	Activity Monitor / Permissions Collector	File Access Man- ager Servers	8000- 8008
Permissions Collection / Data Classification	Permissions Collector / Data Classification	Box API	https
Activity Audit	Activity Monitor	Box API	https

Software Requirements

IdentityIQ File Access Manager requires the latest ASP.NET Core 3.1.x Hosting Bundle. This bundle consists of .NET Runtime and ASP .NET Core Runtime. You can download the latest 3.1.x Hosting Bundle version from here.

Collecting Data Stored in an External Application

Connector / Collector terminology:

Connector

The collection of features, components and capabilities that comprise IdentityIQ File Access Manager support for an endpoint.

Collector

The "Agent" component or service in a Data Classification and or Permission Collection architecture.

Engine

The core service counterpart of this architecture.

Identity Collector

A logical component used to fetch identities from an identity store and holds the configuration, settings for that identity store, and the relations between these identities.

The identity collector has no "physical" manifest.

• The actual work is done by the Collector Synchronizer.

The list below describes the high level installation process required to collect and analyze data from an external application. Most of these should already be set up in your IdentityIQ File Access Manager installation. See the server Installation guide for further details.

Install a Data Classification central engine

One or more central engines, installed using the server installer

Install a Permission Collection central engine

One or more central engines, installed using the server installer

Create an Application in File Access Manager

From the Business Website. The application is linked to central engines listed above.

Add an Activity Monitor

To collect activities for this application - run the Collector Installation Manager and add an application under Activity Monitoring.

Cloud Connector Installation Flow Overview

To install the Box connector:

- 1. Configure all the prerequisites.
- 2. Add a new Box application in the IdentityIQ File Access Manager website.
- 3. Install the relevant services:

- · Activity Monitor
- Permissions Collector
- Data Classification Collector

Do no install Permissions Collectors. Box currently does not support the Cloud-Ready architecture for Permissions Collection. A Permissions Collection task will always run on the Central Permissions Collector service associated with the Application regardless of the number of Collectors associated with the Central Permissions Collector service.

Installing the data classification services is optional and should only be installed by someone with a full understanding of IdentityIQ File Access Manager deployment architecture. The IdentityIQ File Access Manager Administrator Guide has additional information on the architecture.

Installation Locations

Activity Monitor – installed remotely on a File Access Manager monitor application server, which can be a server joined to any domain, including a domain different from the monitored domain.

Box Connector Operation Principles

- IdentityIQ File Access Manager Connector for Box uses the Box Content API for event monitoring, identity, and permissions collection.
- The Box Content API uses the OAuth 2.0 authorization protocol to authenticate and authorize API requests.
- SailPoint SecurityIQ for Box Connector is a registered Box App, which requires a short authorization process to use the Box API during the definition of the Box application.
- After the initial authorization process, IdentityIQIdentityIQ File Access Manager handles the OAuth token management automatically and refreshes the token if needed.

Permissions Collector Operation Principles

- IdentityIQ File Access Manager Box Permissions Collector uses Box Content API to retrieve collaboration and to share information.
- IdentityIQ File Access Manager creates a Box Identity Collector automatically at the end of the "Add New Application" wizard, which collects the Users and Groups from Box.

Users will only display in the Box Resource Tree if they are an owner of a resource.

• By default, permissions are analyzed on the folder level, but can also be analyzed on the file level. If the latter is the case, the system will only display uniquely managed files in the Business Resource Tree.

In contrast to other application types, to improve performance, Box permissions are also fetched from the target application during the Crawl task.

The permissions will only display in the client after the Permission Collection task has run, since they must be analyzed. If the crawler was unable to fetch the permissions, the Permission Collector will fetch them.		

Adding a Box Application

In order to integrate with Box, we must first create an application entry in IdentityIQ File Access Manager. This entry includes the identification, connection details, and other parameters necessary to create the link.

To add an application, use the **New Application Wizard**.

- 1. Navigate to Admin > Applications
- 2. Click **Add New** to open the wizard.

Select Wizard Type

- 1. Click Standard Application
- 2. Click Next to open the General Details page.

General Details

Application Type

Box

Application Name

Logical name of the application

Description

Description of the application

Tags

Select tags for the application from the dropdown menu, and / or type a new name, and press **Enter** to create a new tag. The dropdown list of tags filters out matching tags as you type and displays up to 50 tags.

The **tags** replace the **Logical container** field that was used when creating applications in releases before 8.2

Event Manager Server

This option is available if there are more than one event manager servers configured in the system.

Select an event manager from the drop down menu

Click Next.

Connection Details

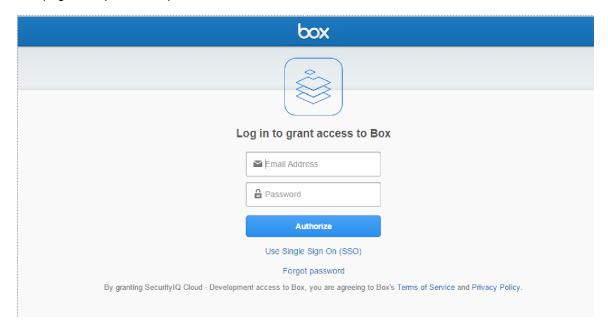
Box access requires an authorization code. Follow the link provided to receive a fresh code and paste it in the authorization code field.

The initial authorization code has a timeout of less than a minute. Paste or type in the code into the configuration wizard page, and press **Next** quickly. Otherwise the authCode will expire, and the application will not be created.

Authorization Page

This field provides a link to open the management authorization code for Box.

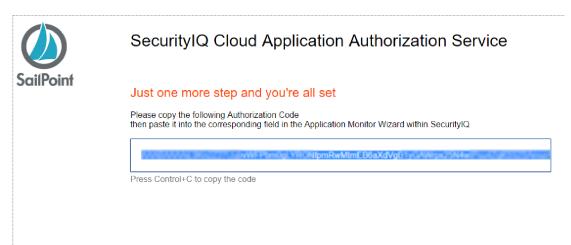
The page will open in a separate window.



Log in with a Box Admin user name.

You will be redirected to the SecurityIQ Cloud Authorization Website.

If the authentication process is successful, the system displays an authorization code.



Authorization Code

Copy the resulting authorization code to the Authorization Code Configuration field

This authorization code will expire in less than one minute.

Click Next.

Configuring and Scheduling the Permissions Collection

Permissions can be analyzed to determine the application permissions of an out-of-the-box application, provided you have defined an identity store for File Access Manager to use in its analysis, and you have run a crawl for the application.

The permission collector is a software component responsible for analyzing the permissions in an application.

The Central Permission Collector Service is responsible for running the Permission Collector and Crawler tasks.

If the "IdentityIQ FAM Central Permission Collector" wasn't installed during the installation of the server, this configuration setting will be disabled.

To configure the Permission Collection

- Open the edit screen of the required application
 - a. Navigate to Admin > Applications
 - b. Scroll through the list, or use the filter to find the application
 - c. Click the edit icon on the line of the application
- Press Next till you reach the Crawler & Permissions Collection settings page.

The actual entry fields vary according to the application type

When entering this page in edit mode, you can navigate between the various configuration windows using the **Next** and **Back** buttons.

Central Permissions Collection Service

Select a central permission collection service from the dropdown list. You can create permissions collection services as part of the service installation process. See section "Services Configuration" in the IdentityIQ File Access Manager Administrator Guide for further details.

Analyze the "Shared Link" permissions on files

Click to collect the permissions of Shared Links. A Resource will be created for each Shared Link with unique permissions, which will display.

Analyze the "Collaborators" permissions on files

Click to collect permissions for files assigned directly to Collaborators. A Resource will be created for each file with Collaborators and its permissions will display.

Skip Identities Sync during Permission Collection

Skip identity synchronization before running permission collection tasks when the identity collector is common to different connectors.

This option is unchecked by default.

Scheduling a Task

Create a Schedule

Click on this option to view the schedule setting parameters.

Schedule Task Name

A name for this scheduling task

When creating a new schedule, the system generates a default name in the following format:

{appName} - {type} Scheduler

You can override or keep this name suggestion.

Schedule

Select a scheduling frequency from the dropdown menu.

· Schedule Types and Intervals

Once

Single execution task runs.

Run After

Create dependency of tasks. The task starts running only upon successful completion of the first task.

Hourly

Set the start time.

Daily

Set the start date and time.

Weekly

Set the day(s) of the week on which to run.

Monthly

The start date defines the day of the month on which to run a task.

Quarterly

A monthly schedule with an interval of 3 months.

Half Yearly

A monthly schedule with an interval of 6 months.

Yearly

A monthly schedule with an interval of 12 months.

Date and time fields

Fill in the scheduling times. These fields differ, depending upon the scheduling frequency selected.

Active check box

Check this to activate the schedule.

Click Next.

Configuring and Scheduling the Crawler

To set or edit the Crawler configuration and scheduling

- Open the edit screen of the required application
 - a. Navigate to Admin > Applications
 - b. Scroll through the list, or use the filter to find the application
 - c. Click the edit icon on the line of the application
- Press Next till you reach the Crawler & Permissions Collection settings page.

The actual entry fields vary according to the application type

Calculate Resources' Size

Determine when, or at what frequency, File Access Manager calculates the resources' size.

Select one of the following:

- Never
- Always
- Second crawl and on (This is the default)

Create a Schedule

Click to open the schedule panel. See Scheduling a Task

Setting the Crawl Scope

There are several options to set the crawl scope:

- Setting explicit list of resources to include and / or exclude from the scan.
- Creating a regex to define resources to exclude.

Including and Excluding Paths by List

To set the paths to include or exclude in the crawl process for an application

- · Open the edit screen of the required application
 - a. Navigate to Admin > Applications
 - b. Scroll through the list, or use the filter to find the application
 - c. Click the edit icon on the line of the application
- Press Next till you reach the Crawler & Permissions Collection settings page.

The actual entry fields vary according to the application type

- 1. Scroll down to the Crawl configuration settings.
- 2. Click Advanced Crawl Scope Configuration to open the scope configuration panel.
- 3. Click Include / Exclude Resources to open the input fields.
- 4. To add a resource to a list, type in the full path to include / exclude in the top field and click + to add it to the list.
- 5. To remove a resource from a list, find the resource from the list, and click the x icon on the resource row.

When creating exclusion lists, excludes take precedence over includes.

Excluding Paths by Regex

To set filters of paths to exclude in the crawl process for an application using regex

- · Open the edit screen of the required application
 - a. Navigate to Admin > Applications
 - b. Scroll through the list, or use the filter to find the application
 - c. Click the edit icon \square on the line of the application
- Press Next till you reach the Crawler & Permissions Collection settings page.

The actual entry fields vary according to the application type

- 1. Click **Exclude Paths by Regex** to open the configuration panel.
- Type in the paths to exclude by Regex, See regex examples in the section below. Since the system does not collect BRs that match this Regex, it also does not analyze them for permissions. See the example below in section Business Resource Structure to better understand the business resource full path structure.

Crawler Regex Exclusion Examples

The following are examples of crawler Regex exclusions:

Exclude all shares which start with one or more shares names:

Starting with \\server name\shareName

Regex: \\\\server name\\shareName\$

Starting with \\server_name\\shareName or \\server_name\\otherShareName

Regex: \\\\server name\\(shareName\) \$

Include ONLY shares which start with one or more shares names:

Starting with \\server_name\shareName

```
Regex: ^(?!\\\\).*)).*
```

Starting with \\server_name\shareName or \\server_name\OtherShareName

Regex: ^(?!\\\server_name\\(shareName\)OtherShareName)(\$\\.*)).*

Narrow down the selection:

Include ONLY the C\$ drive shares: \\server_name\C\$

```
Regex: ^(?!\) server name\C\ (^!\).*
```

Include ONLY one folder under a share: \\server\share\folderA

Include ONLY all administrative shares

Regex: $^(?!\\\\\).*$

To write a backslash or a Dollar sign, add a backslash before it as an escape character.

To add a condition in a single command, use a pipe character "|".

Excluding Top Level Resources

Use the top level exclusion screen to select top level roots to exclude from the crawl. This setting is done per application.

To exclude top level resources from the crawl process

1. Open the application screen

Admin > Applications

- 2. Find the application to configure and click the drop down menu on the application line. Select **Exclude Top Level Resources** to open the configuration panel.
- 3. Run Task

The Run Task button triggers a task that runs a short detection scan to detect the current top level resources.

Before running the task for the first time, the message above this button is:

"Note: Run task to detect the top-level resources"

If the top level resource list has changed in the application while yo u are on this screen, press this button to retrieve the updated structure.

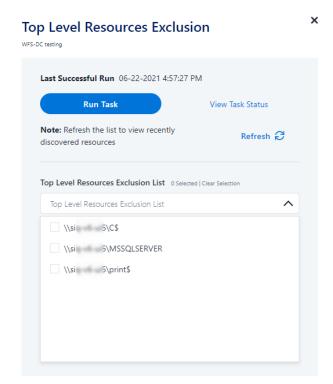
Once triggered, you can see the task status in

Settings > Task Management > Tasks

This will only work if the user has access to the task page

When the task has completed, press Refresh to update the page with the list of top level resources.

- 4. Click the top level resource list, and select top level resources to exclude.
- 5. Click Save to save the change.
- 6. To refresh the list of top level resources, run the task again. Running the task will not clear the list of top level resources to exclude.



Special Consideration for Long File Paths in Crawl

If you need to support long file paths above 4,000 characters for the crawl, set the flag excludeVeryLongResourcePaths

in the Permission Collection Engine App.config file to true.

By default this value will be commented out and set to false.

This key ensures, when enabled, that paths longer than 4000 characters are excluded from the applications' resource discovery (Crawl), to avoid issues while storing them in the SQLServer database.

When enabled, business resources with full paths longer than 4000 characters, and everything included in the hierarchical structure below them, will be excluded from the crawl, and will not be collected by File Access Manager. This scenario is extremely rare.

You should not enable exclusion of long paths, unless you experience an issue.

Background

File Access Manager uses a hashing mechanism to create a unique identifier for each business resource stored in the File Access Manager database. The hashing mechanism in SQLServer versions 2014 and earlier, is unable to process (hash) values with 4,000 or more characters.

Though resources with paths of 4000 characters or longer are extremely rare, File Access Manager is designed to handle that limitation.

Identifying the Problem

When using an SQL Server database version 2014 and ealier

The following error message in the Permission Collection Engine log file:

System.Data.SqlClient.SqlException (0x80131904): String or binary data would be truncated.

In all other cases, this feature should not be enabled.

Setting the Long Resource Path Key

The Permission Collection Engine App.config file is RoleAnalyticsServiceHost.exe.config, and can be found in the folder

%SailPoint_Home%\FileAccessManager\[Permission Collection instance]\

Search for the key excludeVeryLongResourcePaths and correct it as described above.

Selecting and Scheduling the Data Classification Settings

To associate an application with a data classification service, and set the schedule

- Open the edit screen of the required application
 - a. Navigate to Admin > Applications
 - b. Scroll through the list, or use the filter to find the application
 - c. Click the edit icon on the line of the application
- Press **Next** till you reach the **Data Classification** settings page.

The actual entry fields vary according to the application type

Central Data Classification Service

Associate the application with a Central Data Classification Service. This service is responsible for running the Data Classification tasks.

If the "Central Data Classification" wasn't installed during the installation of the server, this field is disabled.

Disabling Data Classification

To disable data classification, delete the entry from the central data classification field.

Disabling data classification can also be achieved by setting the scheduler to be inactive (which is the default setting for data classification).

Create a Schedule

This option is enabled only if a central data classification service is selected.

See Scheduling a Task

See the chapter "Data Classification" in the IdentityIQ File Access Manager Administrator Guide for more information

Click Next or Finish.

Configuring Activity Monitoring

Configure the activity monitoring process frequency.

Polling Interval (sec)

Activity fetching interval [in seconds]). Default is set to 60 seconds,

Report Interval (sec)

Activity Monitor Health reporting interval [in seconds]). Default is set yo 60 seconds.

Local Buffer Size (MB)

Local buffer size for activities [in MB]). Default is set to 200MB.

This cyclic buffer is used to store activities on the Application Monitor's machine in case of network errors that prevent the activities from being sent.

Configuring Data Enrichment Connectors

The Data Enrichment Connectors (DEC) configuration enables us to select data enrichment sources. These can be used to add information from other sources about identities.

An enrichment source could be a local HR database that is used to combine users' job descriptions or departments to the information stored in the identity store.

Select the data enrichment connectors to enrich monitored activities from the Available DECs text box.

Use the > or >> arrows to move the selected DECs to the Current DECs text box.

The user can select multiple DECs. Simply select each desired DEC.

You can create a new DEC in the Administrative Client (*Applications > Configuration > Activity Monitoring > Data Enrichment Connectors*). After creating a new DEC, Click **Refresh** to refresh the dropdown list.

The chapter **Connectors** of the IdentityIQ File Access Manager Administrator Guide provides more information on Data Enrichment Connectors, including what they are, how to configure them, and how they fit in the Activity Flow.

Installing Services: Collector Installation

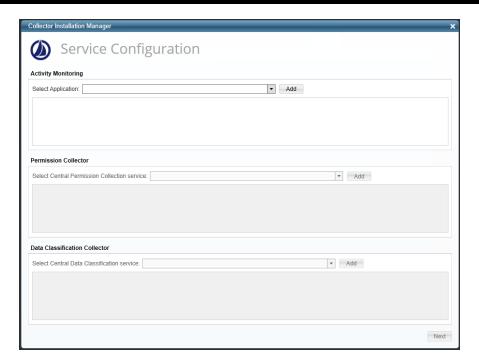
Run the Collector Installation Manager as an Administrator.
 The installation files are in the installation package under the folder Collectors.

The Collector Installation Manager window displays.



- 2. Enter the credentials to connect to IdentityIQ File Access Manager.
 - a. ServerName/IP should be pointed to the Agent Configuration Manager service server.
 - b. An IdentityIQ File Access Manager user with Collector Manager permission (permission to install collectors). For Active Directory authentication, use the format domain\username.
- 3. Click Next.

The Service Configuration window displays.



If you are installing the Activity Monitoring collector, select the application, and click Add.

In some applications, additional credentials may be required to allow granting elevated permission for activity monitoring collection.

- 5. If you are installing the Permission Collector, select the Central Permission Collector to which to connect this service, and click **Add**
- 6. If you are installing the Data Classification, select the Central Classification Collector to which to connect this service, and click **Add**
- 7. Click Next.

The Installation Folder window displays.

If this is the first time you are installing collectors on this machine, you will be prompted to select an installation folder, in which all future collectors will also be installed.

- 8. Browse and select the location of the target folder for installation.
- 9. Browse and select the location of the folder for system logs.
- 10. Click Next.
- 11. The system begins installing the selected components.
- 12. Click Finish

The Finish button is displayed after all the selected components have been installed.

The IdentityIQ File Access Manager Administrator Guide provides more information on the collector services.

Verifying the Box Connector Installation

Installed Services

Verify that the services installed for the connector are available and active. Using windows Service manager, or other tool, look for the IdentityIQ File Access Manager services, and see that they are running.

for example:

- File Access Manager Central Activity Monitor <Application_Name>
- File Access Manager Central Permissions Collection < Application Name >

Log Files

Check the log files listed below for errors

- "%SAILPOINT_HOME_LOGS%\PermissionCollection_<Service_Name>.log"
- "%SAILPOINT_HOME_LOGS%\DataClassification_<Service_Name>.log"
- "%SAILPOINT_HOME_LOGS%\BOX-<Application_Name>.log"

Monitored Activities

- 1. Simulate activities on Box.
- 2. Wait a minute (approximately).
- Verify that the activities display in the IdentityIQ File Access Manager website under

Forensics > Activities

Permissions Collection

- Run the Crawler and Permissions Collector tasks (Settings > Task Management > Scheduled Tasks)
- 2. Verify that:
 - · The tasks completed successfully
 - Business resources were created in the resource explorer (Admin > Applications > [application column]
 > Manage Resources)
 - Permissions display in the Permission Forensics page (Forensics > Permissions)