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## **Coveo Platform 7.0**

Dropbox for Business Connector Guide

## Notice

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# 1. Dropbox for Business Connector

CES 7.0.7711+ (June 2015)

The Coveo connector for Dropbox for Business allows Coveo administrators to index and integrate the Dropbox content of their team members into the Coveo unified index. The connector indexes all items and the attached permissions from all team members Dropboxes so that in the Coveo search interfaces, a user can easily find any but only content to which he has access in Dropbox.

## 1.1 Connector Features Summary

Features		Supported	Additional information
Dropbox for Business version		Latest cloud version	Following available Dropbox for Business releases
Searchable content types		✓	Files, folders, and accounts
Content update	Incremental refresh	✓	
	Full refresh	✓	
	Rebuild	✓	
Document-level security		✓	Dropbox for Business APIs do not return information on shared links <a href="#">[more]</a>

## 1.2 Features

The Dropbox for Business connector features are:

### Content indexing

Extraction and indexing of the following Dropbox for Business item types:

- Folders
- Files
- Accounts

### Mostly supported security model

The connector mostly supports the Dropbox for Business security model using a security provider to get almost all permissions for each indexed item. This means that, in Coveo search interfaces, a user searching Dropbox for Business content only sees the content to which he has access except items that he can see using shared links.

**Note:** For the moment, the Dropbox for Business APIs do not return information on shared links.

**Incremental refresh**

Supports incremental refresh to periodically query Dropbox for the latest edits, keeping the index content up-to-date.

**Multithreading**

The connector can run multiple threads, which can improve performances considerably (see [Modifying Hidden Dropbox for Business Source Parameters](#)).

**Pause/Resume**

When indexing Dropbox for Business content, the connector can be paused and resumed.

**What's Next?**

Review the steps to deploy the Dropbox connector (see "[Dropbox for Business Connector Deployment Overview](#)" on page 3).

## 2. Dropbox for Business Connector Deployment Overview

The following procedure outlines the steps needed to deploy the Dropbox for Business connector. The steps indicate the order in which you must perform configuration tasks on both the Dropbox and Coveo servers.

To deploy the Dropbox for Business connector

1. Validate that your environment meets the requirements (see ["Dropbox for Business Connector Requirements" on page 7](#)).
2. On the Dropbox server, authorize the Coveo connector to access the Dropbox of your team members (see ["Authorizing the Coveo Connector to Access the Dropbox of Your Team Members" on page 8](#)).
3. On the Coveo server, in the Coveo Administration Tool:
  - a. **CES 7.0.8047+ (December 2015)** Create a user identity

The connector needs to know the access token that you just obtained performing the OAuth 2.0 protocol to connect to your team members Dropbox. You thus need to create a user identity that you will later associate to your Dropbox for Business source (see [Adding a User Identity](#)):

- i. In the **User** box, enter a value of your choice (i.e., `Dropbox for Business`).

**Note:** The **User** parameter is not used, but cannot be left empty.

- ii. In the **Password** box, enter the OAuth 2.0 access token you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The access token grants the connector access to your team members Dropbox without exposing the administrator's real credentials.

- b. Optionally create security providers

When you want to index Dropbox for Business permissions, you must create two security providers to get Dropbox item permissions and resolve and expand groups.

In Dropbox for Business, users are identified by their email addresses. Consequently, permissions returned by the Dropbox for Business security provider for each document are email addresses. The Dropbox for Business security provider then requires another security provider to uniquely identify users from their email addresses.

- i. Start by selecting or creating a security provider that the Dropbox for Business security provider will use to resolve and expand groups. The security provider type to use depends on how users are authenticated when they access the search interface:

**Note:** You may require to also use a REGEX Transform Member Name security provider in between the two following security providers to map member types. Contact [Coveo Support](#) for assistance.

- When authenticated with their email address, use an Email security provider (see "[Configuring an Email Security Provider](#)" on page 27).
- When authenticated with an Active Directory account, use an LDAP Lookup security provider that maps LDAP identities to Active Directory ones. Contact [Coveo Support](#) for assistance.

**Note:** This chain of security providers is required since the Dropbox security provider does not directly support to be chained with an Active Directory security provider.

- ii. Then create a Dropbox for Business security provider that the connector uses to resolve indexed permissions (see "[Configuring a Dropbox for Business Security Provider](#)" on page 14).
- c. Create a Dropbox field set to take advantage of the available Dropbox metadata.
    - i. It is recommended to start by importing the default Dropbox field set file (`[CES_Path]\Bin\Coveo.CES.CustomCrawlers.Dropbox.FieldSet.xml`) to create fields for all the metadata available by default from Dropbox documents.

**Note:** **CES 7.0.8996+ (June 2017)** Due to a Dropbox API change, the following fields are removed or filled with a different metadata:

Field Name	Status	Comment
dbtimetaken	Added	
dbdisplaysize	Removed	Metadata no longer available <b>Note:</b> The same information is available in the <code>bytes</code> metadata.
dbfilelatestrevision	Removed	Always empty since the connector no longer indexes file revisions.
dbfilename	Removed	Metadata no longer available <b>Note:</b> The same information is available in the <code>Title</code> field.
dbfoldingchild	Removed	Always empty since the connector no longer indexes file revisions.
dbicon	Removed	Metadata no longer available
dbimagetimetaken	Removed	Now merged in <code>dbtimetaken</code> since both fields are based on the same metadata name.
dbmimetype	Removed	Metadata no longer available
dbmodifiername	Removed	The item display name is no longer available
dbvideotimetaken	Removed	Now merged in <code>dbtimetaken</code> since both fields are based on the same metadata name.
dbfilerevision	Unchanged	No longer available on folders
dbfilebytes	Updated	Now populated with the <code>size</code> metadata and no longer available on folders
dbfoldingcollection	Updated	Field values are based on the item URI. Since the URI now uses a different account id, the values of these fields change.
dbfoldingparent	Updated	
dblastmodificationdate	Updated	Date format changed at the API level, but does not affect the field values. No longer available on folders.

If you have an existing Dropbox for Business source, you must update the field set used by the source, and then rebuild the source to take account of these changes.

- ii. When you created custom metadata for your Dropbox documents, add corresponding fields to the field

- set.
- d. Configure and index a Dropbox for Business source.  

The connector must know details about the authorized access to the Dropboxes of your team members to index their content (see "[Configuring and Indexing a Dropbox for Business Source](#)" on page 17).
  - e. If you encounter issues, verify if modifying the default value of hidden source parameters can help resolve the problems (see "[Modifying Hidden Dropbox for Business Source Parameters](#)" on page 22).

### 3. Dropbox for Business Connector Requirements

Your environment must meet the following requirements to be able to use the Dropbox for Business connector:

- [CES 7.0.7711+ \(June 2015\)](#)
- Coveo license for the Dropbox for Business connector

Your Coveo license must include support for the Dropbox for Business connector to be able to use this connector.

- A valid Dropbox for Business account

Using an [admin Dropbox for Business account](#), you must create a Dropbox for Business app in the [Dropbox App Console](#) and an OAuth protocol to authorize Coveo to access the Dropbox of your team members (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

#### What's Next?

Grant Coveo access to the Dropbox of your team members by creating a Dropbox for Business in the App Console (see ["Authorizing the Coveo Connector to Access the Dropbox of Your Team Members" on page 8](#)).

## 4. Authorizing the Coveo Connector to Access the Dropbox of Your Team Members

You must perform the OAuth 2.0 protocol to authorize the Coveo connector to access the Dropbox content of your team members.

The OAuth 2.0 protocol is a protocol used for granting access to external applications without exposing the user's real credentials. For the connector to be able to connect to your team members Dropbox, it must acquire an access token.

**Note:** [CES 7.0.7711– \(June 2015\)](#) You can also grant the access to the Dropbox of your team members using the OAuth 1.0 protocol which requires an application key, an application secret, an access token, and an access token secret.

To authorize the Coveo connector to access the Dropbox of your team members

**Note:** This topic describes a procedure using [Google Chrome](#) and the [Advanced Rest Client](#) extension. However, it can be done with other browsers and extensions, such as [Firefox](#) and the [RESTClient](#) plugin.

1. Create an application on a Dropbox for Business account:
  - a. Log into the Dropbox website with an administrator account.
  - b. Access the [Create a new Dropbox for Business app](#) page.
  - c. In the **Create a new Dropbox for Business app** page:
    - i. Under **What type of app do you want to create?**, select the **Team member file access** check box.
    - ii. In the **Provide an app name, and you're on your way** box, enter a descriptive name of your choice for the application.

**Example:** Coveo Business App

- d. In the **[Your app name]** page:
  - i. In the **OAuth 2** section, under **Generated access token**, click **Generate**.
  - ii. Take note of the **Access token** of your application.

You need this value when:

- [CES 7.0.8047+ \(December 2015\)](#) Configuring your user identity (see [Dropbox for Business Connector Deployment Overview](#)).
- [CES 7.0.7914– \(October 2015\)](#) Configuring your Dropbox for Business security provider and source (see [Configuring a Dropbox for Business Security Provider](#) and [Configuring and Indexing](#)).

a Dropbox for Business Source).

**Note:** You can now create a Dropbox for Business security provider (see [Configuring a Dropbox for Business Security Provider](#)).

OR

- i. **CES 7.0.7711– (June 2015)** When you want to use the OAuth 1.0, take note of the **App key** and **App Secret** of your application. You need these values when configuring your Dropbox for Business security provider and source (see [Configuring a Dropbox for Business Security Provider](#) and [Configuring and Indexing a Dropbox for Business Source](#)).

**Note:** With these two information in hands, you can make API calls to get an OAuth token secret and an OAuth token (see [step 2](#)).

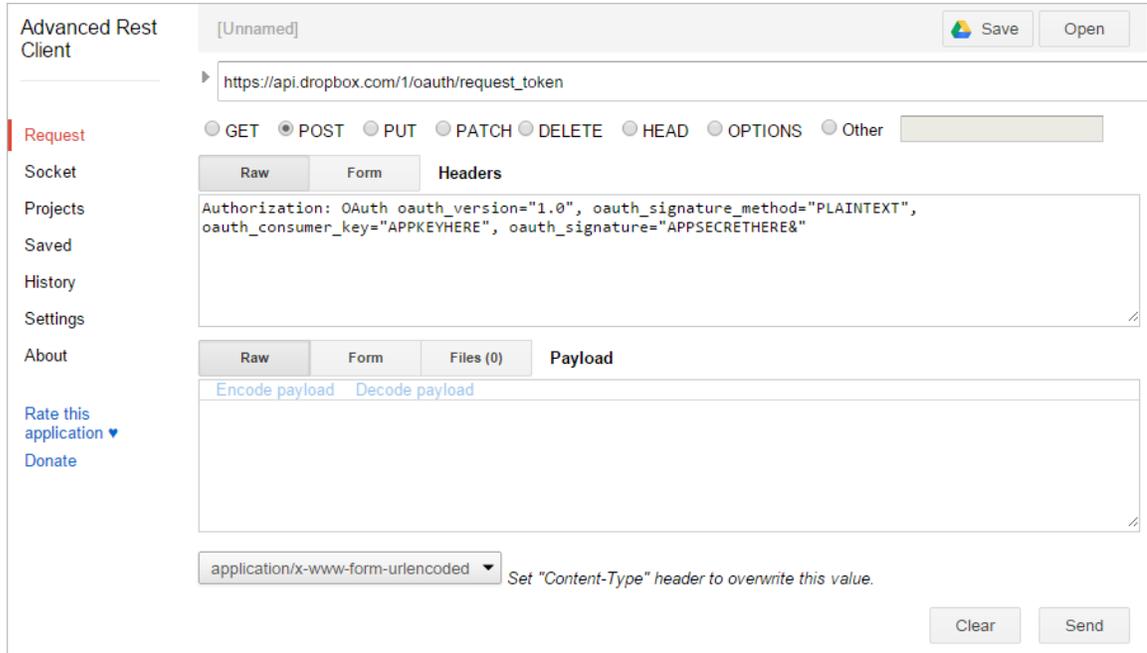
2. **CES 7.0.7711– (June 2015)** Make an API call for a request token and a token secret:

**Important:** For security reasons, you have a limited time to complete this step before the session expires. If this situation happens, you have to start the procedure over again. Thus, it is recommended to read and understand the procedure before starting following it.

- a. Access the [Advanced REST client](#) Google Chrome extension page, and then click the **+ Free** button.

**Note:** You are asked to download Google Chrome if you did not have the browser installed on your computer already.

- b. In the **Confirm New App** dialog box, click **Add**.
- c. In the **Apps** page, open the **Advanced REST client** plugin.
- d. In the **Request** tab:



- i. In the **URL** box, enter `https://api.dropbox.com/1/oauth/request_token`.
- ii. In the method list, select the **POST** check box.
- iii. Next to **Headers**, select **Raw**.
- iv. In the box under **Headers**, copy and paste the following code line after entering your App key and App secret previously obtained in [step 1d](#) at the specified places: `Authorization: OAuth oauth_version="1.0", oauth_signature_method="PLAINTEXT", oauth_consumer_key="YOURAPPKEY", oauth_signature="YOURAPPSECRET&"`.

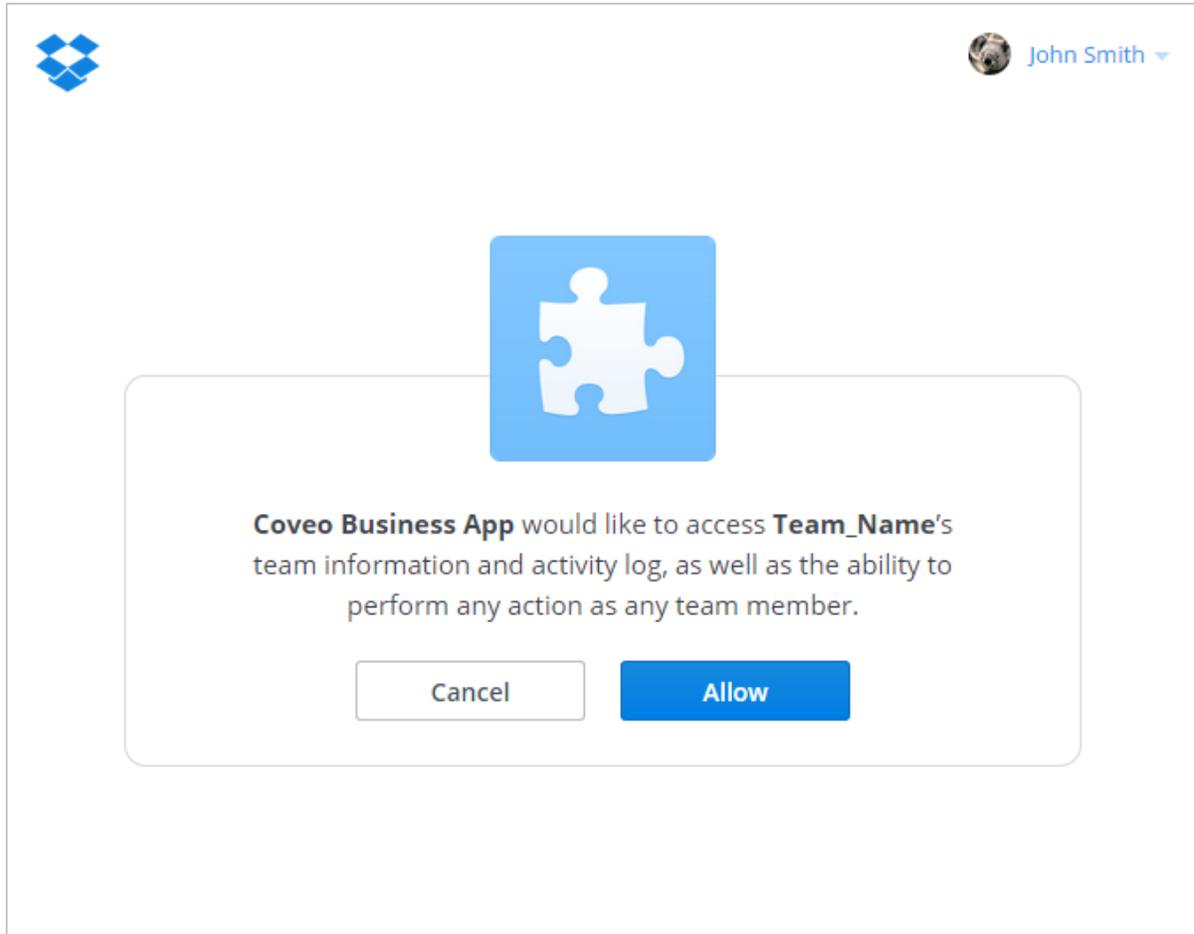
**Note:** Leave the `&` sign at the end of your App secret.

- v. Click **Send** to receive an answer.

At the bottom of the page, in the **Response** box, the answer that you receive looks like the following:  
`oauth_token_secret=YOUROAUTHTOKENSECRETVALUE&oauth_token=YOUROAUTHTOKENVALUE.`

**Note:** The `&` sign is not part of the OAuth token secret.

- e. Take note of the OAuth token secret and OAuth token values.
3. **CES 7.0.7711– (June 2015)** Authorize your app to use the Dropbox account:



- a. Copy and paste the following URL in your browser address bar after entering your OAuth token at the specified place: `https://www.dropbox.com/1/oauth/authorize?oauth_token=YOUROAUTHTOKENVALUE`.

**Note:** If you had an error like the following: `This session has expired. Please return to the app to try again.`, log again in to your admin Dropbox for Business account.

- b. In the **[Your app name] would like to access [Team name]'s team information and activity log, as well as the ability to perform any action as any team member** screen, click **Allow** to authorize the connector to index the Dropbox content of your team members.
4. **CES 7.0.7711– (June 2015)** Make an API call for an access token and an access token secret:

**Important:** For security reasons, you have a limited time to complete this step before the session expires. If this situation happens, you have to start the procedure over again. Thus, it is recommended to read and understand the procedure before start doing it.

a. Back in the **Request** tab:

The screenshot shows the Advanced Rest Client interface. The URL is `https://api.dropbox.com/1/oauth/access_token`. The method is **POST**. The Headers tab is selected, showing the following raw header:

```
Authorization: OAuth oauth_version="1.0", oauth_signature_method="PLAINTEXT",
oauth_consumer_key="YOURAPPKEYVALUE", oauth_token="YOUROAUTHTOKENVALUE",
oauth_signature="YOURAPPSECRETVALUE&YOUROAUTHTOKENSECRETVALUE"
```

The Content-Type is set to `application/x-www-form-urlencoded`.

- i. In the **URL** box, enter `https://api.dropbox.com/1/oauth/access_token`.
- ii. In the method list, select the **POST** check box.
- iii. Next to **Headers**, select **Raw**.
- iv. In the box under **Headers**, copy and paste the following code line after entering your App key, OAuth token, App secret, and OAuth token secret previously obtained at the specified places:
 

```
Authorization: OAuth oauth_version="1.0", oauth_signature_method="PLAINTEXT",
oauth_consumer_key="YOURAPPKEYVALUE", oauth_token="YOUROAUTHTOKENVALUE",
oauth_signature="YOURAPPSECRETVALUE&YOUROAUTHTOKENSECRETVALUE".
```

**Note:** Leave the & sign between the App secret and the OAuth token secret value.

- v. Click **Send** to receive an answer.

At the bottom of the page, in the **Response** box, the answer that you receive looks like the following:

```
oauth_token_secret=YOUROAUTHTOKENSECRETVALUE&team_id=YOURTEAMIDVALUE&oauth_token=YOUROAUTHTOKENVALUE&uid=99026670.
```

**Notes:**

- The & sign is not part of the OAuth token secret value.
- The & sign and the alphanumeric characters beyond are not part of the OAuth token value.

- vi. Take note of the OAuth token secret and OAuth token values. You need these values when

configuring your Dropbox for Business security provider and source (see [Configuring a Dropbox for Business Security Provider](#) and [Configuring and Indexing a Dropbox for Business Source](#)).

### What's Next?

Create a Dropbox for Business security provider ("[Configuring a Dropbox for Business Security Provider](#)" on page 14).

## 5. Configuring a Dropbox for Business Security Provider

The Coveo Dropbox for Business connector mostly supports the Dropbox security model. When you want users searching for Dropbox content in a Coveo search interface to only see the content to which they have access in Dropbox (except items that they can see using shared links), the connector needs a security provider to be able to index the permissions for each indexed Dropbox item.

### Notes:

- For the moment, the Dropbox for Business APIs do not return information on shared links.
- You can get familiar with how Coveo components deal with permissions on documents both at indexing and query time.

To configure a Dropbox for Business security provider

1. On the Coveo server, access the Administration Tool.
2. Select **Configuration > Security**.
3. In the navigation panel on the left, click **Security Providers**.
4. In the **Security Providers** page, click **Add** to create a new security provider.
5. In the **Modify Security Provider** page:

The screenshot shows the 'MODIFY SECURITY PROVIDER' configuration page. The navigation menu on the left includes Roles, Impersonators, Security Providers (selected), User Identities, and Super User Access. The main configuration area contains the following fields:

- Name:** Dropbox for Business Security Provider
- Security Provider Type:** Dropbox for Business (x64)
- Description:** Security Provider for Dropbox for Business
- DLL Path:** Coveo.CES.SecurityProviders.DropboxForBusiness.dll
- UserIdentity:** Dropbox for Business Crawling Account
- Security Provider:** Email Security Provider
- Parameters:** Add Parameter
- Allow Complex Identities:**
- Used By:**

At the bottom right, there are buttons for 'Apply Changes' and 'Cancel'.

- a. Configure the following required parameters:

**Name**

Choose a meaningful name to identify the security provider.

**Example:** Dropbox for Business Security Provider

**Security Provider Type**

In the drop-down list, select **Dropbox for Business (x64)**.

**User Identity**

In the drop-down list, depending on your CES version:

- **CES 7.0.8047+ (December 2015)** Select the user identity that you created previously (see [Dropbox for Business Connector Deployment Overview](#)).
- **CES 7.0.7914– (October 2015)** Select **(none)**.

**Security Provider**

Select the security provider that you selected or created to allow this security provider to resolve and expand the groups (see [Dropbox for Business Connector Deployment Overview](#)).

**Access Token** **CES 7.0.7914– (October 2015)**

Enter the access token to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Notes:**

- The access token is a series of alphanumeric characters.
- **CES 7.0.7711– (June 2015)** When you choose the OAuth 1.0 authentication method, see [OAuth 1.0 Access Token](#).

- b. **CES 7.0.7711– (June 2015)** (Optional) Click **Add Parameter** and then use the following hidden parameters when you decide to use the OAuth 1.0 protocol:

Parameters	Name	Value	
	ApplicationToken	[redacted]	Delete
	ApplicationSecret	[redacted]	Delete
	AccessTokenSecret	[redacted]	Delete
	 Add Parameter 		

**ApplicationToken** **Source**

The application token to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The app key is a series of 15 alphanumeric characters.

**ApplicationSecret** [Source](#)

The application secret to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The application secret is a series of 15 alphanumeric characters.

**AccessTokenSecret** [Source](#)

The access token secret to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The access token secret is a series of 15 alphanumeric characters.

- c. Leave the **Allow Complex Identities** cleared as it does not apply to this type of security provider.
- d. Click **Apply Changes**.

### What's Next?

Create and index a source (see ["Configuring and Indexing a Dropbox for Business Source" on page 17](#)).

## 6. Configuring and Indexing a Dropbox for Business Source

A source defines a set of configuration parameters for a specific Dropbox for Business account.

To configure and index a Dropbox for Business source

1. On the Coveo server, access the Administration Tool.
2. Select **Index > Sources and Collections**.
3. In the **Collections** section:
  - a. Select an existing collection in which you want to add the new source.
  - OR
  - b. Click **Add** to create a new collection.
4. In the **Sources** section, click **Add**.

The **Add Source** page that appears is organized in three sections.

5. In the **General Settings** section of the **Add Source** page:

The screenshot shows the 'Add Source' configuration page for a 'Dropbox for Business' collection. The page is titled 'COLLECTION: DROPBOX FOR BUSINESS - ADD SOURCE' and includes a 'Help' button. The 'General Settings' section contains the following fields:

- Name:** A text input field containing 'Dropbox for Business'.
- Source Type:** A dropdown menu set to 'Dropbox for Business'.
- Addresses:** A text area containing 'www.dropbox.com'.
- Rating:** A dropdown menu set to 'Normal'.
- Document Types:** A dropdown menu set to 'Default'.
- Active Languages:** A dropdown menu set to 'Default'.
- Fields:** A dropdown menu set to 'Default Scheme'.
- Refresh Schedule:** A dropdown menu set to 'Every day'.

- a. Enter the appropriate value for the following required parameters:

### Name

Enter a descriptive name of your choice for the connector source.

**Example:** Dropbox for Business**Source Type**

Select the connector used by this source. In this case, select **Dropbox for Business**.

**Note:** If you do not see **Dropbox for Business**, your environment does not meet the requirements (see "[Dropbox for Business Connector Requirements](#)" on page 7).

**Addresses**

This parameter is not used, but must not be empty. Enter `http://www.dropbox.com`.

**Fields**

Select the field set that you created for your Dropbox for Business source (see [Dropbox for Business Connector Deployment Overview](#)).

**Refresh Schedule**

Time interval at which the index is automatically refreshed to keep the index content up-to-date. By default, the **Every day** option instructs CES to refresh the source everyday at 12 AM.

**Note:** Normally the incremental refresh takes care of maintaining the source up-to-date, but due to a Dropbox API limitation, it is recommended to perform a full refresh per day.

Because the incremental refresh takes care of maintaining the source up-to-date, you can select a longer interval such as **Every Sunday**.

- b. Review the value for the following parameters that often do not need to be modified:

**Rating**

Change this value only when you want to globally change the rating associated with all items in this source relative to the rating to other sources.

**Example:** When a source replaces a legacy system, you may want to set this parameter to **High**, so that in the search interface, results from this source appear earlier in the list compared to those from legacy system sources.

**Document Types**

If you defined a custom document type set for this source, select it.

**Active Languages**

If you defined custom active language sets, ensure to select the most appropriate for this source.

6. In the **Specific Connector Parameters & Options** section of the **Add Source** page:

Specific Connector Parameters & Options

Index users	<input type="checkbox"/> ?
Parameters	Add Parameter ?
Option	<input checked="" type="checkbox"/> Index subfolders ? <input type="checkbox"/> Index the document's metadata ? <input checked="" type="checkbox"/> Generate a cached HTML version of indexed documents ? <input type="checkbox"/> Open results with cached version ?

- a. **CES 7.0.9167+ (December 2017)** When you want Dropbox users to be indexed as separate documents, select the following option:

**Index users**

- b. **CES 7.0.8850– (March 2017)** (Optional) Select additional content to be indexed using the following option:

**Retrieve revisions**

**Notes:**

- Due to a Dropbox API change, this option is no longer supported.
- **CES 7.0.8996+ (June 2017)** A source rebuild will remove existing indexed file revisions (if any).

Whether file revisions are indexed.

- c. **CES 7.0.7711– (June 2015)** (Optional) Click **Add Parameter** and then use the following hidden parameters when you decide to use the OAuth 1.0 protocol:

Parameters	Name	Value	
	ApplicationToken	[redacted]	Delete
	ApplicationSecret	[redacted]	Delete
	AccessTokenSecret	[redacted]	Delete
	Add Parameter ?		

**ApplicationToken** **Security provider**

The application token to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The app key is a series of 15 alphanumeric characters.

**ApplicationSecret** **Security provider**

The application secret to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The application secret is a series of 15 alphanumeric characters.

**AccessTokenSecret** **Security provider**

The access token secret to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The access token secret is a series of 15 alphanumeric characters.

- d. The **Option** check boxes generally do not need to be changed:

**Index Subfolders**

This parameter is not taken into account for this connector.

**Index the document's metadata**

When selected, CES indexes all the document metadata, even metadata that are not associated with a field. The orphan metadata are added to the body of the document so that they can be searched using free text queries.

When cleared (default), only the values of system and custom fields that have the **Free Text Queries** attribute selected will be searchable without using a field query.

**Example:** A document has two metadata:

- `LastEditedBy` containing the value `Hector Smith`
- `Department` containing the value `RH`

In CES, the custom field `CorpDepartment` is bound to the metadata `Department` and its **Free Text Queries** attribute is selected.

When the **Index the document's metadata** option is cleared, searching for `RH` returns the document because a field is indexing this value. Searching for `hector` does not return the document because no field is indexing this value.

When the **Index the document's metadata** option is selected, searching for `hector` also returns the document because CES indexed orphan metadata.

**Document's addresses are case-sensitive** **CES 7.0.7711– (June 2015)**

Ensure that this option is selected because Dropbox team member IDs are case sensitive.

**Generate a cached HTML version of indexed documents**

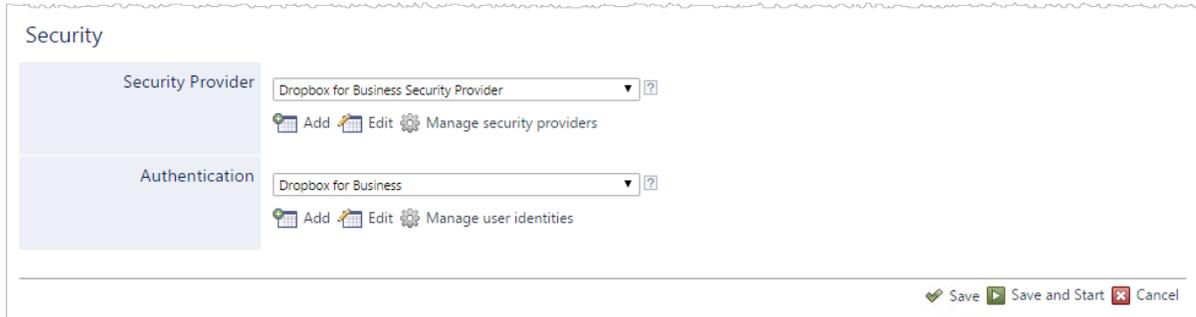
When you select this check box (recommended), at indexing time, CES creates HTML versions of indexed documents. In the search interfaces, users can then more rapidly review the content by clicking the **Quick View** link rather than opening the original document with the original application. Consider clearing this check box only when you do not want to use **Quick View** links or to save resources when building the source.

**Open results with cached version**

Leave this check box cleared (recommended) so that in the search interfaces, the main search result link opens the original document with the original application. Consider selecting this check box only when you do not want users to be able to open the original document but only see the HTML version of

the document as a **Quick View**. In this case, you must also select **Generate a cached HTML version of indexed documents**.

7. In the **Security** section of the **Add Source** page:



- a. When you chose to index Dropbox permissions, in the **Security Provider** drop-down list, select the Dropbox for Business security provider that you created for this source (see ["Configuring a Dropbox for Business Security Provider" on page 14](#)).
  - b. **CES 7.0.8047+ (December 2015)** In the **Authentication** drop-down list, select the Dropbox for Business user identity that you created for this source (see [Dropbox for Business Connector Deployment Overview](#)).
8. Click **Save** to save the source configuration.
9. When you chose to not index Dropbox permissions, you can set source level permissions that apply to all documents in the source:
- a. In the navigation panel on the left, click **Permissions**.
  - b. In the **Permissions** page, select **Specify the security permissions** to index.
  - c. In the **Allowed Users** and **Denied Users** boxes, enter the users and groups that you respectively want to allow or deny to see search results from this source. The default is to allow `everyone \S-1-1-0\` (Active Directory Group).
  - d. Click **Apply Changes**.
10. When you are ready to start indexing the Dropbox for Business source, click **Rebuild**.
11. Validate that the source building process is executed without errors:
- In the navigation panel on the left, click **Status**, and then validate that the indexing proceeds without errors.
- OR
- Open the CES Console to monitor the source building activities.

## What's Next?

Set an incremental refresh schedule for your source.

Consider modifying some hidden source parameters to try resolving other issues (see ["Modifying Hidden Dropbox for Business Source Parameters" on page 22](#)).

## 6.1 Modifying Hidden Dropbox for Business Source Parameters

The **Add Source** and **Source: ... General** pages of the Administration Tool present the parameters with which you can configure the connector for most Dropbox for Business setups. More advanced and more rarely used parameters are hidden. You can choose to make one or more of these parameters appear in the **Add Source** and **Source: ... General** pages of the Administration Tool so that you can change their default value. Consider changing values of hidden parameters when you encounter issues.

The following list describes the advanced hidden parameters available with Dropbox for Business sources. The parameter type (integer, string, etc.) appears between parentheses following the parameter name.

### **ApplicationToken (String)** **Security provider** CES 7.0.7711– (June 2015)

When using the OAuth 1.0 protocol, the application token to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The app key is a series of 15 alphanumeric characters.

### **ApplicationSecret (String)** **Security provider** CES 7.0.7711– (June 2015)

When using the OAuth 1.0 protocol, the application secret to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The application secret is a series of 15 alphanumeric characters.

### **AccessTokenSecret (String)** **Security provider** CES 7.0.7711– (June 2015)

When using the OAuth 1.0 protocol, the access token secret to use that you previously obtained (see [Authorizing the Coveo Connector to Access the Dropbox of Your Team Members](#)).

**Note:** The access token secret is a series of 15 alphanumeric characters.

### **NumberOfRefreshThreads (Integer)**

The number of refresh threads used by the crawler for this source. The default value is 4.

To modify hidden Dropbox for Business source parameters

1. Refer to ["Adding an Explicit Connector Parameter" on page 24](#) to add one or more Dropbox for Business source parameters.
2. For a new Dropbox for Business source, access the **Add Source** page of the Administration Tool to modify the value of the newly added advanced parameter:
  - a. Select **Index > Sources and Collections**.
  - b. Under **Collections**, select the collection in which you want to add the source.

- c. Under **Sources**, click **Add**.
  - d. In the **Add Source** page, edit the newly added advanced parameter value.
3. For an existing Dropbox for Business source, access the **Source: ... General** page of the Administration Tool to modify the value of the newly added advanced parameter:
  - a. Select **Index > Sources and Collections**.
  - b. Under **Collections**, select the collection containing the source you want to modify.
  - c. Under **Sources**, click the existing Dropbox for Business source in which you want to modify the newly added advanced parameter.
  - d. In the **Source: ... General** page, edit the newly added advanced parameter value.
4. Rebuild your Dropbox for Business source to apply the changes to the parameters.

## 7. Adding an Explicit Connector Parameter

Connector parameters applying to all sources indexed using this connector are called explicit parameters.

When you create or configure a source, the Coveo Enterprise Search (CES) 7.0 Administration Tool presents parameters with which you can configure the connector for most setups. For many connectors, more advanced and more rarely used parameters also exist but are hidden by default. CES then uses the default value associated with each of these hidden parameters.

You can however choose to make one or more of these parameters appear in the **Add Source** and **Source: ... General** pages of the Administration Tool so that you can change their default value.

To add an explicit connector parameter

1. On the Coveo server, access the Administration Tool.
2. Select **Configuration > Connectors**.
3. In the list on the **Connectors** page, select the connector for which you want to show advanced hidden parameters.
4. In the **Parameters** section of the selected connector page, click **Add Parameter** for each hidden parameter that you want to modify.

**Note:** The **Add Parameter** button is present only when hidden parameters are available for the selected connector.

5. In the **Modify the parameters of the connector** page:

The screenshot shows the 'Configuration' section of the Coveo Platform. The main heading is 'MODIFY THE PARAMETERS OF THE CONNECTOR. Defines the parameters of this connector.' Below this is a breadcrumb trail 'Connectors - Active...'. The form contains the following fields and options:

- Type:** A dropdown menu currently set to 'String'.
- Name:** A text input field with a help icon.
- Default Value:** A text input field with a help icon.
- Label:** A text input field with a help icon.
- Quick Help:** A text input field with a help icon.
- Option:** A section containing several checkboxes:
  - Optional parameter
  - Sensitive information [?](#)
  - Validate as an email address
- Maximum length:** A text input field with a help icon.

At the bottom right of the form, there are 'Save' and 'Cancel' buttons.

- In the **Type** list, select the parameter type as specified in the parameter description.
- In the **Name** box, type the parameter name exactly as it appears in the parameter description. Parameter names are case sensitive.
- In the **Default Value** box, enter the default value specified in the parameter description.

**Important:** Do not set the value that you want to use for a specific source. The value that you enter here will be used for all sources defined using this connector so it must be set to the recommended default value. You will be able to change the value for each source later, in the **Add Source** and **Source: ... General** pages of the Administration Tool.

- In the **Label** box, enter the label that you want to see for this parameter.

**Example:** To easily link the label to the hidden parameter, you can simply use the parameter name, and if applicable, insert spaces between concatenated words. For the **BatchSize** hidden parameter, enter `Batch Size` for the label.

**Note:** To create multilingual labels and quick help messages, use the following syntax: `<@ln>text</@>`, where *ln* is replaced by the language initials—the languages of the Administration Tool are English (en) and French (fr).

**Example:** `<@fr>Chemin d'accès du fichier de configuration</@><@en>Configuration File Path</@>` is a label which is displayed differently in the French and English versions of the Administration Tool.

**Tip:** The language of the Administration Tool can be modified by pressing the following key combination: Ctrl+Alt+Page Up.

- e. Optionally, in **Quick Help**, enter the help text that you want to see for this parameter when clicking the question mark button  that will appear beside the parameter value.

**Tip:** Copy and paste key elements of the parameter description.

- f. When **Predefined values** is selected in the **Type** parameter, in the **Value** box that appears, enter the parameter values that you want to see available in the drop-down parameter that will appear in the Administration Tool interface. Enter one value per line. The entered values must exactly match the values listed in the hidden parameter description.
- g. Select the **Optional parameter** check box when you want to identify this parameter as an optional parameter. When cleared, CES does not allow you to save changes when the parameter is empty. This parameter does not appear for **Boolean** and **Predefined values** parameter types.
- h. Select the **Sensitive information** check box for password or other sensitive parameter so that, in the Administration Tool pages where the parameter appears, the typed characters appear as dots to mask them. This parameter appears only for the **String** type.

**Example:** When you select the **Sensitive information** check box for a parameter, the characters typed appear as follows in the text box:



- i. Select the **Validate as an email address** check box when you want CES to validate that the text string that a user enters in this parameter respects the format of a valid email address. This parameter appears only for the **String** type.
  - j. In the **Maximum length** box, enter the maximum number of characters for the string. This parameter appears only for the **String** type. When you enter 0, the length of the string is not limited.
  - k. Click **Save**.
6. Back in the **Connector** page, click **Apply Changes**.

The hidden parameter now appears in the **Add Source** and **Source: ... General** pages of the Administration Tool for the selected source. You can change the parameter value from these pages. Refer to the documentation for each connector for details.

**Note:** When you want to modify a hidden source parameter, you must first delete it, and then redefine it with the modified values.

## 8. Configuring an Email Security Provider

An Email security provider is a simple email user identity container that can be used by another security provider to recognize users by their email addresses. When used by more than one security providers attached to sources of various types, an email security provider can act as a single sign-on system. An Email security provider does not connect to any system so it does not need a user identity.

**Note:** You can get familiar with how Coveo components deal with permissions on documents both at indexing and query time.

To configure an Email security provider

1. On the Coveo server, access the Administration Tool.
2. On the menu, select **Configuration > Security**.
3. In the navigation panel on the left, select **Security Providers**.
4. In the **Security - Security Providers** page, click **Add**.
5. In the **Modify Security Provider** page:

The screenshot shows the 'MODIFY SECURITY PROVIDER' configuration page. The navigation menu on the left includes Roles, Impersonators, Security Providers (selected), User Identities, and Super User Access. The main configuration area has the following fields:

- Name:** Email Security Provider
- Security Provider Type:** Email (x64)
- Description:** Email Security Provider
- DLL Path:** Coveo.CES.CustomCrawlers.EmailSecurityProvider.dll
- UserIdentity:** (none)
- Security Provider:** (none)
- Parameters:** Add Parameter
- Allow Complex Identities:**
- Used By:**

At the bottom right, there are buttons for 'Apply Changes' and 'Cancel'.

- a. In the **Name** box, enter a name of your choice for your Email security provider.
- b. In the **Security Provider Type** list, select **Email**.

**Note:** CES 7.0.5785 to 7.0.5935 (August to September 2013) The Email security provider DLL file is missing in the CES distribution so you will not see the **Email** option in the **Security Provider Type** list.

To resolve this issue:

- i. Contact [Coveo Support](#) to get a copy of the `Coveo.CES.CustomCrawlers.EmailSecurityProvider.dll` file.
  - ii. When you receive the file, using an administrator account, connect to the Coveo Master server, and then copy the file to the `[CES_Path]\bin` folder.
  - iii. When your Coveo instance includes a Mirror server, also copy the file to the `[CES_Path]\bin` folder on the Coveo Mirror server.
  - iv. Restart the CES service so that the new DLL is recognized.
- c. In the **User Identity** list, leave **(none)**.
  - d. **CES 7.0.7814+ (August 2015)** (Optional) In the **Security Provider** list, select another security provider to map Email identities to another identity type.

**Example:** You want to map Email identities to Active Directory (AD) ones so you select an LDAP Lookup security provider that is chained to an AD security provider. The LDAP Lookup security provider is then able to find a user in AD from his email and extracts his User Principal Name (UPN), thus allowing a mapping of the Email identity to an AD one. Contact [Coveo Support](#) for assistance on how to create an LDAP Lookup security provider.

- e. Leave the **Allow Complex Identities** option cleared as it does not apply to this type of security provider.
- f. Click **Apply Changes**.

## What's Next?

Configure a security provider that will use this Email security provider.

## 9. Configuring an Active Directory Security Provider

You must use an Active Directory (AD) security provider when you create a source to index the content of an Active Directory domain. Other security providers may need to use an Active Directory security provider to expand, map, or resolve users or groups defined in Active Directory.

Coveo Enterprise Search (CES) comes with a default **Active Directory** security provider to which no user identity is assigned. In this case, the **Active Directory** security provider takes the CES service account as the user to access AD. When CES is in the same domain as AD, you can use the default **Active Directory** security provider as is. No configuration is needed.

You may need to create another Active Directory security provider only when CES and AD are in different and untrusted domains. In this case, you only need to assign a user identity containing any user that has access to the other domain to be able to use the security provider to expand, map, or resolve users or groups defined in Active Directory of this domain.

**Note:** You can get familiar with how Coveo components deal with permissions on documents both at indexing and query time.

To create or modify an Active Directory security provider

1. On the Coveo server, access the Administration Tool.
2. Select **Configuration > Security**.
3. In the navigation panel on the left, select **Security Providers**.
4. In the **Security Providers** page:
  - Click **Add** to create a new security provider.
  - OR
  - Click an existing Active Directory security provider to modify it.
5. In the **Modify Security Provider** page:

- a. In the **Name** box, enter a name to identify this security provider.
- b. In the **Security Provider Type** drop-down list:
  - i. On a 32-bit server, select **Active Directory (x86)**.
  - ii. On a 64-bit server, select **Active Directory (x64)**.
- c. In the **User Identity** section:
  - i. In the drop-down list, select a user identity containing an account that has access to the desired domain.

**Example:** When the user identity contains the `domainA\OneUsername` account, the security provider connects to *Domain A* Active Directory.

**Note:** When **User Identity** is set to **(none)**, the security provider takes the CES service account by default.

- ii. When needed, click **Add**, **Edit**, or **Manage user identities** respectively to create, modify, or manage user identities.
- d. **CES 7.0.7338+ (January 2015)** In the **Email Provider** section:

- i. In the drop-down list, select the email provider that recognizes your users by their email addresses.

**Note:** When you do not want to map Active Directory (AD) users to their email, select **(none)**.

- ii. When needed, click **Add**, **Edit**, or **Manage security providers** respectively to create, modify, or manage email security providers.
- e. In the **Parameters** section, in rare cases the [Coveo Support](#) could instruct you to click **Add Parameters** to specify other security provider parameter names and values that could help to troubleshoot security provider issues.
- f. Leave the **Allow Complex Identities** option cleared as it does not apply to this type of security provider.
- g. Click **Save** or **Apply Changes**, depending whether you are creating or modifying a security provider.

### What's Next?

When you are creating or modifying the security provider:

- For an Active Directory source, configure and index the source.
- To be used by another security provider, create or modify the other security provider.