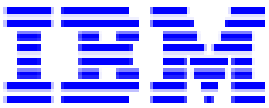
IBM FileNet Content Manager

FileNet Salesforce Connector Configuration Guide

Version 5.7.0



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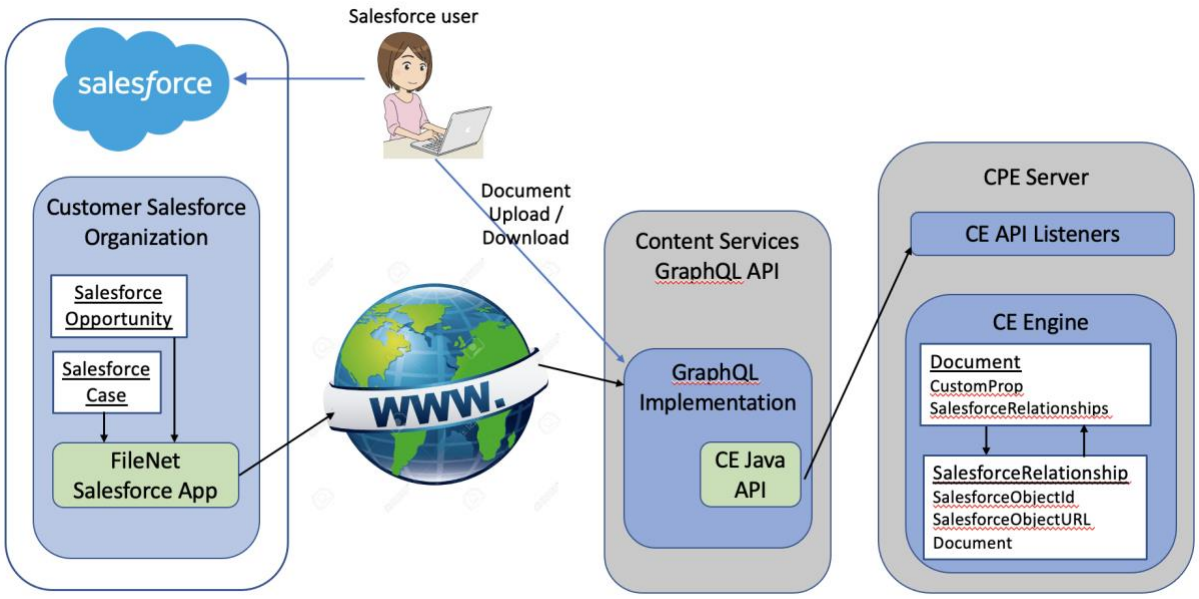
Overview

The IBM FileNet Salesforce Connector App enables Salesforce users to store their attachments as documents in their organization's FileNet Content Manager object store instead of storing the documents in Salesforce.

This document outlines the steps needed to prepare the environment on the FileNet side, as well as the steps to configure the app on the Salesforce side.

The IBM FileNet Content Services GraphQL API provides the connection between the IBM FileNet Connector for Salesforce app and the IBM FileNet Content Engine server. The following graphic describes this connection:



The FileNet Salesforce Connector App connects to the IBM FileNet Content Services GraphQL API through a secure HTTPS connection. The GraphQL API then makes calls to the Content Platform Engine server through the Content Engine Java API to interact with Documents and with SalesforceRelationship objects that associate Documents with Salesforce records.

Note that while all query and data retrieval operations are made from the Connector App running within a Salesforce.com server, there are two operations where the user's browser will connect directly to the Content Services GraphQL API server. This direct communication occurs only for document upload and download operations.

In addition to the GraphQL API configuration, you also prepare the Content Platform Engine object store and configure permissions for the content.

On the Salesforce side, you install and configure the FileNet Salesforce Connector App, then make updates to your Salesforce views to make the object store content visible and available to Salesforce users. You also configure authentication to control access to your content.

Supported Content Services GraphQL Versions

For Salesforce Connector versions 5.6.3 through 5.7.0:

- When using the container based Content Services GraphQL API, version 5.5.6 IF002 and above are supported.
- For customers choosing to run Content Services GraphQL API in a traditional WebSphere deployment (non-container), Content Services GraphQL version 5.5.7 or above is required.
- However for configurations where support of multiple Salesforce organizations is needed, then version 5.5.8 IF001 or above of Content Services GraphQL API Is required.

Preparing the Content Platform Engine environment

To prepare the Content Platform Engine for integration with the FileNet Salesforce Connector App, you must deploy and configure the Content Services GraphQL API, prepare the object store, and assign appropriate permissions to the document classes.

Deploying the Content Services GraphQL API

The Salesforce app uses the Content Services GraphQL API to connect to the Content Platform Engine. The connection requires the GraphQL API to be accessible from the public internet. As a result, the GraphQL API cannot be behind a firewall or VPN.

To deploy and configure the IBM FileNet Content Services GraphQL API, follow the instructions in the following Knowledge Center topic:

https://www.ibm.com/docs/en/filenet-p8-platform/5.5.x?topic=cpdstnd-v554-later-optional-configuring-content-services-graphql-api

Note the following configuration requirements that are specific for use of the GraphQL API with the FileNet Salesforce Connector App:

CORS.xml

By default, the IBM Content Services GraphQL service will not trust calls coming from Salesforce. To allow the GraphQL service to trust incoming calls from Salesforce.com, and to allow Salesforce web pages to trust data coming from the Content Services GraphQL service, a Cross Origin Resource Sharing (CORS) configuration must be established between the two services. Configuring Salesforce to allow Resource Sharing (CORS) with the Content Platform Engine server, in this document, describes CORS settings that are required on the Salesforce side. This section describes the CORS settings required on the IBM Content Services GraphQL Service side.

The IBM Content Services GraphQL service allows the following CORS options to be set to control access by external web sites:

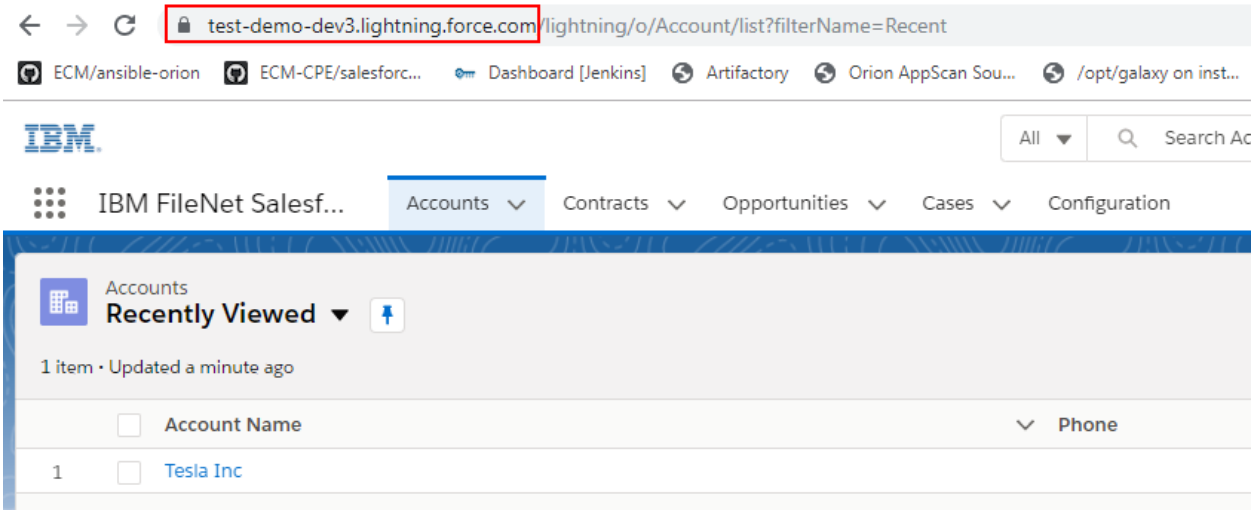
- Allowed HTTP methods
- Allowed HTTP Request Headers
- Allowed HTTP Response Headers
- Allow Credential
- Max Age

To allow calls from Salesforce.com, you must create a cors.xml file, and place it in the `${server-config-dir}/configDropins/overrides directory` of your WebSphere Liberty server, to allow calls from your Salesforce Organization's domain URL. The file should contain the following:

```
<?xml version='1.0' encoding='UTF-8'?>
<server>
<!--
https://www.ibm.com/support/knowledgecenter/en/SSEQTP_liberty/com.ibm.websphere.liberty.autogen.nd.doc/ae/rwlp_config_cors.html -->
  <cors domain="/content-services-graphql"
        allowedOrigins="https://<Salesforce_Org_URL>"
        allowedMethods="GET, POST, OPTIONS"
        allowedHeaders="Connection,Pragma,Cache-Control,ECM-CS-XSRF-Token,
XSRFtoken,Origin,User-Agent,Content-Type,Content-Length,Accept-Control-Request-
Method,Accept-Control-Request-Headers,Accept,Referer,Accept-Encoding,Accept-
Language,DNT,Host,Content-Length,Cache-control,Cookie,Authorization,X-ECM-SF-ORG-ID"
        exposeHeaders="Content-Disposition,Content-Length,Content_Type,ECM-CS-XSRF-
Token,Content-Language,X-Powered-By,Date,Allow,Transfer-Encoding,$WSEP,DNT,Access-
Control-Allow-Credentials,Access-Control-Allow-Headers,Access-Control-Allow-Max-
Age,Access-Control-Allow-Methods,Access-Control-Allow-Origin,Access-Control-Expose-
Headers,Connection,Cache-control,Cookie,x-content-download,X-ECM-SF-ORG-ID"
        allowCredentials="true"
        maxAge="3600" />
</server>
```

You must replace the **<Salesforce_Org_URL>** placeholder text above with your Salesforce Organization's instance domain URL (without any context root). In the following example, the domain URL is:

test-demo-dev3.lightning.force.com



If you need to configure multiple Salesforce organizations to use your object stores, then you will need to add multiple URL's in the allowedOrigins attribute above.

Authentication

When you deploy the Content Services GraphQL API, it is recommended that you initially configure Basic Authorization to get the connector app working as part of a test or development environment.

However, for production environments it is recommended to use OAuth for authentication.

There are separate sections later in this document on Configuring OAuth authentication, and Configuring Basic authentication. Please refer to those sections for details. See the instructions in the Advanced Authentication section of the Content Services GraphQL API documentation for details of the Content Platform Engine side of this configuration.

Important:

Configuring the FileNet Connector for Salesforce app to use OAuth requires that your IBM FileNet Content Manager users use the same name to authenticate as the corresponding Salesforce user (for example, username@organization.com). If the same names are used in both places, then the Content Services GraphQL server can be configured to trust the OAuth/OIDC tokens that are generated by Salesforce.

Installing the Salesforce Integration Extensions Add-On

The Salesforce integration requires that you install a custom feature AddOn in each Object Store that is exposed to Salesforce. This AddOn defines Content Engine classes and properties that are used by the Salesforce app to associate Content Engine documents to Salesforce objects.

You download the add-on extension files, register the add-on with the server, then install the add-on. Perform these configuration steps as a P8admin in the Administration Console for Content Platform Engine.

To enable the add-on:

1. Download the following IBM Salesforce Integration Extensions AddOn files from this GitHub location:

```
FNCE_SalesforceIntegrationAddOn.desc
SalesforceIntegrationExtensions.xml
SalesforceIntegrationPostImportScript.js
```

2. Copy the files into a single directory on the server where you can access the IBM Administration Console for Content Platform Engine.
3. Start the New Add-On wizard in the administration console:
    a. In the domain navigation pane, navigate to **Global Configuration > Data Design > Add-ons**.
    b. Right-click the **Add-ons** node and click **New Add-On**.
4. Use the following values in the wizard:
    Select **Use the descriptor method**.
    Add-on descriptor file: Browse to FNCE_SalesforceIntegrationAddOn.desc.
    In the **Create the Add-on** dialog box: select **Optional**.
    Import data set: SalesforceIntegrationExtensions.xml
    Post-import script: SalesforceIntegrationPostImportScript.js
    For the remaining fields, accept default settings.
5. Click **Finish** to complete the wizard.
6. In the domain navigation pane of the Administration Console for Content Platform Engine, click the object store that you want to use with the app.
7. In the object store navigation pane, click the name of the object store (the top-level item).
8. From the **Actions** menu in the object store tab, click **Install Add-On Features**.
9. Select the SaleforceIntegrationAddOn, and click **OK**.

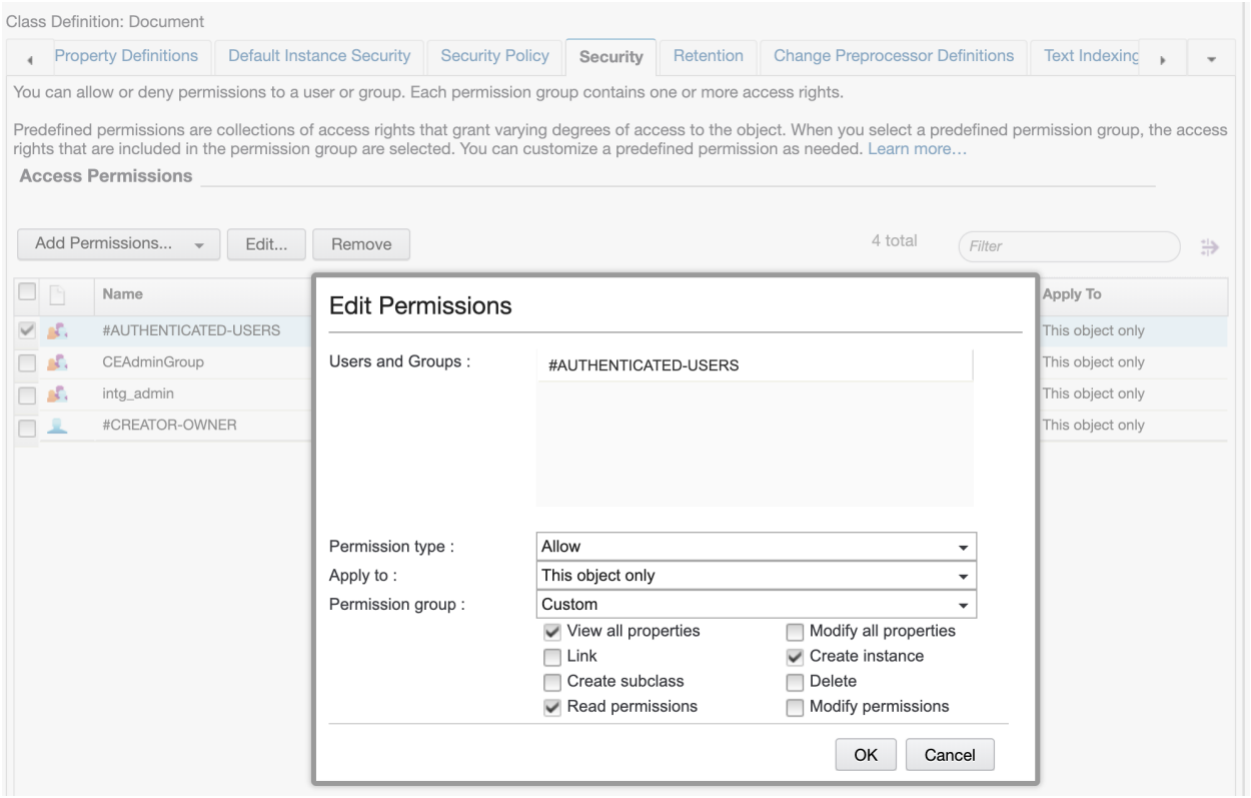
Setting permissions on document classes for use in Salesforce

When you configure a Salesforce organization to access an IBM FileNet object store through the app, you select a set of document classes to be available to your Salesforce users for creating new documents. The settings in these document classes influence the permissions that Salesforce users have on documents that are exposed through the app. You determine what access different users should have to documents through the Salesforce app by configuring permissions on your doc classes via the Administration Console for Content Platform Engine.

Although not required, it is recommended to create a new set of classes in your object store for your Salesforce documents. You can then set permission on these classes as described in the next section without any impact to other document classes that you might already have in your object store.

Editing document class security

There is one Document Class security permission that will impact Salesforce users: Create Instance permission.



The Document Class Security tab in the Administration Console for Content Platform Engine shows the default permission settings for a Content Engine document class. To be usable by end users, the document class should grant View All Properties, Read Permissions, and Create Instance permission to all users. Only users with Create Instance permission on a Document class are able to create a document of that class.

If your document class uses this default setting to grant these three permissions to #AUTHENTICATED_USERS, then nothing further needs to be done in the Document Class permission settings. However, if you are not granting these permissions to #AUTHENTICATED_USERS, then create a group containing all of your Salesforce users, and use the Administration Console for Content Platform Engine to add a permission to each document class that will be exposed in Salesforce, granting these permissions to the Salesforce user's group.

Editing the document class Default Instance Owner

The owner of a document gets implicit permissions on the document, including the ability to read, view, edit, and change permissions. Therefore, the owner of a document can always view and edit the document through the Salesforce application.

The Default Instance Owner property of a document class determines who the default owner will be for a new document of the document class. FileNet applications (including the

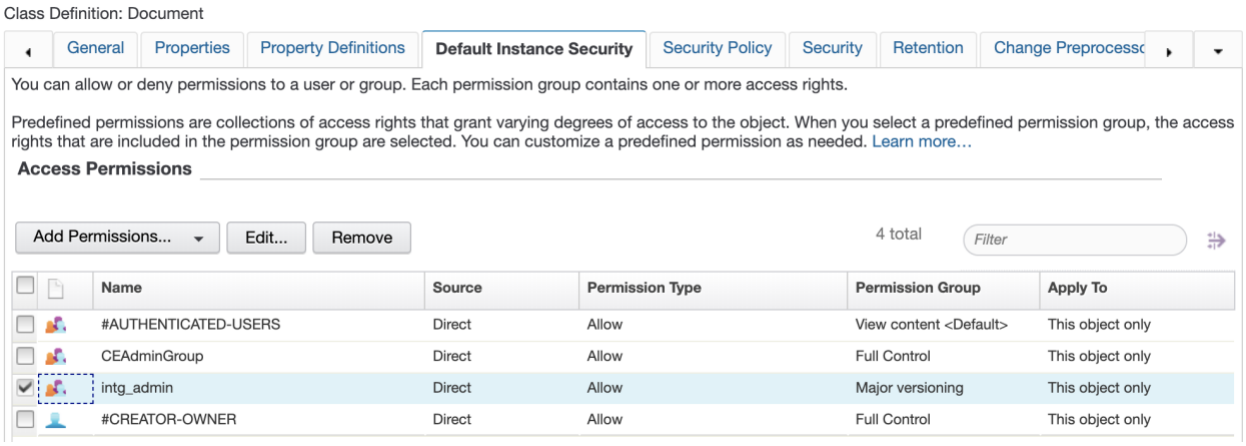
Salesforce app) typically rely on this document class setting to control who the owner of new documents will be.

The Default Instance Owner of a document class can be viewed and edited in the Administration Console for Content Platform Engine by scrolling to the bottom of the Default Instance Security tab:

For document classes that are exposed in Salesforce, the default setting of #CREATOR_OWNER should be maintained for the Default Instance Owner property. This setting means that the person who creates a document is always it's owner.

Editing the document class default instance security

The permissions on documents created by the IBM FileNet Salesforce Connector app are determined by the Default Instance Security settings on the exposed document classes. The following screenshot shows an example of the Default Instance Security for a document class:



Configuring users who can view existing documents and their properties

In the example above, the #AUTHENTICATED_USERS pseudo-group (which represents all users who are able to login to the server) is granted the View Content security group. This security group includes the following permissions: View all properties, View content, Read permissions.

These permissions allow users to view document content and properties from the Salesforce app, but not the ability to edit document properties or create new versions of a document.

When an object store is created, one or more user groups can be specified as object store users. If such a group is specified at object store creation time, then they will be given the View content access group for all document classes by default. If no such group is specified at object store creation time, then #AUTHENTICATED_USERS is granted the View Content access group for all document classes by default.

Customers may edit the Default Instance Security settings to limit access to smaller groups, or to remove all access, and instead use security mechanisms other than Default Instance Security to control document permissions.

For the Salesforce environment, we recommend that Default Instance Security should grant View Content either to #AUTHENTICATED_USERS, or to a group that will contain users who should have read-only access to all Salesforce documents.

Note that if a user has only View Content permission, then they will be able to edit properties and content for documents that they create, but not for documents that were created by any other user.

Configuring users who can edit properties or create new versions of existing documents

In the example above, the intg_admin group is granted the Major Versioning permission group. This security group includes permissions to modify properties or create new versions, in addition to the permissions that the View Content group has. Users who should be allowed edit documents that were created by other Salesforce users should be given this permission.

If a customer wanted to grant permission to edit document properties, but not permission to create new document versions, then the group should be granted the Modify Properties permission group, rather than the Major Versioning permission group.

For the Salesforce environment, we recommend that Default Instance Security should grant Major Versioning permission to either some or all Salesforce users, by assigning this permission group to a group that contains these users (or to #AUTHENTICATED_USERS).

Configuring users who can remove documents from a Salesforce organization

In the example above, the #CREATOR_OWNER pseudo-user, and as the CEAdminGroup, have both been granted the Full Control permission group. These permissions allow the grantees to view and edit the documents, as well as to remove them from the Salesforce record.

For the Salesforce environment, we recommend that Default Instance Security should grant Full Control permission to a group who are admins within Salesforce, as well as to the #CREATOR_OWNER pseudo-user.

Configuring properties to be synchronized with fields on Salesforce records

Whether you create new document classes for use by the Salesforce Connector, or chose to use existing document classes, you have some options for which properties on your classes are visible and settable in Salesforce. You also have the option to create some new properties to hold copies of Salesforce fields from the Salesforce records where you have added FileNet document attachments.

You can create special properties on your document class that are automatically populated with values from the Salesforce record that a document is added from. When creating a new document, the IBM FileNet Salesforce Connector automatically looks for any properties on the target document class whose symbolic name begins with the prefix “Fnsf”. If any properties with this prefix are found, then the Connector attempts to find a Salesforce field with a matching name, and then populates the FileNet property with the value from that field during document creation.

For example, if the Salesforce record where a document is being added has a field whose name is “AccountName”, and a property exists on the target document class with the symbolic name “FnsfAccountName”, then that property is automatically populated with the value of the “AccountName” field.

When you configure an object store in Salesforce, you can select the document classes that are exposed to Salesforce users, and select which document properties of those classes Salesforce users can set the values for when they create a new FileNet document through Salesforce. If a property with an “Fnsf” prefix in its symbolic name is selected, then it appears on the New Document dialog of the Document List View widget as read-only. The user cannot override the value from the Salesforce record.

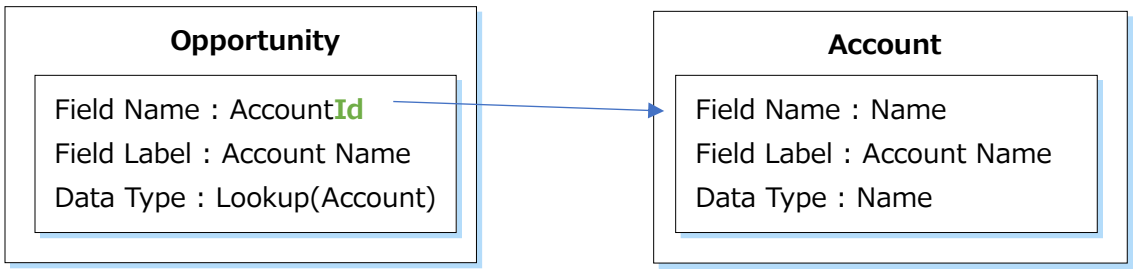
If you want to store a copy of the entire Salesforce record in your FileNet object store, you can do that by creating a property with the symbolic name “FnsfJSONRecord” in your target

document class. If this property exists, then the JSON for the Salesforce record is copied into it when a document is added to the record through the IBM FileNet Salesforce Connector. Note that this property must be a string property, with the UsesLongColumn flag set to true, because this data can be moderately large.

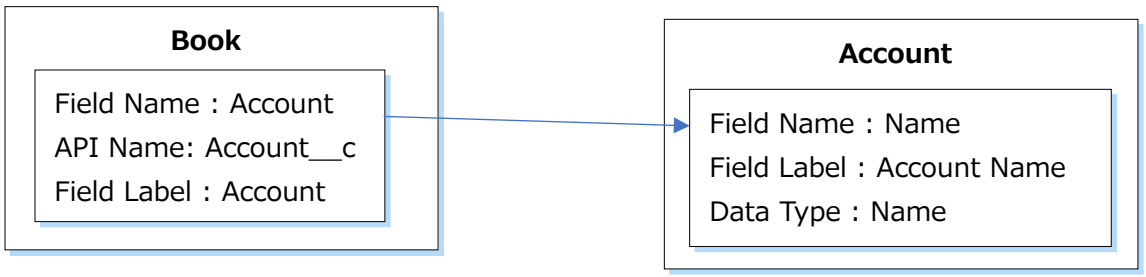
Synchronizing Salesforce Lookup fields

A Salesforce record can have a field which is a reference to the value of a field on a different Salesforce record. This type of field is called a Lookup field. When you are using a Lookup field between two standard Salesforce records, there is no need for any special handling to synchronize it. However, if you have a Lookup field in a custom Salesforce record, then the name of the Lookup field is different, and the name of the FileNet property needed to synchronize it is different.

In a standard Salesforce record, the name of a Lookup field must always end with "Id". For example, the Salesforce Opportunity record has a field called "AccountName" (Field Label = "Account Name") who's Field Name is AccountId. This field is a reference to the "Name" field of an Account record. In this case, you would simply create a FileNet property called "FnsfAccountName" to synchronize the property.



For a custom Salesforce record, these lookup fields work differently. it is not required that the Field Name end with "Id", but the field being referred to is designated by the API Name attribute, and "__c" is appended to the field name of the lookup field



In this case, the FileNet property must include the name of the referenced object, followed by "__r" and then the name of the referenced field. For example, if a custom Salesforce object

references the same Account Name field as a lookup field, as in the example shown above, then the FileNet property needed to synchronize that field is named “FnsfAccount__rName”.

Limitations

Note that there are some limitations of this field synchronization feature:

- The property on the FileNet document has the value of the Salesforce field at the point in time when the document is first added as an attachment on the Salesforce record. If the value of the Salesforce field is subsequently updated, the value of the property on the FileNet document is not updated.
- If the document is later added to additional Salesforce records through the **Add To Record** feature, it is not updated with field values from the new record.
- Only fields that are of string, date, integer, or picklist value can be synchronized through this feature. Salesforce fields of type Lookup which reference fields on other Salesforce records can be synchronized, as long as the field that they reference is of a supported type. Salesforce fields of type Formula can also be synchronized, if the formula yields a value that is a supported type. The data type of the Salesforce field must match the data type of the FileNet property, or the synchronization does not work
- If the length of the Salesforce string exceeds the length of the corresponding FileNet property, then the string is truncated to fit in the FileNet property

Preparing the Salesforce Organization

A Salesforce administrator user must install and configure the IBM FileNet Salesforce Connector app with a Salesforce Organization.

Note that you must accept the license agreement for the Salesforce Connector application before the app can be installed. The specific terms and conditions for this application are available in the installation wizard, and also on the AppExchange listing page. License terms for the prerequisite products are accepted during the purchasing of those products.

Installing the FileNet Salesforce Connector app in a Salesforce Organization

To install the FileNet Salesforce Connector app:

1. From the Salesforce Organization, click the AppExchange link.
2. Browse for and select the FileNet Salesforce Connector app.
3. Supply values for the AppExchange installation wizard. When asked, choose **Install for Admin Users only.**
4. Click **Install now** to complete the wizard.

It can take a few minutes for the installation to complete.

Configuring Salesforce after installation

After you install the app in the Salesforce organization, you must do additional configuration in Salesforce to make the app features available for users.

Creating a CSP Trusted Site for the Salesforce Organization

You must create a CSP Trusted Site in the Salesforce Organization so that the IBM FileNet Salesforce Connector can work securely with the Content Services GraphQL server.

To create the CSP Trusted Site:

1. From Setup, use the **Quick Find** field to find CSP Trusted Sites.
2. From **CSP Trusted Sites**, click **New Trusted Site**
3. For **Trusted Site Name**, enter `IBM_Content_Services_Endpoint`.
4. For **Trusted Site URL**, enter the URL for the IBM Content Services GraphQL API.
5. Select the **Active** checkbox.
6. For **Context**, select the **All** option (default).

7. Click **Save**.

See the following Salesforce documentation for more details:
https://help.salesforce.com/articleView?id=csp_trusted_sites.htm&type=5

SSL Certificate requirement on the Content Services GraphQL server

When IBM FileNet Salesforce Connector App sends an outbound message to the Content Services GraphQL server, using a CSP Trusted Site, the Salesforce.com organization acts a client that will only trust the target host (that is the Content Service GraphQL server) if it presents an SSL Certificate signed by a root Certification Authority (CA). Self-signed certificates cannot be used by the target host. Also the target host URL must be specified using a registered DNS domain name, matching the domain name in the SSL certificate; the target host URL cannot be specified using its public IP address. If a reverse proxy like IBM HTTP Server or Nginx is used in front of Content Services GraphQL server then the root CA SSL certificate must be installed on the reverse proxy. Refer the reverse proxy documentation on SSL configuration.

Configuring Salesforce to allow Resource Sharing (CORS) with the Content Platform Engine server

By default, browsers do not allow a request to one web site to retrieve many types or resources from a different web site. Cross Origin Resource Sharing (CORS) is a standard that allows a primary web site to request access to resources from a secondary web site, and for the secondary web site to be configured to allow this access. The IBM FileNet Connector for Salesforce requires CORS access to be configured on both the Salesforce Organization, and on the IBM Content Services GraphQL API service.

To configure CORS within Salesforce, the Salesforce admin must add a trusted domain to the Salesforce organization's CORS whitelist.

To configure resource sharing:

1. From Setup, use the Quick Find field to find **CORS**.
2. Click **New**.
3. For **Origin URL Pattern**, enter the domain of the IBM Content Services GraphQL API.
4. Click **Save**.

Configuring Authentication to the IBM Content Services GraphQL API Service

Salesforce supports following authentication protocols:

- User Password

- OAuth 2.0
- OAuth 2.0 JSON Web Token (JWT)
- JWT Token Exchange
- AWS Signature Version 4

IBM FileNet Salesforce Connector App supports User Password (aka BasicAuth) and OAuth 2.0 JSON Web Token (JWT). Both protocols require creating a NamedCredential and completing a set of additional configuration steps.

To configure the app to use OAuth authentication, see the instructions in section 5 of this document. To configure the app for BasicAuth authentication, see the instructions in section 6 of this document.

Configuring Salesforce users who have administrator access for the Connector

When the IBM FileNet Connector for Salesforce is installed, it creates two Permission Sets, which control which users have which access levels within the connector. The first of these is the **IBM FileNet Admin** Permission Set

Only administrative users should have access to sync an IBM FileNet Content Manager object store with a Salesforce organization, or to configure which properties are editable in the document properties dialog. To grant Salesforce users this access, they must be added to the **IBM FileNet Admin** Permission Set.

To configure admin users:

1. In the **Setup** menu, go to **Users in the Administration**, and select **Permission Sets**.
2. Select the **IBM FileNet Admin** permission set.
3. Click **Manage Assignments** on the permission set screen.
4. Select the user or users that you want to add to the permission set, or unselect users that you would like to remove from the permission set, and click **Assign**.
5. Click **Save** to save your changes.

Configuring Salesforce users who have non-admin access to IBM FileNet documents

The second Permission Set that is created during the installation is the **IBM FileNet User** Permission Set. All users who need runtime access to retrieve, create, or update documents through the IBM FileNet Salesforce Connector must be added to the **IBM FileNet User** Permission Set.

To add non-administrator users:

1. In the **Setup** menu, go to **Users in the Administration**, and select **Permission Sets**.
2. Select the **IBM FileNet User** permission set.
3. Click **Manage Assignments** on the permission set screen.
4. Select the user or users that you want to add to the permission set, or unselect users that you would like to remove from the permission set, and click **Assign**.
5. Click **Save** to save your changes.

Configuring the Salesforce Organization to use object stores

Once the IBM FileNet Salesforce Connector app has been installed and all of the post-install configuration steps are complete, you are ready to configure an object store for use in your Salesforce organization. Multiple object stores can be configured with a single organization if you choose.

For each object store that is configured, the admin chooses the document classes to be available for Salesforce users to store documents. Additionally, for each document class that is selected, the admin can select the subset of properties that a user can set when they create a new document or update existing documents.

You must be a member of the **IBM FileNet Admin** Permission Set to perform any of the actions in this section.

Configuring an object store

You use the Connector app to choose an object store and select the Document classes and associated properties that you want to use for your application.

To configure an object store:

1. Use the App Launcher to navigate to the **IBM FileNet Salesforce Connector** tab.
2. Select the **Configuration** menu option.
3. From the drop-down list of object stores, select the object store that you want to configure.
4. From the list of available document classes for the object store you that selected, use the checkboxes to select or unselect classes.
5. For each document class that you select, use the **Select Properties** link next to the class to configure the properties to make editable for that class. In the **Properties to Display** dialog, you can select the properties to display from the list of available properties, and you can also use the up and down arrows to adjust the order in which the properties are displayed.
   An asterisk (*) before the property name indicates that the property is automatically populated from the corresponding Salesforce field. This auto-population occurs whether or not you select it as a property to display. If you do select it as a property to display, then it appears as a read-only property in the document properties dialog.
6. When you have completed setting up your document classes and properties, click **Save** to save your choices.

If you get an error when you attempt to configure an object store that says that the Salesforce Integration Extensions AddOn has not been installed, refer to the instructions in Installing the Salesforce Integration Extensions Add-On.

Note that the Configure object store action can be run multiple times for an object store, to change the selected document classes, or to change the list of fields that are selected for a given class. After an object store has been configured once, the **Reconfigure** button can be used to configure it again.

After you configure an object store, you add a Document List widget to the relevant Salesforce pages to make the object store visible to end users.

Adding the Documents List widget to your Salesforce Organization screens

Note: Only a Salesforce system administrator can modify a page layout, as described in this section. The edit page link is not visible to a standard user.

For each configured object store, you must add the IBM Documents List Widget to the pages where you want IBM FileNet documents to be accessible. The widget can be added to any Salesforce page, including pages for custom Salesforce record types. The widget can also be added to Record details pages within Salesforce Digital Experience Communities The follow steps use the Account page as an example.

To add the Documents List widget to a page:

1. Go to the App Launcher, and start the IBM FileNet Salesforce Connector app.
2. Click the **Accounts** tab.
3. Select an individual account, and go to the **Related** tab. The IBM Documents widget is not visible.
4. From the **Setup** menu, select **Edit page**.
5. From the Lightning Components bar, under **Custom > Managed** menu, select the **DocumentsList** component and drag and drop it to your desired location on the **Related Items** tab.
6. Make this component visible to users that have permission to access the component:
    a. Click **Add Filter**.
    b. Click the **Advanced** tab, click **Select**, and from the **Type of filter** list, click Permission.
    c. From the **Permissions** drop down menu, select **Custom permissions**.
    d. From **Custom permissions**, select IBM_FileNet_User_Document_List.
    e. Click **Done**.

f. From Filter Type dialog, make sure that the operator is Equal, and Value is True, then click **Done**.

7. Click **Save** to save the edited layout
8. To activate these changes, click **Activation**. Click **Assign as Org Default**, then click **Save**.
9. Click Back to return to the main screen.

Repeat the steps for other Salesforce pages, as needed.

Assigning Licenses for the IBM FileNet Salesforce Connector Package

To assign licenses to Salesforce AppExchange users:

1. From Setup, enter **Installed Packages** in the Quick Find box, then select **Installed Packages** to find the IBM FileNet Salesforce Connector package.
2. Click the **Manage Licenses** link before the package name.
3. Click **Add Users**.
4. Click the checkbox in the Available users section to select users
5. Click **Add** in Selected Users.

Removing an object store

If you want to disassociate an object store from a Salesforce organization, you can do so by selecting the object store in the **Configure Object Store** tab, and then using the **Remove** button.

This action prevents any new documents from being added to this object store, as well as the listing or viewing of any existing documents. It does not, however, remove the Document List widget for the Object Store from the Salesforce pages where it is in use. The Document List widgets will show an error when pages that contain the widget are viewed.

If you use the **Remove** button to remove an object store association, and you then re-configure the object store, then all of the documents will come back. If you do not intend to immediately re-configure the object store, then you should manually remove the Document List widget from all Salesforce pages prior to performing the Remove operation.

Configuring OAuth authentication

You can configure the IBM FileNet Salesforce Connector app to authenticate to the IBM Content Services GraphQL server by using the OAuth 2.0 protocol.

Configuring OAuth authentication in Salesforce

The IBM FileNet Connector for Salesforce app references a Salesforce Named Credential when it accesses the IBM Content Services GraphQL server. The Named Credential is configured to perform all of the necessary authentication steps when a connection from Salesforce to the IBM Content Services GraphQL server is made.

Named Credential
A Named Credential is a configuration that declaratively manages a Salesforce Organization's authentication to an external service. The credential specifies the URL of the external service and its authentication parameters. The connection between Salesforce and the external service is established using the Authentication Protocol parameter in a Named Credential.

OAuth 2.0 JSON Web Token (JWT)
OAuth 2.0 is an open standard which allows simple and powerful server-to-server API integration. The main advantage of using the OAuth 2.0 protocol over the User Password protocol is that Salesforce users do not need to manage their own credentials for the external system.

The OAuth 2.0 JWT is an OAuth flow, similar to Web Server flow within OAuth 2.0, which uses a JWT format of the OAuth access token. With this flow, Salesforce creates a token using the logged on user's identity, and digitally signs the token using a private key. Whenever the IBM FileNet Salesforce Connector App makes a callout to IBM Content Services server, Salesforce sets this token in the Authorization header of the HTTP Request object.

The value of the Authorization header looks like the following:

```
Authorization: Bearer eyJraWQiOiJTY...eyJpc3MiO...FEjHNzZ...
```

IBM FileNet Content Services server parses the token and verifies the signature using the SSL Certificate stored in server's KeyStore. The server also checks the expiration time in the token. An error response is returned if signature verification fails or token is already expired.

To configure OAuth 2.0 JWT:

1. Generate a new Self-Signed or CA Signed certificate.
2. Create a Connected App.
3. Create a Named Credential.

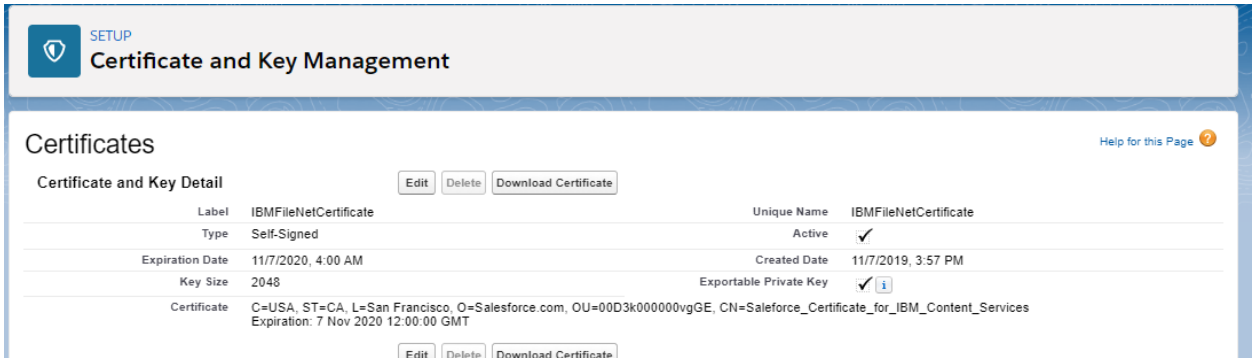
Generating a new self-signed certificate

You use Salesforce to generate the new certificate.

To generate a new self-signed certificate:

1. From Setup, enter Certificate in the Quick Find Box, then select **Certificate and Key Management.**
2. Click **Create Self-Signed Certificate**.
3. Enter the following fields:
   - Label: IBMFileNetCertificate
   - Unique Name: IBMFileNetCertificate
4. Click **Exportable Private Key**.
5. Click **Save**.
6. Click **Download Certificate**.

The certificate is downloaded to your system. Make a note of the location so you can use this certificate in a later configuration procedure.



Creating a connected app

You use Salesforce to create a connected app.

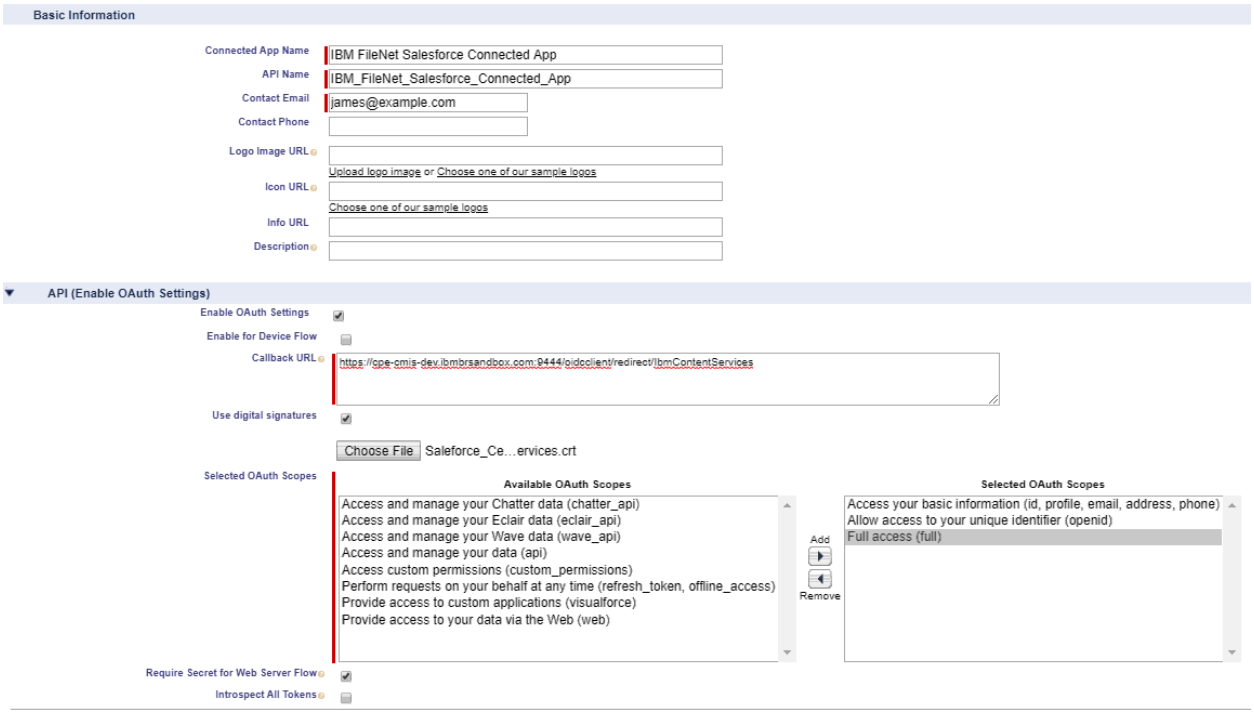
To create a connected app:

1. From **Setup**, enter App Manager in the Quick Find Box, then select **App Manager**.
2. Click **New Connected App**.
3. Enter the following fields:
   - **Connected App Name**: IBM FileNet Salesforce Connected App

- **App Name**: IBM_FileNet_Salesforce_Connected_App
- **Contact Email**: Enter your e-mail address

4. In the API (Enable OAuth Settings) section, click **Enable OAuth Settings**.
5. In **Callback URL**, enter the IBM Content Services redirect URL, for example,
   Content Services deployed on WebSphere Liberty:
   https://cpe-dev.ibmbrsandbox.com:9444/oidcclient/redirect/IbmContentServices
   Content Services deployed on traditional WebSphere Application Server (tWAS)
   https://cpe-dev.ibmbrsandbox.com:9444/oidcclient/IbmContentServices
   Note: The tWAS path does not include /redirect.

   You can change the callback URL at later time. If you don't know the URL when creating the Connected App, you can enter a placeholder URL, and change it at a later date.
6. Select **Use digital signature**, click **Choose File**, and select the certificate that you downloaded to your system in Generating a new self-signed certificate.
7. From **Available OAuth Scopes**, add the following to **Selected OAuth Scopes**:
   - Access your basic information (id, profile, email, address phone)
   - Allow access to your unique identifier (openid)
   - Perform requests on your behalf at any time (refresh_token, offline_access)
8. Check **Require Secret for Web Server Flow**.



9. Confirm all fields and click **Save**.
10. On the Salesforce status message, click Continue.

11. From the IBM FileNet Salesforce Connected App page, in the **API (Enable OAuth Settings)** section, copy the value for the **Consumer Key** in the text editor. You will use this value in Creating a Named Credential.

The screenshot below shows an example of the Connected App details:

Configuring Salesforce users who can use the Connected App to authenticate

When using OAuth, users must reference the **IBM FileNet Salesforce Connected App** Connected App directly from their profiles. This approach requires that they have access to the Connected App. There are two options to complete this step, depending on whether you want all users to be able to use the connector, or only certain users.

Option 1: Allow access for all users in the Salesforce Organization (Recommended)

If you want all Salesforce users within an organization to have non-administrative access to the IBM FileNet Salesforce connector, add the Connected App that was created in a previous step to the Standard Profile for the organization (or the user profile of your choice).

1. In **Setup**, go to **Profiles**.
2. Select the **Standard User** profile (or the user profile of your choice).
3. Click **Assign Connected Apps**.
4. Click **Edit** for **Assign Connected Apps**.
5. Add the **IBM FileNet Salesforce Connected** App to the list of Enabled Connected Apps.
6. Click **Save**.

Option 2: Allow access for a subset of Salesforce Organization users

If you only want a subset of your users to have access, then you must create a third Permission Set in addition to the two that were created automatically when the app was installed. Use the following steps to configure this access.

1. In the **Setup** menu, go to **Administration > Users**, and select **Permission Sets**.
2. Click **New** to create a new Permission Set
3. For **Label**, enter IBM FileNet Connected App
4. For **API Name**, enter IBM_FileNet_Connected_App
5. Leave the **Session Activation Required** checkbox unchecked.
6. Leave the **License** dropdown set to Salesforce
7. Click **Save** to save the Permission Set.
8. In the Apps section for the Permission Set that you just created, click on **Assigned Connected Apps**.
9. Click **Edit**.
10. In the **Installed Connected Apps** list, select the **IBM FileNet Salesforce Connected App** Named Credential and move it to the **Enabled Connected Apps** list.
11. Click **Save** to save your changes.
12. On the Permission set screen, click **Manage Assignments**.
13. Select the user or users that you want to add to the permission set (or unselect users who you would like to remove from the permission set), and click **Assign**.
14. Click **Save** to save your changes.

Creating a Named Credential

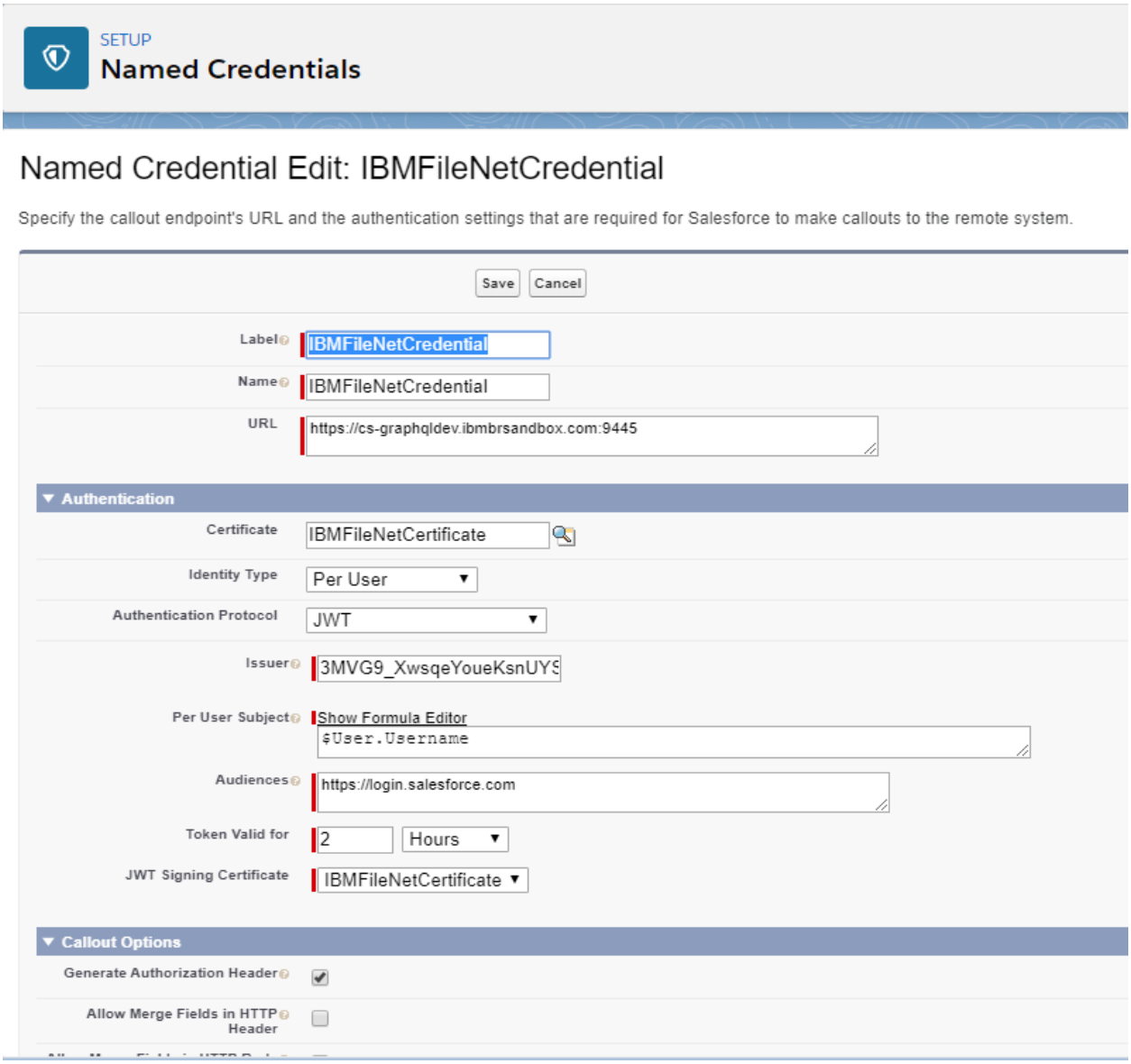
You use Salesforce to create a Named Credential.

1. From **Setup**, enter Named in the Quick Find Box, then select **Named Credentials**.
2. Click **New Named Credential**.
3. Enter the following field values:
   - **Label**: IBMFileNetCredential
   - **Name**: IBMFileNetCredential
   - **URL**: The URL of your IBM FileNet Content Services API server
   - **Identity Type**: Per User
   - **Authentication Protocol**: JWT

- **Certificate**: Click the Search icon and select the certificate that you created in Generating a new self-signed certificate.
- **Issuer**: Paste the Consumer key from Creating a connected app.
- **Per User Subject**: $User.Username
  The Subject refers to a Salesforce user. When Salesforce creates a JSON Web Token (JWT), the subject property in the JWT payload is set with the value from “Per User Subject” field. This field is mapped to UserNameAttribute in the Directory Configuration on Content Platform Engine.
  - If your Salesforce organization is configured to use SAML for federated authentication, then set the “Per User Subject” field to $User.FederationIdentifier.
  - If the $User.Username does not match with the value of UserNameAttribute in the Directory Configuration on Content Platform Engine and if the $User.Email does match with the value of UserNameAttribute, then set the “Per User Subject” field to $User.Email.
  - When neither $User.Username and $User.Email match with the value of UserNameAttribute in the Directory Configuration on Content Platform Engine, and if the $User.Alias does match with the value of UserNameAttribute, then set the “Per User Subject” field to $User.Alias.
- **Audiences**: https://login.salesforce.com
- **Token Valid for**: 2 Hours
- JWT Signing Certificate is automatically filled in.
- In **Callout Options**, **Generate Authorization Header** is selected.

4. Confirm your values and click **Save**.

The screenshot below shows an example of the Named Credential details:



See the following Salesforce documentation topic for more details:
https://help.salesforce.com/articleView?id=remoteaccess_authenticate_overview.htm&type=5

Support for multiple Salesforce Organizations

Customers who have multiple Salesforce organizations can store documents from all of these organizations into object stores in one FNCM domain. In this configuration, each Salesforce organization appears as a different OAuth IdP. The Content Services GraphQL API must be configured to support each of these IdP's, and to distinguish which IdP an incoming request is authenticated against. The instructions for setting up this multiple IdP configuration differ depending on whether Content Services GraphQL API is hosted in a container, or in a traditional WebSphere environment.

The Salesforce Connector for FileNet sends an HTTP header which can be used to distinguish which Salesforce organization a request came from. This header is named “X-ECM-SF-ORG-ID”, and it’s value will contain the Salesforce organization Id.

Configuring OAuth authentication on the Content Services server deployed on WebSphere Liberty

The email address of the logged-on Salesforce user is used as part of the identity propagated to Content Services and the Content Platform Engine. To be able to access Content Services, the user’s email address must exist as the shortName attribute in the Content Platform Engine LDAP server for the user.

Installing the Salesforce SSL certificate on Content Services server

You install the SSL certificate that you generated on the SalesForce server on the Content Services server to establish a secure connection. You downloaded this certificate as part of Generating a new self-signed certificate.

To install the Salesforce SSL certificate:

1. Copy the SSL certificate that you downloaded from Salesforce to the overrides folder on your Content Services server that contains your trust store. For example:
   `/opt/ibm/wlp/output/defaultServer/configDropins/overrides`.
   Create a new trust store and import the certificate to the Content Services server by using a command similar to the following example:

   ```
   keytool -import -file Saleforce_Certificate_for_IBM_Content_Services.crt -
   alias Saleforce_Certificate_for_IBM_Content_Services -keystore
   graphqlTrustStore.p12 -storetype pkcs12
   ```

2. Because keytool lowercases certificate alias names, verify what your certificate is called after importing by using a command similar to the following:
   `keytool -list -keystore graphqlTrustStore.p12 -storetype pkcs12`

   Typical output for this command might be like the following example:

   ```
   Keystore type: PKCS12
   Keystore provider: SunJSSE
   ```

```
Your keystore contains 2 entries

default, Oct 14, 2019, PrivateKeyEntry,
Certificate fingerprint (SHA1):
BB:BB:4E:2F:62:4D:93:EC:29:3B:D3:3A:D2:84:53:40:FE:AE:E8:BC
saleforce_certificate_for_ibm_content_services, Nov 18,
2019, trustedCertEntry,
Certificate fingerprint (SHA1):
3D:42:08:D3:51:1B:86:05:65:C2:C6:A3:C3:E9:73:C3:8D:A0:14:5
```

Creating the Open ID Connect client configuration file

You configure your Content Services server as an Open ID Connect client by adding an oidc.xml configuration file to the overrides directory for your Liberty server.

To create the OIDC client configuration file:

1. Create a file called oidc.xml, using the following example contents, and save it to the ${server-config-dir}/configDropins/overrides folder for your Liberty server:

```
<?xml version='1.0' encoding='UTF-8'?>
<server>
    <featureManager>
        <feature>openidConnectClient-1.0</feature>
        <feature>transportSecurity-1.0</feature>
    </featureManager>

    <openidConnectClient
       id="IbmContentServices"

issuerIdentifier="3MVG9_XwsqeYoueKsnUYSJ4OcVmjZvYlP6nOCuXA4ZfmRuD2toaZ121BKU.tqddt0V41
7j.1YFkf9WC7i7BY8"
        trustStoreRef="graphqlTrustStore"
        trustAliasName="saleforce_certificate_for_ibm_content_services"
        realmName="localRealm"
        audiences="https://login.salesforce.com"
        inboundPropagation="required"
        httpsRequired="true"
       mapIdentityToRegistryUser="true"
        tokenReuse="true"
        isClientSideRedirectSupported="false"
        signatureAlgorithm="RS256"
        userIdentifier="sub"
        uniqueUserIdentifier="sub"
        userIdentityToCreateSubject="sub">
    </openidConnectClient>
    <keyStore id="graphqlTrustStore"
location="/opt/ibm/wlp/usr/servers/defaultServer/configDropins/overrides/graphqlTrustS
tore.p12" type="PKCS12" password="changeit" />

</server>
```

2. Update the following properties in the openidConnectClient stanza:

- **Id**: Must match the last part of the Callback URL defined on Salesforce in Creating a connected app, for example, https://cpe-cmis-dev.ibmbrsandbox.com:9444/oidcclient/redirect/IbmContentServices
- **issuerIdentifier**: The value for the Consumer Key that is defined on Salesforce in Creating a connected app.
- **trustStoreRef**: Trust store in which you imported the Salesforce SSL certificate of your Connected App in Installing the Salesforce SSL certificate on Content Services server.
- **trustAliasName**: SSL certificate alias of the Salesforce certificate you imported in Installing the Salesforce SSL certificate on Content Services server.
- **realmName**: Name of the Content Platform Engine LDAP realm that contains Salesforce user email addresses.

3. Add the keyStore stanza for the graphqlTrustStore into which you imported the Salesforce certificate.

Supporting Multiple Salesforce Organizations

If you need to connect multiple Salesforce organizations to the same FileNet domain, then multiple providers must be specified in the oidc.xml file. You will need to create multiple openidConnectClient elements, and specify a unique authFilter for each, to specify an HTML header which WebSphere Liberty can use to distinguish which IdP a request came from. The authFilter will use the X-ECM-SF-ORG-ID header mentioned above. Here is an example:

```
<authFilter id="authFilter1">
    <requestHeader
        id="sfOrg1"
        name="x-ecm-sf-org-id"
        value="00D5Y000001NHaw"
        matchType="contains" />
</authFilter>
```

For more details on this, see the “Support Multiple OpenId Connect Providers” section in the Liberty OpenId Connect documentation here:
https://openliberty.io/docs/22.0.0.2/reference/feature/openidConnectClient-1.0.html#filter

To find the Salesforce Organization ID:
1. From Setup, enter Information in quick Find box, then select Company Information
2. On the right page, lookup "Salesforce.com Organization ID" in the Organization Detail section.

Configuring OAuth authentication on the Content Services server deployed on traditional WebSphere Application Server (tWAS)

The email address of the logged-on Salesforce user is used as part of the identity propagated to Content Services and the Content Platform Engine. To be able to access Content Services, the user's email address must exist as the shortName attribute in the Content Platform Engine LDAP server for the user.

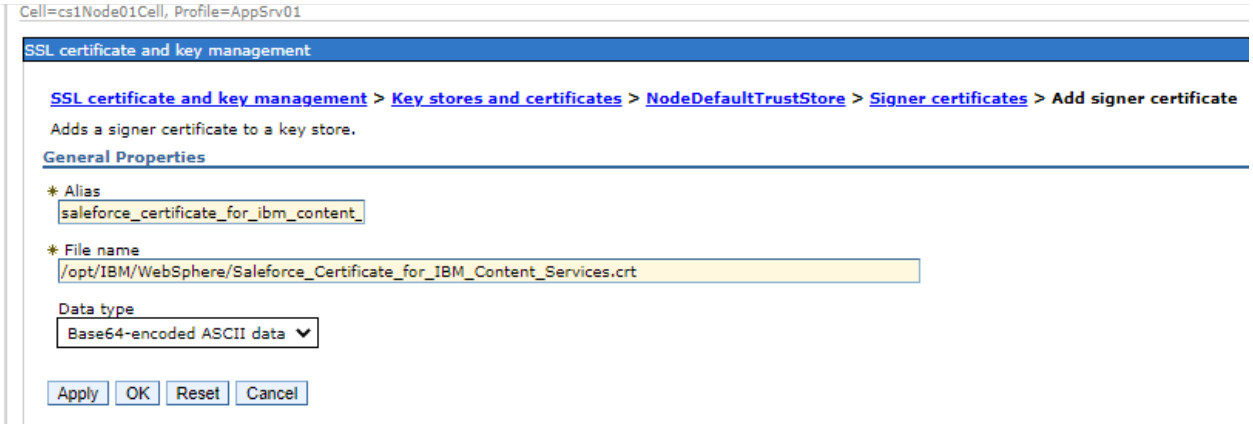
To install and configure the Content Services GraphQL API on a traditional WebSphere Application Server (tWAS) use the following documentation.
https://www.ibm.com/support/pages/node/6459811
Important Note: Do not follow the Configure OAuth/OIDC section in above documentation.

Installing the Salesforce SSL certificate on Content Services server

You install the SSL certificate that you generated on the Salesforce server on the Content Services server to establish a secure connection. You downloaded this certificate as part of Generating a new self-signed certificate.

To install the Salesforce SSL certificate:

1. Copy the SSL certificate that you downloaded from Salesforce to the /opt/IBM/WebSphere folder.
2. Login to tWAS administration console, navigate to Security > SSL certificate and key management. In the Related items section, click Key stores and certificates.
3. Click NodeDefaultTrustStore, in Additional Properties section, click Signer Certificates and click Add.
4. Enter Alias as saleforce_certificate_for_ibm_content_services and File name as shown below:



5. Click OK button and click save change to the master configuration.

Install the WebSphere OpenID Connect Application

Open the command or shell prompt on the WebSphere Application Server and install the WebSphereOIDCRP.ear.

```
cd <app_server_root>/bin (e.g. /opt/IBM/WebSphere/AppServer/bin)
```

To install on a single server

```
./wsadmin.sh -profileName AppSrv01 -f installOIDCRP.py install no
deName serverName
```

To install on a cluster environment

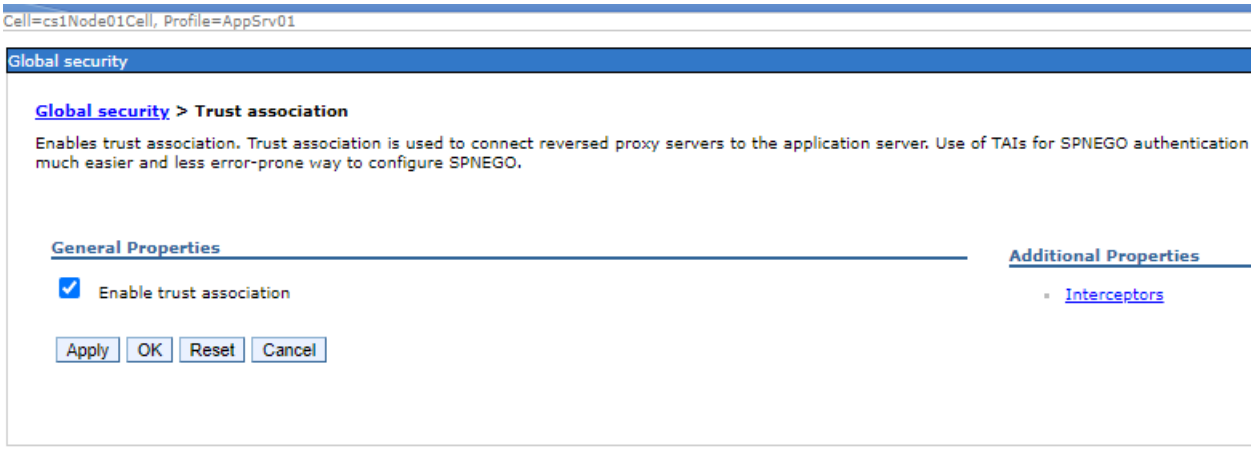
```
./wsadmin.sh -f installOIDCRP.py install clusterName
```

where:

- **AppSrv01** is the profile name of the target application server
- **nodeName** is the node name of the target application server
- **serverName** is the server name of the target application server
- **clusterName** is the name of the cluster on which OpenID Connect RP is to be installed

Configure OIDC Association Interceptor on Content Services

1. Navigate to Security > Global security > Authentication > Web and SIP security > Trust association
2. Select Enable trust association, click apply and save changes to master configuration.



3. Navigate to Security > Global security > Authentication > Web and SIP security > Trust association, click on Interceptor link, then click New and enter Class Name: **com.ibm.ws.security.oidc.client.RelyingParty**

In the custom properties, enter all the properties shown in following table:

Name	Value
provider_1.identifier	IbmContentServices
provider_1.signVerifyAlias	Saleforce_Certificate_for_IBM_Content_Services
provider_1.audiences	https://login.salesforce.com
provider_1.useRealm	<realm name from Global Security > Realm Name>
provider_1.interceptedPathFilter	/content-services-graphql.*
provider_1.userIdentifier	sub
provider_1.useJwtFromRequest	required
provider_1.uniqueUserIdentifier	sub
provider_1.httpsRequired	true
provider_1.mapIdentityToRegistryUser	true
provider_1.tokenReuse	true
provider_1.verifyIssuerInIat	true
provider_1.issuerIdentifier	<Consumer key from IBM FileNet Salesforce Connected App>
provider_1.headerName	Authorization

Refer to following link on details of these properties.
https://www.ibm.com/support/knowledgecenter/en/SSEQTP_9.0.5/com.ibm.websphere.base.doc/ae/csec_oidprop.html

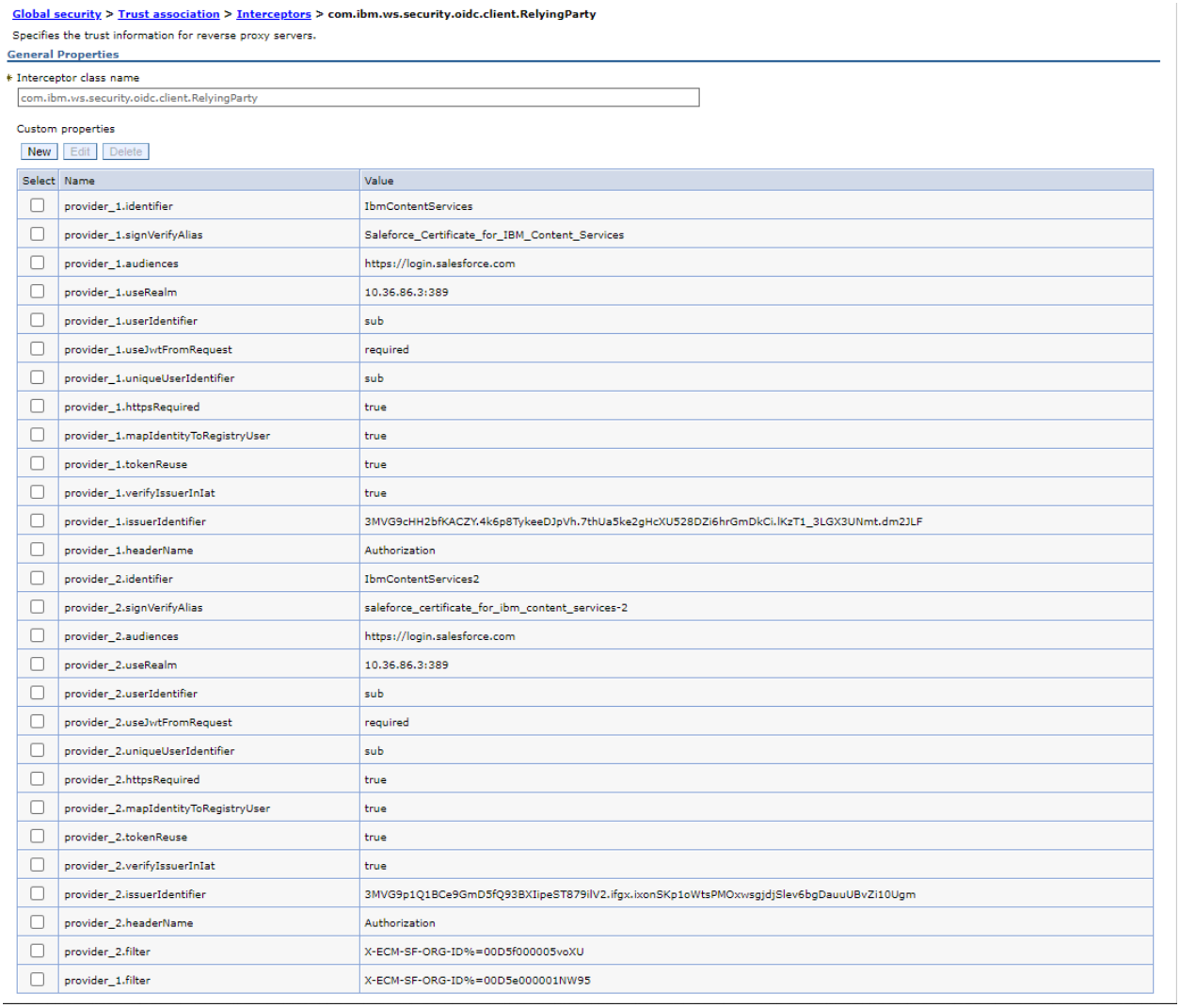
Supporting Multiple Salesforce Organizations

If support for multiple Salesforce organizations is needed, then each Salesforce organization will appear as a separate OAuth IdP, and therefore multiple OAuth providers must be configured. A

provider_2 section would be created to support a 2nd OAuth provide, specifying the properties needed to connect to the 2nd IdP. In this case, WebSphere needs to use a filter condition to determine which provider to use for an incoming request. The Salesforce connector will send an HTTP header named X-ECM-SF-ORG-ID for this purpose, where the value of this header is the name of the Salesforce organization. Each provider must set the value of this filter. For example: provider_1.X-ECM-SF-ORG-ID has value <Salesforce org Id>

To find the Salesforce Organization ID:
1. From Setup, enter Information in quick Find box, then select Company Information
2. On the right page, lookup "Salesforce.com Organization ID" in the Organization Detail section.

Refer to following link on the details of TAI filter:
https://www.ibm.com/docs/en/was/9.0.5?topic=swss-saml-web-single-sign-sso-trust-association-interceptor-tai-custom-properties#rwbs_samltaiproperties__samltaifilterprop



Global security > Trust association > Interceptors > com.ibm.ws.security.oidc.client.RelyingParty

Specifies the trust information for reverse proxy servers.

General Properties

* Interceptor class name

com.ibm.ws.security.oidc.client.RelyingParty

Custom properties

New | Edit | Delete

Select	Name	Value
☐	provider_1.identifier	IbmContentServices
☐	provider_1.signVerifyAlias	Saleforce_Certificate_for_IBM_Content_Services
☐	provider_1.audiences	https://login.salesforce.com
☐	provider_1.useRealm	10.36.86.3:389
☐	provider_1.userIdentifier	sub
☐	provider_1.useJwtFromRequest	required
☐	provider_1.uniqueUserIdentifier	sub
☐	provider_1.httpsRequired	true
☐	provider_1.mapIdentityToRegistryUser	true
☐	provider_1.tokenReuse	true
☐	provider_1.verifyIssuerInIat	true
☐	provider_1.issuerIdentifier	3MVG9cHH2bfKACZY.4k6p8TykeeDJpVh.7thUa5ke2gHcXU528DZi6hrGmDkCi.lKzT1_3LGX3UNmt.dm2JLF
☐	provider_1.headerName	Authorization
☐	provider_2.identifier	IbmContentServices2
☐	provider_2.signVerifyAlias	saleforce_certificate_for_ibm_content_services-2
☐	provider_2.audiences	https://login.salesforce.com
☐	provider_2.useRealm	10.36.86.3:389
☐	provider_2.userIdentifier	sub
☐	provider_2.useJwtFromRequest	required
☐	provider_2.uniqueUserIdentifier	sub
☐	provider_2.httpsRequired	true
☐	provider_2.mapIdentityToRegistryUser	true
☐	provider_2.tokenReuse	true
☐	provider_2.verifyIssuerInIat	true
☐	provider_2.issuerIdentifier	3MVG9p1Q1BCe9GmD5fQ93BXIipeST879ilV2.ifgx.ixonSKp1oWtsPMOxwsgjdjSlev6bgDauuUBvZi10Ugm
☐	provider_2.headerName	Authorization
☐	provider_2.filter	X-ECM-SF-ORG-ID%=00D5f000005voXU
☐	provider_1.filter	X-ECM-SF-ORG-ID%=00D5e000001NW95

Click Apply and save changes to master configuration.

4. Navigate to Security > Global security > Custom Properties

Click the New... button and define the following custom properties.

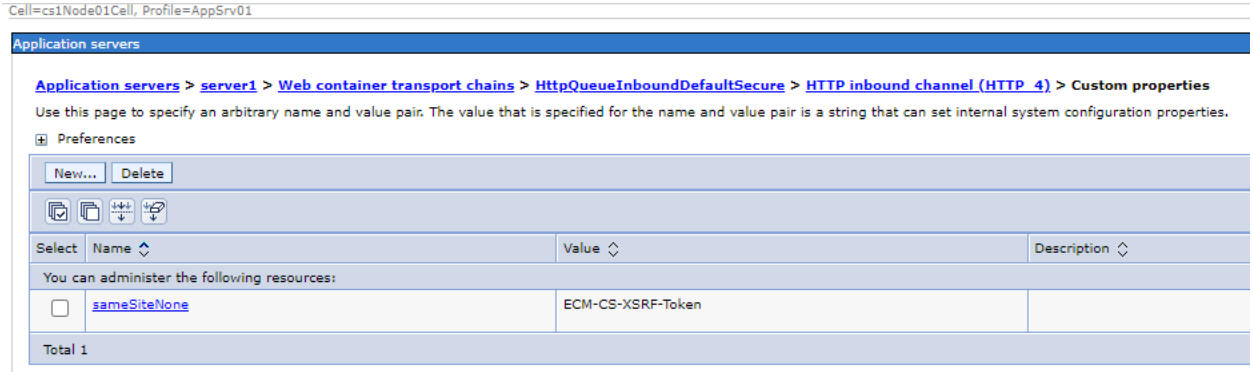
- Name: **com.ibm.websphere.security.InvokeTAIbeforeSSO**
- Value: **com.ibm.ws.security.oidc.client.RelyingParty**

Note: if property exists, add this to existing value, separated by a comma to create a list

- Name: **com.ibm.websphere.security.performTAIForUnprotectedURI**
- Value: **true**

Add support for the SAMESITE Cookie attribute

1. Navigate to Servers > Server Types > WebSphere application servers > <server>
2. In Container settings, open Web Container setting > Web container transport chains
3. Click on HttpQueueInboundDefaultSecure, click HTTP inbound channel (HTTP 4), click custom properties in Additional Properties section.
4. Click New… and enter Name = sameSiteNone and Value = ECM-CS-XSRF-Token, click OK and save changes to master configuration as shown below:



JVM Arguments

Verify the values of the following JVM arguments on the WebSphere Application server:

-Decm.content.remote.cpeuri=<CPE_SERVER_WEB_SERVICE_ENDPOINT_URL>

-Dcom.filenet.authentication.wsi.AuthTokenOrder=ltpa,oauth

-Dcom.filenet.authentication.wsi.AutoDetectAuthToken=true

-Decm.content.graphql.xsrf.validate.disable=FALSE

-Decm.content.graphql.disable.xsrf.validation.for.ping=true

-Dcom.ibm.ecm.content.graphql.enable.graphiql=false

-Dcom.ibm.ecm.content.graphql.enable.graphiql=FALSE

-Decm.content.graphql.cors.enable=true

-Decm.content.graphql.cors.origin.url= https://<Salesforce_Org_URL>

-Decm.content.graphql.cors.allow.methods=GET,POST,OPTIONS,PUT,DELETE,HEAD

-Decm.content.graphql.cors.allow.credentials.boolean=true

-Decm.content.graphql.cors.allow.headers=Connection,Authorization,Pragma,Cache-Control,Navigator-Client-Build,ECM-CS-XSRF-Token,XSRFtoken,Origin,User-Agent,Content-Type,Content-Length,Navigator-Client-Identity,Accept-Control-Request-Method,Accept-Control-Request-Headers,Accept,Referer,Accept-Encoding,Accept-Language,DNT,Host,Content-Length,Cache-control,Cookie,Access-Control-Allow-Origin, X-ECM-SF-ORG-ID

-Decm.content.graphql.cors.expose.headers=Content-Disposition,Content-Length,ECM-CS-XSRF-Token,Content_Type,Content-Language,X-Powered-By,Date,Allow,Transfer-Encoding,$WSEP,DNT,Access-Control-Allow-Credentials,Access-Control-Allow-Headers,Access-Control-Allow-Max-Age,Access-Control-Allow-Methods,Access-Control-Allow-Origin,Access-Control-Expose-Headers,Connection,Cache-control,Cookie,x-content-download,X-ECM-SF-ORG-ID

-Decm.content.graphql.cors.max.age.seconds=86400

Configuring basic authentication

You can configure the IBM FileNet Connector for Salesforce to connect to the IBM Content Services GraphQL API using the BasicAuth protocol. This method is recommended only for development and test environments. For production environments, it is recommended to use the OAuth mechanism as described in the previous section.

Configuring a Salesforce Named Credential for the FileNet server

The IBM FileNet Salesforce Connector requires a Salesforce Named Credential to control authentication options for calls to the remote IBM Content Services GraphQL API.

To configure the connector for authentication through BasicAuth:

1. From **Setup**, enter Named Credentials in the Quick Find box, then select **Named Credentials**.
2. Click **New Named Credential**, or click **Edit** to modify an existing named credential.
3. Enter the following fields:
   - **Label**: IBM FileNet Credential
   - **Name**: IBMFileNetCredential
   - **URL**: The URL of your IBM Content Services GraphQL API server
   - **Identity Type**: Per User
   - **Authentication Protocol**: No Authentication
   - Take the defaults in the **Callout Options** section
4. Click **Save**.

Each user must configure their username and password credentials for the FileNet environment in their user profile, as described in a later section. For further details, see the following Salesforce documentation topic:
https://help.salesforce.com/articleView?id=named_credentials_about.htm&type=5

Configuring Salesforce users who can use the Named Credential to authenticate

When using BasicAuth, users must reference the **IBMFileNetCredential** Named Credential directly from their profiles. This approach requires that they have access to the Named Credential. There are two options to complete this step, depending on whether you want all users to be able to use the connector, or only certain users.

Option 1: Allow access for all users in the Salesforce Organization (Recommended)

If you want all Salesforce users within an organization to have non-administrative access to the IBM FileNet Salesforce connector, add the Named Credential that was created in a previous step to the Standard Profile for the organization (or the user profile of your choice).

1. In **Setup**, go to **Profiles**.
2. Select the **Standard User** profile (or the user profile of your choice).
3. Click **Enable Named Credential Access URL**.
4. Click **Edit** for **Enable Named Credential Access**.
5. Add the **IBMFileNetCredential** Named Credential to the list of Enabled Named Credentials.
6. Click **Save**.

Option 2: Allow access for a subset of Salesforce Organization users

If you only want a subset of your users to have access, then you must create a third Permission Set in addition to the two that were created automatically when the app was installed. Use the following steps to configure this access.

1. In the **Setup** menu, go to **Administration > Users**, and select **Permission Sets**.
2. Click **New** to create a new Permission Set
3. For **Label**, enter IBM FileNet Named Credential
4. For **API Name**, enter IBM_FileNet_Named_Credential
5. Leave the **Session Activation Required** checkbox unchecked.
6. Leave the **License** dropdown set to Salesforce
7. Click **Save** to save the Permission Set.
8. In the Apps section for the Permission Set that you just created, click on **Named Credential Access**.
9. Click **Edit**.
10. In the **Available Named Credentials** list, select the **IBMFileNetCredential** Named Credential and move it to the **Enabled Named Credentials List**.
11. Click **Save** to save your changes.
12. On the Permission set screen, click **Manage Assignments**.
13. Select the user or users that you want to add to the permission set (or unselect users who you would like to remove from the permission set), and click **Assign**.
14. Click **Save** to save your changes.

Configuring IBM FileNet Salesforce Connector authentication – per user

If the IBM Salesforce Connector app is configured to use Basic Auth, each user must add the Named Credential **IBMFileNetCredential** to their individual profile and specify their credentials for the FileNet environment. Any user who needs access to FileNet documents must perform the following steps.

To configure authentication as an end user:

1. Navigate to your user profile in Salesforce.
2. Click **Settings**.
3. Go to **Authentication Settings for External Systems**.
4. Click **Add** to add a new Named Credential.
5. Set **External System Definition** to “Named Credential”.
6. Set **Named Credential** to “IBMFileNetCredential”.
7. If the BasicAuth option was chosen to configure authentication to the IBM Content Services GraphQL API, then:
    a. Set **Authentication Protocol** to “Password Authentication”
    b. Enter the username for the IBM FileNet domain in the **Username** field.
    c. Enter the password for the IBM FileNet domain in the password field.

Uninstalling the IBM FileNet Salesforce Connector app

You can remove the installed package. When a package is removed, all the components within that package are also removed.

Note: When a Salesforce standard object has a reference to the package component, for example, assigned users to a Permission Set, Salesforce prevents you from uninstalling the package. You must delete those references first before you uninstall the package.

To remove the app from your organization:

1. From the **Setup** menu, go to **Permission Sets**, and remove all users from the **IBM FileNet Users** permission set. Do the same for the **IBM FileNet Admins** permission set. These permission set users must be removed before the app can be uninstalled.
2. Go to the page layouts where the IBM Document List widget was previously added, and remove the IBM Document List lightning component from each of these pages. These document list components must also be removed before the app can be uninstalled.
3. From the **Setup** menu, go to **Installed Packages**. Select the **Uninstall** action for the IBM FileNet Salesforce Connector package.
4. Scroll to the bottom and check the checkbox to confirm that you want to uninstall the package and permanently delete its components, and click **Uninstall** to complete the action.
5. From the **Setup** menu, go to the **CSP Trusted Sites** page, and delete the site that was created for the IBM Content Services GraphQL endpoint.
6. From the **Setup** menu, go to the **CORS** page, and delete the whitelisted origin for the IBM Content Service GraphQL endpoint.
7. From the **Setup** menu, go to the **Named Credentials** page, and delete the **ecmcred** named credential.
8. For each user, from User Settings, remove the **ecmcred** Named Credential from the user profile.

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