IBM Cloud Pak for Business Automation Demos and Labs 2025

Introduction to Business Automation Navigator in Cloud Pak for Business Automation

V 1.0 (for CP4BA 25.0.0)

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Table of Contents

1 Introduction

1.1 Business Automation Navigator

IBM Business Automation Navigator[1] (BAN) is a feature-rich, browser-based interface where you can work with the business applications you need to complete your tasks.

BAN is originally targeting users who work with the IBM Content Service capabilities. It integrates searching, browsing, working with documents like viewing, or checking documents in and out of content repositories, and provides integration with Microsoft Office applications.

In addition, to the extensive content management related capabilities, access to the Case client, business applications, dashboards, custom plug-ins, and more can be configured.

BAN uses the concept of desktops. These desktops can be configured very flexibly, any number of them may be created. Thus, BAN can easily be configured to support different use cases and user groups.

1.2 Lab Overview

This lab demonstrates how to use BAN as part of Cloud Pak for Business Automation. It focuses mostly on the Content Services-centric capabilities including the MS Office integration. The use cases shown are generic. Most applications will utilize one or more of the concepts demonstrated in the exercises.

Exercise "Creating Entry Templates for Managing Documents and Folders" demonstrates how to define Entry Templates, and how users can streamline their work and control how documents are managed in the repository by defining the location, document class, property values, etc.

Exercise "Adding Documents using Entry Templates" shows how to add documents into a repository using the entry template created in the previous exercise.

Exercise "External Data Services (EDS)". EDS help to access external data whenever the business user invokes a service through the web client. This exercise demonstrates one of the many use cases for EDS: how to validate properties while adding a document.

Exercise "Search Content and Simple Search" illustrates two ways of how to search for content that is stored in repositories. It demonstrates how the searches can be adapted to user needs and that those searches can be saved into FileNet P8 repositories for later reuse.

Exercise "Creating Favorites" describes how to create favorites. Favorites allow users to quickly find items that they work with frequently.

Exercise "Content Redaction using IBM Daeja Viewer" explains how business users can hide parts of a document, e.g., to hide sensitive information for users without a need to know. The exercise also demonstrates how users can save a document with redactions and how to use the merge & split feature.

Exercise "**Edit Service client feature with local Microsoft Office Apps**" demonstrates how to download, install, and configure the Edit Service client feature, and use it with the user's Navigator desktop and their locally installed Microsoft Office apps.

1.3 General Lab Instructions

_1. If you are performing this lab as a part of an IBM event, access the document that lists the available systems and URLs along with login instructions. For this lab, you will need to access the **ICN desktop**. It is recommended to store the URL as a bookmark, so you can refer to it easily.

[1] Business Automation Navigator (BAN) in Cloud Pak for Business Automation (CP4BA) or IBM Content Navigator (ICN) in traditional deployments both refer to the same product with slightly different configurations. Throughout the lab guide, mostly the general term IBM Navigator is used.

_2. Please download all the sample documents from the **Lab Data** folder. They will be used for the Adding, Searching, and the Merge & Split documents exercises.

_3. Obtain a username and the password for the lab. Note the password, you will require it multiple times.

Throughout the lab document various screenshots show the name of the object store being used as “content” (all lowercase). Depending on the environment you are using, the object store might have a slightly different name such as “CONTENT” (all upper-case), or “CONTENTrepo”. This has no implications on any of the steps in the lab document.

> In the lab instructions there are sections marked with a grey bar on the left side, like this one. In these sections, additional explanations are given. For example, about concepts and additional features.

2 Exercise: Creating Entry Templates for Managing Documents and Folders

2.1 Introduction

Entry Templates are created in an IBM Navigator desktop, typically by a relatively small set of users such as managers, supervisors etc. and are used by a much larger number of users, typically clerks etc. Some of the key capabilities of entry templates and advantages of using them are as follow:

- Documents, folders, form data, and custom objects can be created with entry templates.
- Users who are not administrators can create entry templates. For example, a project manager can create the entry templates used by the project team.
- Entry templates support records management by providing a simplified and customizable method of declaring a document as a record.
- Entry templates can specify the folder in which the object will be filed, can either prevent or allow the user to change the folder, and can restrict the user to select a particular folder or its subfolders.
- The layout and order of the properties, including default property values, can be specified in an entry template, and the template designer can select to show or hide each property to users of the template.
- Entry templates can specify whether a document can be added as a major or minor version and can specify whether a user can change this setting.
- Entry templates predefine the document or folder class of a document uploaded, or folder created, thereby making sure users select the right one for a specific task.
- Entry templates can specify the access rights for the object, and the designer can elect to hide or show the access rights for the user to modify.
- Entry templates can serve as placeholders for documents that a user provides while processing a FileNet P8 workflow step. When the user clicks the entry template in a workflow step processor, the entry template wizard prompts the user to add a document and the new document replaces the entry template attachment.
- Folders can be configured with an allowed set of entry templates to further assist a user to select the correct entry template for a specific folder.
- Dependent properties can be specified too using Entry templates and EDS. For example, user can set up Region and Branch Office choice lists properties to the entry templates. When the user selects a different region, the Branch Office list is cleared and populated by a different list of branch offices using EDS.

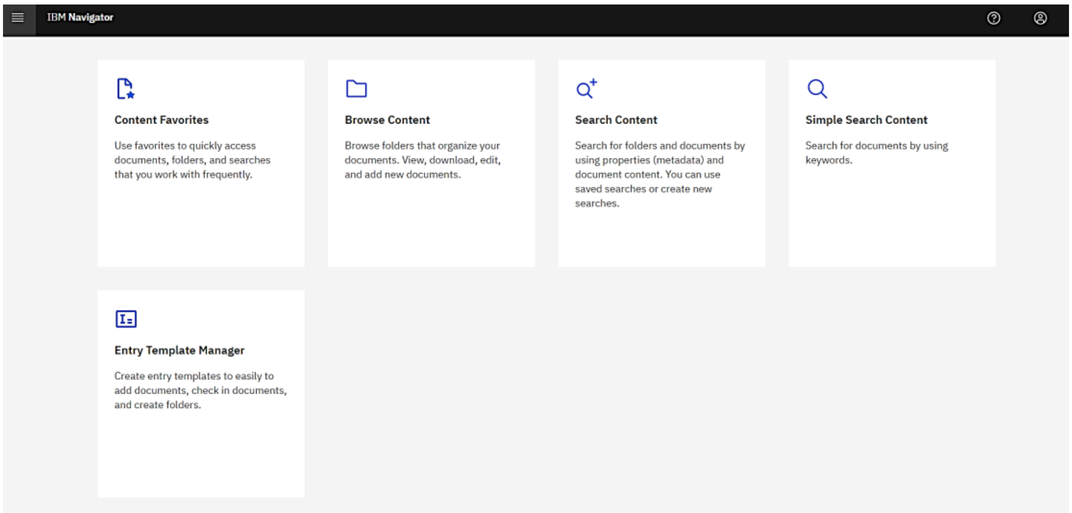
2.2 Exercise Instructions

This exercise is designed based on the “Client Document” document class and its properties “Document Title”, “Client Name” and “Reference ID” which are part of the Client Onboarding solution. For instructions on how to create custom document classes and their properties in the FileNet Content Engine Administrative Console (ACCE) to use when creating entry templates, please refer the Content lab 1 “Setting up FileNet Content Platform Engine for Automation Projects on Cloud Pak for Business Automation”.

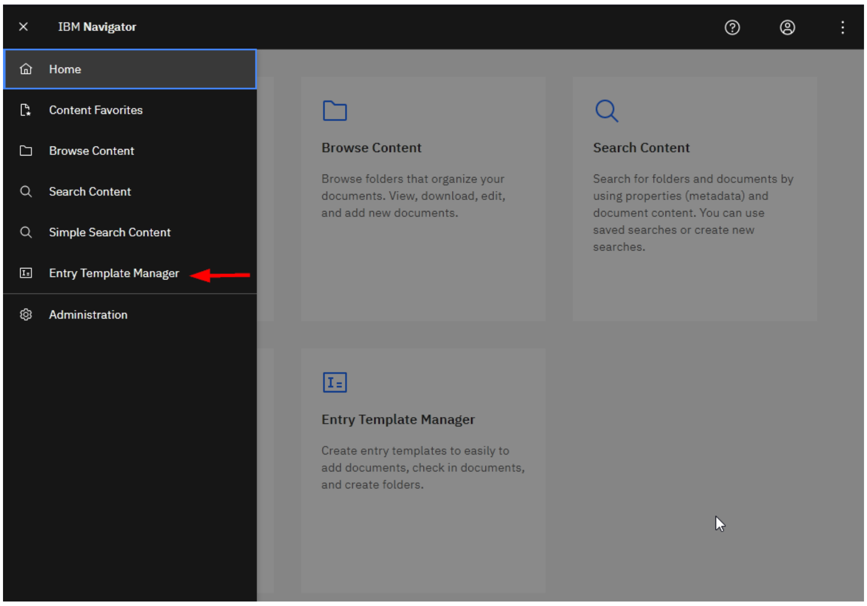
2.2.1 Creating Entry Templates to Manage Folders

_1. Open the browser and navigate to the IBM Navigator desktop by using the **ICN Lab URL** provided to you. Log in using the username and the password which you obtained before.

Once logged in to the desktop, your home page/desktop should be shown like below.

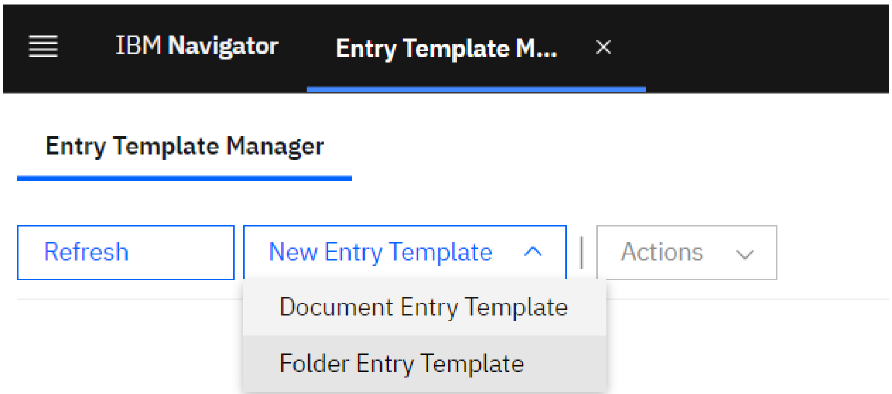


_2. **Click** on the **Home menu/hamburger icon** in the top left corner next to IBM Navigator. The navigation pane displays the features available in the desktop as shown below. Click on either the last entry **Entry Template Manager**[2] of the navigation pane or the **Entry Template Manager** tile on the desktop itself.

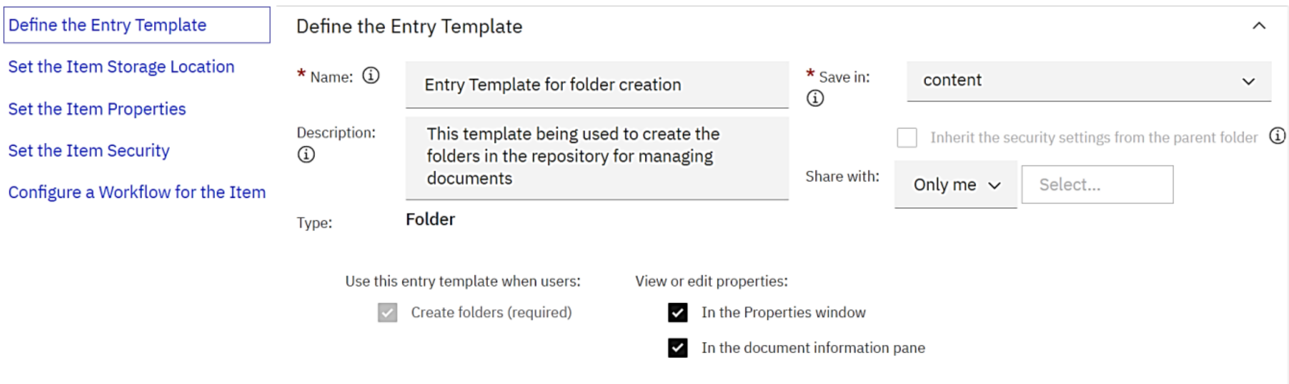


[2] You will only see the “Administration” item at the bottom of the list if the user you are using has administrator access.

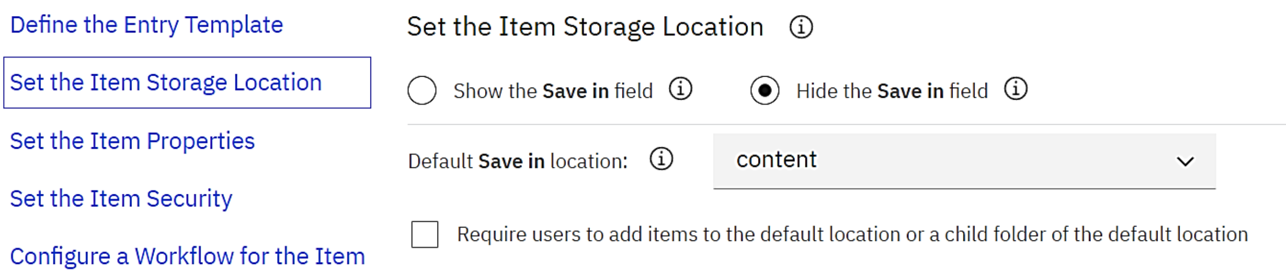
_3. Select **Folder Entry Template** from the **New Entry Template** dropdown menu as shown below.



_4. In the section **Define the Entry Template**, provide a **Name** and **Description** of the folder entry template. For example, enter "**Entry Template for folder creation**" as name or you can also include your lab user id in the name field like “**userxx Entry Template for folder creation**” to identify your template from another user in the multi-user environment. And make sure to keep "**Shared with**" set to "**Only me**" to not interfere with other participants in a multi-user environment.[3]

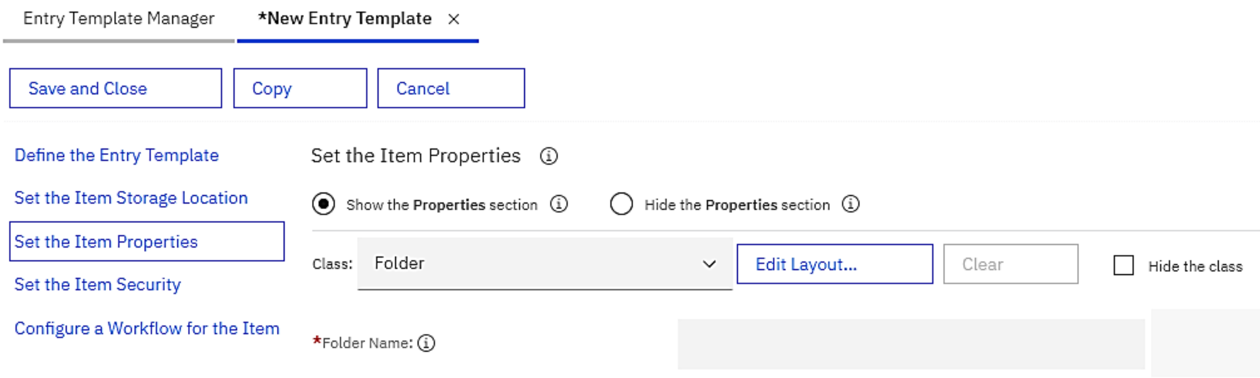


_5. In the section **Set the Item Storage Location**, select the **Hide the Save in field** radio button and keep the remaining two options unchanged.



[3] The value shown in the screenshots for the “Save in“-dropdown and for the “Default Save in location” may differ as pointed out before in section “1.3 General Lab Instructions” from the value you see. The value is the name of the object store which depends on the setup of the environment you are using.

_6. No changes are required in the **Set the Item Properties** section. Note that in this section, different folder classes and properties can be configured.



_7. In the section **Set the Item Security**, you need to modify both the members of the **Owner** and **Reader** section. Depending on the environment you are working in, that may require a different set of changes:

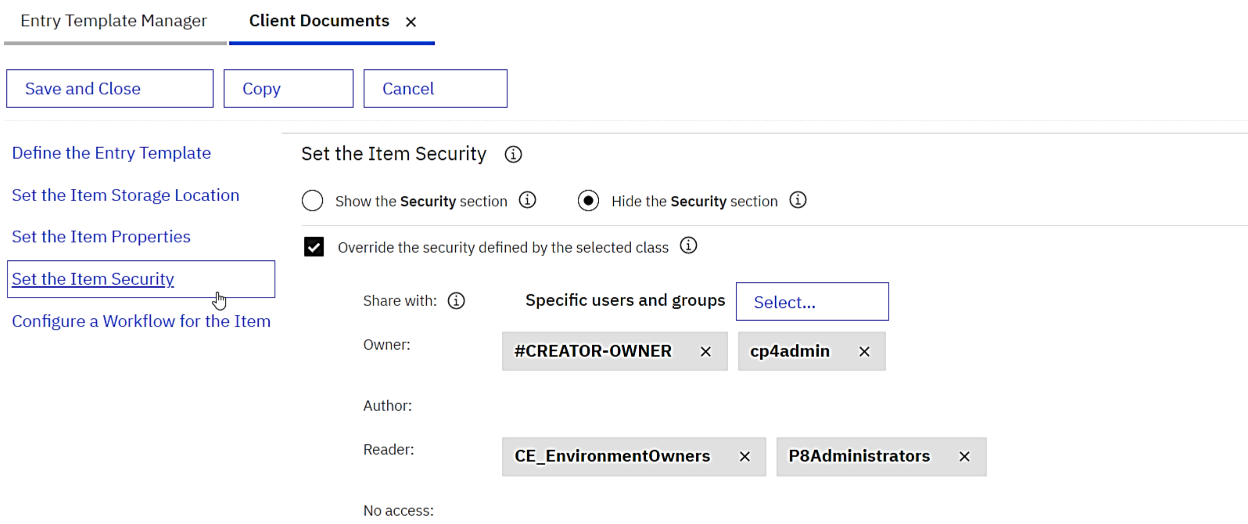
- For the **Owner** section the goal is to have only **#CREATOR-OWNER** and the **administrative user** (this will be **cp4admin**, **cp4badmin, or cpadmin**) listed and remove all other entries like the group **GeneralUsers** by clicking the small x at the right of the name.

Ensure you have removed **GeneralUsers** group, and your access list looks like the one in the screenshot below.

- For the **Reader** section the goal is to have only the groups **CE_EnvironmentOwners** and **P8Administrators** listed.
  Remove the **Authenticated users** entry by clicking the small **x** again. In case **Authenticated users** is the only entry listed as **Reader** click on the **Select...** button, search for the groups **CE_EnvironmentOwners** and **P8Administrators** and move each of them to the list of selected items, select **Reader** in the **Permissions** dropdown list in the lower right corner of the dialog, before clicking the **Add** button.

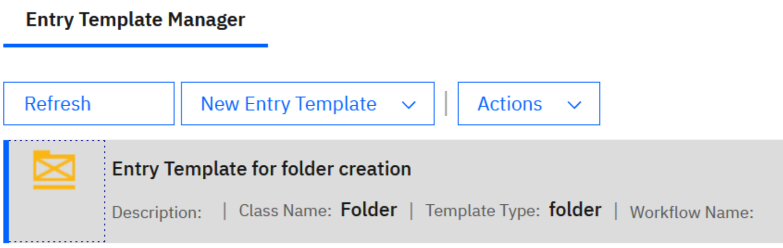
This way, folders created with this entry template will only be visible for members of the administrator groups and the user creating it plus the named administrative user are owners.

Select the **Hide the Security section** radio button to configure to hide the security section from the entry template while creating folders.

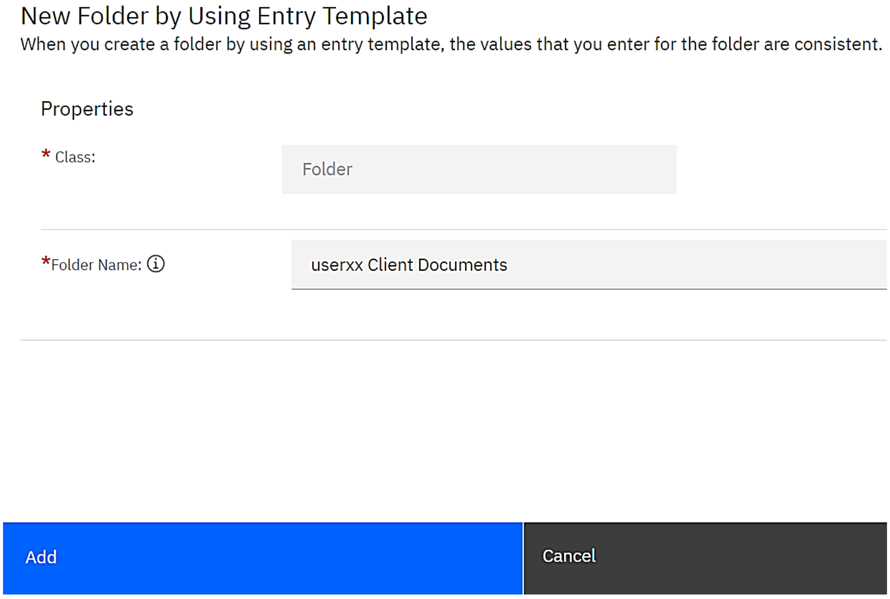


_8. Click the **Save and Close** button.

The entry template is now shown in the Entry Template Manager list and is ready for creating folders in the repository **content**. When you right-click on the entry template, some of the key options are Copy, Open, and Edit.



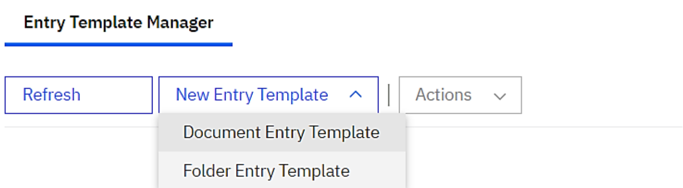
_9. Click on the entry template. In the popup window, enter **userxx Client Documents** (replacing userxx with your username) as **Folder Name** and click **Add**. Your new folder will be created in the root of the repository content.



2.2.2 Creating Entry Templates to Manage Documents

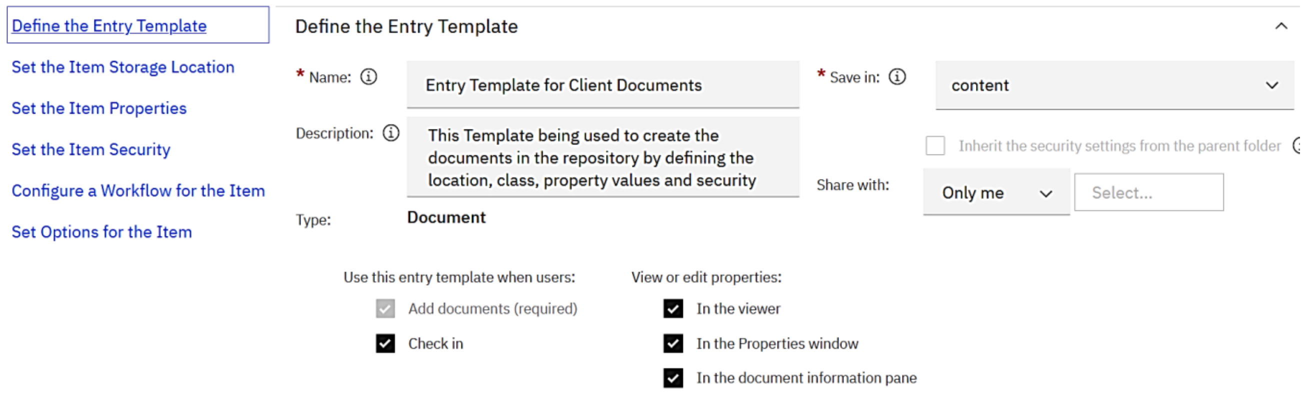
The **Document Entry Template** is created in the same way as you created the Folder Entry Template in the previous section.

_1. Click on **New Entry Template** and then select **Document Entry Template** as shown below.



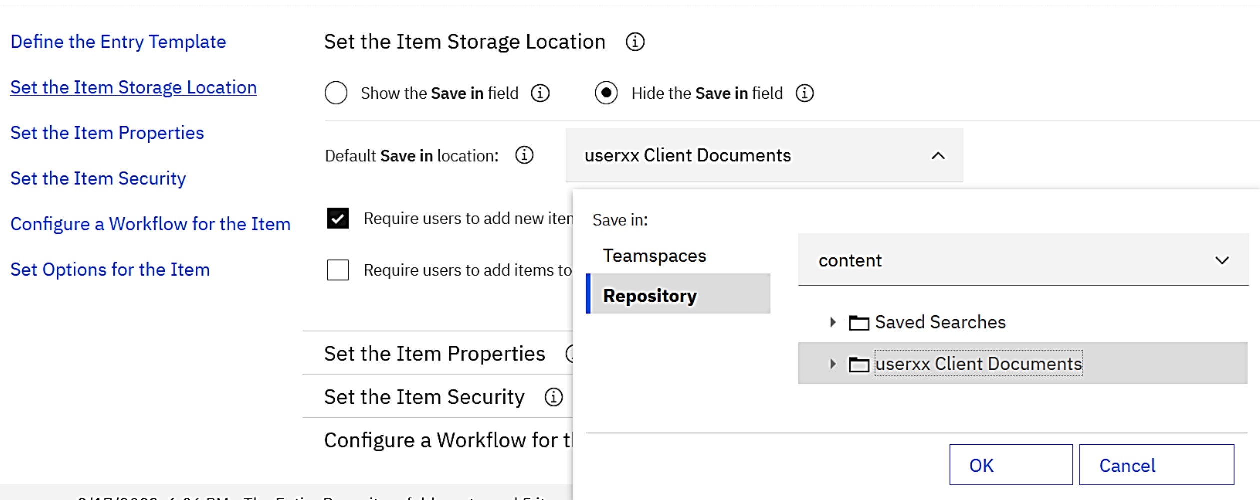
> Below screenshot shows different sections in blue color on the left side menu in the new Document Entry Template dialog. Each section has mandatory fields which need to be completed for the entry template creation.

_2. In the section **Define the Entry Template**, provide a **Name** and **Description** for the document entry template. For example, enter **Entry Template for Client Documents** or you can also include your lab user id in the name field like **userxx Entry Template for Client Documents** to identify your template from another user in the multi-user environment. And make sure to keep "**Shared with**" set to "**Only me**" to not interfere with other participants in a multi-user environment.

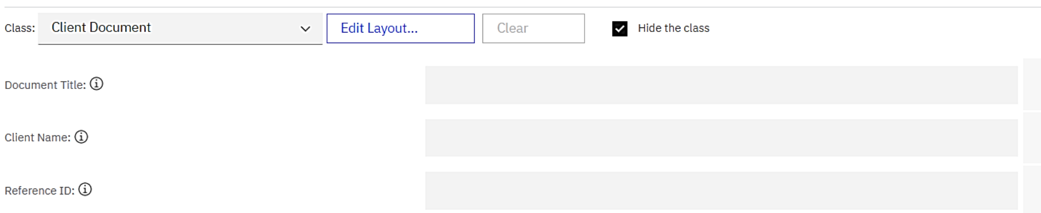


Note: The entry template security is set up to share the entry template only with the user defining it.

_3. In the section **Set the Item Storage Location**, from the dropdown menu select the **userxx Client Documents** folder you previously created to store the documents. To hide the save in field from the users who want to use this entry template for adding documents, check the **Hide the Save in field** radio button as shown below.



_4. In the section **Set the Item Properties**, select the document class **Client Document** from the dropdown menu. This Client Document class and its properties are created as part of Client Onboarding solution. For more information on how to create a new document class and properties, please refer the Content lab 1 “Setting up FileNet Content Platform Engine for Automation Projects on Cloud Pak for Business Automation”. Check the **Hide the class** checkbox as shown below to hide the class name from the user.



By clicking the **Edit Layout...** button, the layout of the property fields, and their labels can be configured according to the needs. Optionally, the layout of the entry template can be adapted here. If this is done, please note that each entry field has a set of properties, which influence the layout and the behavior, when modified.

For the fields to show up nicely, it’s recommended to set their width to 80% of the window width.

_5. In the section **Set the Item Security**, the security settings for the created documents can be specified. The default settings shown for the new entry template come from the document class's default instance security, which were configured in the section *Updating the default Instance Security* in the Content lab 1 "Setting up FileNet Content Platform Engine for Automation Projects on Cloud Pak for Business Automation".

You need to again modify both the members of the **Owner** and **Reader** section. Depending on the environment you are working in, that may require a different set of changes:

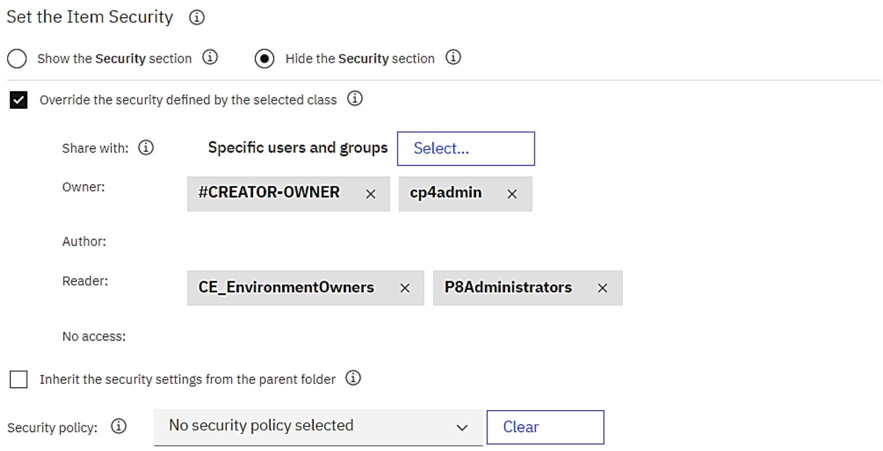
- For the **Owner** section the goal is to have only **#CREATOR-OWNER** and the **administrative user** (this will either **cp4admin, cp4badmin,** or **cpadmin**) listed and remove all other entries like the group **GeneralUsers** by clicking the small **x** at the right of the name.

Ensure you have removed **GeneralUsers** group, and your access list looks like the one in the screenshot below.

- For the **Reader** section the goal is to have only the groups **CE_EnvironmentOwners** and **P8Administrators** listed.
  Remove the **Authenticated users** entry by clicking the small **x** again. In case **Authenticated users** is the only entry listed as Reader click on the **Select...** button, search for the groups **CE_EnvironmentOwners** and **P8Administrators** and move each of them to the list of selected items, select **Reader** in the **Permissions** dropdown list in the lower right corner of the dialog, before clicking the **Add** button.

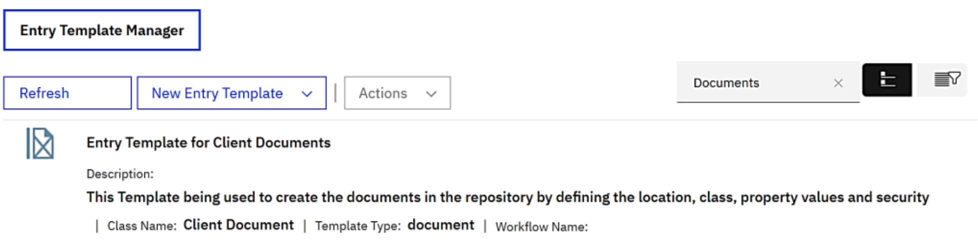
As the Owner field includes *#CREATOR-OWNER*, the user who adds the documents will automatically get owner access to the created documents.

Select the **Hide the Security section** radio button to configure to hide the security section from the entry template while adding documents.



> Note that also Security Templates and Security Inheritance can be configured. Security Templates can assign different security settings to different lifecycle stages of the document. With it, a user checking out a document can for example get elevated security on the document. Interested readers are referred to https://www.ibm.com/docs/en/filenet-p8-platform/5.7.0?topic=policies-about-templates for details.

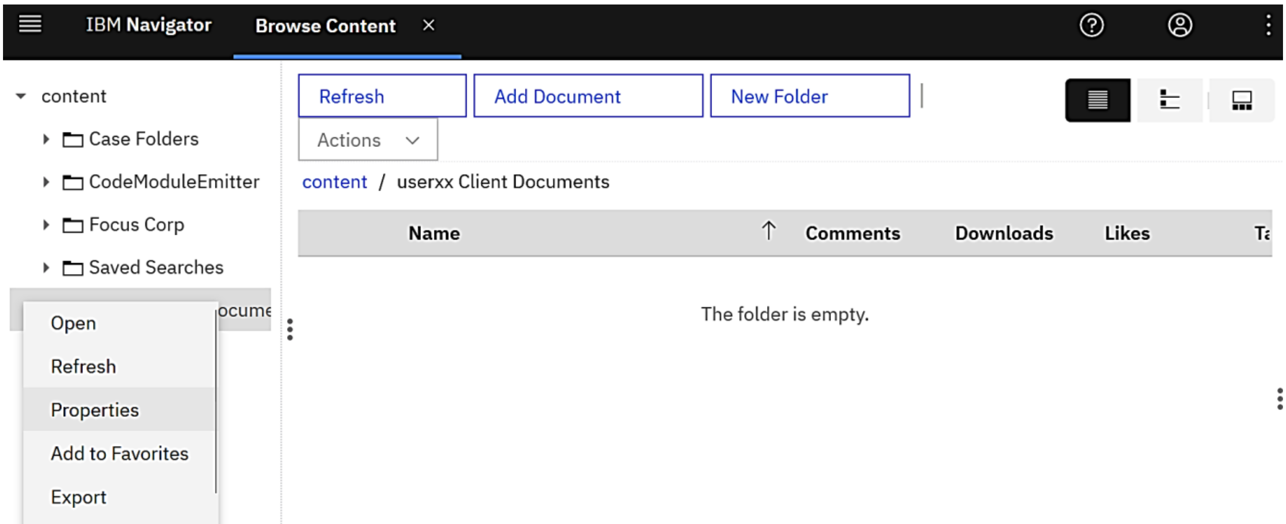
_6. Leave all other settings as is and click the **Save and Close** button. The new document entry template is now listed in the list of templates for the Entry Template Manager.



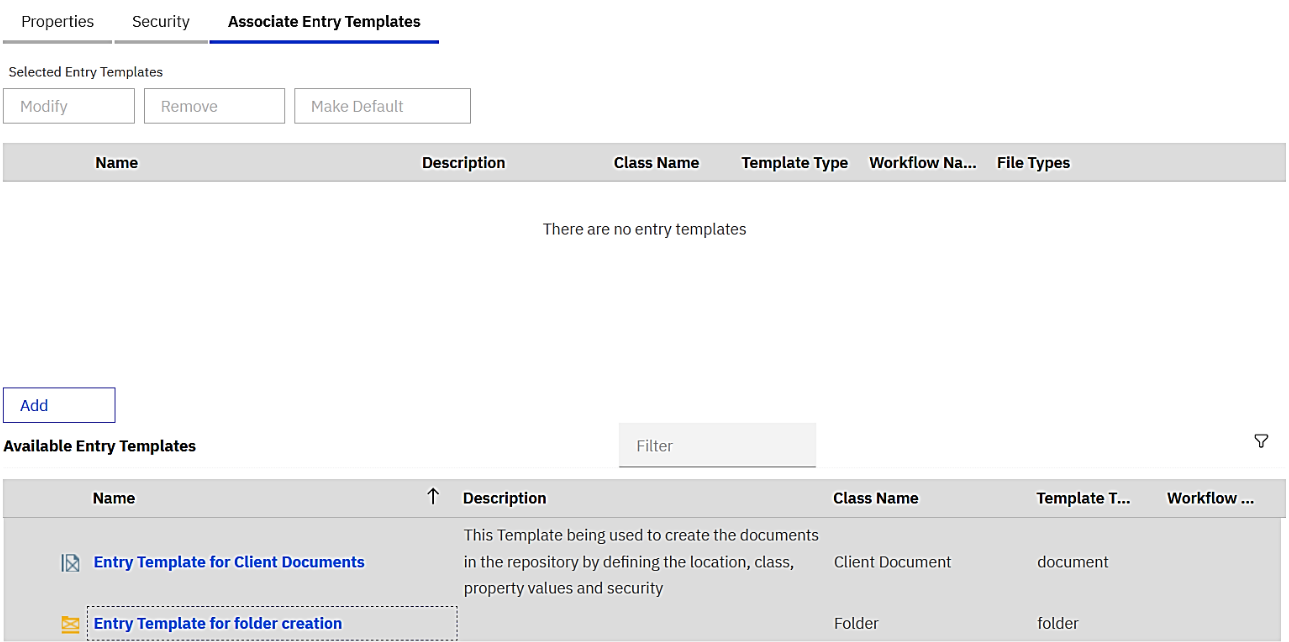
2.2.3 Associate Entry Templates with Folders

Associating entry templates with a folder allows to preconfigure how documents and folders can be added to this folder. Valid options are preconfigured in the entry templates for document and folder classes, security settings, property values, etc., and can even be hidden to avoid misconfiguration. With entry templates specified, the user interface of IBM Navigator can even be configured to disallow any other way to create documents and folders.

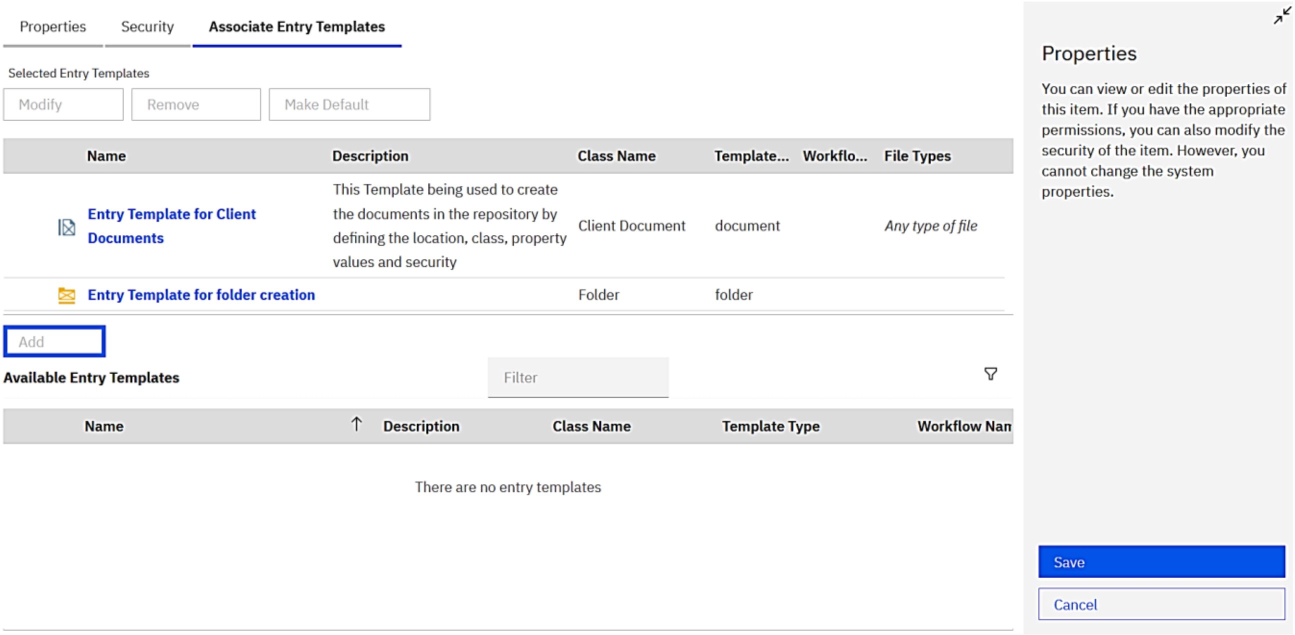
_1. Click on **Browse Content** in the home menu or the **Browse Content** desktop tile. Select the folder which **userxx Client Documents** you created using your folder entry template in the previous exercise. Right-click and open the **Properties** dialog for the folder.



On the **Associate Entry Templates** tab, you can select from the available entry templates which you created in the previous section.



_2. Press the **Shift-key** on the keyboard, then click on each entry template once to select both. Then click the **Add** button to add them to the list of entry templates associated with the folder. Click **Save**.



3 Exercise: Adding Documents using Entry Templates

3.1 Introduction

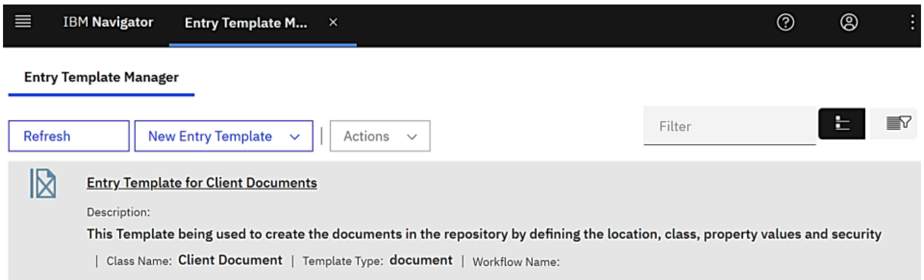
Using entry templates for adding documents to a repository has several advantages. By preconfiguring configuration information such as property values, security information or the document class, users don't need to provide this data again and again for every document, thereby saving time, and avoiding errors. Hiding sections of the entry template furthermore makes sure that the intended configuration is not changed accidentally. Finally, property values of added documents or folders can be arranged nicely making it easier to add the data in some useful order.

3.2 Exercise Instructions

This section shows how to add documents for the Client Document class. Two possibilities are shown, the first one will directly invoke the entry template to add a document, the second one uses it implicitly by adding a document to the *userxx Client Documents* folder, utilizing the fact that an entry template was associated with this folder.

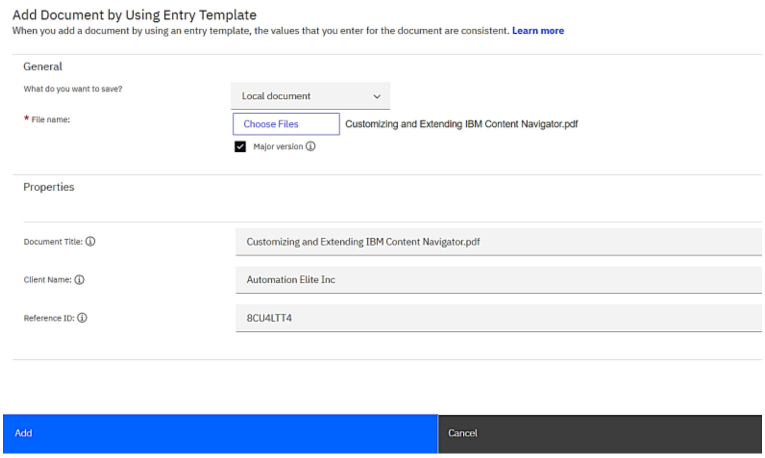
_1. In your browser, download the Redbook **Customizing and Extending IBM Content Navigator** and from this URL: https://www.redbooks.ibm.com/redbooks/pdfs/sg248055.pdf and rename the downloaded file to **Customizing and Extending IBM Content Navigator.pdf**. Note that this file and filename is used in the below exercises. Also make sure you have downloaded the documents from the **Lab Data** folder.

_2. From the Home menu, choose the **Entry Template Manager**. Click on the entry template **Entry Template for Client Documents** which you created in an earlier exercise of this lab, to start adding a document using that entry template.

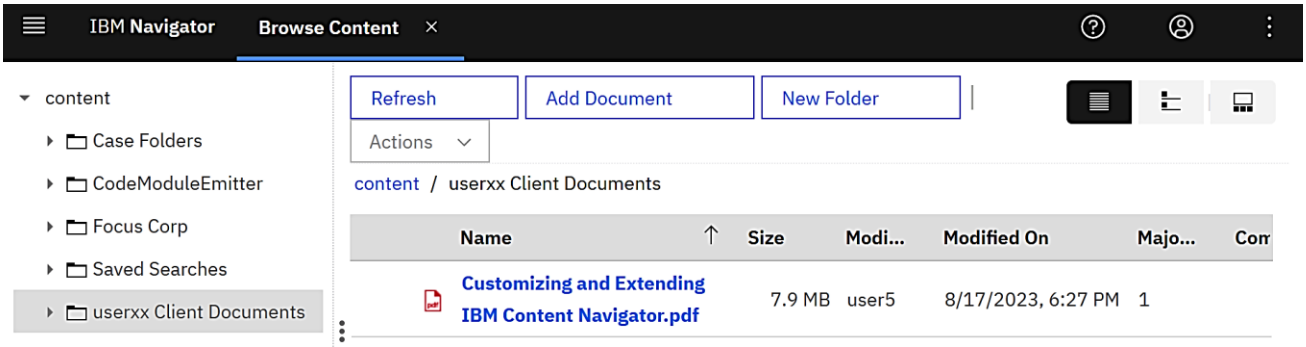


_3. Choose the file downloaded in step 1. In case you saved the downloaded file as **Customizing and Extending IBM Content Navigator.pdf** keep the **Document Title** as the derived value, otherwise set the document title to that value. The title is used later in the search-related exercises. Specify a **Client Name** and **Reference ID** and click the **Add** button.

> Note that the Reference ID property allows alphanumerical values. How to implement property validations and load the property data with external data services (EDS) is discussed in the EDS exercise.

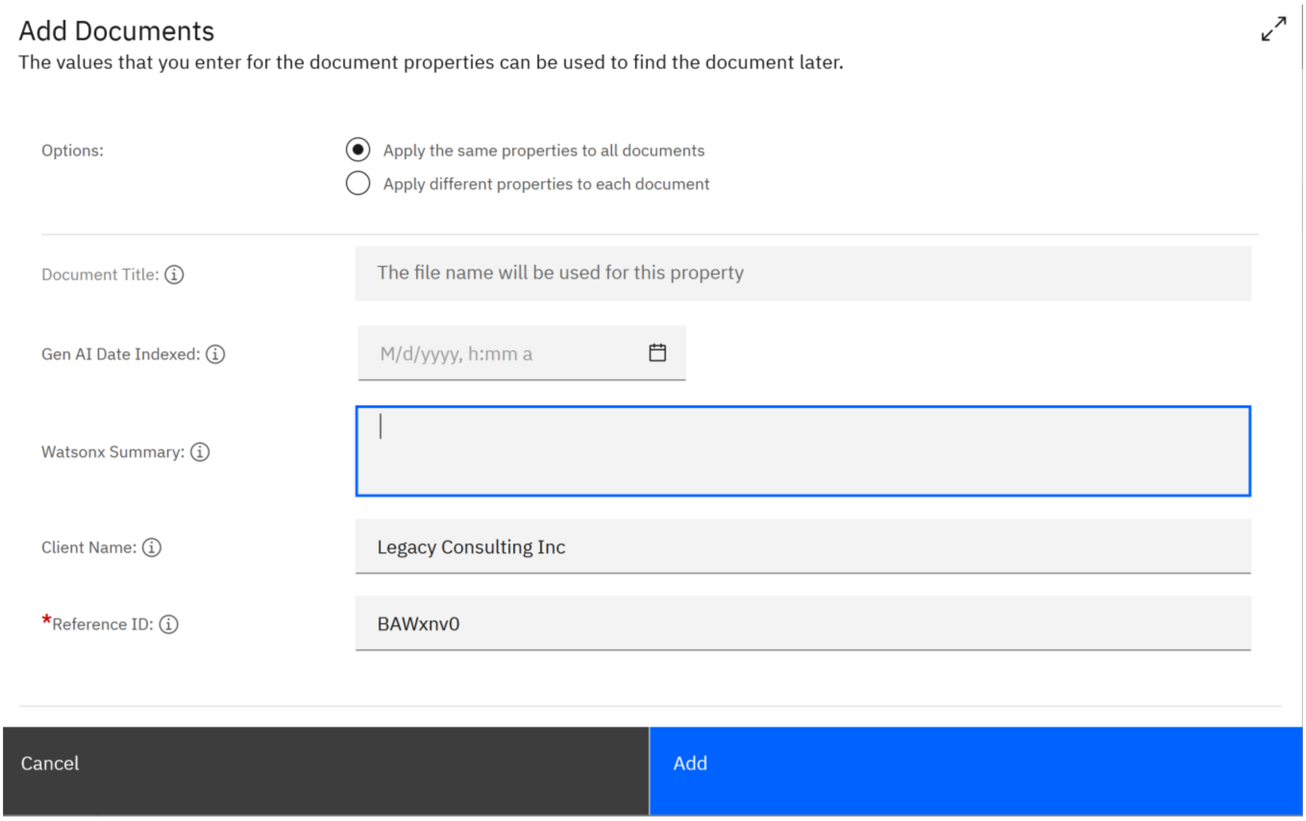


_4. Open the Home menu and choose **Browse Content** again. Navigate to the **usrxx Client Documents** folder. Note that the folder content now contains the newly added document.



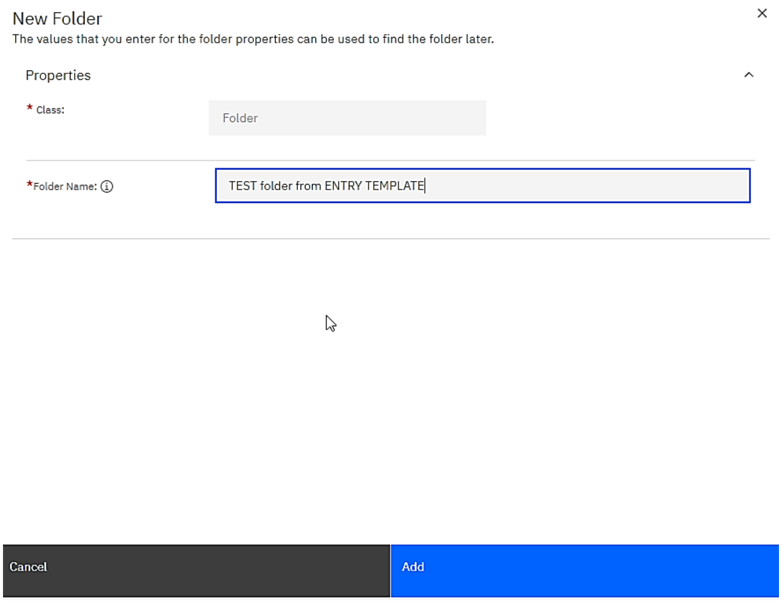
_5. From a folder on your local computer containing the files from the **Lab Data** folder, select the file **DL for Redaction.pdf**, and the **Document for Edit service feature.docx** file. With both files selected use **drag & drop** to move them into the IBM Navigator browser window.

The pre-configured document entry template is automatically used to add both documents in one interaction. The document class and the security settings have been preselected, and the security settings are hidden. Supply the property values as in below screenshot (**Legacy Consulting Inc** and **BAWxvn0**), and leave **Apply the same properties to all documents** selected. Click on **Add** and observe that the documents are uploaded in the background while the you can continue working.

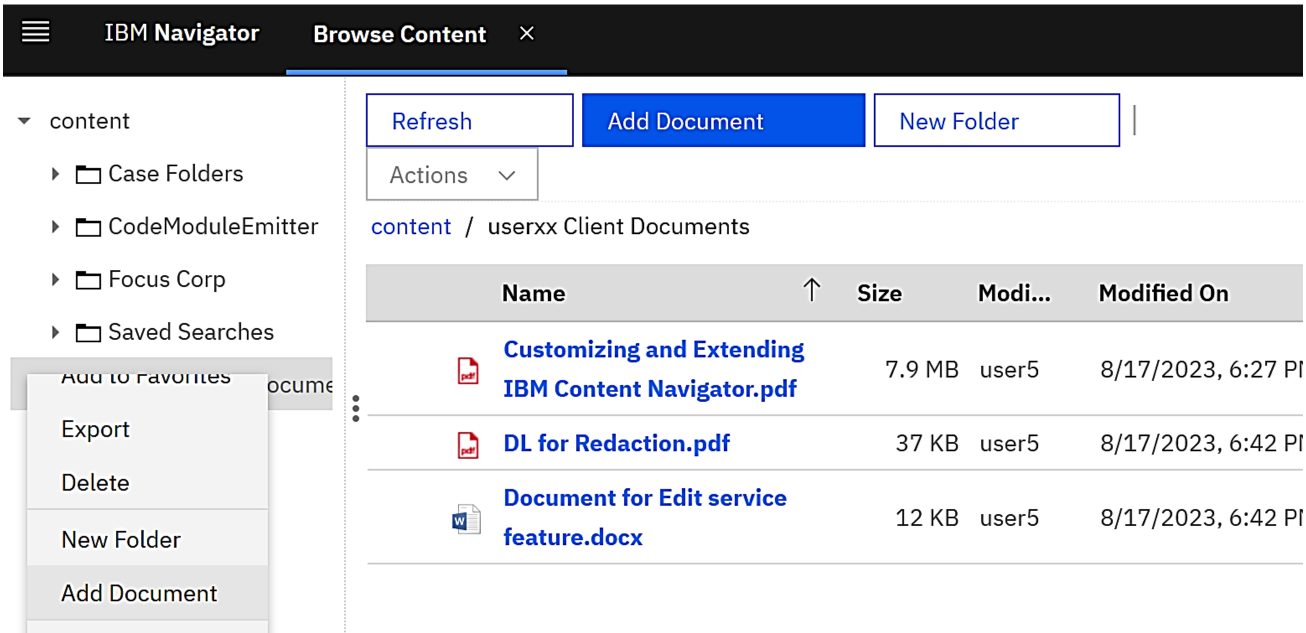


> The order of the properties might be different for you. You can also try with other property options by selecting the **Apply different properties to each document** option when adding multiple documents with different property values.

_6. In the same way, folders can be created by clicking the **New Folder** button. As only one Folder entry template was associated with the **userxx Client Documents** folder, it is automatically invoked when the **New Folder** button is clicked. Provide a sample folder name and click **Add** to add the folder.



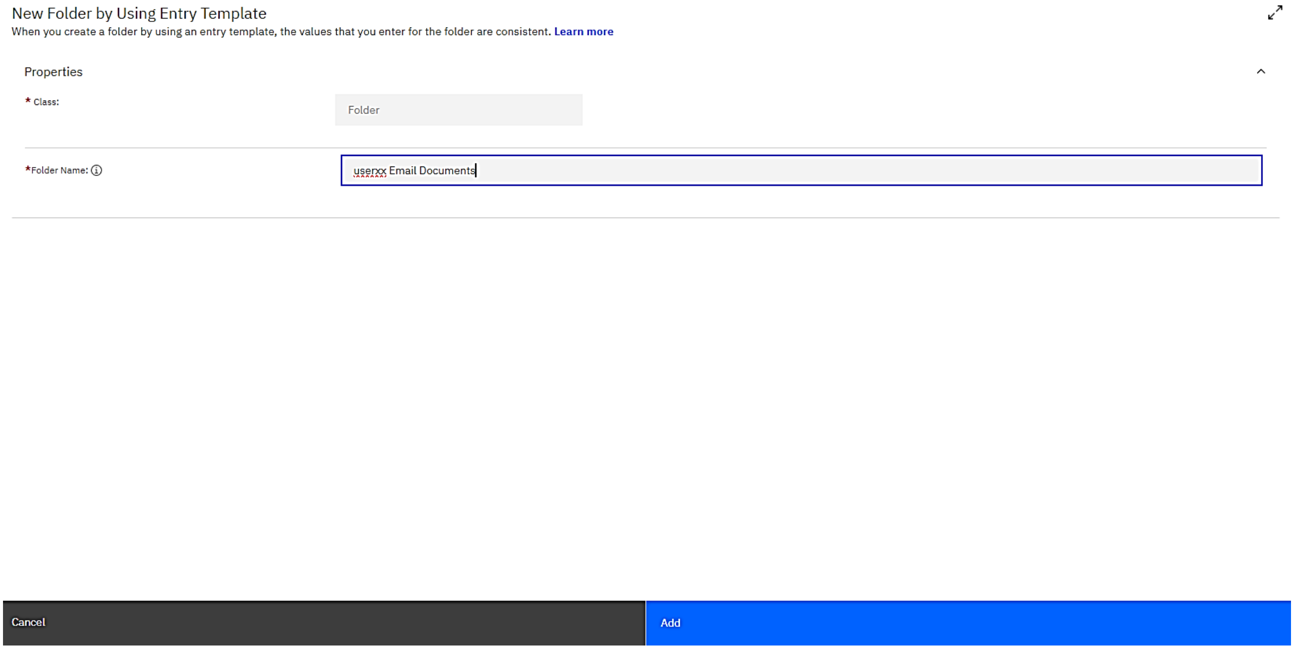
> You can also add sample documents to the **userxx Client Documents** folder from the **Browser Content** pane either by using the context menu that appears when you right-click in the left-hand tree view or by clicking the Add Document button in the center pane. Notice that IBM Navigator will also use the entry template which you associated with the folder in the previous exercise.



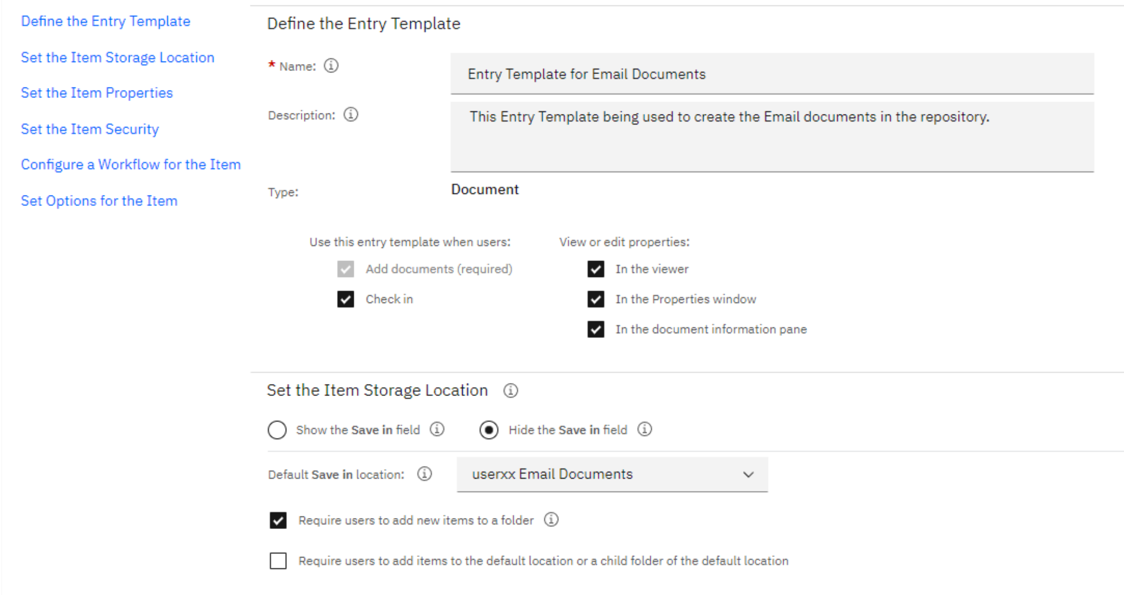
3.3 Changing the Entry Template during a document check-in

This section shows how to select a different entry template to assign to document during “check-in” of the document, which also updates the document class. In the below steps, you are changing the entry template for email documents added by an entry template during the checking in a document.

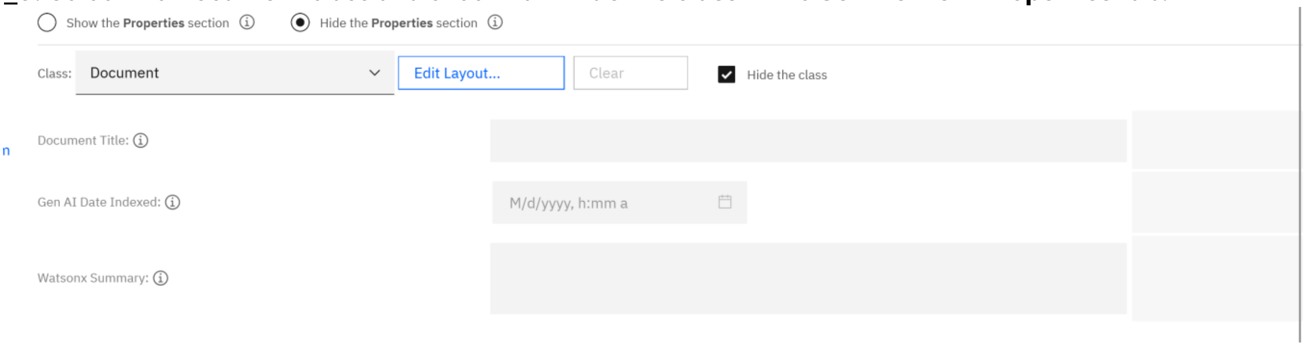
_1. From the **Home** menu, choose the **Entry Template Manager**. Click on the entry template **Entry Template for Folder creation** which you created in an earlier exercise of this lab, In the popup window, enter **userxx Email Documents** (replacing userxx with your username) as **Folder Name** and click **Add**. Your new folder will be created in the root of the repository content.



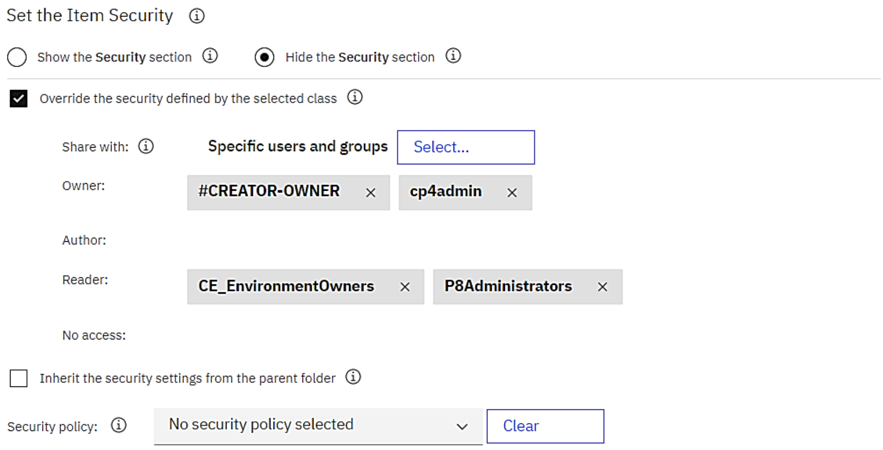
_2. Create another **Document Entry Template** as **Entry Template for Email Documents** in the same way as you created the “Entry Template for Client Documents” in the previous section. **Enter Name** and **Description** as shown in below screenshot. Make sure to select **Storage location** as **userxx Email documents** folder which you created in the above step and **check Hide the Save in field**.



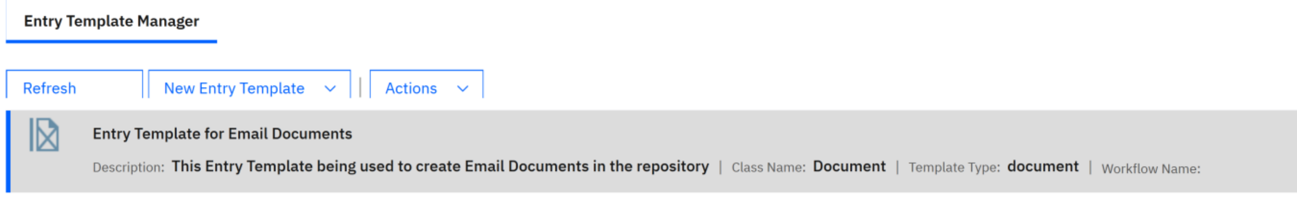
_3. Select the **Document** class and checkmark **hide the class** in the **Set the Item Properties tab**.



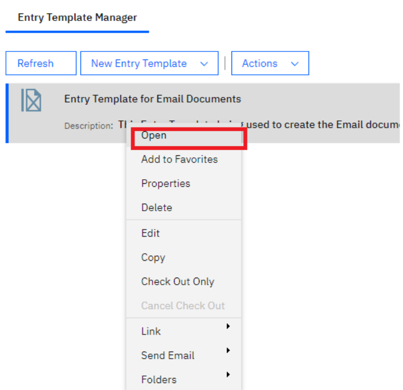
_4. Set the **item security** like **Entry template for client documents** entry template and click on **Save and Close**.



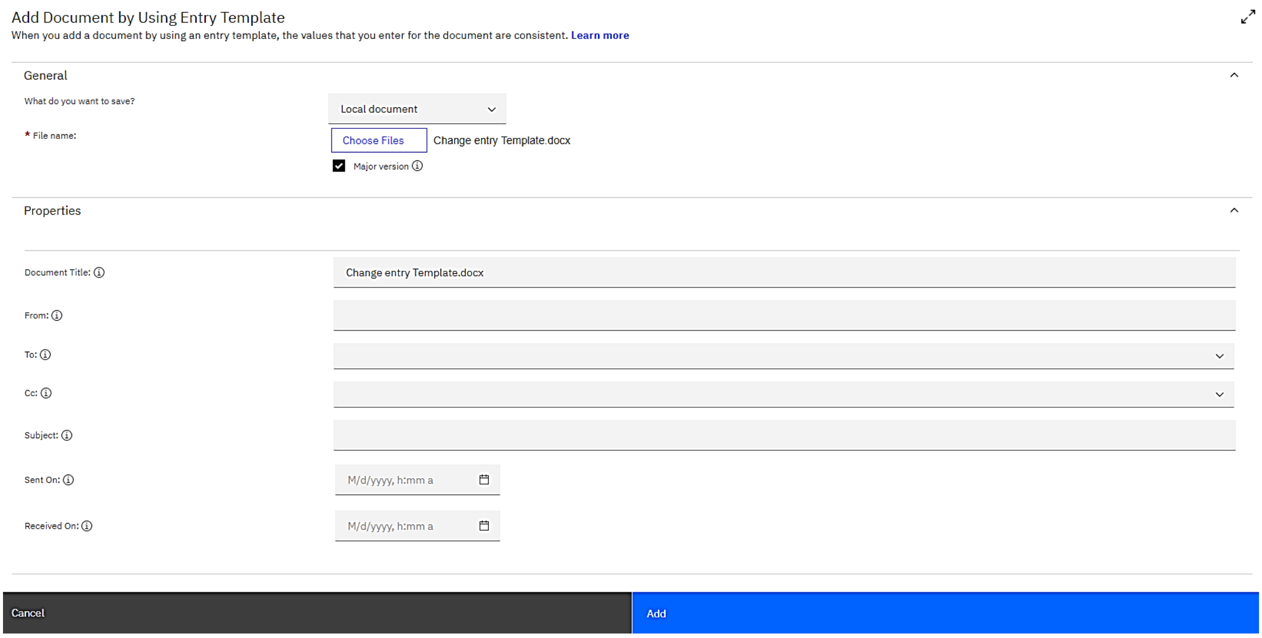
_5. You can see the newly created Entry Template for Email Documents in the Entry Template manager menu as shown below.



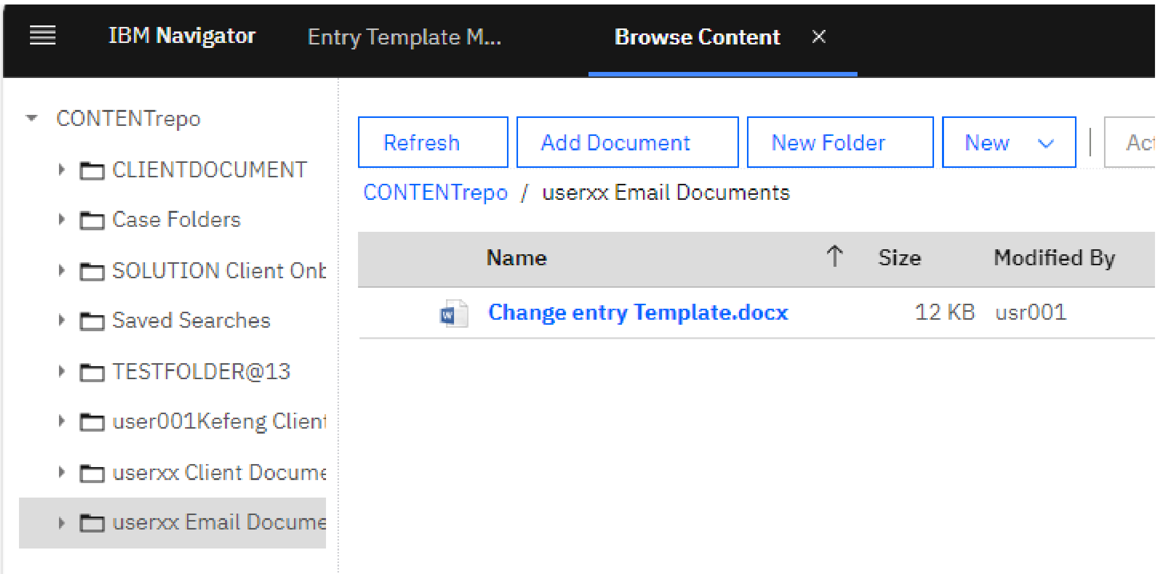
_6. Select **Open** from the right click-menu on the **Entry Template for Email Documents**.



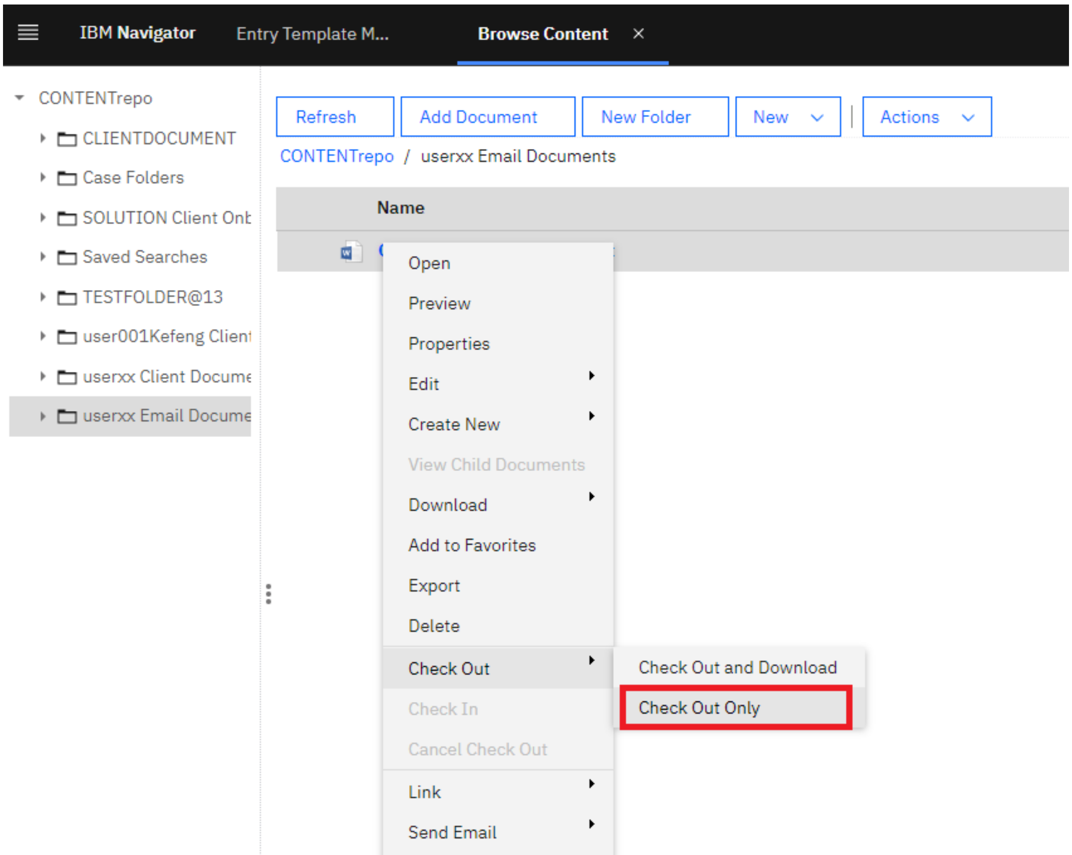
_7. Create one word document on your local desktop as **Change entry Template.docx** and choose that word document from your local desktop and click **Add** button as shown below.



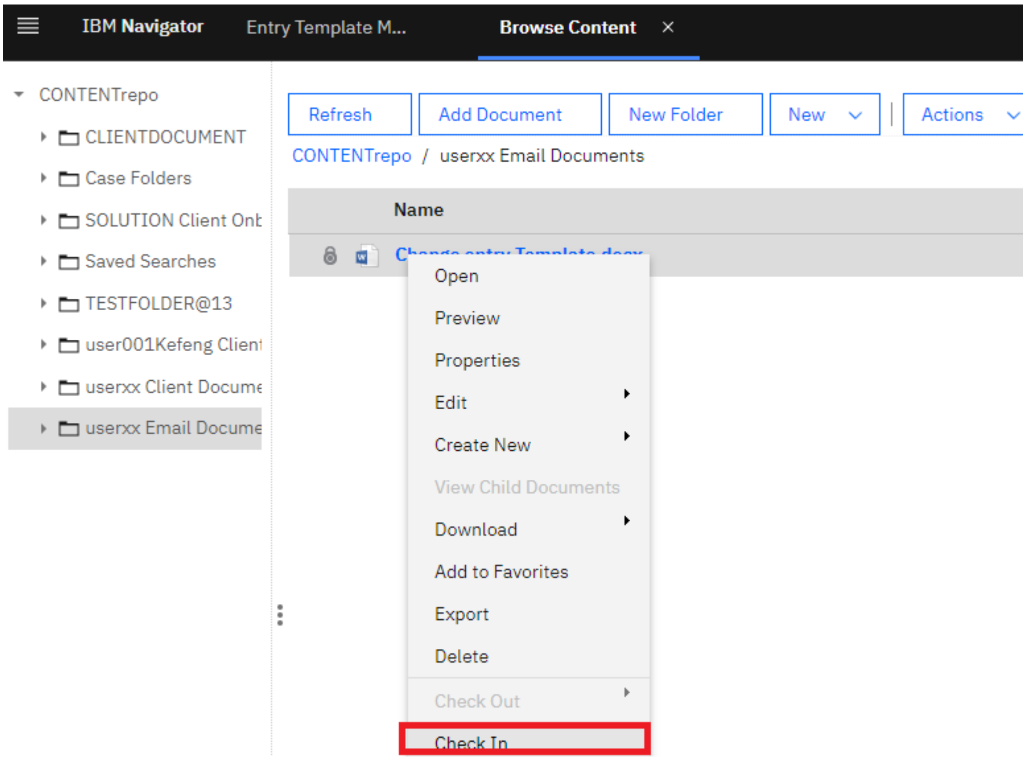
_8. Go to **Brower Content** from the **hamburger menu** and click on userxx Email Documents folder. You can see the **Change entry Template docx** which you added by an **Entry Template for Email documents**.



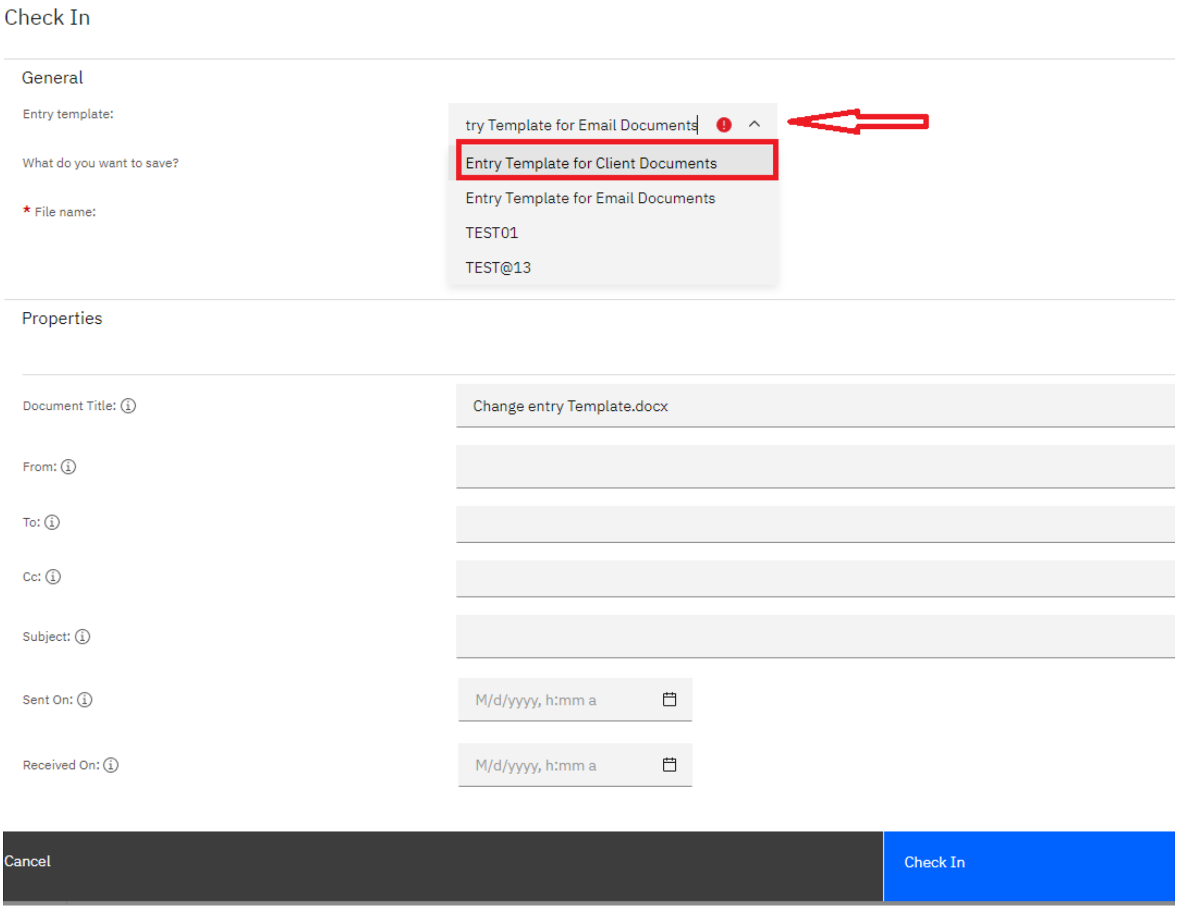
_9. Select **Check Out** -> **Check Out only** from the **right click menu** of the **Change entry Template.docx** document as shown in below screenshot.



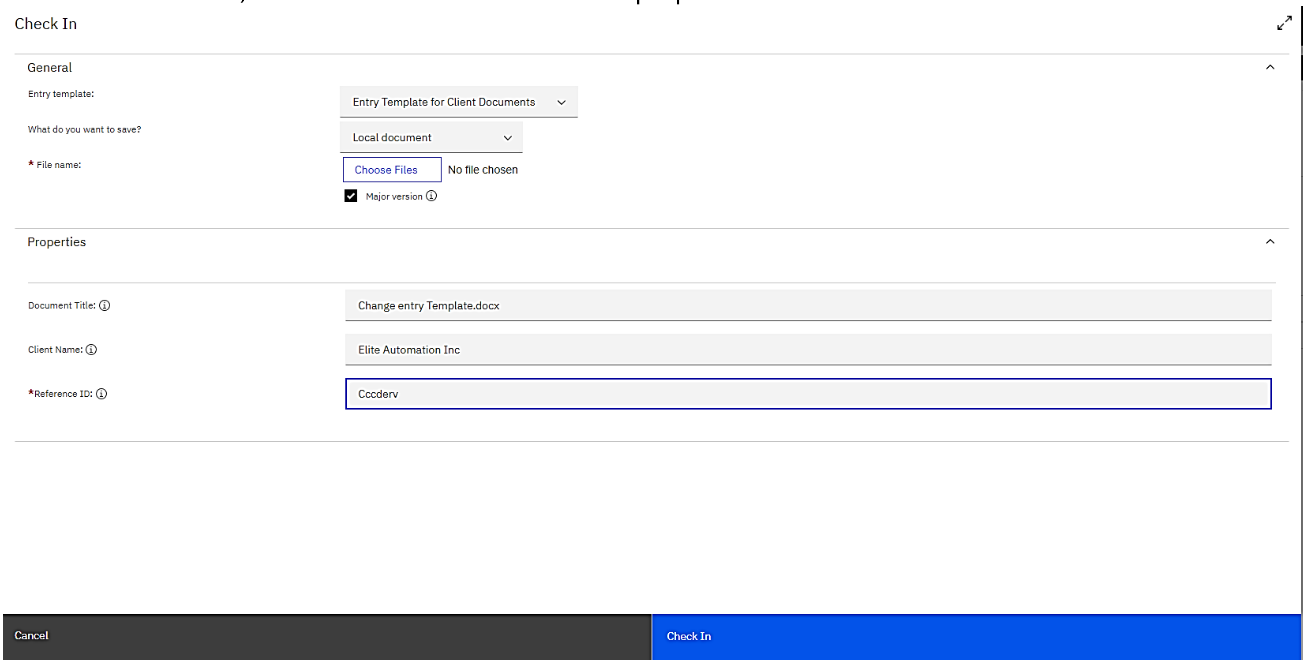
_10. You can see the lock icon once you **check out** the document. Select the **Check In** from the right click menu.



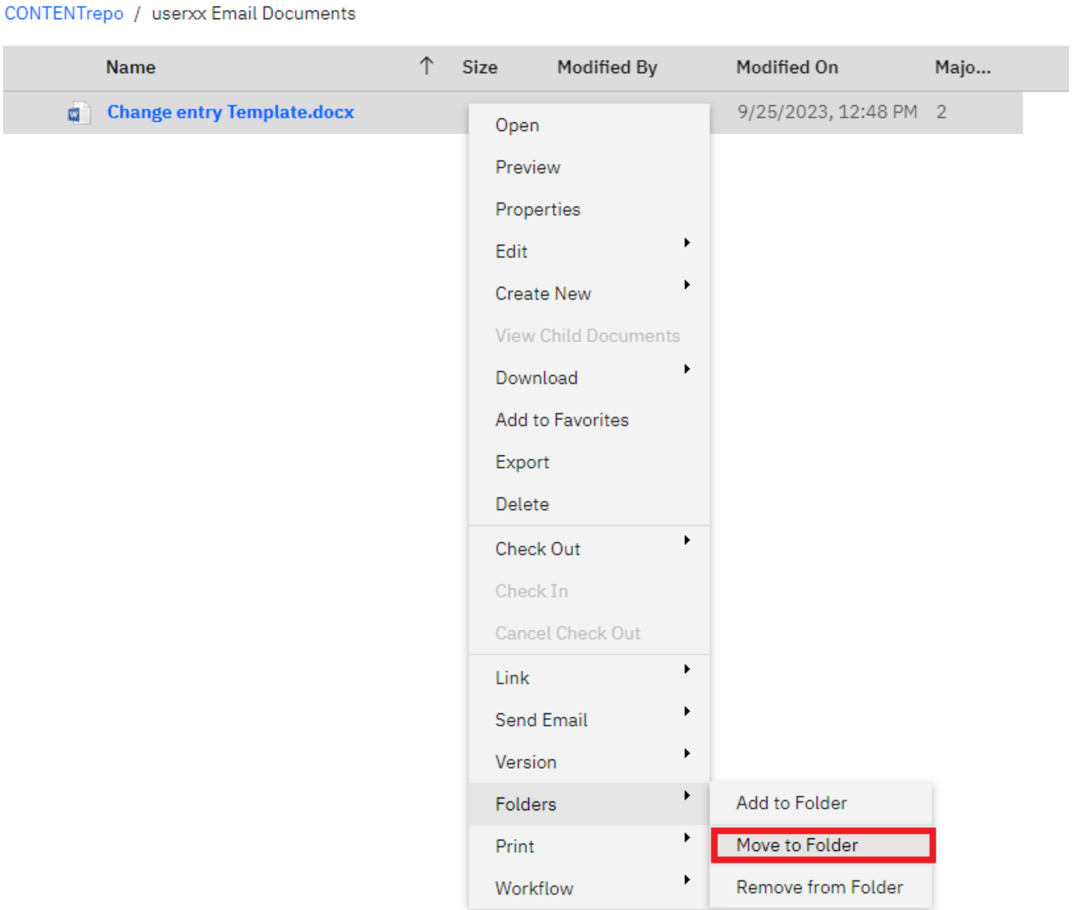
_11. You can see the **drop-down menu** for changing the **Entry Template** from **Entry Template for Email documents** to **Entry Template for Client Documents** (in your environment the entry template may be called usrxx Entry Template for Client Documents where usrxx represents your username) as shown below.



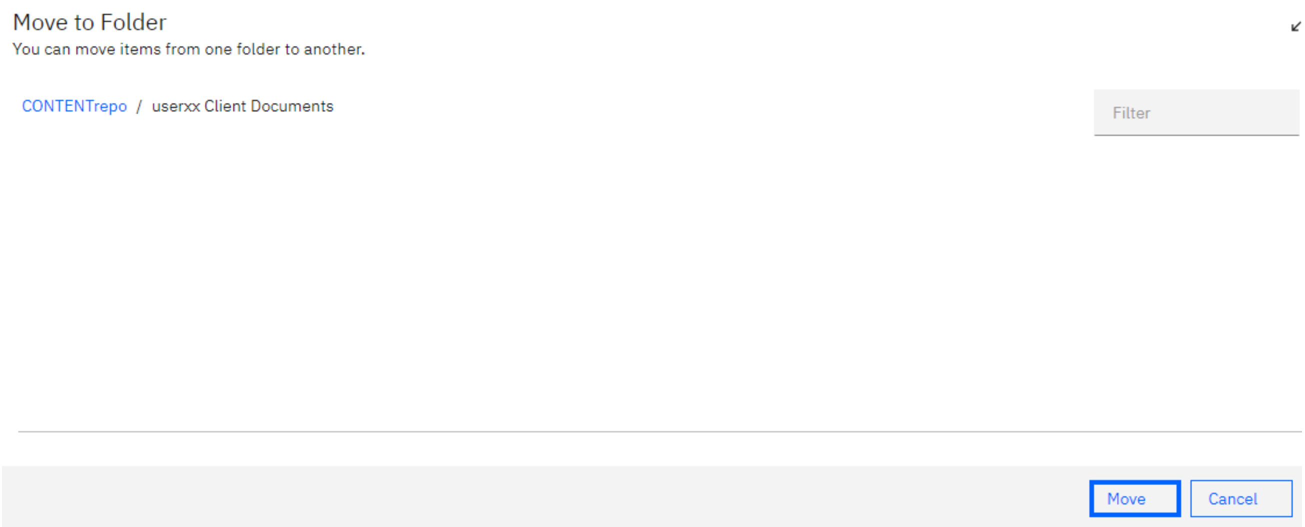
_12. For the lab choose the **Change entry Template.docx** document from your local desktop again, enter the **Document Title**, **Client Name** and **Reference ID** properties and click **Check In** as shown below.



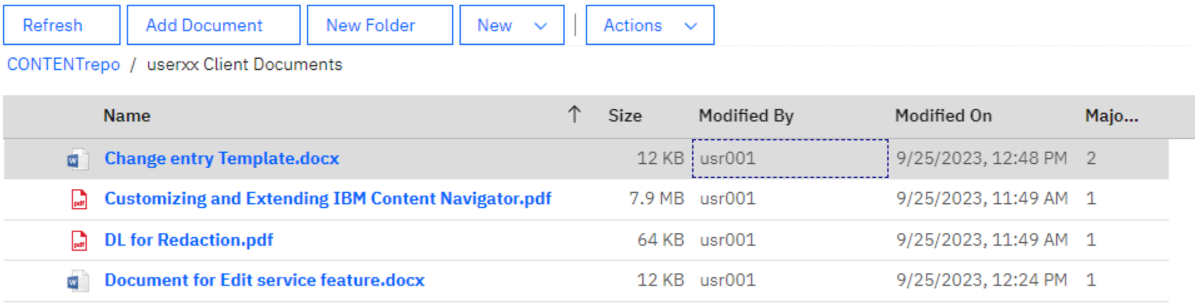
_13. Move the document to the **userxx Client Documents** folder which is relevant to hold Client documents by right menu **Folders**-> **Move to Folder** menu option as shown in below screenshot and then **selecting** the **usrxx Client Documents folder** in the dialog popping up.



_14. Click on **Move** button.



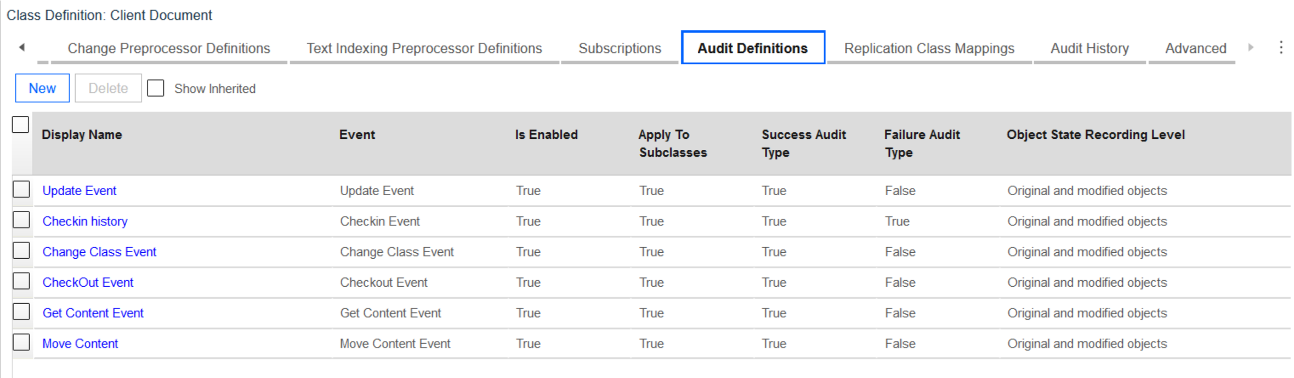
_15. You can see the document moved to **userxx client Document** folder from the **Browse Content** option.



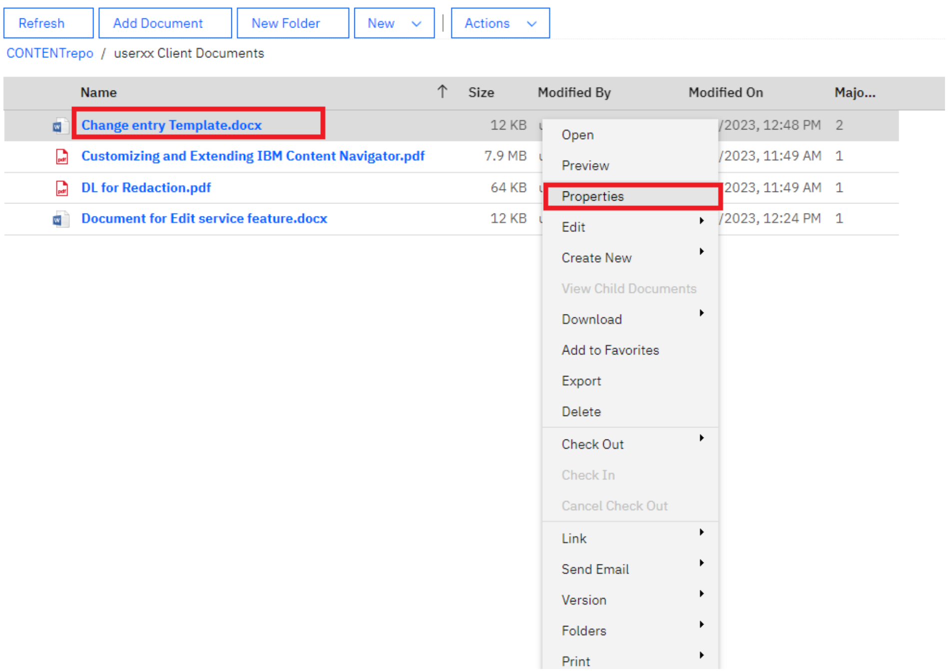
3.4 View and export modified properties in the Audit History

This section shows you how to view and export events for a document that are available from the audit history. Following below steps you are viewing and exporting the Audit history event list for the previously added document **Change Entry Template.docx**.

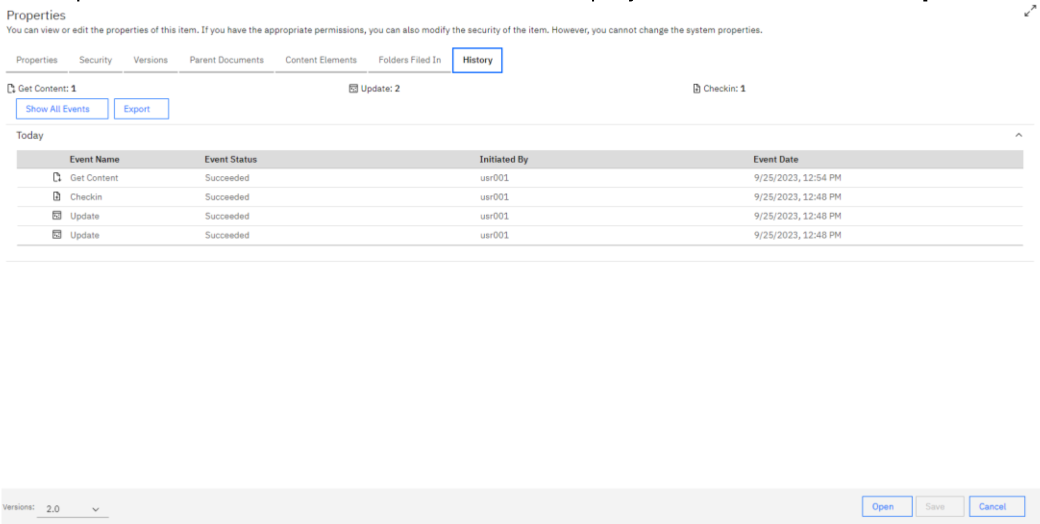
> **Audit History** is a class level configuration. For this lab, the administrator added below audit definitions to the Client Document class, enabled auditing, and configured Audit history in the ICN Desktop as part of setting up the environment. Users with audit permission can view the event history.



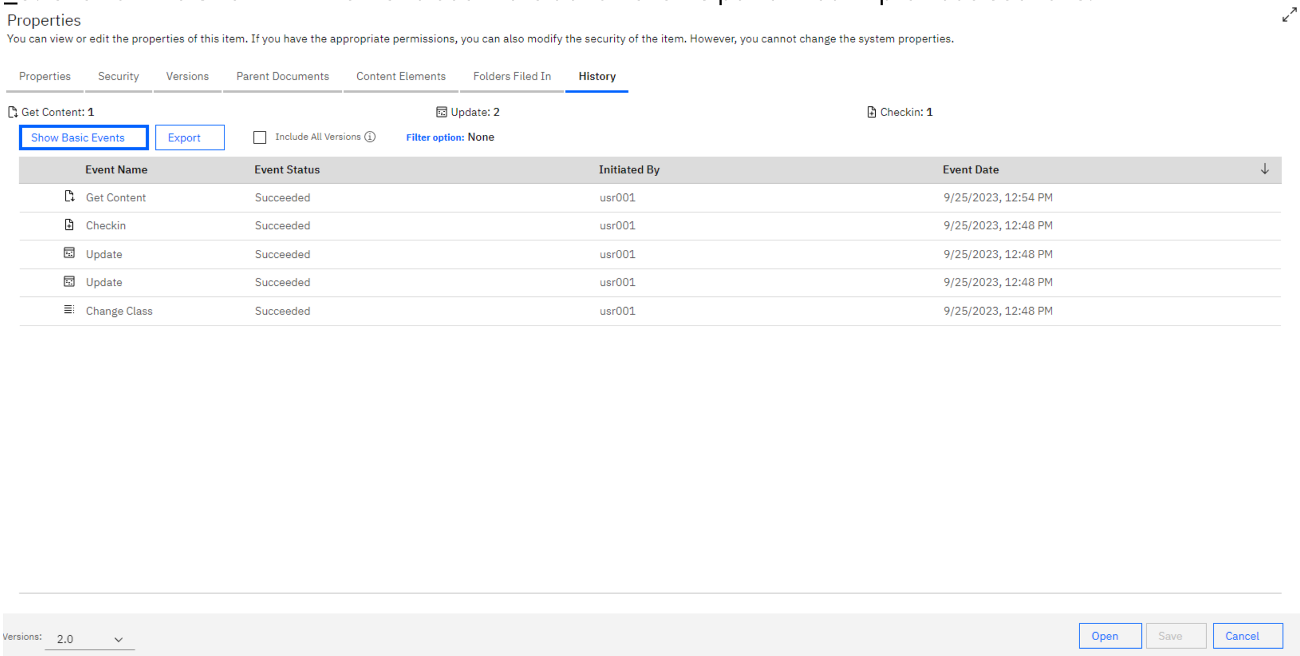
_1. Select **Properties** option from the **Right click menu** on **"Change Entry Template.docx"** document as shown below.



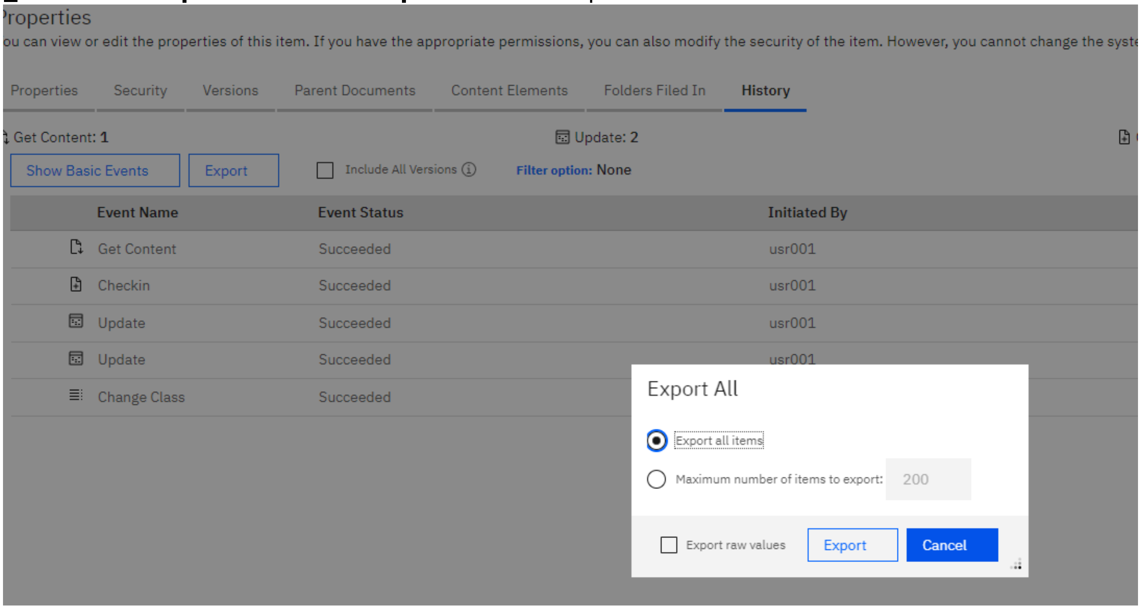
_2. Click on the **History** tab from the **Properties** pop-up. You can see the list of events which you performed in the previous sections. The event counts are displayed for **Get Content** 1, **Update** 2, and **Checkin** 1.



_3. Click on the **Show All Events** to see more action events performed in previous sections.



_4. Click on **Export** and select **Export all items** option.



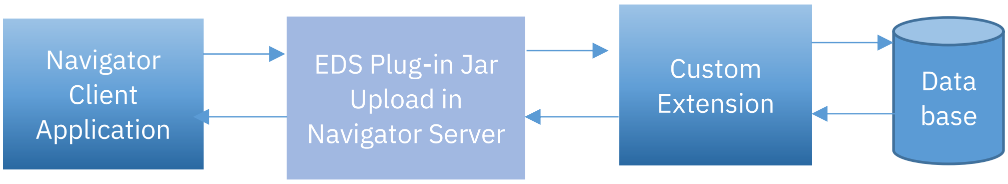
_5. You can see the event list of the document from the downloaded CSV file.

Event Name	Event Status	Initiated By	Event Date
Get Content	Succeeded	usr001	9/25/2023, 12:54 PM
Checkin	Succeeded	usr001	9/25/2023, 12:48 PM
Update	Succeeded	usr001	9/25/2023, 12:48 PM
Update	Succeeded	usr001	9/25/2023, 12:48 PM
Change Class	Succeeded	usr001	9/25/2023, 12:48 PM

4 Exercise: External Data Services (EDS)

4.1 Introduction

External Data Services (EDS) is a feature available for IBM Navigator applications and integrates with Business Automation Workflow (BAW) workflow properties. The idea is to allow using an external data source such as a database to provide allowed values for properties. It can also be used for several additional use cases, like dependent property values or custom validation of property values.



4.2 Exercise Instructions

This exercise introduces you to one aspect of using custom EDS data source plug-ins, which is how to validate properties while adding a document with an entry template for managing documents. For the property called **Reference ID** of the **Client Document** class, two types of validations need to be done. First to ensure a value is provided (it is a required field) and second, no special characters are entered.

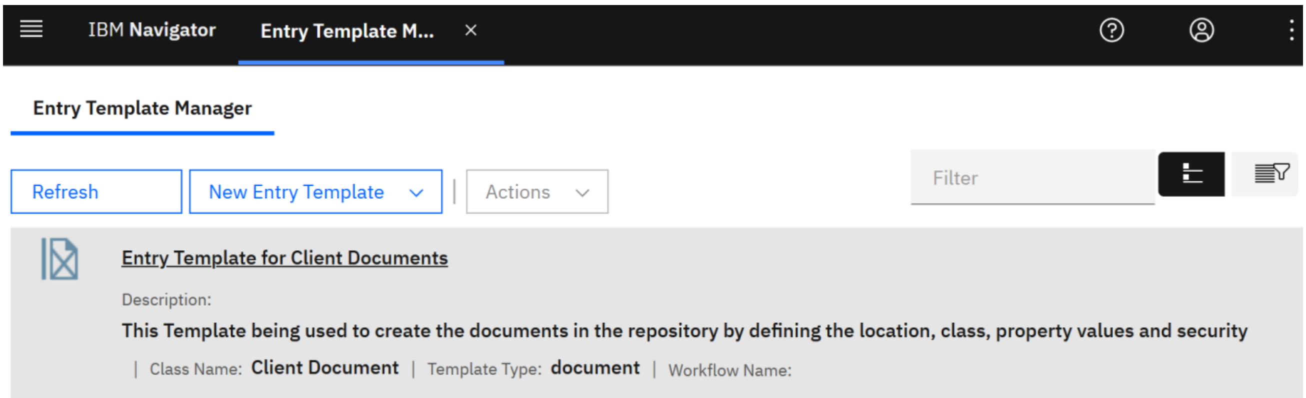
An external data service can validate user input on a property and enforce property formatting when adding a document. The sample EDS plug-in uses a regular expression in the custom extension code to limit the allowed values to be alphanumeric. If the EDS plug-in is used, the property is marked as required and a validation error will be shown in case it is left empty or in case the value is containing special characters that are not allowed. See below screenshots for examples of these behaviors.

Samples EDS in action

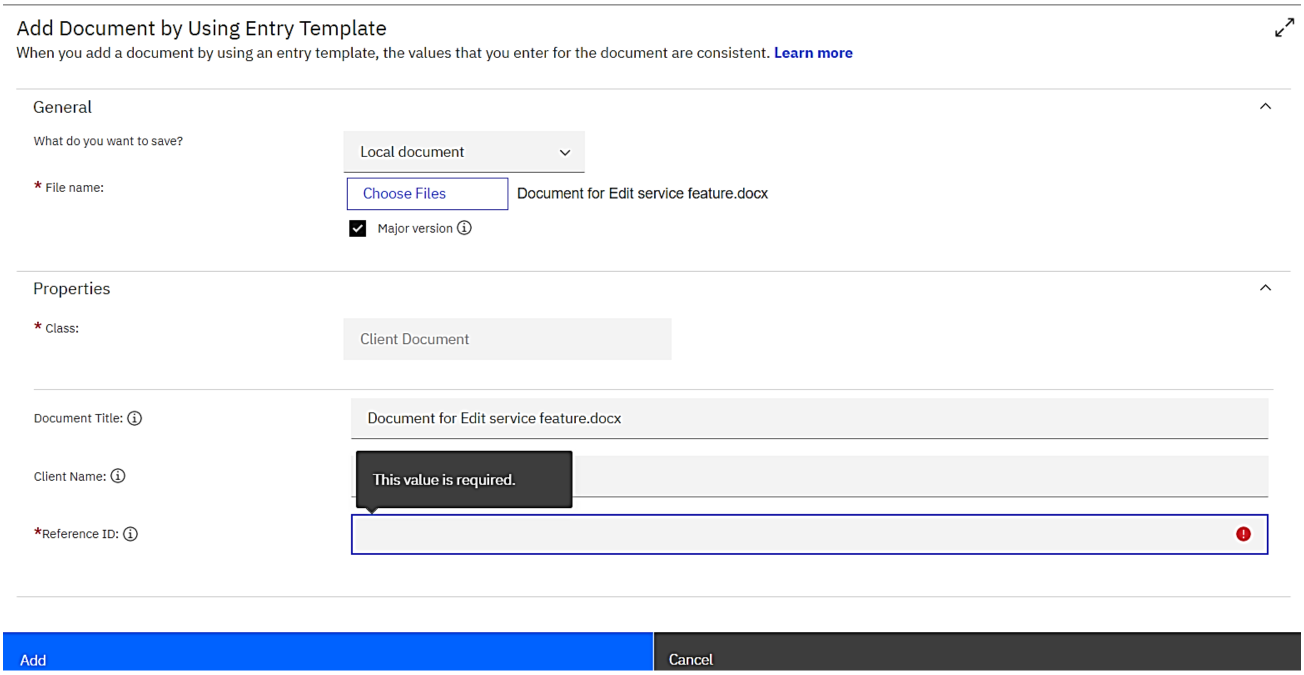
For this exercise, a sample data source plugin "edsDataSourceSamplePlugin.jar" was created following the technical steps described further down. This custom EDS plug-in has been uploaded to the environment and registered both in IBM Navigator and the Navigator desktop that you are using throughout the lab. Therefore, it has already been active when you uploaded one or multiple documents through the document entry template.

Exercise Steps

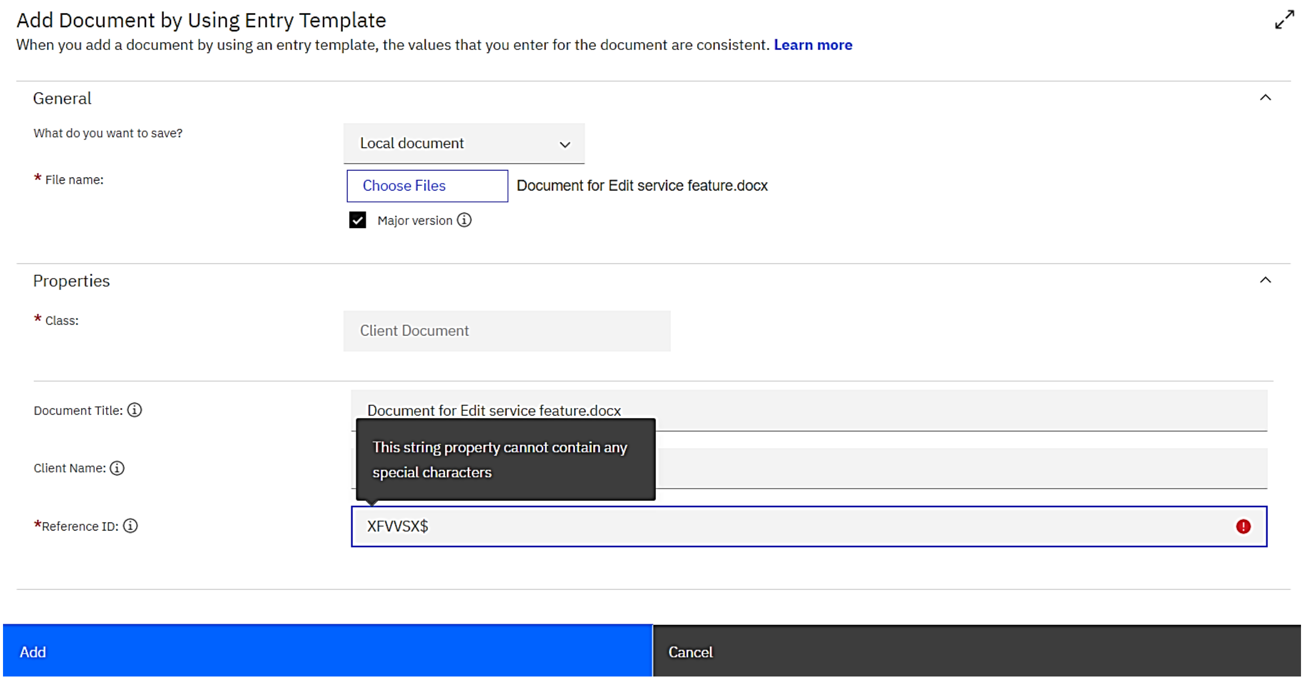
_1. Click on the **Entry Template Manager** from the Home menu. Click on the **Entry Template for Client Documents** entry template to launch it.



_2. Choose any sample document from your local desktop, add a **Document Title**, **Client Name** and leave the **Reference ID** field blank. Click **Add** to try to add the document to the respository.
The dialog will let you know that you need to provide a value for the Reference ID field as shown below. The red asterisk in front of the Reference ID label also indicates that this is a mandatory field.



_3. Add a **Reference ID** that **contains special characters (e.g., include $)**.
When trying to add the document, you will get notified that this string property cannot contain any special characters as shown below. IBM Navigator will not allow you to add the document until you adhere to the constraints imposed on the properties' value by the custom EDS plug-in.



_4. Click **Cancel** as you don't want to add the document.

Developing the Samples EDS

> **Note that the below section describes the technical sequence of steps to create and configure a Custom EDS data source plug-in. It is meant for you to read through it but not do any practical development work. Depending on your interest you may skip this section and continue with the next exercise.**

Sample code for an EDS data source plug-in is provided in the https://github.com/ibm-ecm/ibm-content-navigator-samples GitHub repository. The sample code includes two plug-in-API classes, GetObjectTypesAPI and UpdateObjectTypeAPI.

The below sample EDS plug-in code uses two java classes (GetObjectTypesAPI and UpdateObjectTypeAPI), two json files (ObjectTypes.json and Documentclass_PropertyData.json), and the build.xml file to compile and build the EDS plug-in for above Reference ID property validation example.

The sequence in which an EDS is executed is simple and has just two steps:

1. Get the list of objects to validate.
2. Call the validation routine when one of the listed objects is accessed.

_1. **Get the list of objects**: GetObjectTypesAPI.java

The first step is to let IBM Navigator know which object types to validate. Navigator will call the GetObjectTypesAPI java class and expects a JSON array with the set of objects to validate using a JSON data file (ObjectTypes.json). For this sample, just the class name of the Object Class, as defined in ACCE, is used. In the general case, this might depend on the object store name, which is passed as a parameter (repositoryId).

Below example shows how to enable EDS for objects of the class object type "Client Document". Code snippet for step 1:

```
@WebServlet(name = "GetObjectTypesServlet", urlPatterns = { "/types" })
public class GetObjectTypesServlet extends HttpServlet {

protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
      String repositoryId = request.getParameter("repositoryId");
      //Return a JSON response with the Object Class
      String fullResourceName = "com/ibm/ecm/sample/edsds/data/ObjectTypes.json";
      logger.logDebug(this, methodName, request, "Attempting to load resource: " +
            fullResourceName);

      InputStream objectTypesStream =
            this.getClass().getClassLoader().getResourceAsStream(fullResourceName);
      if (objectTypesStream == null) {
            throw new RuntimeException("Unable to load the data file.");
      }

      JSONArray jsonResponse = JSONArray.parse(objectTypesStream);
      logger.logExit(this, methodName, request, "Returning: " +
             (jsonResponse != null ? jsonResponse.toString() : "null"));
      return jsonResponse;
} // of doGet
} // of class GetObjectTypesServlet
```

ObjectTypes.json file:

```
[
{"symbolicName": "Client Document"}
]
```

_2. **Implement custom validation**: UpdateObjectTypeAPI.java

The IBM Navigator plug-in will call the validation routine when the user interacts with an object of the specified object type and will provide the current property values as a JSON object.

The JSON object has 3 main sections:

1. Information about the Request
2. Information about the Object
3. Information about the User

Code snippet for step 2:

```
@WebServlet(name = "UpdateObjectTypeServlet", urlPatterns = { "/type/*" })
public class UpdateObjectTypeServlet extends HttpServlet {

    protected void doPost(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {

        String objectType = request.getPathInfo().substring(1);

        // Get the request json
        InputStream requestInputStream = request.getInputStream();
        JSONObject jsonRequest = JSONObject.parse(requestInputStream);
        String requestMode = jsonRequest.get("requestMode").toString();
        String objectId = jsonRequest.get("objectId").toString();
        String repositoryId = jsonRequest.get("repositoryId ").toString();

        JSONArray requestProperties = (JSONArray)jsonRequest.get("properties");
        JSONObject clientContext = (JSONObject)jsonRequest.get("clientContext");
        String userid = (String)clientContext.get("userid");
        String locale = (String)clientContext.get("locale");
        String desktop = (String)clientContext.get("desktop");
```

(to be continued)

Each request will have a **requestMode** specified to identify the context in which the validation routine was called:

1. **initialNewObject** and **initialExistingObject**: Indicates the first step in the sequence and is called when an item – for example a document or folder– is opened or created.
2. **inProgressChanges**: Is called when a user updates a value in the user interface, if there are dependent properties.
3. **finalNewObject** and **finalExistingObject**: Indicates the final step in the sequence and is called prior to committing the changes to the server. To deny the commit request, the plug-in can return an error.

Forcing the formatting of a specific property

To ensure all data is entered into the system correctly, the code enforces a specific format using a regular expression – this is done by using the request modes **initialNewObject** and **initialExistingObject** and returning the properly formatted JSON.

In the following example, the format of the ReferenceID property is checked:

```
// Create an Empty JSON response and write your results here
JSONObject jsonResponse = new JSONObject();
responseProperties = new JSONArray();

if (requestMode.equals("initialNewObject") || requestMode.equals("initialExistingObject"))
{
     //ensure the Reference ID is in the proper format eg, US123
     // the reg-ex for this format ([A-Z]{2})(\\d{3})
     JSONObject temp = new JSONObject();
     temp.put("symbolicName", "ReferenceID");
     temp.put("format", " ^[a-zA-Z0-9]+$");
     temp.put("formatDescription", "<br><ul><li> alphameric value allowed </li></ul>");
     responseProperties.add(temp);
     jsonResponse.put("properties", responseProperties);
}
```

```
PrintWriter writer = response.getWriter();
jsonResponse.serialize(writer);
```

Validate values prior to saving
The above example shows how to validate that the data is in the right format. A different kind of validation check is to check that the value of the ReferenceID property already exists in an external system. This can best be achieved by adding a check for the **finalNewObject** and/or **finalExistingObject** request modes. As an example, we assume here that all reference IDs except the ReferenceID US123 are valid, instead of looking them up from an external system.

The input JSON object contains all property values in the requestProperties JSONArray. It was obtained by extracting the property "properties" from the request passed to the method doPost(), see above. To find the ReferenceID property the code has to loop through that array, as follows.

The following example expands on the previous formatting check:

```
if (requestMode.equals("finalExistingObject") || requestMode.equals("finalNewObject")) {
    //The Incoming JSON will have the properties and their values in the requestProperties
array

    //  Loop through the properties and use simple name matching to find a property
    for( int i = 0; i < requestProperties.size(); i++) {
        JSONObject requestProperty = (JSONObject) requestProperties.get(i);

        String propName = requestProperty.get("symbolicName").toString();
        String propValue = String.valueOf(requestProperty.get("value"));
        if (propName.equals("ReferenceID")) {
            if (propValue.equals("US123")) {
                // the value does not match our simple rule, add an error message to the
return JSON
                        JSONObject temp = new JSONObject();
                        temp.put("symbolicName", "ReferenceID");
                        temp.put("customValidationError", " has not been found in the
issue tracking system. Please ensure to enter a valid Reference ID.");
                        responseProperties.add(temp);
            }
        }
    }
}
PrintWriter writer = response.getWriter();
jsonResponse.serialize(writer);
```

With these modifications, the sample EDS data source plug-in is ready to be compiled, using e.g., an Ant build from the Eclipse IDE. The final step is to let IBM Navigator know that it needs to call this custom plug-in. An administrator needs to perform the following steps for that:

1. Open the **admin desktop** in IBM Navigator and navigate to the **Plug-ins** section.
2. Click the **New Plug-in** button to register a new plug-in.
3. Select **JAR file path** and enter the path to the local **edsDataSourceSamplePlugin.jar** file, which is the result of the build process above. In a container environment, the plug-in can be copied into a persistent storage volume which is mounted by IBM Navigator in path **/opt/ibm/plugins**. Then the plug-in needs to be loaded by clicking **Load** followed by **Save and Close**.
4. Click the **New Plug-in** button again to register another plug-in. For the **JAR file path** configure the **edsPlugin.jar** file, which is located in the subdirectory "samples" of the IBM Navigator installation directory. In a container environment, the file is already present in the IBM Navigator container image with the name **/opt/ibm/intPlugins/eDS/edsPlugin.jar**, such as:

5. Click the **Load** button. In the **External Data Service** section towards the bottom of the page, select **Data Source Plugin** and select the plug-in which got registered in step 3. Click **Verify** to verify the configuration. Then click **Save and Close**.

6. Modify the desktop definition and configure it to load the plug-in newly registered in step 5.

For more information on how to create an EDS plug-in refer to EDSDataSourceSamplePlugin Code. External Data Services are further discussed in the documentation on these pages:
https://www.ibm.com/docs/en/content-navigator/3.2.0?topic=navigator-external-data-services
https://www.ibm.com/docs/en/content-navigator/3.2.0?topic=services-sample-external-data-service
https://github.com/ibm-ecm/ibm-content-navigator-samples/tree/master/edsDataSourceSamplePlugin
Registering and configuring an EDS plug-in to reference a custom EDS data source plug-in - IBM Documentation

5 Exercise: Search Content and Simple Search Content

5.1 Introduction

With the "Search Content" feature, content such as documents and folders can be searched within one or multiple repositories. The search is done by specifying the root document or folder class, and conditions for the properties of the resulting content using search clauses. These search clauses can be combined with logical expressions. Multiple search clauses are needed, for example to find documents with a specific document title, created within the last month.

Furthermore, in each search clause different search operators such as equal, contains, starts with, etc. can be used, and a full-text search can be combined with the search clauses.

> Note that search performance depends on the properties being searched, the search clauses and the order. If you search for example for the "Document Title" property, the search will be faster if an index has been defined in ACCE for the "Document Title" property, and if the search clause specifies at least the first few characters of the result value. This means, that a "starts with" condition for a search clause will be executed much faster than the "contains" clause, even if an index is defined.

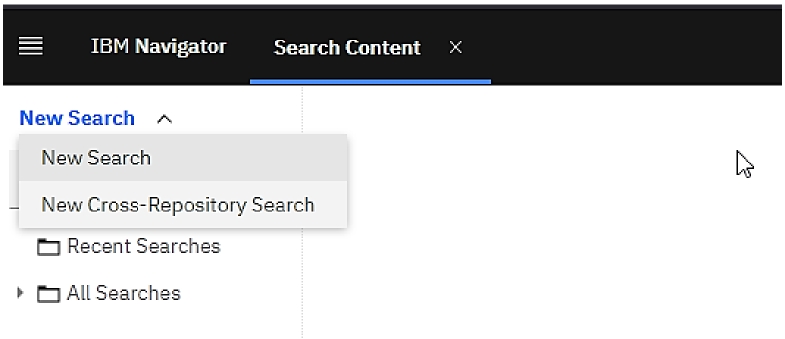
Search Content furthermore supports searching for content across multiple repositories. This is useful if the items are spread across multiple repositories. For example, a user might use a cross-repository search to look for client document records in one repository and billing records in another repository and display the result in a single result page.

5.2 Exercise Instructions

In the first part of this exercise, searching for content will be demonstrated using the **Search Content** capability. The second part of the exercise is dedicated to a second flavor of content search, the **Simple Search Content**. The latter allows to enter a search string and customize the result set by defining additional filter conditions.

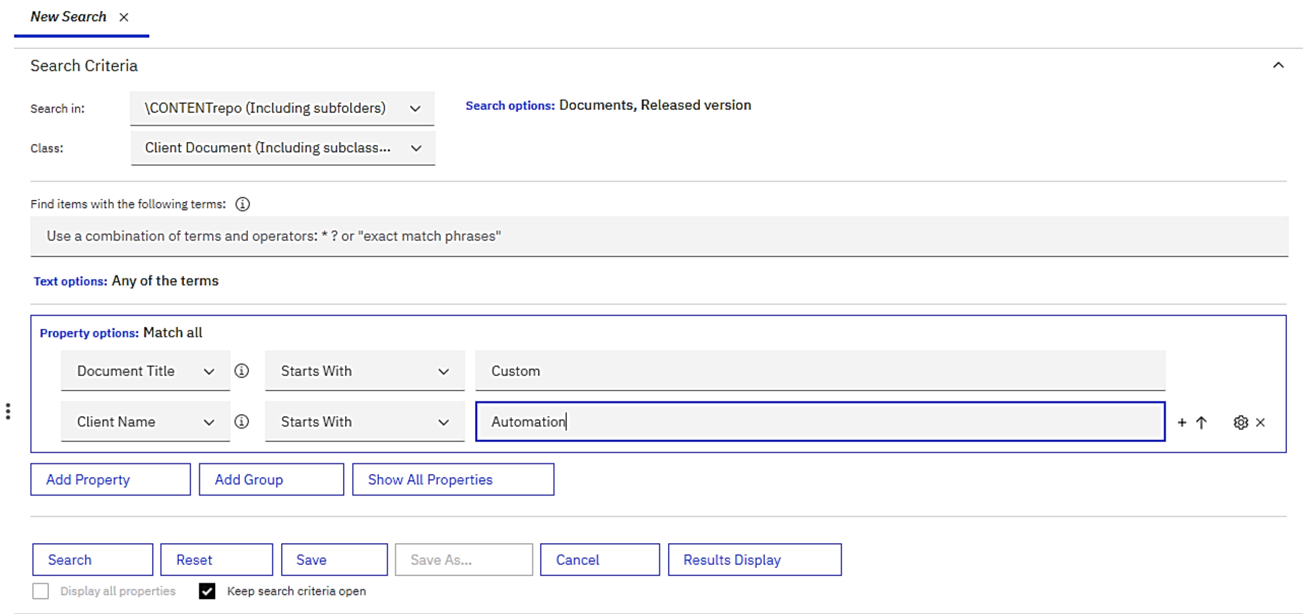
5.2.1 Search Content

_1. In the **Home** menu, select **Search Content**. Alternatively use the Search Content tile on the desktop. The Search Content tab opens. From the **New Search** pulldown menu, select **New Search**.



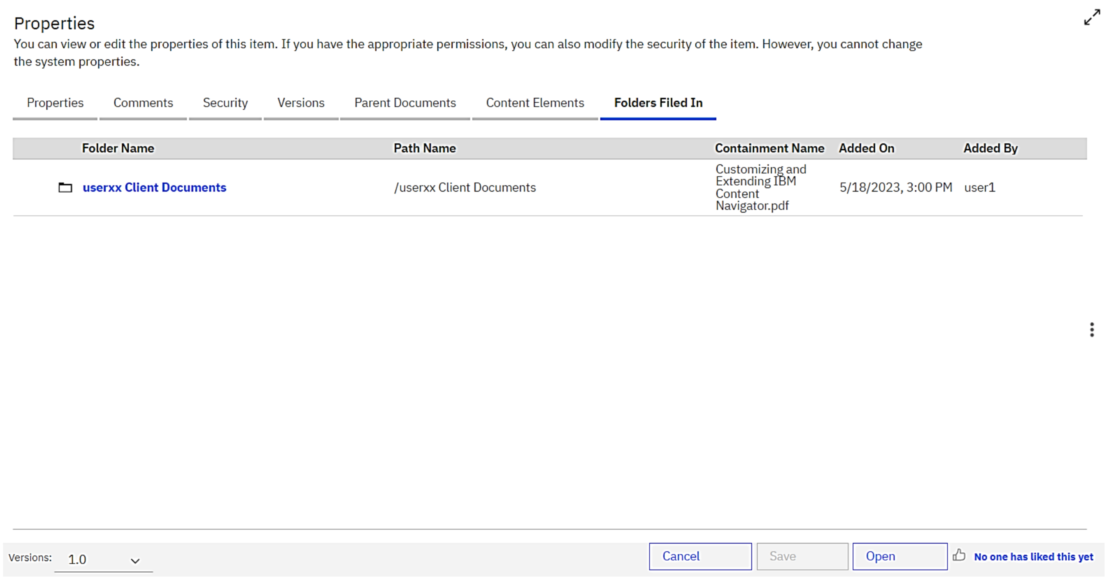
_2. In the New Search tab, select the **Client Document** document class as **Class**, and select the search options (the property values and their values to use) according to the screenshot below.
If you have specified different values when uploading documents in previous exercises, you will need to specify these property values instead.
Click **Search** to search for matching documents. When selecting the class, note that it is also possible to search for documents of multiple document classes and only search for a specific document class or also its subclasses.

> Property values are Case Sensitive because the environment is not configured for case insensitive searches.



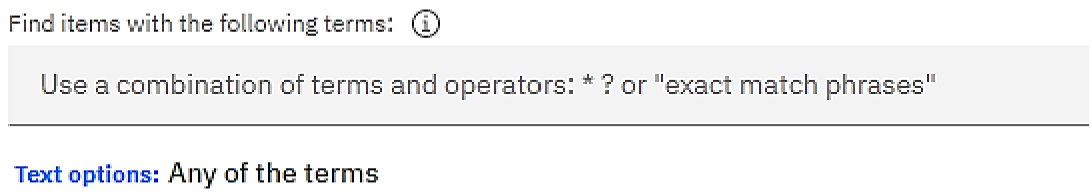
_3. If you added the document in the previous exercise with Client Name **Automation Elite Inc** and Document Title **Customizing and Extending IBM Content Navigator.pdf**, then there should be one result document found.

_4. Right-click on the result document and select **Properties**. In the properties window for the result document, select the **Folders Filed In** tab.

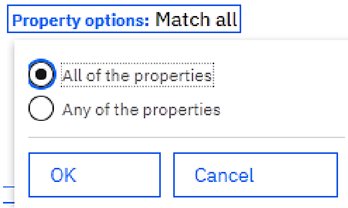


_5. Click on the **userxx Client Documents** folder and observe that using this shortcut you can open the Browse Content feature with that folder's content. Close the Browse Content feature and get back to the Search Content feature. On the Search Content page, collapse the **Search Results** by clicking on that section, and open the **Search Criteria** again.

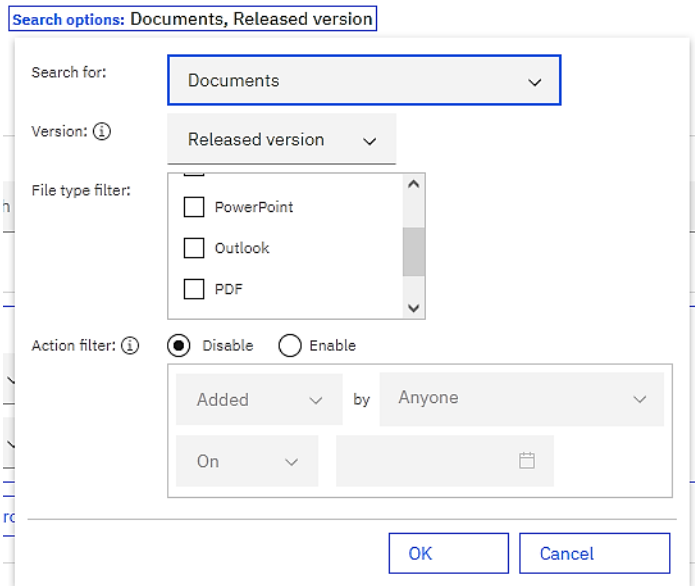
_6. Observe that there is a section where you can configure full text search options. Using the blue **Text options** below the entry field, full text search options can be configured.



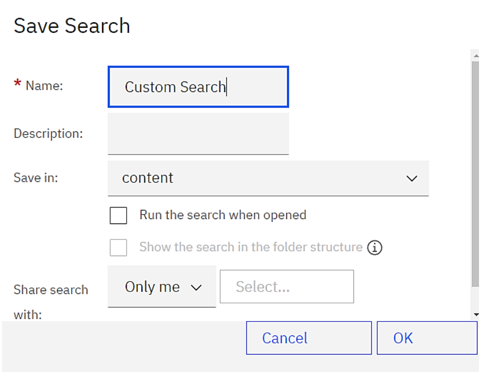
_7. Observe that you can switch the default setting for searching from **Match all** to **Match any** criteria, by clicking on the title **Property options** and selecting the appropriate option.

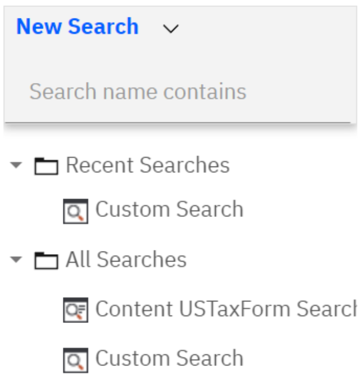


_8. Click on **Search options** next to the **Search in** field at the top of the dialog. Notice that it is possible to specify if also older versions of the documents should be searched, and what types of documents to search.



_9. Click on **Save**. Give the search a name like **Custom Search** or you can also include your user id in the name field like **userxx Custom Search** to identify your saved search from another user in the multi-user environment. Leave all other fields as is. Finally click **OK** to save the search for later re-use. By default, a search is saved for the user who created it. By changing **Share save with** it can also be shared with other users for whom it might be relevant.

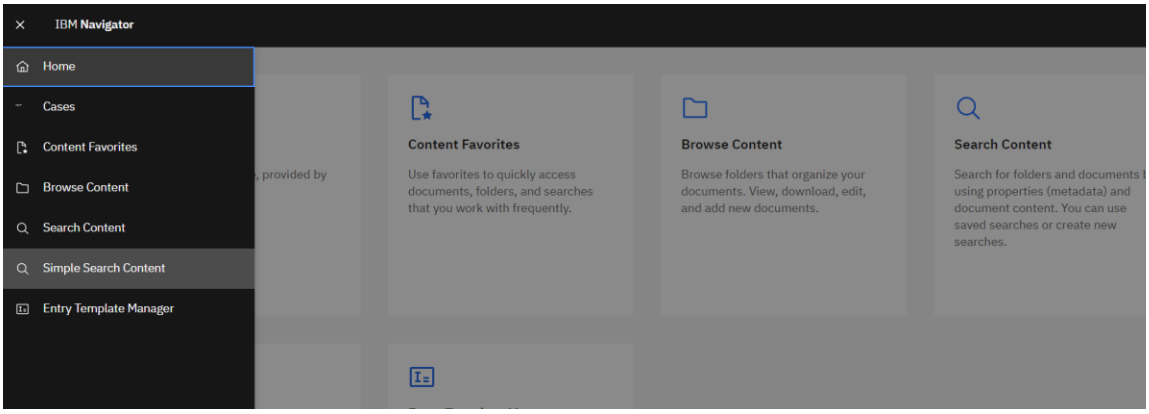




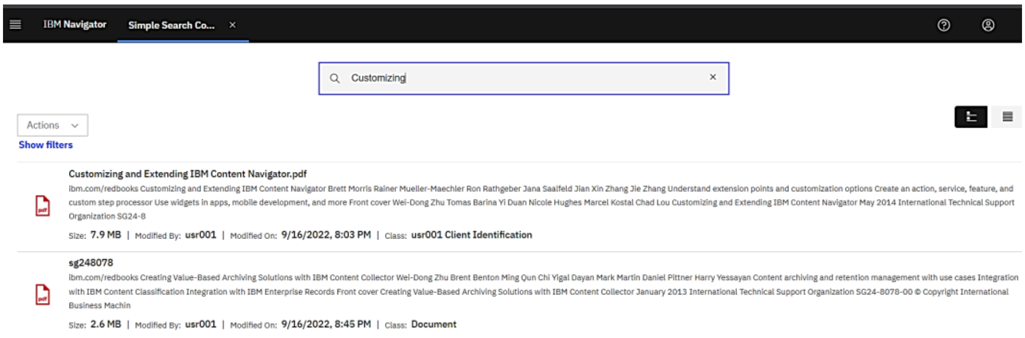
The new search will be listed on the navigation area on the left side.

5.2.2 Simple Search Content

_1. In the **Home** menu click on **Simple Search Content** as shown below. Alternatively use the Simple Search Content tile on the desktop.



_2. Type the word **Customizing** into the search entry field and hit **Enter**[4]. Note that you need to specify a search phrase that is part of the Document Title of one or multiple of the documents you uploaded in previous exercises. In case you used different document titles, adjust your search text accordingly.

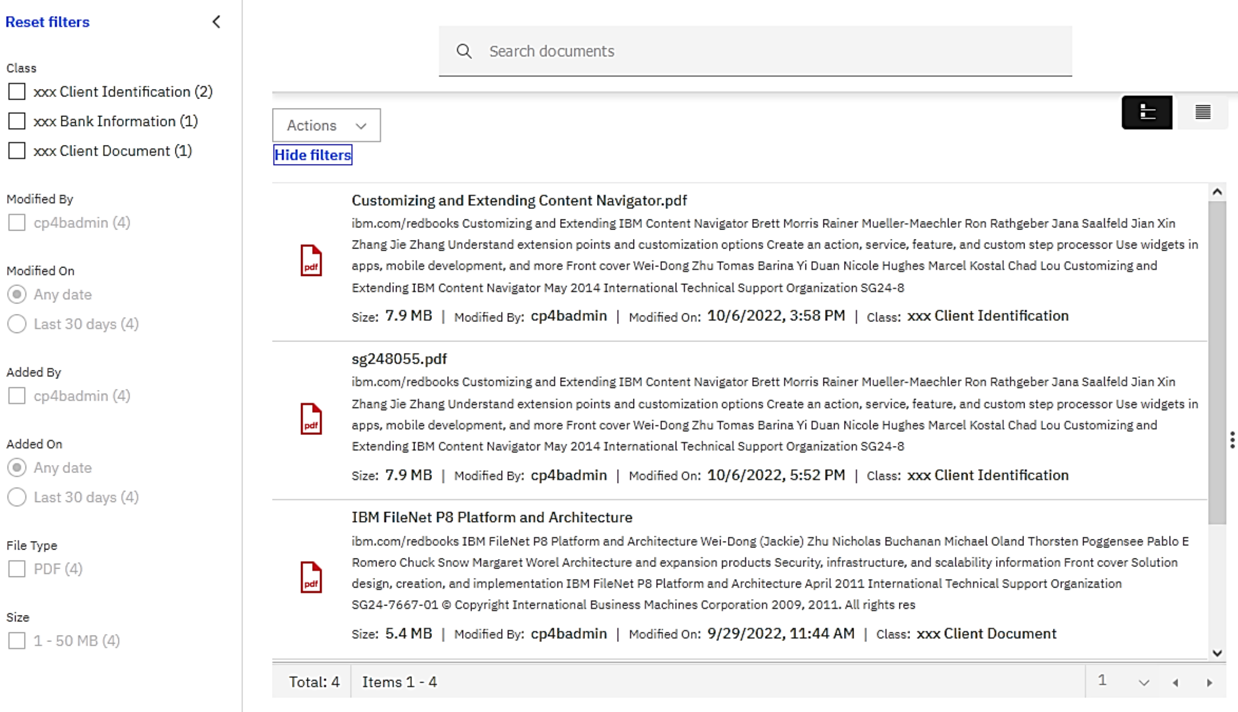


> The last five queries are automatically saved and can be viewed by clicking the search box or pressing the down-arrow key while the focus is on the search box. A list will only show up if prior searches were done by the user.
>
> When the search box is empty, a hint is displayed in grey in the search entry field. The hint “Search content” is displayed if full text search is available. Otherwise “Search documents” is displayed.

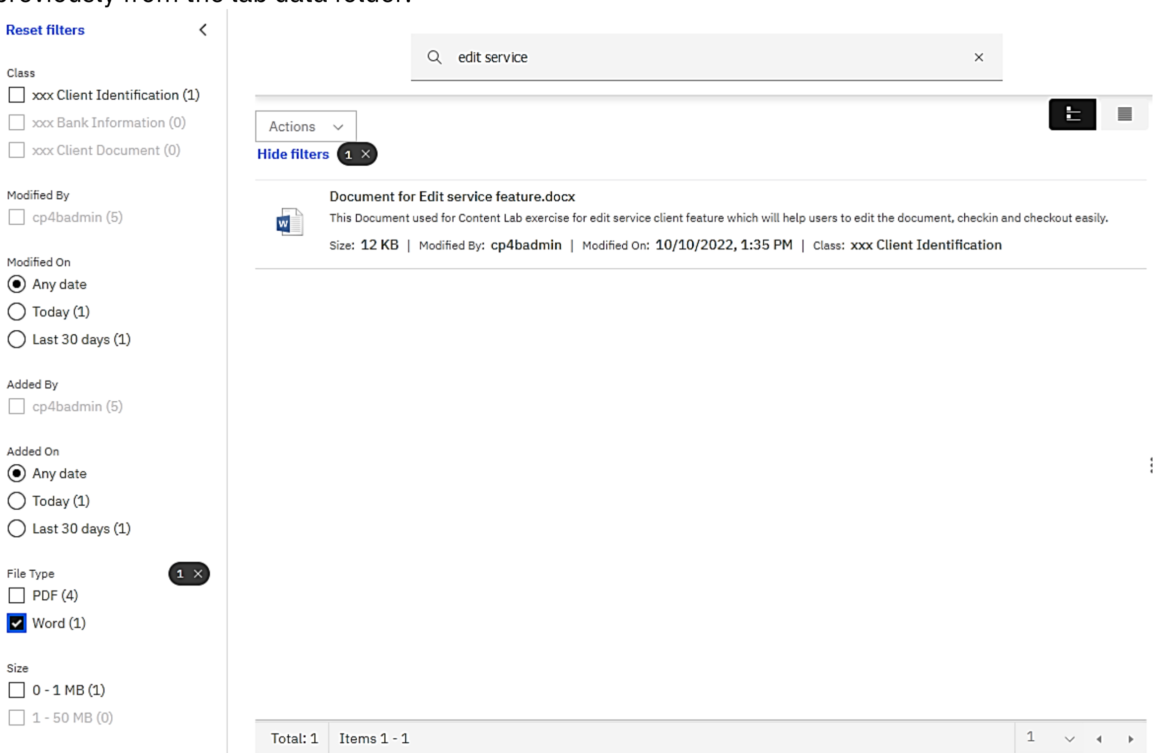
> Administrators can update the repository configuration to set the maximum number of results that are returned by the search. This is done on the “Search” tab of the repository configuration, via the field “Number of Simple Search results”. Also, a timeout to limit long-running searches can be set. In the desktop definition on the “General” tab, the file type filters can also be configured. The file type filters define the filter options available in the Simple Search Content.
>
> When documents in the search results are updated or deleted, the filters are scanned. The modified documents are assessed for not matching the filter options that they did match when the search was first run. If any document gets out of sync with the filters, **users are notified and given the option to reset the filters**. The user can select to continue to use the stale filters until they are reset, or a new search is run. Any filters which were selected at the time the filters became out of sync, are not reapplied to not interrupt the user’s workflow. For example, the user can continue changing the filtered documents even if they no longer match the filter criteria.

[4] In case the expected document is not showing up and you have recently added it, it may be the case that the indexer has still to complete indexing the document. Try again after some time.

_3. To access faceted search filters, click **Show filters**. In general, you can filter by Class, Modified By, Modified On, Added By, Added On, File Type, and Size. File Type filter options are driven by IBM Navigator's configurable file types, which allow users to add options that reflect the type of documents they work with as shown below. If all matching documents share a single value for any specific search filter, the filter option is still displayed but disabled.



_4. Search for documents using the keywords **edit service.** This should result in two or more documents being found. Use a **File Type** filter for **Word** documents to find the respective document you uploaded previously from the lab data folder.



Note: This document will be used in the Edit Services client feature exercise.

_5. **Close** the Simple Search Content tab.

6 Exercise: Creating Favorites

6.1 Introduction

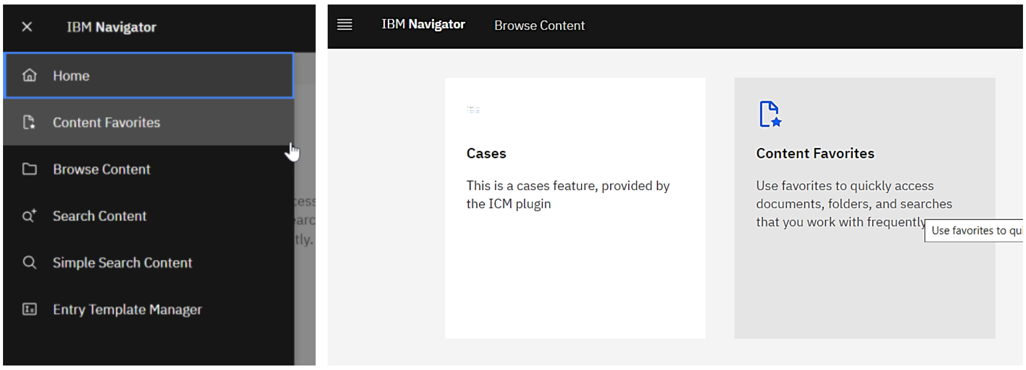
Users can create Favorites to quickly find the items that they work with frequently. Favorite items are added to the Favorites view in the IBM Navigator and in IBM Content Navigator for Microsoft Office. Adding a favorite is as easy as selecting an item in the repository and clicking “Add to Favorites”.

6.2 Exercise Instructions

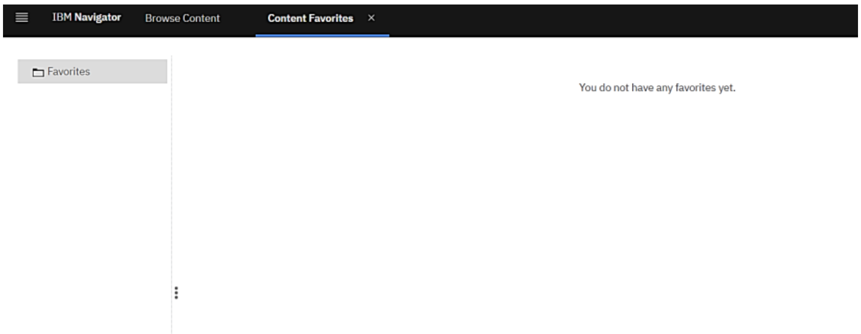
In this exercise you will learn how to add favorites to the **Content Favorites** screen and how it will help you to navigate to frequently used items faster.

Content Favorites

_1. From the Home menu in top left corner, select **Content Favorites**. Alternatively use the **Content Favorites** tile on the desktop.

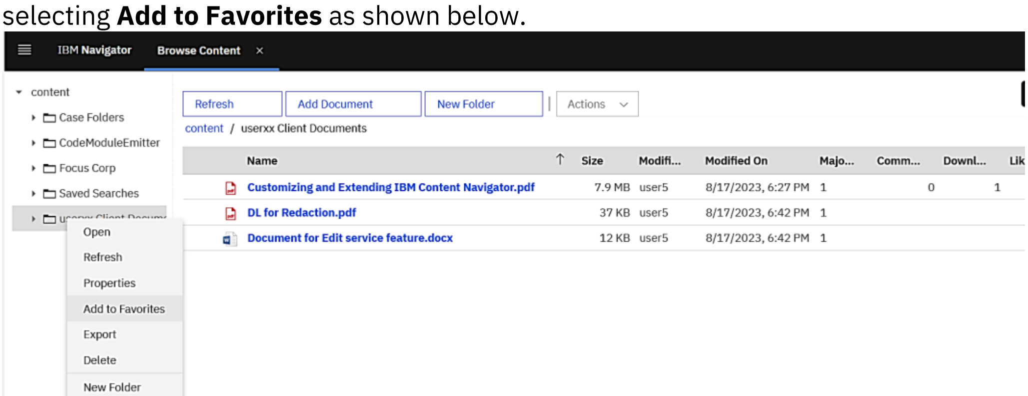


_2. Initially your favorites are empty as shown below.

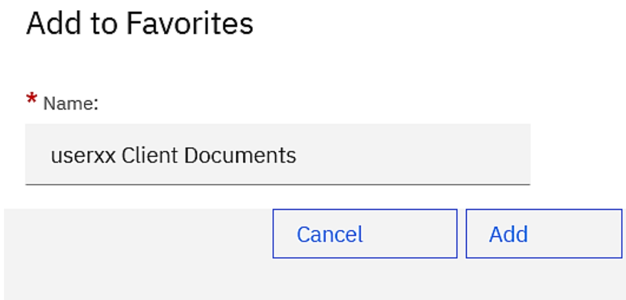


_3. Open the **Browse Content** feature by either selecting it from the Home menu or by clicking the **Browse Content** tile on the desktop.

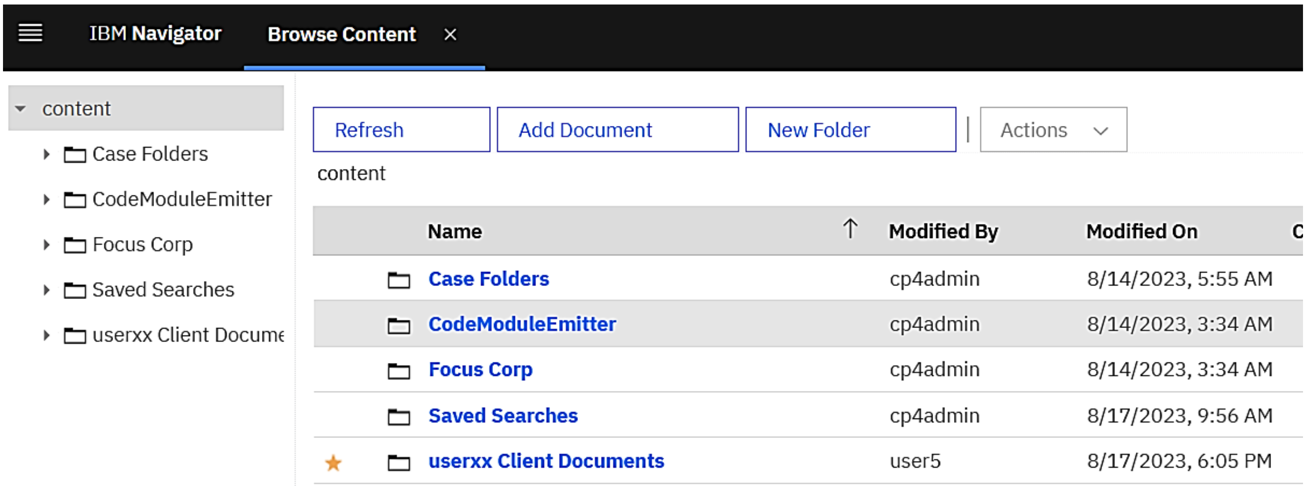
_4. **Add** a **document** or **folder** to your favorites by right-clicking on the document or folder and then selecting **Add to Favorites** as shown below.



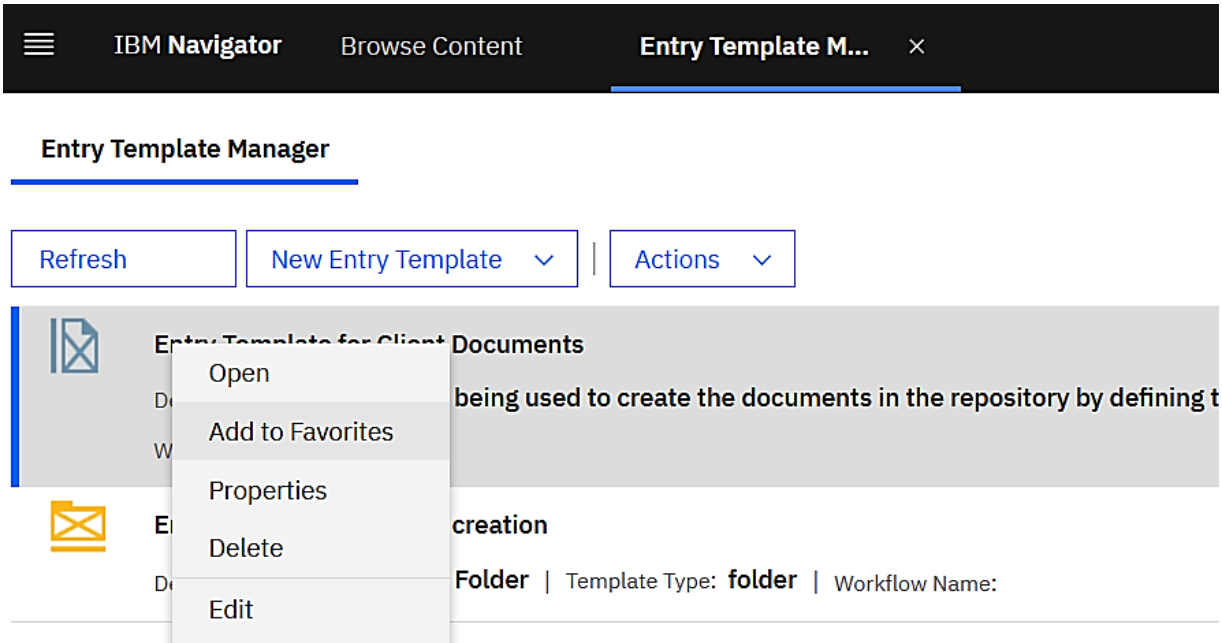
_5. A dialog opens to save the folder or document as a favorite, allowing customization of the name.



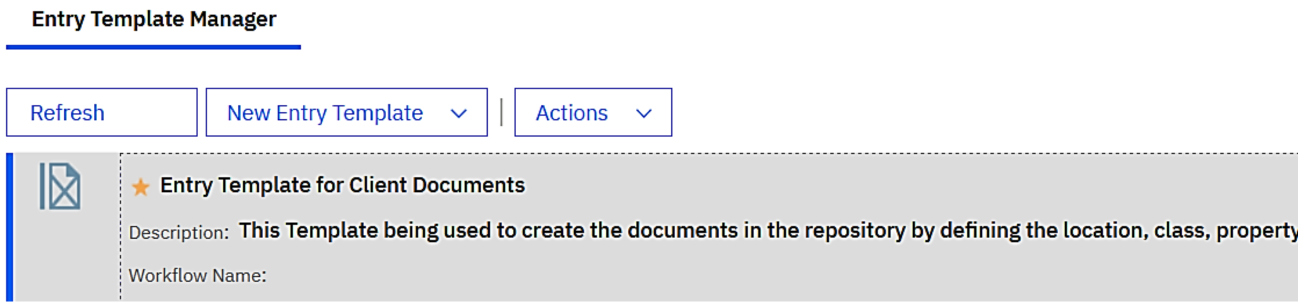
_6. Notice the yellow star in front of the folder name, after adding the folder to your favorites. If yellow star doesn't show up like below screenshot, then close and reopen "Browser Content".



_7. You can also add an entry template from the Entry Template Manager to the favorites list as shown below. Navigate to the **Entry Template Manager**, select an entry template and select **Add to Favorites** from the context menu.

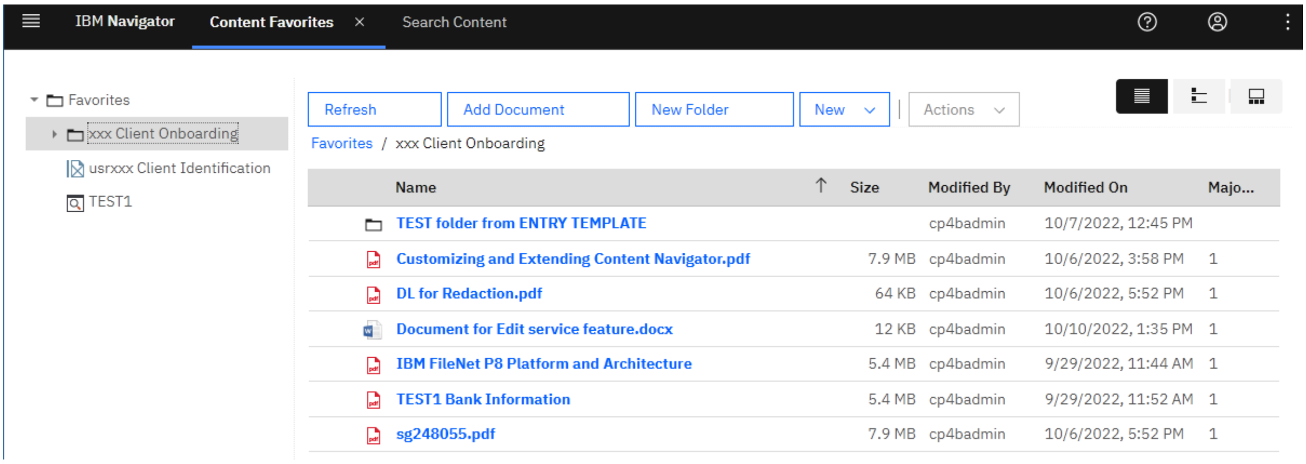


Note again the yellow star in front of the name which indicates a favorite item.



_8. Try it out with the saved search too.

_9. Go back to the **Content Favorites** feature selecting it from the Home menu or clicking on the tab if you did not close it. Observe the newly added favorites. Use these favorites to quickly access often used items without having to find them on the other tabs in your IBM Navigator desktop.



7 Exercise: Content Redaction using IBM Daeja Viewer

7.1 Introduction

In this exercise you are going to learn about the special flavor of annotation used for role-based redaction, permanent redaction, and the merge & split feature from the IBM Daeja Viewer. The redaction feature allows to protect content like Personal Sensitive Information data (like Names, SSN, Email, and IP address, Biometrics, Genetic information) from viewers without a need to know. It is available in two modes. Both, the Permanent Redaction feature, and the Role-based Redaction feature are available within the Daeja Viewer. The Permanent Redaction feature achieves the redaction by creating a new redacted version of the document. The Role-based Redaction feature keeps the document unchanged and displays the document content either as-is if the user accessing it has the permission to see its content without redaction or shows it with redactions for other users. Desktop administrators have the ability to define and configure different roles & policies and redactions reasons as per business requirements.

7.2 Exercise Instructions

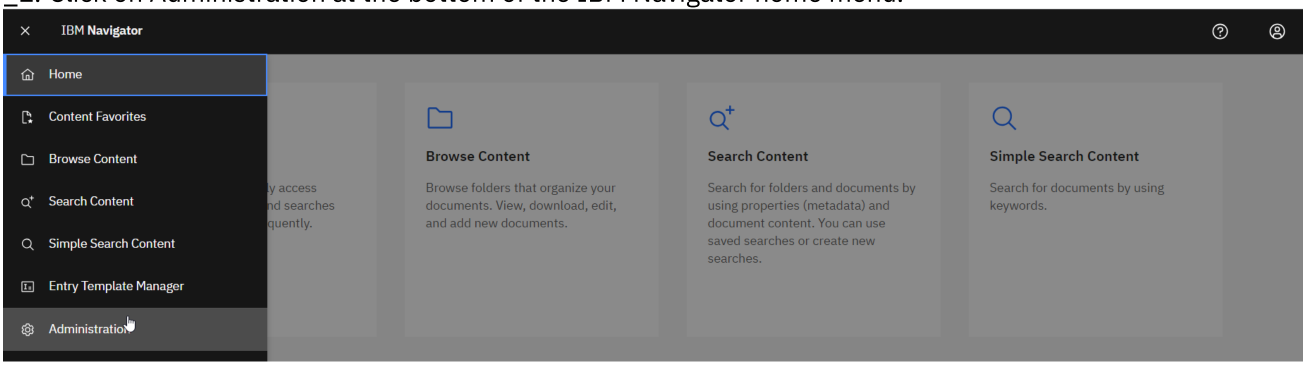
> Note that the section below describes the role-based redaction configuration steps that an administrator would need to perform. Depending on the context in which you perform the lab you might not have admin privileges to access the administration capability.
>
> - *If you are an administrator, please continue to perform all sections*.
>
> - *If you are not an administrator, your environment will have been setup by your administrator based on these steps and the required redaction reason configurations should already exist. You can read through the steps described in section 7.2.1 or skip to section 7.2.2 to continue with the user steps.*
>
> In any case the required redaction reason etc. should already exist in your environment. They are shown for information purposes, and nothing is to be performed.

7.2.1 Role-based Redactions

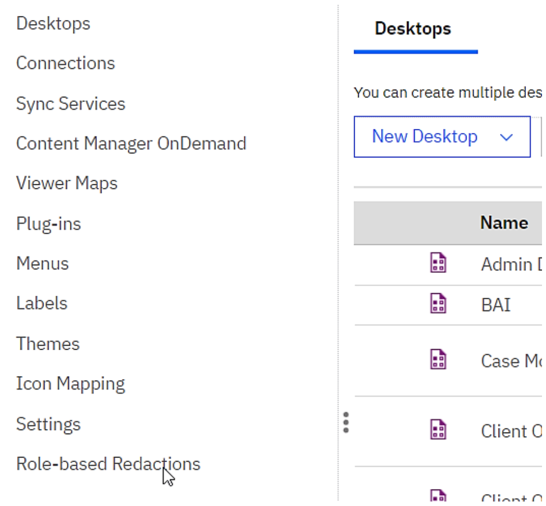
Role-based redaction allows to create redactions which display different redactions of the same document depending on the role of the user looking at the document. They are created by placing a black rectangle annotation on the sensitive data and selecting a redaction reason. The redaction reason, and the role specification which indicates, which users can place redactions, and which users are able to see the sensitive data in spite of the redaction being placed, are created through the IBM Navigator administration desktop. See https://www.ibm.com/docs/en/content-navigator/3.2.0?topic=components-configuring-role-based-redactions-filenet-p8-repositories for details.

Role-based Redaction configuration steps (REFERENCE ONLY, Administrator already performed - Role-based Redaction configuration steps):

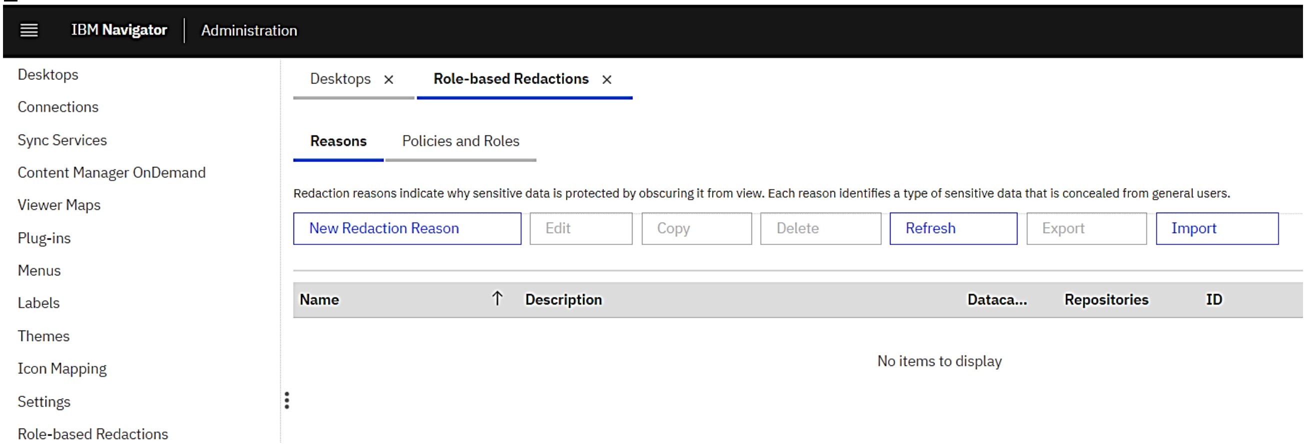
_1. Click on Administration at the bottom of the IBM Navigator home menu.



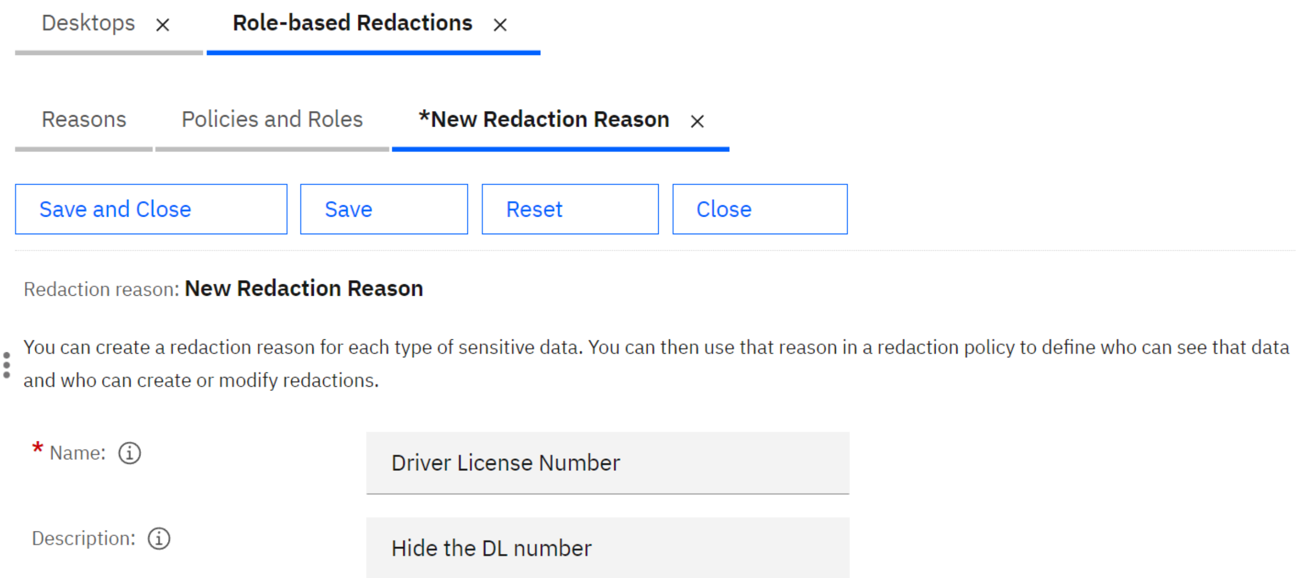
_2. Click on **Role-based Redactions** in the menu on the left.



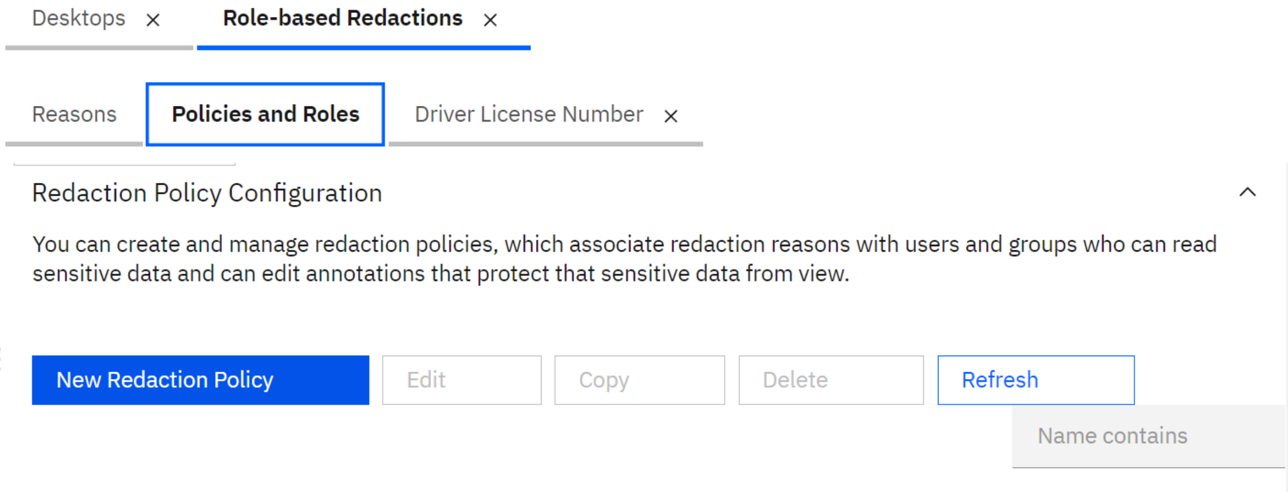
_3. Click on the **New Redaction Reason** button as shown below.



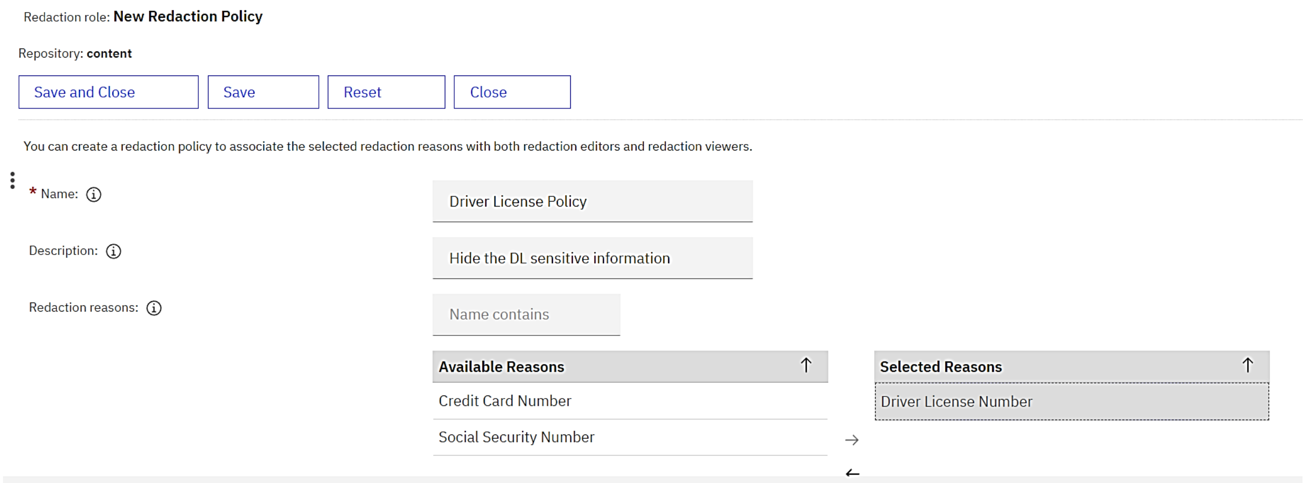
_4. Enter the **Name** and **Description** of the redaction reason and then click on **Save and Close**.



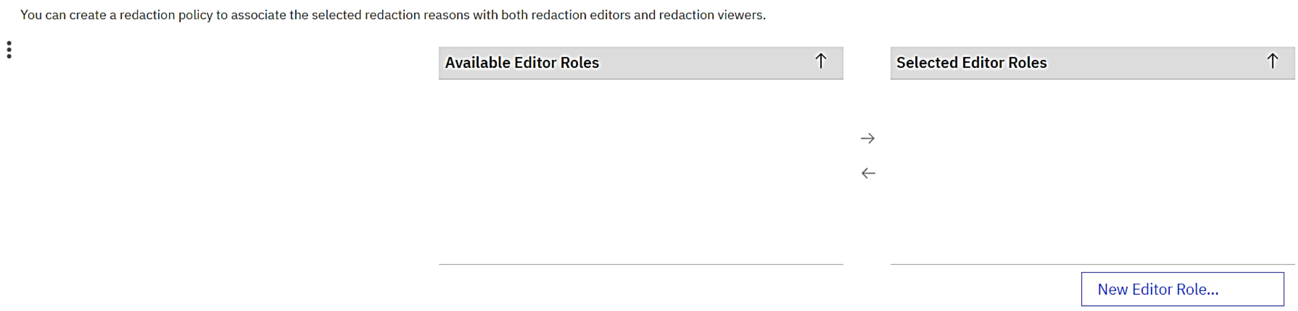
_5. Navigate to the **Policies and Roles** tab and click the **New Redaction Policy** button as shown below.



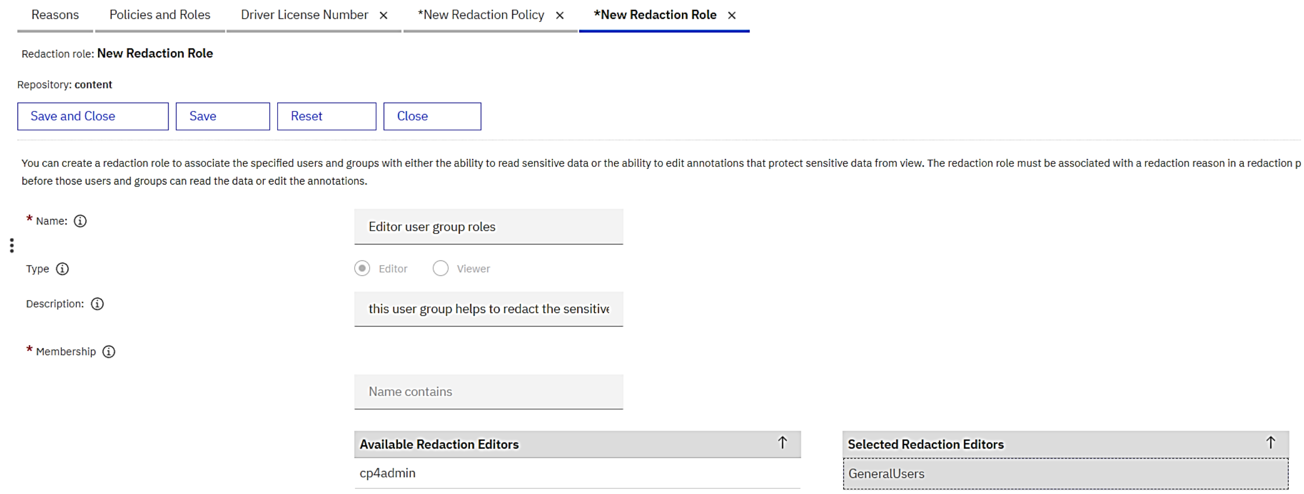
_6. Enter a **Name** and add the **Driver License Number** reason to the list of **Selected Reasons** as shown below.



_7. Scroll down and click on **New Editor Role...**



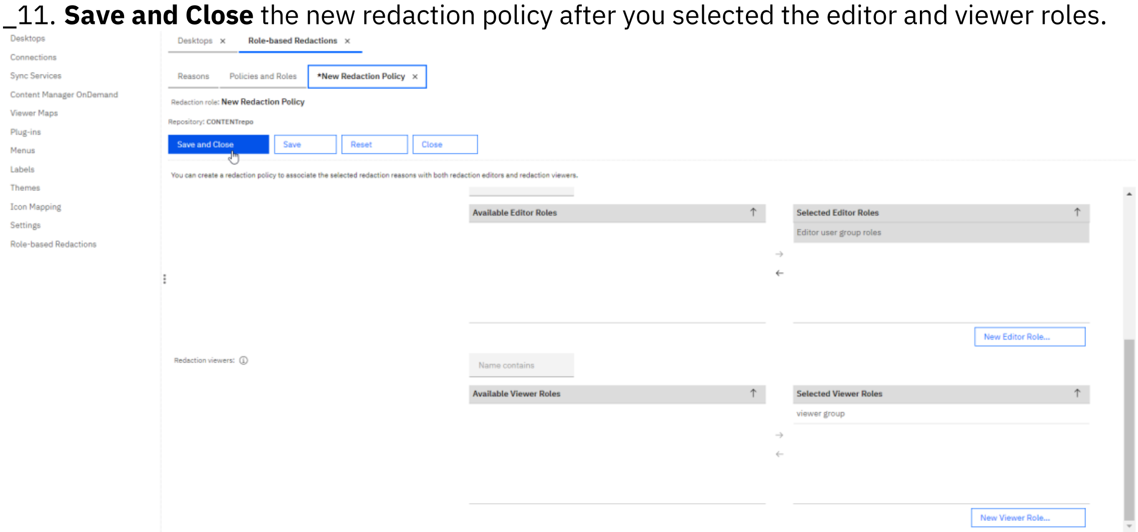
_8. Enter the **Name** and add the group **GeneralUsers** to the **Selected Redaction Editors.** These are those users who you want to give the ability to annotate the sensitive information. Click the **Save and Close** button.



_9. Scroll down and click on the **New Viewer Role...** button.

_10. Enter the **Name** and add the user **cp4admin, cp4badmin**, or **cpadmin** depending on your environment to the **Selected Users and Groups.** Click the **Save and Close** button.

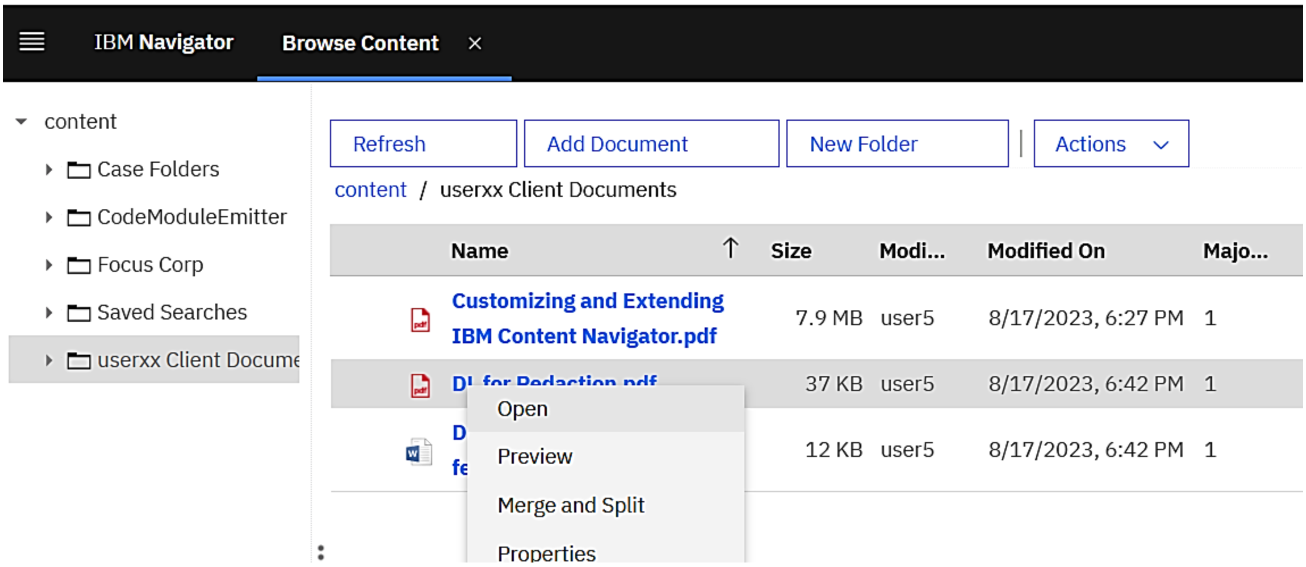
_11. **Save and Close** the new redaction policy after you selected the editor and viewer roles.



7.2.2 Utilizing Role-based Redaction:

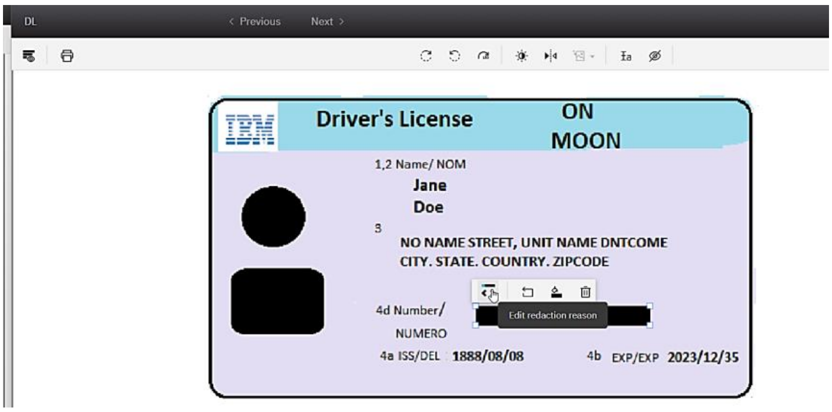
_1. From the IBM Navigator desktop, navigate to the **Content Favorites** or **Browse Content** feature. Find the document named **DL for Redaction.pdf** in the folder you previously created.

_2. Right-click on the document and select **Open** or click on the name in the name column.



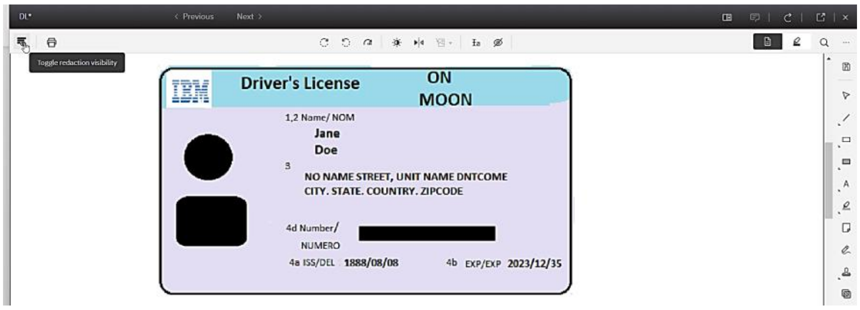
_3. The document will open in the Daeja Viewer as shown below. Note that by default the document opens in standard annotation mode. On the **right-hand side menu**, you can find the **Filled rectangle** button to black out sensitive data as indicated in the screenshot.

_4. Select the **Filled rectangle** tool from the vertical toolbar on the right and **draw a redaction** to hide the sensitive data as shown below. Right-click the redaction annotation and click the **Edit redaction reason** icon.



_5. In the **Select redaction reason** dialog select the only available redaction reason **Driver License Number**[5] and click the **OK** button.

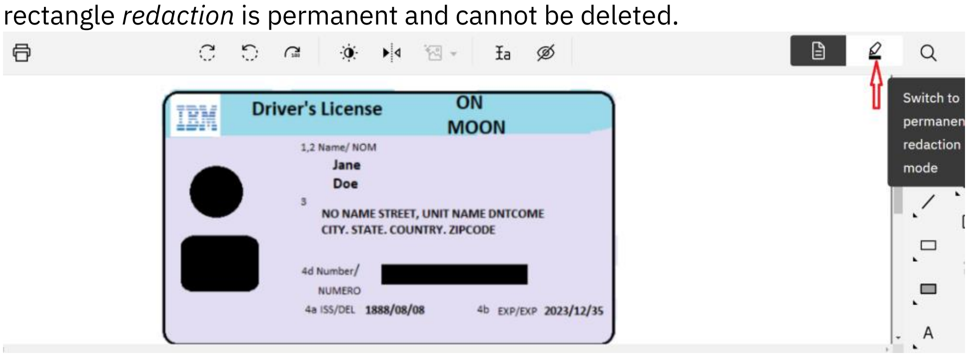
> Note: Users possessing the editor role can toggle redaction visibility using the leftmost icon from the top toolbar. By that they can temporarily show the sensitive data using the toggle. Editors can also decide to remove the role-based redaction at a later stage.
>
> In your environment the role-based redaction for the Driver License is set up so that members of the GeneralUsers group possess the editor role whereas the administrator user only possesses the viewer role for this redaction reason. This allows normal users to create role-based redactions on documents. In case you have access to the admin credentials in your environment, you can login with the user who have possesses the viewer role, open the same document which you redacted and observe that you have no ability to neither make the sensitive data visible nor remove the redaction permanently.



7.2.3 Permanent Redaction

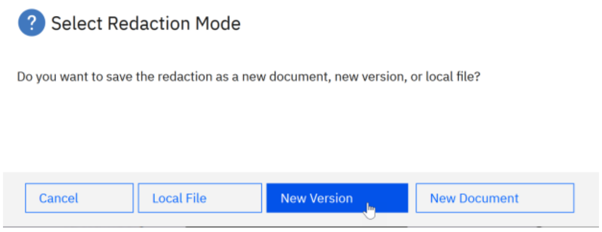
_1. In case you no longer have it open, navigate to the **Content Favorites** or **Browse Content** feature and open the **DL for Redaction.pdf** document in the folder you previously created.

_2. The document will open in the Daeja Viewer as shown below. Find the Redaction Mode options as indicated in the screenshot. The **Redaction Mode option** allows to toggle between **Permanent Redaction** mode and **Normal Annotation** mode. While the black rectangle *annotation* can be deleted again, the black rectangle *redaction* is permanent and cannot be deleted.

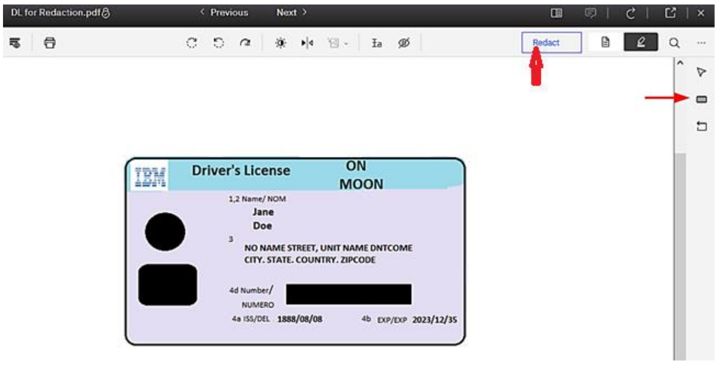


[5] In case you are performing the lab using an admin user, the name of the Redaction Reason has a trailing “admin”.

_3. Switch to the **permanent redaction mode** by clicking the indicated icon above. A popup window asks how to save the new permanently redacted document version. Reply **Yes** to **save unsaved annotation** and in next Popup select the **New Version** to store it in the same FileNet Content repository as a new version of the existing document.



_4. If you have already hidden the sensitive data of the Driver's License Number in the previous role-based redaction exercise, then you may not need to do anything in this step. Otherwise, redact the DL license number by selecting and dragging the filled rectangle from right-hand side menu.



_5. Click on the **Redact** button (as shown above) to permanently store the redacted document as a new version. Then select normal annotation mode again. The redaction has been made permanent and can no longer be removed or temporarily switched off.

_6. Close the IBM Daeja Viewer.

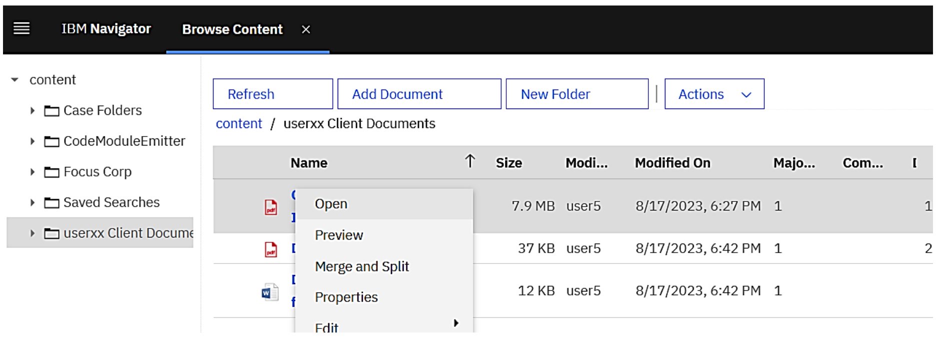
7.2.4 Merge and Split

For documents in FileNet Content Manager, users can rotate, cut, and copy or paste one or multiple pages from existing documents into a new document or an existing document. When merging and splitting documents has been completed, the new or updated document can be saved back into the repository.

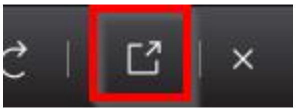
> All the documents that are being used on a Merge & Split operation must be from the same repository. For example, if you cut a page from document A, copy a page from document B, and paste them both into a new document C, document A and B must be from the same repository and document C will be saved into that same repository too.

Merge and Split exercise steps:

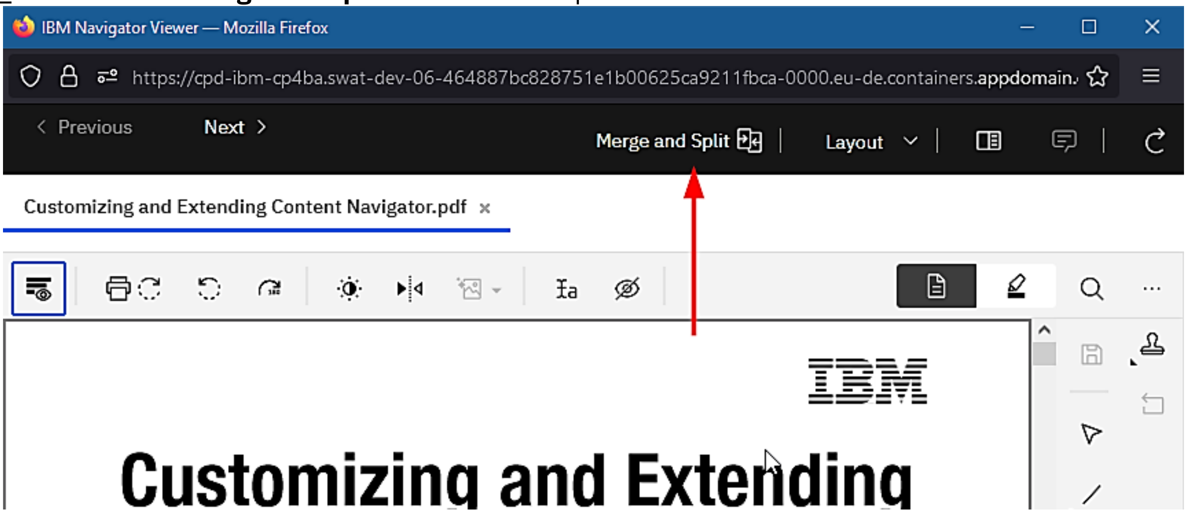
_1. **Open** the multi-pages document **Customizing and Extending IBM Content Navigator.pdf** from the **Browse Content** or **Content Favorites** feature as shown below.



_2. The **Merge and Split** button is only available if Daeja Viewer is displayed in its own browser window, which is not the case in the default configuration. In the opened document, click on the **Open in new window** button in the top right corner.



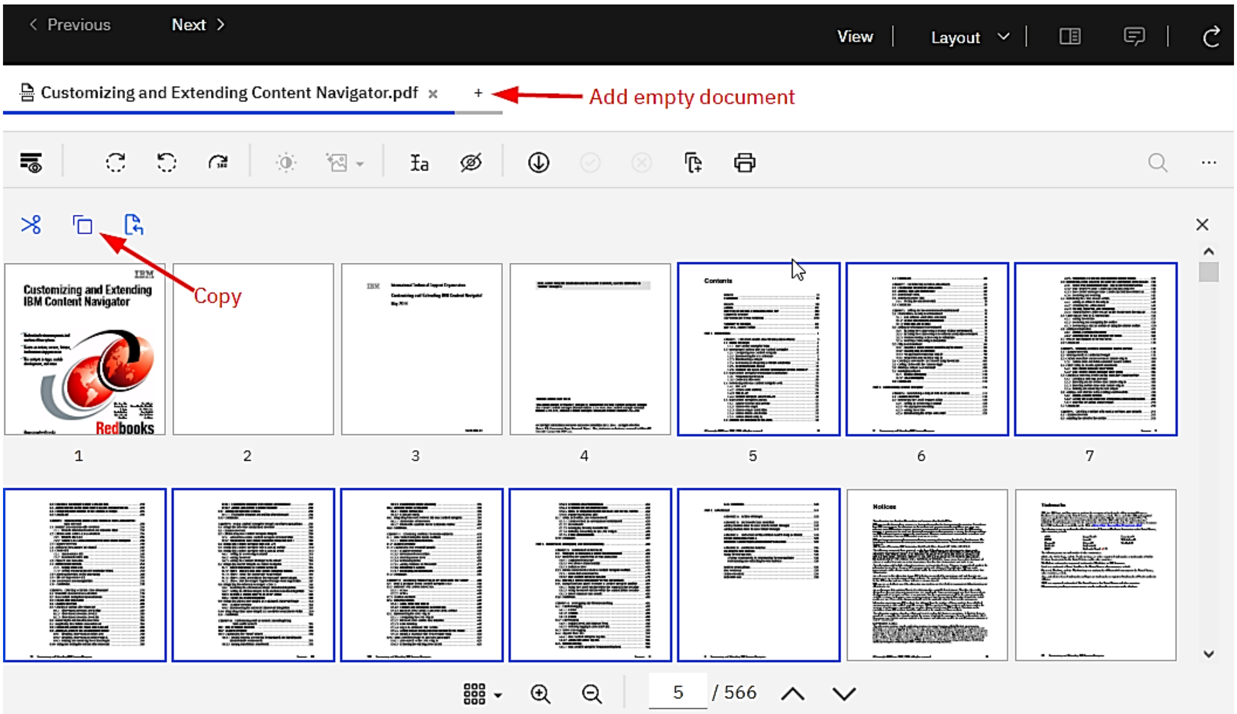
_3. Click on the **Merge and Split** button in the top toolbar as shown below.



_4. The **thumbnail view** opens showing multiple pages on one screen. The size of the thumbnails can be adjusted by using the buttons in the toolbar at the bottom of the page. **Select** all the table of content pages by clicking on the first page, then press the Shift button on the keyboard and click on the last page.

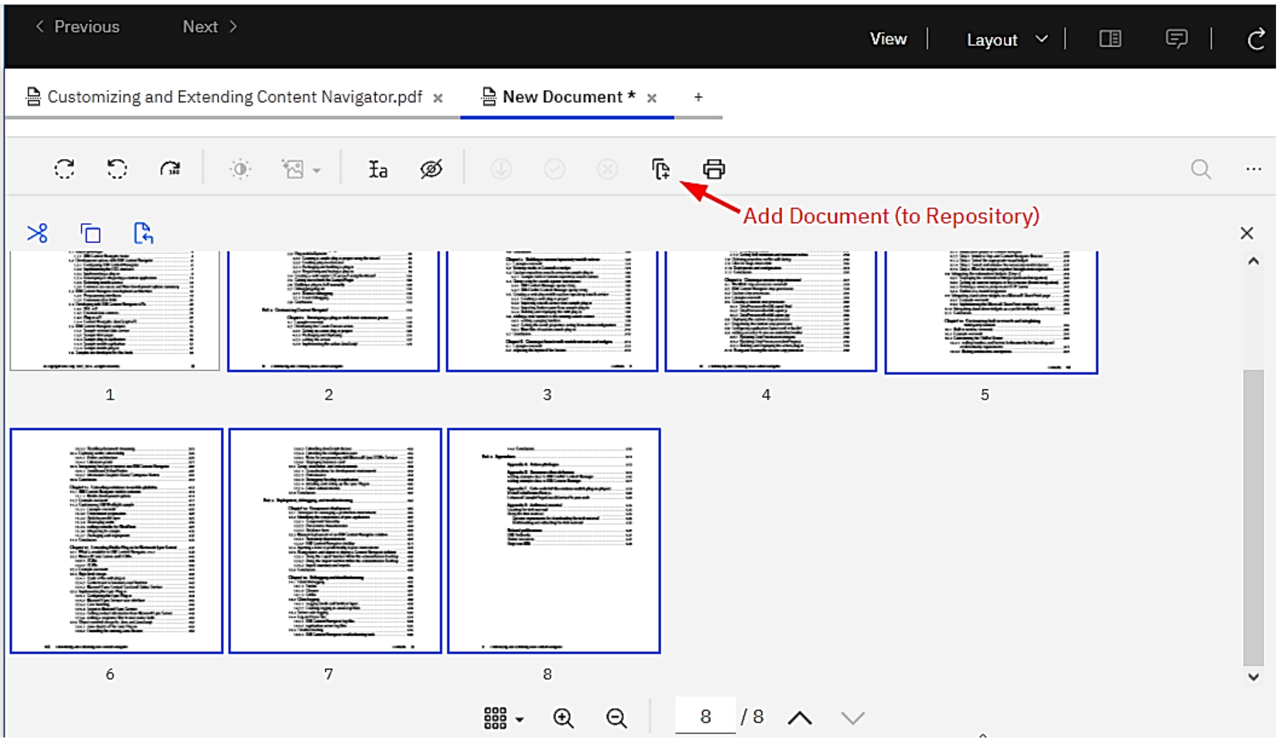
_5. Click the **Copy** icon to copy the selected pages.

_6. Click the small **+** sign next to the tab for the open document to add a new and empty document.



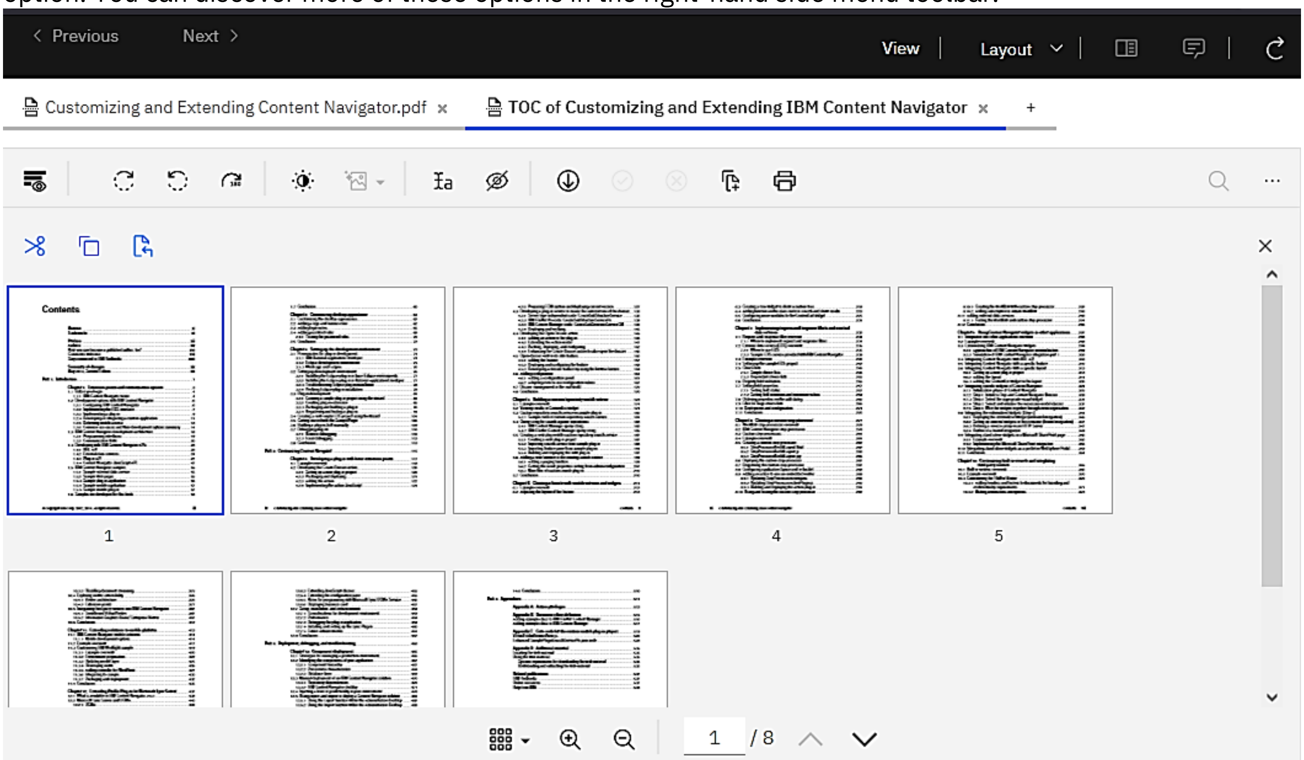
_7. In the newly created document, click the **Paste** icon (to the right of the Copy icon), to insert the copied pages from the original document.

_8. Click the **Add document** icon in the top right corner to save the newly created document to the repository.



_9. The Add document dialog opens. Enter a **Document Title** and **Reference ID** (e.g., TEST1). Click the **Add** button to save the document into the repository.

_10. After that, all users with access rights to the document can see the new document that was created using one of the features of “merge and split”. Note that Daeja viewer has lots of other features like a print option. You can discover more of these options in the right-hand side menu toolbar.



8 Exercise: Edit Service client feature with local Microsoft Office Apps

8.1 Introduction

This exercise covers the Edit Service client feature which will help users to add or edit a document (using check-in and check-out) easily in Microsoft apps like Microsoft Word, PowerPoint, and Excel that are locally installed on a user's workstation.

If the Edit Service client is enabled in the IBM Navigator desktop configuration and the user clicks **Edit -> Edit with Desktop apps**, the file is checked out and opened in the appropriate application on their workstation. Additionally, if the user is creating or adding new documents to the repository and saving their changes, the changes are checked-in into the repository.

> You need to enable the Edit Service for one or more repositories that are associated with the desktop before you can use the Edit Service client feature.

If you don't have the Microsoft Office apps installed or don't want to setup (download, install, and configure) the Edit Service client on your local workstation, then you can still read through this exercises for awareness of the capability.

8.2 Edit Service client Setup

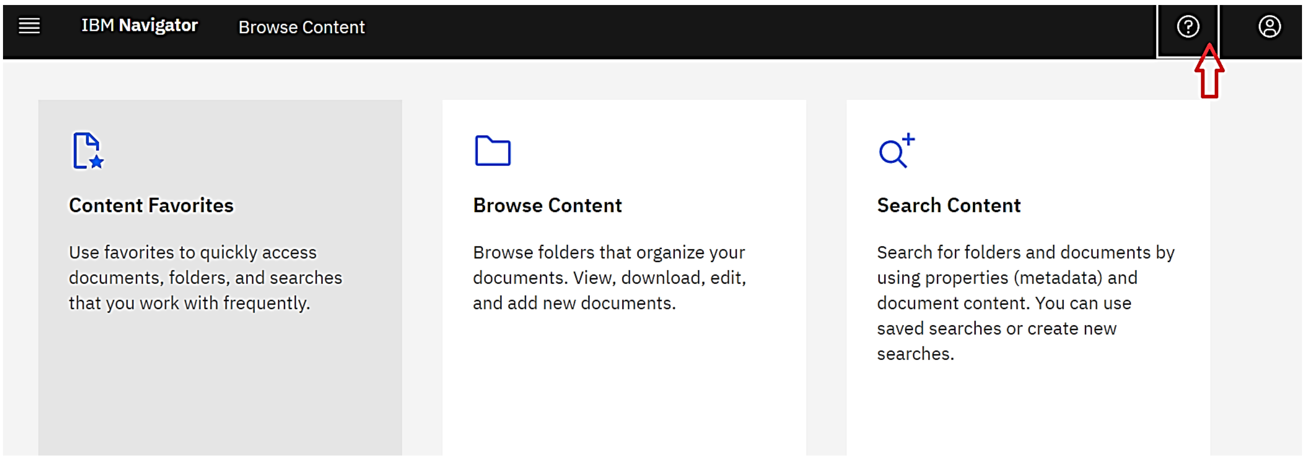
Below are the Edit Service client setup steps which are required for this exercise:

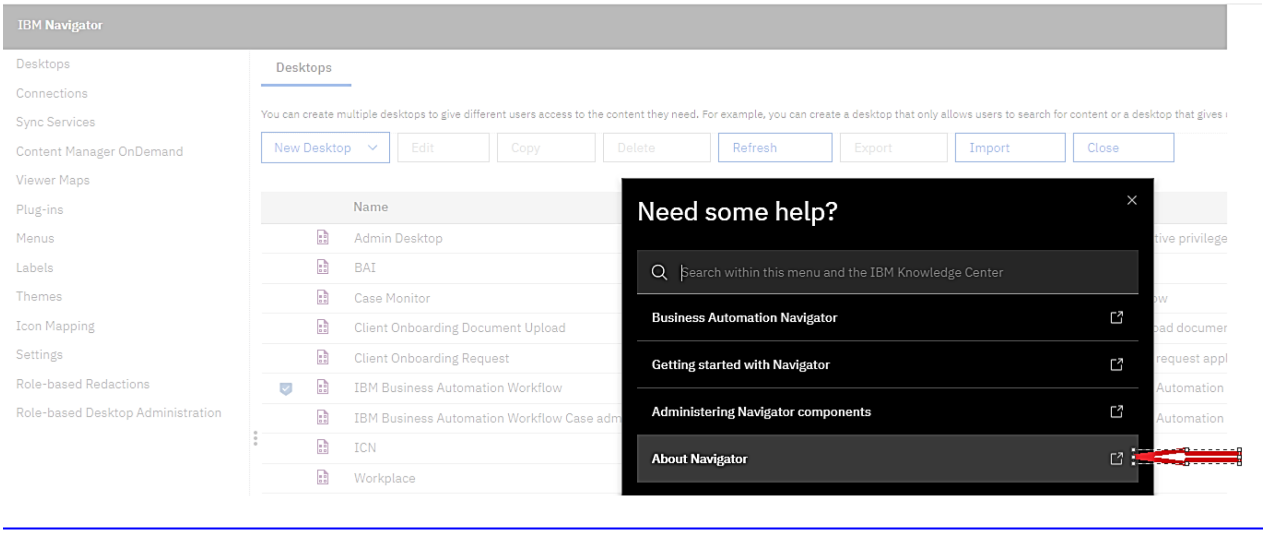
_1. **Edit Services client download**

Depending on your access rights, you may be able to find and download the base version of Edit Service client from IBM Fix Central. IBMers can also download the Edit Service client from the internal Software downloads site and external users can download from the Passport Advantage Online for Customers site by using their IBM Passport Advantage credentials with the below part numbers. Be sure to download a version that is compatible with the version of IBM Navigator you are using in your environment.

Find and download the compatible Edit Service client version and part number based on the IBM Navigator version you are using. Refer to the following screenshots to find out what your IBM Navigator version is.

> Your actual screens may vary from the following screen shots shown here, as these screenshots have been captured from a CP4BA 25.0.0 environment.





IBM Navigator | Plug-ins

IBM Navigator

Version: 3.2.0
Build: icn320.000.0339

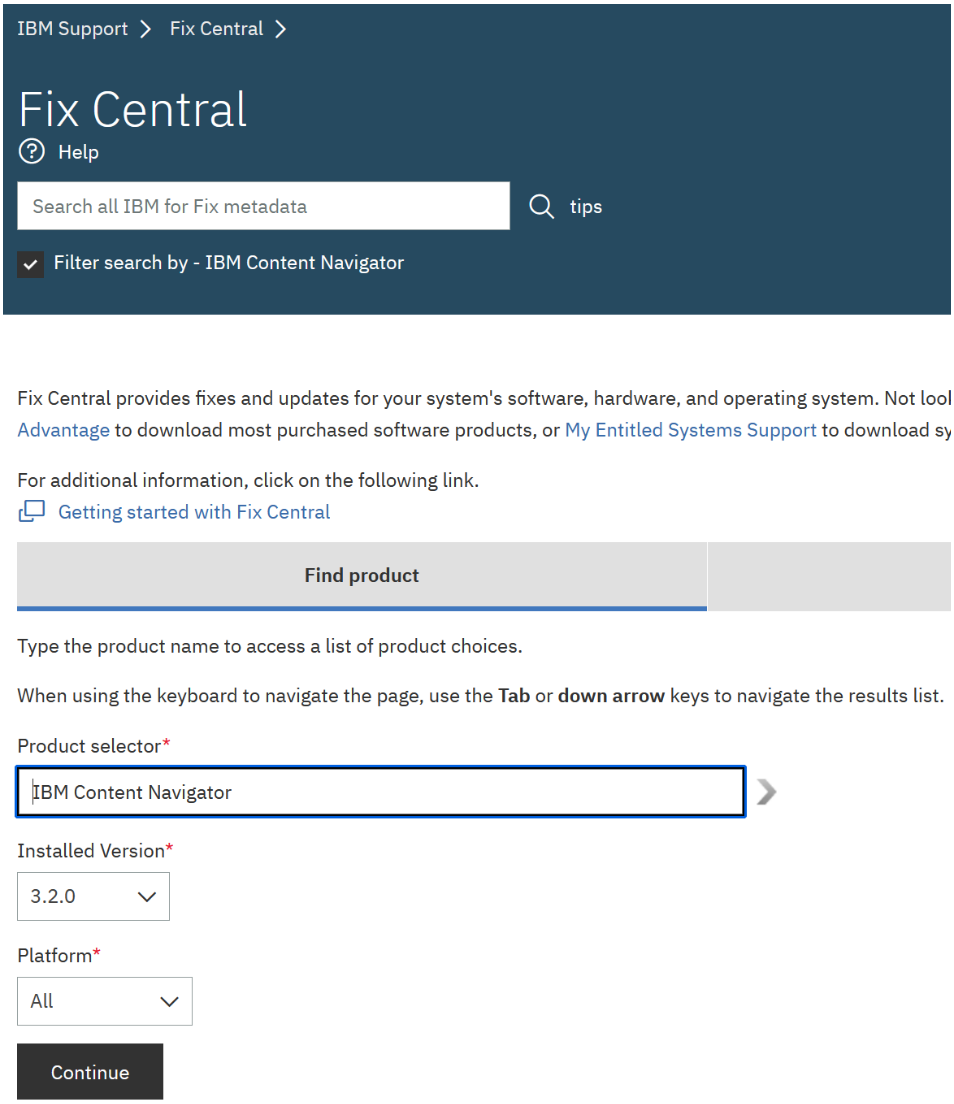
> Below Edit Service client version and part numbers may vary based on the Cloud Pak for Business Automation version that you are using. You may need to install or upgrade the Edit Service client according to your IBM Navigator version.

If your IBM Navigator version is 3.2.0, then you need to install at least Navigator Edit Service (NES) v3.2.0 or any later iFix after downloading it from IBM Fix Central https://www.ibm.com/support/fixcentral/ or any of the other locations.

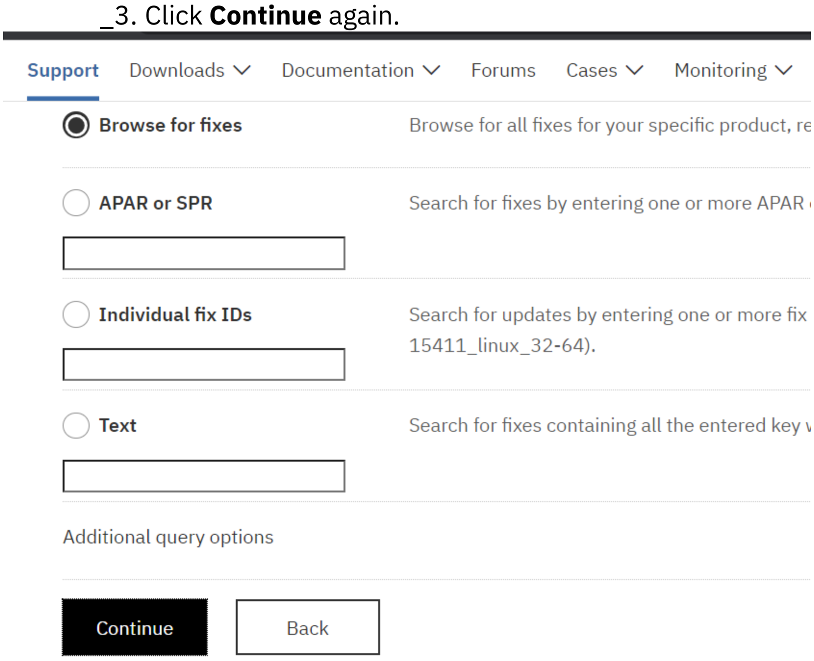
Steps for downloading from IBM Fix Central:

_1. Open IBM Fix Central using above link in a browser.

_2. Search the product by entering **Content Navigator** in the **product selector** and by selecting **Installed Version** as **3.2.0** and your operating system as **Platform** or **All** as shown below. Click **Continue**.

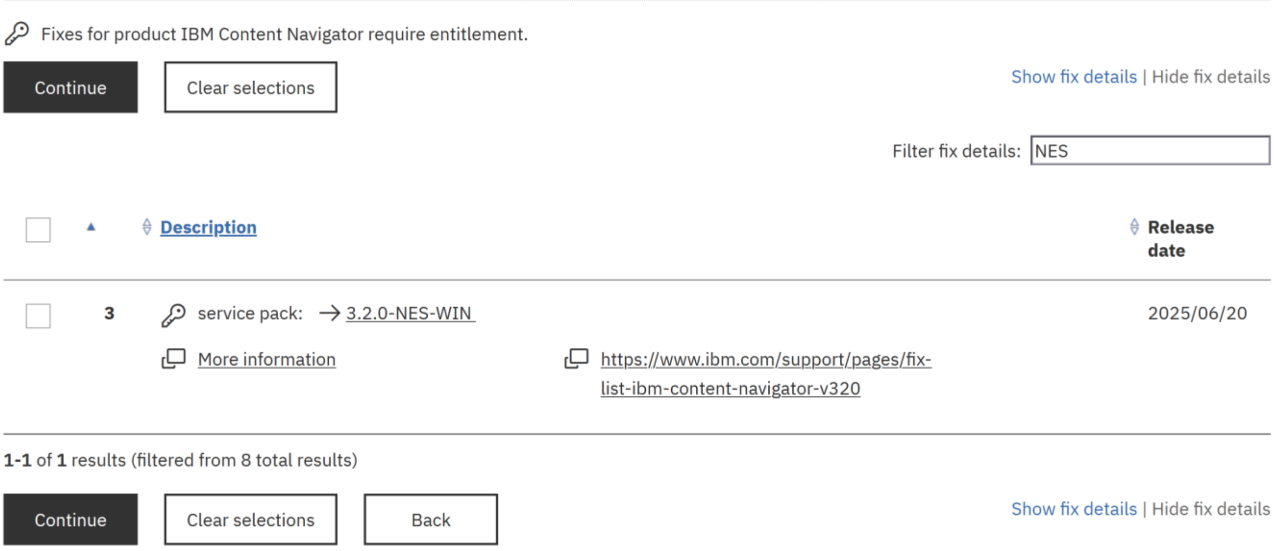


_3. Click **Continue** again.



_4. You can refine the search by putting something like NES-IF001 into the **Filter fix details** field at the right side of the screen as shown below. That way you should find an entry like 3.2.0-NES-MAC for MAC or 3.2.0-NES-WIN and NES-SSLCERT-WIN for Windows.

_5. After you agreed to the license, click the type of download and proceed accordingly.

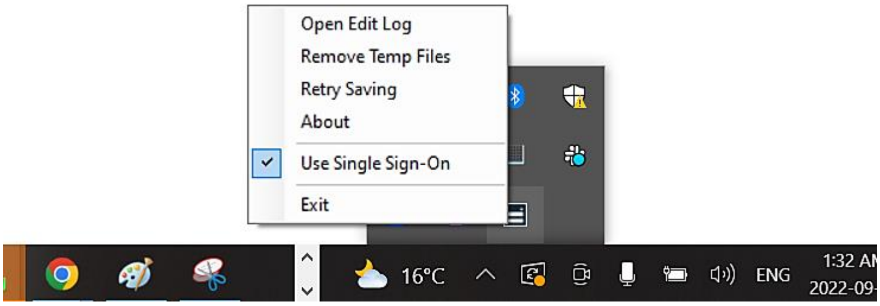


_2. **Edit service client installation steps:**

> For Mac OS users, please follow and complete below Edit Service installation steps https://www.ibm.com/docs/en/content-navigator/3.2.0?topic=components-installing-edit-service-mac-os.

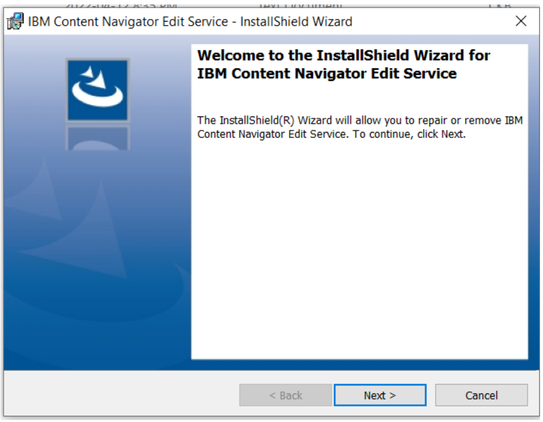
Windows users need to first extract the downloaded ZIP file into a directory.

> If you have an older version of the Edit Services client already installed, please close the Edit Service client using the Exit option in its context menu in the taskbar as shown below, before upgrading the Edit Service client or applying an iFix version.



To start the installation process, execute the **ICNEditClient.exe** file contained in the directory. After that follow the screenshot below that show how to install the Edit Service client on Windows.

On the first screen click **Next >**.



After accepting the license on the next screen, click on **Next >** again. The installer will prompt you to select the install folder and if you want to install the client only for yourself (only for me) or all users (for all users). You can choose the option “for all users” if one or multiple users want to use the Edit Service client on the workstation you are installing to. Otherwise choose the option “for your username only”. After you have made your selection, the install starts directly. When done, click **Finish** to complete the installation.

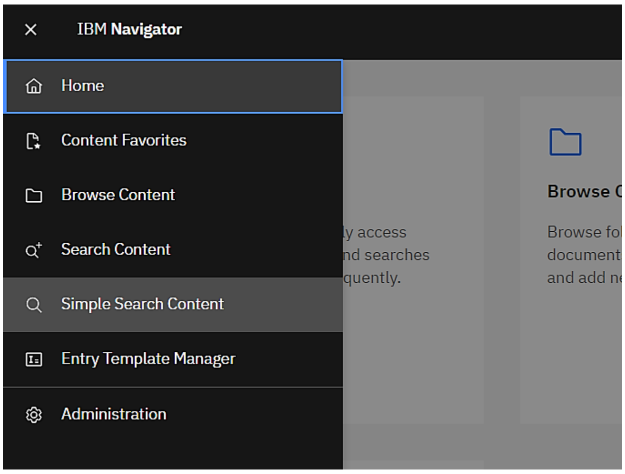
> In a situation where the Edit Service client has no connection to the Internet special steps need to be taken as described in the documentation to configure the Edit Service client https://www.ibm.com/docs/en/content-navigator/3.2.0?topic=components-configuring-edit-service-client-content-navigator
>
> Similarly, in case SSO should be configured, either click on Use Single Sign-On in the context menu of the taskbar Edit Service client icon or follow the alternative procedure that is also described in above link. By default, SSO is not enabled, and Edit Service client will always prompt you for your user credentials when your user session has expired.

8.3 Exercise Instructions

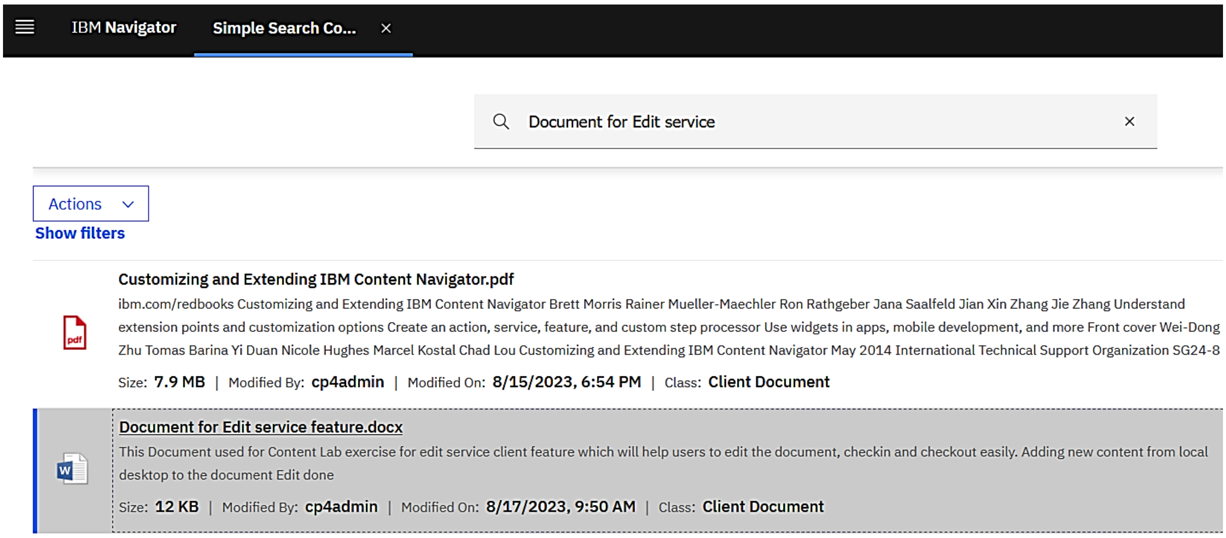
Edit Service client feature:

Scenario 1 – From the Simple Search Content feature pane

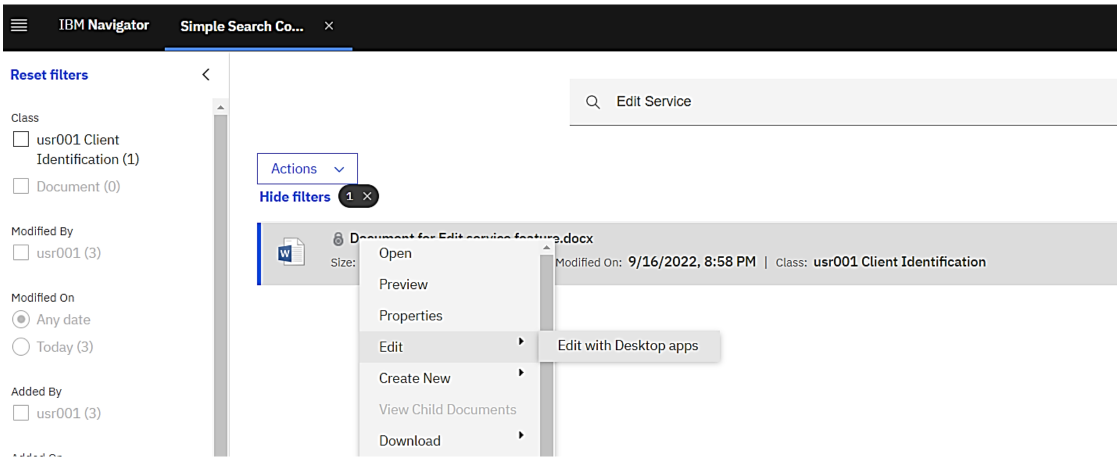
_1. Click on the Home menu next to IBM Navigator and select **Simple Search Content**.



_2. You can search for the document with the title called **Document for edit service** or you can also search for any other existing MS Word document from the search pane as shown below.

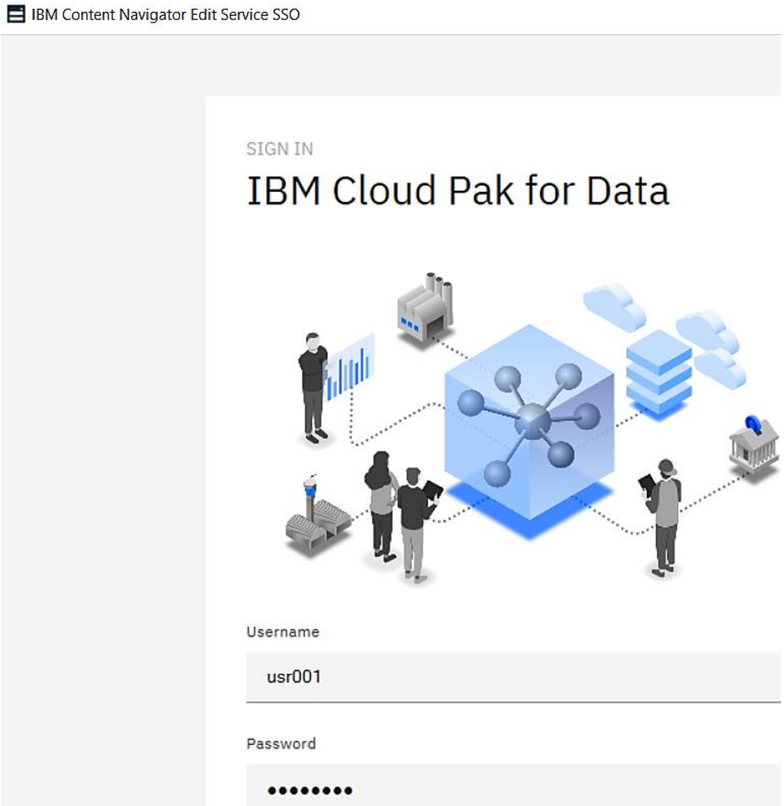


_3. After you have searched for the document which you want to edit with your local Microsoft Word desktop app, right click on the document and select **Edit > Edit with Desktop apps** as shown below.

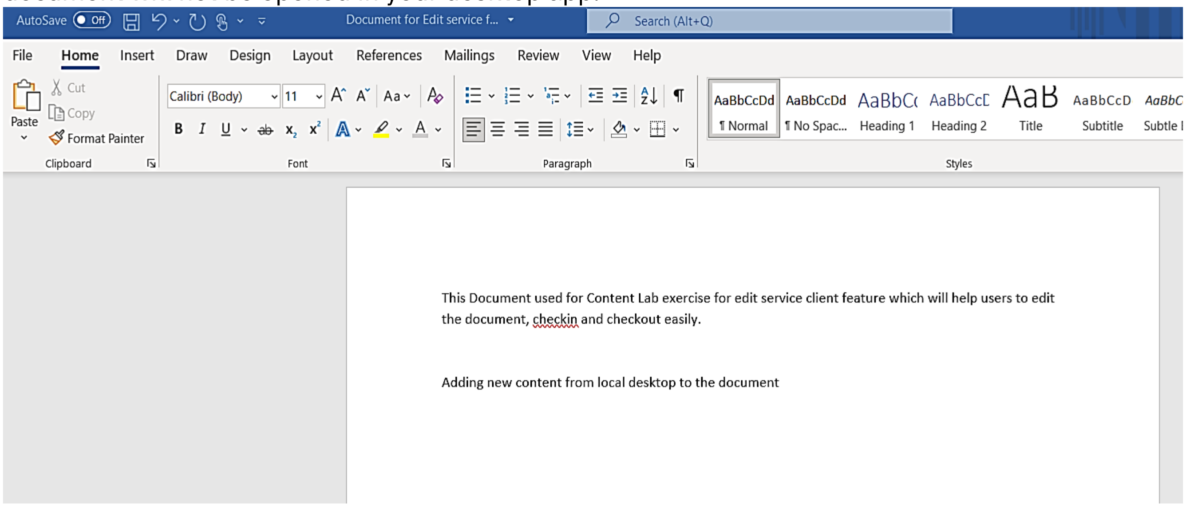


_4. The Edit Service client will prompt you for your login credentials.

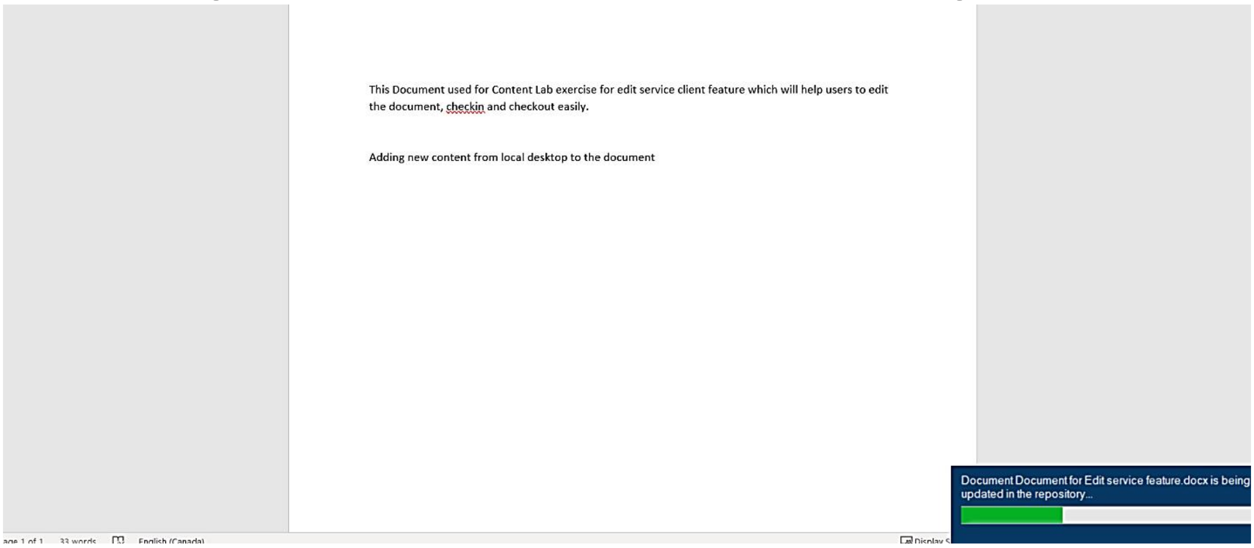
If the login screen does not come up, instead an SSL validation error might be shown in the ICN Content Navigator Edit Service popup in the lower right corner. If this is the case, you need to follow the instructions in the documentation Disabling automatic validation of IBM Content Navigator server SSL certificate for the Edit Service client on how to disable certificate validation. After that you need to exit and restart the Edit Service client to activate the setting. Once done repeat step 3.



_5. The document is opened in your local MS Word desktop app as shown below.
Note: You may get an error at this step if the Edit Service client is not installed properly and the document will not be opened in your desktop app.

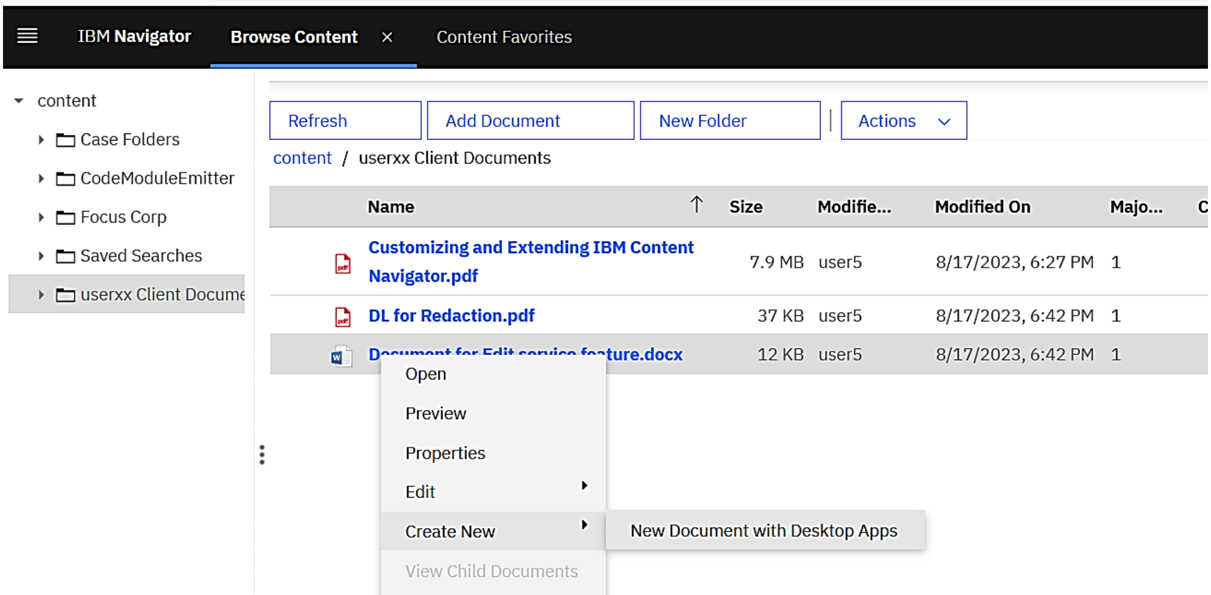


_6. **Make** an **arbitrary** change to the document.
_7. After you **save or close** the document when having modified it, you will see a popup in the bottom right corner as shown below that the modified document is being updated in the repository.



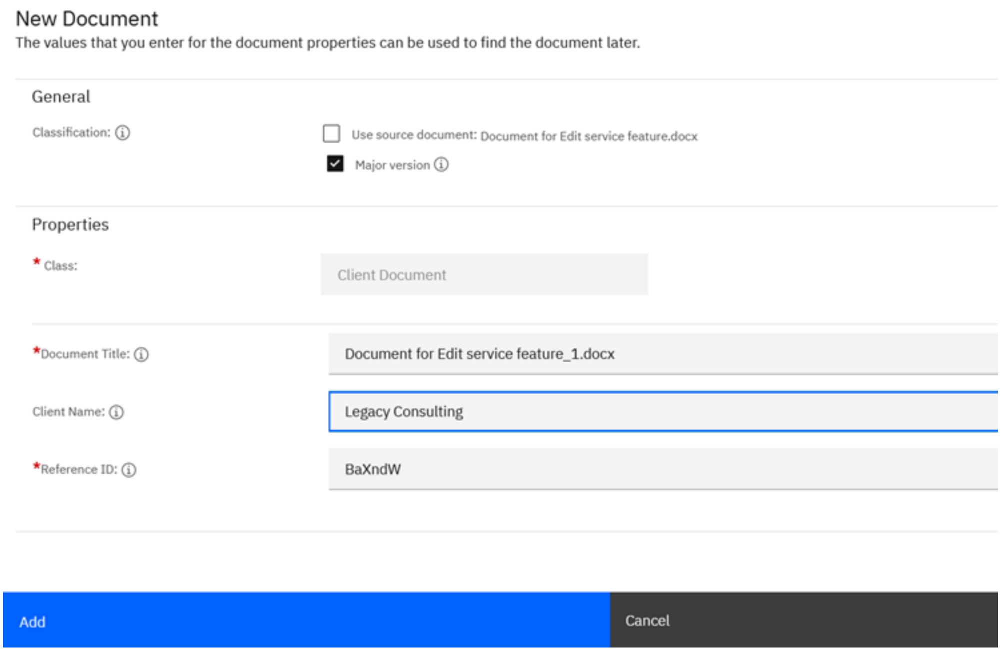
You can use the Edit Service client for Microsoft Word, Excel, and PowerPoint documents.

_8. You can also create a new document or next version of an existing document using the Edit Service client from the **Browser Content** pane as shown below.

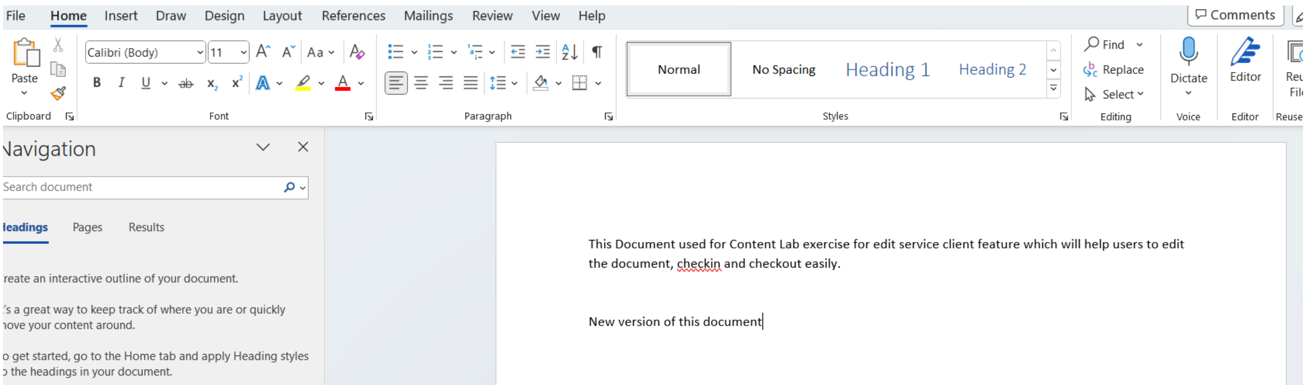


_9. Enter **Document for Edit service feature_1.docx** as **Document Title**, enter a **Client Name** and **Reference ID** in the entry template popup window as shown below and click **Add**.

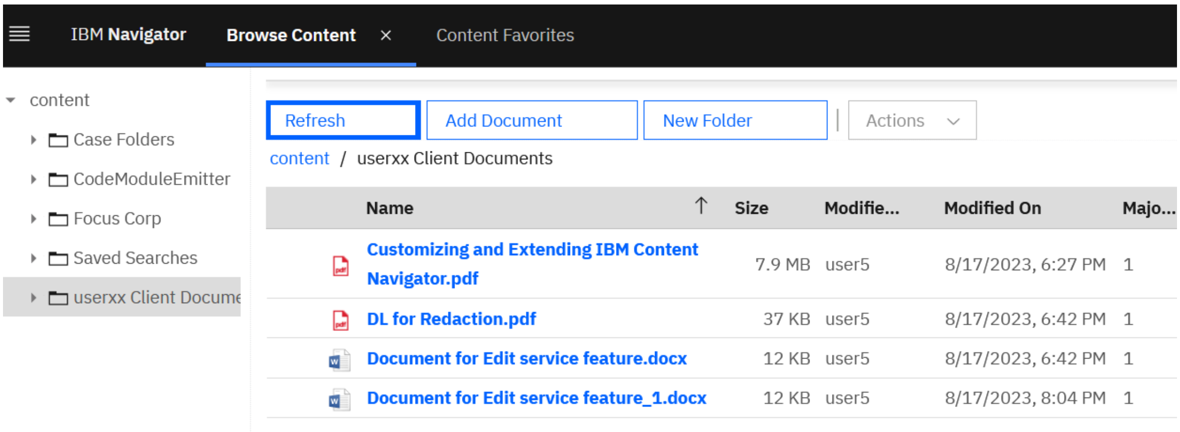
Note that here you are creating the new document based on a copy of the existing document, not a new version of the existing document.



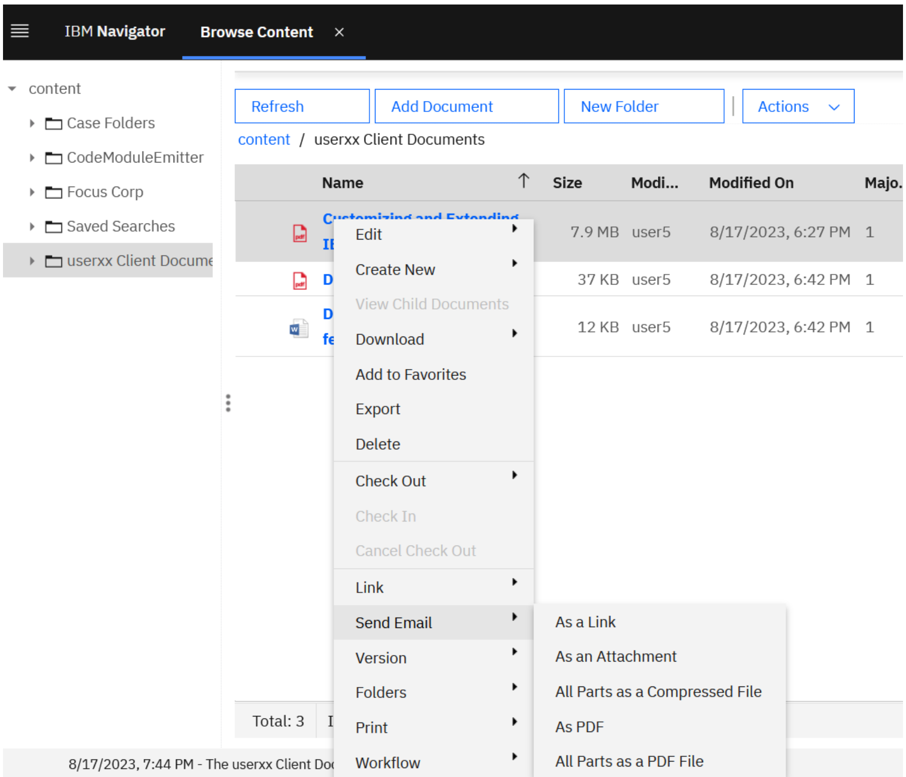
_10. Once the document opens in the local Microsoft Word app, **add some data, save and close it**.



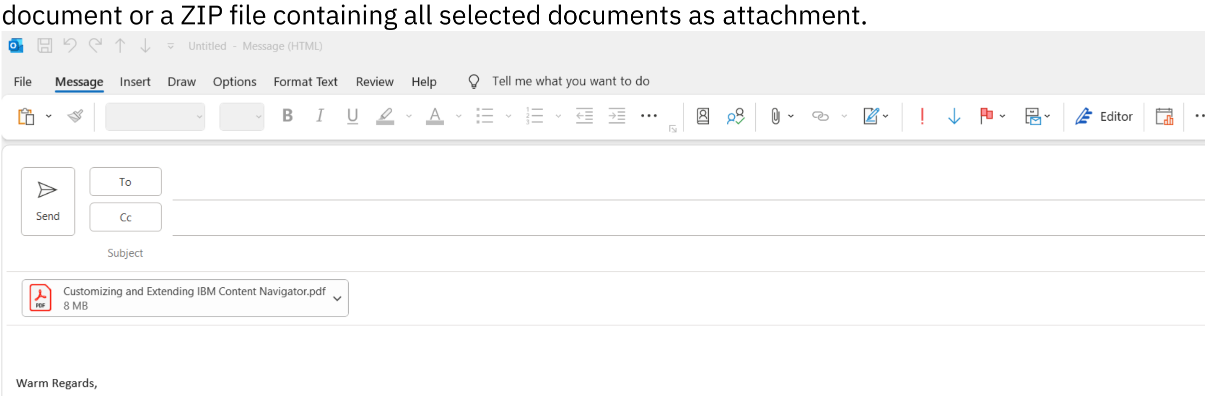
_11. You can see the new document is created in the **userxx Client Documents** folder.



_12. In the **Browse Content** feature, select one or multiple documents. Right-click to bring up the context menu and then select **Send Email → As an Attachment.**



The Edit Service client opens a new email in your local Microsoft Outlook app and adds the selected document or a ZIP file containing all selected documents as attachment.

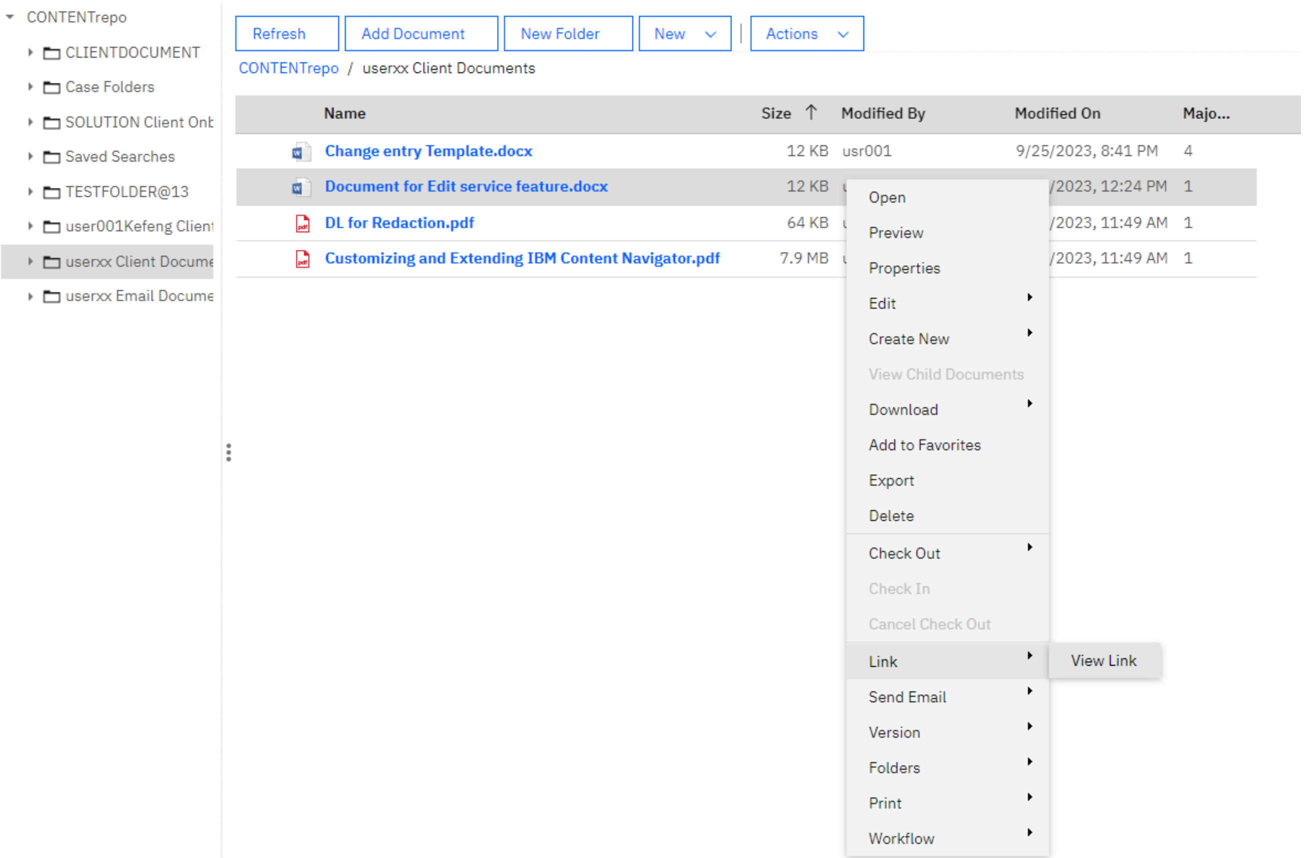


You can also try out the other right-click menu options.

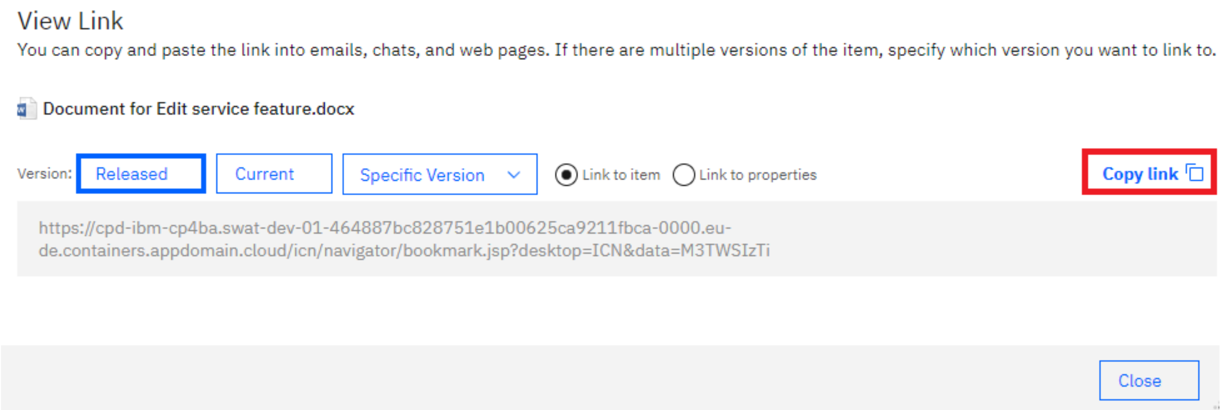
8.4 Bookmark is integrated with Edit service to edit documents

The bookmark link is now integrated with Edit Service client from Edit service 3.0.14 onwards. You can see how easily access the Edit Service for document editing using the bookmark URLs.

_1. Right click on **Link-> View Link** option on the Document for Edit service feature.docx from the “Browse Content” menu.



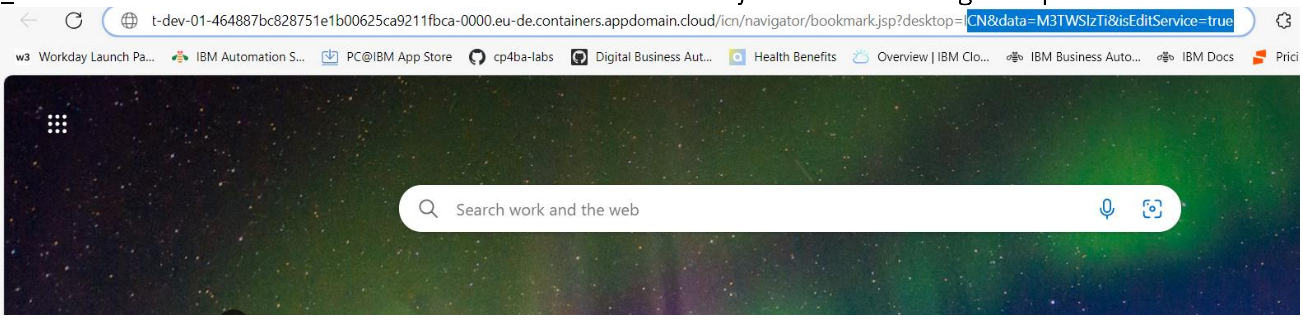
_2. The link to the document is displayed in the View Link pop-up. By selecting one of the multiple options, you can further customize the target of the link. **Click** on **Copy link** as shown below.



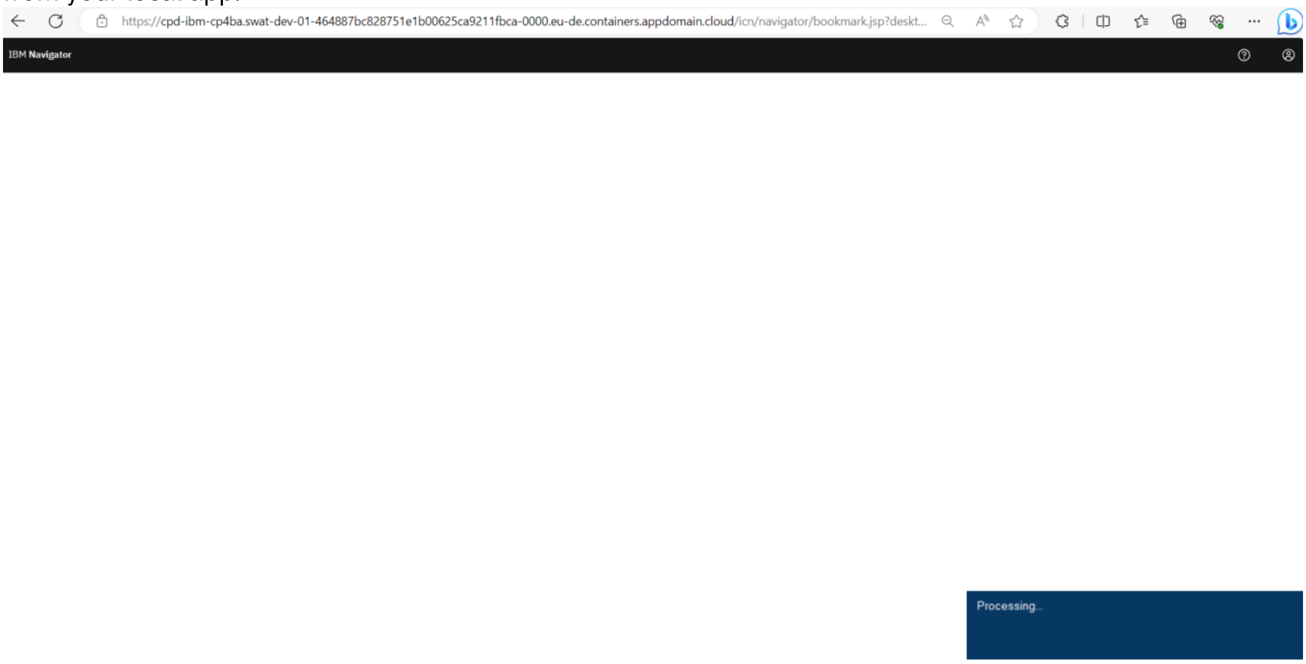
_3. **Paste** the link **into a text editor** and **append &isEditService=true** to the URL like shown in the xample below.

Example bookmark URL: https://cpd-ibm-cp4ba.464887bc828751e1b00625ca9211fbca-0000.eu-de.containers.appdomain.cloud/icn/navigator/bookmark.jsp?desktop=ICN&data=M3TWSIzTi**&isEditServic e=true**

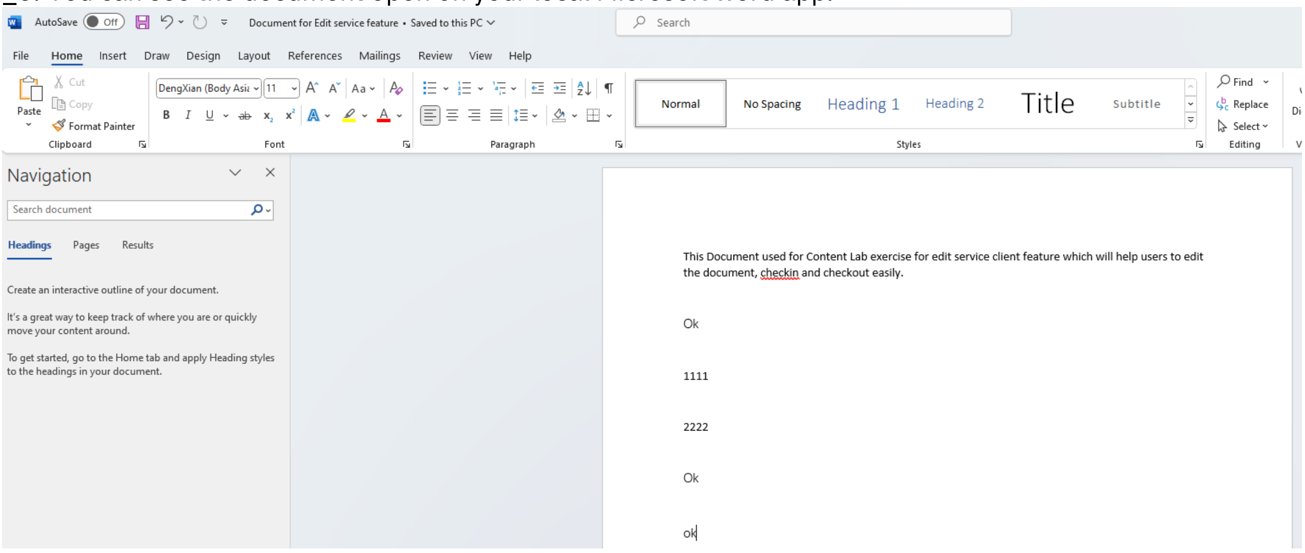
_4. **Paste** the link into a new tab in the Web browser in which you have IBM Navigator open



_5. With Edit service installed and being already logged into the Edit service client and performed pervious exercises, then the document will open in local Microsoft Word app as shown below to edit the document from your local app.

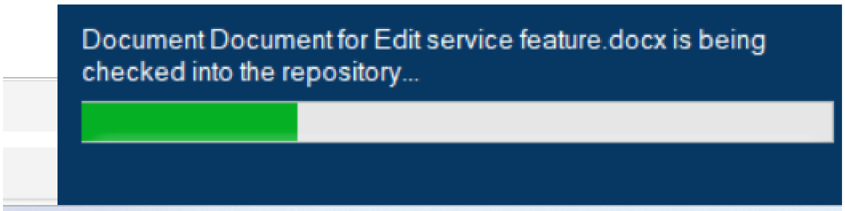


_6. You can see the document open on your local Microsoft word app.



_7. Once you updated the document and hit the **CTRL-s** to save the document then you can see the document is being updated into the repository on **bottom right corner** as shown below.

_8. When you close the document from your local Word app, then you can see Document is being checked into the repository as shown below.



Congratulations you have successfully completed IBM Business Automation Navigator lab.
We hope you enjoyed it.