

z/OS 3.1 IBM Education Assistant

Solution Name: z/OSMF Desktop Enhancements on Data set and File Operations

Solution Element(s): z/OSMF Desktop

July 2023



Agenda

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- Overview
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- Interactions & Dependencies
- Upgrade & Coexistence Considerations
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Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
 - None.

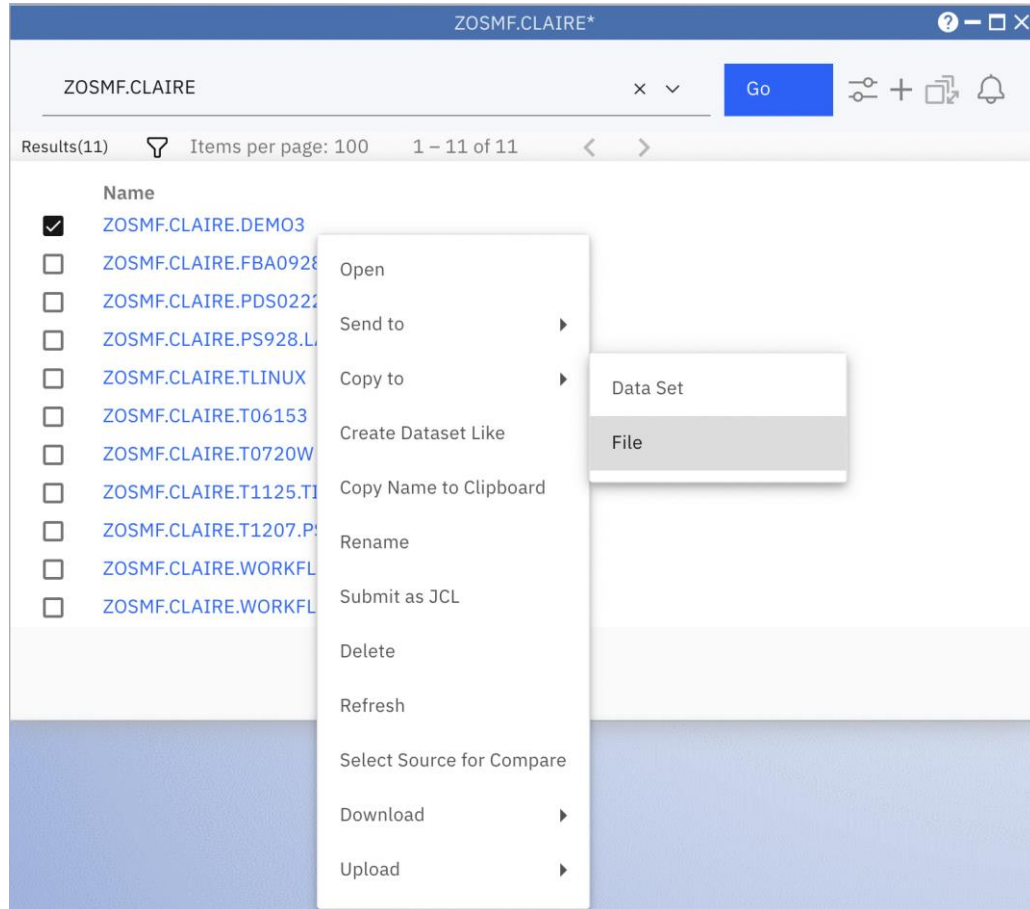
Objectives

- This initiative allows clients to
 - Perform copy, rename, change mode operations on data sets and Unix files.
 - Compare two text-based data sets or Unix files and merge differences.
 - Download/upload a data set and Unix file between z/OS and personal computer with default code pages and customized code pages

Overview

- Who (Audience)
 - z/OSMF Desktop users
- What (Solution)
 - z/OSMF desktop enhances the data set and Unix file tool with the abilities to
 - Copy and rename a data set and file
 - Change owner and mode of a Unix file.
 - Compare two text-based data sets and Unix files.
 - Download/upload data sets and Unix files.
- Wow (Benefit / Value, Need Addressed)
 - Only a few clicks to copy from a data set to a file and vice versa.
 - Built-in modernized user experience for text compare, reconcile changes and save in place.
 - Built-in modernized user experience for download/upload a data set and file from/to z/OS.
 - Default and user-provides code pages for download and upload files, which will be saved for next time usage

Usage & Invocation - Copy a data set or a file

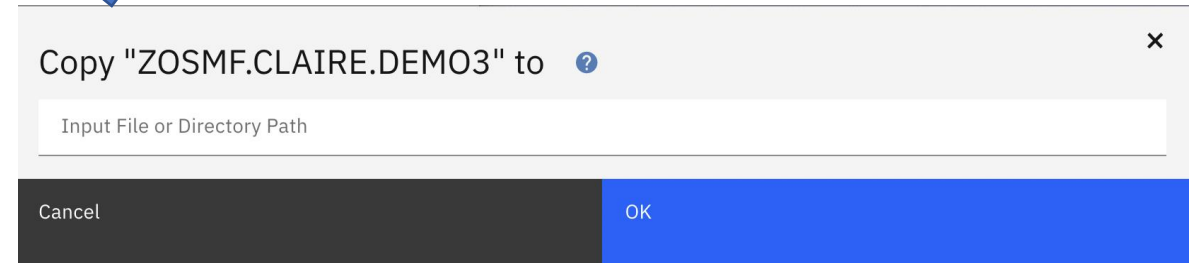


From the search result list, right click a data set or a file and select “Copy to”

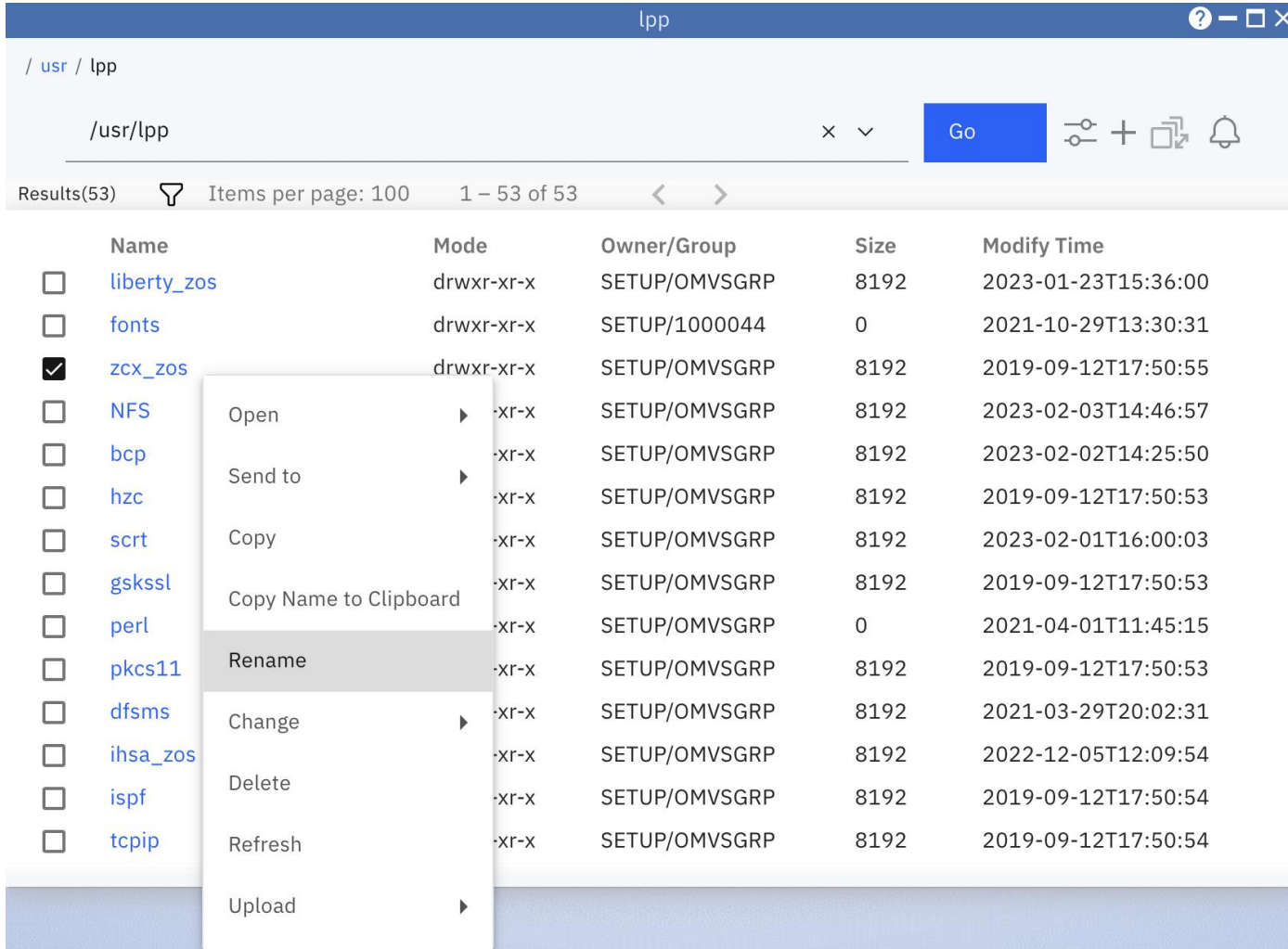
The copy operation is supported from

- A data set to a data set
- A data set to a file
- A file to a file
- A file to a data set

Input a target data set name or Unix path to complete the action.



Usage & Invocation - Rename a data set or a file



The screenshot shows the 'lpp' web interface. The breadcrumb path is '/usr / lpp'. The search bar contains '/usr/lpp' and a 'Go' button. Below the search bar, it says 'Results(53)' and 'Items per page: 100'. The main table lists files with columns: Name, Mode, Owner/Group, Size, and Modify Time. The file 'zcx_zos' is selected, and a context menu is open over it, showing options: Open, Send to, Copy, Copy Name to Clipboard, Rename (highlighted), Change, Delete, Refresh, and Upload.

	Name	Mode	Owner/Group	Size	Modify Time
<input type="checkbox"/>	liberty_zos	drwxr-xr-x	SETUP/OMVSGRP	8192	2023-01-23T15:36:00
<input type="checkbox"/>	fonts	drwxr-xr-x	SETUP/1000044	0	2021-10-29T13:30:31
<input checked="" type="checkbox"/>	zcx_zos	drwxr-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:55
<input type="checkbox"/>	NFS	-xr-x	SETUP/OMVSGRP	8192	2023-02-03T14:46:57
<input type="checkbox"/>	bcp	-xr-x	SETUP/OMVSGRP	8192	2023-02-02T14:25:50
<input type="checkbox"/>	hzc	-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:53
<input type="checkbox"/>	scrt	-xr-x	SETUP/OMVSGRP	8192	2023-02-01T16:00:03
<input type="checkbox"/>	gskssl	-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:53
<input type="checkbox"/>	perl	-xr-x	SETUP/OMVSGRP	0	2021-04-01T11:45:15
<input type="checkbox"/>	pkcs11	-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:53
<input type="checkbox"/>	dfsms	-xr-x	SETUP/OMVSGRP	8192	2021-03-29T20:02:31
<input type="checkbox"/>	ihsa_zos	-xr-x	SETUP/OMVSGRP	8192	2022-12-05T12:09:54
<input type="checkbox"/>	ispf	-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:54
<input type="checkbox"/>	tcipip	-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:54

From the search result list, right click a data set or a file and select “Rename”

Input a new name to complete the action.

Usage & Invocation - Change owner or mode of file

lpp

/usr / lpp

/usr/lpp

Go

Results(53) Items per page: 100 1 - 53 of 53

	Name	Mode	Owner/Group	Size	Modify Time
<input type="checkbox"/>	liberty_zos	drwxr-xr-x	SETUP/OMVSGRP	8192	2023-01-23T15:36:00
<input type="checkbox"/>	fonts	drwxr-xr-x	SETUP/1000044	0	2021-10-29T13:30:31
<input checked="" type="checkbox"/>	zcx_zos	drwxr-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:55
<input type="checkbox"/>	NFS	-xr-x	SETUP/OMVSGRP	8192	2023-02-03T14:46:57
<input type="checkbox"/>	bcp	-xr-x	SETUP/OMVSGRP	8192	2023-02-02T14:25:50
<input type="checkbox"/>	hzc	-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:53
<input type="checkbox"/>	scrt	-xr-x	SETUP/OMVSGRP	8192	2023-02-01T16:00:03
<input type="checkbox"/>	gskssl	-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:53
<input type="checkbox"/>	perl	-xr-x	SETUP/OMVSGRP	0	2021-04-01T11:45:15
<input type="checkbox"/>	pkcs11	-xr-x	SETUP/OMVSGRP	8192	2019-09-12T17:50:53
<input type="checkbox"/>	dfsms			8192	2021-03-29T20:02:31
<input type="checkbox"/>	ihsa_zos			8192	2022-12-05T12:09:54
<input type="checkbox"/>	ispf			8192	2019-09-12T17:50:54
<input type="checkbox"/>	tcpip			8192	2019-09-12T17:50:54

Open

Send to

Copy

Copy Name to Clipboard

Rename

Change

Delete

Refresh

Mode

Owner

From a file result list, right click and select "Change"

Changing of permission bits, owner and group are supported.

Change Mode "zcx_zos" ?

☐ Recurse into the sub-directories and sub-files.

Cancel OK

Change Owner "zcx_zos" ?

* User

SETUP

Group

OMVSGRP

☐ Recurse into the sub-directories and sub-files.

Cancel OK

Usage & Invocation- Compare text-based data sets or files

- Select data set or file for compare

1. In “Data Set and File Search” Window, on the to be compared item, right click to show the context-menu and select “Select Source for Compare” option.
2. On another to be compared item, right click and select “Compare with xxx” option.
3. If both the source and target reside in the same path, select both, right click and select “Compare”

The screenshot shows a web-based file explorer interface titled 'logs'. The breadcrumb path is '/ global / zosmf / IZUDFLT3 / data / logs / zosmfServer / logs'. The address bar shows the full path: '/global/zosmf/IZUDFLT3/data/logs/zosmfServer/logs'. Below the address bar, it says 'Results(8)', 'Items per page: 100', and '1 - 8 of 8'. A table lists the files:

Name	Mode	Owner/Group	Size	Modify Time
<input type="checkbox"/> ffdc	drwxrwxrwx	IZUSVR3/IZUADMIN	16384	2023-02-26T01:38:14
<input type="checkbox"/> state	drwxrwx---	IZUSVR3/IZUADMIN	8192	2023-02-20T01:03:42
<input type="checkbox"/> messages.log	-rw-rw----	IZUSVR3/IZUADMIN	308293	2023-02-24T02:01:43
<input type="checkbox"/> trace.log				
<input type="checkbox"/> http_access.log				
<input checked="" type="checkbox"/> messages_23.02.16_06.37.45.0.log				
<input type="checkbox"/> trace_23.02.16_06.37.49.0.log				
<input type="checkbox"/> \${izu.trace.file.name}				

A context menu is open over the selected file 'messages_23.02.16_06.37.45.0.log'. The menu options are: Open, Send to, Copy to, Copy Name to Clipboard, Rename, Change, Submit as JCL, Delete, Refresh, and Select Source for Compare.

The screenshot shows the same 'logs' window. The breadcrumb path is '/ global / zosmf / IZUDFLT3 / data / logs / zosmfServer / logs'. The address bar shows the full path: '/global/zosmf/IZUDFLT3/data/logs/zosmfServer/logs'. Below the address bar, it says 'Results(8)', 'Items per page: 100', and '1 - 8 of 8'. A table lists the files:

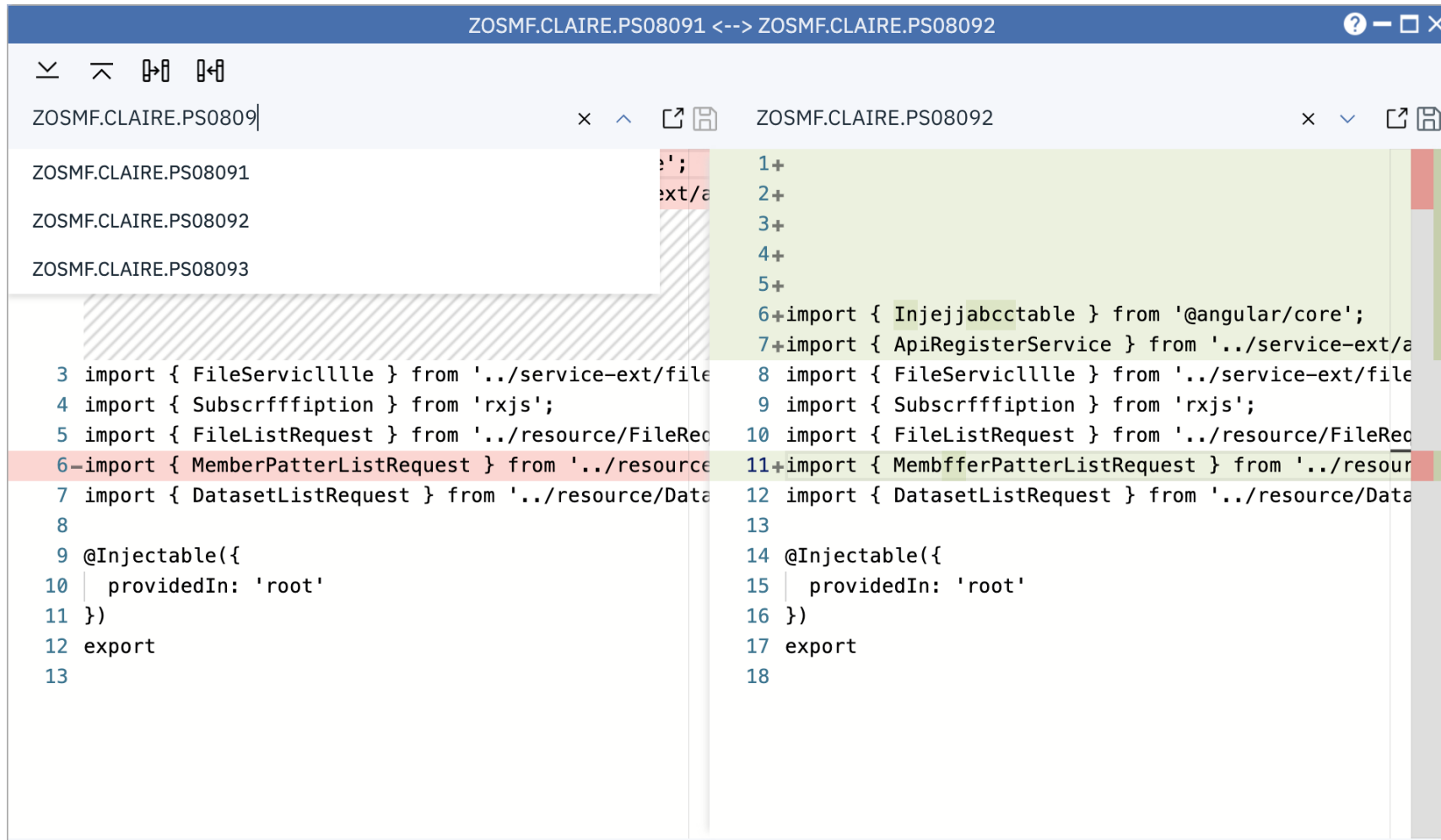
Name	Mode	Owner/Group	Size	Modify Time
<input type="checkbox"/> ffdc	drwxrwxrwx	IZUSVR3/IZUADMIN	16384	2023-02-26T01:38:14
<input type="checkbox"/> state	drwxrwx---	IZUSVR3/IZUADMIN	8192	2023-02-20T01:03:42
<input checked="" type="checkbox"/> messages.log	-rw-rw----	IZUSVR3/IZUADMIN	308293	2023-02-24T02:01:43
<input type="checkbox"/> trace.log				
<input type="checkbox"/> http_access.log				
<input type="checkbox"/> messages_23.02.16_06.37.49.0.log				
<input type="checkbox"/> trace_23.02.16_06.37.49.0.log				
<input type="checkbox"/> \${izu.trace.file.name}				

A context menu is open over the selected file 'messages.log'. The menu options are: Open, Send to, Copy to, Copy Name to Clipboard, Rename, Change, Submit as JCL, Delete, Refresh, Select Source for Compare, and Compare with /global/...ages.log.

Usage & Invocation- Compare text-based data sets or files

A compare window will launch and show the differences, in the compare window, users can

Perform action including “Next Difference” “Previous Difference” “Copy from left to right” “Copy from right to left” with the icons in the action bar.



The screenshot displays a code comparison window titled "ZOSMF.CLAIRE.PS08091 <--> ZOSMF.CLAIRE.PS08092". The window is split into two panes. The left pane shows the original code from ZOSMF.CLAIRE.PS08091, and the right pane shows the modified code from ZOSMF.CLAIRE.PS08092. The code is a TypeScript file defining an injectable service. The differences are highlighted with colored backgrounds: green for additions and red for deletions. Line numbers are shown on the left of each pane. The action bar at the top of the panes contains icons for zooming, navigating between differences, and copying.

```
ZOSMF.CLAIRE.PS08091 <--> ZOSMF.CLAIRE.PS08092
```

Left Pane (ZOSMF.CLAIRE.PS08091):

```
1 ZOSMF.CLAIRE.PS08091
2 ZOSMF.CLAIRE.PS08092
3 ZOSMF.CLAIRE.PS08093
4
5 import { FileServiclllle } from '../service-ext/file
6 import { Subscrfffiption } from 'rxjs';
7 import { FileListRequest } from '../resource/FileRec
8 -import { MemberPatterListRequest } from '../resource
9 import { DatasetListRequest } from '../resource/Data
10
11 @Injectable({
12   providedIn: 'root'
13 })
14 export
```

Right Pane (ZOSMF.CLAIRE.PS08092):

```
1+
2+
3+
4+
5+
6+import { Injejjabcctable } from '@angular/core';
7+import { ApiRegisterService } from '../service-ext/a
8 import { FileServiclllle } from '../service-ext/file
9 import { Subscrfffiption } from 'rxjs';
10 import { FileListRequest } from '../resource/FileRec
11+import { MembbfferPatterListRequest } from '../resour
12 import { DatasetListRequest } from '../resource/Data
13
14 @Injectable({
15   providedIn: 'root'
16 })
17 export
```

Usage & Invocation- Compare text-based data sets or files

If either side selection is not the wanted, users can change the input path with the input box under the action bar, type ahead search is also supported here.

Hit enter key after an input path is selected. The editor of that side will load the content accordingly.

The “Save” icon is disabled by default, after content changed it will be enabled, users can choose to save the changes after merges or edits.

```
ZOSMF.CLAIRE.PS08091 <--> ZOSMF.CLAIRE.PS08092

ZOSMF.CLAIRE.PS08091
1-import { fmfInkiJejjtable } from '@angular/core';
2-import { ApiRegisterService } from '../service-ext/a
3 import { FileServiclllle } from '../service-ext/file
4 import { Subscrfffiption } from 'rxjs';
5 import { FileListRequest } from '../resource/FileRec
6 import { MemberPatterListRequest } from '../resource
7 import { DatasetListRequest } from '../resource/Data
8
9 @Injectable({
10   providedIn: 'root'
11 })
12 export
13

ZOSMF.CLAIRE.PS08092
1+
2+
3+
4+
5+
6+import { Injejjabcctable } from '@angular/core';
7+import { ApiRegisterService } from '../service-ext/a
8 import { FileServiclllle } from '../service-ext/file
9 import { Subscrfffiption } from 'rxjs';
10 import { FileListRequest } from '../resource/FileRec
11 import { MemberPatterListRequest } from '../resource
12 import { DatasetListRequest } from '../resource/Data
13
14 @Injectable({
15   providedIn: 'root'
16 })
17 export
18
```

Usage & Invocation- Download or download with content type

In “Data Set and File Search” Window, in the search result list of data sets, PDS/E members, or USS files, right click to show the context-menu, select “Download” to download an item with default code pages or “Download With Content Type” to download an item with user-input code pages.

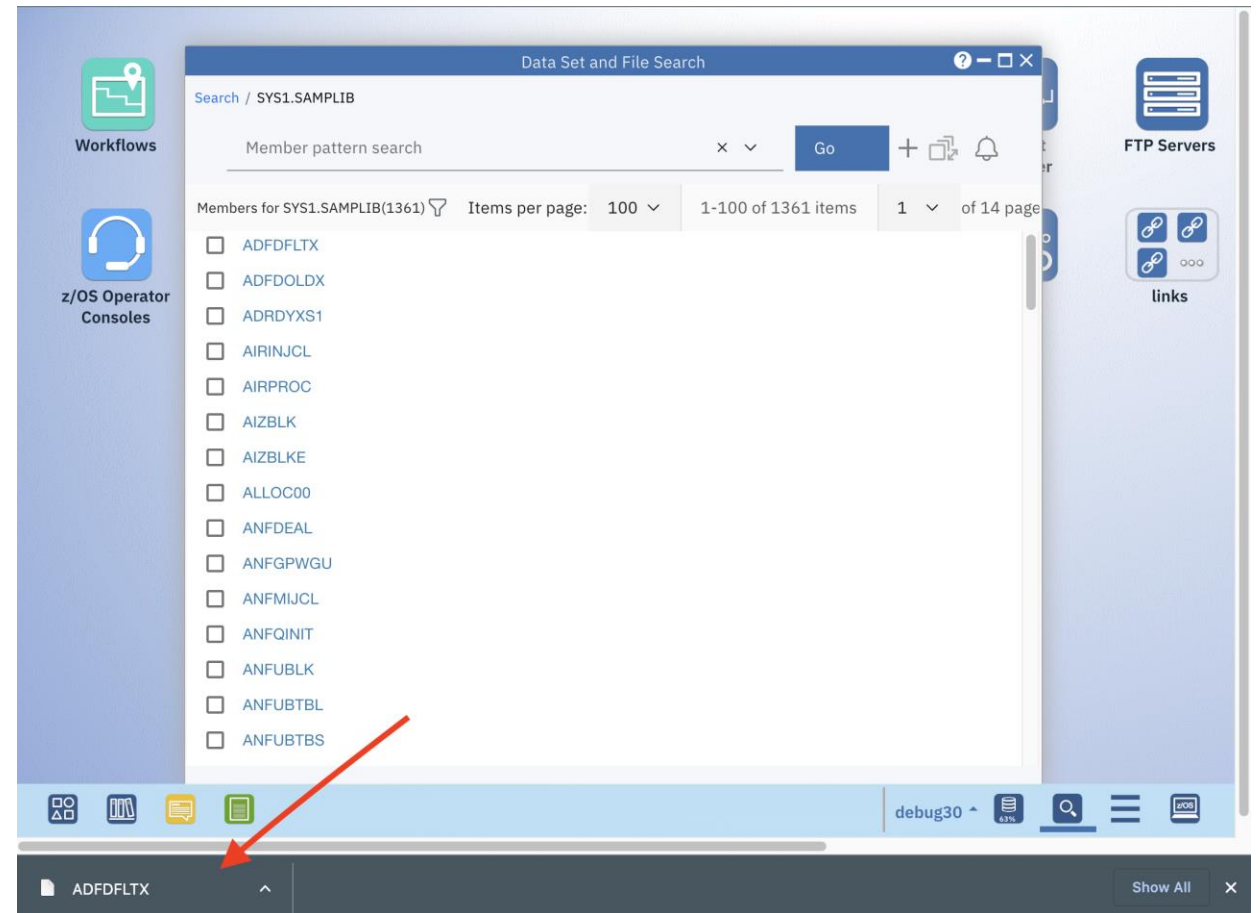
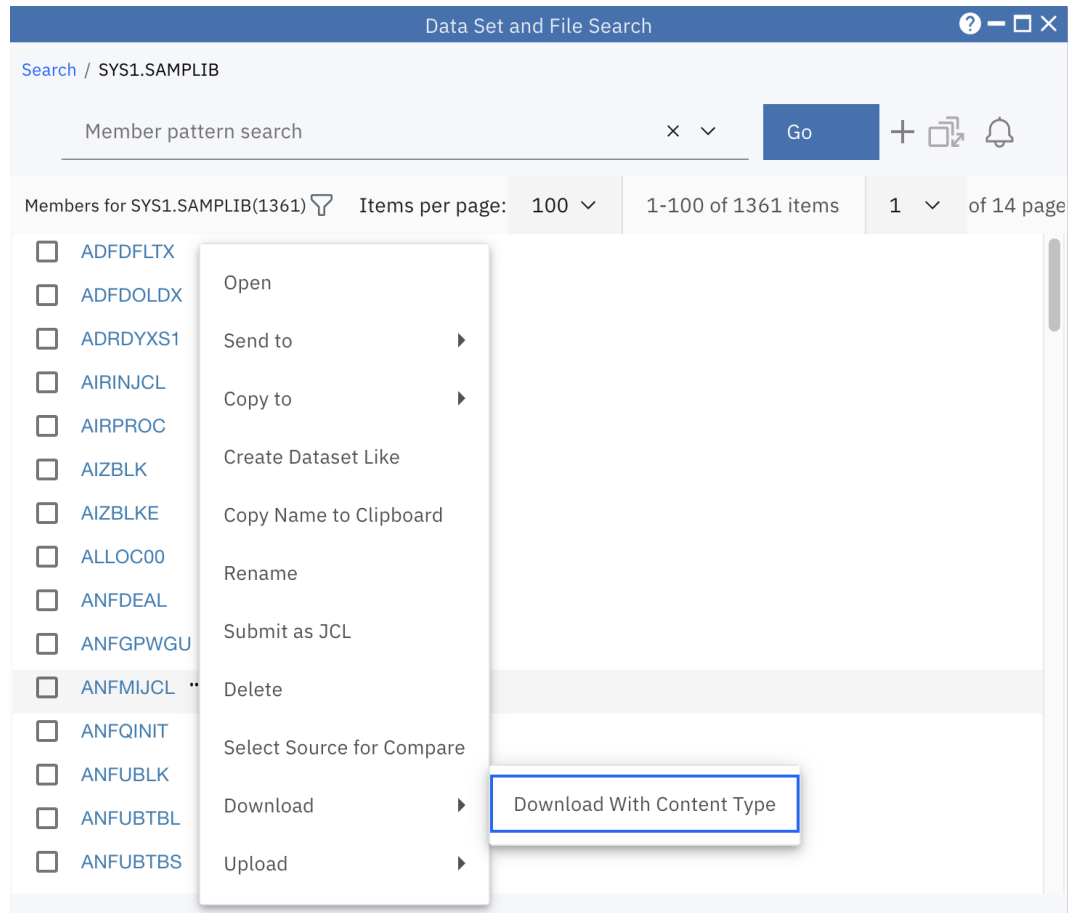
If the selected item is not a sequential data set or a PDS/E member or USS file, an error message will display.

If the select item is a directory, there are no “Download” or “Download With Content” option in context-menu.

If select multiple data sets or PDS/E members or USS files, there are no “Download” or “Download With Content” option in context-menu.

Usage & Invocation- Download or download with content type

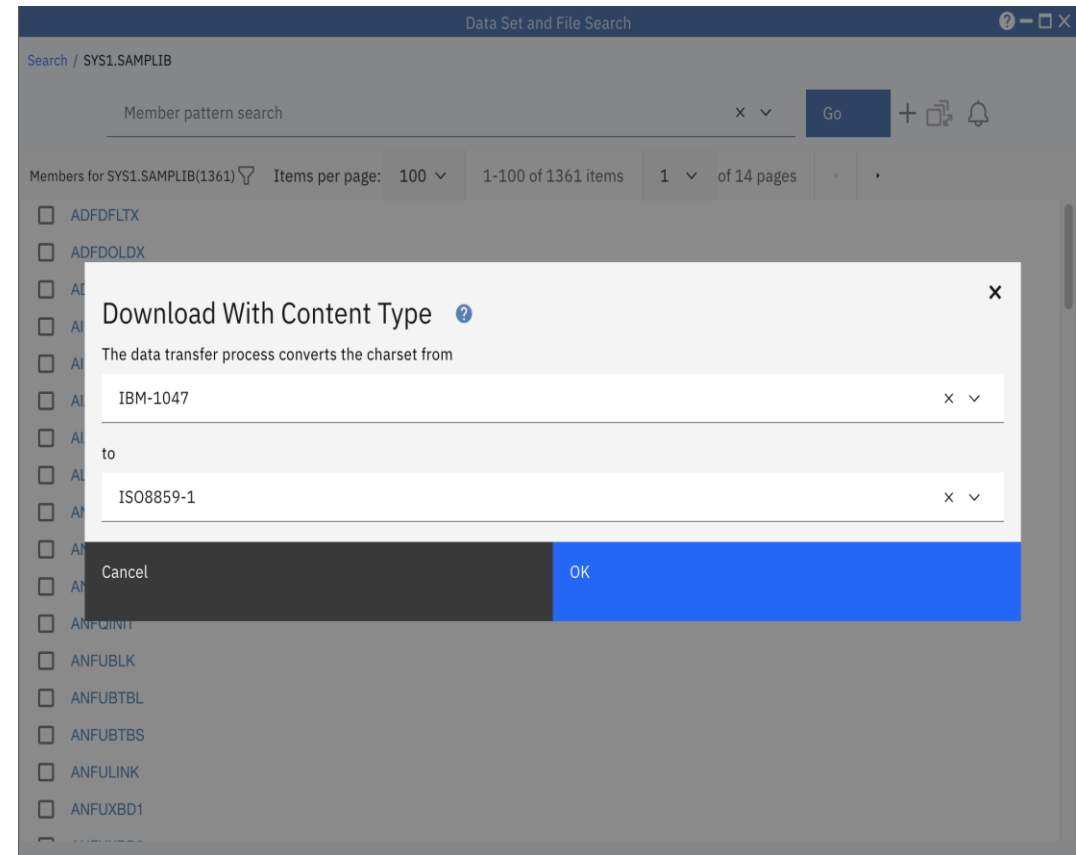
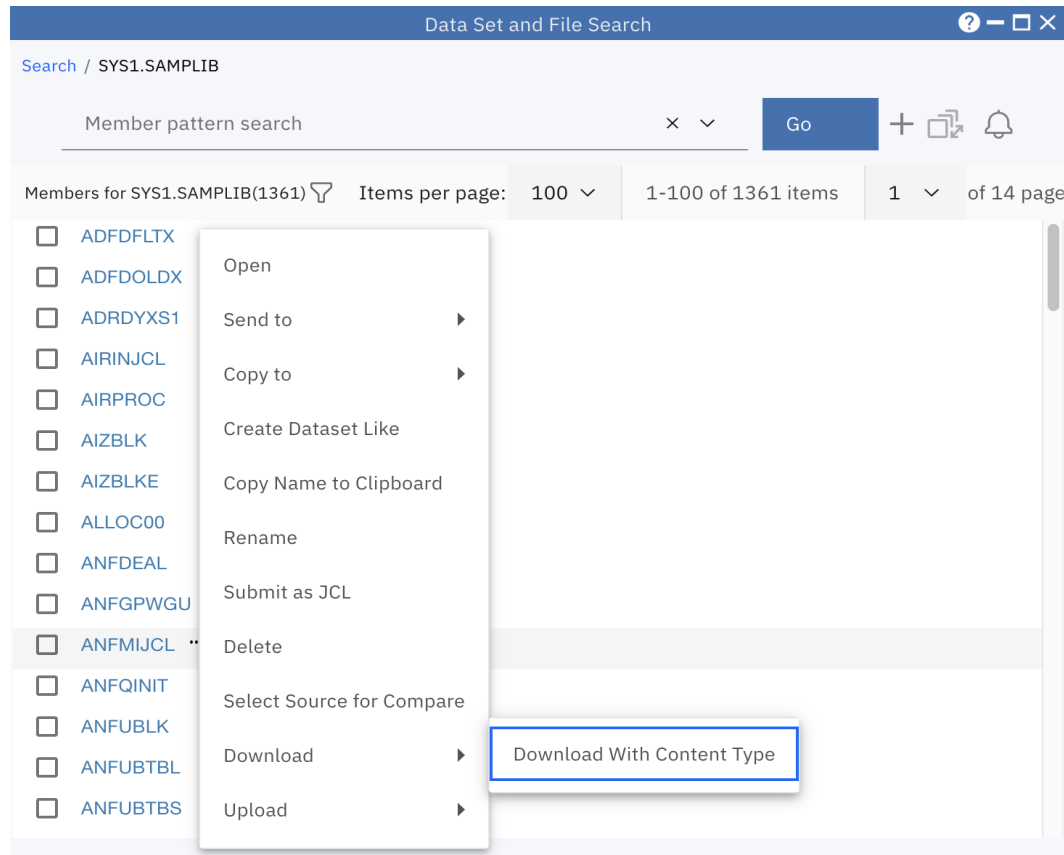
The “Download” option will download the item with default content types, the data transfer process converts each record from IBM-1047 to ISO8859-1.



Usage & Invocation- Download or download with content type

- Download with content type

1. The “Download With Content Type” option will download with specified code pages, the data transfer process converts each record from source type (value of the from field) to the code page specified on the target type (value of the to field).



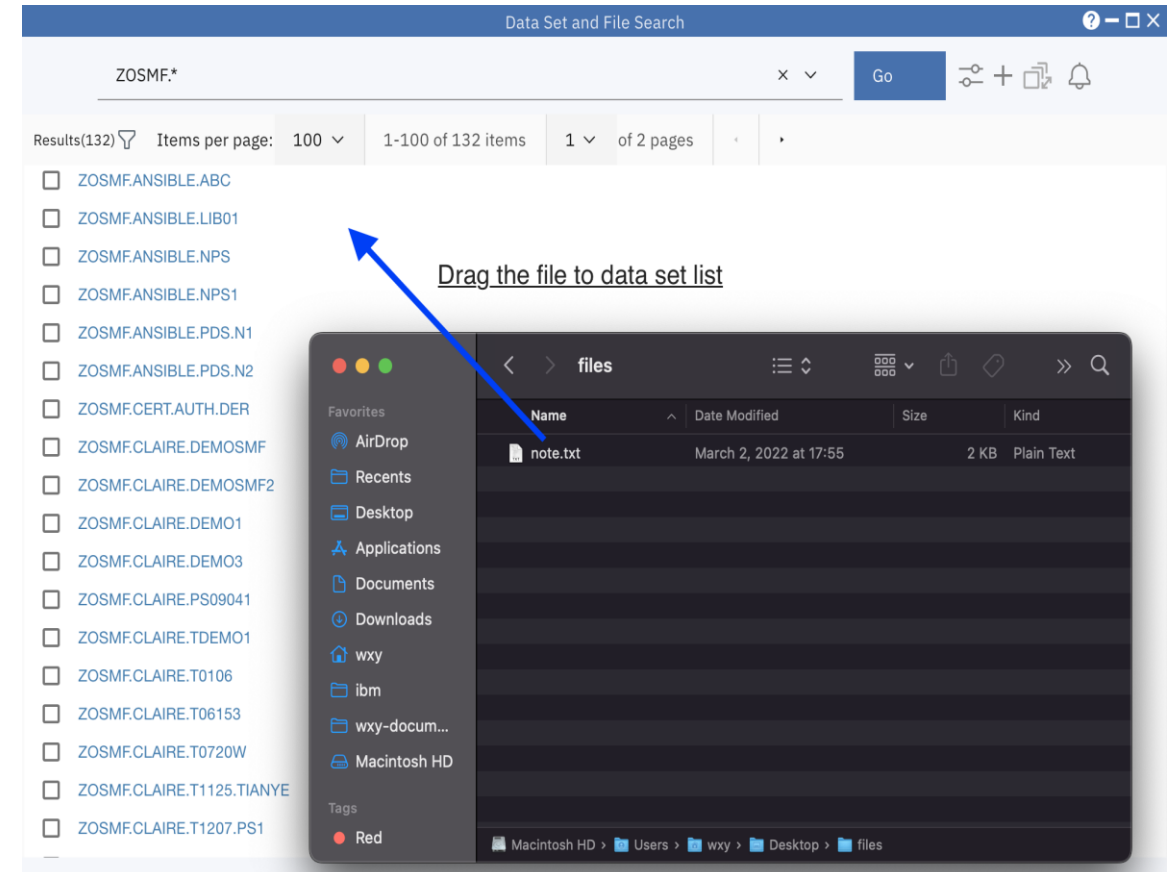
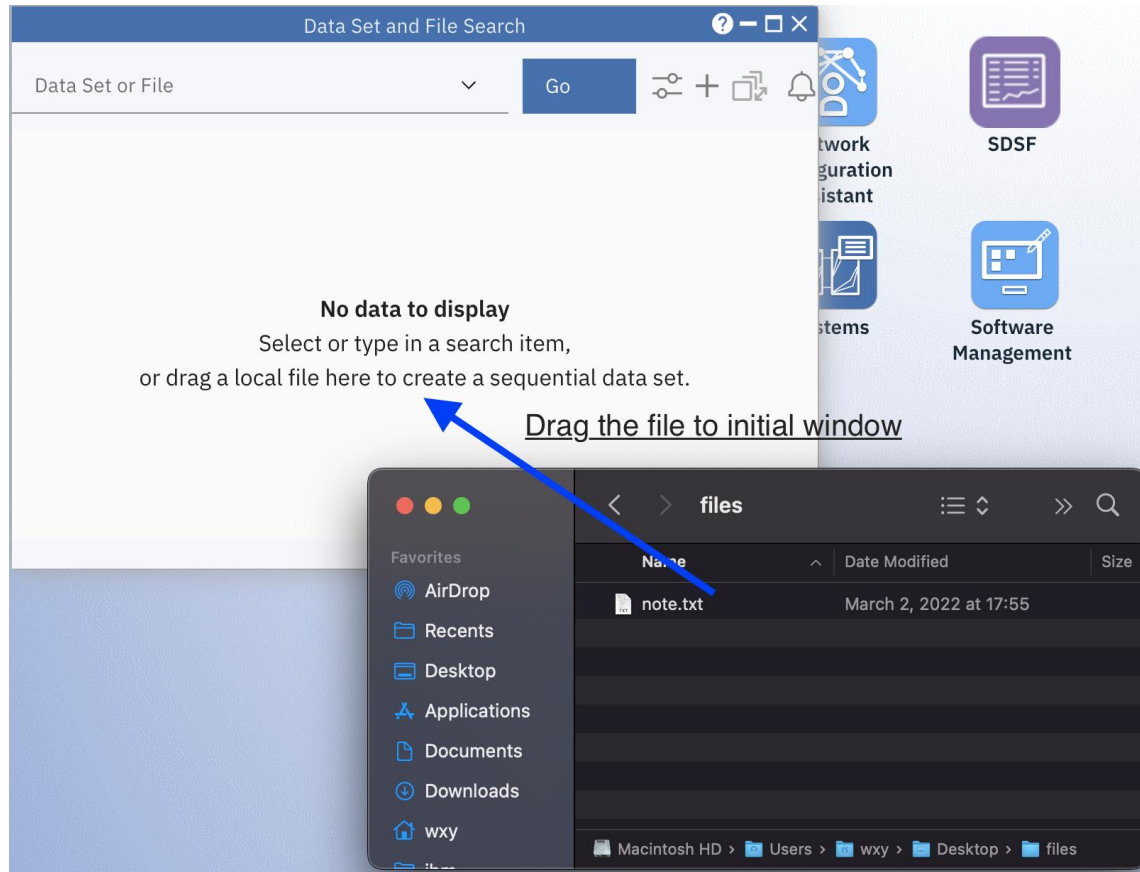
Usage & Invocation- Upload or upload with content type

- Upload a local file as a sequential data set or data set member or USS file
 - Drag a local file into “Data Set and File Search” window for upload
 - the local file will be put as a sequential data set when dropping to the bland search window or a data set list.
 - the local file will be put as a PDS/E member when dropping to a PDS/E member list.
 - the local file will be put as a Unix file when dropping to a file list.
 - Uploading a directory or multiple local files is not supported.
- User can also right click on a search result list and in the context-menu, select “Upload” or “Upload With Content Type” option to upload a local file.

Usage & Invocation- Upload or upload with content type

- Upload with drag and drop

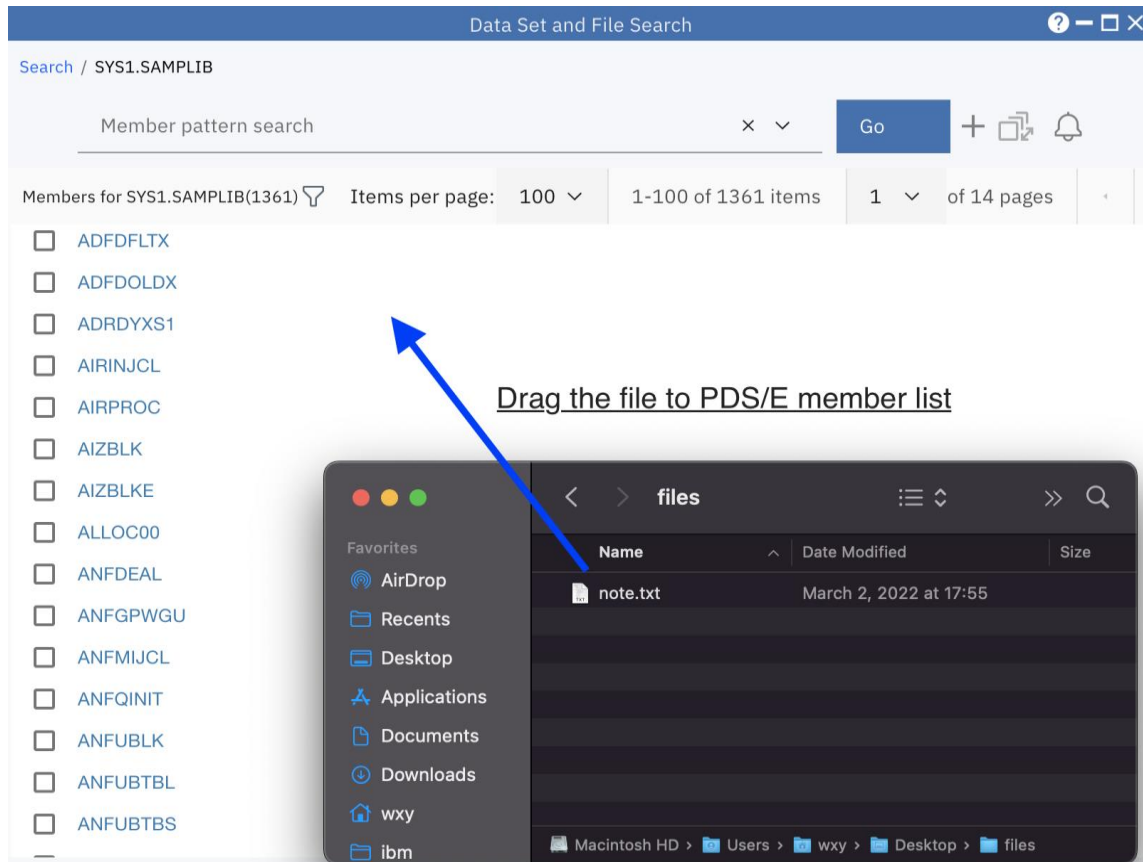
Drag a local file to the blank “Data Set and File Search” window or to a list of data sets, the local file will be created as a sequential data set, with default content type, the data transfer process converts each record from ISO8859-1 to IBM-1047.



Usage & Invocation- Upload or upload with content type

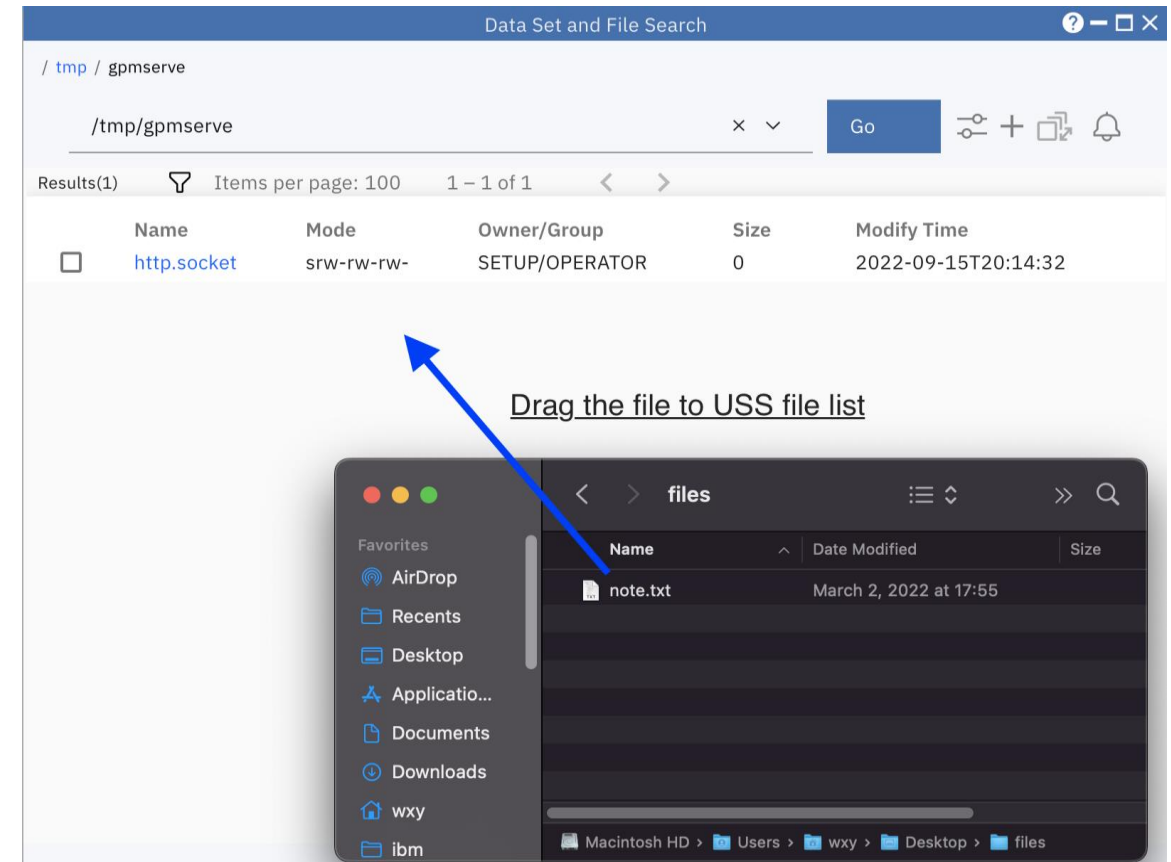
- Drag a local file to upload as a PDE/E member

Drag a local file into PDS/E member list to create a member with default content type, the data transfer process converts each record from ISO8859-1 to IBM-1047.



- Drag a local file for upload as a USS file

Drag a local file into USS file list to create a USS file with default content type, the data transfer process converts each record from ISO8859-1 to IBM-1047.

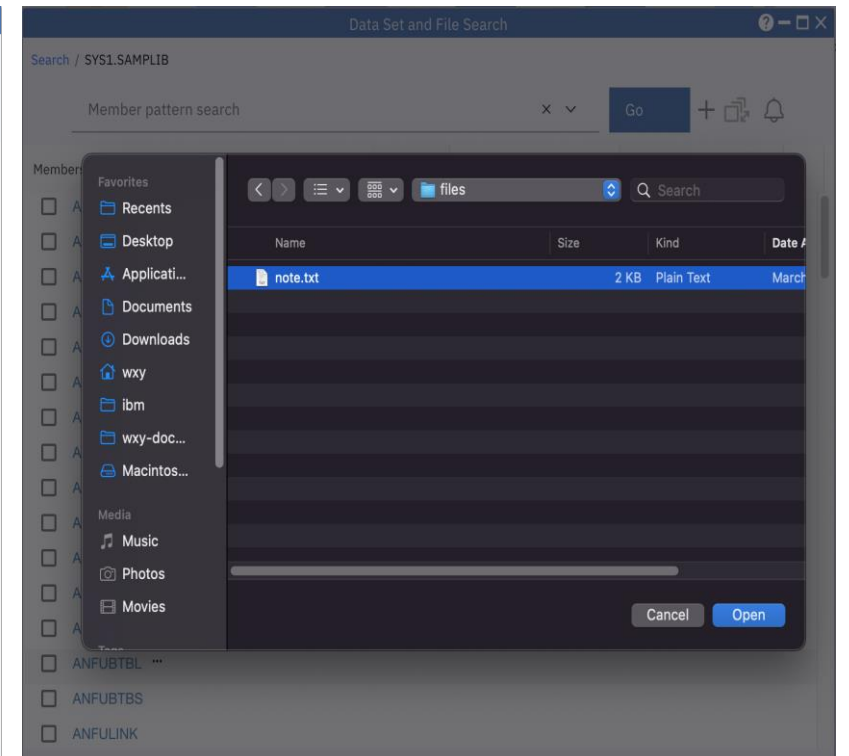
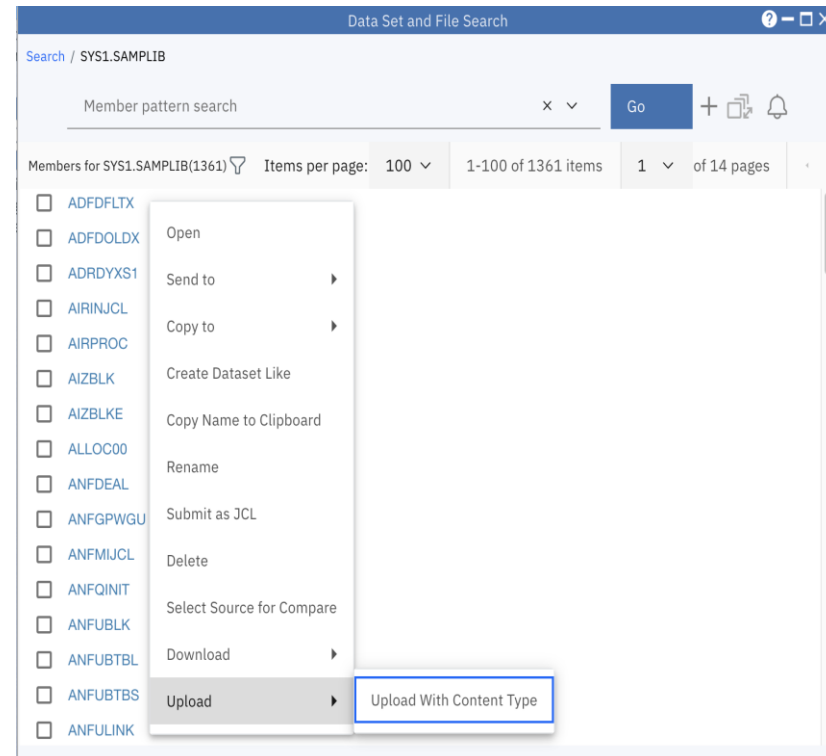


Usage & Invocation- Upload or upload with content type

- Upload with content menu

User can also use the context-menu of the search result list and select “Upload” option to upload with default content type, an OS-provided file select window will prompt for selecting a local file. With the Upload button, the data transfer process converts each record from IBM-1047 to ISO8859-1

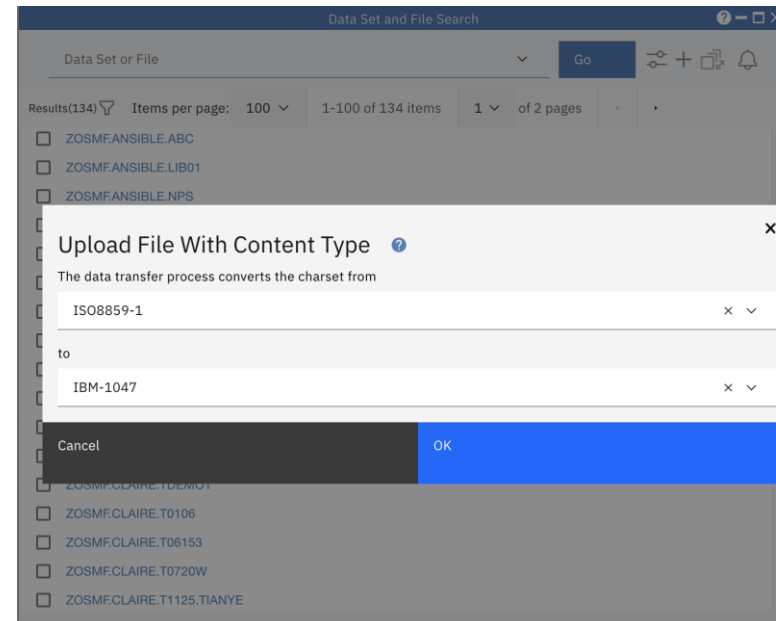
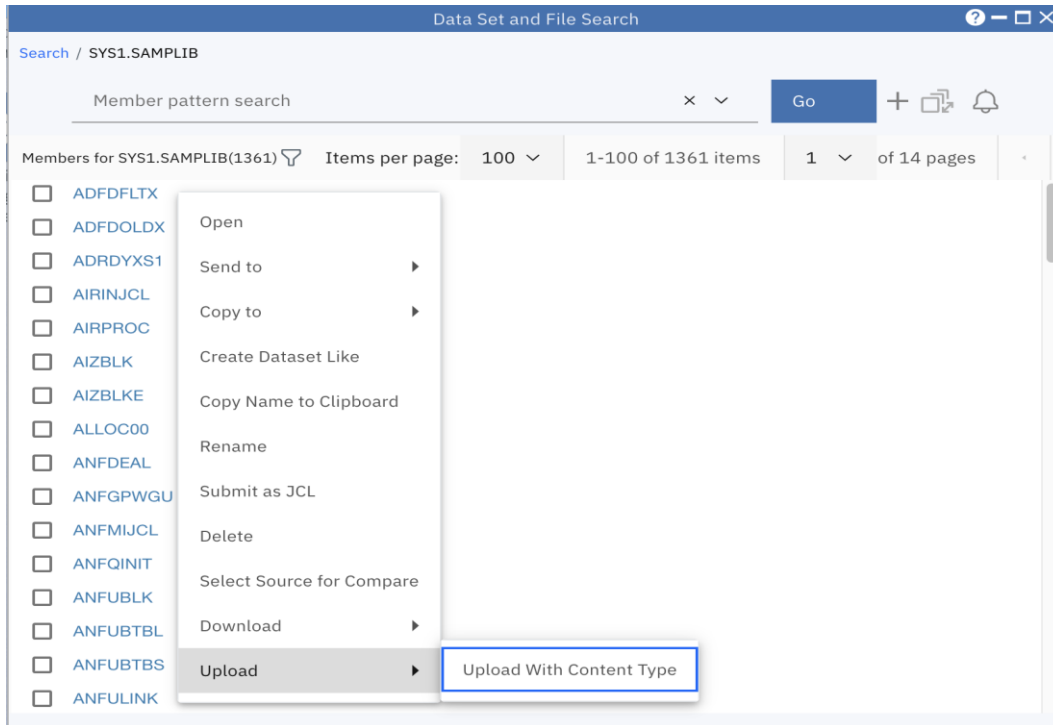
- If the current page is a data set list, the local file will be uploaded as a sequential data set.
- If the current page is PDS/E member list, the local file will be uploaded as a member of the PDS/E.
- If the current page is USS file list, the local file will be uploaded as USS file.



Usage & Invocation- Upload or upload with content type

- Upload with content type

1. User can input content types to upload with the context-menu and selecting “Upload With Content Type” option.
2. A popup dialog will display for user to specify the source content type and target content type.
3. The data transfer process converts each record from source type (value of the from field) to the "charset" specified on the target type (value of the to field).

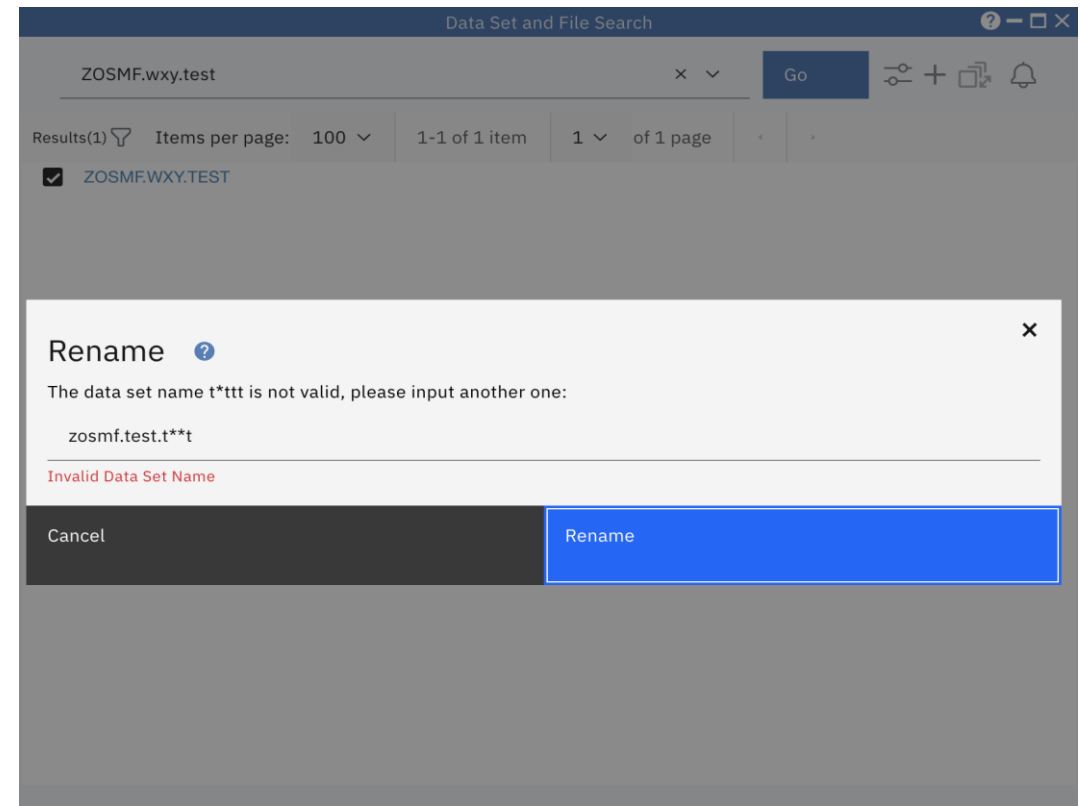
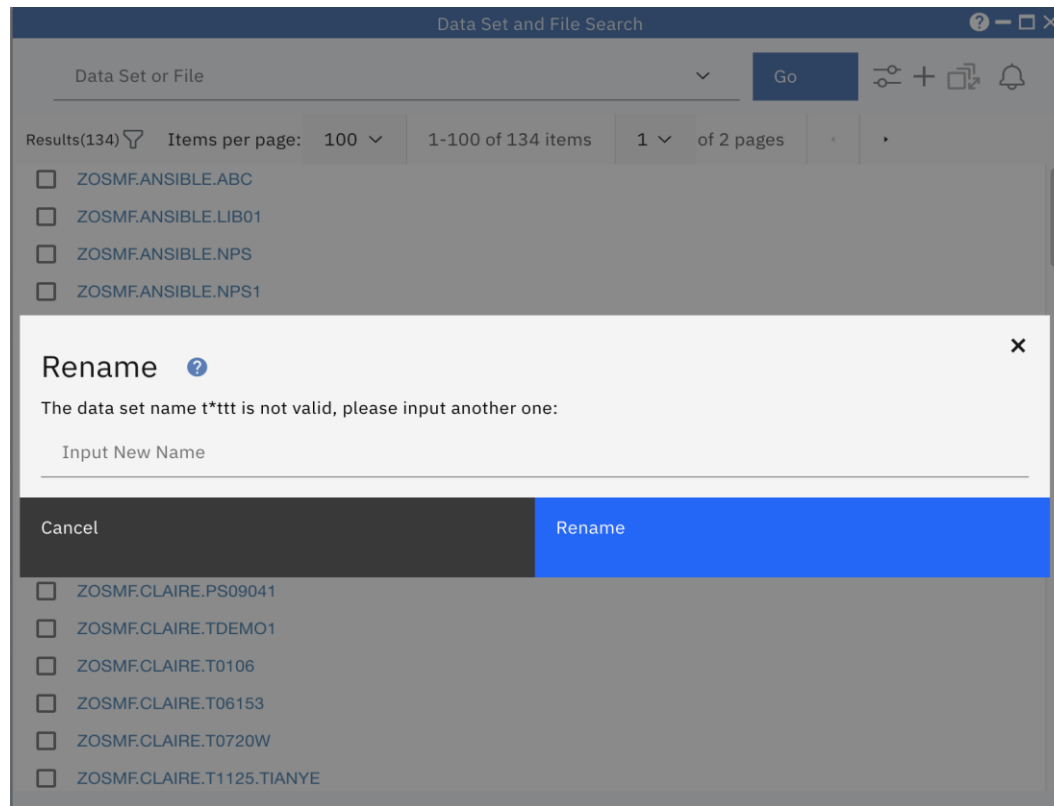


Usage & Invocation- Upload

- Upload --- Rename

If the local file name does not comply with the name convention of data set or member, there will be a window for user to rename the data set or member.

If the new name is not valid, an error message will be displayed after click Rename button.

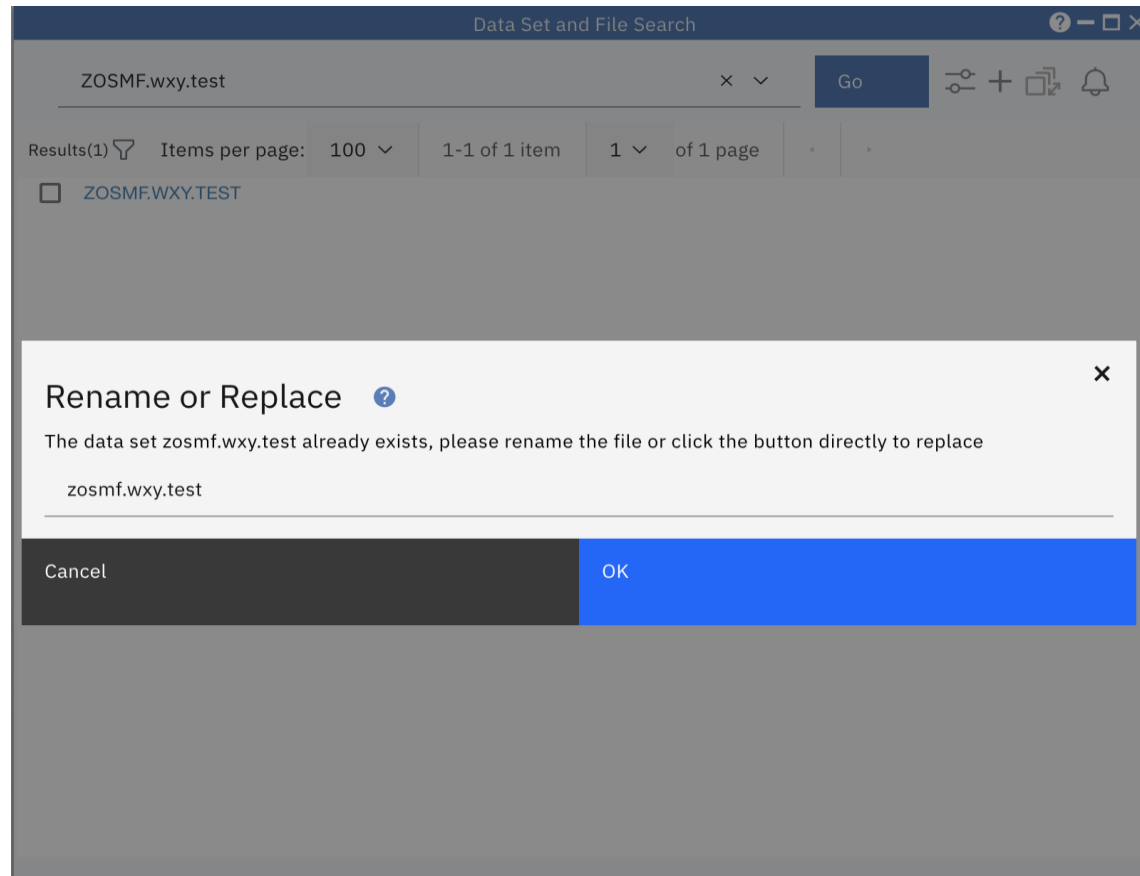


Usage & Invocation- Upload

- Upload --- Rename or Replace

If the local file name already exists, there will be a window for user to rename the data set or member or USS file.

If user click the OK button without entering a new name, the exist data set or member or USS file will be replaced.



Usage & Invocation- Upload

- Upload --- create a sequential data set

If the local file will be upload as a new sequential data set, there will be a window displayed to create a new sequential data set, z/OSMF will fill in the following attributes of sequential data, user can change the values if need.

- Data Set Organization:
 - The default value is “sequential”, If select others, the upload will fail.
- Record Length:
 - The default value is 32756, user can modify this value according the record length of the local file.
- Record Format:
 - VB
- Data Set Size & Unit of Size & Space Units & Primary Quantity & Secondary Quantity:
 - These default values are calculated according to the local file size, user can modify these values if necessary.

The screenshot shows the 'New Data Set' dialog box with the following fields and values:

- Data Set Name:** ZOSMF.WXY.TEST
- Data Set Template:** (Dropdown menu)
- Data Set Organization:** Sequential
- Record Format:** VB
- Record Length:** 32756
- Data Set Size:** 5
- Unit of Size:** KB
- Space Units:** TRACK
- Primary Quantity:** 1
- Secondary Quantity:** 1
- Average Block:** (Field)
- Block Size:** (Field)

The 'Advanced' tab is selected, and the 'Block Size' field is visible at the bottom. The dialog also includes buttons for 'Clear All', 'Save as Template', 'Close', and 'OK'.

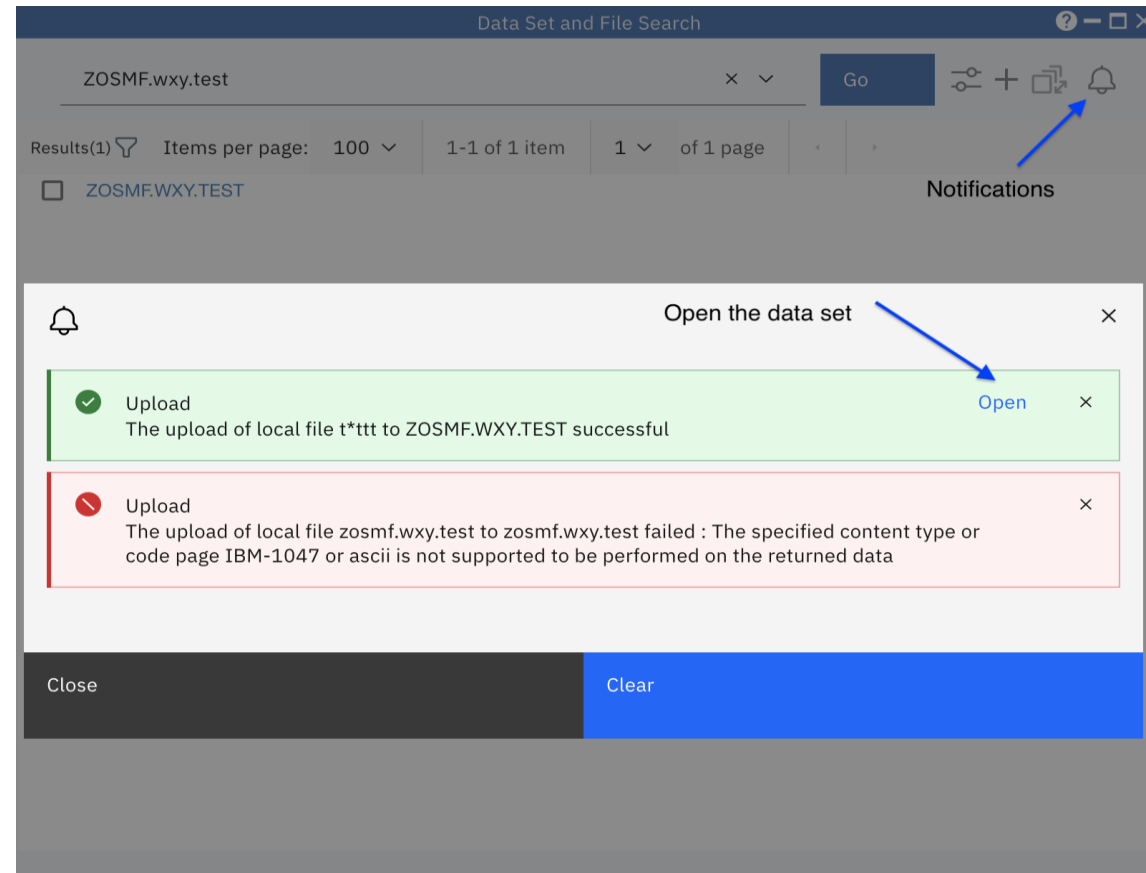
Usage & Invocation- Upload

- Upload --- notifications

When the upload finishes, a notification will display in the notification panel. In a successful upload message, user can open the data set, member or USS file via clicking the open button in the notification.

When upload a local file to a new sequential data set or PDS/E member or USS file, a new one will be created first, and displayed in the search list.

If the upload failed, the newly created sequential data set, PDS/E member or USS file will be deleted.



Interactions & Dependencies

- Software Dependencies
 - z/OSMF Files and Data sets services
- Hardware Dependencies
 - None
- Exploiters
 - z/OSMF Sysplex task

Upgrade & Coexistence Considerations

- None.

Installation & Configuration

- The z/OSMF Files and Data sets Services need to be enabled

Summary

- The following z/OS V3R1 z/OSMF enhancement has been explained:
 - z/OSMF supports data set/USS file enhancement (copy, rename, change mode)
 - z/OSMF supports data set/USS file comparison
 - Desktop - put local files to zOS and download from z/OS

Appendix

- Book updates
 - IBM z/OS Management Facility Online Help