

# **z/OS Management Facility User Experience: Workflows and Workflow Editor**

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**Session 24565**

**By Ed Webb of SAS**



# z/OS Management Facility (z/OSMF) Workflows

## Agenda

- z/OSMF Workflows
  - Why Use z/OSMF Workflows?
  - Our Workflow History
- Use the z/OSMF Workflow Editor to Define a Workflow
  - Define a Workflow to RECEIVE RSU PTFs
  - Run the RSU RECEIVE Workflow
- z/OSMF Selected Changes Since March 2019

# z/OS Management Facility (z/OSMF) Workflows

## Why Use z/OSMF Workflows?

- No automation tools
- Retiring staff
- Prepare for someone else to take over
  
- Provides a standard repeatable process that others should be able to use with little training

## z/OSMF Workflows – First Involvement

- In June 2014, we wanted a z/OS Userid Creation workflow for z/OSMF so let's build one
  - Whoops! Workflow file is XML in ASCII – not EBCDIC
  - ISPF Edit does not provide syntax checks or models for XML as it does for REXX and COBOL and JCL
  - ISPF Compare command does not work for ASCII files
  - Found an existing workflow from a TSO Redbook to start
  - Made some but not adequate progress

## z/OSMF Workflows – First Involvement

- In Dec. 2016, IBM made the z/OSMF Workflow Editor (WFE) available in z/OS 2.2 via SPE (Small Program Enhancement) PTFs
  - APPLYed PTFs in January 2017
- We started work to define a workflow
  - First effort was a SYSRES Restore and Customization process
- Went to z/OSMF Workflow lab at SHARE March 2017 and at later SHAREs, talked with z/OSMF architects and developers like Hiren Shah and “Joey” Zhu
- SHARE Workflow Labs are this Thursday at 11:15-12:15 and 16:30-17:30 in room 102B

# z/OSMF Workflows – Overview of Our Process

- Our basic process was to take existing notes and put them into a xml file via the WFE
  - Started with a Workflow of Instruction Steps based on our current process
  - Converted Instruction Steps to JCL Template Steps as appropriate
  - We copied JCL for jobs into z/OS Unix template files (EBCDIC) for use by WFE
  - By May 2017, we started using our Restore Workflow to manage the process
- We had a directory with a variables file, an XML file and the JCL template files.
  - Each month we copied the files (varfile, xml and templates) from the previous month directory to a new directory
  - Edited the new xml and varfile with ISPF 3.17 to make mass changes to values where IBM does not support variable substitutions (For Example: Step Descriptions)
  - Edited with WFE to verify that basic xml is still good after mass changes, also to add steps or change settings
- In z/OSMF, Created Workflow and ran the steps.
  - We last ran that Restore workflow in Oct. 2017 when our need to do these Restores ended, for now.

# z/OSMF Workflows – Overview of Our Process

- Starting in May 2017 with z/OS 2.2 RSU1704, Defined our RSU process as a z/OSMF Workflow.
  - Notes and JOBs became steps similar to the Restore, just more steps and JOBs.
  - 33 steps total
  - Each month we tried to improve our Workflow build and creation process.
- ServerPac came and we followed its non-z/OSMF workflow process to implement z/OS 2.3.
  - I want ServerPac to ship with a z/OSMF Workflow instead of its current process.
  - See z/OS 2.4 Statement of Direction about CICS ServerPac in IBM Announcement [219-013](#) on Feb. 26, 2019.
  - IBM began shipping CICS Upgrade as a Workflow in Dec. 2019

# z/OSMF Workflows – Current Status

- Each month we APPLY RSU service to z/OS 2.3
  - First time we cloned the z/OS 2.2 workflow and varfile and templates
  - We added Step Conditions to SKIP steps not relevant to a specific z/OS image.
- Still lots of ISPF 3.17 editing to make “mass” changes to xml and templates
  - Workflow Step Titles and Descriptions **cannot** have variable substitutions
  - Instructions and JCL and REXX and such can have variable substitutions
- A major run-time issue was providing a unique JOB name for those RSU Workflow Steps
  - In March 2018, after consulting with Hiren Shah and Gary Puchkoff at SHARE, and getting some help from one of their coworkers in China, we automated the JOB name changes.
  - //R3U\${instance-RSU\_id}A JOB (becomes RSU1805A JOB ..., for example)
- In May 2018, my coworker, who ran most of the RSU workflows each month, retired. Then I trained my replacement to use RSU workflows. Then I retired. And in Dec 2019, he retired.

## z/OSMF Workflows – Goal for This Session

- One RSU part that had not been automated in a Workflow was RECEIVE RSU PTFs so that became an important set of steps to put in a Workflow. I'm going to show you how we built the RECEIVE RSU Workflow and how we run it.
- RECEIVE is only done once per RSU cycle but APPLY is done many times
- Workflow and Workflow Editor are part of the z/OSMF CORE functions, so if you have implemented the Core Setup for Security in the IZUSEC job in SAMPLIB, and you now have z/OSMF up and running, you should be good to start.
- Let's get into z/OSMF.



# WHAT DOES A WORKFLOW LOOK LIKE?

# z/OS Management Facility Welcome

**IBM z/OS Management Facility**

- Welcome
- **Notifications ( 6 )**
- Workflow Editor
- Workflows
- ▶ **Cloud Provisioning**
- ▶ **Configuration**
- ▶ **Consoles**
- ▶ **Jobs and Resources**
- ▶ **Links**
- ▶ **Performance**
- ▶ **Problem Determination**
- ▶ **Software**
- ▶ **z/OS Classic Interfaces**
- ▶ **z/OSMF Administration**
- ▶ **z/OSMF Settings**

**Refresh**

**Welcome** x

## Welcome to IBM z/OS Management Facility

IBM® z/OS® Management Facility (z/OSMF) provides a framework for managing various and automating others, z/OSMF can help to simplify some areas of z/OS system management.

To learn more about z/OSMF, visit the links in the Learn More section.

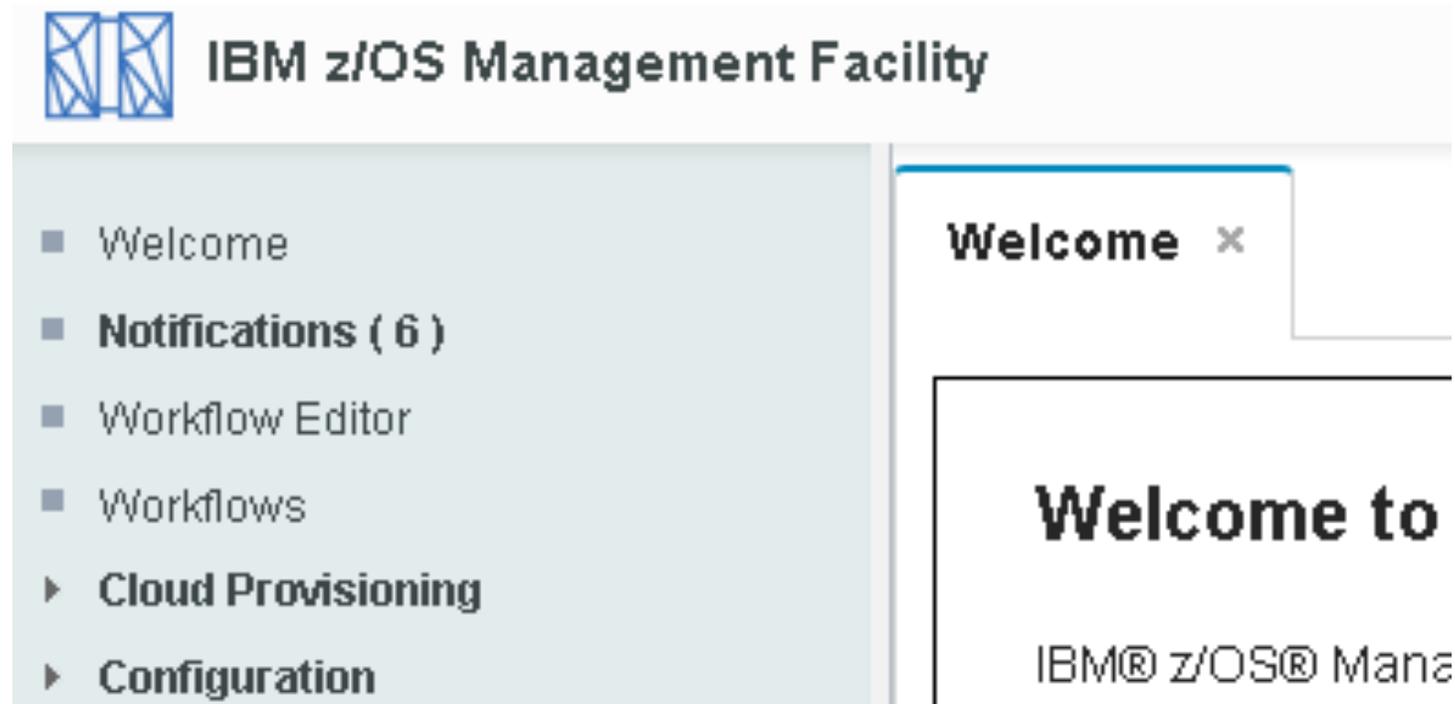
To start managing your z/OS systems, select a task from the navigation area.

### Learn More:

- [What's New](#)
- [z/OSMF tasks at a glance](#)
- [Getting started with z/OSMF](#)

# z/OS Management Facility

## Workflow Editor and Workflows functions



The screenshot displays the IBM z/OS Management Facility interface. On the left, a navigation menu is visible with the following items:

- Welcome
- **Notifications ( 6 )**
- Workflow Editor
- Workflows
- ▶ **Cloud Provisioning**
- ▶ **Configuration**

On the right, a 'Welcome' dialog box is open, featuring a close button (x) in the top right corner. The dialog box contains the text:

**Welcome to**  
IBM® z/OS® Manag

# z/OSMF Workflows: List of Workflows with Status

Welcome x

**Workflows** x

Home

## Workflows

Simplifies tasks through guided step-based workflows, and provides administrative functions for assigning workflow responsibilities and tracking progress.

Actions ▾  Active ▾  Search

↔ 79 of 102 items shown. [Clear filter](#)

<input type="checkbox"/>	Workflow Name Filter	Description Filter	Version Filter	Vendor Filter	Access Filter	Owner does not equal "rerobb"	System Filter	Status
<input type="checkbox"/>	zOS Pre-GA Restore BLDG	Restore new instance of pre-G.A. z/OS image from IBM	1.1	SAS Mainframe Support	Public	snosew	DEVAPLEX.DEVT (DEVT)	✔ Complete
<input type="checkbox"/>	zOS Pre-GA Restore BLDH	Restore new instance of pre-G.A. z/OS image from IBM	1.1	SAS Mainframe Support	Public	vinuge	DEVAPLEX.DEVA (LOCAL)	✔ Complete
<input type="checkbox"/>	zOS Migration to 2.3 from 2.2 e0zm100_v2r3 - Workflow_0	e0zm100_v2r3	1.0	IBM	Public	vinuge	DEVAPLEX.DEVT (DEVT)	🔄 In Progress
<input type="checkbox"/>	zOS Pre-GA Restore BLDI	Restore new instance of pre-G.A. z/OS image from IBM	1.1	SAS Mainframe Support	Public	vinuge	DEVAPLEX.DEVT (DEVT)	✔ Complete

# z/OSMF WorkFlows: z/OS Migration Workflow

Welcome x Workflows x

[Workflows](#) ▶ z/OS Migration to 2.3 from 2.2 e0zm100\_v2r3 - Workflow\_0

## z/OS Migration to 2.3 from 2.2 e0zm100\_v2r3 - Workflow\_0

Description: e0zm100\_v2r3  
Percent complete:

Owner: vinuge  
Steps complete: 136 of 183

System: DEVAPLEX.DEVT (DEVT)  
Status: ■ In Progress

Is Callable: Cannot be called by another workflow  
Access([Learn More](#)): 🔒 Public

Workflow Steps

Actions ▾

↔ No filter applied

<input type="checkbox"/> State Filter	No. Filter	Title Filter	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter
<input type="checkbox"/> <span style="color: green;">✓</span> Complete	1	■ Discover z/OS features in use		Yes	snosew	
<input type="checkbox"/> <span style="color: green;">✓</span> Complete	2	± Chapter 1. Migration: Introduction				
<input type="checkbox"/> <span style="color: green;">■</span> In Progress	3	± Chapter 2. General migration actions for everyone migrating to z/OS V2R3				
<input type="checkbox"/> <span style="color: green;">■</span> In Progress	4	± Chapter 3. Migration from z/OS V2R2				
<input type="checkbox"/> Unassigned	5	■ Provide feedback to IBM on your migration experience		No		



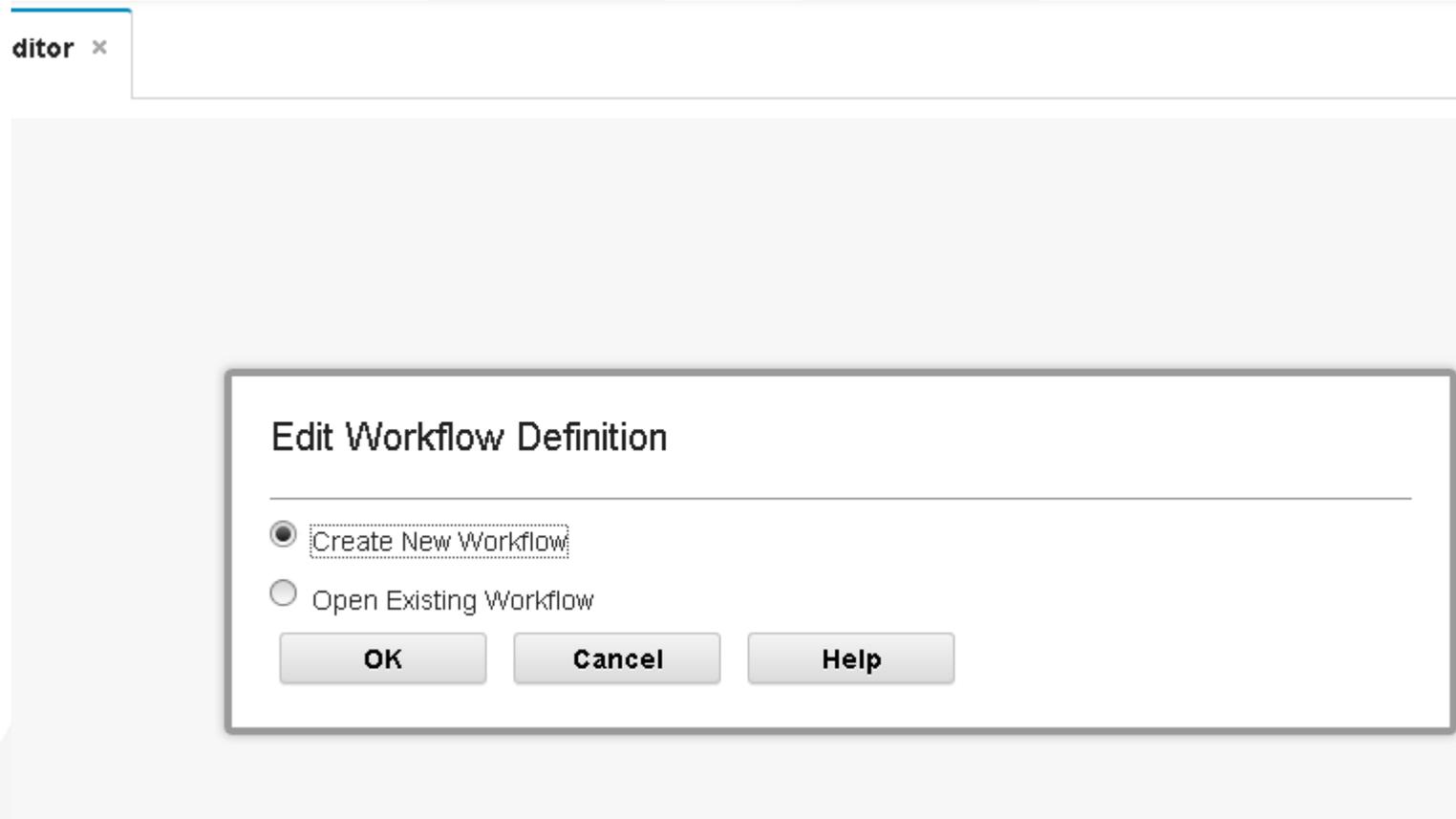
# TIME TO DEFINE A WORKFLOW

# z/OSMF WorkFlow Editor: Choose New Workflow

The screenshot displays the IBM z/OS Management Facility interface. On the left is a navigation pane with a 'Refresh' button at the bottom. The main area shows a 'Workflow Editor' tab. A modal dialog titled 'Edit Workflow Definition' is open, containing the following elements:

- Two radio buttons: 'Create New Workflow' (unselected) and 'Open Existing Workflow' (selected).
- Text: 'Type or select an existing workflow definition file. Only UNIX file path locations are supported at this time.'
- Text: '\* Workflow definition file:'
- Input field: A text box containing 'Select or type' with a red 'X' icon and a dropdown arrow on the right.
- Text: 'Type or select an existing variable input file. Only UNIX file path locations are supported at this time.'
- Text: 'Workflow variable input file:'
- Input field: A text box containing 'Select or type' with a dropdown arrow on the right.
- Buttons: 'OK', 'Cancel', and 'Help' at the bottom.

# z/OSMF WFE: Choose New Workflow



# z/OSMF WFE: Fill Out Metadata Tab

## Workflow Editor

File Path:

**Metadata** | Steps | Variables | Feedback | Input Properties

In a workflow definition, the metadata is used to identify the workflow and provide more information about it. On this tab, you can modify the workflow identifier, description, category, version, and other basic information about the selected workflow definition.

\* Workflow ID:

Scope:

Callable Workflow

Range:

Default Name:

\* Description:

Category:

Omit the prefix from instance variable references.

Users can take ownership of steps automatically.

Contains parallel steps.

# z/OSMF WFE: Fill Out Metadata Tab

## Add Required Values, Set AutoTakeOwnership

### Workflow Editor

File Path:

**Metadata** | Steps | Variables | Feedback | Input Properties

In a workflow definition, the metadata is used to identify the workflow and provide more information about it. On this tab, you can modify the workflow identifier, description, category, version, and other basic information about the selected workflow definition.

\* Workflow ID:

Category:

Scope:

Callable Workflow

Range:

Default Name:

\* Description:

Omit the prefix from instance variable references.

Users can take ownership of steps automatically.

Contains parallel steps.

# z/OSMF WFE: Fill Out Metadata Tab

## Complete Required Info and Save

Callable Workflow

Range:  
System

Default Name:  
RECEIVE ALL RSU Service To Date

\* Description:  
RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

\* Version:  
1.10

\* Vendor:  
SAS IT IE Mainframe

Users can take ownership of steps automatically.  
 Contains parallel steps.

**Save** **Save As...** **Cancel**

# z/OSMF WFE: Fill Out Metadata Tab

## Name the xml file and Complete the Save

**Save File As**

\* Workflow definition file:  
/u/snosew/zOSMF\_Workflows/RSUzV2R3/RSU1806/RECEIVE/\$RECEIVE.xml

Workflow variable input file:  
Select or type

**OK** **Cancel**

# z/OSMF WFE: Now It's a Workflow File

## Workflow Editor

File Path: /u/snosew/zOSMF\_Workflows/RSUzV2R3/RSU1806/RECEIVE/\$RECEIVE.xml

**Metadata** | Steps | Variables | Feedback | Input Properties

In a workflow definition, the metadata is used to identify the workflow and provide more information about it. On this tab, you can modify the workflow identifier, description, category, version, and other basic information about the selected workflow definition.

\* Workflow ID:

Scope:

Callable Workflow

Range:

Default Name:

\* Description:

Category:

Omit the prefix from instance variable references.

Users can take ownership of steps automatically.

Contains parallel steps.

# z/OSMF WFE: Now It's a Workflow File

## ISPF 3.17 UDLList Supports Wildcards!

```
er View Script Help
[Icons] | Attention PA1 PA2 PA3 Reset Clear

Menu  RefList  RefMode  Utilities  Options  File_Systems
-----
                                z/OS UNIX Directory List Utility
Option ==> █

blank Display directory list          P Print direct
Pathname . . . /u/snosew/zOSMF*/RSUz*/RSU18*

Enter "/" to select option
/ Confirm File Delete
/ Confirm Non-empty Directory Delete

When the directory list is displayed, enter either:
"/" on the directory list line command field for the comm
an ISPF line command, the name of a TSO command, CLIST, o
"=" to execute the previous command.
```

# z/OSMF WFE: Now It's a Workflow File

```
File Edit Session Options Transfer View Script Help
[Icons] | Attention PA1 PA2 PA3 Reset Clear

Menu Utilities View Options Help

z/OS UNIX Directory List

Command ==>

List . . . : /u/snosew/zOSMF*/RSUz*/RSU18*
EUID . . . : 9936
Command Pathname Message Type Permission
-----
/u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1801 Dir rwxrwxr-x
/u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1802 Dir rwxrwxr-x
/u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1803 Dir rwxrwxr-x
/u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1804 Dir rwxrwxr-x
/u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1805 Dir rwxrwxr-x
/u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1806 Listed Dir rwxr-xr-x
***** Bottom of data *****
```

# z/OSMF WFE: Now It's a Workflow File

## Remember It's in ASCII so Use VA or EA

```
File Edit Session Options Transfer View Script Help
[Icons] | Attention PA1 PA2 PA3 Reset Clear

Menu Utilities View Options Help

z/OS UNIX Directory List

Command ==>

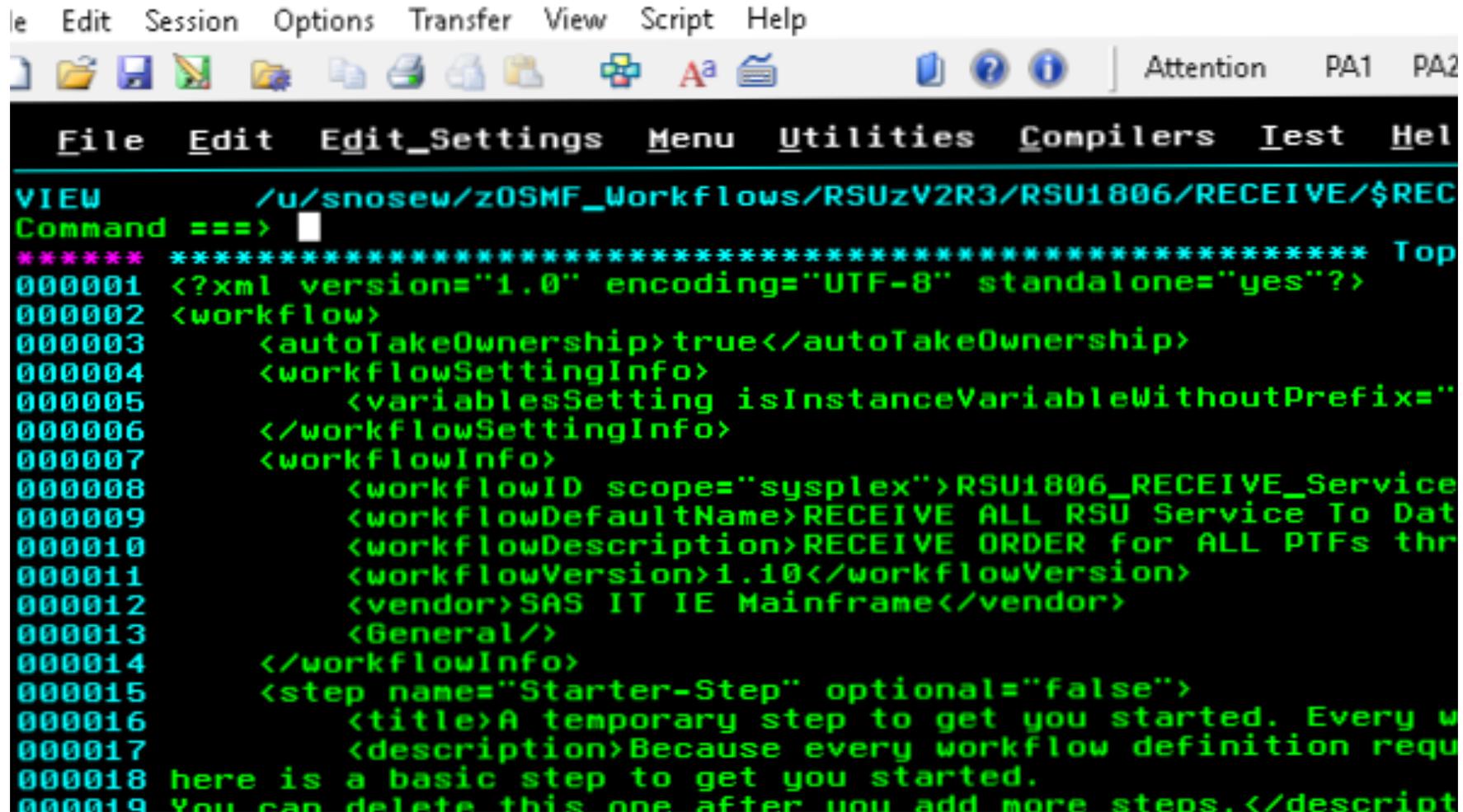
Pathname . . . : /u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1806/RECEIVE
EUID . . . . . : 9936
Command  Filename                                Message                                Type Permission
-----
.                                               .                                     Dir  rwxr-xr-x
..                                              ..                                    Dir  rwxr-xr-x
va$RECEIVE.xml                               $RECEIVE.xml                          File rw-r--r--
***** Bottom of data *****
```

# z/OSMF WFE: Now It's a Workflow File

```
File Edit Session Options Transfer View Script Help
[Icons] Attention PA1 PA2 PA3 Reset Clear

File Edit Edit_Settings Menu Utilities Compilers Test Help
VIEW /u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1806/RECEIVE/$RECEIVE.xml
Command ==>
***** ***** Top of Data *****
000001 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
000002 <workflow>
000003   <autoTakeOwnership>>true</autoTakeOwnership>
000004   <workflowSettingInfo>
000005     <variablesSetting isInstanceVariableWithoutPrefix="true"/>
000006   </workflowSettingInfo>
000007   <workflowInfo>
000008     <workflowID scope="sysplex">RSU1806_RECEIVE_Service</workflowID>
000009     <workflowDefaultName>RECEIVE ALL RSU Service To Date</workflowDefaultName>
000010     <workflowDescription>RECEIVE ORDER for ALL PTFs through today for this z/OS
000011     <workflowVersion>1.10</workflowVersion>
000012     <vendor>SAS IT IE Mainframe</vendor>
000013     <General/>
000014   </workflowInfo>
000015   <step name="Starter-Step" optional="false">
000016     <title>A temporary step to get you started. Every workflow definition requi
000017     <description>Because every workflow definition requires at least one step,
000018 here is a basic step to get you started.
000019 You can delete this one after you add more steps.</description>
000020     <instructions substitution="false">Use the Instructions area to describe in
000021 user needs to do to complete the step.
000022 On completion of the step, the user should press Finish
000023 to have the step marked complete in the Workflows task.</instructions>
000024     <weight>1</weight>
000025     <autoEnable>>false</autoEnable>
000026     <canMarkAsFailed>>false</canMarkAsFailed>
000027   </step>
000028 </workflow>
***** ***** Bottom of Data *****
```

# z/OSMF WFE: Now It's a Workflow File



The screenshot shows a graphical user interface for z/OSMF WFE. The top menu bar includes 'File', 'Edit', 'Session', 'Options', 'Transfer', 'View', 'Script', and 'Help'. Below the menu is a toolbar with various icons. The main window displays an XML workflow definition in a text editor. The XML content is as follows:

```
VIEW /u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1806/RECEIVE/$REC
Command ==>
***** ***** Top
000001 <?xml version="1.0" encoding="UTF-8" standalone="yes"?>
000002 <workflow>
000003   <autoTakeOwnership>true</autoTakeOwnership>
000004   <workflowSettingInfo>
000005     <variablesSetting isInstanceVariableWithoutPrefix="
000006   </workflowSettingInfo>
000007   <workflowInfo>
000008     <workflowID scope="sysplex">RSU1806_RECEIVE_Service
000009     <workflowDefaultName>RECEIVE ALL RSU Service To Dat
000010     <workflowDescription>RECEIVE ORDER for ALL PTFs thr
000011     <workflowVersion>1.10</workflowVersion>
000012     <vendor>SAS IT IE Mainframe</vendor>
000013     <General/>
000014   </workflowInfo>
000015   <step name="Starter-Step" optional="false">
000016     <title>A temporary step to get you started. Every w
000017     <description>Because every workflow definition requ
000018 here is a basic step to get you started.
000019 You can delete this one after you add more steps.</descript
```

# z/OSMF WFE: What's In the Steps Tab?

## Workflow Editor

File Path: /u/snosew/zOSMF\_Workflows/RSUZV2R3/RSU1806/RECEIVE/\$RECEIVE.xml

Metadata **Steps** Variables Feedback Input Properties

A workflow is composed of one or more units of work called steps. A workflow definition file in step can contain substeps. On this tab, you can launch actions to view or modify the steps in

Actions ▾ | Create Step

	Step No.	Name	Title
<input type="radio"/>	1	■ Starter-Step	A temporary step to get you started. Every work

# z/OSMF WFE: Primed with Dummy Step

A workflow is composed of one or more units. A workflow definition file must contain at least one step. On this tab, you can learn more about the steps in the selected workflow or modify the steps in the selected workflow.

Actions ▾ |

Create Step

Step No.	Name	Title
<input checked="" type="radio"/> 1	■ Starter-Step	A temporary step to get you started. Every workflow definition requires at least one step.

Total: 1 Selected:

Variable Details

Step Details

Overview Prerequisites Instructions Type Conditions Security ▾

### Step Overview

Overview information is required for every step. On this tab, you can modify the step title, description, and other basic information about the selected step.

\* Name:

\* Title:

Description:

Help

# z/OSMF WFE: Help for This Step Overview Tab

The screenshot shows a web browser window displaying the IBM Knowledge Center help page for the z/OSMF WFE Overview tab. The browser address bar shows the URL: [https://s390devt.sas.com:32208/zosmf/helps/SSB2H8\\_2.3.0/com.ibm.zosmfworkflows.editor.help.doc/izuWEhpWorkflowEditorStepOverview.html](https://s390devt.sas.com:32208/zosmf/helps/SSB2H8_2.3.0/com.ibm.zosmfworkflows.editor.help.doc/izuWEhpWorkflowEditorStepOverview.html). The page header includes the IBM Knowledge Center logo and a search bar. The main content area is titled "Overview tab" and contains the following text:

Workflow Editor > Workflow Editor task > Steps tab > Overview tab

## Overview tab

You can use the Overview tab on the Step Details page to view and modify the step name, title, description, and other information for the step.

[Table 1](#) lists and describes the fields that are displayed in the Overview tab.

*Table 1. Fields in the Overview tab*

Column	Description
<b>Name</b>	Name of the step.  If you change the step name, the Workflow Editor applies this change throughout the workflow definition, wherever the step name is referenced. For example, the Workflow Editor finds and updates: <ul style="list-style-type: none"><li>• Prerequisites for any other steps that refer to the old step name</li><li>• Conditional expressions in the workflow that refer to the old step name.</li></ul> If you select to change the step name, you are prompted to confirm your decision.
<b>Title</b>	Step title.
<b>Description</b>	Step description

# z/OSMF WFE: Use Steps Tab to Create or Edit Step

## Workflow Editor

File Path: /u/snosew/zOSMF\_Workflows/RSUZV2R3/RSU1806/RECEIVE/\$RECEIVE.xml

Workflow Editor interface showing the **Steps** tab. The interface includes tabs for Metadata, Steps, Variables, Feedback, and Input Properties. A description states: "A workflow is composed of one or more units of work called steps. A workflow definition file in step can contain substeps. On this tab, you can launch actions to view or modify the steps in". Below this is an "Actions" dropdown menu with "Create Step" selected. A table lists the existing steps:

Step No.	Name	Title
1	Starter-Step	A temporary step to get you started. Every work

# z/OSMF WFE: Create a New Step

## Leaf Step Can Be Run; Parent Step is Grouping

### Create a New Step

---

Leaf Step  Parent Step

\* Name:

\* Title:

Description:

Optional Step  
 Auto-Enable  
 Allow manual marking of step failure

\* Weight (1-1000):

Skills:

\* Step Type:

# z/OSMF WFE: Create a New Step

## Choose Step Type

### Create a New Step

Leaf Step  Parent Step

\* Name:

Enter a unique step name here

\* Title:

Enter a title for the step here

Description:

Enter a description for the step here

- Optional Step  
 Auto-Enable  
 Allow manual marking of step failure

OK

Cancel

Help

\* Weight (1-1000):

Enter the step weight here

Skills:

Enter the skills for the step here

\* Step Type:

Instructions Only

**Instructions Only**

File Template

Inline Template

REST API

Calling Step

# z/OSMF WFE: Create a New Step Set File Template and Its Location

### Create a New Step

Leaf Step  Parent Step

\* Name:

\* Title:

Description:

Optional Step  
 Auto-Enable  
 Allow manual marking of step failure

\* Weight (1-1000):

Skills:

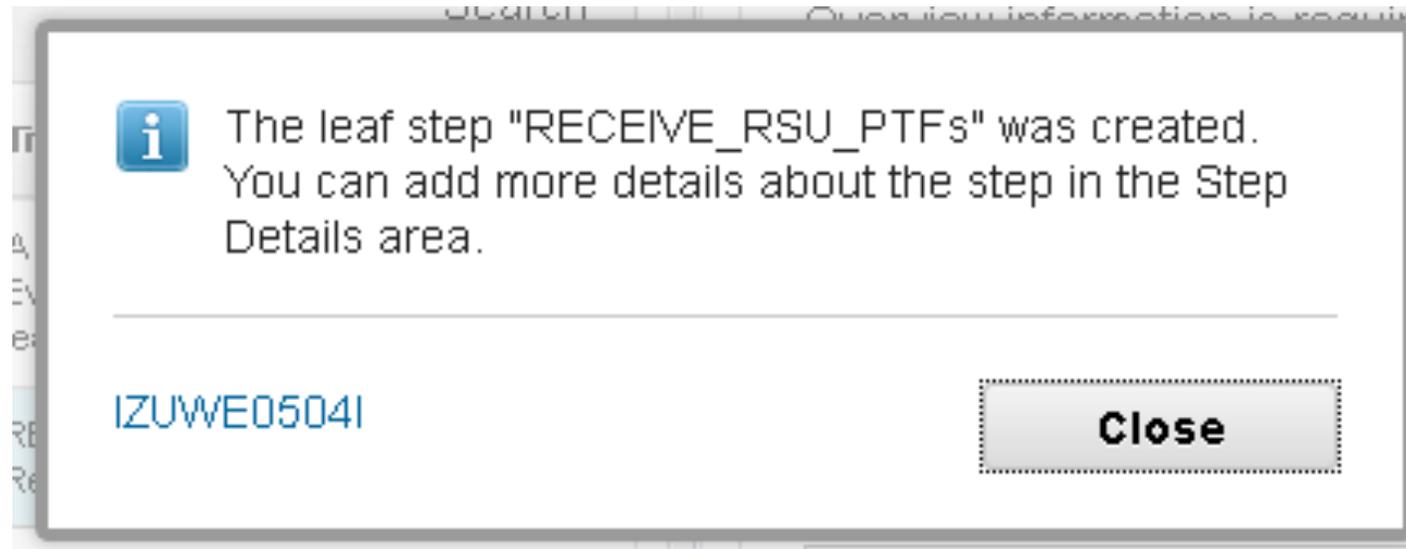
\* Step Type:

\* Location of file template:

Path name contains substitution

APAR PH01154 and PH14185 will fix Path Name Substitution problems

# z/OSMF WFE: Create a New Step Save



# z/OSMF WFE: There's a New Step

## Workflow Editor

File Path: /u/snosew/zOSMF\_Workflows/RSUzV2R3/RSU1806/RECEIVE/\$RECEIVE.xml

Metadata **Steps** Variables Feedback

A workflow is composed of one or more units of work called steps. A workflow definition file must contain at least one step; each step can contain substeps. On this tab, you can launch actions to view or modify the steps in the selected workflow definition.

Actions

Step No.	Name	Title
<input type="radio"/> 1	Starter-Step	A temporary step to get you started. Every workflow definition requires at least one step.
<input checked="" type="radio"/> 2	RECEIVE_RSU_PTF	RECEIVE RSU PTFs via SMP/E Internet Retrieval

Total: 2 Selected:  
1

Variable Details

Step Details

Overview Prerequisites Instructions Type Conditions Security Variables

### Step Overview

Overview information is required for every step. On this tab, you can modify the step title, description, and other basic information about the selected step.

\* Name:

\* Title:

Description:

\* Weight (1-1000):

# z/OSMF WFE: Create a New Step Variable Substitution in Instruction Tab

Variable Details

Step Details

Overview Prerequisites **Instructions** Type Conditions Security Variables

```
Received RSU${instance-NRSU} SYSMODs and HOLDDATA into z/OS  
V2R3 Gzone using SMP/E Internet Service  
Retrieval; nnn PTFs RECEIVED.
```

Contains variable substitution

**Help**

`${instance-NRSU}` is the string that will be replaced by the NRSU value 1806

# z/OSMF WFE: Create a New Step

## What Type of File Template?

The screenshot displays the z/OSMF WFE interface. On the left, the 'Steps' tab is active, showing a table of workflow steps. Step 2 is selected. On the right, the 'Variable Details' panel is open, showing the 'Step Details' tab. The 'Step Type' is set to 'File Template'. The 'Submit Template As' field is 'Not specified'. The 'Location of file template' field contains the path: `/u/snosew/zOSMF_Workflows/RSUZV2R3/RSU1806/RECEIVE/R:`. There is a checkbox for 'Path name contains substitution' which is unchecked. The 'Max RC' field is empty. A 'Help' button is visible at the bottom of the variable details panel.

Metadata | **Steps** | Variables | Feedback | Inj | ▾

A workflow is composed of one or more units of work called steps. A workflow definition file must contain at least one step; each step can contain substeps. On this tab, you can launch actions to view or modify the steps in the selected workflow definition.

Actions ▾ |  |

Step No.	Name	Title
<input type="radio"/> 1	■ Starter-Step	A temporary step to get you started. Every workflow definition requires at least one step.
<input checked="" type="radio"/> 2	■ RECEIVE_RSU_PTFs	RECEIVE RSU PTFs via SMP/E Internet Retrieval

Variable Details

Step Details

Overview | Prerequisites | Instructions | **Type** | ▾

### Step Type

The step type indicates the type of processing that the step performs. On this tab, you can modify the related details.

Step Type:  ▾

Submit Template As:

\* Location of file template:   
 Path name contains substitution

Max RC:

# z/OSMF WFE: Create a New Step

## What Type of File Template?

### Step Details

Overview Prerequisites Instructions **Type** Conditions Security Variables File

#### Step Type

The step type indicates the type of processing that the step performs. On this tab, you can modify the related details.

Step Type: File Template

Submit Template As:  
Not specified

\* Location of file template:  
/u/snosew/zOSMF\_Workflows/R3U1806/RECEIVE/R3U1806A.template

Path name contains substitution

Max RC:

Help

# z/OSMF WFE: Create a New Step

## What Type of File Template?

Overview Prerequisites Instructions **Type** Conditions Security Variables Fi

### Step Type

The step type indicates the type of processing that the step performs. On this tab, you can modify the related details.

Step Type: File Template

Submit Template As:

- JCL
- Not specified
- JCL**
- TSO-REXX-JCL
- shell-JCL
- TSO-REXX
- TSO-UNIX-REXX
- TSO-UNIX-shell

# z/OSMF WFE: Create a New Step Template JCL and Attributes (part 1)

Overview | Prerequisites | Instructions | **Type** | Conditions | Security | Variables | F

## Step Type

The step type indicates the type of processing that the step performs. On this tab, you can modify the related details.

---

Step Type:

Submit Template As:

\* Location of file template:

Path name contains substitution

Max RC:

Max LRECL:

# z/OSMF WFE: Create a New Step Template JCL and Attributes (part 2)

Variable Details

---

Step Details

---

Overview Prerequisites Instructions **Type** Conditions Security Variables F ▾

Template Contents:

Contains variable substitution

Save As Dataset:

Contains variable substitution

Save As UNIX File:

/u/snosew/zOSMF\_Workflows/R3UzV2R3/R3U1806/RECEIVE/R3U1806A.wfjob

Contains variable substitution

# z/OSMF WFE: Setup Variables

Welcome x **Workflow Editor** x

[Help](#)

### Workflow Editor

File Path: /u/snosew/zOSMF\_Workflows/RSUzV2R3/RSU1806/RECEIVE/\$RECEIVE.xml

Metadata | Steps | **Variables** | Feedback | Input Properties

Variables can be used for substitution in workflow step instructions and templates. On this tab, you can launch actions to view and modify the variables in the selected workflow definition.

Actions ▾ | Create Variable  Search

Variable Name	Scope	Category
There are no variables defined for this workflow. Press the "Create Variable" button to add a new variable.		

# z/OSMF WFE: Setup Variables

## Let's Create Several Variables

### Workflow Editor

File Path:

Workflow Editor interface showing the Variables tab. The interface includes a navigation bar with tabs: Metadata, Steps, **Variables**, Feedback, and Input Properties. Below the navigation bar, a text box explains: "Variables can be used for substitution in workflow step instructions and templates. On this tab, you can launch actions to view and modify the variables in the selected workflow definition." A search bar is present on the right with a "Search" button. A table with columns "Scope" and "Category" is shown, but it is empty. A message states: "There are no variables defined for this workflow. Press the 'Create Variable' button to add a new variable." A context menu is open over the "Create Variable" button, listing actions: "Create Variable", "Create Multiple Variables", "Copy", "Delete", "Configure Columns...", "Clear Sorts", and "Clear Search". At the bottom, there are buttons for "Save", "Save As...", and "Cancel".

Variables can be used for substitution in workflow step instructions and templates. On this tab, you can launch actions to view and modify the variables in the selected workflow definition.

Actions ▾ | Create Variable  Search

Scope	Category
There are no variables defined for this workflow. Press the "Create Variable" button to add a new variable.	

Total: 0 Selected: 0

Save Save As... Cancel

# z/OSMF WFE: Setup Variables

## Start of Variable Setup

### Create Multiple Variables

In the table, select the basic properties that are common to all variables, such as name, scope, and type. When you are done, click Finish to save the variables and make them available for use in the workflow steps. To further customize the variables, use the Variable Details area for each variable, where you can add more properties or change these initial settings.

Create Variables Table

Actions ▾

<input type="checkbox"/>	Name	Scope	Label	Abstract	Description	Category	Type
<input type="checkbox"/>	PRSU	instance ▾	Previous_RSU	Previous RSU numbe	RSU before current o	general ▾	string ▾
<input type="checkbox"/>	CRSU	instance ▾	Current_RSU	Current RSU number	RSU before the new	general ▾	string ▾
<input type="checkbox"/>	NRSU	instance ▾	New_RSU	New RSU number	RSU that we are APP	general ▾	string ▾

Total: 3 Selected: 0

Finish

Cancel

Help

# z/OSMF WFE: Setup Variables

## Start of Variable Setup

### Create Multiple Variables

In the table, select the basic properties that are common to all variables, such as name, scope, and type, and make them available for use in the workflow steps. To further customize the variables, click on the variable name, where you can add more properties or change these initial settings.

Create Variables Table

Actions ▾					
<input type="checkbox"/>	Name	Scope	Label	Abstract	Description
<input type="checkbox"/>	<input type="text" value="PRSU"/>	instance ▾	<input type="text" value="Previous_RSU"/>	<input type="text" value="Previous RSU number"/>	<input type="text" value="RSU before c"/>
<input type="checkbox"/>	<input type="text" value="CRSU"/>	instance ▾	<input type="text" value="Current_RSU"/>	<input type="text" value="Current RSU number"/>	<input type="text" value="RSU before th"/>
<input type="checkbox"/>	<input type="text" value="NRSU"/>	instance ▾	<input type="text" value="New_RSU"/>	<input type="text" value="New RSU number"/>	<input type="text" value="RSU that we e"/>

# z/OSMF WFE: Setup Variables VARFILE Contents

```
File Edit Edit_Settings Menu Utilities Compilers Iest Help
EDIT      /u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1806/RECEIVE/$RECEIVE.varfile
Command ==>
***** ***** Top of Data *****
.OAAAB PRSU=1804
.OAAAC CRSU=1805
.OAAAD NRSU=1806
.OAAAE PWEK=1819
.OAAAF CWEK=1823
.OAAAG NWEK=18nn
.OAAAH PORD=18
.OAAAI CORD=19
.OAAAJ NORD=20
.OAAAA RSU_id=1806
.OAAAK TZ_name=23T1
.OAAAL TZ_name_old=23DB
.OAAAM zOS_sysname=TST1
.OAAAN zOS_sysname_old=DEVB
***** ***** Bottom of Data *****
```



# LET'S RUN OUR RSU WORKFLOW

# z/OSMF Workflow: Create a WorkFlow

Welcome x Workflows x

## Workflows

Simplifies tasks through guided step-based workflows, and provides administrative functions for assigning workflow responsibilities and tracking progress.

Actions  Active

- View Properties
- Open
- Modify...
- Cancel
- Delete
- Archive
- Stop Automation
- Generate Feedback Summary
- Create New Based on Existing
- Reactivate...
- Update Workflow Steps
- Create Workflow...**
- Customize JOB Statement
- Workflows View
- Select All
- Deselect All
- Configure Columns...
- Hide Filter Row
- Clear Sorts

Workflow Name	Version Filter	Vendor Filter	Access Filter	Owner (does not equal "rerobb")	System Filter
new instance of pre-G.A. z/OS image	1.1	SAS Mainframe Support	Public	snosew	DEVAPLEX.DEVT (DEVT)
new instance of pre-G.A. z/OS image	1.1	SAS Mainframe Support	Public	vinuge	DEVAPLEX.DEVA (LOCAL)
..._v2r3	1.0	IBM	Public	vinuge	DEVAPLEX.DEVT (DEVT)
new instance of pre-G.A. z/OS image	1.1	SAS Mainframe Support	Public	vinuge	DEVAPLEX.DEVT (DEVT)
Maintenance for z/OS TST1 system	1.3	SAS IT Mainframe	Public	vinuge	DEVAPLEX.DEVT (DEVT)
ACF User with TSO and zOS Unix attributes	1.1	SAS IT Mainframe	Public	snosew	DEVAPLEX.DEVT (DEVT)
Maintenance for z/OS DEVT system	1.3	SAS IT Mainframe	Public	vinuge	DEVAPLEX.DEVA (LOCAL)
Maintenance for z/OS DEVB system	1.3	SAS IT Mainframe	Public	vinuge	DEVAPLEX.DEVT (DEVT)
Maintenance for z/OS TST1 system	1.3	SAS IT Mainframe	Public	vinuge	DEVAPLEX.DEVT (DEVT)
Maintenance for z/OS SRVP system	1.3	SAS IT Mainframe	Public	vinuge	DEVAPLEX.DEVT (DEVT)

# z/OSMF Workflow: Create a Workflow

## Select Definition Files and Execution System

### Create Workflow

---

Type or select a workflow definition file to use for creating a new workflow.  
For a z/OS data set, specify a fully qualified name, with no quotes.

\* Workflow definition file:

Type or select a variable input file to populate the new workflow. For a z/OS data set, specify a fully qualified name, with no quotes.

Workflow variable input file:

\* System:

# z/OSMF Workflow: Create a Workflow

### Create Workflow

/u/snosew/zOSMF\_Workflows/RSUz...3/RSU1806/RECEIVE/\$RECEIVE.xml

Variable input file:  
/u/snosew/zOSMF\_Workflows/RSUz...U1806/RECEIVE/\$RECEIVE.varfile

Description:  
RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Vendor:	Version:	Is Callable:
SAS IT IE Mainframe	1.10	Cannot be called by another workflow

\* Workflow name:

\* Owner user ID:  System:

Comments:   
\* Access(Learn More):

Open workflow on finish  Assign all steps to owner user ID

# z/OSMF Workflow: Create a Workflow

## Alter Name if Desired

### Create Workflow

---

Workflow definition file:  
`/u/snosew/zOSMF_Workflows/RSUz...3/RSU1806/RECEIVE/$RECEIVE.xml`

Variable input file:  
`/u/snosew/zOSMF_Workflows/RSUz...U1806/RECEIVE/$RECEIVE.varfile`

Description:  
RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Vendor:	Version:	Is Callable:
SAS IT IE Mainframe	1.10	 Cannot be called by another workflow

\* Workflow name:

RECEIVE ALL RSU1806|Service To Date

# z/OSMF Workflow: Create a WorkFlow

## Select Actions like Open or Assign Owner

\* Workflow name:  
RECEIVE ALL RSU1806| Service To Date

\* Owner user ID: snosew System: DEVAPLEX.DEVA (LOCAL)

Comments:

\* Access([Learn More](#)):  
Public

Open workflow on finish  Assign all steps to owner user ID

**< Back** **Next >** **Finish** **Cancel** **Help**

# z/OSMF Workflow: The RECEIVE WorkFlow

## Ready to Assign Steps to Users

Workflows ▶ RECEIVE ALL RSU1806 Service To Date

### RECEIVE ALL RSU1806 Service To Date

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

Is Callable:

Cannot be cal  
workflow

Workflow Steps

Actions ▾							
↔ No filter applied							
<input type="checkbox"/> State Filter	No. Filter	Title Filter	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter	
<input type="checkbox"/> Unassigned	1	■ RECEIVE RSU PTFs via SMP/E Internet Retrieval		No		Systems Programmer	
<input type="checkbox"/> Unassigned	2	■ RECEIVE Security Holddata and Assigns		No		Systems Programmer	
<input type="checkbox"/> Unassigned	3	■ RECEIVE Simulate Generating Jobs to APPLY RSU Service		No		Systems Programmer	
<input type="checkbox"/> Unassigned	4	■ RECEIVE Generating Jobs to APPLY RSU Service		No		Systems Programmer	

# z/OSMF Workflow: The RECEIVE WorkFlow

## Select Steps to be Assigned

Workflows ▶ RECEIVE ALL RSU1806 Service To Date

### RECEIVE ALL RSU1806 Service To Date

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

Is Callable:

Cannot be call  
workflow

Workflow Steps

Actions ▾							
↔ No filter applied							
<input checked="" type="checkbox"/>	State Filter	No. Filter	Title Filter	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter
<input checked="" type="checkbox"/>	Unassigned	1	■ RECEIVE RSU PTFs via SMP/E Internet Retrieval		No		Systems Programmer
<input checked="" type="checkbox"/>	Unassigned	2	■ RECEIVE Security Holddata and Assigns		No		Systems Programmer
<input checked="" type="checkbox"/>	Unassigned	3	■ RECEIVE Simulate Generating Jobs to APPLY RSU Service		No		Systems Programmer
<input checked="" type="checkbox"/>	Unassigned	4	■ RECEIVE Generating Jobs to APPLY RSU Service		No		Systems Programmer

# z/OSMF Workflow: The RECEIVE WorkFlow

## Under Actions, go to Add Assignees

[Workflows](#) ▶ RECEIVE ALL RSU1806 Service To Date

### RECEIVE ALL RSU1806 Service To Date

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

Is Callable:

Cannot be called by :  
workflow

Workflow Steps

The screenshot shows the 'Actions' menu for the workflow steps. The menu is open, and the 'Assignment And Ownership' option is selected, which has opened a sub-menu. In this sub-menu, the 'Add Assignees...' option is highlighted. The background shows a table of workflow steps with columns for 'CalledWorkflow Filter', 'Automated Filter', 'Owner Filter', and 'Skill Category Filter'.

	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter
E RSU PTFs via SMP/E Internet al		No		Systems Programmer
E Security Holddata and Assigns		No		Systems Programmer
E Simulate Generating Jobs to RSU Service		No		Systems Programmer
RSU		No		Systems Programmer

# z/OSMF Workflow: The RECEIVE WorkFlow

## Select User to Assign to Selected Steps

[Workflows](#) ▶ [RECEIVE ALL RSU1806 Service To Date](#) ▶ Add Assignees

### Add Assignees

Select one or more SAF user IDs, SAF groups or z/OSMF roles to be assigned to the selected steps.

▶ Selected Steps

Available assignees

Actions	
↔ No filter applied	
<input type="checkbox"/> Name Filter	Type Filter
<input type="checkbox"/> rerobb	SAF user ID
<input checked="" type="checkbox"/> snosew	SAF user ID

Total: 9 Selected: 1

Comments:

Send z/OSMF notifications to assignees (comments are not included on notifications)

# z/OSMF Workflow: The RECEIVE WorkFlow

## Add Selected User to Assignees to Add

Workflows ▶ RECEIVE ALL RSU1806 Service To Date ▶ Add Assignees

### Add Assignees

Select one or more SAF user IDs, SAF groups or z/OSMF roles to be assigned to the selected steps.

▶ Selected Steps

Available assignees

Actions ▾		
↕ No filter applied		
<input type="checkbox"/>	Name Filter	Type Filter
<input type="checkbox"/>	rerobb	SAF user ID
<input checked="" type="checkbox"/>	snosew	SAF user ID

Total: 9 Selected: 1

**Add >**  
**Add All >>**  
**< Remove**  
**<< Remove All**

\* Assignees to be added:

snosew

Comments:

Send z/OSMF notifications to assignees (comments are not included on notifications)

**OK** **Cancel**

# z/OSMF Workflow: The RECEIVE WorkFlow Steps are Assigned but no Owner

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

is callable.

Cannot be call  
workflow

Workflow Steps

Actions ▾							
↔ No filter applied							
<input type="checkbox"/>	State Filter	No. Filter	Title Filter	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter
<input type="checkbox"/>	➔ Assigned	1	■ RECEIVE RSU PTFs via SMP/E Internet Retrieval		No		Systems Programmer
<input type="checkbox"/>	➔ Assigned	2	■ RECEIVE Security Holddata and Assigns		No		Systems Programmer
<input type="checkbox"/>	➔ Assigned	3	■ RECEIVE Simulate Generating Jobs to APPLY RSU Service		No		Systems Programmer
<input type="checkbox"/>	➔ Assigned	4	■ RECEIVE Generating Jobs to APPLY RSU Service		No		Systems Programmer

# z/OSMF Workflow: The RECEIVE WorkFlow

## Select Steps for Actions

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

Is Callable:

Cannot be c  
workflow

Workflow Steps

Actions ▾							
↔ No filter applied							
<input checked="" type="checkbox"/>	State Filter	No. Filter	Title Filter	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter
<input checked="" type="checkbox"/>	➔ Assigned	1	■ RECEIVE RSU PTFs via SMP/E Internet Retrieval		No		Systems Programmer
<input checked="" type="checkbox"/>	➔ Assigned	2	■ RECEIVE Security Holddata and Assigns		No		Systems Programmer
<input checked="" type="checkbox"/>	➔ Assigned	3	■ RECEIVE Simulate Generating Jobs to APPLY RSU Service		No		Systems Programmer
<input checked="" type="checkbox"/>	➔ Assigned	4	■ RECEIVE Generating Jobs to APPLY RSU Service		No		Systems Programmer

# z/OSMF Workflow: The RECEIVE WorkFlow

## Accept Assignment to become Owner

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

snosew

DEVAPLEX.DEVA  
(LOCAL)

Cannot be call  
workflow

### Workflow Steps

Actions ▾				
	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter
Properties				
Accept				
Perform				
Skip				
Status				
Override Complete				
Resolve Conflicts				
Change Called Workflow				
Assignment And Ownership ▶				
FeedBack				
E RSU PTFs via SMP/E Internet al		No		Systems Programmer
E Security Holddata and Assigns		No		Systems Programmer
E Simulate Generating Jobs to RSU Service		No		Systems Programmer
E Generating Jobs to APPLY RSU		No		Systems Programmer

# z/OSMF Workflow: The RECEIVE WorkFlow With Owner, Steps are Ready to be Run

[Workflows](#) ▶ RECEIVE ALL RSU1806 Service To Date

## RECEIVE ALL RSU1806 Service To Date

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

Is Callable:

Cannot be ca  
workflow

Workflow Steps

Actions ▾							
↔ No filter applied							
<input checked="" type="checkbox"/>	State Filter	No. Filter	Title Filter	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter
<input checked="" type="checkbox"/>	➔ Ready	1	■ RECEIVE RSU PTFs via SMP/E Internet Retrieval		No	snosew	Systems Programmer
<input checked="" type="checkbox"/>	➔ Ready	2	■ RECEIVE Security Holddata and Assigns		No	snosew	Systems Programmer
<input checked="" type="checkbox"/>	➔ Ready	3	■ RECEIVE Simulate Generating Jobs to APPLY RSU Service		No	snosew	Systems Programmer
<input checked="" type="checkbox"/>	⚡ Not Ready	4	■ RECEIVE Generating Jobs to APPLY RSU Service		No	snosew	Systems Programmer

# z/OSMF Workflow: The RECEIVE WorkFlow

## Perform Each Step

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

Workflow Steps

Actions ▾

- Properties
- Accept
- Perform
- Skip
- Status
- Override Complete
- Resolve Conflicts
- Change Called Workflow
- Assignment And Ownership ▶
- Feedback

	CalledWorkflow Filter	Automated Filter	Owner Filter
E RSU PTFs via SMP/E Internet al		No	snosew
E Security Holddata and Assigns		No	snosew
E Simulate Generating Jobs to RSU Service		No	snosew
E Generating Jobs to APPLY RSU		No	snosew

# z/OSMF Workflow: The RECEIVE WorkFlow May Be Prompted to Confirm Variables

Workflows ▶ RECEIVE ALL RSU1806 Service To Date ▶ 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

## Properties for Workflow Step 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

General Details Dependencies Notes **Perform** Status Input Variables Feedback

✓ Input Variables  
➔ **General**  
Review Instructions  
Create JOB statement  
Review JCL  
Submit and Save JCL

### Input Variables - General

Enter the variable values for this input category.

\* New\_RSU: ⓘ - *New RSU number.*

\* New Order: ⓘ - *New SMP/E Order Number.*

< Back Next > Save Finish Cancel

# z/OSMF Workflow: The RECEIVE WorkFlow

## Review Instructions and Click Next When Ready

Workflows ▶ RECEIVE ALL RSU1806 Service To Date ▶ 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

### Properties for Workflow Step 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

General Details Dependencies Notes **Perform** Status Input Variables Feedback

- ✓ Input Variables
  - ✓ General
  - ➔ **Review Instructions**
    - Create JOB statement
    - Review JCL
    - Submit and Save JCL

#### Review Instructions

To proceed with the guided path through creating and submitting the JCL on **DEVAPLEX.DEVA (LOCAL)**, click **Next**. Or, you can choose so, first review and confirm that the instructions below are complete. Then, click **Finish** to mark the step complete.

Instructions:

Received RSU1806 SYSMODs and HOLDDATA into z/OS V2R3 Gzone using SMP/E Internet Service Retrieval; nnn PTFs RECEIVED.

< Back   **Next >**   Save   Finish   Cancel

# z/OSMF Workflow: The RECEIVE WorkFlow

## Review Default JOB Statement if Any

Workflows ▶ RECEIVE ALL RSU1806 Service To Date ▶ 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

### Properties for Workflow Step 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

General Details Dependencies Notes **Perform** Status Input Variables Feedback

- ✓ Input Variables
  - ✓ General
  - ✓ Review Instructions
  - ➔ **Create JOB statement**
  - Review JCL
  - Submit and Save JCL

#### Create JOB statement

Specify the JOB statement to use for this job. You can accept the default or define a new JOB statement.

```
* JOB statement JCL:List variables for substitution  
//R3U1806A JOB (,RA424), 'MSD-ED WEBB',MSGCLASS=F,  
//          TIME=(09,59),GROUP=SYS1,LINES=90,  
//          NOTIFY=&SYSUID.RESTART=APCK.SMP  
//DEFAULT OUTPUT DEFAULT=YES,JESDS=ALL,OUTDISP=(HOLD,HOLD)  
/*XEQ S390DEVA
```

[Undo All Changes](#) [View Substitutions](#)

Apply updates to:

- All steps in workflow 'RECEIVE ALL RSU1806 Service To Date'.
- This step 'RECEIVE RSU PTFs via SMP/E Internet Retrieval' only.

[< Back](#) [Next >](#) [Save](#) [Finish](#) [Cancel](#)

# z/OSMF Workflow: The RECEIVE WorkFlow

## Review JCL

Workflows ▶ RECEIVE ALL RSU1806 Service To Date ▶ 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

### Properties for Workflow Step 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

General Details Dependencies Notes **Perform** Status Input Variables Feedback

- ✓ Input Variables
  - ✓ General
- ✓ Review Instructions
- ✓ Create JOB statement
- ➔ **Review JCL**
  - Submit and Save JCL

#### Review JCL

Review the generated JCL, then click **Next** to proceed. Optionally, you can edit the JCL. To do so, click the **Edit JCL** button.

```
//R3U1806A JOB (,RA424), 'MSD-ED WEBB',MSGCLASS=F,  
//          TIME=(09,59),GROUP=SYS1,LINES=90,  
//          NOTIFY=&SYSUID.RESTART=APCK.SMP  
//DEFAULT OUTPUT DEFAULT=YES,JESDS=ALL,OUTDISP=(HOLD,HOLD)  
/*XEQ S390DEVA  
/*JOBPARM SYSAFF=DEVA  
/**  
/* LIB: SSD.ZOSV2R03.CNTL(R3U1806A)  
/* DOC: Receive RSU1806 service via SMP/E Internet Service Retrieval.  
/**  
/* This job transfers the service package from the IBM server to  
/* your local system. Input within this job is case sensitive.  
/**  
//RECEIVE EXEC SMPEOR23
```

**Edit JCL** Maximum record length: ⓘ

**< Back** **Next >** **Save** **Finish** **Cancel**

# z/OSMF Workflow: The RECEIVE WorkFlow

## Edit JCL if a Change is Needed

### Edit JCL

Review and edit the generated JCL as needed, then click **Next** to proceed.

-----1-----2-----3-----4-----5-----6-----7-----8

```
//R3U1806A JOB (,RA424), 'MSD-ED WEBB',MSGCLASS=F,  
//          TIME=(09,59),GROUP=SYS1,LINES=90,  
//          NOTIFY=&SYSUID. RESTART=APCK.SMP  
//DEFAULT OUTPUT DEFAULT=YES,JESDS=ALL,OUTDISP=(HOLD,HOLD)  
/*XEQ S390DEVA  
/*JOBPARM SYSAFF=DEVA  
//*  
/* LIB: SSD.ZOSV2R03.CNTL(R3U1806A)  
/* DOC: Receive RSU1806 service via SMP/E Internet Service Retrieval.  
//*  
/* This job transfers the service package from the IBM server to  
/* your local system. Input within this job is case sensitive.  
//*  
//RECEIVE EXEC SMPEOR23  
//SMP.SMPSNAP DD DUMMY  
//SMP.SMPSPD DD DUMMY
```

Undo All ChangesMaximum record length:

< BackNext >SaveFinishCancel

# z/OSMF Workflow: The RECEIVE WorkFlow JCL Template with Variables

```
VIEW          /u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1806/RECEIVE/R3U1806A.template
Command ==>
***** Top of Data *****
000001 //R3U${instance-NRSU}A JOB
000002 //*
000003 //* LIB: SSD.ZOSV2R03.CNTL(R3U${instance-NRSU}A)
000004 //* DOC: Receive RSU${instance-NRSU} service via SMP/E Internet Service Retrieval.
000005 //*
000006 //* This job transfers the service package from the IBM server to
000007 //* your local system. Input within this job is case sensitive.
000008 //*
000009 //RECEIVE EXEC SMPEOR23
000010 //SMP.SMPSNAP DD DUMMY
000011 //SMP.D23SP1 DD DISP=OLD,UNIT=DISK,VOL=SER=D23SP1,RE,SURE,VOLSER,ONLINE
```

```
VIEW          /u/snosew/zOSMF_Workflows/RSUzV2R3/RSU1806/RECEIVE/R3U1806A.template
Command ==>
000032      FORTGTZONES(TZ23SP)
000033 RECEIVE ORDER(PENDING(ORD000${instance-NORD}))
000034 CLIENT(SSLCLNT)
000035          ) BYPASS(APPLYCHECK)
000036 /*      DELETEPKG                                /* <=== NOTE 4 */
000037 .
000038 //SMP.IGNORE2 DD *
000039 RECEIVE FROMNTS(ORDER(ORD000${instance-NORD})) BYPASS(APPLYCHECK)
000040 /*      DELETEPKG                                /* <=== NOTE 4 */
000041 .
```

# z/OSMF Workflow: The RECEIVE WorkFlow Almost Ready to Submit JOB

Workflows ▶ RECEIVE ALL RSU1806 Service To Date ▶ 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

## Properties for Workflow Step 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

General Details Dependencies Notes **Perform** Status Input Variables Feedback

- ✓ Input Variables
  - ✓ General
  - ✓ Review Instructions
  - ✓ Create JOB statement
  - ✓ Review JCL
  - ➔ **Submit and Save JCL**

### Submit and Save JCL

Select whether to submit the JCL or save it, and then click **Finish**.

---

Submit JCL

Save JCL

z/OS UNIX file. Specify the full path, including the file name:

z/OS data set. Specify an existing data set, including the member name if applicable:  
  
volume serial (if the data set is not cataloged).

Overwrite the file or member if it exists already.

# z/OSMF Workflow: The RECEIVE WorkFlow

## Let's Save the Actual JCL Submitted

Workflows ▶ RECEIVE ALL RSU1806 Service To Date ▶ 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

### Properties for Workflow Step 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

General	Details	Dependencies	Notes	<b>Perform</b>	Status	Input Variables	Feedback
---------	---------	--------------	-------	----------------	--------	-----------------	----------

✓ Input Variables

- ✓ General
- ✓ Review Instructions
- ✓ Create JOB statement
- ✓ Review JCL
- ➔ **Submit and Save JCL**

#### Submit and Save JCL

Select whether to submit the JCL or save it, and then click **Finish**.

---

Submit JCL

Save JCL

\* z/OS UNIX file. Specify the full path, including the file name:

z/OS data set. Specify an existing data set, including the member name if applicable:  
  
Volume serial (if the data set is not cataloged).

Overwrite the file or member if it exists already.

# z/OSMF Workflow: The RECEIVE WorkFlow JOB Submitted and on the Input Queue

Welcome × **Workflows** ×

[Workflows](#) ▶ [RECEIVE ALL RSU1806 Service To Date](#) ▶ 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval [Help](#)

### Properties for Workflow Step 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

General	Details	Dependencies	Notes	Perform	<b>Status</b>	Input Variables	Feedback
Name:	ID:	Class:	Type:	Status:	Return code:		
R3U1806A	J0856809	A	JOB	INPUT			

**Refresh** Last refresh: Aug 8, 2018, 3:15:19 PM local time (Aug 8, 2018, 7:15:19 PM GMT)

**Close**

# z/OSMF Workflow: The RECEIVE WorkFlow

## Refreshed Status, JOB Ended with JCL Error

Workflows ▶ RECEIVE ALL RSU1806 Service To Date ▶ 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

[Help](#)

### Properties for Workflow Step 1. RECEIVE RSU PTFs via SMP/E Internet Retrieval

General	Details	Dependencies	Notes	Perform	Status	Input Variables	Feedback
Name:	ID:	Class:	Type:	Status:	Return code:		
R3U1806A	J0856809	A	JOB	OUTPUT	JCL ERROR		
<b>JESMSG LG</b>	JESJCL	JESYSMSG					
DD name:	Step name:	Procedure step name:	Dataset ID:	Class:	Record count:		
JESMSG LG	JES2		2	F	11		
Output (0.484KB of 0.484KB shown)							
<pre>1          JES2 JOB LOG -- SYSTEM DEVT -- NODE S390DEVA 0 15.15.19 J0856809 ---- WEDNESDAY, 08 AUG 2018 ---- 15.15.19 J0856809 IRRO10I USERID SNOSEW  IS ASSIGNED TO THIS JOB. 15.15.20 J0856809 IEFC452I R3U1806A - JOB NOT RUN - JCL ERROR  459 0----- JES2 JOB STATISTICS ----- 0          63 CARDS READ</pre>							
<b>Refresh</b>		Last refresh: Aug 8, 2018, 3:16:26 PM local time (Aug 8, 2018, 7:16:26 PM GMT)					

**Close**

# z/OSMF Workflow: The RECEIVE WorkFlow Step Failed Because of JCL Error

[Workflows](#) ▶ RECEIVE ALL RSU1806 Service To Date

[Help](#)

## RECEIVE ALL RSU1806 Service To Date

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

Is Callable:

Cannot be called by  
another workflow

[Notes](#) | [History](#)

Contains

Parallel Steps:

No

### Workflow Steps

Actions								Search
↔ No filter applied								
<input type="checkbox"/>	State Filter	No. Filter	Title Filter	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter	
<input checked="" type="checkbox"/>	✗ Failed	1	■ RECEIVE RSU PTFs via SMP/E Internet Retrieval		No	snosew	Systems Programm	
<input type="checkbox"/>	➔ Ready	2	■ RECEIVE Security Holddata and Assigns		No	snosew	Systems Programm	
<input type="checkbox"/>	➔ Ready	3	■ RECEIVE Simulate Generating Jobs to		No	snosew	Systems Programm	

Total: 4 Selected: 1

[Return to Workflows](#)

[Refresh](#)

Last refresh: Aug 8, 2018, 4:59:00 PM local time (Aug 8, 2018, 8:59:00 PM GMT)

# z/OSMF Workflow: The RECEIVE WorkFlow Step Completed After Error Corrected

[Workflows](#) ▶ RECEIVE ALL RSU1806 Service To Date

## RECEIVE ALL RSU1806 Service To Date

 [Notes](#) |

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

System:

DEVAPLEX.DEVA  
(LOCAL)

Is Callable:

Cannot be called by another workflow

Contains Para Steps:

No

Workflow Steps

Actions ▾							
↔ No filter applied							
<input type="checkbox"/> State Filter	No. Filter	Title Filter	CalledWorkflow Filter	Automated Filter	Owner Filter	Skill Category Filter	Assignees Filter
<input checked="" type="checkbox"/> <span style="color: green;">✔</span> Complete	1	■ RECEIVE RSU PTFs via SMP/E Internet Retrieval		No	snosew	Systems Programmer	snosew
<input type="checkbox"/> <span style="color: orange;">➔</span> Ready	2	■ RECEIVE Security Holddata and Assigns		No	snosew	Systems Programmer	snosew
<input type="checkbox"/> <span style="color: orange;">➔</span> Ready	3	■ RECEIVE Simulate Generating Jobs to APPLY RSU Service		No	snosew	Systems Programmer	snosew

# z/OSMF Workflow: Update Workflow or Steps

## Workflows

Simplifies tasks through guided step-based workflows, and provides administrative functions for assigning workflow responsibilities

The screenshot displays the z/OSMF Workflows interface. At the top, there is a header bar with 'Actions' and 'Active' (indicated by a checkmark icon). Below this is a table of workflows. A context menu is open over the table, listing various actions such as 'View Properties', 'Open', 'Modify...', 'Cancel', 'Delete', 'Archive', 'Stop Automation', 'Generate Feedback Summary', 'Create New Based on Existing' (highlighted), 'Reactivate...', 'Update Workflow Steps', 'Create Workflow...', 'Customize JOB Statement', and 'Workflows View'. The table contains several rows of workflow data.

Workflow Name	Version Filter	Vendor Filter	Access Filter	Owner
Maintenance for z/OS TST1 system	1.4	SAS IT Mainframe	Public	snosew
Maintenance for z/OS DEVT system	1.4	SAS IT Mainframe	Public	snosew
Maintenance for z/OS DEVD system	1.4	SAS IT Mainframe	Public	snosew
Maintenance for z/OS PROD system	1.4	SAS IT Mainframe	Public	snosew
Maintenance for z/OS DEVA system	1.4	SAS IT Mainframe	Public	snosew
Maintenance for z/OS DEVB system	1.4	SAS IT Mainframe	Public	snosew
Maintenance for z/OS SRVP system	1.4	SAS IT Mainframe	Public	snosew
ORDER for ALL RTEs through today for	1.10	SAS IT IE	Public	snosew

# z/OSMF Workflow: Export as Printable Format

[Workflows](#) ▶ RECEIVE ALL RSU1806 Service To Date

## RECEIVE ALL RSU1806 Service To Date

Description:

RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

Owner:

snosew

Step

System:

DEVAPLEX.DEVA  
(LOCAL)

Workflow Steps

Actions ▼			
	CalledWorkflow Filter	Automated Filter	Owner Filter
Properties			
Accept			
Perform			
Skip			
Status			
Override Complete			
Resolve Conflicts			
Change Called Workflow			
Assignment And Ownership ▶			
FeedBack			
Expand			
Collapse			
Export Workflow as Printable Format			
Select All Steps Assigned to Me			

	CalledWorkflow Filter	Automated Filter	Owner Filter
PTFs via SMP/E Internet		No	snosew
Security Holddata and Assigns		No	snosew
Generate Generating Jobs to Service		No	snosew
Generating Jobs to APPLY RSU		No	snosew

# z/OSMF Workflow: Export as Printable Format

## RECEIVE ALL RSU1806 Service To Date

**Description :**RECEIVE ORDER for ALL PTFs through today for this z/OS release. Run some post-RECEIVE jobs as well.

**Status:** In Progress

**Steps complete:** 1 of 4

**Owner:** snosew

**Export time:** 2019-03-08 16:25:47

**System:** DEVAPLEX.DEVA (LOCAL)

**Version:** HSMA237;PH04817P;2018-12-01T00:17:16

**Filters :**

---

## Contents

< Note: page numbers may not be accurate. >

---

Step 1 : RECEIVE RSU PTFs via SMP/E Internet Retrieval .....	2
Step 2 : RECEIVE Security Holddata and Assigns .....	4
Step 3 : RECEIVE Simulate Generating Jobs to APPLY RSU Service .....	5
Step 4 : RECEIVE Generating Jobs to APPLY RSU Service .....	8

---

## Step 1 : RECEIVE RSU PTFs via SMP/E Internet Retrieval

---

Step State:	Step Owner:	Step Assignee:	Step Feedback:	Step Skills:	Has called workflow:
Complete	snosew	snosew	noFeedback	Systems Programmer	No

---

## Description:

Received RSU1806 SYSMODs and HOLDDATA into z/OSV2R3 Gzone using SMP/E Internet Service Retrieval; nnn PTFs RECEIVED. RSU1806 included PUT/RSU1805 through PUT/RSU1806. SOURCEID automatically set to ORD00020 for these PTFs.

## Instructions:

Received RSU1806 SYSMODs and HOLDDATA into z/OS V2R3 Gzone using SMP/E Internet Service Retrieval; nnn PTFs RECEIVED.

## Template Content:

## Workflow enhancements

- “Export workflow as printable format” supports
  - Cover
  - Frontmatter
  - Backmatter
  - Back cover

Export This Workflow in a Printable Format

Export workflow steps:

All steps

As filtered

Export Table of Contents:

Include the Table of Contents

Export additional information:

Include JCL, REXX, and UNIX shell contents from templates, and information from REST steps

Include cover, frontmatter, backmatter and back cover

Logo:

Barcode:

OK Cancel Help

# z/OSMF Workflows – Workflow Editor Recommendations

- Use templates for JCL, Avoid inline JCL
  - Originally only Unix files could be templates
    - Be sure APAR PH14185 is installed so you can exploit variables in the file name (z/OS 2.4 PTF is UI66738, z/OS 2.3 PTF UI66737)
  - Now z/OS data sets and members can be templates
- Set “Users can take ownership of steps automatically” when you start defining a workflow
- Use ISPF Edit ASCII (EA) in 3.17 for mass changes to a workflow, or
- Use the new z/OSMF VS-like Editor, or
- Use VS Studio or buy an editor that robustly supports xml formatting
  
- Don't be afraid to try and fail, partial successes get you closer to your goal

# z/OSMF Workflows – Workflow Editor Pain Points

- WFE is still missing important functions
  - Samples of REST API invocations that could automate our RSU process even more
    - [IBM 219-013](#): “The Workflow Editor is planned to include a "toolbox" of IBM-supplied steps, which are designed for performing common tasks on z/OS, such as creating a data set or submitting a REST request.”
  - Variable substitution in Description and Title
  - Workflow Create should be able to set AutoTakeOwnership on or off.
  - Date of Workflow Creation
  - Undo for Complete or Skipped status
- A WFE Workflow compare function would be very helpful, or better yet, enhance ISPF Edit compare with ascii support.

# z/OSMF Workflows - Conclusion

- The Workflows for our RSU process allowed less experienced Systems Programmers to do most of the maintenance on our z/OS systems.
- The Workflow Editor provided the method to define and revise our Workflows successfully.
- With the recent 2020 enablement of z/OSMF Software Management's Software Update application, our RSU APPLY workflow is probably Obsolete but the RECEIVE workflow is still required

# Summary for z/OSMF updates in 2019

- z/OSMF continuous delivery in 1<sup>st</sup> half of 2019
  - Swagger support of z/OSMF REST APIs
  - Enhancements of Print Workflow
  - Support Workflow global variable group
  - z/OSMF Desktop UI supports search, browse, edit and create shortcut on desktop for data set
  - z/OSMF WLM performance enhancement
- z/OSMF V2R4 (Sep 2019)
  - z/OSMF Lite configuration
  - NEW Security Configuration Assistant task
  - NEW Diagnostic Assistant task
  - z/OSMF desktop UI enhancements
  - Support using certificate to logon to z/OSMF UI

- z/OSMF continuous delivery in 4Q 2019
  - Security Configuration Assistant supports group validation and variable substitution
  - Desktop UI supports
    - Browse/edit USS files and directories
    - Submit data set or uss file as JCL
    - Create data set member, uss file and directory
  - JWT support
  - Sysplex Management plugin supports creating new CDS
  - Workflow supports remote definition and using current logon user's credential
  - REST data set and file services supports remote sysplex

# Swagger support of z/OSMF REST APIs

- **What is Swagger?**
  - *“Swagger is an open-source software framework backed by a large ecosystem of tools that helps developers design, build, document, and consume [RESTful Web services](#)” – From Wiki*
- **z/OSMF Swagger support allows users to**
  - **Browse documents of z/OSMF REST API by connecting to any z/OSMF instance**  
[https:// <hostname>:<port>/zosmf/api/explorer/](https://<hostname>:<port>/zosmf/api/explorer/)
  - **Try z/OSMF REST API without having to do any coding**

# Swagger support of z/OSMF REST APIs



all

Filter

## z/OSMF REST APIs

Discover REST APIs for z/OSMF

### AMS APIs

### Console Services APIs

### Dataset APIs

### default

### File APIs

### Filesystem APIs

### Information APIs

### Jobs APIs

### Notifications APIs

### TSO/E APIs

### Workflow APIs

### default

### File APIs

### Filesystem APIs

### Information APIs

### Jobs APIs

GET	/zosmf/restjobs/jobs	List the jobs for an owner, prefix or job ID
PUT	/zosmf/restjobs/jobs	Submit a job
DELETE	/zosmf/restjobs/jobs/{correlator}	Cancel a job and purge its output
GET	/zosmf/restjobs/jobs/{correlator}	Obtain status of a job
PUT	/zosmf/restjobs/jobs/{correlator}	Hold, release, cancel a job, or change the job class
GET	/zosmf/restjobs/jobs/{correlator}/files	List spool files for a job
GET	/zosmf/restjobs/jobs/{correlator}/files/JCL/records	Retrieve the JCL for the specified job
GET	/zosmf/restjobs/jobs/{correlator}/files/{nnn}/records	Retrieve contents of a spool file
DELETE	/zosmf/restjobs/jobs/{jobname}/{jobid}	Cancel a job and purge its output
GET	/zosmf/restjobs/jobs/{jobname}/{jobid}	Obtain status of a job
PUT	/zosmf/restjobs/jobs/{jobname}/{jobid}	Hold, release, cancel a job, or change the job class
GET	/zosmf/restjobs/jobs/{jobname}/{jobid}/files	List spool files for a job
GET	/zosmf/restjobs/jobs/{jobname}/{jobid}/files/JCL/records	Retrieve the JCL for the specified job
GET	/zosmf/restjobs/jobs/{jobname}/{jobid}/files/{nnn}/records	Retrieve contents of a spool file

### Notifications APIs

### TSO/E APIs

### Workflow APIs

# Swagger support of z/OSMF REST APIs

**Jobs APIs** Show/Hide | List Operations | Expand Operations

**GET** /zosmf/restjobs/jobs List the jobs for an owner, prefix or job ID

**Implementation Notes**  
You can use this operation to list the jobs for an owner, prefix, or job ID.

**Response Class (Status 200)**  
On completion, the z/OS jobs REST interface returns an HTTP response with an array of matching jobs, each as a JSON job document.

Model: **Example Value**

```
{
  "application/json": [
    {
      "jobid": "JOB00023",
      "jobname": "TESTJOB2",
      "subsystem": null,
      "owner": "IBUSER",
      "status": "OUTPUT",
      "type": "JOB",
      "class": "A",
    }
  ]
}
```

Response Content Type: application/json

**Parameters**

Parameter	Value	Description	Parameter Type	Data Type
owner	<input type="text"/>	User ID of the job owner whose jobs are being queried; the default is the z/OS user ID. Folded to uppercase; cannot exceed eight characters. Wildcard characters are permitted in the owner and prefix query parameter values. Use an asterisk (*) for multiple characters, and a question mark (?) for a single character.	query	string
user-correlator	<input type="text"/>	The user portion of the job correlator. This value is 1 - 32 characters in length, where the first character must be uppercase alphabetic (A-Z) or special (\$, @). The remaining characters (up to 31) can be any combination of uppercase alphabetic, numeric (0-9), or special. Blank characters are not supported. This query parameter is mutually exclusive with jobid. This value is processed by the JES2 subsystem only; the JES3 subsystem does not process the correlator and, instead, indicates zero job matches. For a system with JES3 as the primary subsystem, and one or more JES2 secondary subsystems, the primary JES3 subsystem does not process the correlator, however, the JES2 secondary subsystems can process the correlator.	query	string

[Hide Response](#)

**Curl**

```
curl -X GET --header 'Accept: application/json' 'https://pkstp00.pok.stglabs.ibm.com:1035/zosmf/restjobs/jobs?prefix*&max-jobs=1000'
```

**Request URL**

```
https://pkstp00.pok.stglabs.ibm.com:1035/zosmf/restjobs/jobs?prefix*&max-jobs=1000
```

**Response Body**

```
[ ]
```

**Response Code**

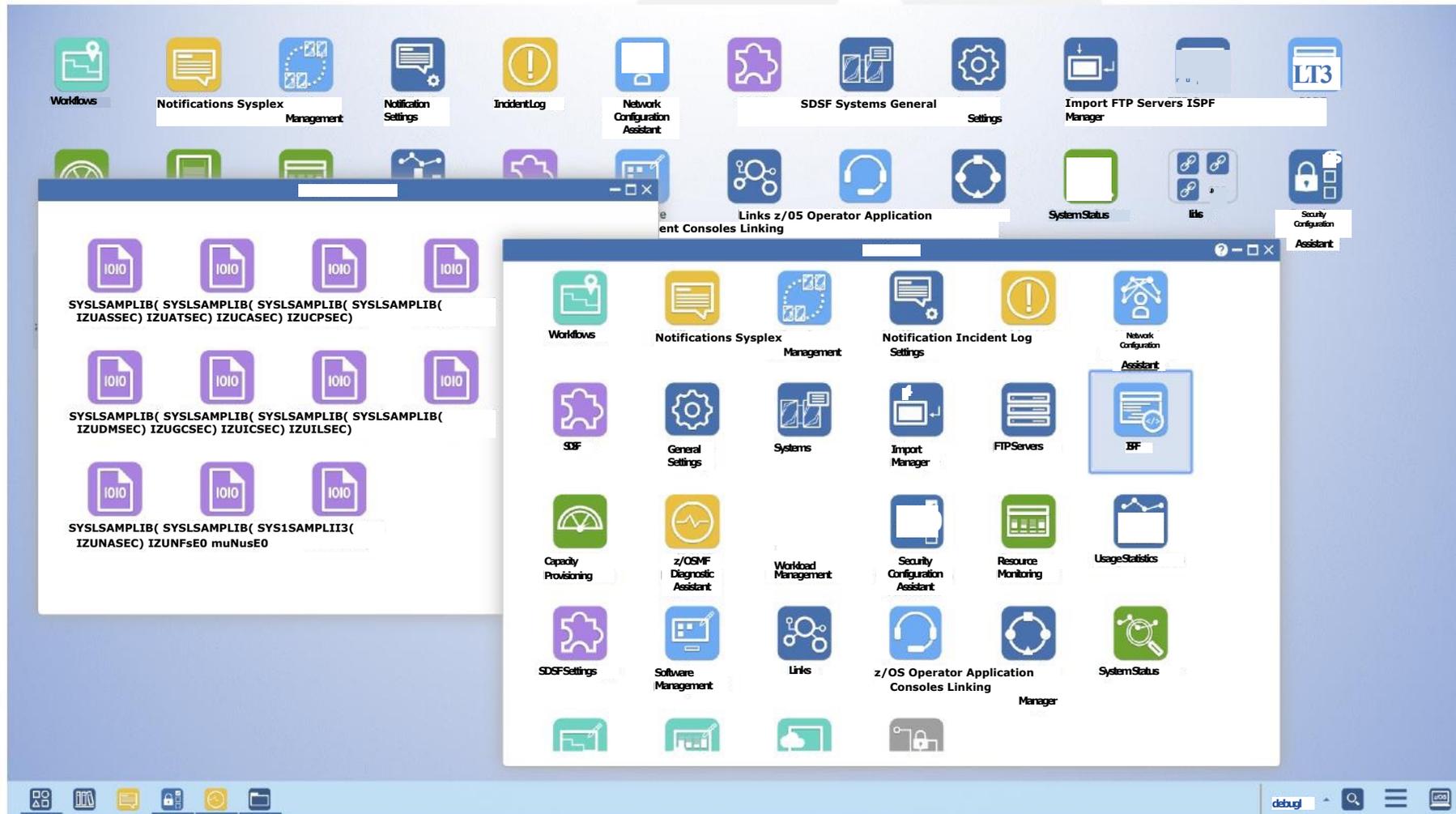
```
200
```

**Response Headers**

```
{
  "Cache-Control": "no-store",
  "Content-Language": "en-US",
  "Content-Type": "application/json",
  "Date": "Fri, 01 Mar 2019 14:10:36 GMT",
  "Pragma": "no-cache",
  "strict-transport-security": "max-age=31536000; includeSubDomains",
  "Transfer-Encoding": "chunked",
  "X-Content-Type-Options": "nosniff",
  "X-Powered-By": "Servlet/3.1",
  "X-XSS-Protection": "1; mode=block"
}
```

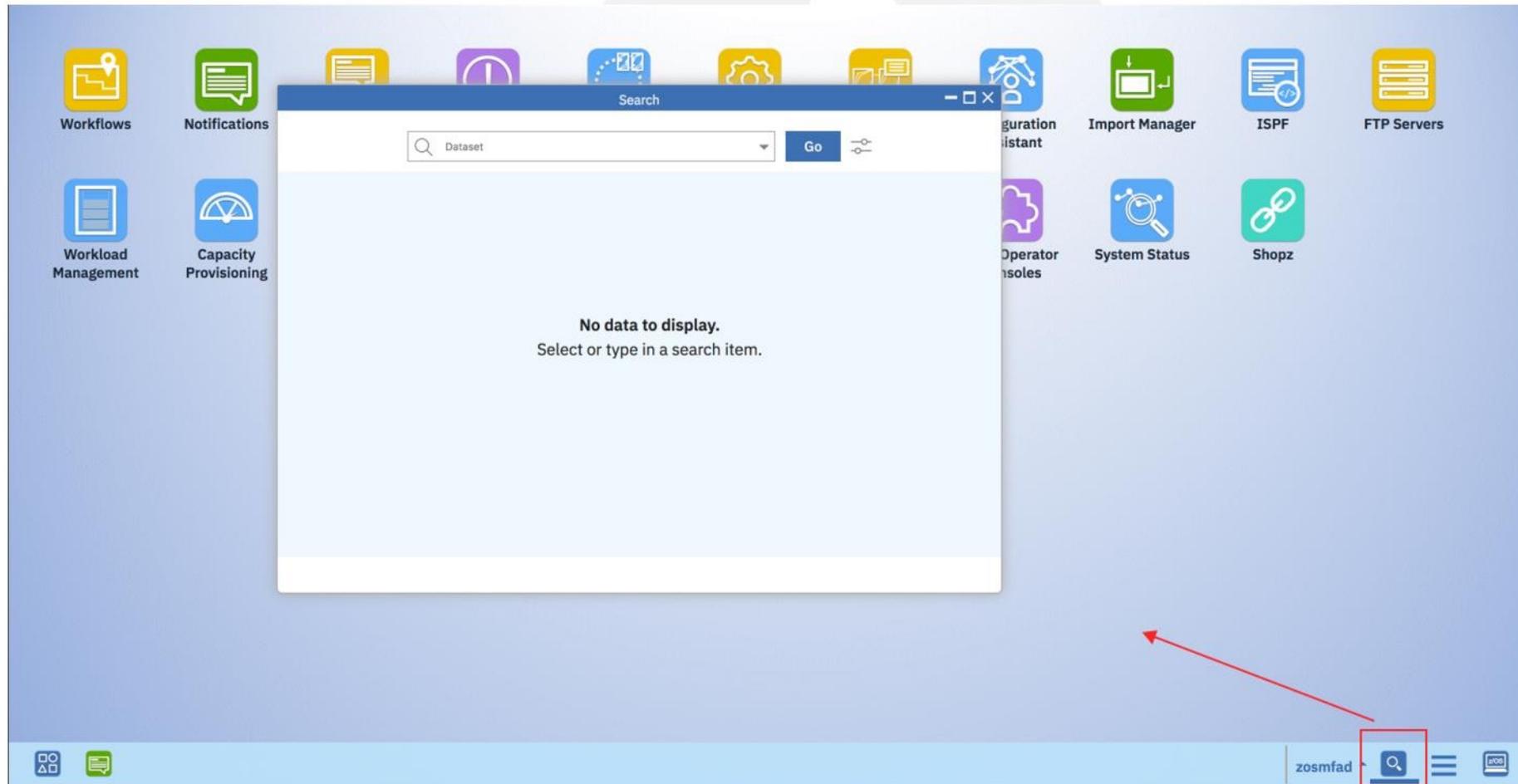
# z/OSMF desktop UI enhancements

Icons can be located by entering the first character of the icon name



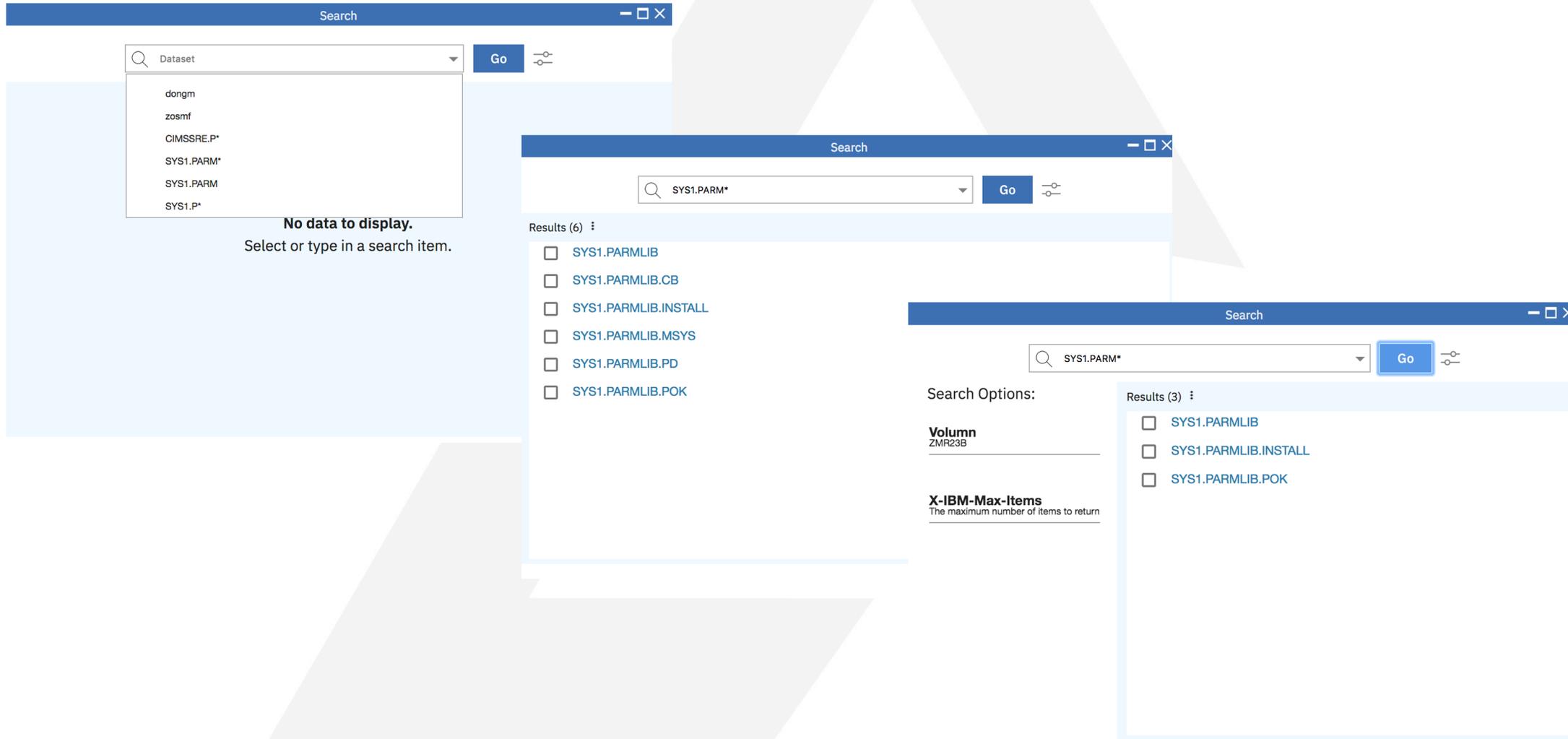
# z/OSMF Desktop UI enhancements

- Support searching data sets from z/OSMF desktop (1/2)



# z/OSMF Desktop UI enhancements

- Support searching data sets from z/OSMF desktop (2/2)



The image displays three sequential screenshots of the z/OSMF Desktop UI search interface, illustrating the search process for data sets.

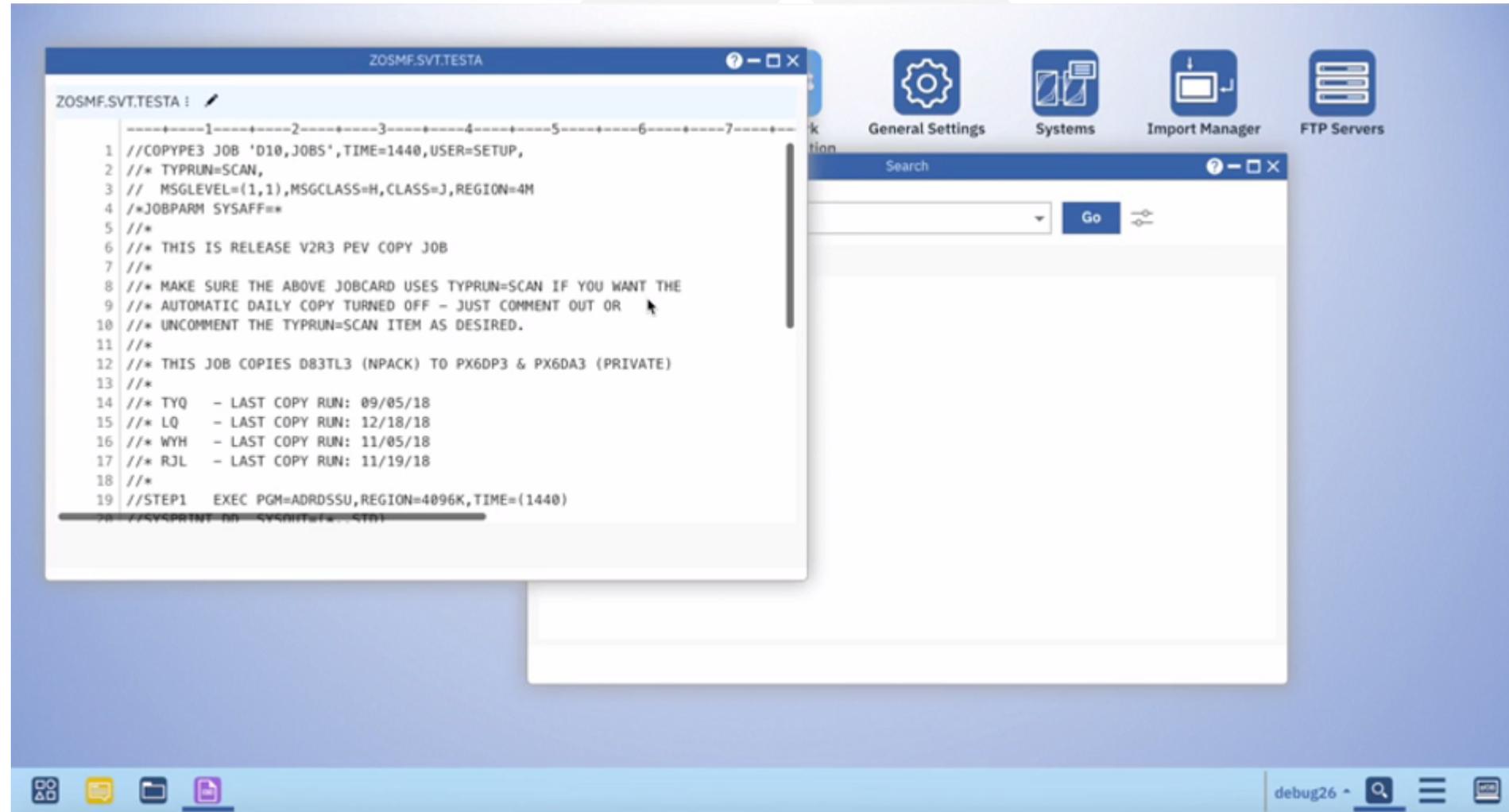
**First Screenshot:** The search bar is empty. The dropdown menu shows a list of dataset names: dongm, zosmf, CIMSSRE.P\*, SYS1.PARM\*, SYS1.PARM, and SYS1.P\*. Below the list, a message states: "No data to display. Select or type in a search item."

**Second Screenshot:** The search bar contains the text "SYS1.PARM\*". The search results are displayed as a list of six items, each with a checkbox: SYS1.PARMLIB, SYS1.PARMLIB.CB, SYS1.PARMLIB.INSTALL, SYS1.PARMLIB.MSYS, SYS1.PARMLIB.PD, and SYS1.PARMLIB.POK. The results are labeled "Results (6)".

**Third Screenshot:** The search bar still contains "SYS1.PARM\*". The search results are now filtered to three items: SYS1.PARMLIB, SYS1.PARMLIB.INSTALL, and SYS1.PARMLIB.POK. The results are labeled "Results (3)". To the left of the results, there are search options: "Volumn ZMR23B" and "X-IBM-Max-Items The maximum number of items to return".

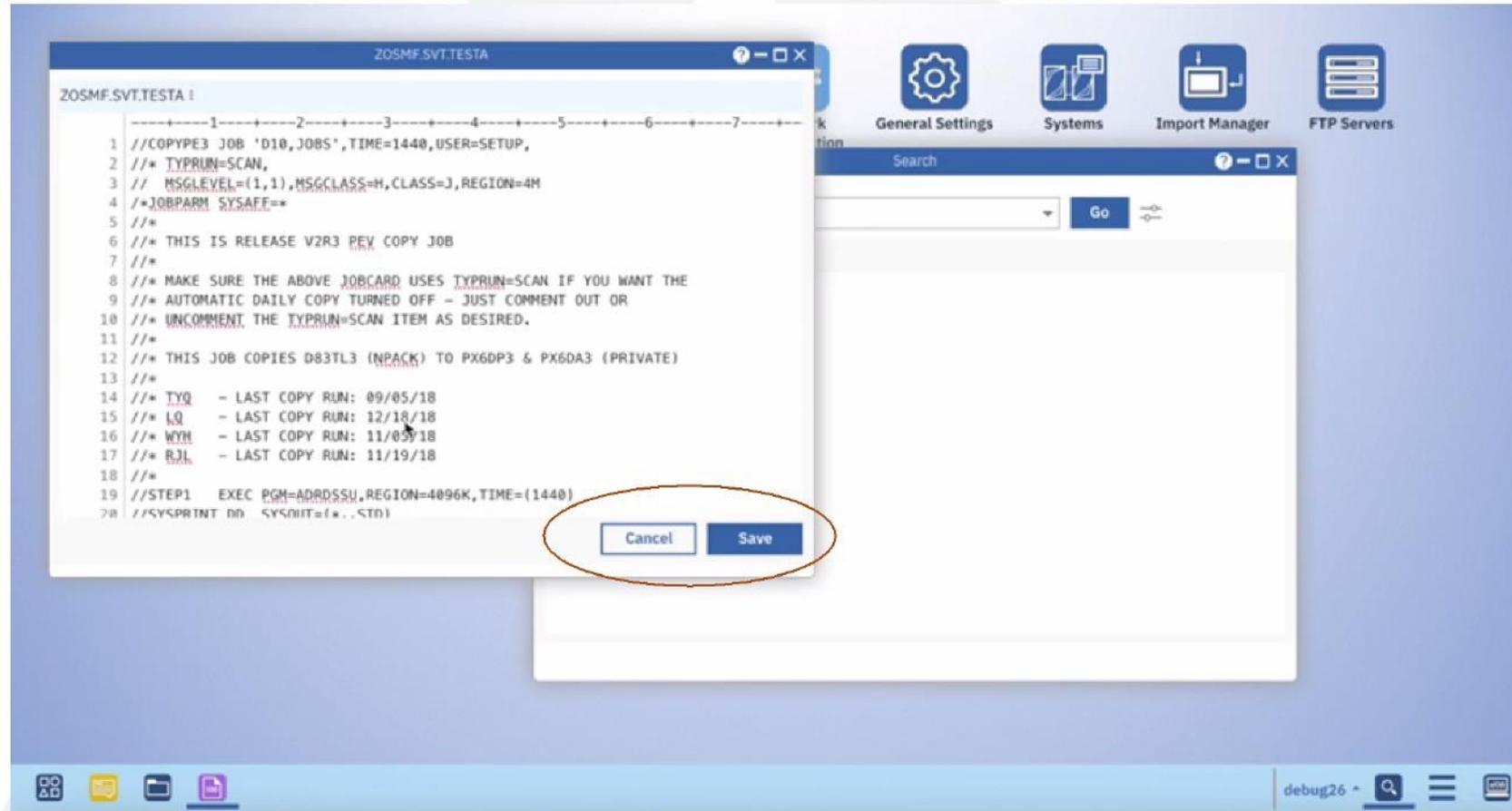
# z/OSMF Desktop UI enhancements

- Click on data set name or member name to browse content of data set or data set member



# z/OSMF Desktop UI enhancements

- Switch to edit mode



# z/OSMF V2R4 NEW functions

- **z/OS V2R4 was announced at July 23<sup>rd</sup>, 2019.**

The announcement can be accessed from z/OS home page (<https://www.ibm.com/it-infrastructure/z/zos>).

- **As part of z/OS, z/OSMF V2R4 provides**
  - **More simplified z/OSMF implementation and maintenance by**
    - z/OSMF Lite configuration
    - NEW Security Configuration Assistant task
    - NEW z/OSMF Diagnostic Assistant task
  - **Improved operational efficiency by**
    - z/OSMF desktop UI enhancements
    - Support using certificate to logon to z/OSMF UI
    - Enhanced WTOR/HOLD message support in z/OSMF Console task
  - **More flexible and powerful workflow engine by**
    - Cross sysplex support
    - Support parallel execution of steps
    - Export workflow
  - **Simplified management and installation of z/OS platform software by\***
    - Platform wide Portable Software Instance format
    - Integrated workflow for software configuration

Blue: NEW functions in V2R4

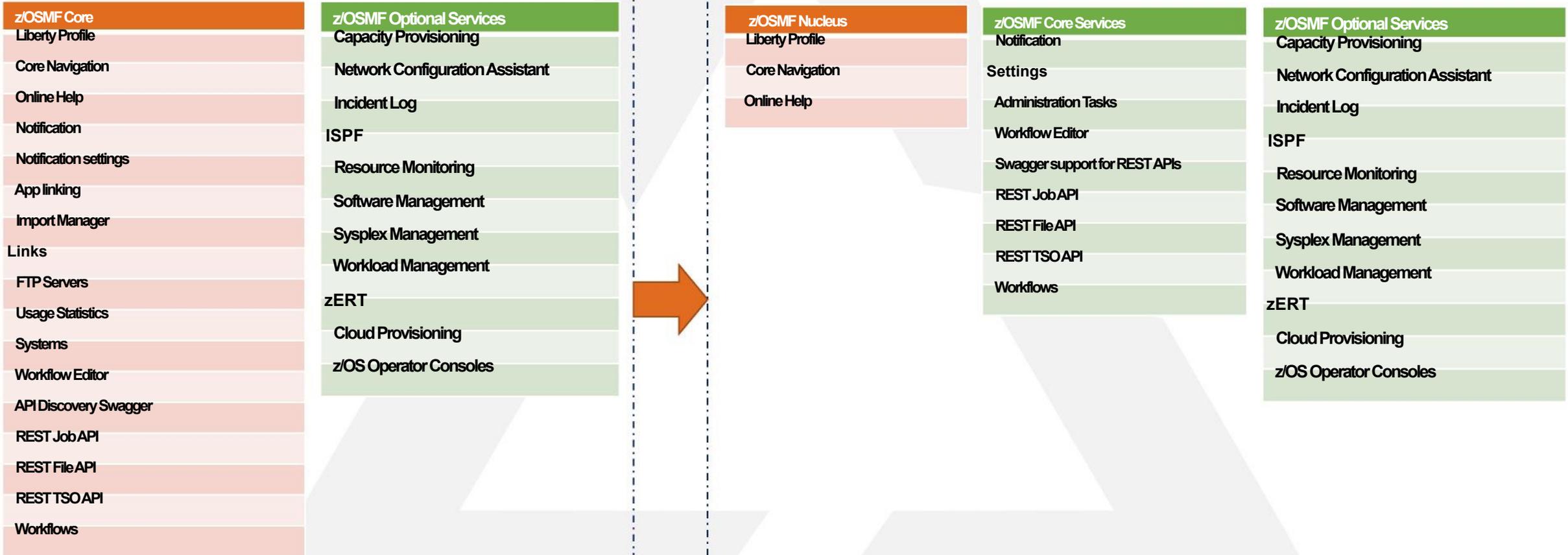
Black: Also available on V2R3 through continuous delivery

Session 27009: Installing IBM's ServerPac Using  
z/OSMF Software Management  
Room 202A, Thursday 11AM

# z/OSMF Lite configuration

## What's "z/OSMF Lite configuration"

### Previous z/OSMF configuration      z/OSMF Lite configuration



# NEW Security Configuration Assistant task

- **What's Security Configuration Assistant (SCA)**

Security Configuration Assistant task is built for simplifying the user experience of security configuration and validation. It starts with help z/OSMF security configuration by providing

- Automatic validation of security configuration by user
  - Graphic views for validation result
  - Filter by validation result, service enablement status, etc.
  - Description for each security requirement
  - Support both RACF and non-RACF security products
- 
- **SCA can be used in the following scenarios**
    - Security planning for z/OSMF
    - Validation of z/OSMF security configuration
    - Trouble shooting for function failures

# NEW Security Configuration Assistant task

- Security Configuration Assistant – Graphic view to display automatic validation result

Validation is done per user

- Validation can be done against
- All z/OSMF security configuration
  - Selected services
  - One specific security requirement

**Align with z/OSMF Lite configuration**

**Overview of validation result**

**Validation result by service**

Service	Passed	Failed	Unknown	Manual Checks
z/OSMF Sysplex Management	23	3	0	9
z/OSMF Settings	7	1	0	0
z/OSMF Notifications	3	1	0	0

**Validation result by specific requirement**

Resources for z/OSMF Notifications	Description	Class	Who needs the access	Required Access	Validated User ID	Validation Result	Action
IZUP03SF.ZOSMF.NOTIFICATION.SETTINGS	Allows the user to view the Notification Settings task.	ZMFAPLA	IZUUSER IZUADMIN	READ	debug1	Passed	Refresh
IZUP03SF.ZOSMF.NOTIFICATION.SETTINGS.ADMIN	Allows the user to modify the notification settings.	ZMFAPLA	IZUADMIN	READ	debug1	Passed	Refresh
IZUP03SF.ZOSMF.NOTIFICATION.MODIFY	Allows the user to send a notification.	ZMFAPLA	IZUUSER IZUADMIN	READ	debug1	Passed	Refresh
IRR.RUSERMAP	Allows notification settings task to get the user's email address configured to RACF.	FACILITY	IZUUSER IZUADMIN	READ	debug1	Failed	Refresh

Description is included for each security requirement

# Enhancements of Security Configuration Assistant

- With PH17871, Security Configuration Assistant can do validation against user group

The screenshot shows the Security Configuration Assistant interface. At the top, there is a search bar labeled 'Validate for ID' with the text 'ibmuser' entered. A blue 'Validate all' button is next to it. Below this, there are tabs for 'Security Configuration Assistant', 'Nucleus', 'Services 11', and 'Advanced Configuration 25'. A 'Filters' dropdown is on the right. A bar chart is displayed, showing the distribution of validation results: Automated (Passed: 150, Failed: 10, Unknown: 10), Configurable (Passed: 20, Failed: 10, Unknown: 10), and Manual (Passed: 10, Failed: 10, Unknown: 10). Below the chart, there are sections for 'Network Configuration Assistant' with status indicators for Automated (7 passed, 1 failed), Configurable (0 passed, 0 failed), and Manual (7 passed, 0 failed). A table of resources is shown below, with columns for Description, Class, Who needs the access, Required Access, Validated ID, Validation Result, and Action.

Description	Class	Who needs the access	Required Access	Validated ID	Validation Result	Action
MVS.ROUTE.CMD.<sysname>	OPERCMD5	IZUSVR	READ			

You can now enter group name as well

Bar chart replaced previous pie chart to be more straight forward

## NEW z/OSMF Diagnostic Assistant task

- **What's z/OSMF Diagnostic Assistant task**

**z/OSMF Diagnostic Assistant task is designed to simplify z/OSMF diagnostic experience. With current z/OSMF Diagnostic Assistant task, user can collect z/OSMF diagnostic data with 1 click in most cases.**

**The diagnostic data is download directly to client side as a zip file. The zip file could include:**

- **Most files under z/OSMF data directory which is /global/zosmf by default.**
- **z/OSMF server job log**

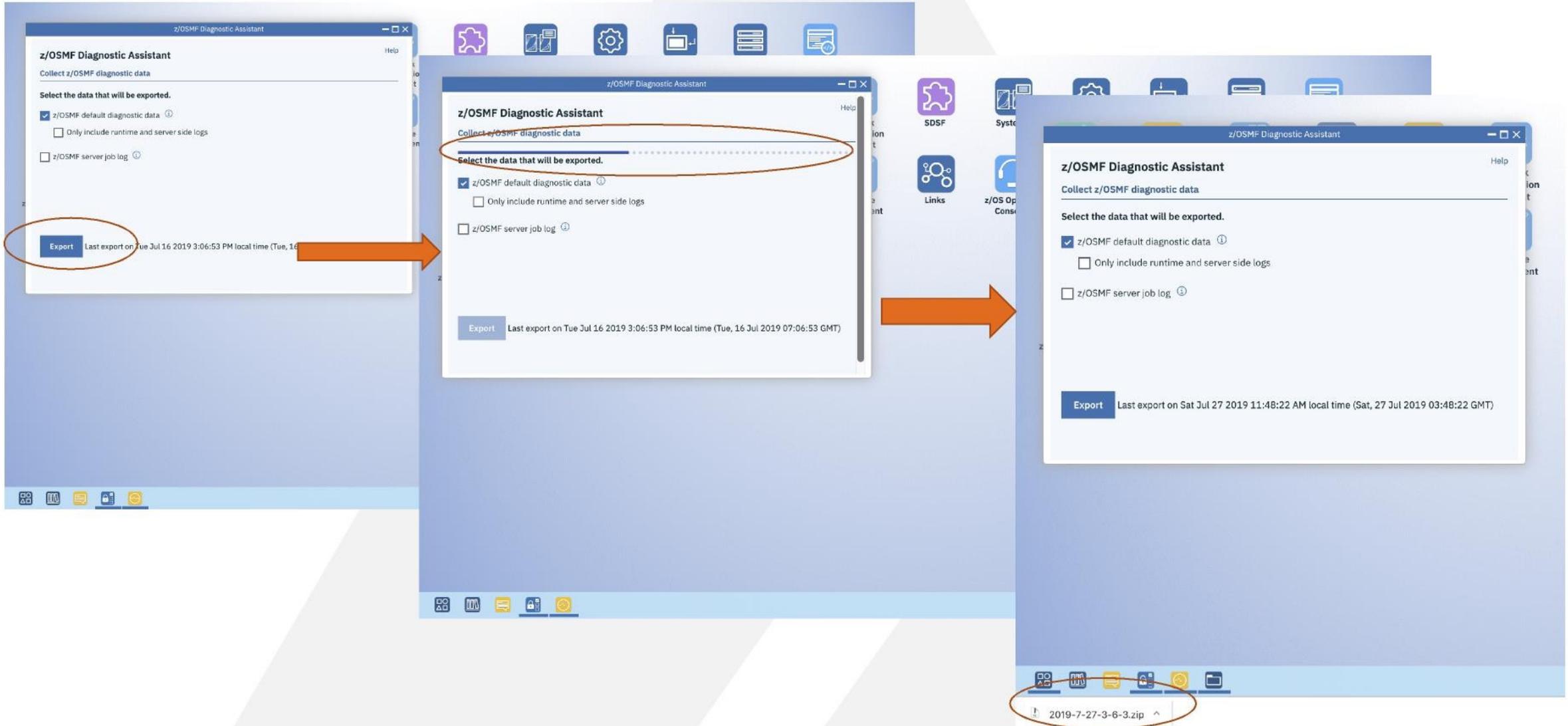
- **How to enable z/OSMF Diagnostic Assistant task**

**User who needs to use z/OSMF Diagnostic Assistant task needs to have READ access to below resource:**

**<SAF\_PREFIX>.ZOSMF.ADMINTASKS.DIAGNOSTIC\_ASSISTANT Class(ZMFAPLA)**

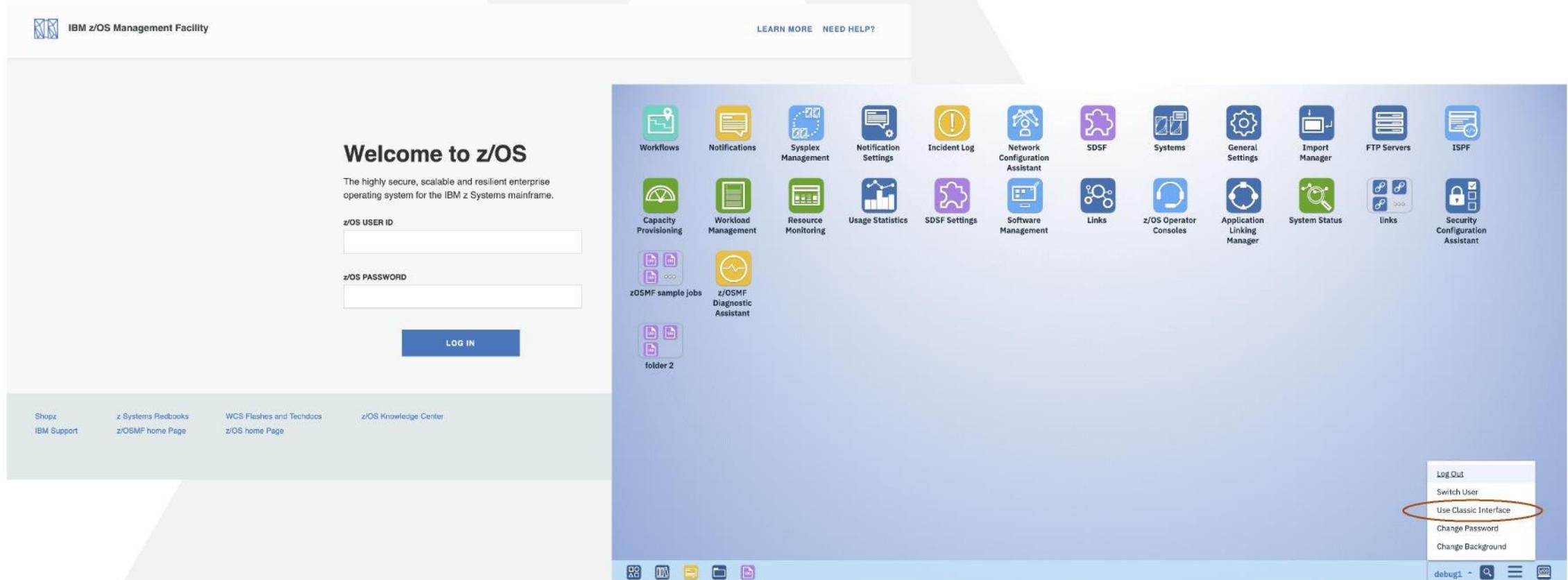
**\* IZUDFLT by default**

# NEW z/OSMF Diagnostic Assistant task



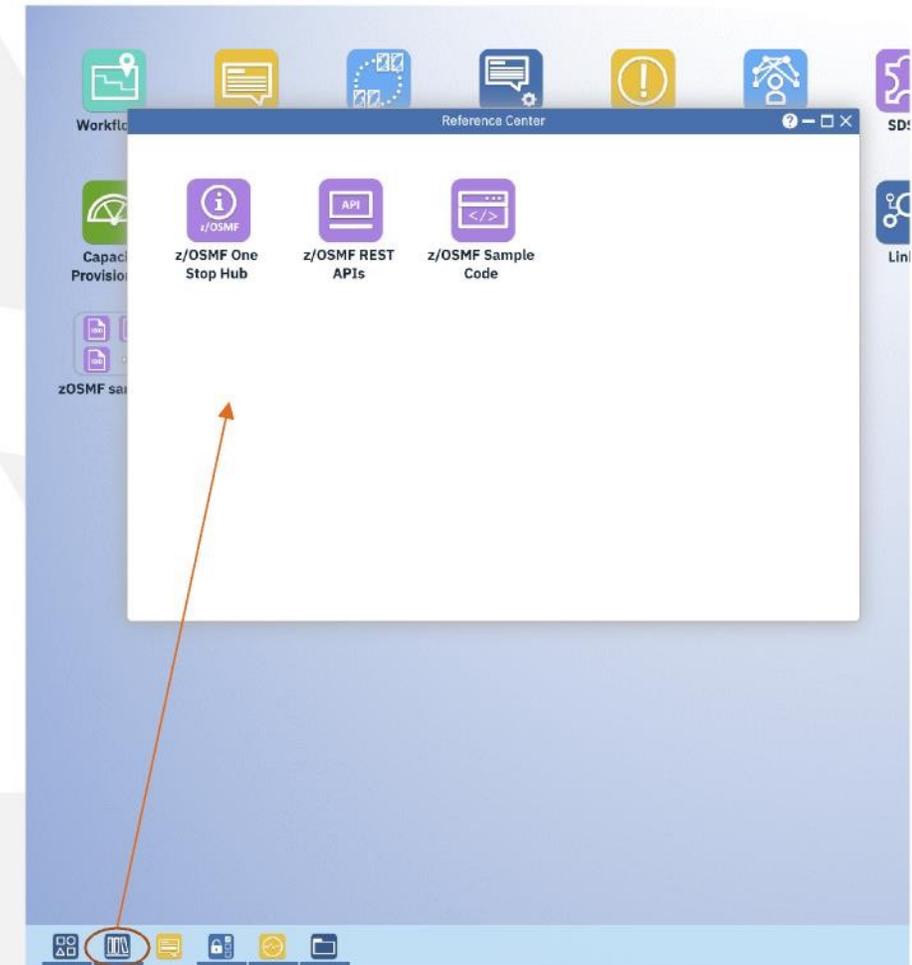
# z/OSMF desktop UI enhancements

- Desktop interface is the default option since V2R4
  - The checkbox on z/OSMF logon page is removed in V2R4
  - User can still choose different UI options inside of z/OSMF UI



## z/OSMF desktop UI enhancements

- A new icon “Reference Center” is added to z/OSMF task bar. Important z/OSMF links are added to this folder.
  - “z/OSMF One Stop Hub” where summarizes important z/OSMF information
  - “z/OSMF REST APIs” which opens OpenAPI document of most z/OSMF REST APIs
  - “z/OSMF Sample Code” which opens Git page of z/OSMF sample codes about
    - How to develop program to consume z/OSMF REST APIs
    - How to develop and deploy z/OSMF external plugins



# z/OSMF desktop UI enhancements

- New editor experience – Content preview (see APAR PH24190)

The screenshot displays the z/OSMF desktop interface. On the left, a search bar contains 'SYS1.SAMPLIB' and a list of members for 'SYS1.SAMPLIB(27)', including IZUCASEC, IZUCPSEC, IZUDCSEC, IZUDMSEC, IZUGCSEC, IZUICSEC, IZUIJSEC, IZUISSEC, IZUNASEC, IZUNFSEC, and IZUNJSEC. The main editor area shows the content of 'SYS1.SAMPLIB(IZUDCSEC)'. The code includes comments and JCL commands for setting up user profiles and permissions. A blue oval highlights a preview window on the right side of the editor, which shows a rendered view of the code content. The preview window has a title bar 'SYS1.SAMPLIB(IZUDCSEC)' and a close button. The code in the preview is partially obscured by a grey bar.

```
Search SYS1.SAMPLIB
Member: SYS1.SAMPLIB(IZUDCSEC)
Members for SYS1.SAMPLIB(27)
  o IZUCASEC
  o IZUCPSEC
  o IZUDCSEC
  o IZUDMSEC
  o IZUGCSEC
  o IZUICSEC
  o IZUIJSEC
  o IZUISSEC
  o IZUNASEC
  o IZUNFSEC
  o IZUNJSEC

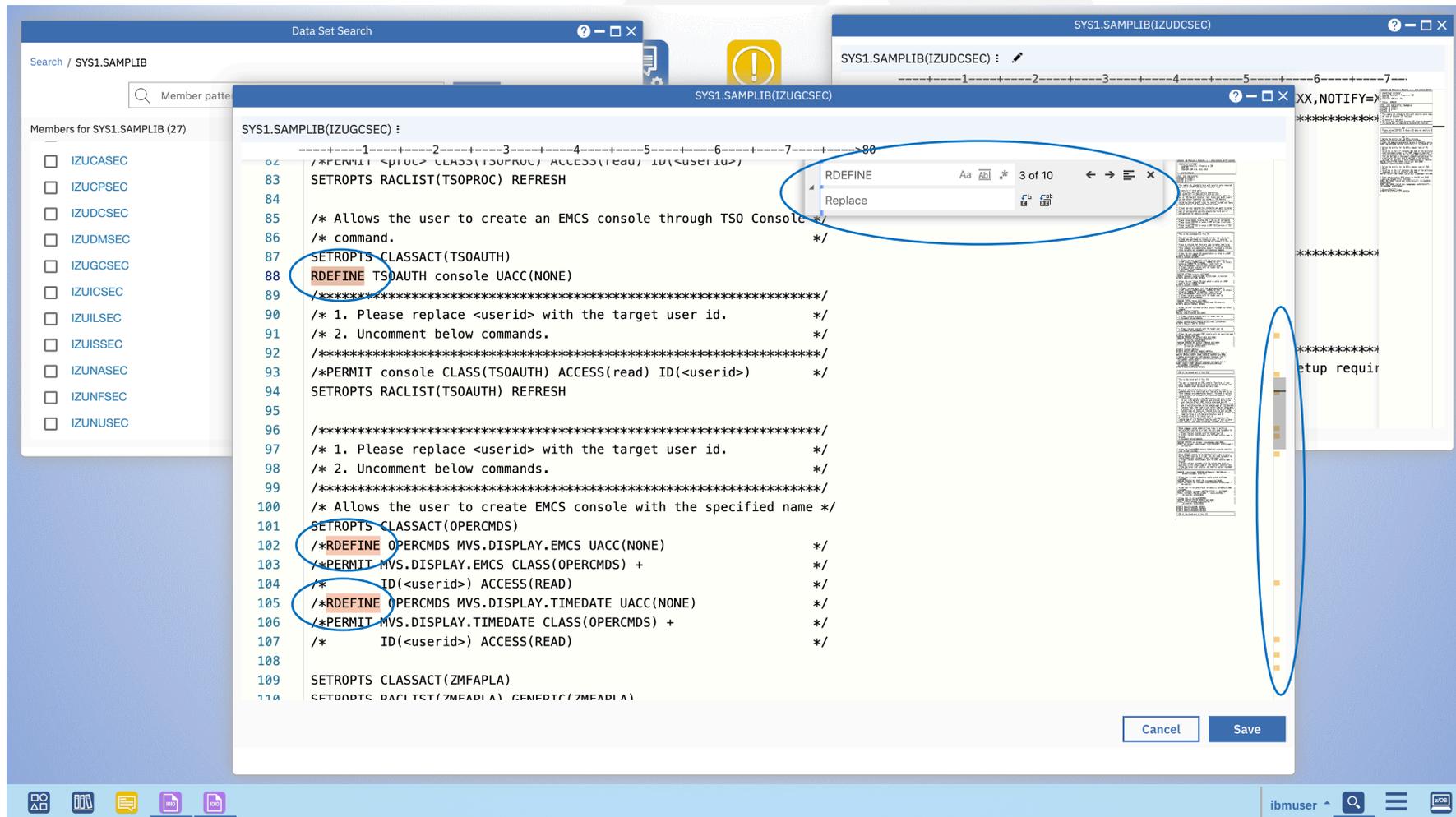
SYS1.SAMPLIB(IZUDCSEC)
+ 1 + 2 + 3 + 4 + 5 + 6 + 7 + > 8 0
46/* already been previewed for a special user, it could be */
47/* commented to allow user only perform the 3rd part of this JCL*/
48 /*
49/* Please be noticed that there are some variables need to be */
50/* substituted with the value you want to use in below commands. */
51/* Those commands are commented by default. You need to replace */
52/* those variables and uncomment corresponding commands. */
53*****
54/* Allows the user to use ISO account which is setup in z/OSMF */
55/* parmlib option COMMON_TSO ACCT */
56SEIROPIS CLASSACT(ACCTNUM)
57/*****
58/* 1. Please replace <account> with the value specified in */
59/* z/OSMF parmlib IZUPRMxx option "COMMON_TSO ACCT", for details */
60/* on option COMMON_TSO in IZUPRMxx, please refer to */
61/* IBM z/OS Management Facility Configuration Guide. */
62/* 2. Please replace <userid> with the target user id. */
63/* 3. Uncomment below commands. */
64 /*****
65/*RDEFINE ACCTNUM <account> UACC(NONE) */
66/*PERMIT <account> CLASS(ACCTNUM) ACCESS(read) ID(<userid>) */
67 SEIROPIS FACLIST(ACCTNUM) REFRESH

68
69 /* Allows the user to use ISO proc which is setup in z/OSMF */
70 /* parmlib option COMMON_TSO PROC */
71 SEIROPIS CLASSACT(TSOPROC)

72
73 /* 1. Please replace <proc> with the value specified in */
TAt. ./ncmp fl,mih TTnalamvw vrmmmm Tcn pont. */
```

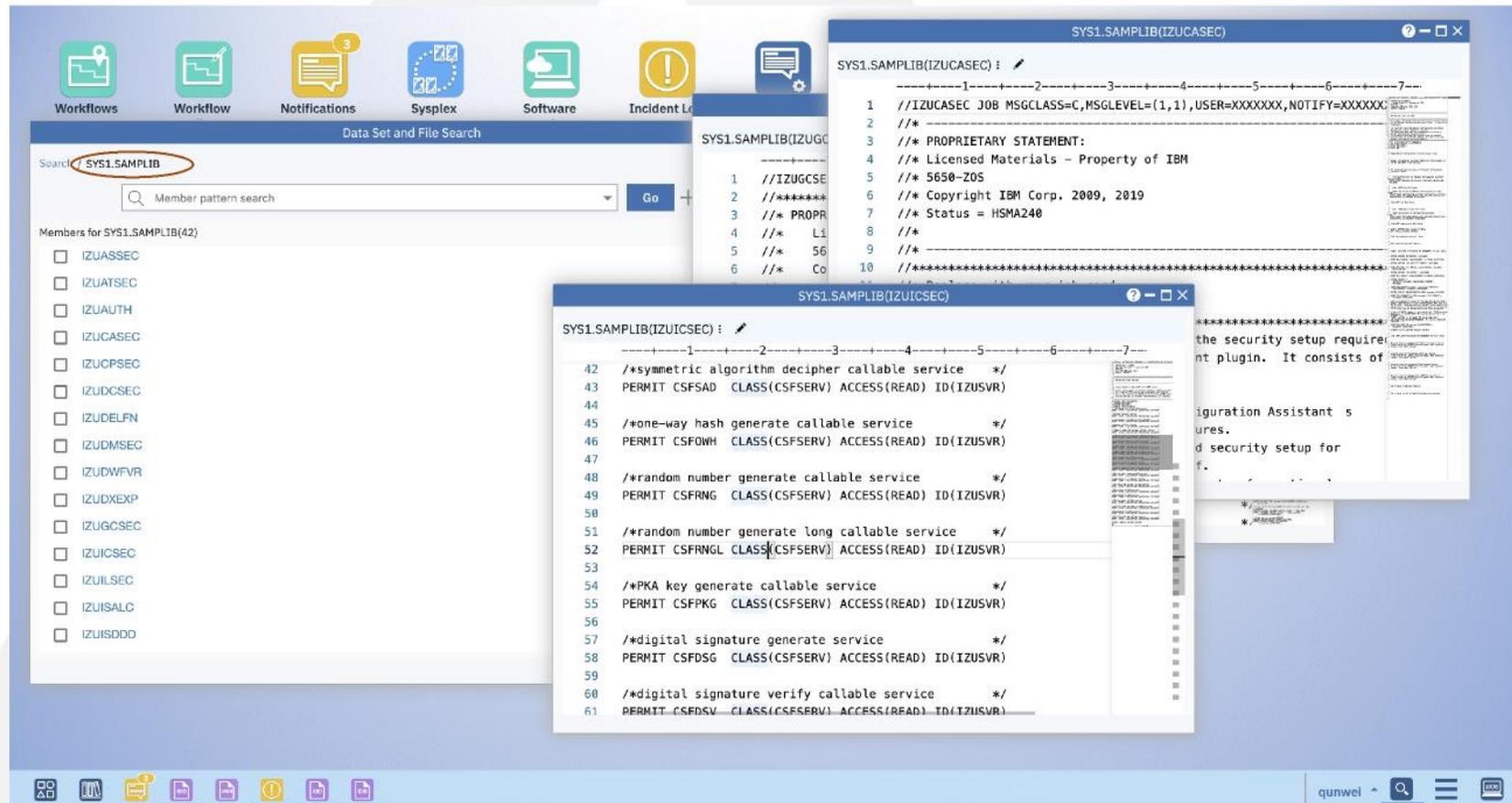
# z/OSMF desktop UI enhancements

- New editor experience – Example: modernized search and replace experience



## Enhancements of z/OSMF desktop UI

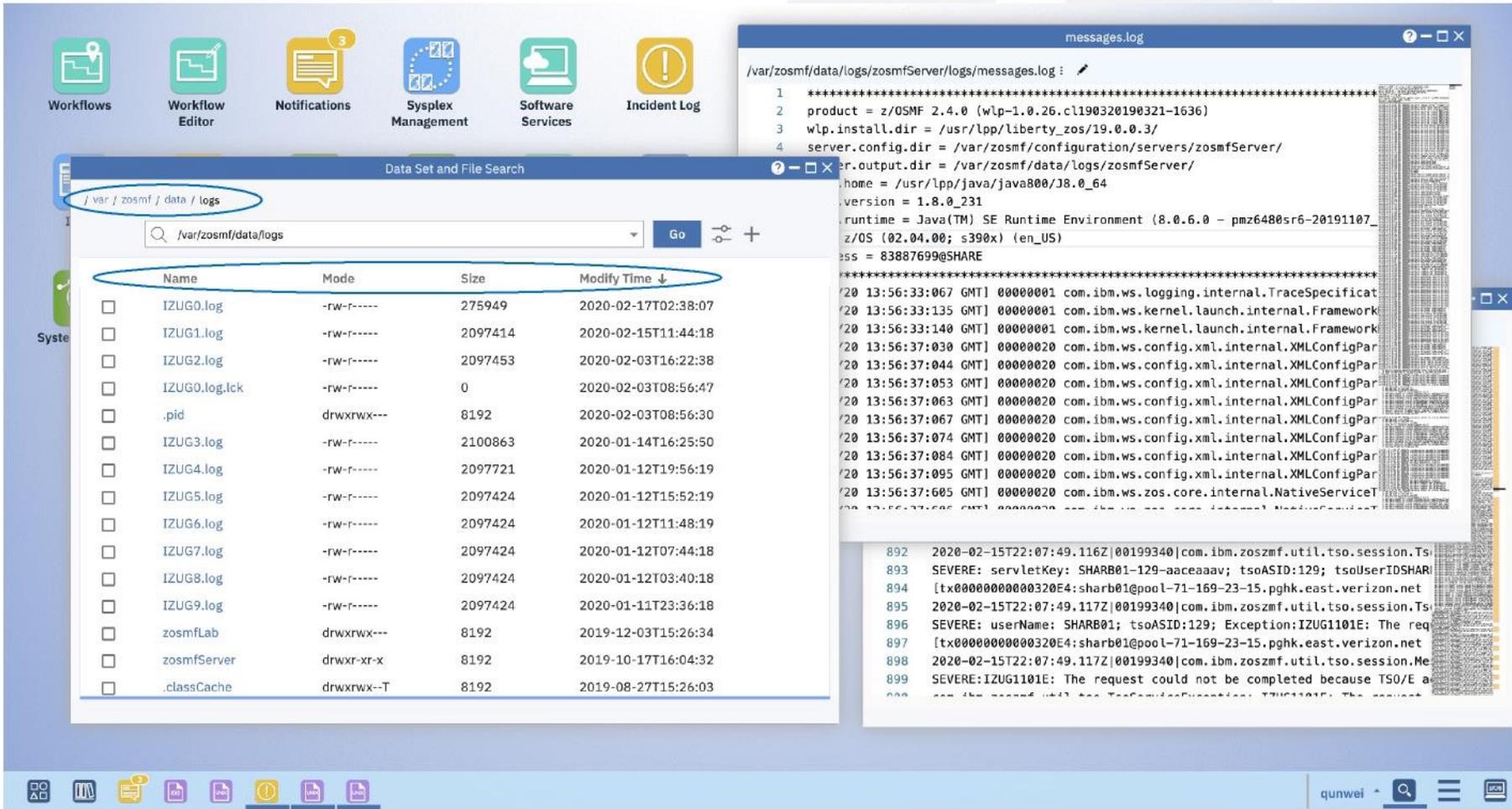
- Previously, the z/OSMF desktop UI supports search, browse and edit data set or data set members.



- With PH16076, z/OSMF desktop UI is enhanced to support USS file and directory as well

# Enhancements of z/OSMF desktop UI

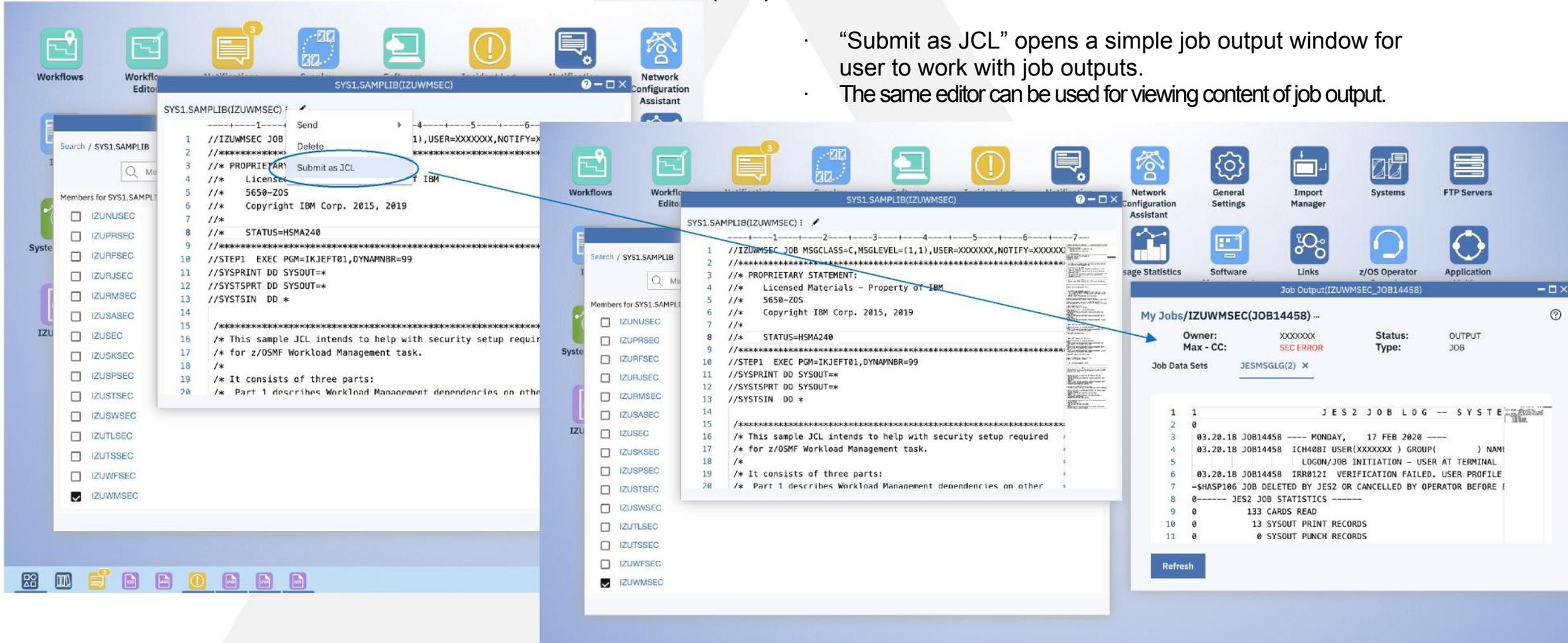
- Work with USS file and directory from z/OSMF desktop UI (1/2)



- Same search window and editor for both data set and USS file
- Breadcrumb helps navigating through directories
- Column header can be used to sort USS files and directories

# Enhancements of z/OSMF desktop UI

- Submit JCL from Search window or editor (1/2)



The screenshot displays the z/OSMF desktop interface with several overlapping windows. A search window on the left shows a list of system members, with 'IZUWMSEC' selected. The main editor window shows JCL code for 'SYS1.SAMPLIB(IZUWMSEC)'. A context menu is open over the code, with 'Submit as JCL' highlighted. A second editor window shows the same JCL code. On the right, a 'Job Output' window displays the output for job 'IZUWMSEC\_JOB14458', showing a 'SEC ERROR' and job statistics.

- “Submit as JCL” opens a simple job output window for user to work with job outputs.
- The same editor can be used for viewing content of job output.

## Workflow enhancements

- Workflow supports reading workflow definition artifacts reside in remote sysplex (PH14185)

Create Workflow

\* Location (system) of definition and variable input files:

PLEX1.SY1 - Local

**PLEX1.SY1 - Local**

PLEX2.PEV155

Workflow variable input file: ?

Select or type

< Back   Next >   Finish   Cancel   Help

- With APAR PH13729, workflow now uses current logon user's credential to read workflow definition artifacts.

# Software Update Phased Delivery Plans

- Install **Corrective** updates
  - Planned availability in summer 2020.
- Install **Recommended** and **Functional** updates
  - Planned availability later in 2020.

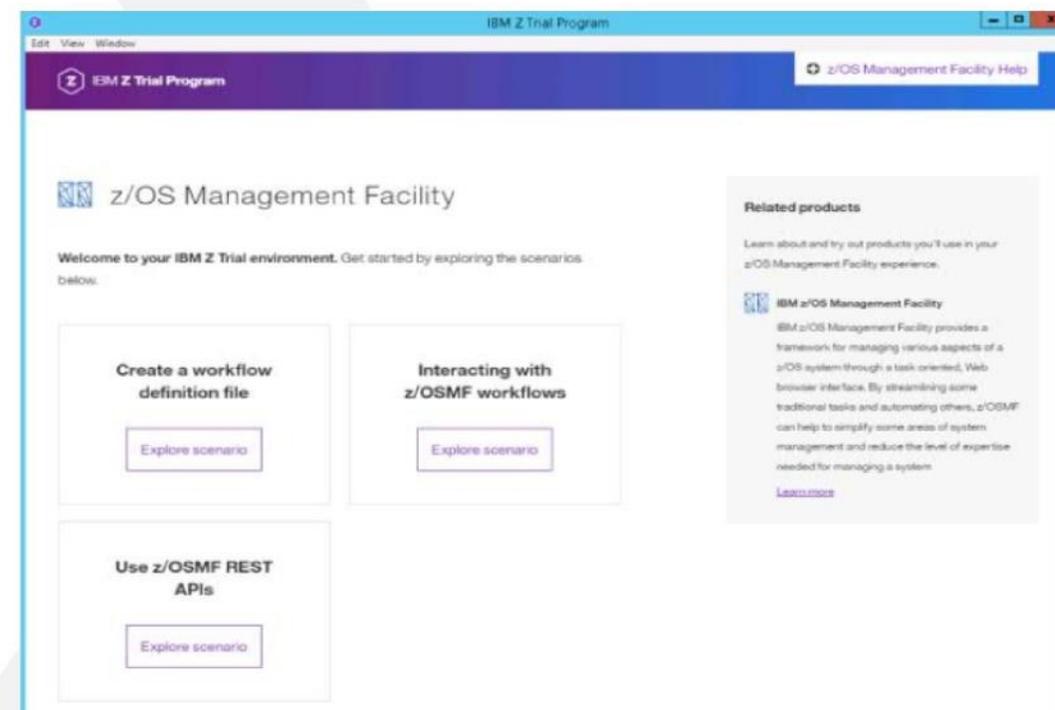
# Summary

## z/OSMF Trial

- z/OSMF Trial provides hands-on tutorials and a free z/OSMF where you can try z/OSMF without the need of configuring z/OSMF.

<https://www.ibm.com/account/reg/us-en/signup?formid=urx-34578>

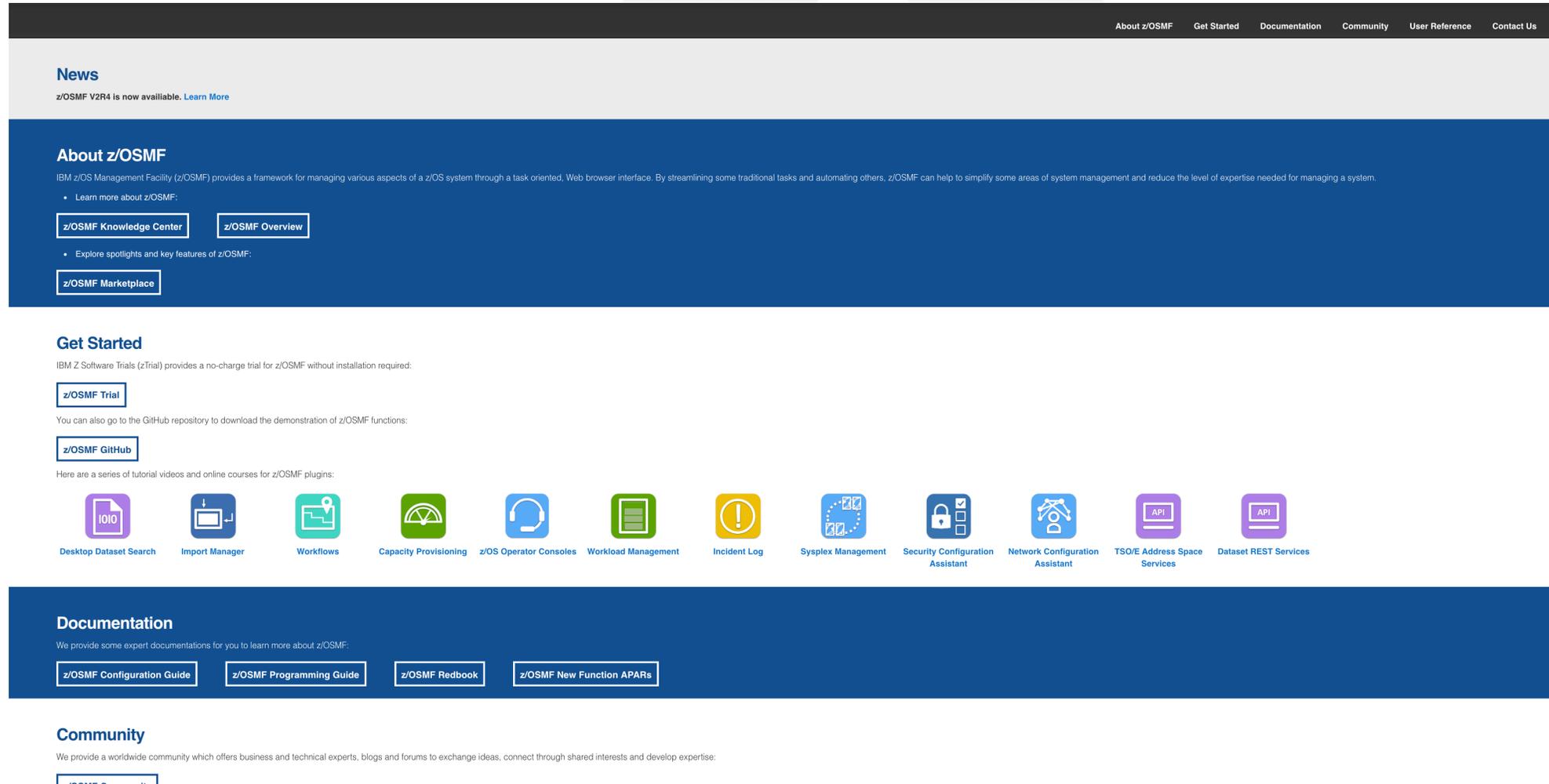
- z/OSMF Trial includes the following scenarios today. More scenarios will be added later.
  - Create a workflow definition by using z/OSMF Workflow Editor
  - Interacting with z/OSMF Workflows
  - Building your own program to leverage z/OSMF REST APIs
  - Explore z/OSMF Incident Log (Coming soon)
  - Work with z/OS Operator Consoles (Coming soon)
  - Use z/OSMF Resource Monitoring (Coming soon)



# Other z/OSMF links

- z/OSMF one stop hub

<https://ibm.github.io/zOSMF/>



The screenshot shows the z/OSMF website interface. At the top is a dark navigation bar with links: About z/OSMF, Get Started, Documentation, Community, User Reference, and Contact Us. Below this is a 'News' section with a link for 'z/OSMF V2R4 is now available. Learn More'. The main content area is a dark blue block with the heading 'About z/OSMF'. It describes the z/OS Management Facility (z/OSMF) and provides two bullet points: 'Learn more about z/OSMF:' with buttons for 'z/OSMF Knowledge Center' and 'z/OSMF Overview', and 'Explore spotlights and key features of z/OSMF:' with a button for 'z/OSMF Marketplace'. Below this is a 'Get Started' section with a link for 'z/OSMF Trial' and a link for 'z/OSMF GitHub'. It also lists a series of tutorial videos and online courses for z/OSMF plugins, each with an icon and a label: Desktop Dataset Search, Import Manager, Workflows, Capacity Provisioning, z/OS Operator Consoles, Workload Management, Incident Log, Sysplex Management, Security Configuration Assistant, Network Configuration Assistant, TSO/E Address Space Services, and Dataset REST Services. The bottom section is 'Documentation', which includes links for 'z/OSMF Configuration Guide', 'z/OSMF Programming Guide', 'z/OSMF Redbook', and 'z/OSMF New Function APARs'. The final section is 'Community', which includes a link for 'z/OSMF Community'.

## Other z/OSMF links

- **z/OSMF Marketplace page**
- <https://www.ibm.com/us-en/marketplace/zos-management-facility>
- **z/OSMF V2R3 Redbook**  
<http://www.redbooks.ibm.com/abstracts/sg247851.html>
- **Slack channel for z/OSMF adoption**
  - **Purpose: Help with questions about z/OSMF adoption especially for z/OSMF configuration questions.**
  - **How to join in:**
    - Step 1 Join Open Mainframe Project on Slack: <https://slack.openmainframeproject.org/>
    - Step 2 Search channel “zosmf-adoption” and join it
    - Step 3 Ask z/OSMF configuration or adoption question
      - No guarantee of service. May experience delay due to different time zone.

# z/OSMF Workflow and Editor – z/OS Workflows

- z/OS Workflows are available at GitHub, Inc.
- <https://github.com/IBM/IBM-Z-zOS/tree/master/zOS-Workflow>
- *Downloading individual files*
  - To download an individual file, click the link for that file.
  - Click the Raw or Download button.
  - If the file is not saved to your Downloads folder automatically, right-click and select Save Page as... and choose a location for saving the file.
  - You may have to set the Save As type to All files.

# z/OSMF Workflow and Editor - Resources



- SHARE Phoenix Labs for Workflows and Other z/OSMF Topics in Room 102B
- Thursday 11:15-12:15 (session 24706) BYOD (Bring Your Own Device)
- Thursday 16:30-17:30 (session 24344)
- (no Workflow Editor option this time)
- See SHARE San Jose March 2017 for [Workflow Editor Lab Workbook](#)
  
- [z/OSMF Programming Guide](#)

# z/OSMF Workflow and Editor - Resources



- The z/OSMF Workflow Editor is provided in z/OS V2.2 PTF UI42847 (closed December 14, 2016 and is RSU1703), and the z/OSMF V2.1 PTF UI43814 (closed January 27, 2017 and is RSU1706).
- z/OSMF Workflow Substitutions in Template filepath require a recent PTF:
- UI60075 z/OSMF WF/WFE filepathsubs. err SASI PH04420
- z/OSMF Workflow Substitutions in Template DSNNAME require an Open APAR due in May:
- PH09499 z/OSMF WF/WFE dsname subst. err SASI PH09499

# z/OSMF Workflows, Editor, Recent Changes

Thank You

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