

**z/OSMF labs:  
A smorgasbord of goodies to try out!**

**Learning Workflow  
(using the z/OS Migration Workflow)**



TechU

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Introduction:

This lab is an introduction to using the z/OSMF Workflow function. You will acquire a workflow (the z/OS V2.3 Migration Workflow), create a workflow, assign steps to different users, read notification messages, accept the assignment of a step, perform or skip a step, and provide feedback on a migration action (and the overall release migration).

### **Our lab environment:**

Be aware, you are running on z/OS V2.3 system and “performing” a z/OS V2.3 migration. It is meant to show you how to do a Workflow in general (and how you could use the z/OS V2.3 Migration Workflow in particular!).

There might be some health checks to run for a V2.3 migration, that are not available on our V2.3 system or receive an exception. That is fine, and is just to show you what a health check failure might look like during a Workflow. The object of this lab is to teach you to feel comfortable doing a z/OSMF Workflow.

## Exercise instructions

Here is a high level overview of the instructions that we will do in this lab exercise:

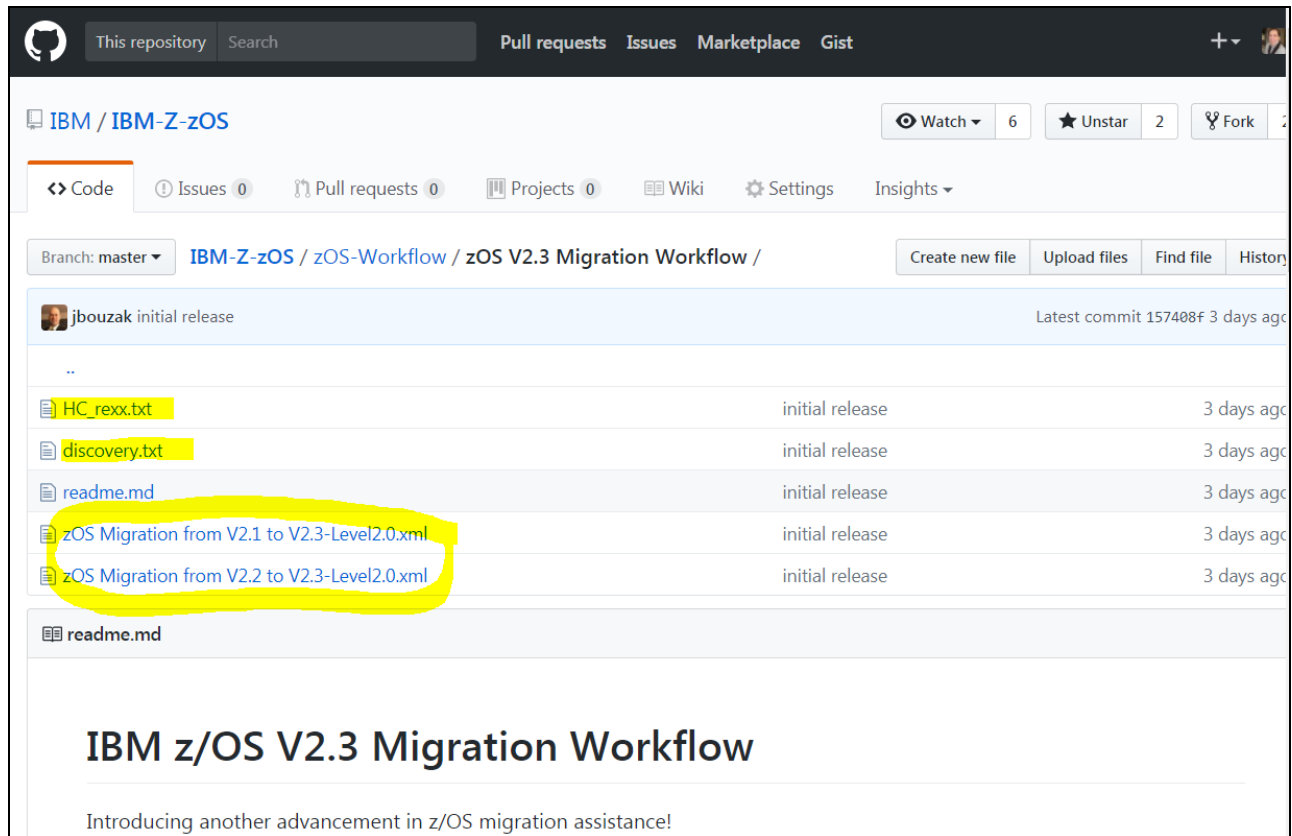
- \_\_\_ 1. “Pretend” to download the z/OSMF z/OS V2.3 migration workflow from the web.
- \_\_\_ 2. Logon to z/OSMF. Enter into the Workflow function.
- \_\_\_ 3. Create a z/OS V2.3 migration workflow within z/OSMF.
- \_\_\_ 4. Look at some of the z/OSMF workflow functions.
- \_\_\_ 5. Assign steps (migration actions) to different users.
- \_\_\_ 6. Accept the assignment of a step (migration action).
- \_\_\_ 7. Perform a step (migration action).
- \_\_\_ 8. Skip several steps (migration actions) at once.
- \_\_\_ 9. Provide feedback on the entire release migration.

# 1. “Pretend” to download the z/OSMF z/OS V2.3 migration workflow

In this step, we will download the “as is” web deliverable from the internet. This will teach you how to acquire a Workflow. For this lab, the Workflow is already acquired on our lab system for you. This step is only if you want to know how to acquire the z/OS release migration workflow when you return to your shop.

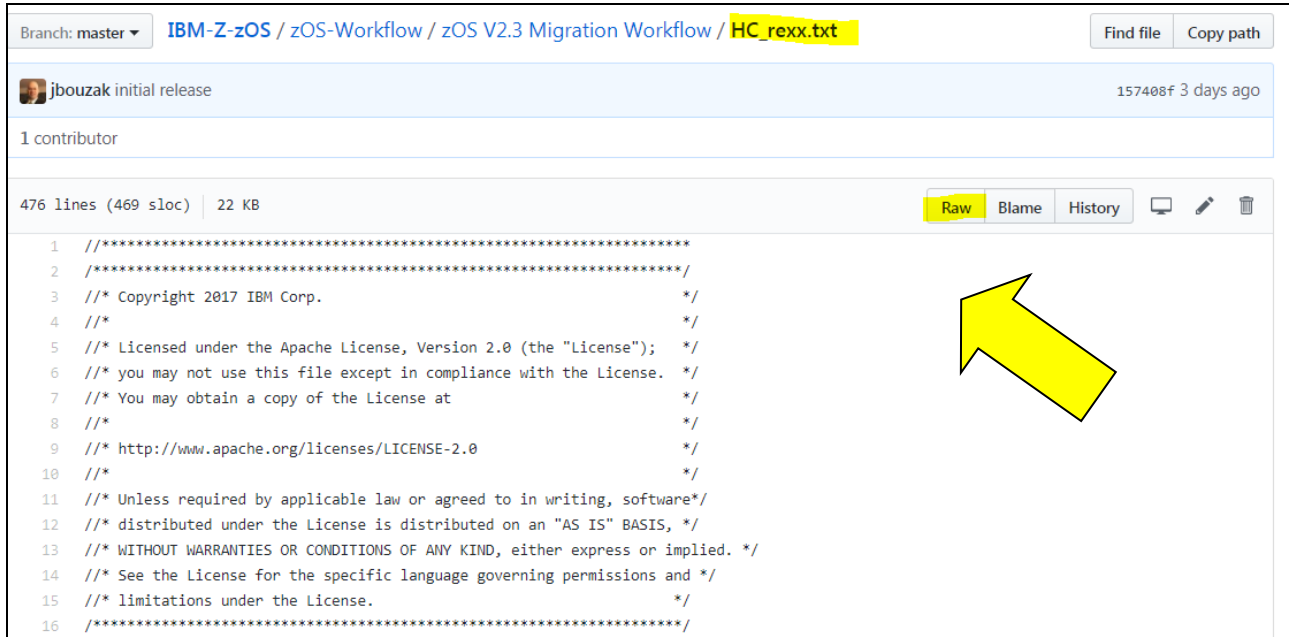
The z/OS V2.3 Migration Workflow has been provided on github. Here’s how to find it:

- a. Go to <https://github.com/IBM/IBM-Z-zOS>, and then click on the „zOS-Workflow” folder, and then the „zOS V2.3 Migration Workflow” folder.
- b. If you were back in your shop and needed to acquire this workflow, you would download three highlighted files: [HC\\_rexx.txt](#), [discovery.txt](#), and either [z/OS Migration from V2.1 to V2.3-Level2.0.xml](#) or [z/OS Migration from V2.2 to V2.3-Level2.0.xml](#) corresponding on which z/OS release you are coming from.

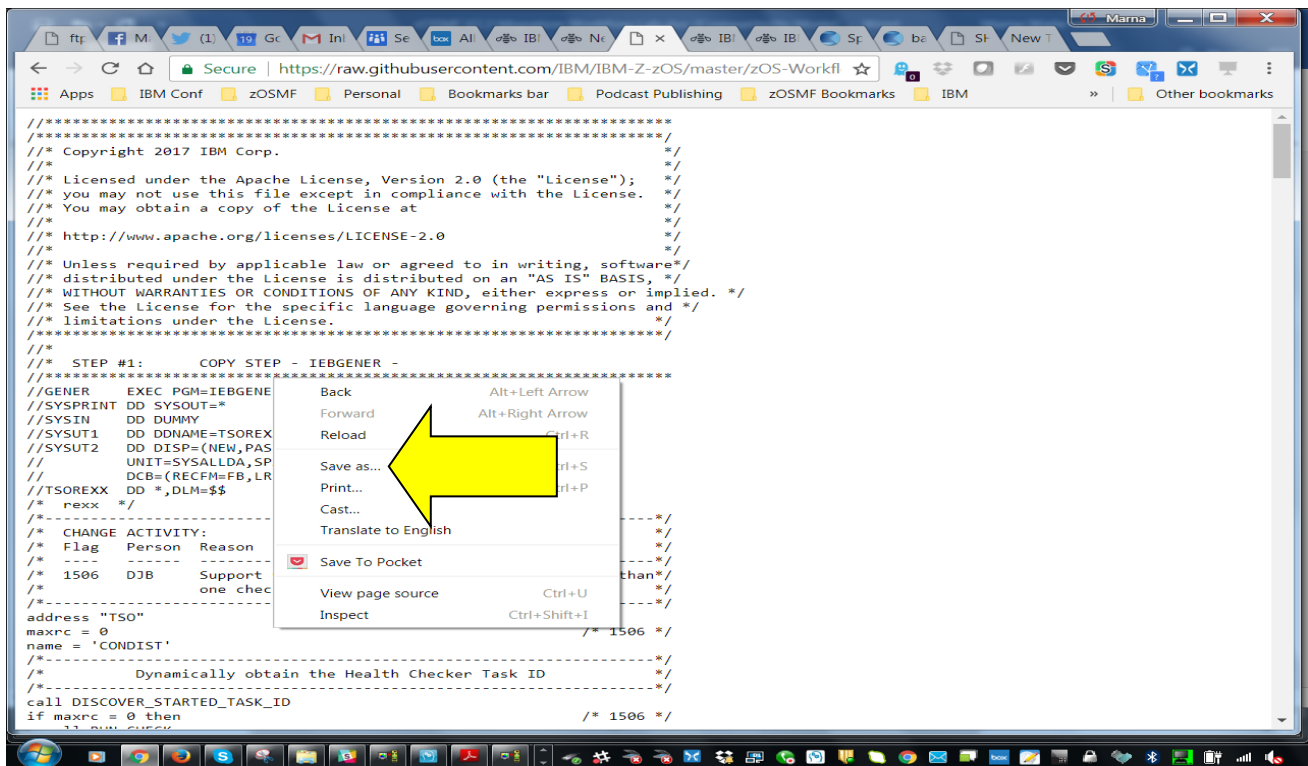


**Note about z/OS V2.3 Migration Workflow!** At your shop, you will need at least z/OSMF V2.1 to run the z/OS V2.3 Migration Workflow.

It's easy to download a file from github. You simply click on a file to open it. Then click on „Raw” :



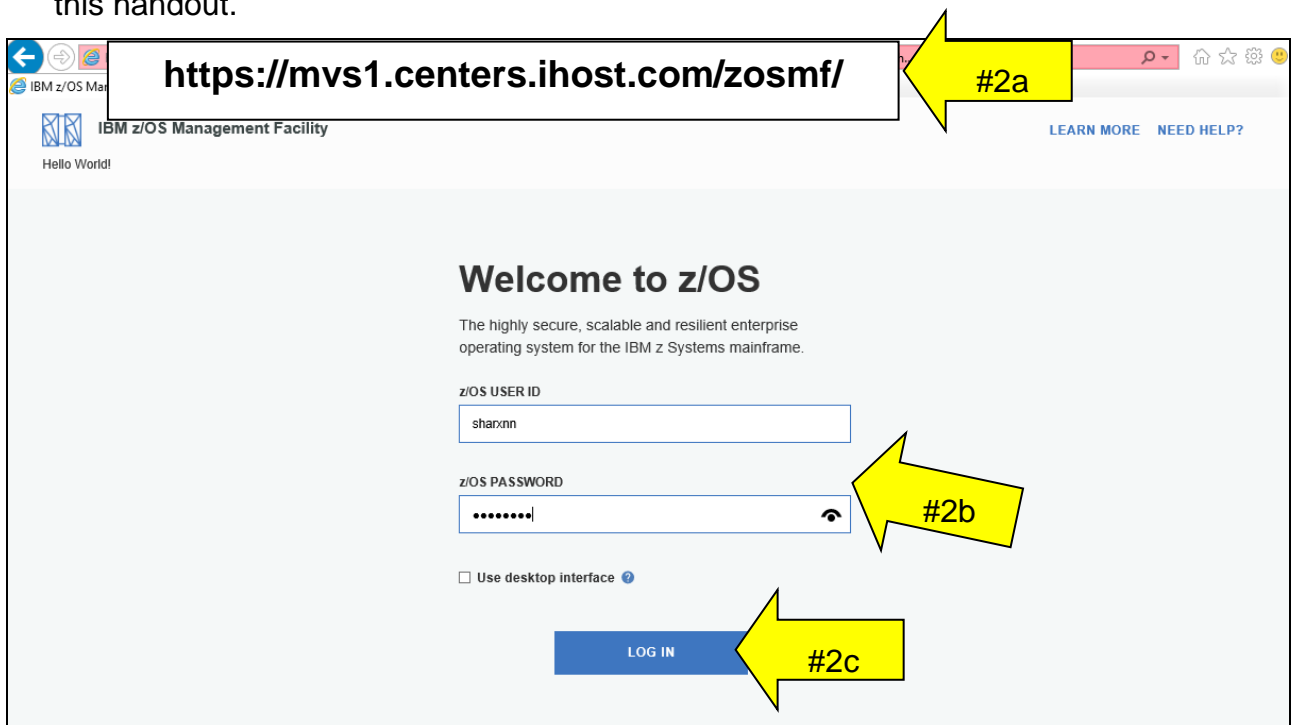
This opens the file completely and allows you to right click, and „Save As”. You do this for all three files, then upload them to your z/OS system into a file system as binary, putting them all in the same directory of z/OS UNIX.



## Step 2: Logon to z/OSMF.

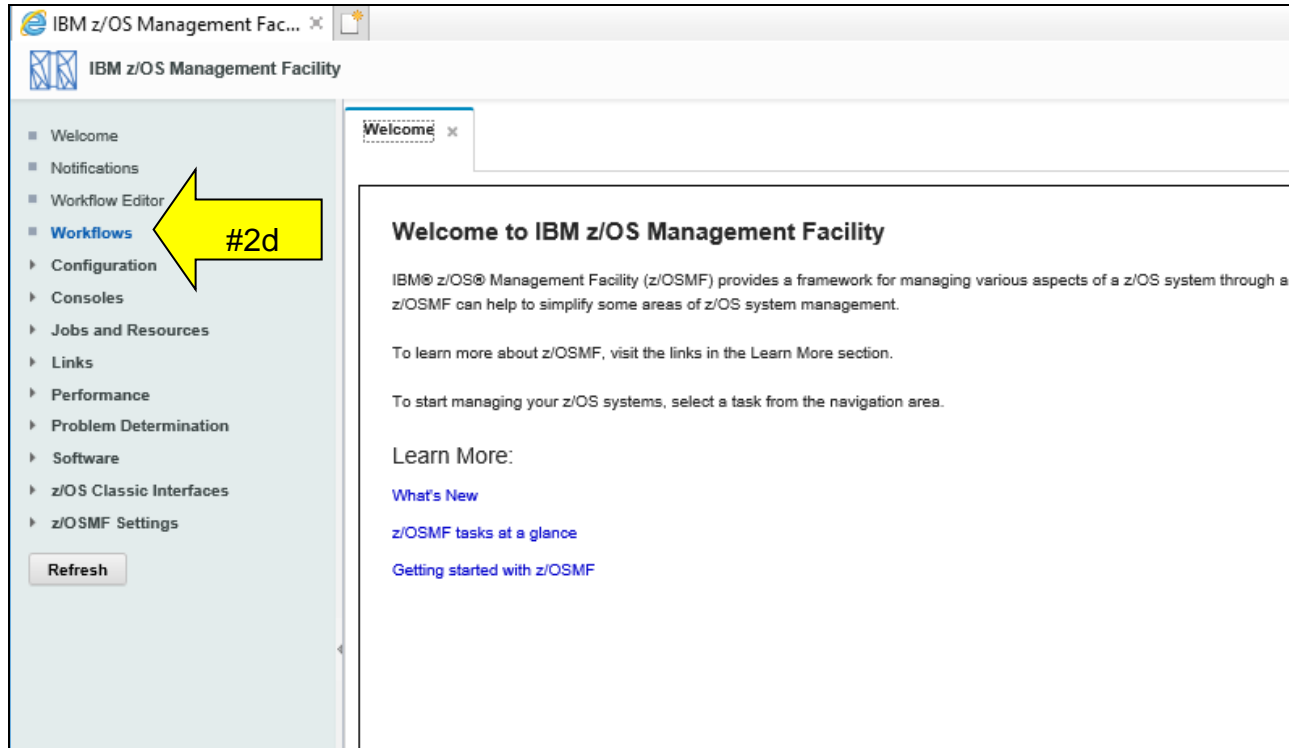
In this step, we will now go into z/OSMF to use the Workflow function. For this lab, we are using a z/OSMF V2.3 system. It looks slightly different than z/OSMF V2.1, but the same functions are present on both systems.

- a. Go to <https://mvs1.centers.ihost.com/zosmf/> on Firefox or IE. Accept any risks.
- b. Using the userid you were given (SHARAnn, SHARBnn, or SHARCnn) and the password, logon to z/OSMF. This is a secure connection to a z/OS host. The userid you were given is a regular z/OS userid on this system, and has been given access to z/OSMF. There is *no* z/OSMF code on this workstation (outside of the z/OS V2.3 migration workflow files you just downloaded to the workstation).
- c. Click on Log in". Do not click on "Desktop Interface", so that your screens will match this handout.



## Enter into the Workflow function.

d. Click on “Workflows”.



- e. This brings you into the main Workflow screen. You can see there are already some workflows created from this screen. You will be creating your own workflow for this lab. Click on the little arrow head to close the panel on the left, so you have more visible space.

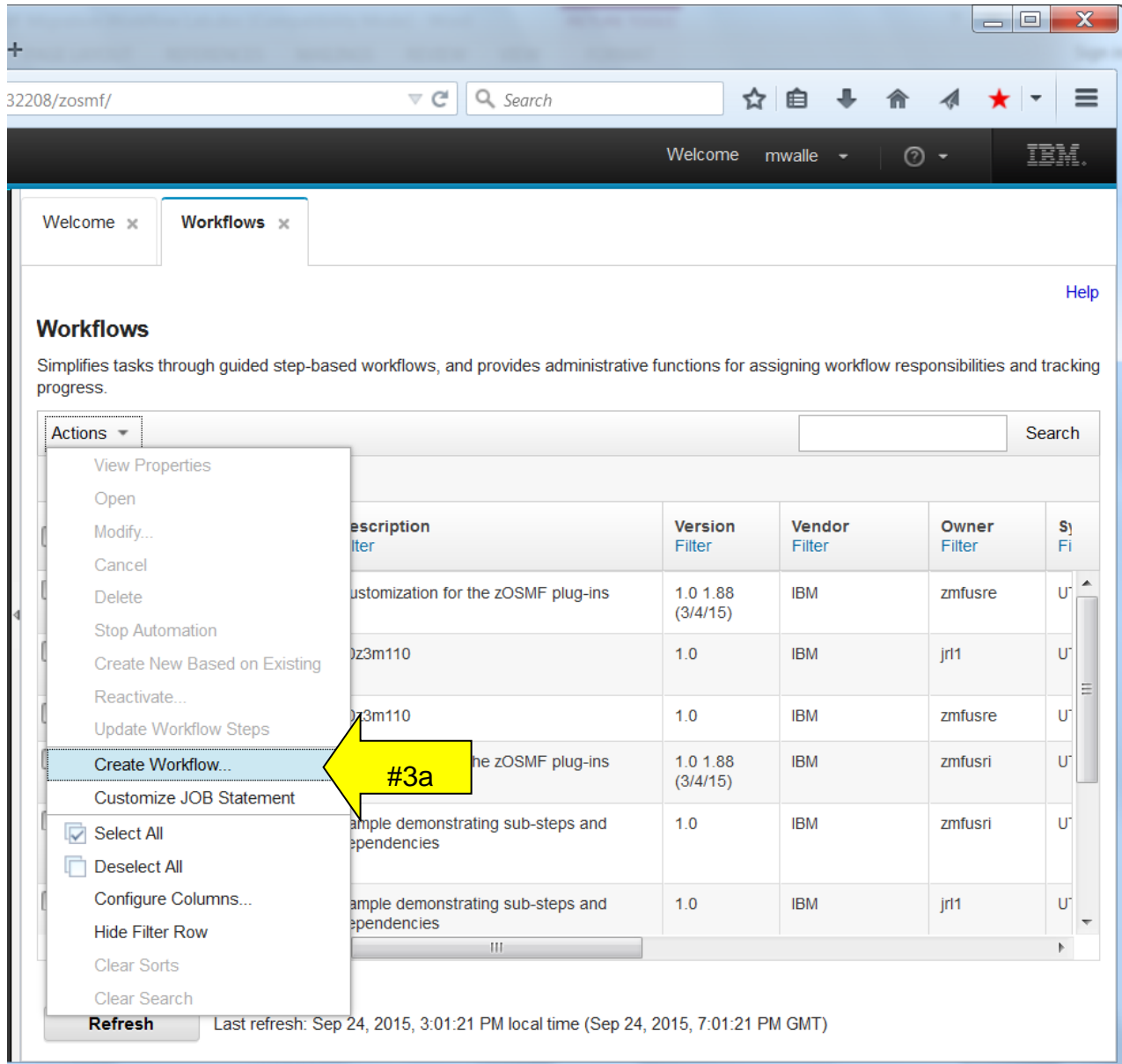
The screenshot shows the IBM z/OS Management Facility interface. The left sidebar contains a navigation menu with items like Welcome, Notifications, Workflow Editor, Workflows, Configuration, Consoles, Jobs and Resources, Links, Performance, Problem Determination, Software, z/OS Classic Interfaces, and z/OSMF Settings. A 'Refresh' button is located at the bottom of the sidebar. The main content area is titled 'Workflows' and includes a sub-header: 'Simplifies tasks through guided step-based workflows, and provides administrative functions for assigning workflow responsibilities and tracking progress.' Below this, there are filters for 'Actions' (set to 'Active') and a search box. A table lists several workflows, all with a status of 'In Progress'. A red circle highlights a small arrow icon at the bottom of the sidebar, and a yellow arrow points from it towards the table.

Workflow Name	Description	Version	Vendor	Access	Owner	System	Status
z/OS V2.3 Migration Workflow from V2.2 - Level 2.0	e0zm100_v2r3	2.0	IBM	Public	mwalle	SHARPLEX.S1	In Progress
e0zm100_v2r3 - Workflow_0	e0zm100_v2r3	2.0	IBM	Public	keithm	SHARPLEX.S1	In Progress
Skip None Single Step Consolidated - Yes	e0zm100_v2r3	2.0	IBM	Public	keithm	SHARPLEX.S1	In Progress
Skip None Single Step Cons	e0zm100_v2r3	2.0	IBM	Public	keithm	SHARPLEX.S1	In Progress
Skip None Single Step Revised Consolidated - Do Not Skip None	e0zm100_v2r3	2.0	IBM	Public	keithm	SHARPLEX.S1	In Progress
SkipNone2 Keith Test	e0zm100_v2r3	2.0	IBM	Public	keithm	SHARPLEX.S1	In Progress
SkipNone2 Keith Test - No Skip	e0zm100_v2r3	2.0	IBM	Public	keithm	SHARPLEX.S1	In Progress
KEith Update test	e0zm100_v2r3	2.0	IBM	Public	keithm	SHARPLEX.S1	In Progress

### 3. Create a z/OS V2.3 migration workflow within z/OSMF.

In this step, we will create a specific workflow based on the supplied workflow already found on the lab system.

- a. Click on the Actions drop-down, then click on “Create Workflow...”





- b. Carefully enter in the location of the XML workflow file that you have uploaded on the z/OSMF system, where it says “Workflow definition file:”. You only need to specify the XML file, as that one will pull in the other two files. The Workflow definition file for this lab is found here (carefully enter the spaces!!):

**/shareuser/mwalle/lab/zOS Migration from V2.2 to V2.3-Level2.0.xml**

- c. For “System:”, on the dropdown, select “SHARPLEX.S1”, which is the only choice. Leave “Workflow variable input file:” blank.
- d. Then click “Next >”. (“Leaving Workflow variable input file” blank.)

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:  
/shareuser/mwalle/lab/zOS Migration from V2.2 to V2.3-Level2.0.xml

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:  
Select or type

\* System:  
SHARPLEX.S1

< Back   Next >   Cancel   Help

## Name the workflow and identify the system.

At this point, we'll provide some information about this workflow.

- e. Name your workflow: type a meaningful name under "Workflow name: " of whatever you want, but please put your userid in the name so we know which workflows to remove later. You must name your workflow. (A suggested name: **SHARAx** Migration Workflow Lab for zOS V2.3 , where SHARAx is your designated userid.)
- f. Decide who you want the owner to be: type the owner's name on "Owner user id:". Usually the owner would be the one that created the workflow, but you can make it some other user if you like. For this lab, keep it your assigned user ID. You must have an owner.
- g. Comments: put anything you wish here, or leave it blank.
- h. Click "Finish" at this point. You might have to scroll a little to see the "Finish" box at the bottom of the window.

**An Advanced Point!** See the little checkbox "Assign all steps to owner user ID"? This is a very handy way of assigning all the steps (migration actions) initially to the owner. By doing this you immediately put all the steps into a "Ready" state for performing. Otherwise, you would have to assign steps, and have them accepted, to have them "Ready". We are going to not check this box, so you can see more of the entire process.

The screenshot shows the 'Create Workflow' dialog box in the 't Facility' application. The dialog has the following fields and controls:

- Description:** e0zm100\_v2r3
- Vendor:** IBM
- Version:** 2.0
- Is Callable:** Cannot be called by another workflow
- \* Workflow name:** SHARAx Migration Workflow Lab for zOS V2.3 (indicated by yellow arrow #3e)
- \* Owner user ID:** mwalle (indicated by yellow arrow #3f)
- System:** SHARPLEX.LOCAL - Local
- Comments:** (empty text area, indicated by yellow arrow #3g)
- \* Access(Learn More):** Public (indicated by green arrow #3g)
- Open workflow on finish
- Assign all steps to owner user ID
- Buttons: < Back, Next >, Finish (indicated by yellow arrow #3h), Cancel
- Help button

The background shows a list of workflows with a 'Refresh' button and a timestamp: 'Last refresh: Jul 20, 2017, 7:08:33 PM local time (Jul 20, 2017, 11:08:33 AM)'. The top of the application shows 'Welcome mwalle' and a help icon.

## 4. Looking at the workflow overall.

There are some things to notice at this point:

- There are 223 steps (migration actions) in this workflow.
- You have completed 0% of them: 0 of 223 steps.
- There are five steps, of which three contain migration actions. This may be confusing, as there are sub-steps that count as steps in that 223 total. (Also, you'll see later that a non-migration action also counts as a step!). These three major steps correspond *exactly* to the three chapters in the z/OS V2.3 Migration book, along with the first step to help you tailor or Workflow for what is in use on the system (discovery), and the fifth step being the overall instructions for sending your feedback back to IBM.
- These five steps are in a state of "Unassigned", meaning that no one has been tasked with doing them yet.
- Notes and History: you can put any notes on this entire workflow here. Perhaps information on the entire schedule of this migration, or something else that is appropriate to make at the entire workflow level. Under History, you can see the history of this workflow: when it was created, who created it, etc.

The screenshot displays the IBM Workflows interface for a workflow titled "SHARAx Migration Workflow Lab for z/OS V2.3". The interface includes a header with "Welcome" and "mwall", and a navigation bar with "Workflows". The main content area shows the workflow description, including the ID "e0zm100\_v2r3" and "Percent complete: 0%". A table of "Workflow Steps" is visible, with columns for "State", "No. Filter", "Title Filter", "Called Filter", "Automated Filter", "Owner Filter", "Skill Cate Filter", and "Assignees Filter". The table lists five steps, all in an "Unassigned" state. The first step is "Discover z/OS features in use", the second is "Chapter 1. Migration: Introduction", the third is "Chapter 2. General migration actions for everyone migrating to z/OS V2R3", the fourth is "Chapter 3. Migration from z/OS V2R2", and the fifth is "Provide feedback to IBM on your migration experience". The interface also includes a "Total: 307 Selected: 0" summary and a "Refresh" button.

State Filter	No. Filter	Title Filter	Called Filter	Automated Filter	Owner Filter	Skill Cate Filter	Assignees Filter
<input type="checkbox"/> Unassigned	1	Discover z/OS features in use		Yes			
<input type="checkbox"/> Unassigned	2	Chapter 1. Migration: Introduction					
<input type="checkbox"/> Unassigned	3	Chapter 2. General migration actions for everyone migrating to z/OS V2R3					
<input type="checkbox"/> Unassigned	4	Chapter 3. Migration from z/OS V2R2					
<input type="checkbox"/> Unassigned	5	Provide feedback to IBM on your migration experience		No			

Let's look to see where the actual migration actions are!

- f. Untwist (click on the +) for “Chapter 3: Migration from z/OS V2R2”.
- g. Untwist “BCP migration actions”.
- h. Untwist “BCP actions to perform before installing z/OS V2R3”.
- i. Notice that when there is a solid block (no more twists, or +), this is an actual migration action. These are called “leaf steps” and are the steps that are performed in a Workflow.

The screenshot displays the 'SHARAx Migration Workflow Lab for z/OS V2.3' interface. At the top, there are tabs for 'Welcome' and 'Workflows'. Below the tabs, the workflow title is shown, along with a 'Notes' icon. The main content area includes a description, owner (mwalie), system (SHARPLEX.LOCAL), and a progress indicator (0% complete). The 'Workflow Steps' section is a table with columns for State, No., Title, Caller, Autom., Owner, Skill Cate, and Assignees. The table contains several rows of steps, with yellow arrows pointing to specific ones: #4f points to 'Chapter 3: Migration from z/OS V2R2', #4g points to 'BCP migration actions', #4h points to 'BCP actions to perform before installing z/OS V2R3', and #4i points to 'Prepare for the removal of z/OS Batch Runtime'. The interface also includes a 'Return to Workflows' button and a 'Refresh' button.

State Filter	No. Filter	Title Filter	Caller Filter	Autom. Filter	Owner Filter	Skill Cate Filter	Assignees Filter
<input type="checkbox"/>	4	Chapter 3: Migration from z/OS V2R2					
<input type="checkbox"/>	4.1	BCP migration actions					
<input type="checkbox"/>	4.1.1	BCP actions to perform before installing z/OS V2R3					
<input type="checkbox"/>	4.1.1.1	Verify that your sysplex uses the distributed mode of console operation		No			
<input type="checkbox"/>	4.1.1.2	Prepare for the removal of z/OS Batch Runtime		No			
<input type="checkbox"/>	4.1.1.3	Accommodate the removal of		No			

Total: 307 Selected: 0

[Return to Workflows](#) [Refresh](#) Last refresh: Jul 20, 2017, 7:19:02 PM local time (Jul 20, 2017, 11:19:02 PM GMT)

Let's now look at how an actual migration action for z/OS V2.3 looks like in the Workflow:

- j. Make sure "Chapter 3: Migration from z/OS V2R2" is still untwisted.
- k. Scroll down to "Communications Server migration actions", which is step 4.4.
- l. Untwist "Communications Server actions to perform before installing z/OS V2R2", which is step 4.4.1.
- m. Click on the blue part "**IP services: Migrate from SMTP and sendmail**", which is step 4.4.1.2, to open it up. (Notice how the untwists are numbered, as you go deeper.)

The screenshot displays the 'Workflows' section of the IBM t Facility. The main heading is 'SHARAx Migration Workflow Lab for zOS V2.3'. Below this, there are details for the workflow: Description (e0zm100\_v2r3), Owner (mwalle), System (SHARPLEX.LOCAL), and Status (In Progress). A 'Workflow Steps' table is shown with the following data:

State	No.	Title	Called	Automated	Owner	Skill Categ	Assignees
Unassigned	4.4.1	Communications Server actions to perform before installing z/OS V2R3					
Unassigned	4.4.1.1	IP Services: EZZ6044I and EZZ6045I descriptor codes are changed		No			
Unassigned	4.4.1.2	IP services: Migrate from SMTP and sendmail		No			
Unassigned	4.4.1.3	IP Services: Replace configuration of additional TCP/IP legacy device types		No			
Unassigned	4.4.1.4	IP Services: Use alternate file		No			

At the bottom of the table, it says 'Total: 307 Selected: 1'. There are buttons for 'Return to Workflows' and 'Refresh', and a timestamp: 'Last refresh: Jul 20, 2017, 7:29:28 PM local time (Jul 20, 2017, 11:29:28 PM GMT)'.

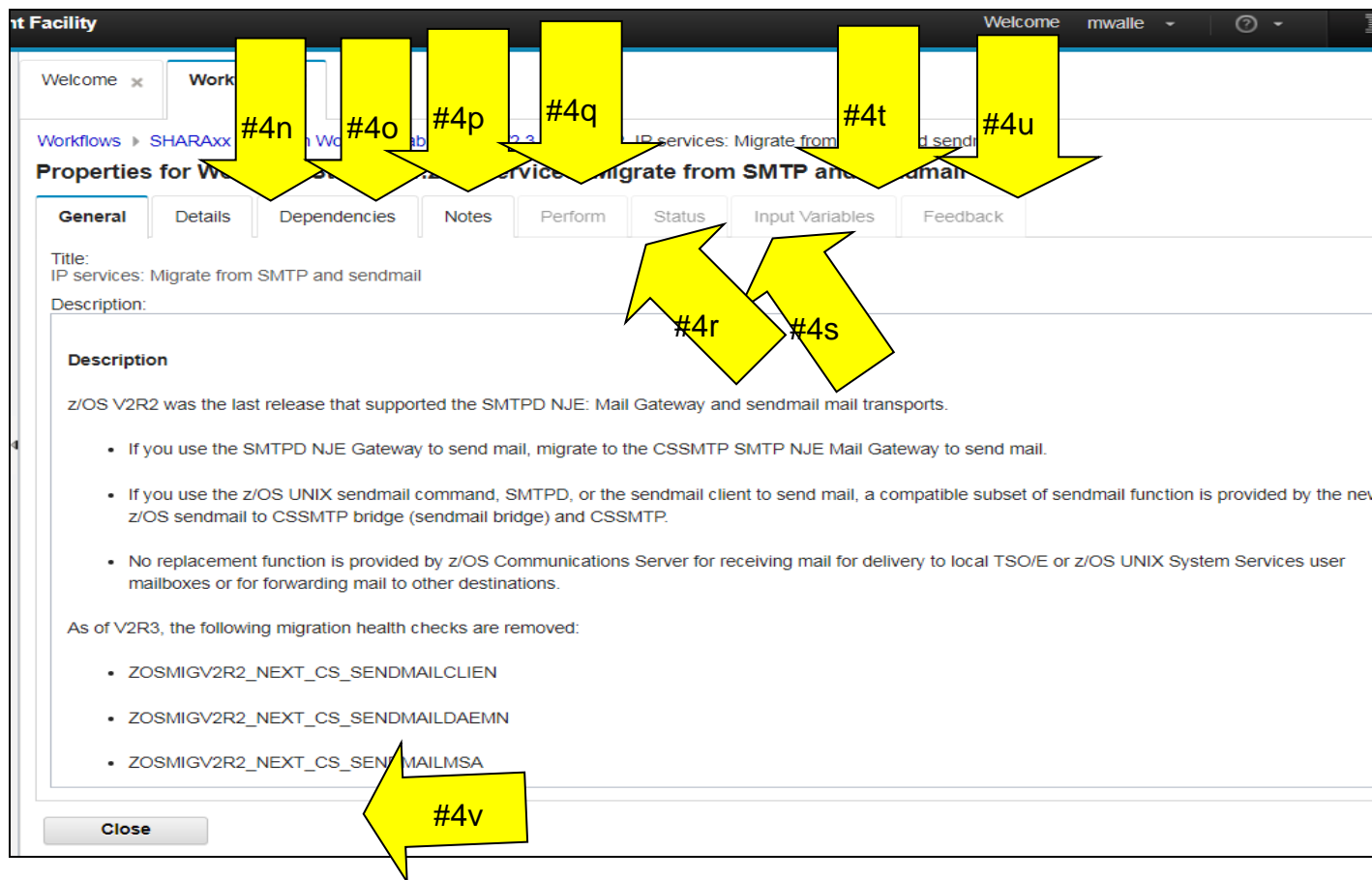
Notice the eight tabs across the top of this migration action:

- n. General: This is where the actual migration documentation can be found. *Exactly* what is in the book for documentation can be found under this tab.
- o. Details: this is unused for the z/OS V2.3 migration workflow. If one migration action had a dependency on another migration action, it would be put here. For this workflow, though, no dependencies have been added.
- p. Dependencies: If there were dependencies in this step, they would be described here. For our sample Workflow, there are Dependencies that you can see before you try to Perform this step.

- q. Notes: This is where you can put whatever notes you want to about this migration action. Type away, this is your spot!
- r. Perform: This is currently grayed out, meaning that we can't Perform the migration action at this time. That is because we haven't assigned it to anyone yet.
- s. Status: This is grayed out also, because we haven't Performed this migration action yet. For some migration actions (specifically, ones that do not invoke health checks), this folder is not used. For those migration actions that do invoke health checks, this is where the health check output will be found.
- t. Input Variables: We don't use this for the z/OS Migration Workflow, but variables which are provided to the step would be shown here.
- u. Feedback. We DO use this for the z/OS Migration Workflow! This is where you can provide your feedback to IBM, if you wish, on how this step went.

Read what is under the General tab, scrolling to the bottom. This is the *exact* same template and words that is are in the z/OS V2.3 Migration book.

- v. Click on Close.



## 5. Assigning a step (migration action).

We now know the basic layout of what the z/OS Migration Workflow looks like. Let's get to the real work – assigning those migration actions to get them performed. You can assign a group of migration actions (say, all the Communications Server migration actions), or individual migration actions to a z/OSMF user. You select which steps to assign based on what steps are checked – a higher level step (which would include all the sub-steps), or on the smallest sub-step itself. The idea is the same. We will assign all the Communications Server migration actions to a lucky person (ourselves) in this lab.

You should be back on the panel where the steps are shown:

- Scroll down until you find “Communications migration actions”, step 4.4. You will notice that the state of these steps is “Unassigned”.
- Click on the empty check box for step 4.4. This will select all the steps in the Communications Server section of this workflow, which contains 19 steps for Communications Server to migrate from z/OS V2.2 to V2.3. You can see how many steps are selected by the “Total Selected” just about the “Return to Workflows” button.

Workflow Steps

State	No. Filter	Title Filter	Caller Filter	Automated Filter	Owner Filter	Skill Categ Filter	Assignees Filter
		actions					
<input type="checkbox"/>	4.3	<input type="checkbox"/> CIM migration actions					
<input checked="" type="checkbox"/>	4.4	<input type="checkbox"/> Communications Server migration actions					
<input checked="" type="checkbox"/>	4.4.1	<input type="checkbox"/> Communications Server actions to perform before installing z/OS V2R3					
<input checked="" type="checkbox"/>	4.4.1.1	<input type="checkbox"/> IP Services: EZZ6044I and EZZ6045I descriptor codes are changed		No			
<input checked="" type="checkbox"/>	4.4.1.2	<input type="checkbox"/> IP services: Migrate from		No			

Total: 307 Selected: 19

[Return to Workflows](#) [Refresh](#) Last refresh: Jul 20, 2017, 7:41:58 PM local time (Jul 20, 2017, 11:41:58 PM GMT)

- c. With only the “Communications Server migration actions” selected, under the Actions pull-down, go to “Assignment and Ownership”, then select “Add Assignees...”.

The screenshot shows the IBM Workflows interface for a workflow titled "SHARAx Migration Workflow Lab for zOS V2.3". The interface includes a header with "Welcome mwalle" and an IBM logo. Below the header, there are tabs for "Welcome" and "Workflows". The main content area displays the workflow details, including a description, owner (mwalle), system (SHARPLEX.LOCAL), and status (In Progress). A table of workflow steps is visible, with columns for "Actions", "Called Filter", "Automated Filter", "Owner Filter", "Skill Categ Filter", and "Assignees Filter". The "Actions" dropdown menu is open, showing options like "Accept", "Perform", "Skip", "Status", "Override Complete", "Resolve Conflicts", "Change Called Workflow", "Assignment And Ownership", "FeedBack", "Expand", "Collapse", "Select All Steps Assigned to Me", "Stop Automation", "Select All", "Deselect All", "Configure Columns...", "Hide Filter Row", and "Clear Search". The "Assignment And Ownership" option is selected, and its sub-menu is open, showing "Add Assignees...", "Remove Assignees...", "Return", "Take Ownership", and "Request Assignment". A yellow arrow labeled "#5c" points to the "Add Assignees..." option. The table below shows several rows of workflow steps, with the "Communications Server migration actions" row highlighted in blue. The status of the workflow is "In Progress".



This is an interface you are probably familiar with.

- d. Click on userid in the list (SHARAnn, for instance), and if you wish, you can click on another userid. These people you add will be assigned to this migration action (step). If you don't see your userid on the list...then add it! (Actions -> Add... -> then for **SAF User ID**, type your SHARAnn userid and "OK". Now, it should appear on the list.). We are assigning to two people, so you can learn how to accept a migration action (step) assigned to you.
- e. Click on the "Add >" button, and see that two people have been added to the yellow box on the right.
- f. Type a friendly note, if you want, and then click on "OK". If you left the "Send z/OSMF notifications to assignees..." box checked, these people will be notified they have something to do. The Notification is sent.

Workflows > SHARAx Migration Workflow Lab for z/OS V2.3 > 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

<input type="checkbox"/>	Assignee	Type
<input type="checkbox"/>	Filter applied	Filter
<input checked="" type="checkbox"/>	mwalie	SAF user ID
<input type="checkbox"/>	keithm	SAF user ID
<input type="checkbox"/>	shara19	SAF user ID
<input type="checkbox"/>	shara20	SAF user ID
<input type="checkbox"/>	z/OS Security Administrator	z/OSMF role
<input checked="" type="checkbox"/>	z/OSMF Administrator	z/OSMF role

Total: 7 Selected: 2

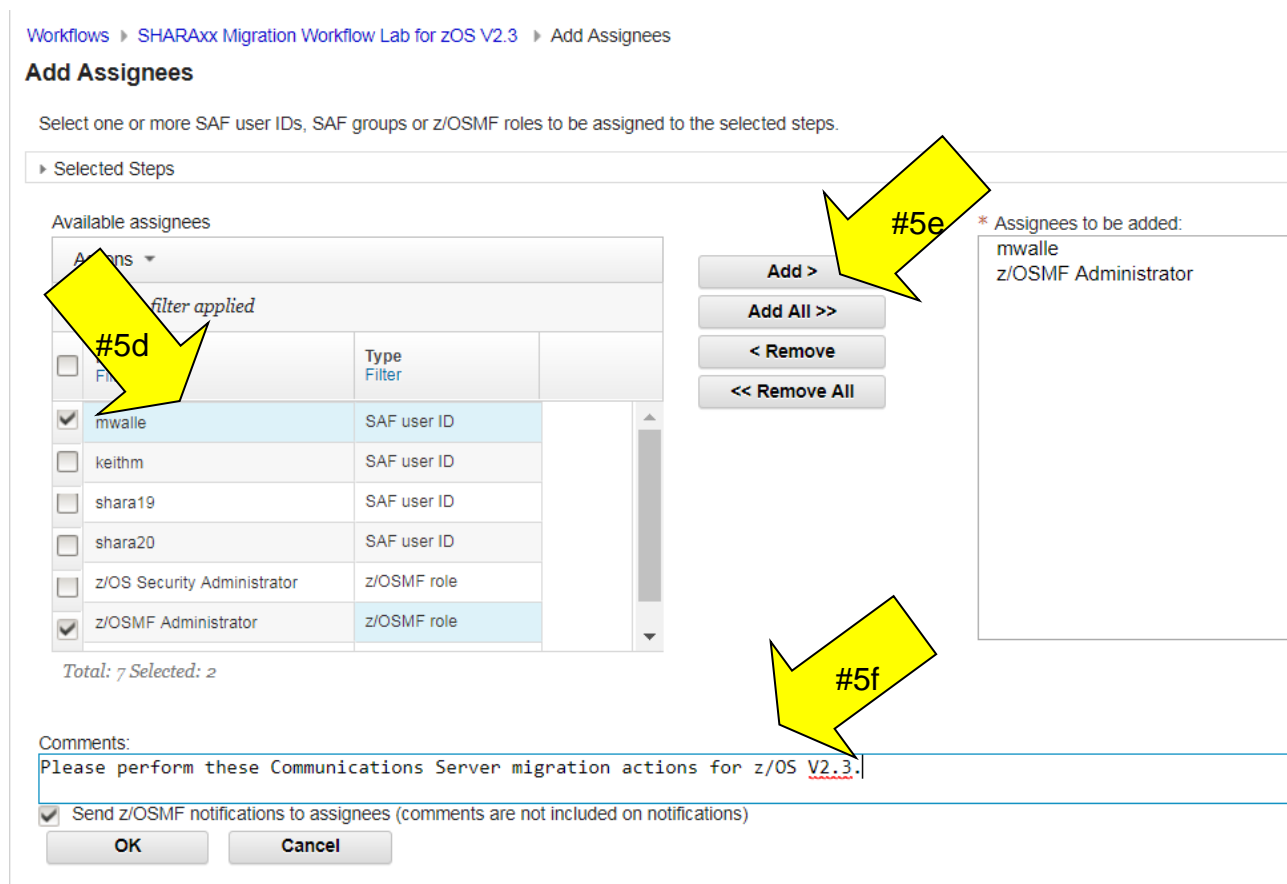
Buttons: Add >, Add All >>, < Remove, << Remove All

\* Assignees to be added:  
mwalie  
z/OSMF Administrator

Comments:  
Please perform these Communications Server migration actions for z/OS V2.3.

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

OK Cancel



- g. Now you are back into the workflow. Keep untwisting the “Communications Server migration action” items until you can see the final steps. Scroll to the right and look for the “Assignee” column.
- h. Under “Assignees” you can see the migration actions for all of Communications Server have been assigned to you and the z/OS Administrator (or just you, depending on who you assigned it to). (You might have to expand the left hand side to see Notifications, since we collapsed it before.)
- i. Notice also that the State is now “Assigned” on *all* this element’s migration actions (steps), because we selected the entire element of Communications Server’s parent step.
- j. Notice also that on the left side under “Notifications”, there are notifications which means that something is waiting for us to look at.

The screenshot shows the IBM z/OS Management Facility interface. The main content area displays the workflow details for "SHARAx Migration Workflow Lab for z/OS V2.3". The workflow is currently in progress (0% complete). The workflow steps table is as follows:

State	No.	Call	Automated	Owner	Skill Cate	Assignees
In Progress	4.4.1					
Assigned	4.4.1.1		No			mwalle, z/OSMF Administrator
Assigned	4.4.1.2		No			mwalle, z/OSMF Administrator
Assigned	4.4.1.3		No			mwalle, z/OSMF Administrator

Annotations in the image:

- #5j: Points to the "Workflows" menu item in the left sidebar.
- #5g: Points to the "State" column header in the workflow steps table.
- #5i: Points to the "Assignees" column header in the workflow steps table.
- #5h: Points to the "Refresh" button at the bottom of the workflow steps table.

## 6. Accepting a step (migration action).

“Assigned” isn’t enough to perform the migration action (step). You must also have the migration action **Accepted** by the assignee. We are going to temporarily leave the Workflow section in order to accept our assignment of the Communications Server migration actions.

You should at this point see that ‘**Notifications(nn)**’ has appeared on your screen. If you don’t see it, try to click “Refresh”, or you can logoff and logon back to z/OSMF. The lab system sometimes loses connectivity at a conference and you may have to re-establish your identity in order to see the Notification.

- a. Click on “Notifications(nn)”.
- b. Click the blue highlighted Description. (If the click doesn’t work on your browser, do a right mouse click, then “Go To Task”.) This will bring you back into the workflow where you have steps assigned to you. Once you click on the notification, it will not show up as “Notifications(nn)” anymore. It will have just “Notifications” (without the (nn)) indicating that you have seen new messages. You can delete a notification if you wish in Notifications, by just selecting the item(s), then Actions pull-down -> Delete.

The screenshot shows the IBM z/OS Management Console interface. The left sidebar contains a navigation menu with 'Notifications (41)' selected. A yellow arrow labeled '#6a' points to this menu item. The main content area displays a table of notifications. The first row is highlighted in blue and has a yellow arrow labeled '#6b' pointing to its description: 'One or more steps in workflow "SHARaxx Migration Lab for zOS V2.3" have been assigned to you.' The table has columns for 'Description', 'To', and 'Time'. Below the table, there is a 'Refresh' button and a status bar showing 'Total: 41 Selected: 0' and 'Last refresh: Jul 21, 2017, 11:25:42 AM local time (Jul 21, 2017, 3:25:42 PM GMT)'.

We are put back in the workflow (which we got to by way of the Notifications selection).

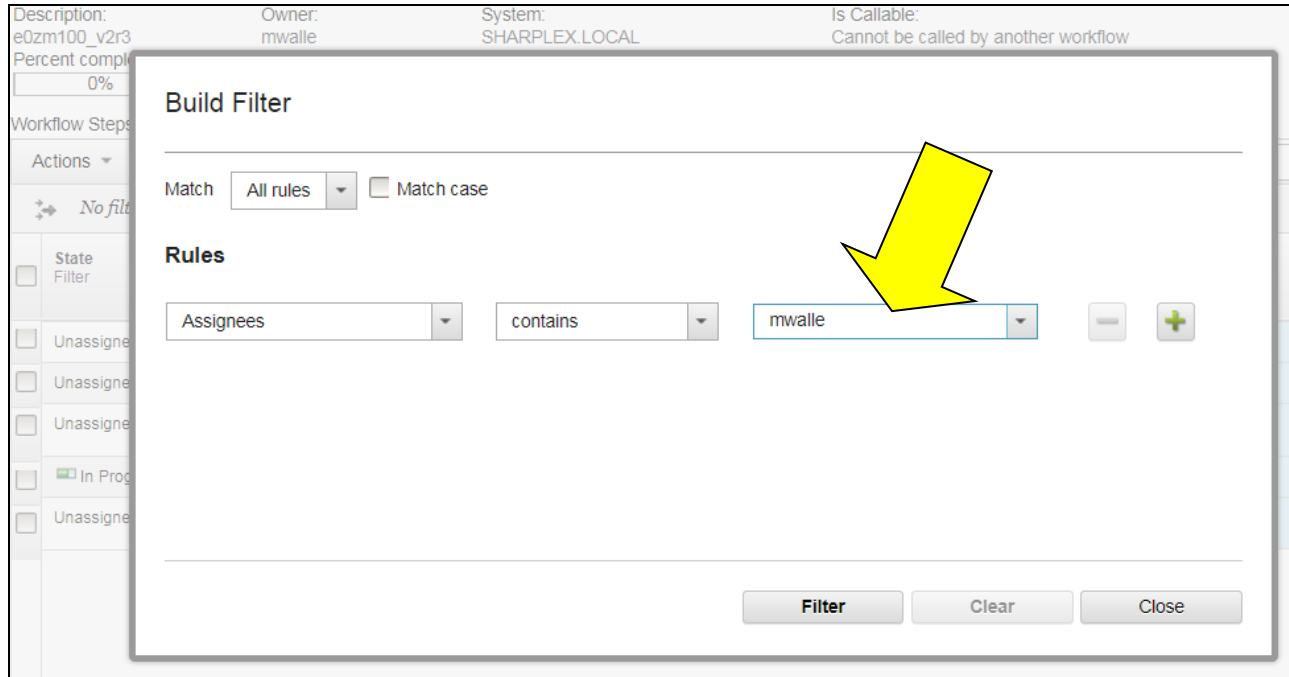
Let's see how to find what was assigned to our userid. Scroll to the right to find the "Assignees" column, and click on "Filter".

(You can collapse the left hand side again for more space.)

The screenshot shows the IBM Workflows interface for a workflow titled "SHARAx Migration Workflow Lab for zOS V2.3". The interface includes a navigation bar with "Welcome", "mwalie", and "IBM." tabs. Below the navigation bar, there are tabs for "Welcome", "Notifications (...)", and "Workflows". The main content area displays the workflow details, including a description, owner (mwalie), system (SHARPLEX.LOCAL), and status (In Progress). A table titled "Workflow Steps" is shown with columns for State, No., Title, Caller, Automated, Owner, Skill Categ, and Assignees. A yellow arrow points to the "Assignees Filter" column header. The table contains five rows of workflow steps, with the fourth step marked as "In Progress".

State Filter	No. Filter	Title Filter	Caller Filter	Automated Filter	Owner Filter	Skill Categ Filter	Assignees Filter
<input type="checkbox"/> Unassigned	1	Discover z/OS features in use		Yes			
<input type="checkbox"/> Unassigned	2	Chapter 1. Migration: Introduction					
<input type="checkbox"/> Unassigned	3	Chapter 2. General migration actions for everyone migrating to z/OS V2R3					
<input checked="" type="checkbox"/> In Progress	4	Chapter 3. Migration from z/OS V2R2					
<input type="checkbox"/> Unassigned	5	Provide feedback to IBM on your migration experience		No			

Then, under the “Assignees” blank area on the right, type your userid (SHARAnn, SHARBnn, SHARCnn), to filter on migration actions that are assigned to you, and then click on “Filter”.



- c. You should see only the migration actions (steps) that are assigned to you because of the filter. We are going to accept *all* the Communications Server migration actions that were assigned to our userid. Check the one box called “Communications Server migration actions”, step 4.4 (which indirectly selects all the sub-steps).
- d. Then click on the “Actions” drop-down, then “Accept”. If “Accept” is grayed out, you have not selected any steps, so verify that all the Communications Server steps have a check on them.

The screenshot shows the IBM Tivoli Workload Scheduler (WLS) interface. The main window displays the 'SHARAx Migration Workflow Lab for zOS V2.3' workflow. The 'Actions' dropdown menu is open, showing the 'Accept' option selected. A yellow arrow labeled '#6c' points to the 'Accept' menu item. The table below the menu lists migration actions with columns for filters and assignees. A yellow arrow labeled '#6d' points to the table. The table has the following data:

Call Filter	Automated Filter	Owner Filter	Skill Categ Filter	Assignees
				contains "mwalle"
	No			mwalle, z/OSMF Administrator
	No			mwalle, z/OSMF Administrator
	No			mwalle, z/OSMF Administrator

e. You can make a comment when you accept these steps, then click on OK.

The screenshot displays the 'SHARAx Migration Workflow Lab for zOS V2.3' interface. On the left, a sidebar shows 'Workflow Steps' with a 'State Filter' and a list of items: three 'In Progress' items, three 'Assigned' items, and three 'Assigned' items. The main area is dominated by a modal dialog box titled 'Accept Step'. Inside the dialog, there is a 'Selected Steps' field, a 'Comments' field containing the text 'I hereby solemnly swear that I will execute these migration actions to the best of my ability.', and three buttons: 'OK', 'Cancel', and 'Help'. A yellow arrow points to the 'OK' button with the label '#6e'. The background interface shows a progress bar at 0% and a total of 20 selected items.

You might need to scroll back down the Communications Server steps, but your filter should still be active, showing just your assigned steps. These steps (migration actions) for Communications Server which were assigned and accepted, and are “Not Ready” to be performed. Why?

**Workflow Steps**

State Filter	No. Filter	Title Filter	Called Filter	Automated Filter	Owner Filter	Skill Cate Filter	Assignees contains "mwalle"
Not Ready	4.4.1.1	IP Services: EZZ6044I and EZZ6045I descriptor codes are changed		No	mwalle		mwalle, z/OSMF Administrator
Not Ready	4.4.1.2	IP services: Migrate from SMTP and sendmail		No	mwalle		mwalle, z/OSMF Administrator
Not Ready	4.4.1.3	IP Services: Replace configuration of additional TCP/IP legacy device types		No	mwalle		mwalle, z/OSMF Administrator
Not Ready	4.4.1.4	IP Services: Use alternate file transfer program		No	mwalle		mwalle, z/OSMF Administrator
Not Ready	4.4.1.5	IP Services: Verify that the changed HowToAuthMsgs and HowToAuth defaults are acceptable		No	mwalle		mwalle, z/OSMF Administrator

Total: 20 Selected: 1

Click on the step, and go into the “Dependencies” tab...that is because a dependency in our Workflow has not been completed.

**Properties for Workflow Step 4.4.1.1. IP Services: EZZ6044I and EZZ6045I descriptor codes are changed**

Conditional Dependencies

Description: Set this step to Skipped if the variable's value is disable, or set it to ready if the expression is true.

Satisfied: **No**

Expression:  $(\${discoverystep.stepState} == "Complete") ? true : false$

Step Attribute Values Table

Step Name	Step No.	Step Title	Step Attribute	Current Value
discoverystep	1	Discover z/OS features in use	stepState	Unassigned

Refresh Last refresh: Jul 21, 2017, 11:42:23 AM local time (Jul 21, 2017, 3:42:23 PM GMT)

This discovery step is a new step added into the z/OS V2.3 Migration Workflow. It is there to help you “skip” unnecessary migration actions that you don’t need to do on this system.



What should you do? By yourself (with no screen shots, as you should be able to do this on your own by now):

1. Go back to all the steps in the Workflow. An easy way to do that is to click on the Workflow name “breadcrumb” at the top, highlighted below:  
[Workflows](#) > [SHARAx Migration Workflow Lab for zOS V2.3](#) >
2. Assign yourself Step 1 “**Discovery z/OS features to use**” (you’ll have to “Clear” the Filter to see it, since it’s not assigned yet and you had the filter on before),
3. Accept it. You should see the state as Ready then.

<input type="checkbox"/>	State Filter	No. Filter	Title Filter	Called Filter	Automated Filter	Owner Filter	Skill Cate Filter	Assignees Filter
<input checked="" type="checkbox"/>	Ready	1	Discover z/OS features in use		Yes	mwalle		mwalle
<input type="checkbox"/>	Unassigned	2	Chapter 1. Migration: Introduction					

4. Click on Step 1 “**Discover z/OS features in use**” so that we can Perform it.
5. Go to the Perform tab inside the step. Read the instructions for what will be done for this discovery task. Then click Next>.

Workflows > SHARAx Migration Workflow Lab for zOS V2.3 > 1. Discover z/OS features in use Help

**Properties for Workflow Step 1. Discover z/OS features in use**

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

**Review Instructions**

Edit Output File Path  
Create JOB statement  
Review JCL  
Submit and Save JCL

**Review Instructions**

To proceed with the guided path through creating and executing the REXX on **SHARPLEX.LOCAL**, click **Next**. Or, you can choose to bypass this step. If so, first review and confirm that the instructions below have been done. Then, click **Finish** to mark the step complete.

Instructions:

This step of the workflow will determine which z/OS priced features are currently enabled on the running system. Using this information (which you control with your IFAPRDxx parmib member), associated steps with DISABLED features will be marked as Skipped. The objective of this step is to automatically reduce the number of non-applicable migration steps that you need to review.

Review the output of this step to see which priced features were determined to be disabled on this system, and to see which steps have had their state changed.

If you determine that you later want to perform those steps that were marked as Skipped, you can change the status and perform those steps, after they have been as

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

6. You will have to fill in where discovery needs to store its findings, to be used by the later parts of the workflow. Use the /tmp directory on this system, *but make sure you insert your own userid for the file name, and do not add a “new” directory*. If everyone uses the same /tmp file, we will all overlay each other’s information.

Insert your userid, and then click Next>. Verify your name is something like this:  
[/tmp/mwalle\\_migration\\_inputfile.txt](#)

Workflows > SHARAx Migration Workflow Lab for zOS V2.3 > 1. Discover z/OS features in use

### Properties for Workflow Step 1. Discover z/OS features in use

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

- ✓ Review Instructions
- ➔ **Edit Output File Path**
- Create JOB statement
- Review JCL
- Submit and Save JCL

**Edit Output File Path**  
This is the path for the output file path.

Output File Path:

Specify output file path here

`/tmp/mwalle_migration_inputfile.txt`

< Back | Next > | Save | Finish | Cancel

- You need to supply a job card so that the discovery program can run. You can just take the default. Click Next>.

Workflows > SHARAx Migration Workflow Lab for zOS V2.3 > 1. Discover z/OS features in use

### Properties for Workflow Step 1. Discover z/OS features in use

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

- Review Instructions
- Edit Output File Path
- 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.

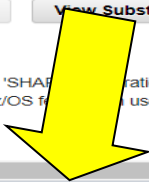
```
* JOB statement JCL:List variables for substitution
//IZUWFJB JOB (ACCTINFO),CLASS=A,MSGCLASS=0,
//          MSGLEVEL=(1,1),REGION=0M,NOTIFY=MWALLE
```

Undo All Changes | View Substitutions

Apply updates to:

- All steps in workflow 'SHARAx Migration Workflow Lab for zOS V2.3'.
- This step 'Discover z/OS features in use' only.

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



- Moving along, review the JCL if you like, and then click Next>.

Workflows > SHARAx Migration Workflow Lab for zOS V2.3 > 1. Discover z/OS features in use

### Properties for Workflow Step 1. Discover z/OS features in use

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

- Review Instructions
- Edit Output File Path
- 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**

```
//IZUWFJB JOB (ACCTINFO),CLASS=A,MSGCLASS=0,
//          MSGLEVEL=(1,1),REGION=0M,NOTIFY=MWALLE
/*JOBPARM SYSAFF=S1
*****
/*          COPY STEP - IEBGENER -          *
*****
//GENER    EXEC PGM=IEBGENER
//*
//SYSPRINT DD SYSOUT=*
//*
//SYSIN    DD DUMMY
//*
//SYSUT1   DD DDNAME=TS
```

Edit JCL | Message length: 1,024

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



9. Almost done...click Finish to submit the discovery job.

Workflows > SHARAx Migration Workflow Lab for zOS V2.3 > 1. Discover z/OS features in use

**Properties for Workflow Step 1. Discover z/OS features in use**

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

- ✓ Review Instructions
- ✓ Edit Output File Path
- ✓ 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.

Restore Default Location

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

10. When the job completes, you can look on the Status tab at the output. If you look at the bottom of the SYSTSPRT tab, you can see that this lab system doesn't have all the priced features of z/OS enabled. Therefore, if we aren't running them, the steps for those features can be skipped. This makes our Workflow smaller! Look at a couple of fields here after you return to all the steps in the Workflow:

- The Discovery step has been Completed, and
- the skipped steps are automatically marked as done at the top!

Workflows > SHARAx Migration Workflow Lab for zOS V2.3

**SHARAx Migration Workflow Lab for zOS V2.3**

Description: e0zm100\_v2r3 | Owner: mwalle | System: SHARPLEX.LOCAL | Is Callable: Cannot be called by another workflow  
 Percent complete: 5% | Steps complete: 13 of 223 | Status: In Progress | Access (Learn More): Public

Workflow Steps

Actions ▾

No filter applied

State Filter	No. Filter	Title Filter	Called Filter	Automated Filter	Owner Filter	Skill Categ Filter	Assignees Filter
<input checked="" type="checkbox"/> Complete	1	Discover z/OS features in use		Yes	mwalle		mwalle
<input type="checkbox"/> Unassigned	2	Chapter 1. Migration: Introduction					
<input type="checkbox"/> Unassigned	3	Chapter 2. General migration actions for					

11. Close the step.

## 7. Performing a step (migration action).

Let's recap: you've defined a migration workflow to a system, you've assigned migration actions to lucky folks, you've got the migration action assignments accepted (for the Communications Server migration actions), you've run discovery to skip some migration actions automatically, and now you need to perform the migration actions. Although the migration action may require a lot of work to perform, it is very easy within the z/OSMF workflow to say it's been done and keep track of it.

Another benefit of using z/OSMF Workflows to help with your z/OS Migration is that you can run associated health checks directly from the z/OS V2.3 Migration Workflow.

Performing a migration action step in a Workflow is very much like repeating what you did for performing the discovery step.

At this point in time, you are going to be a little on your own to perform a migration action step. We'll list the exact activities to do, but you should be able at this point to perform a Workflow step pretty much by yourself. See the screen shots above, if you need to. But, it really is quite intuitive after you've already done one...now you know how to do them all!

1. Select the Communications Server step 4.4.1.10 **"IP services: Accommodate the removal of SMS as a default VTAM VIT trace option"**. Notice that it is now "Ready", because you Performed the dependency discovery step above.
2. Read the "General" tab. This is exactly what is in the z/OS V2.3 Migration book. Notice how it has a Related Health Check? We are going to be running that health check in a bit.
3. Go to the "Dependencies" tab. This is where you can indeed see that the dependency (for Step 1) has been successfully completed.
4. Go to the "Perform" tab. This is where you will be running the health check from the Workflow.
  - a. Review the instructions in the mini-wizard. You can see here which check will run, and how it will affect the state of the step after it runs. Click on Next>.
  - b. Here's the jobcard it will use. You can just use the defaults. Click on Next>.
  - c. Review the JCL. You don't need to change it. Click on Next>.
  - d. To Submit the JCL, just click on Finish>. The job is then submitted.
  - e. Look through the Status tabs. Did the job fail?
    - i. If so, why? Was it something you could fix by editing the JCL quickly, like a JECL or stray commenting error that accidently was inserted if you happened to edit the JCL?
    - ii. To fix the JCL quickly, you go back into the Perform tab, and use the <Back button to edit the JCL and re-submit it.

- iii. Did the health check run? (Hint: Status tab, then SYSTSPRNT at the bottom.)
  1. If yes, then the step will be Complete.
  2. If not, then the step will be in Error. Look at the health check output from the Status tab (SYSTSPRT and SYSOUT specifically) for the reason why.
    - a. If the check was not found (SYSOUT has “No matches found” which sometimes happens), it means that you might need to install PTFs on your system so that the check is available. Remember, not all checks are available on all levels of z/OS, so check the General tab to see if you are running on a z/OS level that contains this check. (This is something I know would be a very nice future enhancement!) If the check is trying to run on a level of z/OS that doesn’t contain it, the only thing you can do today to get the step completed is to select the step and do an override (described below).
    - b. If the check fails because what it was validating wasn’t set correctly (SYSOUT has STATUS: EXCEPTION-xxx)...then you’ve got to look at that and decide what to do? Do you want to fix the problem so the health check will succeed? What do you do today when a health check fails on this system?
- f. When you are done getting the JCL run or given up on it, click Close to return to the steps of the Workflow.
  - i. Fyi: If your step is Failed, and you want to force the state to Completed you can. When the step check, go to Actions->Override Complete. This will then make the state “Complete-Override”.
- g. Now, you should be on the list of steps in the Workflow. With step 4.4.1.10 “**IP services: Accommodate the removal of SMS as a default VTAM VIT trace option**” (the step we just completed, or overridden, or failed) checked, click on Actions-> Feedback. This is where you will provide to IBM any feedback you wish. This is completely optional. You control when the feedback is sent to IBM, and you can edit it before you send it. Answer the questions however you thought, and then click on Submit. Then OK and Close.
- h. If you want to give an overall review of the z/OS V2.3 Migration Workflow, then Perform step 5 “**Provide feedback to IBM on your migration experience**”.
- i. When you want to collect all the feedback for all the steps that have feedback, go back out to the main Workflow pages (with all the Workflows on the system shown). You can use the breadcrumb called “Workflows” at

the top of the Workflow:

- j. Check the Workflow that you want to provide feedback on. Then click on Actions->Generate Feedback Summary. You can see all the feedback for all the steps that have submitted them. From here you, can export it for sending to IBM. You can Notify the step owners to provide the feedback.

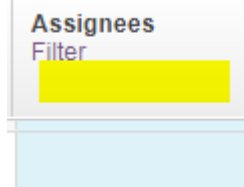
Description	Version	Vendor	Access	Owner	System
ma's update to the V2.1 to V2.2 Migration workflow	1.1	IBM	Public	sharb29	SHARPLEX.LOCAL
m100_v2r3	1.0	IBM	Public	mwalle	SHARPLEX.LOCAL
m100_v2r3	1.0	IBM	Restricted	mwalle	SHARPLEX.LOCAL
m100_v2r3	1.1	IBM	Public	mwalle	SHARPLEX.LOCAL
m100_v2r3	1.0	IBM	Public	mwalle	SHARPLEX.LOCAL
3m110	1.0	IBM	Public	shara20	SHARPLEX.LOCAL
3m110	1.0	IBM	Public	shara20	SHARPLEX.LOCAL
3m110	1.0	IBM	Public	shara20	SHARPLEX.LOCAL
m100_v2r3	2.0	IBM	Public	mwalle	SHARPLEX.LOCAL

## 8. Skipping steps

Although this Workflow has a lot of steps, we expect that not every migration action (step) applies to you. For that reason, you will probably be Skipping steps in the workflow after you have reviewed them.

To skip steps, it's very easy. It's very much like Assigning steps, which you've already done. For this lab, let's skip all the zEC12/zBC12 migration actions (assuming that everyone is running on a newer server!).

1. Before doing anything, make sure you Filter in the Assignee column is cleared. It



should look like this:

2. Making your way through the twisties in the Workflow, find step **3.2.8 “Migrate to an IBM zEnterprise EC12 or zEnterprise BC12 server”**.
3. Click on the 3.2.8 step, which is the “parent” step for all the sub-steps below which detail the zEC12/BC12 migration actions. This implicitly selects all the sub-steps.

<input checked="" type="checkbox"/>	Unassigned	3.2.8	<a href="#">+ Migrate to an IBM zEnterprise EC12 or IBM zEnterprise BC12 server</a>				
-------------------------------------	------------	-------	---	--	--	--	--

4. Now, click under Actions-> Skip. Give a reason for skipping these steps, and then click OK.
5. In one action, you've just skipped 5 migration actions (steps). Notice how the “Steps Complete” at the top of the Workflow reflect this change in state.

<input checked="" type="checkbox"/>	Skipped	3.2.8	<a href="#">+ Migrate to an IBM zEnterprise EC12 or IBM zEnterprise BC12 server</a>				
-------------------------------------	---------	-------	---	--	--	--	--



## Exercise review and wrap-up

By completion of this lab, you now know how to:

- \_\_\_ 1. Download the z/OSMF z/OS V2.3 Migration Workflow files from github. You know where to find it, and which files to download. You know to transfer it in BINARY to a file system on your z/OSMF system. Make sure you transfer as RAW!
- \_\_\_ 2. Logon to z/OSMF. Enter into the Workflow function. You know what the Notification function is, and how to use it.
- \_\_\_ 3. Create a z/OS V2.3 migration workflow within z/OSMF.
- \_\_\_ 4. Look at some of the z/OSMF workflow functions, and generally how to maneuver around a workflow. Understanding the concept of states and steps (and sub-steps). Understand what the tabs for a step (z/OS migration action) are, and how they are used.
- \_\_\_ 5. Assign steps (migration actions) to different users.
- \_\_\_ 6. Accept the assignment of a step (migration action).
- \_\_\_ 7. Perform a step (migration action).
- \_\_\_ 8. Provide feedback for a specific migration, and how to provide feedback for the entire release, if you like.
- \_\_\_ 9. Skip several steps (migration actions) at once.

## End of exercise

You can delete your lab workflow if you want. On the Workflows main panel, select the Workflow and then Actions-> Delete.