

IBM z/OS Management Facility Hands-on Lab

Session: 9735

Orlando SHARE
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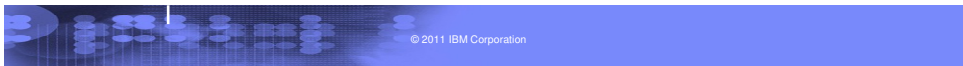
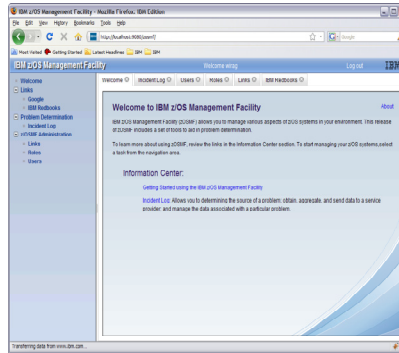
Lab Agenda

- **Brief overview of z/OSMF**
- **Start the hands on Lab – Logon to z/OSMF**
 - **Explore the different tasks in z/OSMF**
- **Lab 1 - Incident Log**
- **Lab 2 - Workload Management**
- **Lab 3 - Sysplex status**
- **Lab 4 - Monitoring Desktops**
- **Optional Labs**

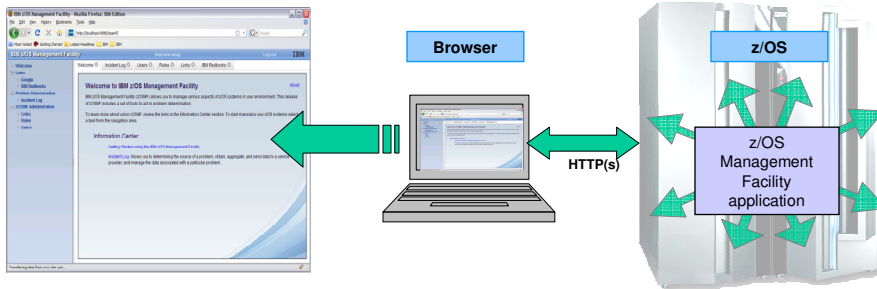


IBM z/OS Management Facility

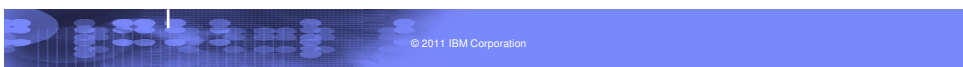
- **The IBM z/OS Management Facility is a new product for z/OS that provides support for a modern, Web-browser based management console for z/OS.**
- First release is z/OSMF 1.11, introduced with z/OS 1.11
- Helps system programmers to more easily manage and administer a mainframe system by simplifying day to day operations and administration of a z/OS system.
- More than just a graphical user interface, the z/OS Management Facility is intelligent, addressing the needs of a diversified skilled workforce and maximizing their productivity.
 - Automated tasks can help reduce the learning curve and improve productivity.
 - Embedded active user assistance (such as wizards) guides you through tasks and helps provide simplified operations.



IBM z/OS Management Facility z/OS application, browser access

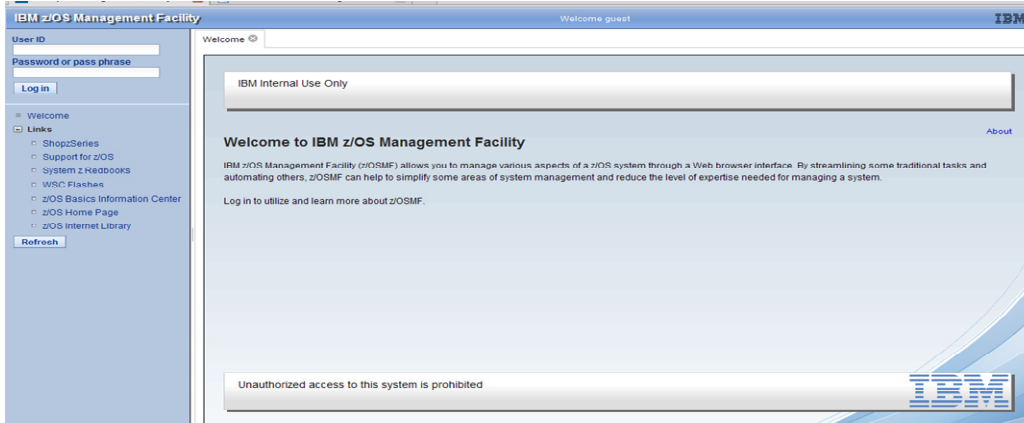


- **z/OS Management Facility is a Web 2.0 application on z/OS**
 - Manages z/OS from z/OS
 - Browser communicates with z/OS MF via secure connection, anywhere, anytime
 - z/OSMF V1R11 is supported on z/OS V1R10 w/main, z/OSV1R11, and z/OS V1R12
 - z/OSMF V1R12 is supported on z/OS V1R12, and z/OS 1.13*
 - z/OSMF V1R13 is to be supported on z/OS V1R13

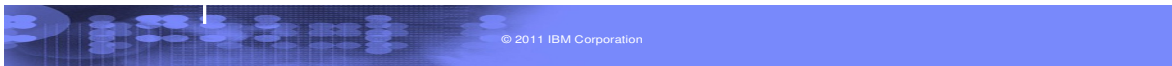




Guest view - Login



- To log in you will need a z/OS userID that has been defined and enabled to for z/OSMF (and the WebSphere® runtime environment)
 - Guidance is provided.



To access z/OSMF, you point your browser to the URL for the z/OSMF instance which is the host name, the port name and the context root for z/OSMF -this is the result



IBM z/OS Management Facility – V1R12 Welcome page

Configuration category

- **Configuration Assistant for z/OS Communication Server** application
- Simplified configuration and setup of TCP/IP policy-based networking functions

Links category

- Links to resources - provides common launch point for accessing resources beyond z/OSMF

Performance category (R12)

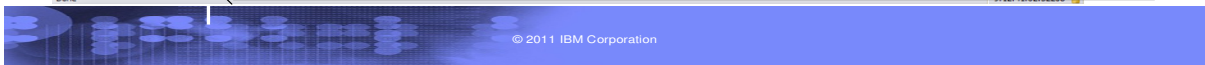
- **Workload Manager Policy Editor** application
- Facilitate the creation and editing of WLM service definitions, installation of WLM service definitions, and activation of WLM service policies
- **Resource Monitoring: Sysplex status and Monitoring desktops**
- The z/OSMF Resource Monitoring application provides integrated performance monitoring of z/OS sysplexes in the customer's environment

Problem Determination category

- **Incident Log** application
- The Incident Log provides a consolidated list of SVC Dump related problems, along with details and diagnostic data captured with each incident. It also facilitates sending the data for further diagnostics.

z/OSMF Administration category

- z/OSMF authorization services for administrator: add users, define roles, dynamically add links to non-z/OSMF resources.



Once you log in with a valid userid, all functions that are configured and authorized for the userid are made available.

Starting the Lab – log in to z/OSMF

- Launch the Mozilla Firefox browser
 - Note: If browser asks to add exception for certificate, do so
- Point Browser to z/OSMF – enter the following url
 - <https://mvs1.centers.ihost.com:32208/zosmf/>
 - Note: Ignore and close the warning message
 - IZUG809W Unsupported Web browser version or level found: "3.6.13 (.NET CLR 3.5.30729)" . Some z/OSMF functions might not be available if you continue.
- View the Welcome page with the customized Logo
 - view 'About' panel
 - Click top right on 'About'
 - See the details on build and service levels in the installed package.
 - Close the About panel (X on top right)
- Login with SHARE userid/pw as provided by the lab instructor.
 - See the Full Navigation list and welcome page
- Expand each category to see the tasks available

Lab 1: Incident log Lab

This lab consists of 6 tasks.

It is recommended that you execute these tasks in the order listed above. As you get familiar with the Incident Log, you will be able to work directly with the task you need to accomplish.

As with all the labs in this session, all the teams will be working with the same z/OSMF instance. Each team will be given a unique id to work with. However, you must remember that as you work with a given incident, that incident is also available to the other teams to work with. When you are working with updating an incident please make sure you work with the user defined incident assigned to your team to avoid confusing the other teams.

1. View all the incidents across all the systems in your sysplex
2. Customize your view of these incidents
3. View the details of an abend incident
4. FTP the diagnostic data captured for an incident to your service provider
5. View the status of the FTP for that incident

Task 1: View all the incidents across all the systems in your sysplex

Step 1: Expand the Problem Determination Category in the Left Navigation Tree

Step 2: Click on Incident Log

The first panel that opens is the main panel of the Incident Log. Here you will see a summary view of all the incidents across all the systems in the sysplex. Take some time to scroll through and look at all the columns

The screenshot displays the IBM z/OS Management Facility web interface. The left navigation pane shows the 'Incident Log' selected under the 'Problem Determination' category. The main content area displays the 'Incident Log' table with the following data:

Incident Type Filter	Description Filter	Date and Time (GMT) Dates from Feb 20, 2011 12:00:00 AM	Sysplex Filter	System Filter	Problem Number Filter
<input type="checkbox"/> ABEND S00D6	COMPON=WEBSPPHRE Z/OS, COMPID=5655N0200,ISSUER=BBORLEXT,ABEND IN (MODULE NAME NOT KNOWN)	Feb 23, 2011 3:51:49 AM	CFCIMGWH	DCEIMGWH	
<input type="checkbox"/> User Initiated	MVS/RRS TERMINATION DUMP - COMPONENT=SCRRS ISSUER=ATRANKIL,REASON=080F0010	Feb 23, 2011 3:51:24 AM	CFCIMGWH	DCEIMGWH	12345.078,999

At the bottom of the table, the status bar shows: Total: 2, Filtered: 2, Selected: 0. A 'Refresh' button is visible, and the last refresh time is noted as Feb 23, 2011 3:27:23 PM local time (Feb 23, 2011 9:27:23 PM GMT).

Task 2: Customize your view of these incidents

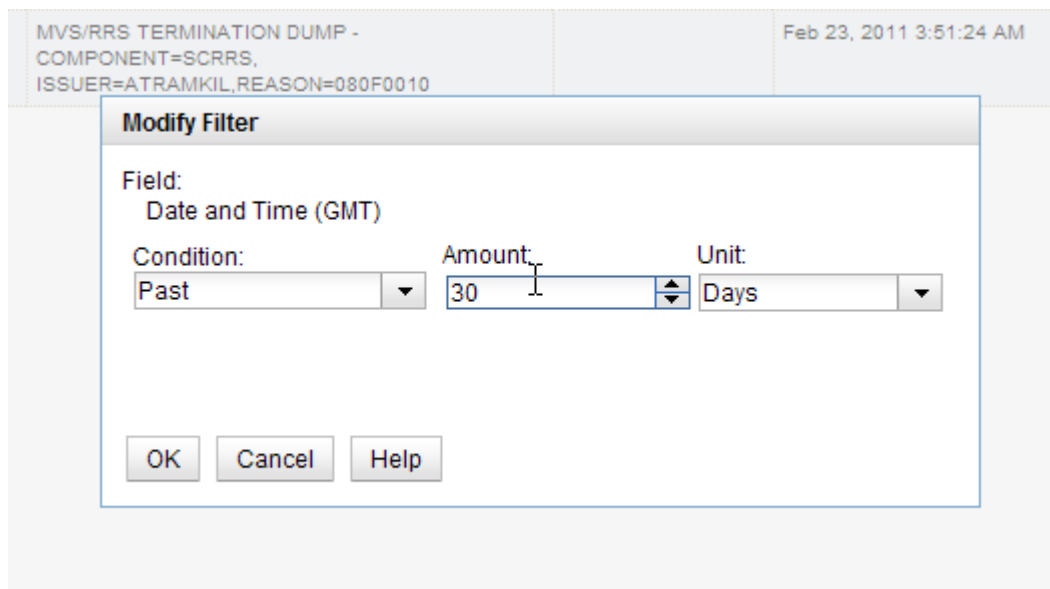
You have the ability to control what data you see in terms of configuring what columns are displayed and the order of those columns. You can also control the data you see, which is you can filter on different columns. You can also sort the columns to view the data in different sort orders. You can sort on upto 3 columns at a time!

Step 1: Filter the columns

By default you will get all the incidents that have occurred in the last 3 days. You can change this.

Click on the filter displayed under a column header to change the filter. For this example, let us say we want to look at incidents from the last **180 days**, not the last 3.

Click on the Date and Time column filter. In the resulting dialog, change the 3 days to 180 days and click OK



You will now see Incidents from the last 180 days on your sysplex.

Welcome Incident Log Help

Incident Log

Actions

Incident Type Filter	Description Filter	Component Name Filter	Date and Time (GMT) Dates from Jan 24, 2011 12:00:00 AM	Problem Number Filter
<input type="checkbox"/> ABEND S00D8	COMPON=WEBSPPHERE Z/OS, COMPID=5655N0200,ISSUER=BBORLEXT,ABEND IN (MODULE NAME NOT KNOWN)		Feb 23, 2011 3:51:49 AM	
<input type="checkbox"/> User Initiated	MVS/RRS TERMINATION DUMP - COMPONENT=SCRRES, ISSUER=ATRAMKIL,REASON=080F0010		Feb 23, 2011 3:51:24 AM	
<input type="checkbox"/> User Initiated	SLIP DUMP ID=S808		Feb 16, 2011 7:53:18 PM	
<input type="checkbox"/> User Initiated	DUMP1		Feb 10, 2011 8:07:57 PM	
<input type="checkbox"/> ABEND S01D0	COMPON=CEA,COMPID=SCCEA,ISSUER=CEAMIREC	COM EVNT ADP	Feb 7, 2011 11:08:36 PM	
<input type="checkbox"/> User Initiated	USER DUMP		Jan 24, 2011 2:29:22 PM	12345,123,123

Total: 6, Filtered: 6, Selected: 0

Refresh Last refresh: Feb 23, 2011 10:54:07 AM local time (Feb 23, 2011 4:54:07 PM GMT)

Step 2: Sort the columns

Click on the column header of the column you want to sort on. The first time you click on it, it will sort it in ascending order, the second time in descending order and the third time it will clear the sort. Try sorting in descending order on the Date and Time column. Notice the arrows that show up. Next try to sort on the Incident Description column header.

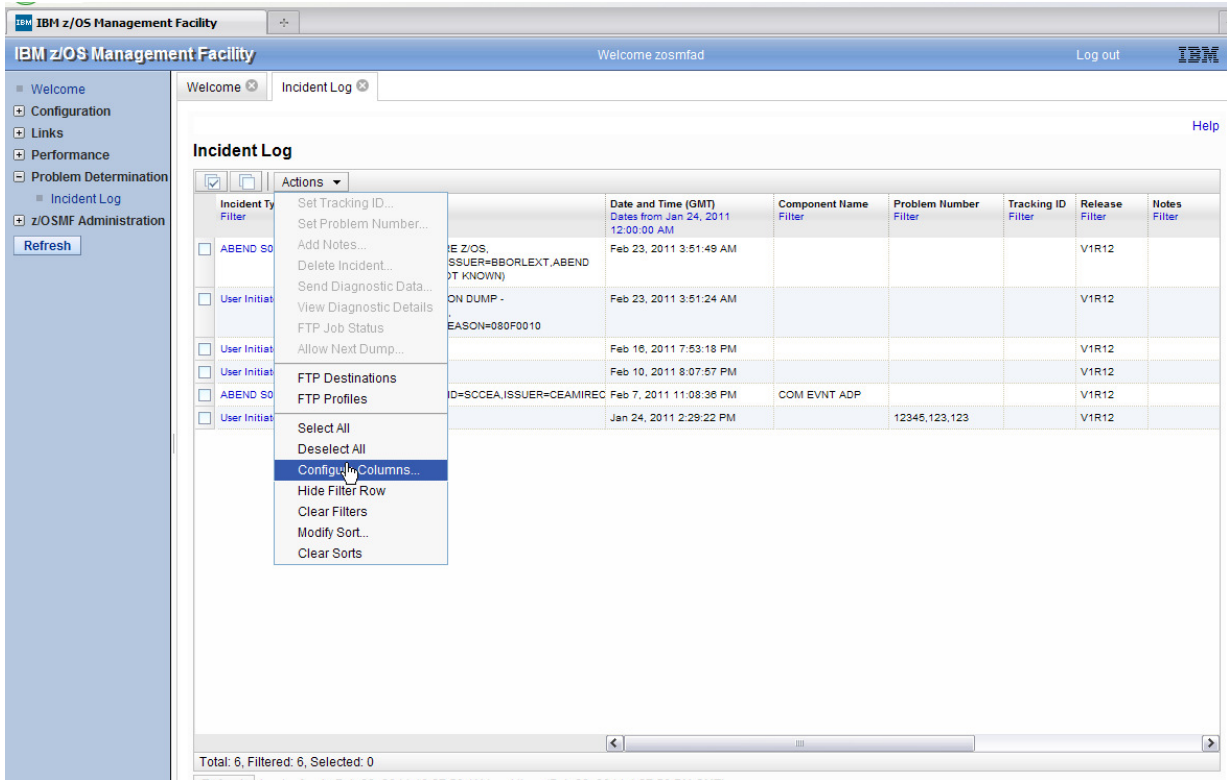
The screenshot displays the 'Incident Log' section of the z/OS Management Facility. The interface includes a navigation menu on the left, a header with 'z/OS Management Facility' and 'Welcome zosmfad', and a main content area. The 'Incident Log' table is the central focus, showing a list of incidents with the following columns: Incident Type, Description, Component Name, Date and Time (GMT), and Problem Number. The table is filtered to show 6 incidents. The status bar at the bottom indicates 'Total: 6, Filtered: 6, Selected: 0'.

Incident Type	Description	Component Name	Date and Time (GMT)	Problem Number
ABEND S0008	COMPON=WEBSPPHERE Z/OS, COMPID=5655N0200,ISSUER=BBORLEXT,ABEND IN (MODULE NAME NOT KNOWN)		Feb 23, 2011 3:51:49 AM	
User Initiated	MVS/RRS TERMINATION DUMP - COMPONENT=SCRSS, ISSUER=ATRAMKIL,REASON=080F0010		Feb 23, 2011 3:51:24 AM	
User Initiated	SLIP DUMP ID=S808		Feb 18, 2011 7:53:18 PM	
User Initiated	DUMP1		Feb 10, 2011 8:07:57 PM	
ABEND S01D0	COMPON=CEA,COMPID=SCCEA,ISSUER=CEAMIREC	COM EVNT ADP	Feb 7, 2011 11:08:38 PM	
User Initiated	USER DUMP		Jan 24, 2011 2:29:22 PM	12345,123,123

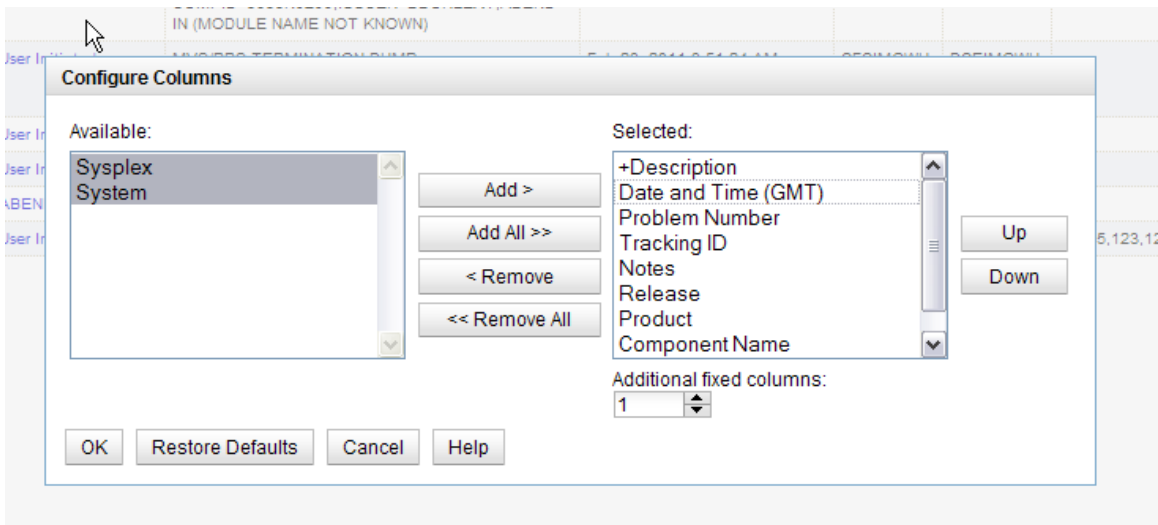
You have successfully customized your workspace! You are only viewing the columns you want, in the order you want, for a range of data that you filtered, in the sort order that you want.

Step 3: Rearrange the order of the columns as you would like to see it

Click on Actions->Configure Columns

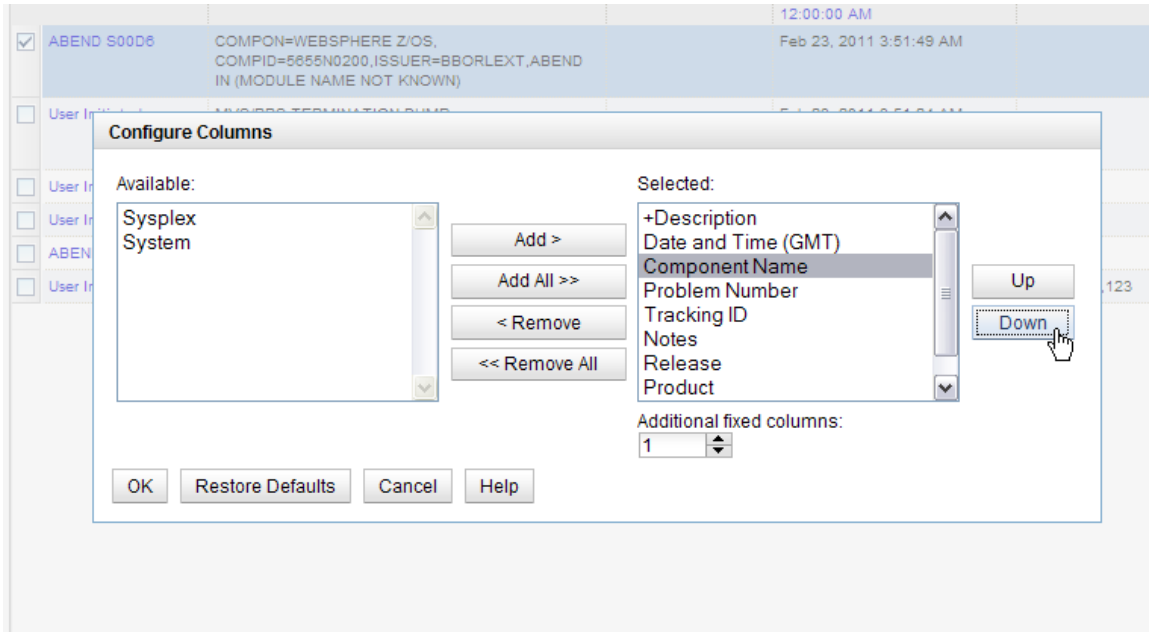


Assume you do not want to see the sysplex and system columns. Select them and click on the Remove button



Now lets say you want to see the 'Component Name' column next to the Date and Time column

Select the Component Name column and then click on the Up button, until it is in the position you want it.



Click the OK button. You now have only the columns you want displayed in the order you want them.

Incident Log [Help](#)

Actions

Incident Type Filter	Description Filter	Date and Time (GMT) Dates from Feb 20, 2011 12:00:00 AM	Component Name Filter	Problem Number Filter
<input type="checkbox"/> ABEND S00D6	COMPON=WEBSPPHERE Z/OS, COMPID=5655N0200,ISSUER=BBORLEXT,ABEND IN (MODULE NAME NOT KNOWN)	Feb 23, 2011 3:51:49 AM		
<input type="checkbox"/> User Initiated	MVS/RRS TERMINATION DUMP - COMPONENT=SCRRES, ISSUER=ATRAMKIL,REASON=080F0010	Feb 23, 2011 3:51:24 AM		12345,678,999

Task 3: View the details of any given incident

Now that you've customized your workspace, let us dive deeper into an individual Incident:

- a. **Step 1:** Select any incident of type ABEND. Click on the Incident Type column value or you can Right click on the incident and from the popup context menu, select View Diagnostics Details

Incident Type	Description	Component
ABEND S0008	COMPON=WEBSPPHERE Z/OS, COMPID=5655N0200,ISSUER=BBORLEXT,ABEND IN (MODULE NAME NOT KNOWN)	
User Initiated	MVS/RRS TERMINATION DUMP - COMPONENT=SCRSS, ISSUER=ATRAMKIL,REASON=080F0010	
User Initiated	SLIP DUMP ID=S808	
User Initiated	DUMP1	
ABEND S01D0	COMPON=CEA,COMPID=SCCEA,ISSUER=CEAMIREC COM E	
User Initiated	USER DUMP	

Step 2: It brings up the View Diagnostic Details panel:

Management Facility Welcome zosmfad Log out

Welcome Incident Log

Incident Log > View Diagnostic Details

View Diagnostic Details

General Diagnostic Data

Data Type	Source	Sysplex	System
<input type="checkbox"/> SVC dump	SUIMGWH.HIGHRISK.D110223.S00002.DUMP	CFCIMGWH	DCEIMGWH
<input type="checkbox"/> Operations log	CEA.Y00.C75FB4CF.B91F4984.X00.VEW	CFCIMGWH	DCEIMGWH

Total: 2, Selected: 0

You can attach up to five additional files to send with this incident. When you close the panel, the Attachments table is cleared.

Attachments

New...

Data Type	Source
There is no data to display.	

Total: 0, Selected: 0

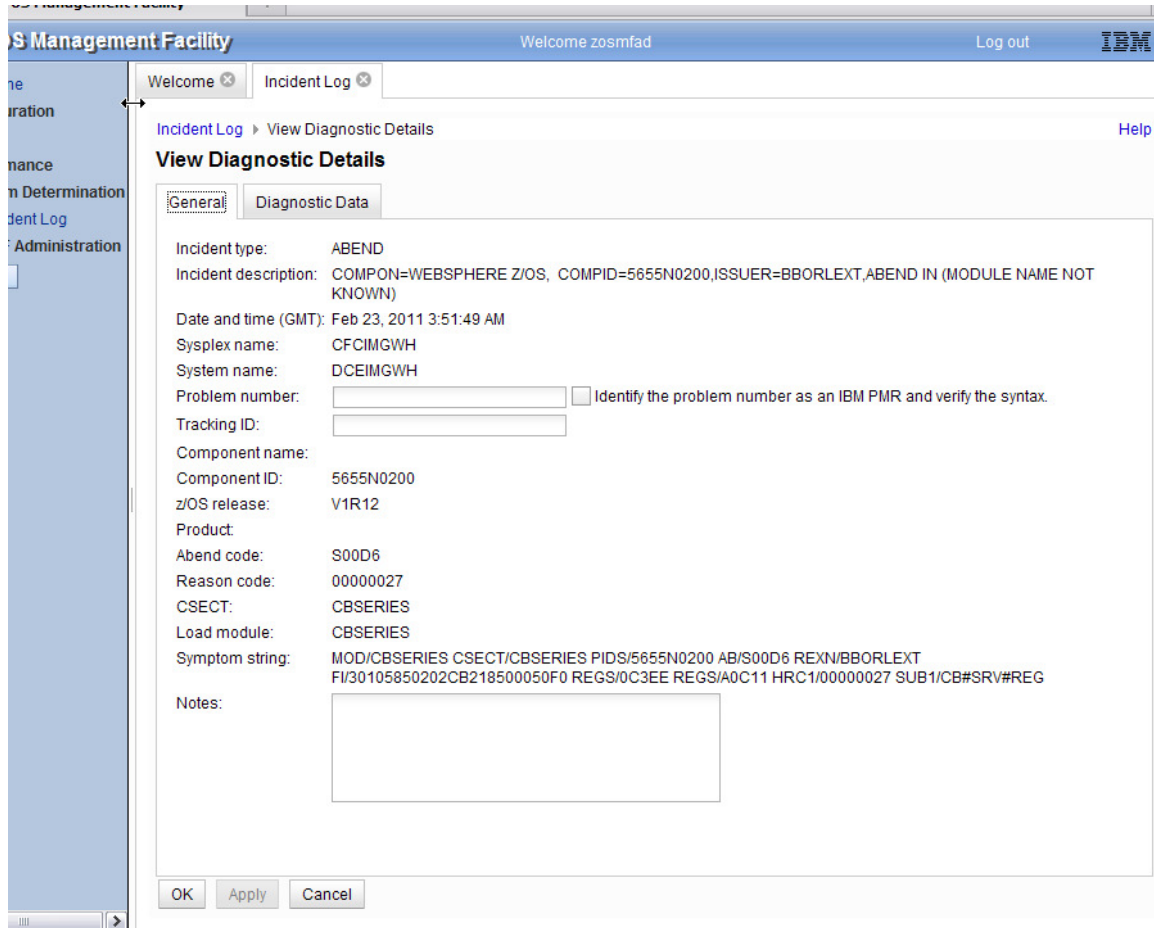
Send View Status

On this panel you can see all the pieces of diagnostic data that have automatically captured for this Incident by the backend instrumentation. Take some time to look at this.

Observe that you also have the ability to attach additional pieces of diagnostic data (for example a trace file)

Once you've finished with this tab, lets move on to the other tab - General

Step 3: Click on the General tab on top



You can now see additional information about the Incident - for example, the CSECT, Load module and symptom string.

Step 4: Done, return to the main summary panel of the Incident Log

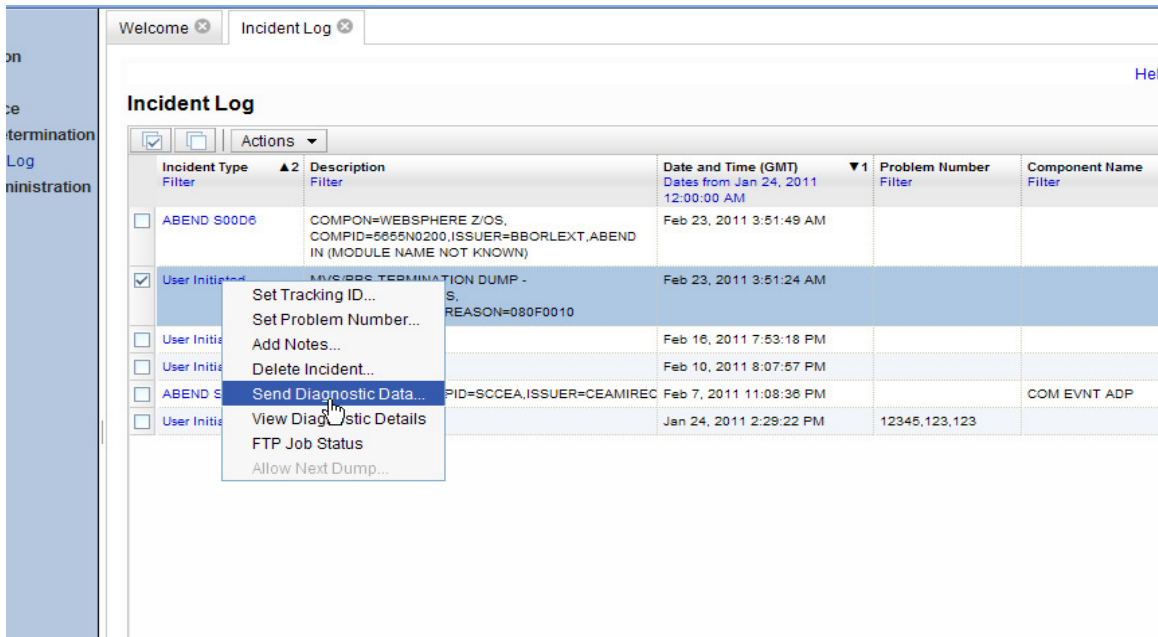
Click on the Incident Log link in the breadcrumbs at the top of the page to return, or click on the OK button

Task 4: FTP the diagnostic data captured for an incident to your service provider

Step 1: Select an Incident. In the lab, you will have a user initiated incident that has your userid in the description, that you should use.

(Hint: you can also 'filter' the incidents for a Description with your UserID!)

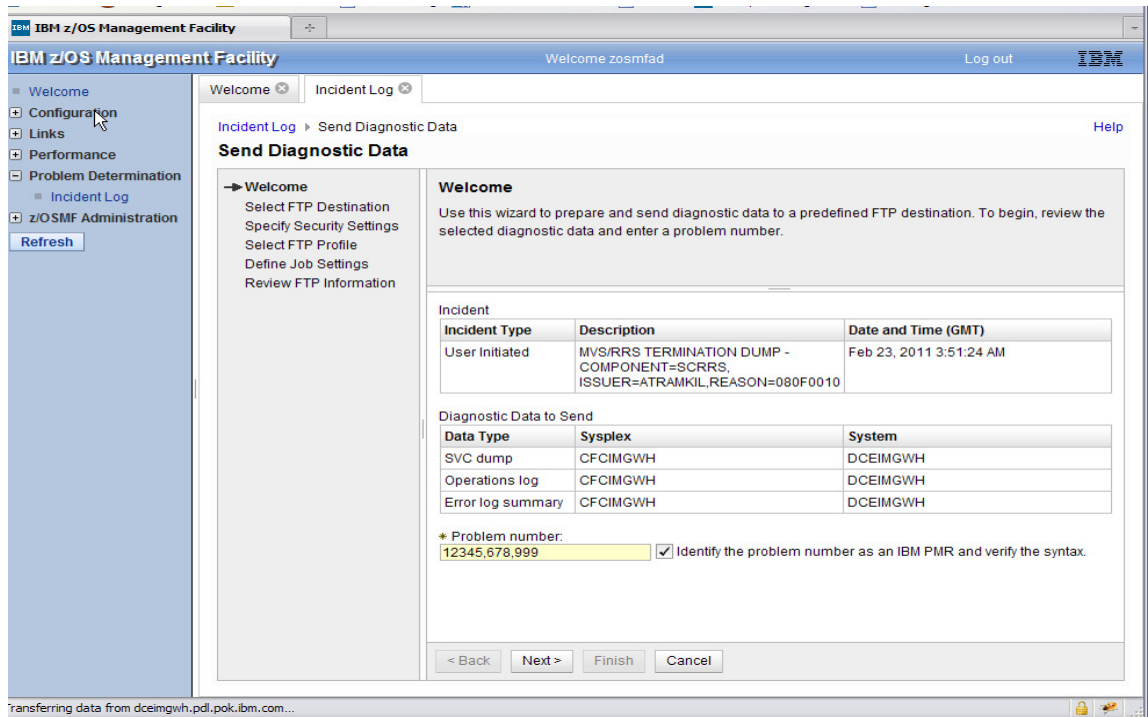
Right click (or click on the Actions button) and then select 'Send Diagnostic Data'



You will now be able to work with a wizard that will guide you through the steps to FTP the diagnostic data for that incident

Step 2: Welcome.

The first panel you see is the Welcome page. Notice that it has the steps you will be guided through on its left pane. It shows you what steps have been completed and which one is your current one



The welcome page has the details about the Incident you are working with, plus it lists the pieces of diagnostic data that is going to be sent.

It also shows you the problem number associated with the Incident. If the incident does not have one already associated, it allows you to set one here itself. Go ahead and fill in one if it does not already exist.

For this exercise, you can enter 12345,123,123 as the problem number, and select the IBM PMR option.

The problem number is required to help identify the FTP-ed files at the destination.

Click on next once you are done.

Step 3: Select FTP Destination:

The next page in the wizard allows you to select where you want to send these files/datasets.

For this exercise, select the first one in the list and click on Next .

Incident Log ▸ Send Diagnostic Data Help

Send Diagnostic Data

- ✓ Welcome
- ➔ **Select FTP Destination**
- Specify Security Settings
- Select FTP Profile
- Define Job Settings
- Review FTP Information

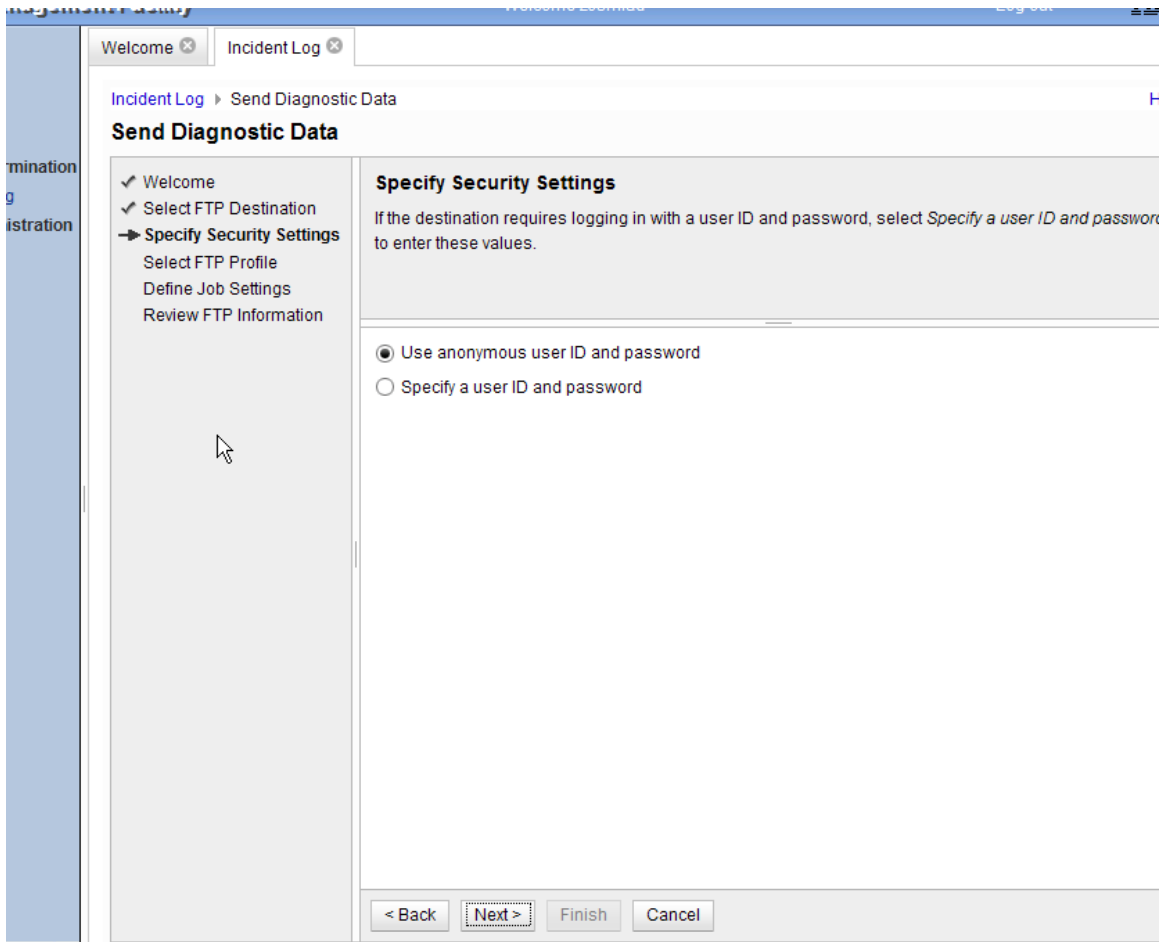
Select FTP Destination

Select the destination to which the diagnostic data files are to be sent.

System	Path Name	Port Number	Description
Filter	Filter	Filter	Filter
<input checked="" type="radio"/> testcase.boulder.ibm.com	/toibm/mvs		IBM service FTP d
<input type="radio"/> testcase.boulder.ibm.com	/toibm/tivoli		
<input type="radio"/> ftp.ecurep.ibm.com	/toibm/mvs		
<input type="radio"/> ftp.ecurep.ibm.com	/toibm/tivoli		
<input type="radio"/> testcase.boulder.ibm.com	/toibm/zos	21	Encrypted
<input type="radio"/> testcase-yellow.boulder.ibm.com	/toibm/mvs		

Step 4: Specify Security Settings:

This is where you can enter the userid/password needed to access the FTP Destination server you selected in the previous step. In this exercise, we will use the anonymous sign on.

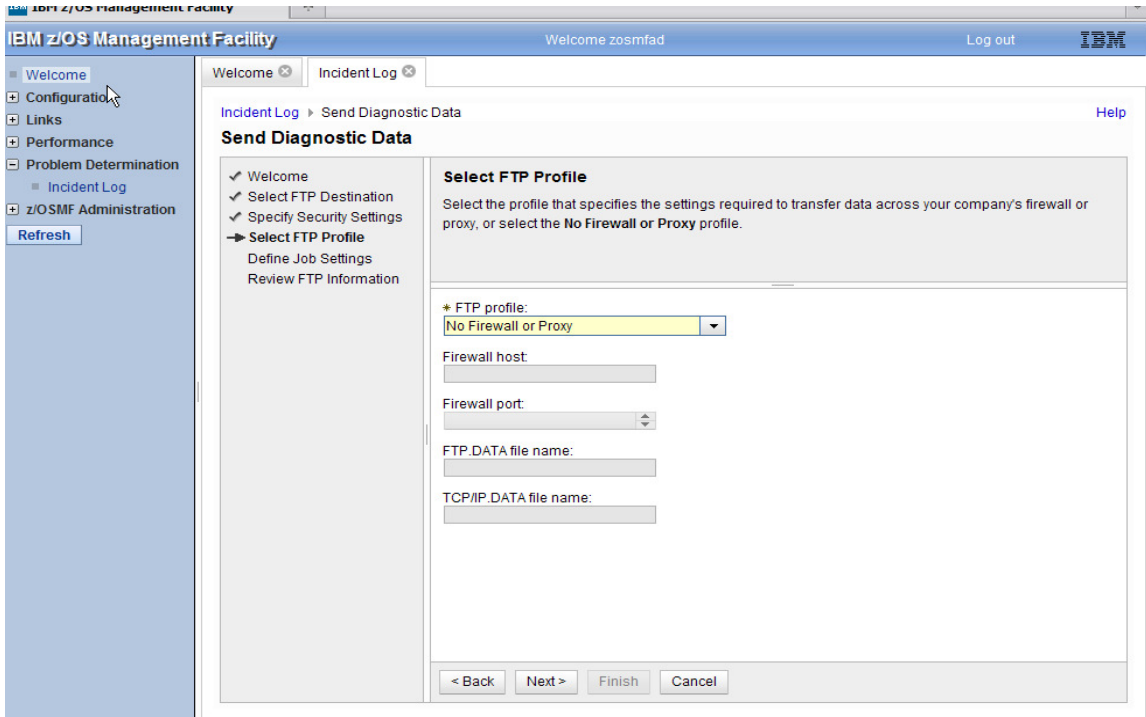


Click on Next to move on.

Step 5: Select FTP Profile

This is where you can specify your firewall or proxy information if needed. In this exercise, we do not have a firewall.

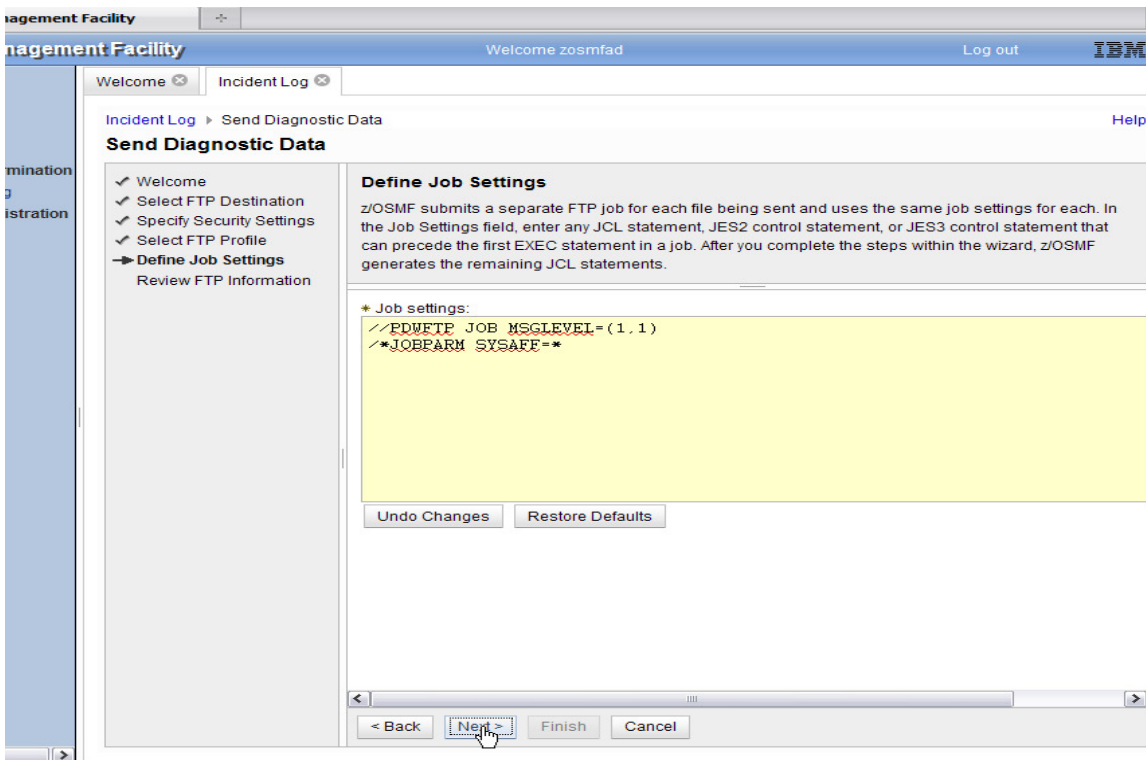
Make sure that the No firewall or proxy option is selected in the drop down.



Click on Next.

Step 6: Define Job Settings

At this stage you have the ability to edit/specify the job card information for the FTP Job that is being built in the background.



You can make changes if you'd like. The default entries will work for our lab session, so you can also just click on Next

Step 7: Review FTP Information

The wizard has walked you through collecting all the information needed to FTP the diagnostic data to your service provider. This page allows you to review all the data that you have provided. If you want to change any value, you can use the back button to get to that page and make your changes.

The screenshot shows the 'Send Diagnostic Data' wizard in the IBM Management Facility. The current step is 'Review FTP Information'. The left sidebar shows a list of steps: Welcome, Select FTP Destination, Specify Security Settings, Select FTP Profile, Define Job Settings, and Review FTP Information (which is highlighted with a mouse cursor). The main content area displays the following information:

Review FTP Information
Review the FTP information. To make changes, return to the appropriate panel by clicking **Back**. When you are ready to send the data, click **Finish**.

Diagnostic Data:	SVC dump	CFCIMGWH	DCEIMGWH
	Operations log	CFCIMGWH	DCEIMGWH
	Error log summary	CFCIMGWH	DCEIMGWH

Problem number: 12345,678,999 Is IBM PMR number

FTP Destination: testcase.boulder.ibm.com/foibm/mvs

Transfer method: FTP

Security settings: User ID: anonymous
Password: *****

FTP profile: Profile name: No Firewall or Proxy
Firewall host:
Firewall port:
FTP.DATA file name:
TCP/IP.DATA file name:

View JCL

< Back Next > Finish Cancel

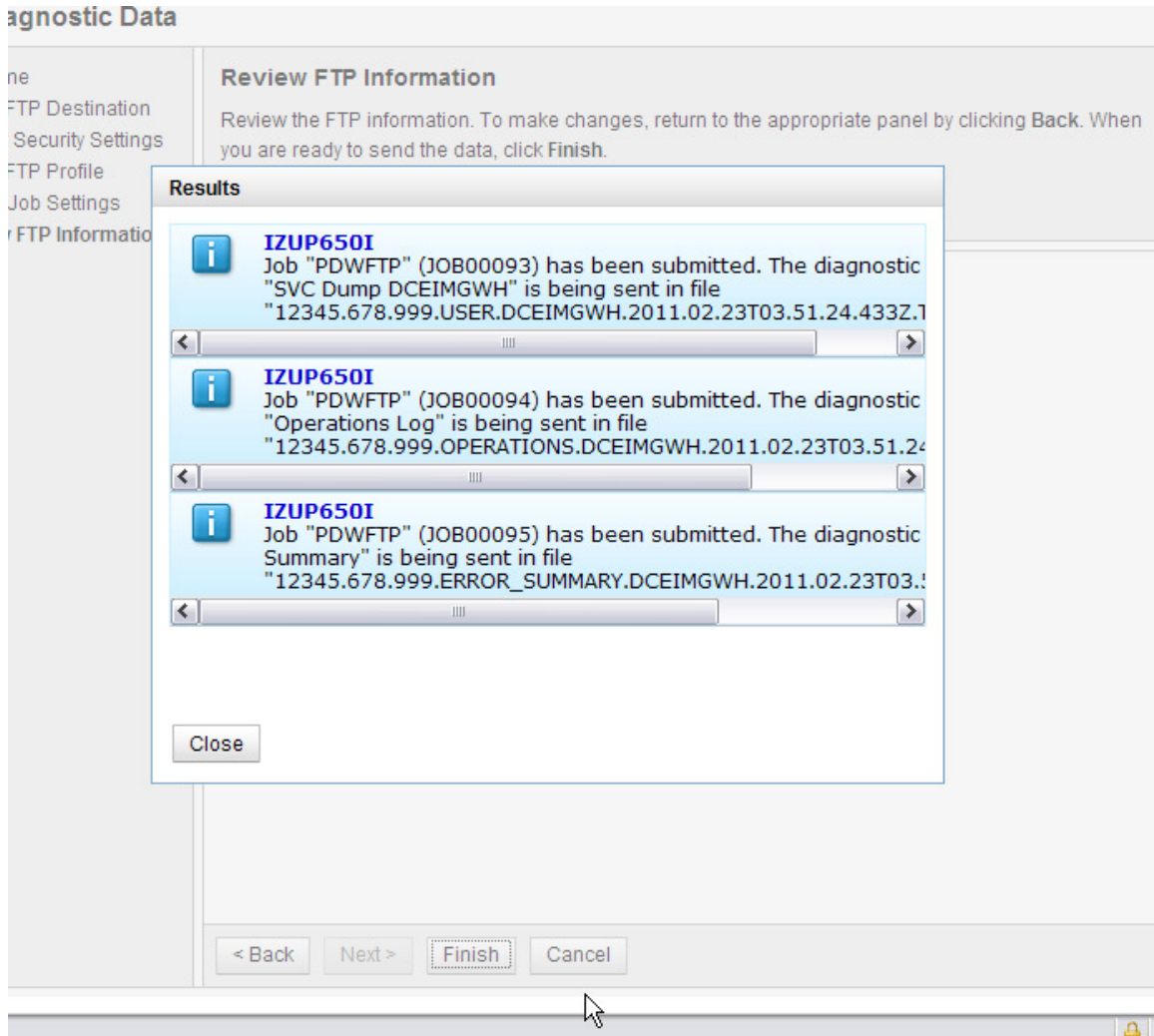
Once you are okay with the values displayed, you are ready to finish.

Before that you do have the option to view the JCL that was generated based on your input. Click on the View JCL button if you'd like to take a look at the JCL built.

When you are ready to submit the FTP jobs, click on Finish (note your instructor might ask you not to!). This will submit jobs to ftp the selected pieces of diagnostic data over to the selected FTP Destination.

Step 8: FTP Jobs submitted

Once you click on the Finish button in the above step, z/OSMF will submit the jobs. You will get a confirmation window.



Click on Close. It will bring you back to wherever you invoked the Send wizard from.

Task 5: View the Job Status for the FTP jobs submitted

Step 1: Right click on the Incident you had just sent. Select the FTP Job Status from the context menu

Step 2: FTP Job Status panel

This page shows you the job status for all the FTP jobs submitted for this incident.

Note you can click on the Refresh button to update the status of the jobs.

The screenshot shows the IBM z/OS Management Facility web interface. The breadcrumb navigation path is 'Incident Log > FTP Job Status'. The main content area displays an incident log entry and a table of FTP job statuses.

Incident Log

Incident Type	Description	Date and Time (GMT)
User Initiated	MVS/RRS TERMINATION DUMP - COMPONENT=SCRRES, ISSUER=ATRAMKIL, REASON=080F0010	Feb 23, 2011 3:51:24 AM

FTP Job Status

Data Type Filter	Source Filter	Status Filter	Destination System Filter
<input type="checkbox"/> Error log summary	CEA.S00.C75FB4B7.FC2C38CC.X00.VEW	Send in progress	testcase.boulder.ibm.com
<input type="checkbox"/> Operations log	CEA.Y00.C75FB4B7.FC2C38CC.X00.VEW	Send in progress	testcase.boulder.ibm.com
<input type="checkbox"/> SVC dump	SUIMGWH.HIGHRISK.D110223.S00001.DUMP	Send in progress	testcase.boulder.ibm.com

Total: 3, Selected: 0
 Refresh Last refresh: Feb 23, 2011 8:43:04 PM local time (Feb 24, 2011 2:43:04 AM GMT)

Click on Incident Log in the breadcrumb to get back to where you came from.

Note: If a log snapshot does not have any entries, the job might fail

LAB: 2 z/OSMF Workload Management Lab

The lab consists of 4 main tasks that you should execute in the listed sequence:

1. Launching the Workload Management Task
2. View list of all Service Definitions
3. Creating a copy of an existing Service Definition
4. Fixing of a best practice Warning Indication for a Service Definition

These are optional tasks that can be performed if there is time and interest.

5. Print Preview of Service Definition (optional)
6. View the History of a Service Definition (optional)
7. View the WLM Status in the Sysplex (optional)

This Lab focuses on the policy editing, review, and maintenance functions provided by the z/OSMF Workload Management task. Functions to install service definitions and activate service policies are also available, but not part of the Lab.

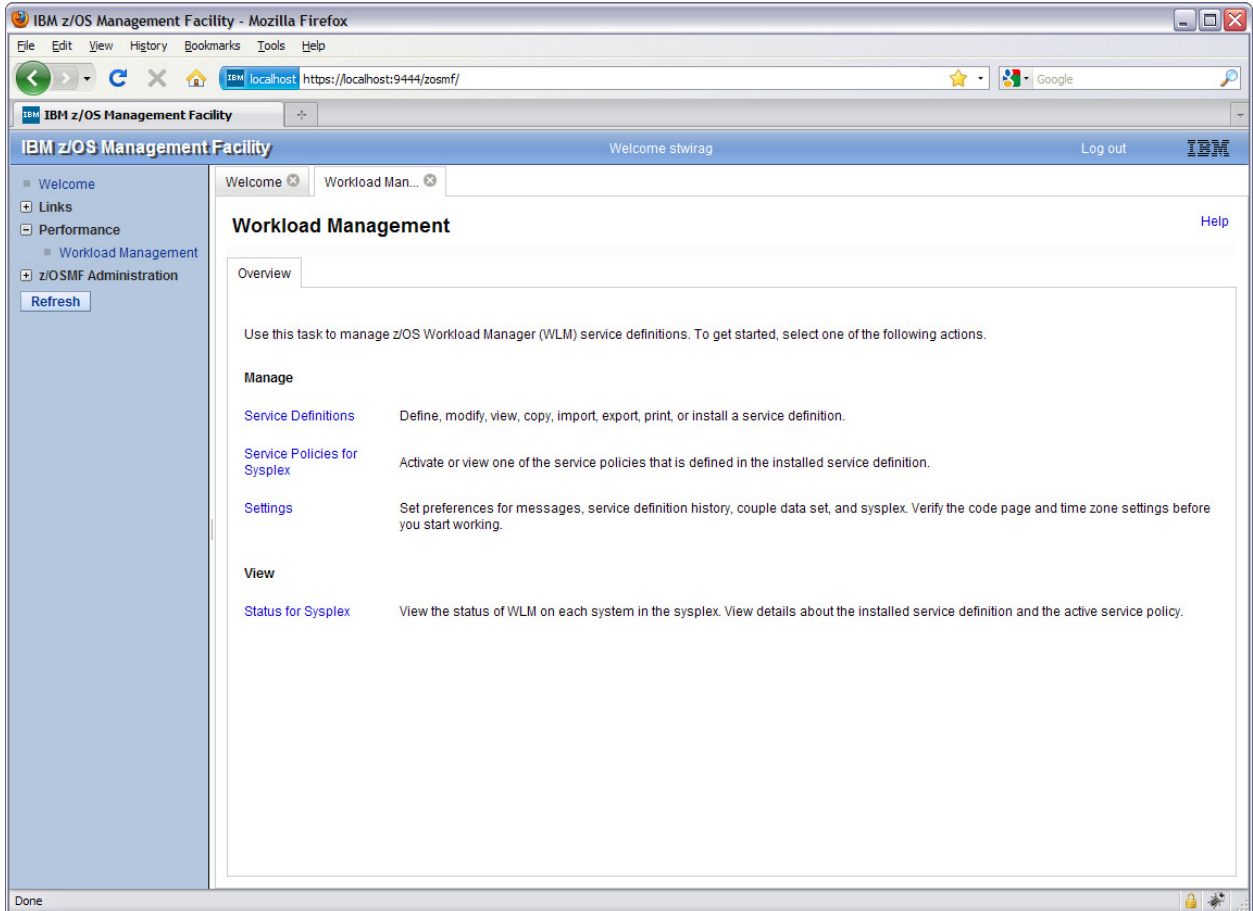
All Lab teams use the same z/OSMF instance. The z/OSMF Workload Management Task provides a service definition repository that is shared by all z/OSMF users. To prevent conflicts with other Lab teams each Lab team has to use a different service definition for task 4 and 8. Therefore, you have to specify in task 3 a unique service definition name. The service definition name should be 'WLMPRxx'. Substitute xx with your Lab userid suffix

If the descriptions and screen captures in this manual refer to service definition 'WLMPROD' your service definition 'WLMPRxx' is meant.

Task 1: Launching the Workload Management Task

Open the workload management task by selecting 'Performance' → 'Workload Management' in the navigation tree.

The first panel that opens is the 'Workload Management' task tab displaying the 'Overview' panel listing the major tasks:



Task 2: View list of all Service Definitions

In the 'Overview' tab, press the 'Service Definitions' link. The following tab will be opened:

The screenshot displays the IBM z/OS Management Facility interface. The main content area is titled 'Workload Management' and contains a sub-section for 'Service Definitions'. A table lists the following data:

Name	Description	Activity	Sysplex	Messages	Last Modified (GMT)	Modified By
Filter	Filter	Filter	Filter	Filter	Filter	Filter
<input type="checkbox"/> Sampdef (Installed & Active)	Sample policy 00		WLMMPLEX		Feb 13, 2011 4:04:20 PM	stwirag
<input type="checkbox"/> WLMPROD	Production policy			Warning	Feb 3, 2011 11:19:34 AM	stwirag
<input type="checkbox"/> WLMTEST	Test policy			Information	Feb 3, 2011 11:17:57 AM	stwirag

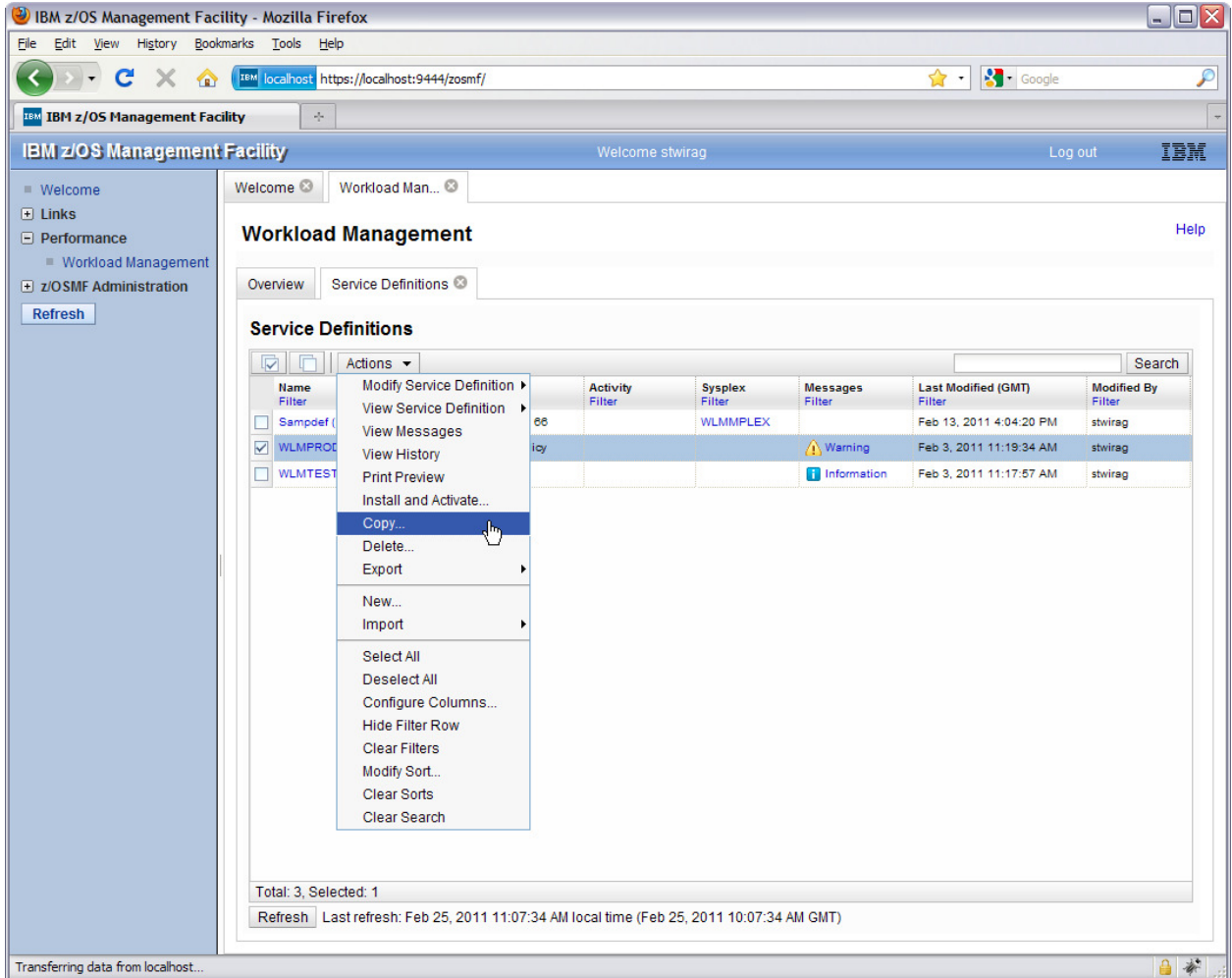
At the bottom of the table, it indicates 'Total: 3, Selected: 0' and provides a 'Refresh' button. The last refresh time is noted as 'Feb 25, 2011 12:17:43 PM local time (Feb 25, 2011 11:17:43 AM GMT)'.

The table lists all service definitions in the policy repository integrated in z/OSMF. The service definitions are shared between all z/OSMF users. Hence, you may notice changes of the panel which are caused by other users. Your table may show different service definitions than in the screen shot. Scroll right to view additional properties

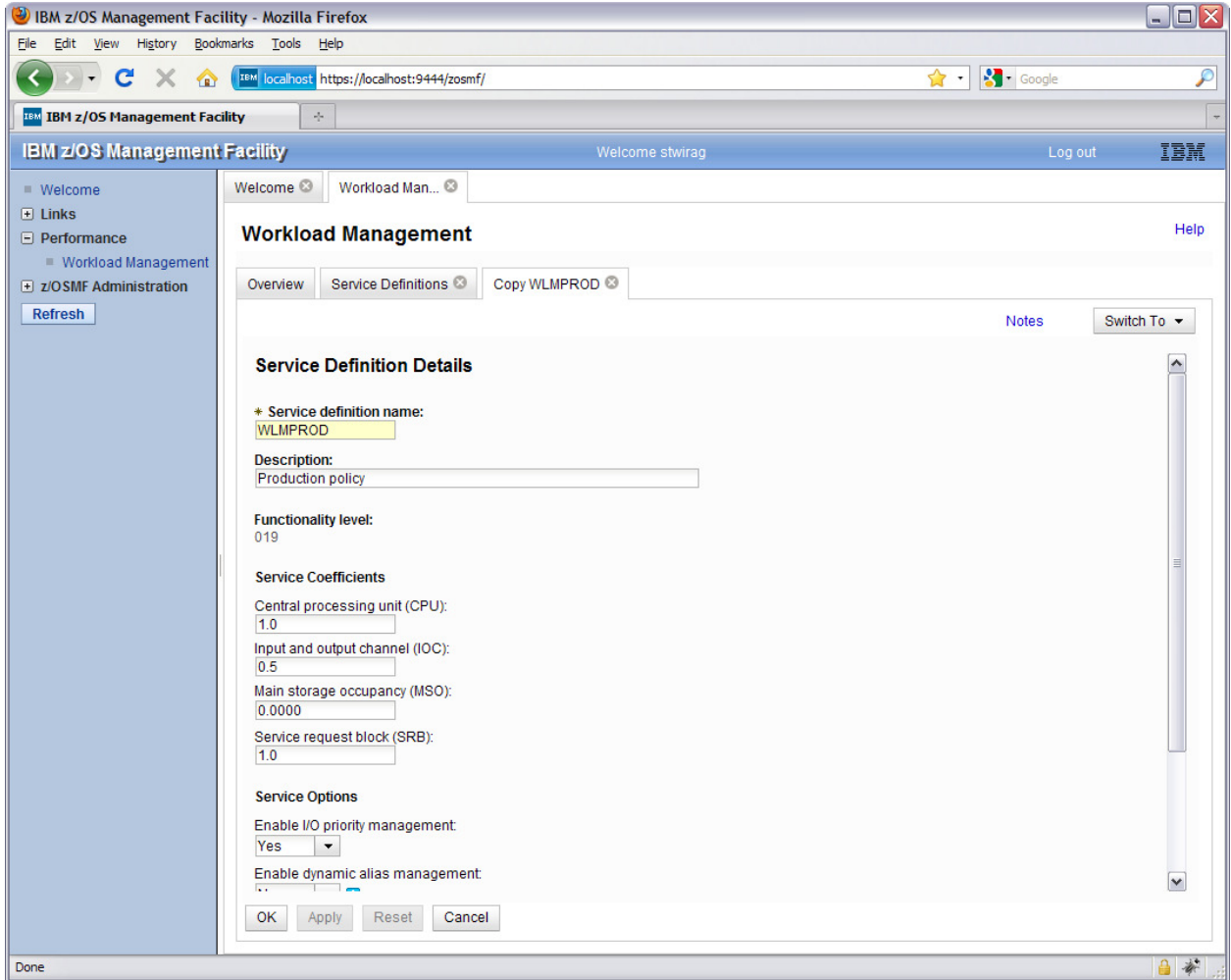
Task 3: Creating a copy of an existing Service Definition

In this task we will create your own copy of an existing service definition. That copy will then be used in the following tasks.

To create a copy of service definition 'WLMPROD' check the checkbox for service definition 'WLMPROD'. Then select in the 'Actions' menu the action 'Copy'.



A new tab opens with the following content:



Click with the left mouse button in the field 'Service definition name:' and change the name to WLMPRxx. Substitute xx with your Lab team number that you find on the first page of this manual.

Press OK to save the copy of the service definition with the new name WLMPRxx in the Service Definitions table.

Note: If the descriptions and screen captures in the following sections of this manual refer to service definition 'WLMPROD' your copy of that service definition with the name 'WLMPRxx' is meant.

Task 4: Fixing of a best practice Warning Indication for a Service Definition

Warning messages exist for service definition 'WLMPRxx'. We will now check the warning message and fix the issue. In order to accomplish that, we open the service definition in a tab, navigate to the service definition item for which a warning message exists, and edit the service definition to fix the issue.

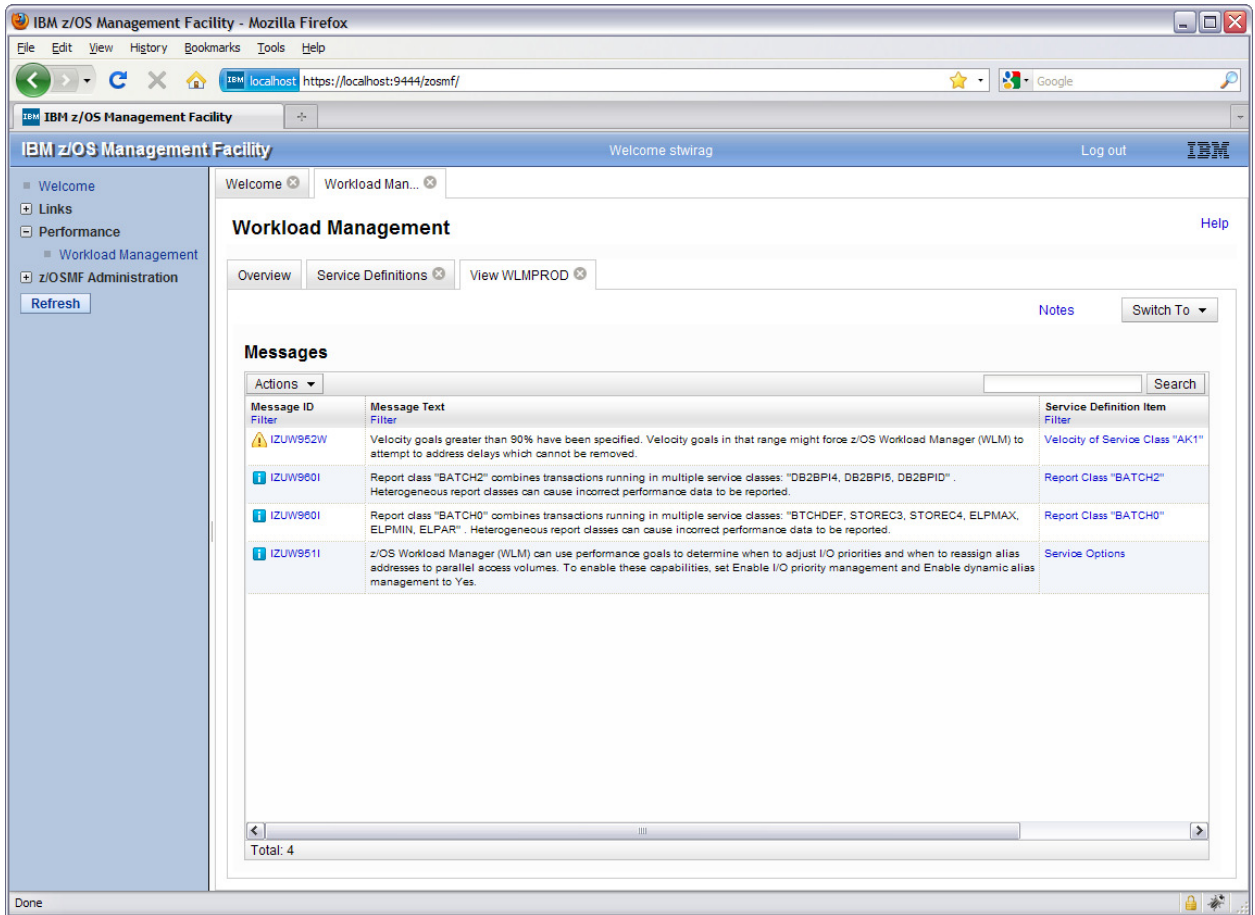
To open the service definition, click on the link in the 'Messages' column for the service definition with name 'WLMPRxx':

The screenshot shows the IBM z/OS Management Facility web interface in Mozilla Firefox. The page title is "Workload Management" and the user is logged in as "stwirag". The main content area displays a table of Service Definitions under the "Service Definitions" tab.

Name	Description	Activity	Sysplex	Messages	Last Modified (GMT)	Modified By
Sampdef (Installed & Active)	Sample policy 08		WLMMPLEX		Feb 3, 2011 11:25:03 AM	stwirag
WLMPROD	Production policy			Warning	Feb 3, 2011 11:19:34 AM	stwirag
WLMTEST	Test policy			Information	Feb 3, 2011 11:17:57 AM	stwirag

At the bottom of the table, it shows "Total: 3, Selected: 0" and a "Refresh" button. The last refresh time is "Feb 3, 2011 2:02:06 PM local time (Feb 3, 2011 1:02:06 PM GMT)".

A new tab opens with the title 'View WLMPRxx':



A service definition consists of different sections. Each of the sections is displayed in one panel. You can watch one panel at a time in the opened tab and you can switch between the panels via the 'Switch to' menu. The panel that is currently displayed shows all best practice messages for service definition 'WLMPrxx': one warning message and three informational messages.

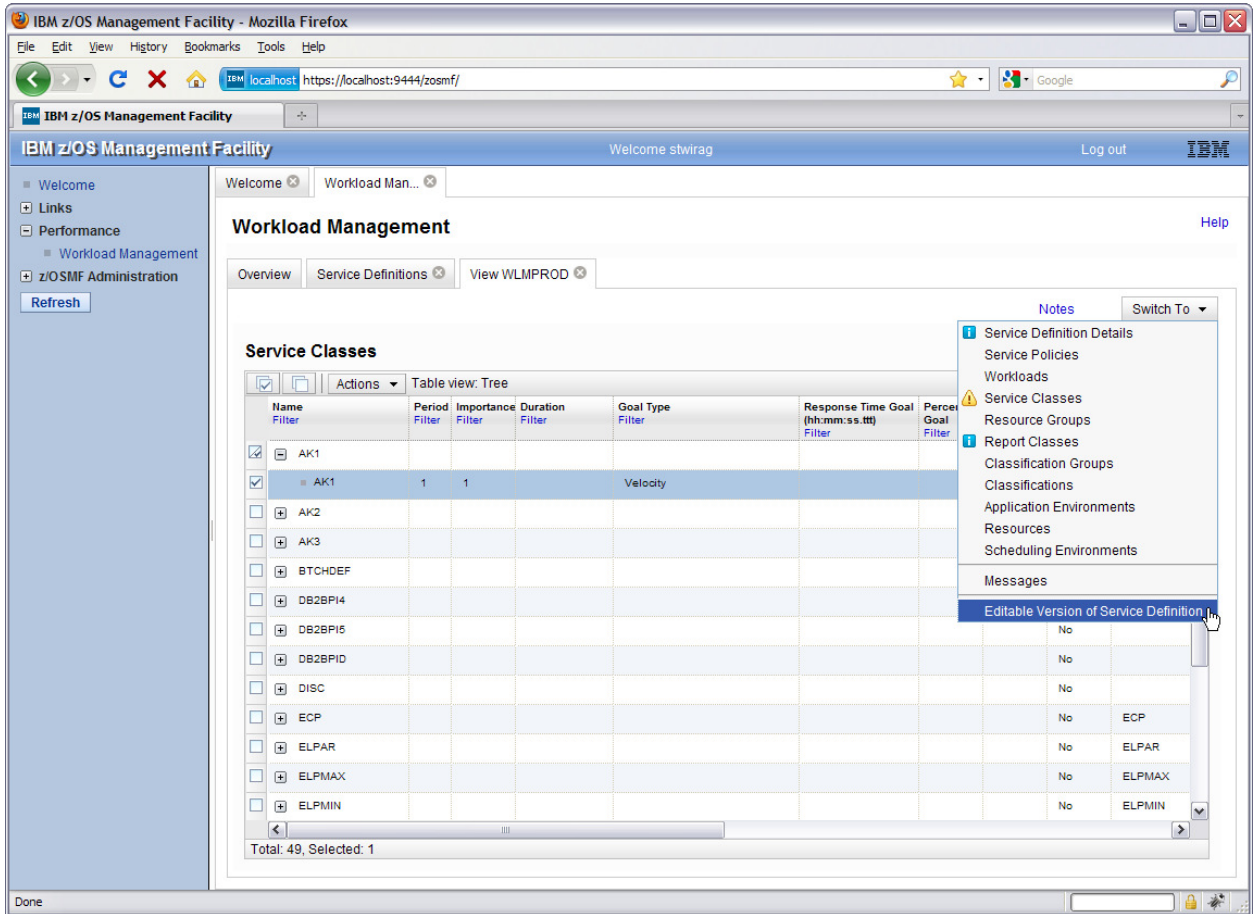
In order to navigate to the service class period referenced by the warning message click on the link 'Velocity of Service Class "AK1" in the Messages table. The following panel is displayed:

The screenshot shows the IBM z/OS Management Facility interface in a Mozilla Firefox browser. The main content area is titled "Workload Management" and contains a "Service Classes" table. The table is a tree view showing a hierarchy of service classes and their periods. The "AK1" service class is expanded, showing a period with a value of 1 and a warning icon (93) in the Velocity Goal column. The table has columns for Name, Period, Importance, Duration, Goal Type, Response Time Goal, Percentile Goal, Velocity Goal, CPU Critical, and Resource Group. The status bar at the bottom indicates "Total: 49, Selected: 1".

Name	Period	Importance	Duration	Goal Type	Response Time Goal (hh:mm:ss.ttt)	Percentile Goal	Velocity Goal	CPU Critical	Resource Group
AK1								No	
AK1	1	1		Velocity			93	No	
AK2								No	
AK3								No	
BTCHDEF								No	
DB2BPI4								No	
DB2BPI5								No	
DB2BPIID								No	
DISC								No	
ECP								No	ECP
ELPAR								No	ELPAR
ELPMAX								No	ELPMAX
ELPMIN								No	ELPMIN

The panel shows a tree table with all service classes in the service definition. The rows with the +/- icon represent service class items. The nested rows represent the periods of the service classes. The service class period with the warning message is already expanded. The warning message is displayed if you hover with the mouse cursor over the warning icon in the table cell.

To fix the issue correlated with the warning message we will change the Velocity Goal of the service class period to a value lower than 90. First, we have to switch from view mode to modify mode via the action 'Editable Version of Service Definition' in the 'Switch To' menu:



The service definition is now editable. Editable table cells have an additional border around the value in the table cell:

IBM z/OS Management Facility - Mozilla Firefox

File Edit View History Bookmarks Tools Help

localhost https://localhost:9444/zosmf/

IBM z/OS Management Facility Welcome stwirag Log out IBM

Workload Management

Overview Service Definitions Modify WLMPROD

Notes Switch To

Service Classes

Name Filter	Period Filter	Importance Filter	Duration Filter	Goal Type Filter	Response Time Goal (hh:mm:ss.tt) Filter	Percentile Goal Filter	Velocity Goal Filter	CPU Critical Filter	Resource Group Filter
<input checked="" type="checkbox"/> AK1								* No	
<input checked="" type="checkbox"/> AK1	1	* 1		* Velocity			* 93 ⚠		
<input type="checkbox"/> AK2								* No	
<input type="checkbox"/> AK3								* No	
<input type="checkbox"/> BTCHDEF								* No	
<input type="checkbox"/> DB2BPI4								* No	
<input type="checkbox"/> DB2BPI6								* No	
<input type="checkbox"/> DB2BPI8								* No	
<input type="checkbox"/> DISC								* No	
<input type="checkbox"/> ECP								* No	ECP
<input type="checkbox"/> ELPAR								* No	ELPAR

Total: 49, Selected: 1
Reapply Filter and Sort

OK Apply Reset Cancel

Done

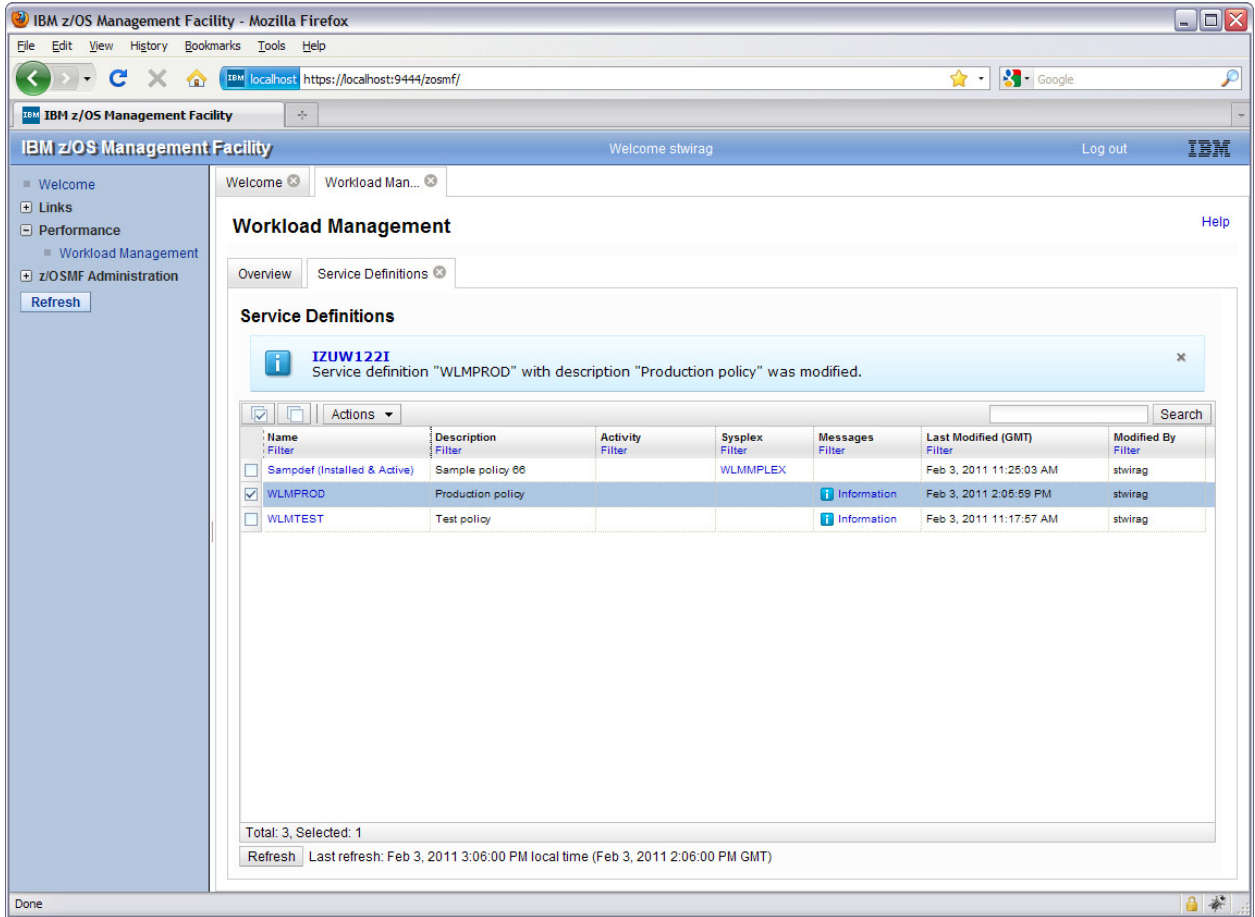
In order to change the Velocity Goal of the service class period with the warning indication double click on the table cell with the warning icon, then type in value 85 and press <Enter>. The warning icon is no longer shown:

The screenshot shows the IBM z/OS Management Facility interface in Mozilla Firefox. The main content area is titled "Workload Management" and contains a "Service Classes" table. The table has the following columns: Name, Period, Importance, Duration, Goal Type, Response Time Goal, Percentile Goal, Velocity Goal, CPU Critical, and Resource Group. The row for service class "AK1" is selected, and the "Velocity Goal" cell contains a warning icon and the value "85".

Name	Period	Importance	Duration	Goal Type	Response Time Goal (hh:mm:ss.fff)	Percentile Goal	Velocity Goal	CPU Critical	Resource Group
AK1	1	1		Velocity			85	No	
AK2								No	
AK3								No	
BTCHDEF								No	
DB2BPI4								No	
DB2BPI5								No	
DB2BPID								No	
DISC								No	
ECP								No	ECP
ELPAR								No	ELPAR

At the bottom of the table, it says "Total: 49, Selected: 1" and "Reapply Filter and Sort". There are buttons for "OK", "Apply", "Reset", and "Cancel".

Press the 'OK' button to save the modified service definition and to close the 'Modify WLMPROD' tab:



Notice that the 'Service Definitions' table shows no longer a warning indication for service definition 'WLMPrxx' since just informational messages exist for the service definition.

Lab 3: Sysplex Status

1. View the Performance status of the sysplex(es) being monitored
 - a. From the Performance category select -> Sysplex status
 - b. View fields
 - i. The Performance Index Status column is a quick indicator for the sysplex health. For each sysplex, the performance index by service class period metric is evaluated. If service classes periods are found, that have the $PI > 1$ and the importance of 1 or 2, the indicator is red. This means, there's some important workload which is not meeting the goals. If there are periods with $PI > 1$, but they have importance of 3 or bigger, the indicator is yellow. Otherwise it's green (that is, all service class periods meet their goals and have $PI \leq 1$).
 - ii. In the last two columns, some WLM information about the sysplex is displayed.

Note: From the SHARE Lab system, only one sysplex can be monitored. Typically you can add other sysplexes or Linux systems to be monitored.

The screenshot displays the IBM z/OS Management Facility interface. The main content area is titled "Sysplex Status" and includes a "Help" link. Below the title, there is a brief description of the panel's purpose and a "Resources" section. The primary data is presented in a table with the following structure:

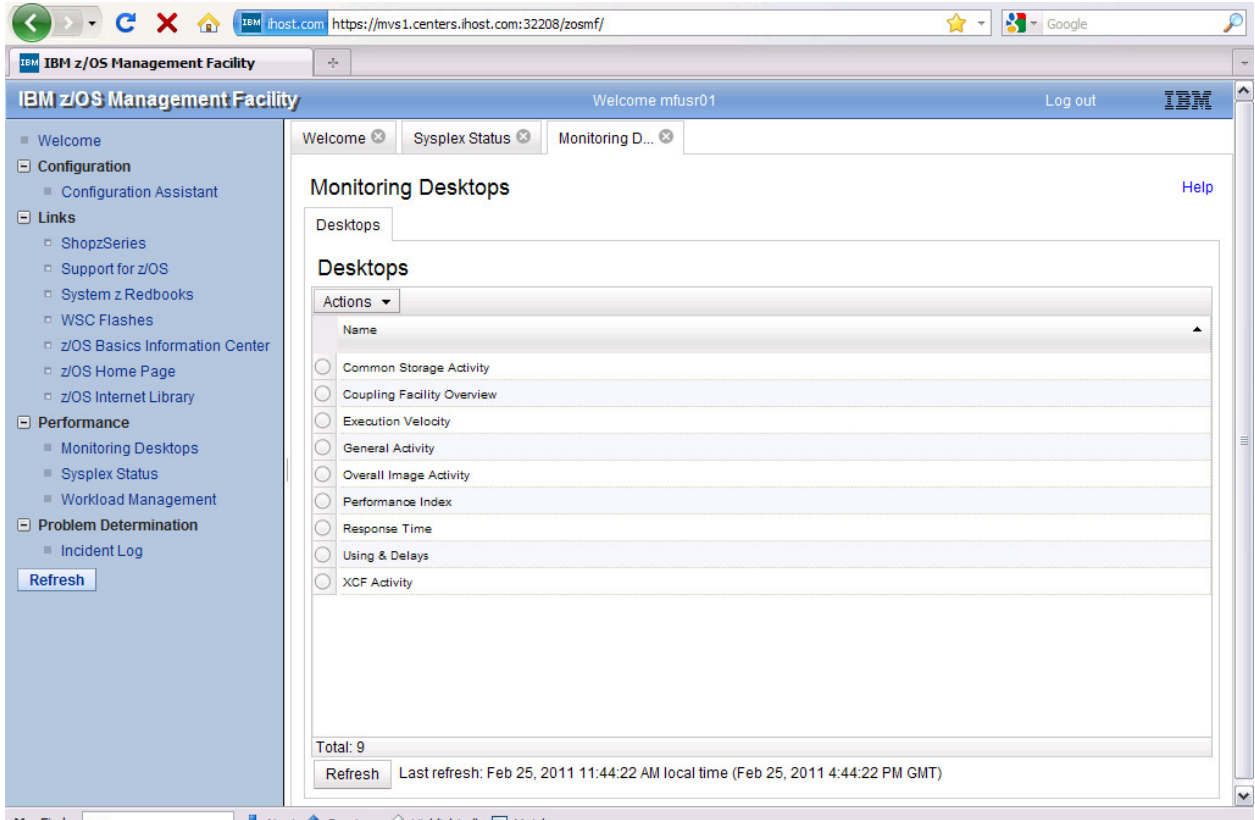
Resource	Connectivity	Performance Index Status	Related Service Definition	Active WLM Policy
LOCALPLEX	Connected	PI <= 1 for all periods	SHARPLEX	SHAREPOL

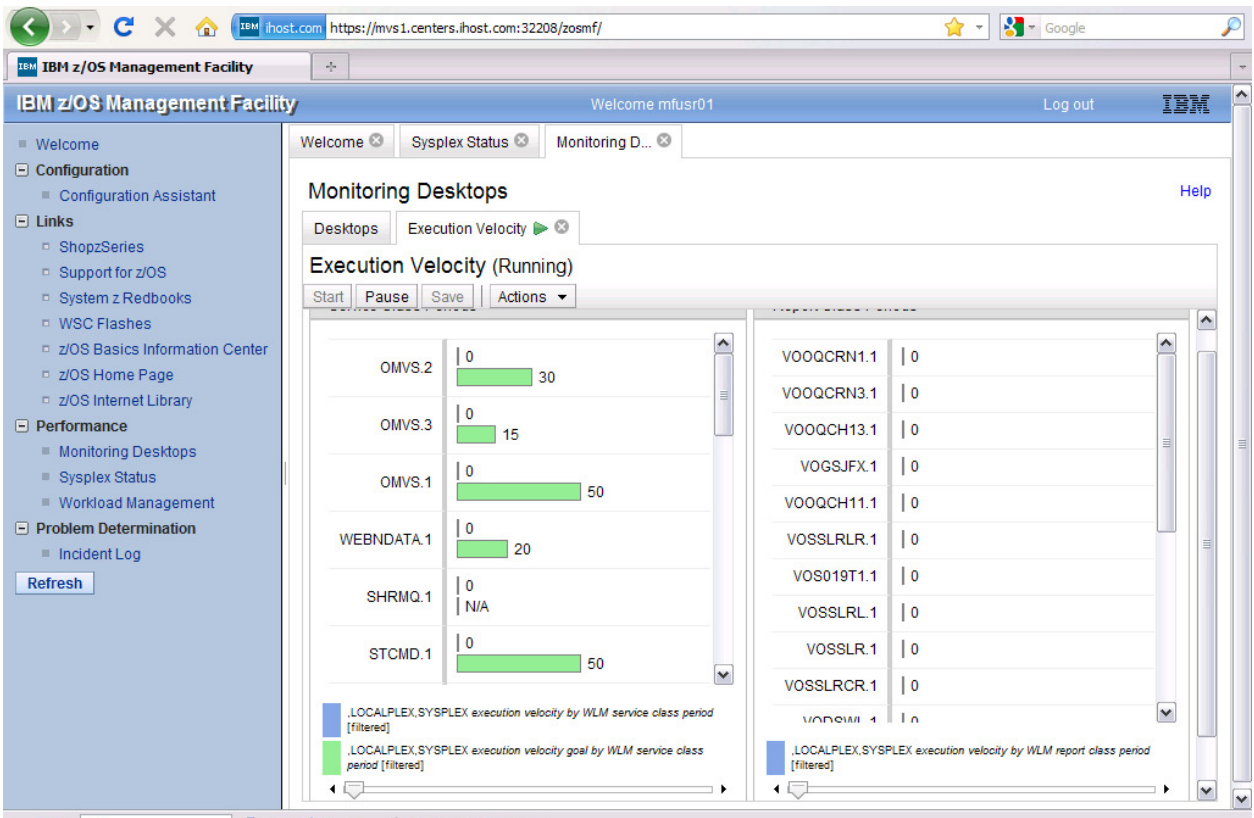
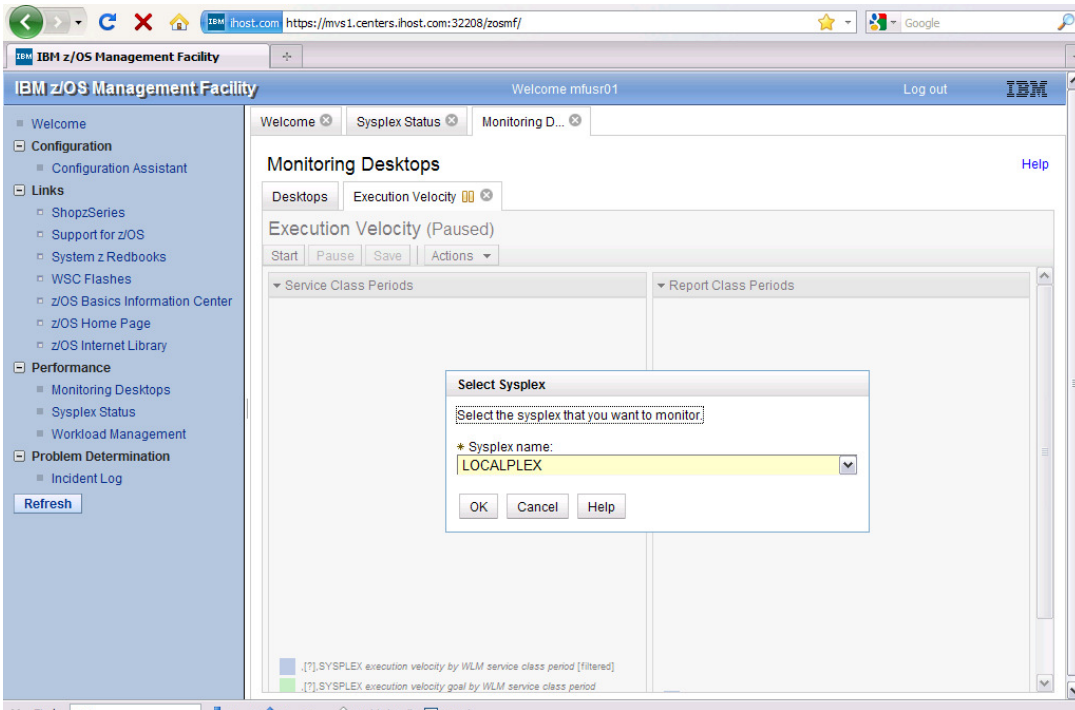
At the bottom of the table, it indicates "Total: 1". Below the table, there is a "Refresh" button, the text "Last refresh: Feb 25, 2011 11:18:57 AM local time (Feb 25, 2011 4:18:57 PM GMT)", and a checked "Automatic refresh" checkbox.

Lab 4: Monitoring Desktops

Task 1: View the performance metrics

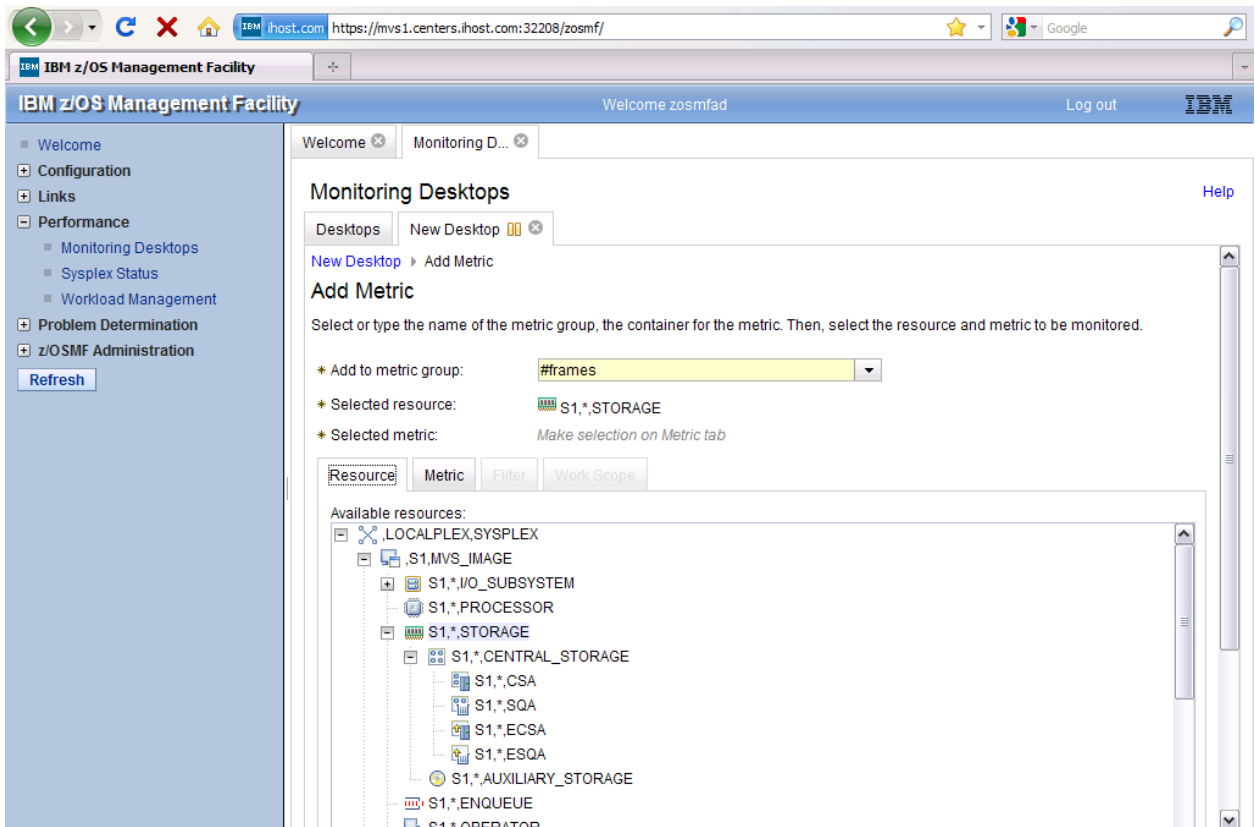
- a. From the Performance category select -> Monitoring Desktops,
- b. See the default metrics that are pre-defined,
- c. Select Execution Velocity and from Actions drop down, select 'Open'
- d. Take the default sysplex 'LOCALPLEX' when prompted
- e. View the execution velocity metrics





Task 2: add new metrics to monitor (stretch/optional)

- a. From Monitoring Desktops task, Actions -> NEW
- b. From New Desktop panel , from Actions pull down, select Add Metric
- c. Set metric group - # frames
- d. resource – in tab below – select/expand first image, select **storage**
- e. go to Metric tab – use quick filter for ‘# frames by job’ -> select - # frames active by job
- f. see the desktop – Save/ or action drop down- give name – Storage soaker



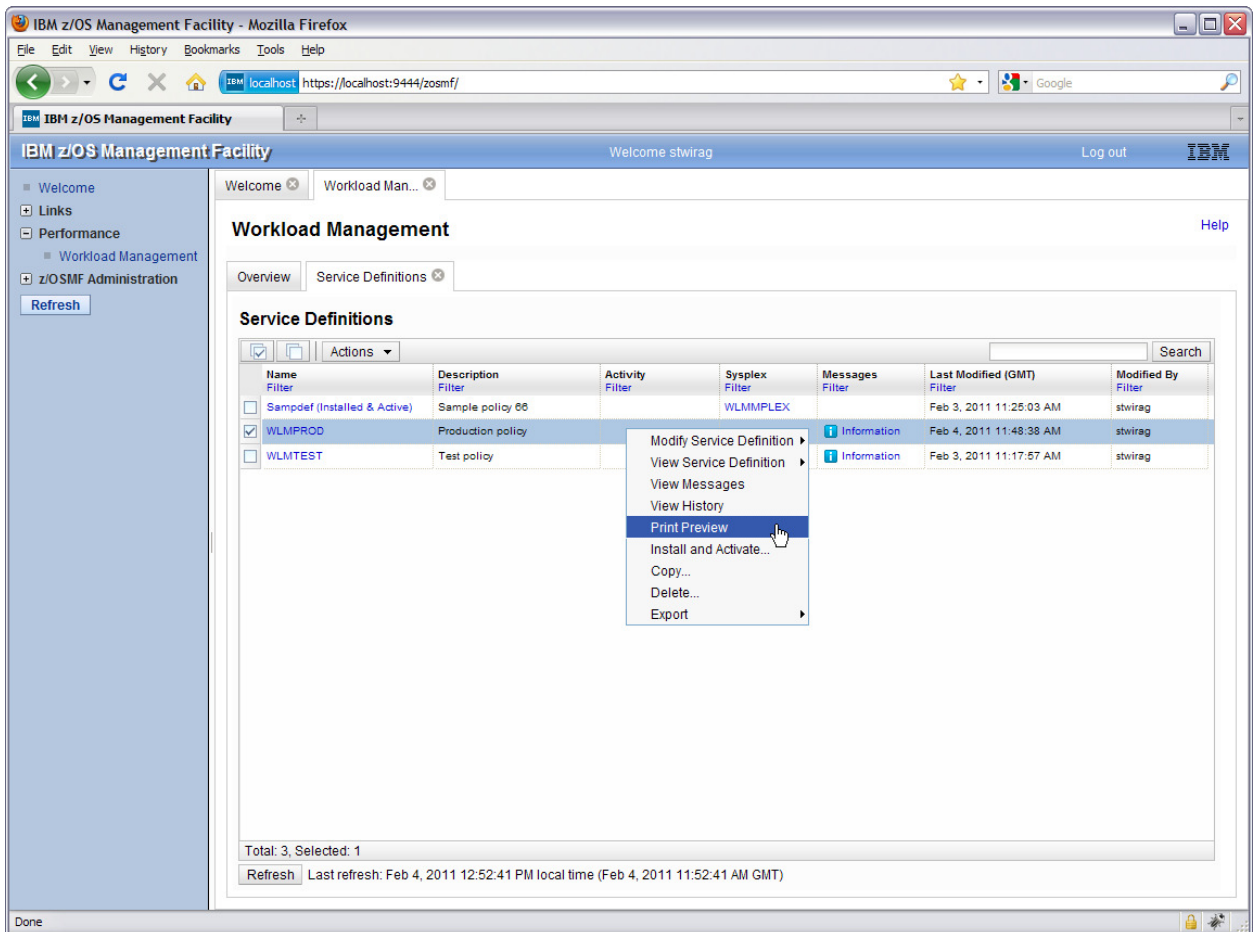
LAB 5 – Optional Labs

Workload manager: Task 5:

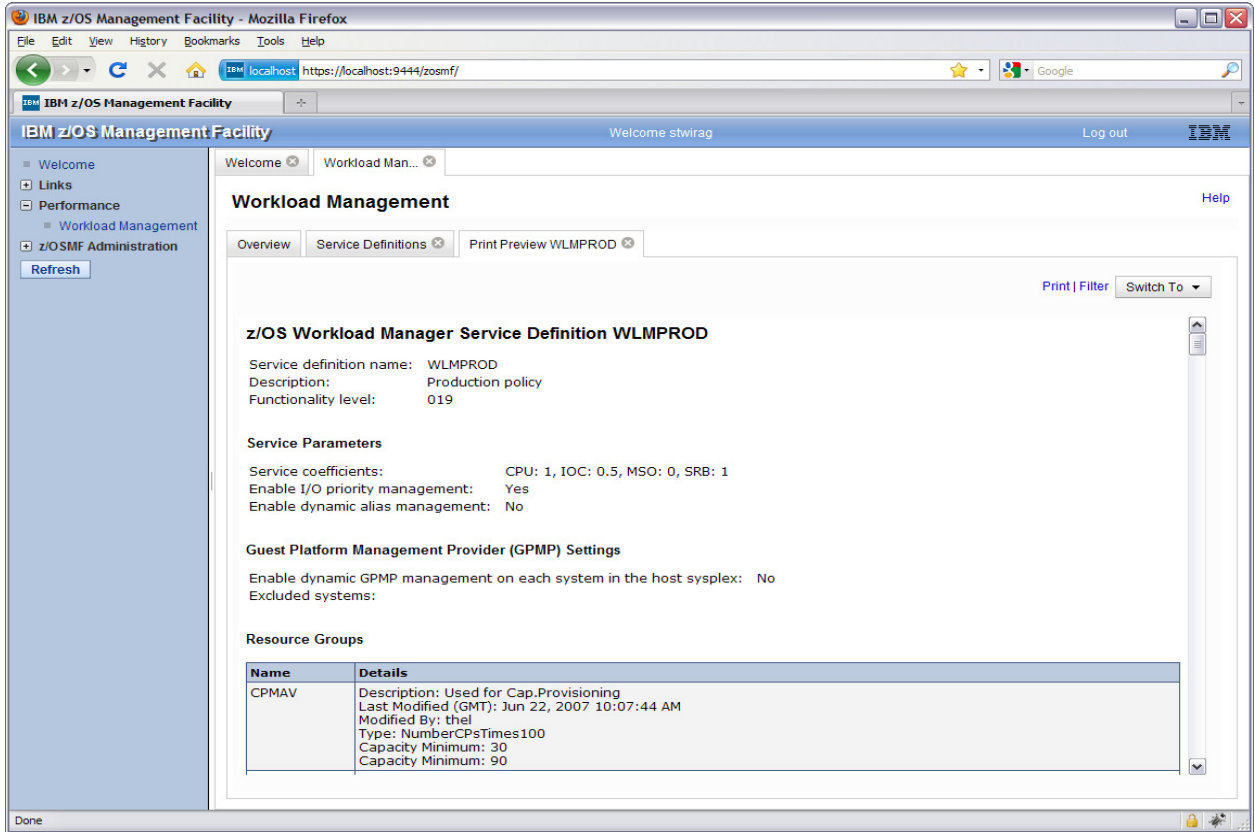
Print Preview of Service Definition (optional)

The Print Preview panel displays a service definition or service policy in one panel. The service definition / service policy can be printed.

In the Service Definitions tab select the row with service definition 'WLMPRxx'. Right click to open the context menu and select 'Print Preview'.

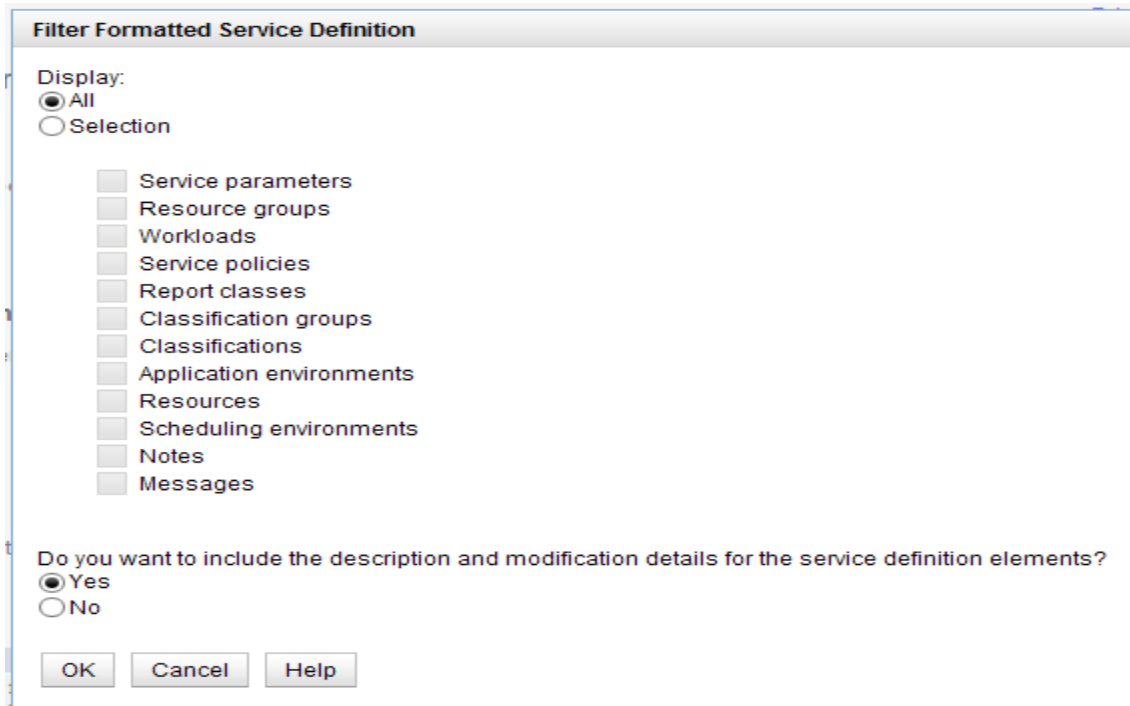


A tab opens with the 'Print Preview' panel for the service definition:



Use the scrollbar on the right side of the panel and check how the print preview is structured.

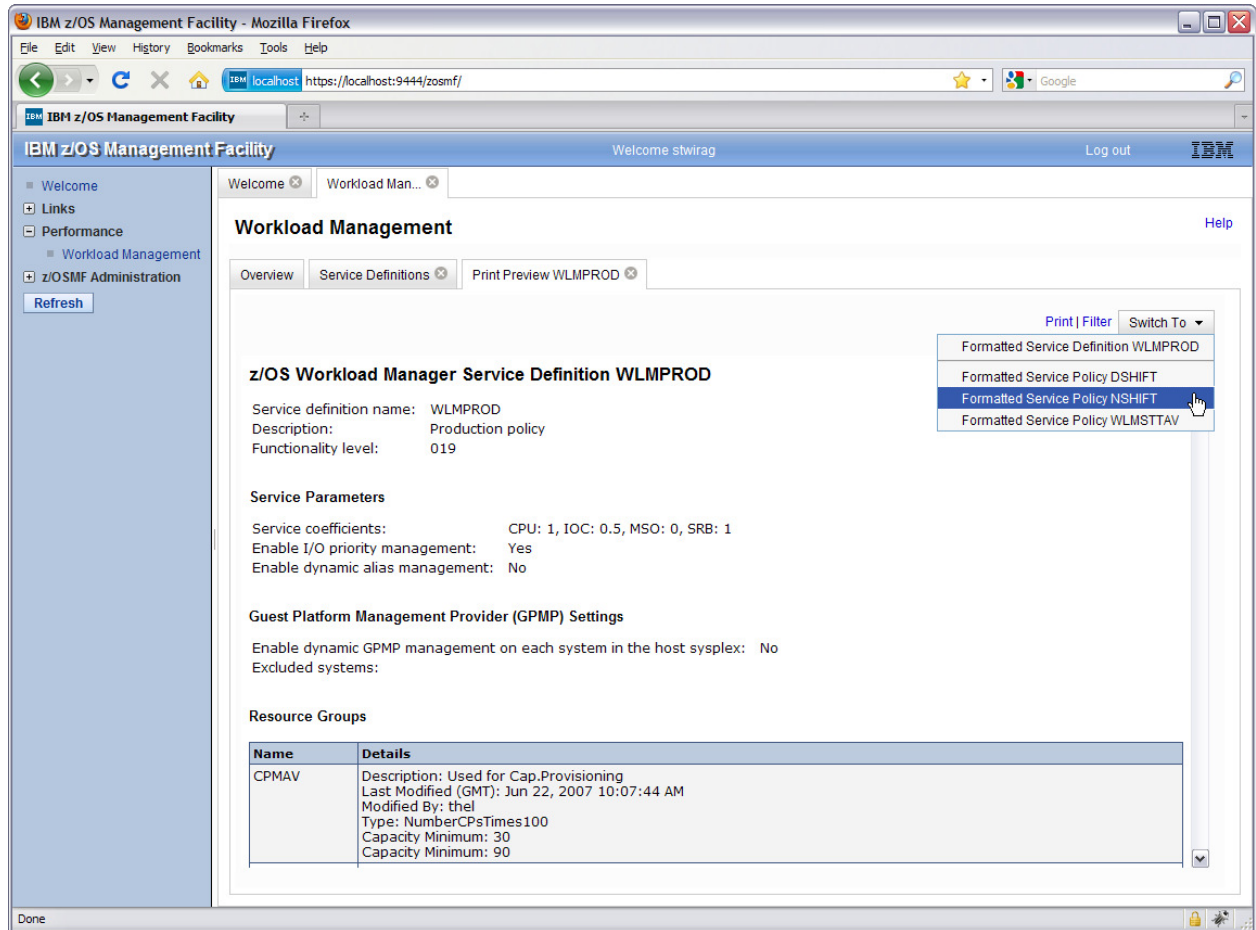
Press the 'Filter' link to open the 'Filter Formatted Service Definition' dialog:



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Check 'Selection', then check the checkboxes 'Service parameter', 'Resource groups', 'Workloads', 'Service Policies', 'Report Classes', 'Classifications'. Press 'OK'. Use the scrollbar to review the displayed elements. Notice that only the service definition items you selected in the filter dialog are displayed.

Open the 'Switch To' menu and select 'NSHIFT':



The screenshot shows the IBM z/OS Management Facility web interface in Mozilla Firefox. The browser address bar shows the URL `https://localhost:9444/zosmf/`. The page title is "IBM z/OS Management Facility" and the user is logged in as "stwirag". The main content area is titled "Workload Management" and shows the "Service Definitions" tab for "WLMPROD".

The service definition details for "z/OS Workload Manager Service Definition WLMPROD" are:

- Service definition name: WLMPROD
- Description: Production policy
- Functionality level: 019

The "Service Parameters" section shows:

- Service coefficients: CPU: 1, IOC: 0.5, MSO: 0, SRB: 1
- Enable I/O priority management: Yes
- Enable dynamic alias management: No

The "Guest Platform Management Provider (GPMP) Settings" section shows:

- Enable dynamic GPMP management on each system in the host sysplex: No
- Excluded systems:

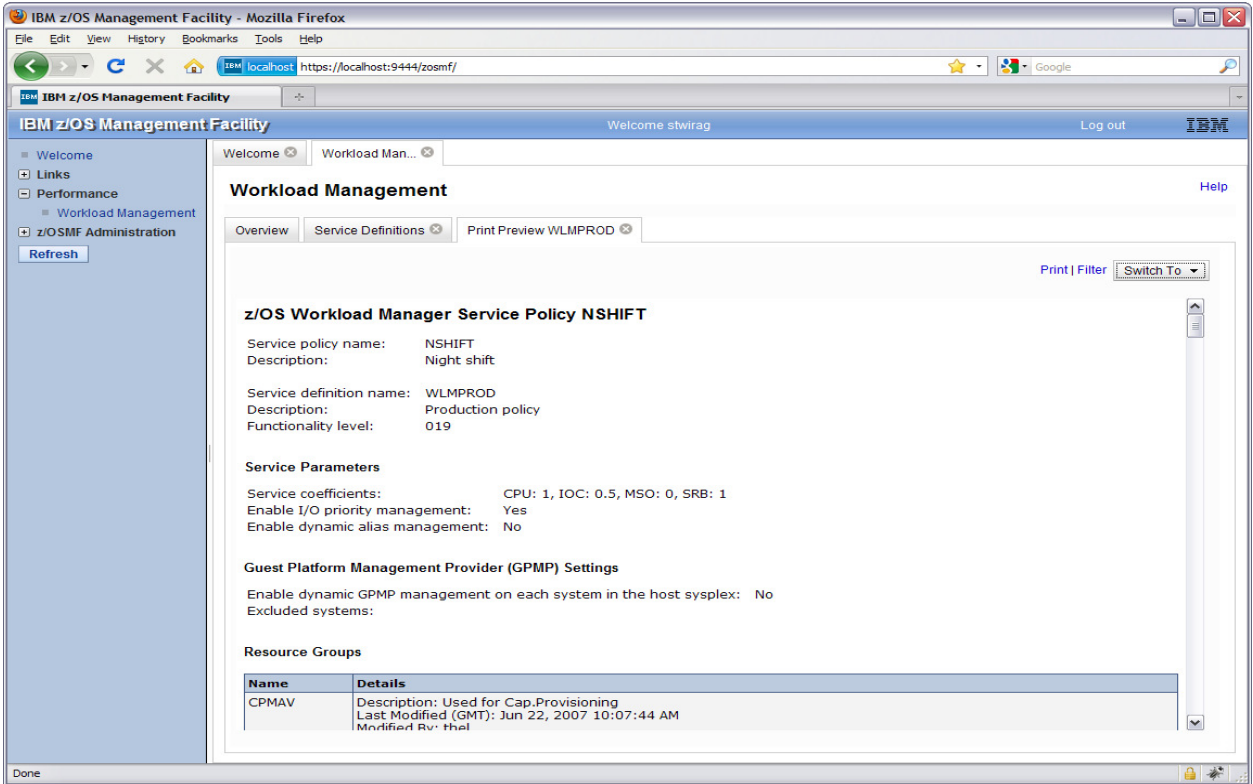
The "Resource Groups" section shows a table with one entry:

Name	Details
CPMAV	Description: Used for Cap.Provisioning Last Modified (GMT): Jun 22, 2007 10:07:44 AM Modified By: thel Type: NumberCPsTimes100 Capacity Minimum: 30 Capacity Maximum: 90

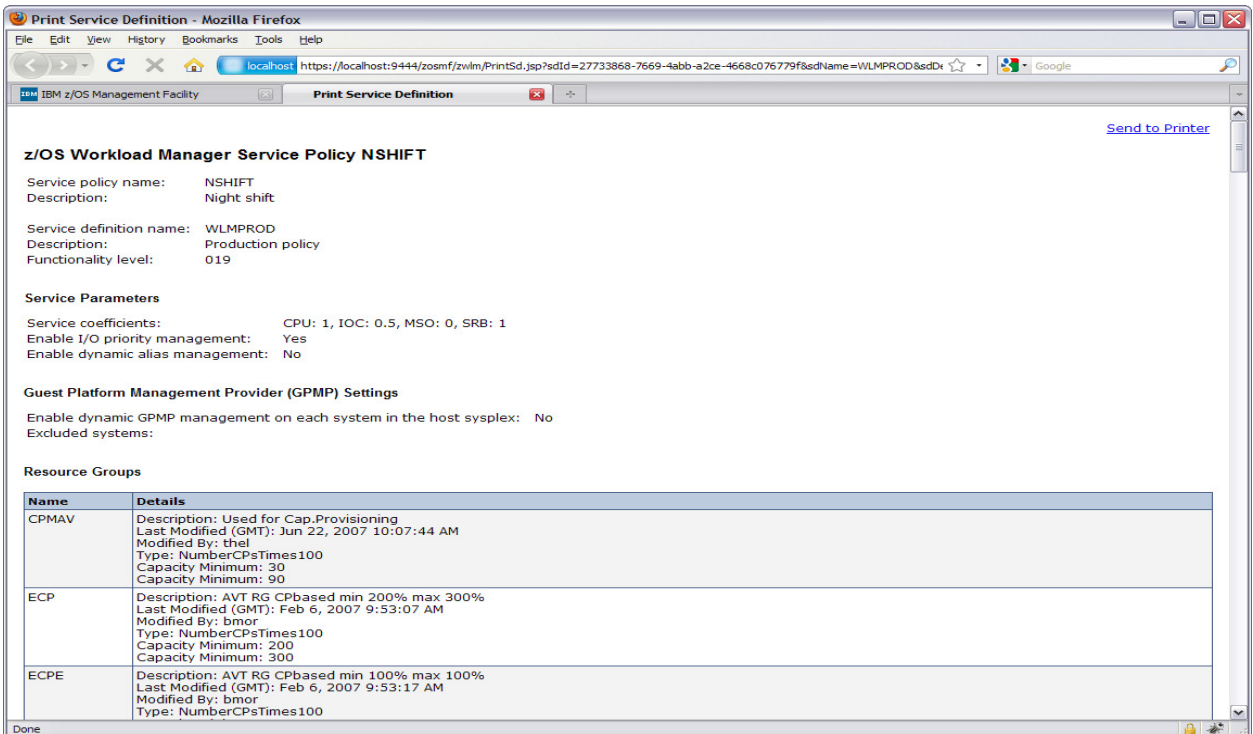
The "Switch To" dropdown menu is open, showing the following options:

- Formatted Service Definition WLMPROD
- Formatted Service Policy DSHIFT
- Formatted Service Policy NSHIFT (selected)
- Formatted Service Policy WLMSTAV

The panel shows now the service definition with the applied service class overrides and resource group overrides of service policy 'NSHIFT':



Press the 'Print' link in the upper right corner of the panel. A new web browser tab or window opens with the same content:



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You may print the service definition / service policy by pressing the 'Send to Printer' link. (Note: will not work for this lab. FYI only)

Close the 'Print Service Definition' web browser tab by clicking the X in the tab header.

Close the 'Print Preview' tab by clicking the X in the tab header.

Workload management: Task 6: View the History of a Service Definition (optional)

The History panel displays the operation history for a service definition.

In the 'Service Definition' tab select service definition 'WLMPPRxx'. Right click to open the context menu for 'WLMPPRxx' and select 'View History':

The screenshot shows the IBM z/OS Management Facility web interface in Mozilla Firefox. The main content area is titled 'Workload Management' and contains a 'Service Definitions' table. A context menu is open over the 'WLMPPRxx' row, with 'View History' selected. The table has the following data:

Name	Description	Activity	Sysplex	Messages	Last Modified (GMT)	Modified By
<input type="checkbox"/> Sampdef (Installed & Active)	Sample policy 00		WLMMPLEX		Feb 3, 2011 11:25:03 AM	stwirag
<input checked="" type="checkbox"/> WLMPPRxx	Production policy			Information	Feb 4, 2011 11:48:38 AM	stwirag
<input type="checkbox"/> WLMTEST	Test policy			Information	Feb 3, 2011 11:17:57 AM	stwirag

At the bottom of the table, it shows 'Total: 3, Selected: 1' and a 'Refresh' button. The last refresh time is 'Feb 4, 2011 12:48:39 PM local time (Feb 4, 2011 11:48:39 AM GMT)'.

The history panel displaying the operation history of the service definition is opened in a new tab:

The screenshot shows the IBM z/OS Management Facility interface in a Mozilla Firefox browser. The page title is "Workload Management" and the user is logged in as "stwirag". The main content area displays the "History for WLMPROD" for the past 6 months. A table lists two actions performed on the service definition "WLMMPLEX": a "Modify" action at 11:48:38 AM and an "Import from data set BWIR.WLMSVDEF.WLMPROD.XML" action at 8:56:44 AM, both performed by user "stwirag".

Sysplex Filter	Action Filter	Date and Time (GMT) Filter	User ID Filter
	Modify	Feb 4, 2011 11:48:38 AM	stwirag
WLMMPLEX	Import from data set BWIR.WLMSVDEF.WLMPROD.XML	Feb 4, 2011 8:56:44 AM	stwirag

Total: 2
Refresh Last refresh: Feb 4, 2011 12:50:17 PM local time (Feb 4, 2011 11:50:17 AM GMT)

The service definition history shows the operations you have performed so far on the service definition 'WLMPrxx'.

Task 7: View the WLM Status of the Sysplex (optional)

The WLM status of the Sysplex can be viewed.

If not already displayed, switch to the 'Overview' tab by clicking on the tab header. Then, click the link 'Status for Sysplex'. The 'Status for Sysplex' tab opens:

The screenshot displays the 'Status for Sysplex' page in the IBM z/OS Management Facility. The page is titled 'Workload Management' and has tabs for 'Overview', 'Service Definitions', and 'Status for Sysplex'. The 'Status for Sysplex' tab is active, showing the 'Status for Sysplex WLMMPLEX from System WLM'. Under 'Active Service Policy', the following details are listed:

- Name: WLMSTAV
- Description: Default Policy
- Activated: Feb 3, 2011 3:54:09 PM GMT
- Activated by: bwir from system WLM
- Related Service Definition: WLMPROD
- Functionality level: 19
- Installed: Feb 3, 2011 3:54:09 PM GMT
- Installed by: bwir from system WLM

Below the active service policy is a table of systems. The table has the following columns: Name, Used Service Policy, Activated (GMT), WLM Status, GPMP Status, WLM Version Level, CDS Format Level, and Connected CF Structures. The table contains one row for system WLM.

Name	Used Service Policy	Activated (GMT)	WLM Status	GPMP Status	WLM Version Level	CDS Format Level	Connected CF Structures
WLM	WLMSTAV	Feb 3, 2011 3:54:09 PM	Active	Unavailable	25	3	

At the bottom of the table, it says 'Total: 1'. Below the table is the 'Installed Service Definition' section, which lists:

- Name: WLMPROD
- Description: Production policy
- Installed: Feb 3, 2011 3:54:09 PM GMT

The 'Status for Sysplex' panel shows the Active Service Policy in the Sysplex and on each system in the Sysplex as well as the service definition installed in the WLM couple data set.

Press the X in the tab header to close the 'Status for Sysplex' panel.