

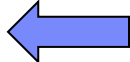


# z/OSMF Overview

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10<sup>th</sup> March, 2020

# Agenda

- What's z/OSMF 
- How does z/OSMF fit in your environment
- z/OSMF configuration
- z/OSMF portfolio
  - Plugins with UI (Demo)
  - Workflow
  - Cloud Provisioning
  - RESTful services

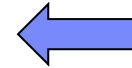
# What's z/OSMF

- The IBM z/OS Management Facility is a part of z/OS since V2R2 that provides support for a modern, Web-browser based management console for z/OS. Since V2R3, z/OSMF can be started by default during IPL.
- It helps system programmers 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) guide you through tasks and helps provide simplified operations.

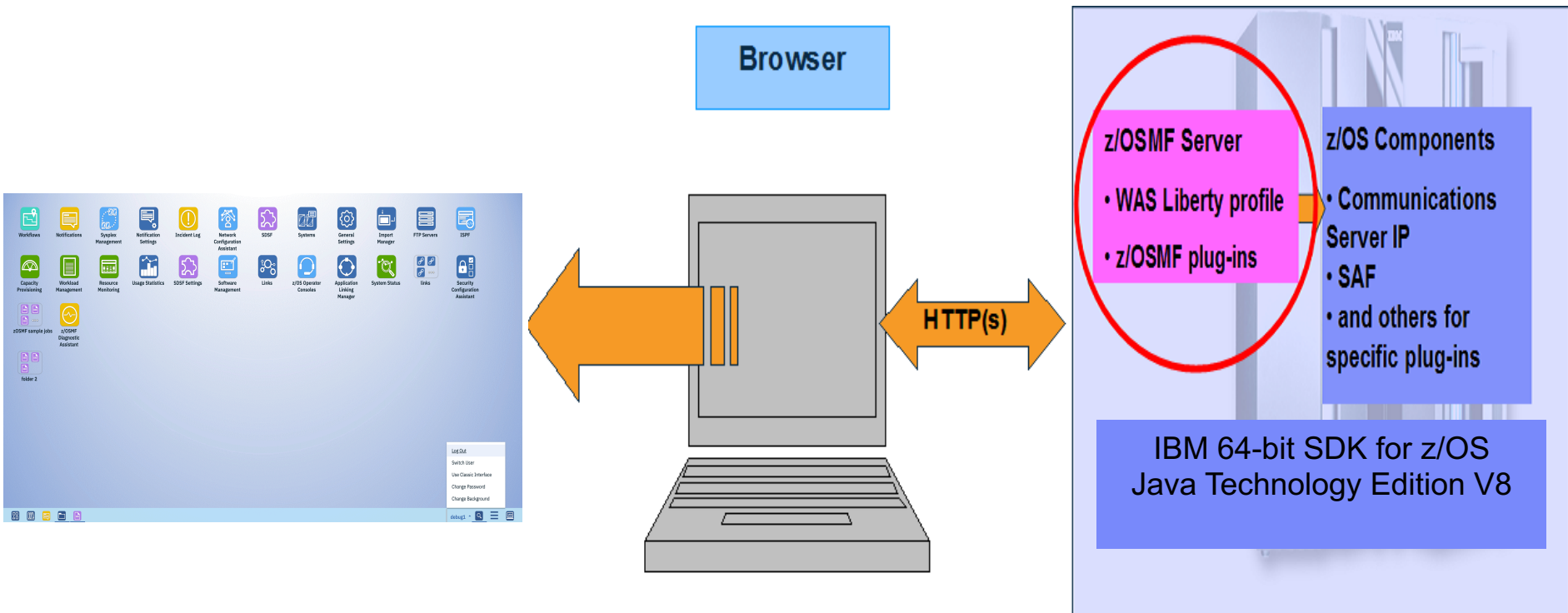


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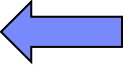


# How does z/OSMF fit in your environment



- **The z/OS Management Facility applications run on the z/OS enabling you to manage z/OS from z/OS**
  - ▶ Information is presented on a PC using a browser
- **The z/OS Management Facility requires:**
  - ▶ TCP/IP
  - ▶ CEA
  - ▶ SAF
  - ▶ IBM 64-bit SDK for z/OS Java Technology Edition V8
  - ▶ Other components are required for specific z/OSMF plug-ins

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# z/OSMF configuration overview

- Process overview
  - Configure z/OSMF base
    - Setup security
    - Create z/OSMF data file system
    - Optionally, configuring z/OSMF parmlib options
    - Start z/OSMF server
  - Access the z/OSMF welcome page
  - Add z/OSMF optional plugin
    - Customize z/OS system
    - Set up security
    - Update z/OSMF parmlib
- Please refer to <z/OSMF Configuration Guide> for details

[https://www.ibm.com/support/knowledgecenter/SSLTBW\\_2.4.0/com.ibm.zos.v2r4.izua300/abstract.htm](https://www.ibm.com/support/knowledgecenter/SSLTBW_2.4.0/com.ibm.zos.v2r4.izua300/abstract.htm)

# Configure z/OSMF base – setup security

## ▶ Setting up Security

- Run SAMPLIB(IZUSEC)
    - You may need to modify the sample job to either:
      - ◆ Conform to installation standards
      - ◆ Uncomment out definitions based on your existing security environment
  - If your installation uses a security management product other than RACF, do not use the SAMPLIB member
    - Instead, you can obtain sample from Broadcom for ACF/2 and Top Secret products
    - See Appendix A in the z/OSMF Configuration Guide for a list of resources, groups, IDs, and authorizations that need to be defined to your security product
- ▶ With z/OS 2.4, z/OSMF provides simplified security configuration called z/OSMF Lite
- Additional security jobs need to be run to enable each z/OSMF plugin
- ▶ With z/OS 2.4, z/OSMF provides “Security Assistant” plugin that helps resolving missing security configuration



# Configure z/OSMF base – create data file system

- **Creating the z/OSMF data file system**
  - Run a modified SAMPLIB(IZUMKFS)
    - You must select a volume for this allocation.
  - By default the filesystem data set name is IZU.SIZUUSRD
    - If you want to change the data set name, it needs to be changed in three (3) steps: DEFINE, CREATE, and MOUNT
  - With z/OS 2.3, default mountpoint is /global/zosmf
    - It is recommended that you give the z/OSMF file system sysplex-wide scope
      - By default, the job mounts the user directory at a shared mount point.
        - ◆ /global/zosmf
      - If you change the default mountpoint, you will have to change all references of /global/zosmf in z/OSMF parmlib also (e.g. IZUPRM00).

# Configure z/OSMF base – configure z/OSMF parmlib

- **Optionally, Configuring z/OSMF parameters**

- **Create one or more IZUPRMxx parmlib members that you want to use**

```

HOSTNAME(**)
HTTP_SSL_PORT(443)
INCIDENT_LOG UNIT('SYSALLDA')
JAVA_HOME('&JAVA80_HOME') /* System symbol used to define Java home directory */
KEYRING_NAME('IZUKeyring.IZUDFLT')
LOGGING(*=warning;com.ibm.zosmf.*=info;com.ibm.zosmf.environment.ui=finer)
RESTAPI_FILE ACCT(IZUACCT) REGION(32768) PROC(IZUFPROC)
/* Common TSO logon proc, account, and region size, used by all plug-ins by default. */
COMMON_TSO ACCT(IZUACCT) REGION(50000) PROC(IZUFPROC)
SAF_PREFIX('IZUDFLT')
CLOUD_SAF_PREFIX ('IYU')
SEC_GROUPS USER(IZUUSER),ADMIN(IZUADMIN),SECADMIN(IZUSECAD)
SESSION_EXPIRE(495)
TEMP_DIR('/tmp')
CSRF_SWITCH(ON)
SERVER_PROC(IZUSVR1)
ANGEL_PROC(IZUANG1)
AUTOSTART(LOCAL)
AUTOSTART_GROUP('IZUDFLT')
USER_DIR('/global/zosmf')
UNAUTH_USER(IZUGUEST)
WLM_CLASSES DEFAULT(IZUGHTTP)
LONG_WORK(IZUGWORK)
/* Uncomment the following statement and any plugins that are desired */
/* PLUGINS( INCIDENT_LOG,COMMSERVER_CFG,WORKLOAD_MGMT,RESOURCE_MON,
CAPACITY_PROV,SOFTWARE_MGMT,SYSPLEX_MGMT,ISPF ) */

```

1. Specify values only for those defaults that you want to override (that is, omit any statement for which the default value is acceptable).
2. Options of z/OSMF base are in **blue** color

- **Specify which z/OSMF parmlib to use during IPL by adding IZU={xx|(xx,...,zz)} in IEASYSxx**

# Configure z/OSMF base – start z/OSMF server

- z/OSMF server consists of two process: angel process and server process.
- To start the z/OSMF server manually, you can enter the START command from the operator console.
- The START command specifies the procedure name to start and, optionally, the job name to use. For example:
  - START IZUANG1,JOBNAME=*jobname*
  - START IZUSVR1,JOBNAME=*jobname*,IZUPRM='(xx,yy)',SERVER=AUTOSTART|STANDALONE
    - You ONLY need the IZUPRM parameter if you want to point to one or more IZUPRMxx PARMLIB members for configuration values
- Start the tasks in the following sequence: IZUANG1 followed by IZUSVR1.
  - Otherwise, z/OSMF users might encounter authorization errors later when they attempt to log in to z/OSMF.
- NEXT IPL might also start z/OSMF depends on the IZUPRMxx specified in IEASYSxx

# Accessing the z/OSMF welcome page

- At the end of the z/OSMF configuration process, you can verify the results of your work by opening a web browser to the Welcome page.
- The URL for the Welcome page has the following format:
  - ▶ `https://hostname:port/zosmf/`where:
  - *hostname* is the hostname or IP address of the system in which z/OSMF is installed
  - *port* is the secure application port for the z/OSMF configuration. *port* is optional. If you specified a secure port for SSL encrypted traffic during the configuration process (through variable `IZU_HTTP_SSL_PORT`), that value is required to log in. Otherwise, it is assumed that you are using port 443, the default.
- To find the URL, see message `IZUG349I`, which was written to the job log file when `IZUSVR1` was started.

`IZUG349I`: The z/OSMF Server home page can be accessed at  
: `https://ALPS4142.POK.IBM.COM/zosmf`  
: after the z/OSMF server is started on your system.

# Add z/OSMF optional plugins

- Customize z/OS system (optional for some plugins)
- Setup security

VIEW	Name	SYS1.SAMPLIB Prompt	Size	Created	CHARS Changed	'IZU' found ID
	IZUAUTH					
	IZUCASEC					
	IZUCPSEC					
	IZUDELFN					
	IZUDMSEC					
	IZUDXEXP					
	IZUGCSEC					
	IZUILLSEC					
	IZUISALC					
	IZUISDDD					
	IZUIHFSS					
	IZUISMKD					
	IZUISSEC					
	IZUISZFS					
	IZUMKDIR					
	IZUMKFS					
	IZUMNTFS					
	IZUPRM00					
	IZURMSEC					
	IZUSEC					
	IZUSPSEC					
	IZUSVR2					
	IZUWMSEC					

- Update z/OSMF parmlib

```

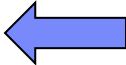
PLUGINS(INCIDENT_LOG,
        COMMSERVER_CFG,
        WORKLOAD_MGMT,
        RESOURCE_MON,
        CAPACITY_PROV,
        SOFTWARE_MGMT,
        ISPF,
        SYSPLEX_MGMT)
    
```

- Restart z/OSMF server

# Other considerations for z/OSMF configuration

- **One z/OSMF instance is usually sufficient for one Sysplex**
  - **One z/OSMF instance per JES MAS will be needed if there are multiple JES MAS in a Sysplex.**
- **You can setup a backup z/OSMF instance in a sysplex to provide continuous availability**
  - **The backup z/OSMF instance should not be active simultaneously with primary z/OSMF**
- **The z/OSMF data file system is recommended to be mounted at a shared mount point such that the primary z/OSMF and the backup z/OSMF can share same data file system.**

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# Notifications

- Supports sending/receiving notification
- Supports z/OSMF internal notification, Email notification

The screenshot shows the IBM z/OS Management Facility interface. The top navigation bar includes the IBM logo, the text 'Welcome debug1', a help icon, and the IBM logo. The left sidebar contains a navigation menu with items like 'Welcome', 'Notifications (3)', 'Workflows', 'Configuration', 'Consoles', 'Jobs and Resources', 'Links', 'Performance', 'Problem Determination', 'Software', 'Sysplex', 'z/OS Classic Interfaces', 'z/OSMF Administration', and 'z/OSMF Settings'. A 'Refresh' button is located at the bottom of the sidebar.

The main content area is titled 'Notifications (3)' and includes a 'Help' link. Below the title is a toolbar with 'Actions', 'Inbox', and 'New' buttons, and a search box. A message 'No filter applied' is displayed above a table of notifications. The table has columns for 'Description', 'From', 'To', and 'Time'. Three notifications are listed:

Description	From	To	Time
Hello world!	debug1	debug1	May 16, 2018, 5:23:14 PM
One or more steps in workflow "Sample demonstrating variable substitution and the use of a wizard. - Workflow_0" have been assigned to you.	Workflows	debug1	May 16, 2018, 5:22:43 PM
One or more steps in workflow "Sample demonstrating variable substitution and the use of a wizard. - Workflow_0" have been assigned to you.	Workflows	debug1	May 16, 2018, 4:53:51 PM

At the bottom of the notification list, it says 'Total: 3 Selected: 0'. There is a 'Refresh' button and a timestamp: 'Last refresh: May 16, 2018, 5:23:13 PM local time (May 16, 2018, 9:23:13 AM GMT)'.



# Network Configuration Assistant

- Provides assistance in configuring TCP/IP networking policies
- The only supported UI client for z/OS Communication Server

IBM z/OS Management Facility

Welcome x Network Configu... x

Network Configuration Assistant (Home) > IPSec

**V2R4 Current Backing Store is saveData**

Select a TCP/IP technology to configure :

Systems Traffic Descriptors **Security Levels** Address Groups Requirement Maps Reusable Rules

Actions ▾

➔ No filter applied

Name Filter	Cipher (First Choice) Filter	Type Filter	Description Filter
<input type="radio"/> Deny	None	Discard	IBM supplied: Traffic is discarded
<input type="radio"/> Permit	None	No security	IBM supplied: Traffic is allowed with no security
<input type="radio"/> IPSec__Gold	3DES/SHA1	Dynamic Tunnel	IBM supplied: 3DES or AES-128 bit encryption
<input type="radio"/> IPSec__Silver	DES/SHA1	Dynamic Tunnel	IBM supplied: 3DES, AES-128 bit, or DES encryption
<input type="radio"/> IPSec__Bronze	None/SHA1	Dynamic Tunnel	IBM supplied: No encryption
<input type="radio"/> Suite-B-GCM-128	AES GCM 128	Dynamic Tunnel	IBM supplied: Suite-B-GCM-128 IETF User Interface Suite
<input type="radio"/> Suite-B-GCM-256	AES GCM 256	Dynamic Tunnel	IBM supplied: Suite-B-GCM-256 IETF User Interface Suite
<input type="radio"/> Suite-B-GMAC-128	None/AES GMAC 128	Dynamic Tunnel	IBM supplied: Suite-B-GMAC-128 IETF User Interface Suite
<input type="radio"/> Suite-B-GMAC-256	None/AES GMAC 256	Dynamic Tunnel	IBM supplied: Suite-B-GMAC-256 IETF User Interface Suite
<input type="radio"/> VPN-A	3DES/SHA1	Dynamic Tunnel	IBM supplied: VPN-A IETF User Interface Suite
<input type="radio"/> VPN-B	AES 128/AES XCBC 128	Dynamic Tunnel	IBM supplied: VPN-B IETF User Interface Suite
<input type="radio"/> IPSec__Platinum	AES 256/SHA2 512	Dynamic Tunnel	IBM supplied: AES-256 bit encryption

Refresh

# z/OS Operator Consoles

- Provides web-browser based interface to work with z/OS console:
  - Console overview of local sysplex
  - Console summary view and Console view
  - Issue command and get command response
  - Search
  - Filter
  - Automatically retrieve message help from Knowledge Center on z/OS
  - Retrieve historic messages from OPERLOG or SYSLOG
  - REST APIs are also provided

# z/OS Operator Consoles

Welcome x z/OS Operator Co... x

## z/OS Operator Consoles

Overview Console for SY1 x

### Console for SY1

Sat Mar 3 3:10:0

1 2 Total:3

Time	SY1	User	Count	Description
Sat Mar 3 3:10:1	SY1	IBMUSER	0	+This is message 16. (desc: 1)
Sat Mar 3 3:10:2	SY1	GRSSTMON	0	*GRSSTMON: Frames currently in use by GRS: 7.375M
Sat Mar 3 3:10:4	SY1	IBMUSER	0	+This is message 17. (desc: 2)
Sat Mar 3 3:10:7	SY1	IBMUSER	0	+This is message 18. (desc: 3)
Sat Mar 3 3:10:10	SY1	IBMUSER	0	+This is message 19. (desc: 4)
Sat Mar 3 3:10:13	SY1	IBMUSER	0	+This is message 20. (desc: 5)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 0. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 1. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 2. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 3. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 4. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 5. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 6. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 7. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 8. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 9. (desc: 11)
Sat Mar 3 3:10:16	SY1	IBMUSER	0	+This is message 10. (desc: 11)
Sat Mar 3 3:10:17	SY1	XCFAS	0	IXC506I STRUCTURE LIST01 IN COUPLING FACILITY TESTCFNL, PHYSICAL STRUCTURE VERSION D22DACFE DBE5668D, IS NOW BELOW STRUCTURE FULL MONITORING THRESHOLD.
Sat Mar 3 3:10:44	SY1	IBMUSER	0	+This is message 0. (desc: 11)
Sat Mar 3 3:10:44	SY1	IBMUSER	0	+This is message 1. (desc: 11)
Sat Mar 3 3:10:44	SY1	IBMUSER	0	+This is message 2. (desc: 11)
Sat Mar 3 3:10:44	SY1	IBMUSER	0	+This is message 3. (desc: 11)
Sat Mar 3 3:10:44	SY1	IBMUSER	0	+This is message 4. (desc: 11)
Sat Mar 3 3:10:44	SY1	IBMUSER	0	+This is message 5. (desc: 11)
Sat Mar 3 3:10:44	SY1	IBMUSER	0	+This is message 6. (desc: 11)
Sat Mar 3 3:10:44	SY1	IBMUSER	0	+This is message 7. (desc: 11)

Command: D TCP/IP,NET,HOM

Submit

# SDSF (1/2)

- Provides graphic and browser based interface to work with SDSF:

The screenshot displays the SDSF (SVPLEX6) web interface. At the top, there are browser tabs for 'Welcome' and 'SDSF (SVPLEX6)'. The main header includes 'SDSF (SVPLEX6)', 'Common Filters', and 'TSO Messages'. Below the header, there's a navigation bar with 'Overview' and 'NA'. A message bar indicates 'Messages: 0', 'Warnings: 0', and 'Errors: 2'. The main content area is titled 'System Activity Summary: P00 (Local)' and shows 'System: P00 (Local)'. It features two charts: 'System Activity Percent Busy' and 'z/OS Health Checks by Exception'. The health checks chart shows 0 None, 22 Low, 20 Medium, and 4 High. Below the charts, it shows 'Active checks: 0' and 'Eligible checks: 189'. A 'Refresh' button is present with the text 'Last refresh: More than 35 seconds ago'. The bottom section is divided into 'Jobs' and 'Sysplex' categories. The 'Jobs' section lists: Active Jobs, All Jobs, Input Queue, Output Queue, Held Output Queue, Address Space Memory, and Unix Processes. The 'Sysplex' section lists: z/OS Health Checks, Systems Information, Spool Datasets, and CF Structures. The 'System' section lists: APF Datasets, Page Datasets, Link List Datasets, Link Pack Datasets, and Parmlib Datasets. The 'Network' section lists: Network Activity. The 'Devices' section lists: Device Activity and SMS Storage Groups. The bottom-most section is 'z/OS Commands and Logs'.

# SDSF (2/2)

Welcome x SDSF (SVPLEX6) x

## SDSF (SVPLEX6)

TSO Messages

Common Filters

Overview Active Jobs x All Jobs x

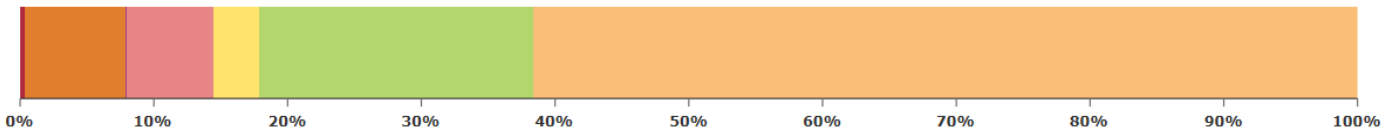
Work with jobs in any phase of processing.

Messages 0 0 12 | Help

### Return Code Counts (1817)

Common and table filters applied

[View text](#)



### All Jobs

Common Filters Properties of DEBUG1

File Actions View Match: All Filters

No filter applied

JOBNAME Filter	JobID Filter	Owner Filter	PrtY Filter	Queue Filter
<input type="checkbox"/> TYQTYQ	T0032799	TYQTYQ	15	EXECUTION
<input checked="" type="checkbox"/> DEBUG1	T0033036	DEBUG1	15	EXECUTION
<input type="checkbox"/> DEBUG1	T0033037	DEBUG1	15	EXECUTION
<input type="checkbox"/> HWIBCPII	S0005052	SETUP	15	EXECUTION
<input type="checkbox"/> SYSLOG	S0005053	+MASTER+	15	EXECUTION
<input type="checkbox"/> SDSF	S0005054	SETUP	15	EXECUTION
<input type="checkbox"/> TCP341	S0005055	TCPIP1	15	EXECUTION
<input type="checkbox"/> CTTX	S0005056	SETUP	15	EXECUTION

Properties are more current than table data.

Type to filter properties

[Edit properties](#)

#### General

ASID: 54  
 ASIDX: 36  
 JobCorrelator:  
 JobID: T0033036  
 JOBNAME: DEBUG1  
 SysName: P00  
 Type: TSU

#### Accounting

Acct:  
 EMail:  
 End-DateTime: N/A  
 Notify: DEBUG1  
 Programmer-Name:  
 Rd-DateTime: May 16, 2018, 5:45:49 PM  
 RNum:

# Links

- Provides centralized place for shared links

The screenshot displays the IBM z/OS Management Facility interface. The top navigation bar includes the IBM logo, a 'Marketplace' button, a search field, and a user profile icon. The main content area is titled 'Shopz' and features a large blue banner with the text: 'Your web service to order z Systems software, manage software licenses, view software inventory and more'. Below the banner is a 'Sign in/Register' button. The interface is divided into several sections: 'Easy and accurate software order management', 'Order tailored product and service packages for z/OS, z/VM and z/VSE.', 'Use the pre-selected order checklist based on your installed inventory.', 'Designate multiple user access levels.', 'View software inventory for all environments and upgrade opportunities.', and 'Download software while you review your current software licenses.' A vertical sidebar on the left contains a navigation menu with categories like 'Welcome', 'Notifications (3)', 'Workflows', 'Configuration', 'Consoles', 'Jobs and Resources', 'Links', 'Performance', 'Problem Determination', 'Software', and 'Sysplex'. A 'Refresh' button is located at the bottom of the sidebar. A vertical button on the right side of the main content area says 'Give us your feedback'.

# Capacity Provisioning

- Provides browser based interface to manage z/OS CPM component which is used to dynamically manage capacity based on On/Off Capacity On Demand feature
- The only supported client of z/OS CPM component

IBM z/OS Management Facility

Welcome debug1

Capacity Provisioning

Overview Policies x View DEMOP1 x Provisioning Manager x Domain Configurations x View DC170322 x View PC0416 x

**Policy PC0416** [Messages](#) | [Switch to](#)

A provisioning policy contains provisioning scopes and a set of rules. The scopes define provisioning limits for different types of capacity. They restrict the capacity that can be activated by the rules in the policy. The rules contain provisioning scopes and a set of conditions for the activation of additional capacity.

Policy name: PC0416 Description:

Maximum Processor Scope Logical Processor Scope Maximum Defined Capacity Scope Maximum Group Capacity Scope Rules

Actions

<input type="checkbox"/>	CPC Filter	Max. Activation (MSU) Filter	Max. zAAP Processors Filter	Max. zIIP Processors Filter	Primary Activation (MSU) Filter	Secondary Activations (MSU) Filter
<input type="checkbox"/>	M10	0	0	0	1	1
<input type="checkbox"/>	S113	2	2	2	2	2

Refresh

# Resource Monitoring

- Provides browser based interface to monitor performance metrics which are retrieved from z/OS RMF Monitor III

The screenshot displays the IBM z/OS Management Facility interface for Resource Monitoring. The main content area is titled "Resource Monitoring" and shows a dashboard for "Common Storage Activity (Running)".

**Common Storage Activity (Running)**

Start Pause Stop Save Actions

**CSA & ECSA (Systems)**

System	CSA Utilization	ECSA Utilization
P03	21	22
P00	21	22
P02	20	23
P01	19	25

**SQA & ESQA (Systems)**

System	SQA Utilization	ESQA Utilization
P02	13	122
P03	13	121
P00	12	109
P01	12	111

**CSA (Jobs)**

Job	CSA Utilization
P01.*MASTER* [0001]	4
P02.*MASTER* [0001]	4

**SQA (Jobs)**

Job	SQA Utilization
P01.*MASTER* [0001]	1
P02.*MASTER* [0001]	1

Legend:  
 .LOCALPLEX,SYSPLEX % CSA utilization by MVS image (Blue)  
 .LOCALPLEX,SYSPLEX % ECSA utilization by MVS image (Green)

Time Range: 05/16/2018 06:19:00 - 05/16/2018 06:20:00 (1/1)



# Workload Management

- Provides browser based interface to manage z/OS WLM policy
- Covers full functionality of ISPF WLM panel as well as additional functions like policy preview, one click print, linkage to RMF.

IBM z/OS Management Facility

Welcome debug1 | ? IBM

Welcome x Shopz x Capacity Provis... x Resource Monito... x Workload Manage... x

## Workload Management

Overview Service Definitions x View basepol3 x

This service definition is installed and policy BASEPOL is active

### Service Classes

Actions Table view Tree

No filter applied

Name Filter	Period Filter	Importance Filter	Duration Filter	Goal Type Filter	Response Time Goal (hh:mm:ss.ttt) Filter	Percentile Goal Filter	Velocity Goal Filter	CPU Critical Filter			
<input type="checkbox"/> ASCHH								No			
<input type="checkbox"/> ASCHHI	1	2		Velocity			45				
<input type="checkbox"/> ASCHLOW								No			
<input type="checkbox"/> ASCHLOW	1	3		Velocity			25				
<input type="checkbox"/> BATCHHI								No			
<input type="checkbox"/> BATCHLOW								No			
<input type="checkbox"/> CBHI								No	Normal	Default	
<input type="checkbox"/> CBLOW								No	Normal	Default	
<input type="checkbox"/> CICSBI								No	Normal	Default	

Total: 106 Selected: 0

## Incident Log (1/2)

- Facilitates problem data management tasks for new or less skilled system programmers and system administrators
  - Monitor dump related incident cross sysplex
  - Automatically capture diagnostic data such as dump data set, OPERLOG, etc.
  - View diagnostic data
  - Provide wizard help with packaging and sending diagnostic data to IBM support team.
  - Allow search APAR based on incident symptom

# Incident Log (2/2)

- Welcome
- Notifications ( 3 )
- Workflows
- ▶ Configuration
- ▶ Consoles
- ▶ Jobs and Resources
- ▼ Links
  - baidu
  - Shopz
  - WSC Flashes & Techdocs
  - z Systems
  - z/OS Basics Information Center
  - z/OS Home Page
  - z/OS Internet Library
- ▼ Performance
  - Capacity Provisioning
  - Resource Monitoring
  - System Status
  - Workload Management
- ▼ Problem Determination
  - Incident Log ▶
- ▶ Software
- ▶ Sysplex
- ▶ z/OS Classic Interfaces
- ▶ z/OSMF Administration
- ▶ z/OSMF Settings

Welcome x Shopz x Capacity Provis... x Resource Monito... x Workload Manage... x **Incident Log x** IYUCLOUD

## Incident Log

Messages ✖ 1 ⚠ 0 ℹ 0 Close All

Actions ▾

↕ 2 of 23 items shown. [Clear filter](#)

<input type="checkbox"/>	Incident Type <small>Filter</small>	Description <small>Filter</small>	Date and Time (GMT) <small>past "3 days"</small>	Sysplex <small>Filter</small>	System <small>Filter</small>	Problem Number <small>Filter</small>	Tracking ID <small>Filter</small>	Notes <small>Filter</small>	Release <small>Filter</small>
<input type="checkbox"/>	ABEND S0DC4	ALXMIUSS abended (Alex Savas)	May 16, 2018, 2:44:37 AM	SVPLEX6	P00				V2R2
<input type="checkbox"/>	ABEND S0DC4	ALXMIUSS abended (Alex Savas)	May 16, 2018, 2:44:37 AM	SVPLEX6	P00				V2R2

Incident Log ▶ Send Diagnostic Data

### Send Diagnostic Data from P00(SVPLEX6.P00)

- ✓ Welcome
- ✓ Select FTP Server
- ✓ Specify Security Settings
- ✓ Select FTP Profile
- ✓ Define Job Settings
- 👉 Review FTP 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: Error log SVPLEX6 P00  
 Operations log SVPLEX6 P00  
 Error log summary SVPLEX6 P00

Problem number: 12345,234,234 is not IBM PMR number

FTP server: Name: IBM-ap-mvs  
 Host: ftp.ap.ecurep.ibm.com  
 Path name: /toibm/mvs  
 Port number:

Transfer method: FTP

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

FTP profile: Name: p00\_tobedelete  
 Firewall host: test.com  
 Firewall port:  
 FTP.DATA file name:  
 TCPIP.DATA file name:

Total: 2 Selected: 0  
 Last refresh

# Software Management (1/2)

- Provides the software deployment functions along with additional software management functions via a set of reports

The screenshot displays the IBM z/OS Management Facility interface. The top navigation bar includes the IBM logo, the text "IBM z/OS Management Facility", and user information "Welcome debug1". A breadcrumb trail shows "Software Management > Deployments > Deployment Checklist".

The main content area is titled "Deployment Checklist" and contains the instruction: "To deploy software, complete the checklist." Below this is a table with the following structure:

Progress	Step
☑	Specify the properties for this deployment.
☑	Select the software to deploy.
☑	Select the objective for this deployment.
⊕	Check for missing SYSMODS. <ul style="list-style-type: none"> <li>View missing SYSMOD reports.</li> </ul>
	Configure this deployment.
	Define the job settings. z/OSMF creates the deployment summary and jobs. <ul style="list-style-type: none"> <li>View the deployment summary.</li> </ul>
	Submit deployment jobs.
	Specify the properties for the target software instance.

A "Close" button is located below the table. The left sidebar contains a navigation menu with categories such as "Welcome", "Notifications (3)", "Workflows", "Configuration", "Consoles", "Jobs and Resources", "Links", "Performance", "Problem Determination", and "Software". The "Software" category is expanded to show "Software Management".

# Software Management (2/2)

- Provides the software deployment functions along with additional software management functions via a set of reports

IBM z/OS Management Facility

Welcome debug1 | ? IBM

Welcome x Shopz x Capacity Provis... x Resource Monito... x Workload Manage... x Incident Log x **Software Manage... x**

Software Management > Software Instances

Software Instances

Switch To: ▾

Actions ▾

- View
- Modify
- Copy...
- Open Deployments
- Export as Portable Software Instance
- Remove...
- Retrieve Product, Feature, and FMID Information
- Maintenance Reports** ▾
  - End of Service
  - Software Instance Validation
  - Missing Critical Service
  - Missing FIXCAT SYSMODs
  - SYSMOD Search
  - Software Instance Comparison...
- Add...
- Show Hidden Maintenance Reports
- Select All
- Deselect All
- Configure Columns...
- Hide Filter Row
- Clear Sorts
- Export Table Data
- Print Table Data

Messages Filter	Description Filter	Activity Filter	Global Zone CSI Filter	Target Zones Filter	Categories Filter	Product, Feature, FMID Information Retrieved (Local Filter)
		Being deployed	MVSSTORE.SITEST1.CSI	ACF431T		Mar 3, 2018, 4:45
		Being deployed	MVSSTORE.SITEST1.CSI	ZOSMFCT		Mar 6, 2018, 5:04

Total: 2 Selected: 1

Refresh Last refresh: May 16, 2018, 7:24:23 PM

Close

# Sysplex Management (1/5)

- Provides graphic view to manage sysplex
  - Sysplex Topology View
  - Sysplex Physical View
  - Sysplex CF Structure View
  - Sysplex CF Connectivity View

# Sysplex Management (2/5)

The screenshot displays the Sysplex Management interface, divided into two main sections: SVPLEX6 and Coupling Facility Structures for PLEX7.

**SVPLEX6 Section:**

- View:** Highlighter, Zoom Level: 100%, Export, Graphic View, Phys...
- SVPLEX6:** Shows three main components: P59, S114, and P01.
  - P59:** Contains P00, P03, and SVT6CF4.
  - S114:** Contains P02 and SVT6CF3.
  - P01:** Contains SVT6CF2.
- Coupling Facility View:** A dropdown menu is open, showing options: View Properties, Open Structures, Coupling Facility View, and Type View. An arrow points from this menu to the PLEX7 section.
- Couple Data Sets:** Shows four data sets: X6CPLA (BPXMCDS(A), WLM(A)), X6SYSP (SYSPLX(P), SYSPLX(A)), X6CPLP (BPXMCDS(P), CFRM(P)), and X6CFRM (CFRM(A)).
- View:** Couple Data Sets, Actions, Table view: Tree.

**Coupling Facility Structures for PLEX7 Section:**

- View:** Other view option is: Type, View by: Coupling Facility.
- Actions:** Graphic View, Zoom: 100%.
- CF1:** Contains DSND8GA and USERJRNL.
- CF2:** Contains DFHLOG\_01, DFHLOG\_02, DFHLOG\_03, DFHLOG\_04, EZBEPOR, and EZBIVPA.
- CF3:** Contains DFHLOG\_01, IMSIRLM, and IMSIRLM\_0.
- Unallocated:** Contains I12X\_IJRLM and I12X\_EMHQ.
- Highlighter:**
  - CF Structure
  - CF Structure Types
  - Coupling Facilities Status
  - Duplexed - Primary
  - Duplexed - Secondary
  - Rebuilding - New
  - Rebuilding - Old
  - Simplex
  - Not allocated

**Bottom Section (Type View):**

- View:** Type.
- Actions:** Graphic View, Zoom: 100%.
- Lock:** Contains DFHLOG\_01, DFHLOG\_01, DFHLOG\_02, DFHLOG\_03, DFHLOG\_04, EZBEPOR, IMSIRLM, IMSIRLM\_0, SGLOCK, ISGLOCK\_1, and ISGLOCK\_2.
- List:** Contains EZBIVPA, EZBIVPA\_0, and I12X\_EMHQ.
- Highlighter:**
  - CF Structure
  - CF Structure Types
  - Coupling Facilities Status
  - Duplexed - Primary
  - Duplexed - Secondary
  - Rebuilding - New
  - Rebuilding - Old
  - Simplex
  - Not allocated

# Sysplex Management (3/5)

Welcome x Sysplex Management x

Sysplex Management ▶ Coupling Facility Structures for CF23 on ZPETPLX2

## Coupling Facility Structures for CF23 on ZPETPLX2

SLIST

- (P) ISTGENERI...
- (P) EZBREPORT
- (P) FFMSGQ\_ST...
- (P) FPMSGQ\_ST...
- (P) CSLRMGR\_T...
- (P) MQGTFLASH...
- (S) MQGTFLASH...

LOCK

- (P) IGWLOCK2
- (P) ISGLOCK
- (P) IRLMLOCKT
- (P) DSNDB2G\_L...
- (P) DSNDBXG\_L...
- (P) DSNDBPG\_L...
- (P) DSNDBSG\_L...

CACHE

(P) RLSTEST02	(P) DSNDB2G_G...	(S) DSNDBXG_G...	(P) DSNDBSG_G...
(P) IRRXCF00_...	(P) DSNDB2G_G...	(P) DSNDB2G_G...	(P) DSNDBSG_G...
(P) IRRXCF00_...	(P) DSNDB2G_G...	(P) DSNDB2G_G...	(P) SYSZWLM_6...
(P) IRRXCF00_...	(P) DSNDBXG_G...	(P) DSNDB2G_G...	
(P) IRRXCF00_...	(P) DSNDBXG_G...	(P) DSNDBXG_G...	
(P) IRRXCF00_...	(P) DSNDBXG_G...	(P) DSNDBXG_G...	
(P) IRRXCF00_...	(P) DSNDBXG_G...	(P) DSNDBXG_G...	

- Actions ▾ | Table view: Tree
- Open Structures View
  - Open Structure Connectors View
  - Rebuild Structure ▶
  - Duplex Structure ▶
  - Reallocate All Structures in Sysplex ▶
  - Properties
  - Expand
  - Collapse
  - Configure Columns...
  - Hide Filter Row
  - Export Table Data ▶
  - Expand All
  - Collapse All
  - Switch to Non-Tree View

Status Filter	Type Filter	Allocation Time Filter
(P) Duplexed - Primary	LOCK	05/30/2019 13:07:31
(P) Simplex	LOCK	06/05/2019 08:10:34
(P) Duplexed - Primary	LOCK	05/30/2019 13:07:54
(P) Simplex	LOCK	06/05/2019 08:10:50

Total: 92 Selected: 1

Refresh

Screenshot



# Sysplex Management (4/5)

Welcome x
Sysplex Management x

Sysplex Management > Coupling Facility Structures for CF23 on ZPETPLX2 > CF Structure DSNDXBG\_GBP0 for CF23 and CF22
Help

Commands Log

Graphic View
Legend
Zoom Level: 100%
Export

▲ CF23

▲ CACHE

Ⓟ DSNDXBG\_G...

▲ CF22

▲ CACHE

Ⓢ DSNDXBG\_G...

📄 Z1

DB2\_DBX1-16B

📄 Z2

DB2\_DBX2-17A

📄 Z3

DB2\_DBX3-13E

📄 Z4

DB2\_DBX4-180

Actions ▾
Table view: Tree

🔍 No filter applied

	System/Connector Filter	Connector ID Filter	Connector Version Filter	Connector System Filter	Job Name Filter	ASID Filter	State Filter
<input type="radio"/>	+ 📄 Z1						
<input type="radio"/>	- 📄 Z2						
<input type="radio"/>	DB2_DBX2	3	000305EA	Z2	DBX2DBM1	17A	<input checked="" type="checkbox"/> Active
<input type="radio"/>	+ 📄 Z3						
<input type="radio"/>	+ 📄 Z4						

Screenshot

Total: 8 Selected: 0

# Sysplex Management (5/5)

Welcome x Sysplex Management x

Sysplex Management > Coupling Facility Structures for CF22 on ZPETPLX2 > View Coupling Facility

[Help](#)

## View Coupling Facility CF22

Coupling facility name: CF22	Coupling facility: 003906.IBM.02.0000000E1DB7
Maintenance Mode: No	
CPC ID (Hex): 00	Partition (Hex): 05
CF level: 23	Standalone: No
CFCC release (Hex): 23.00	Service level (Hex): 00.13
Built on(UTC): 01/16/2019 16:10:00	Volatile: Yes
Storage increment size: 1M	Storage-class memory increment size: 1M
Shared processors: 0	Dedicated processors: 1
Coupling thin interrupts: Not Enabled	Dynamic CF dispatching: Off

### ▼ Coupling Facility Space Utilization

Name	Space
Structures	21G
Dump Space	20G
Free Space	158G
<b>Total</b>	<b>199G</b>

Name	Space
Structures dump tables	0
Max requested dump Spaces	0
Free dump Space	20G
<b>Total</b>	<b>20G</b>

### ▶ Storage Configuration

Close

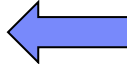
Screenshot

# Web ISPF

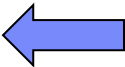
- Provides browser based ISPF interface

The screenshot displays the IBM z/OS Management Facility web interface. The top navigation bar includes the IBM logo, the text 'Welcome debug1', and a search icon. Below this is a breadcrumb trail with tabs for 'Welcome', 'Shopz', 'Capacity Provis...', 'Resource Monito...', 'Workload Manage...', 'Incident Log', 'Software Manage...', 'Sysplex Management', and 'ISPF'. The left sidebar contains a navigation menu with categories like 'Notifications (3)', 'Workflows', 'Configuration', 'Consoles', 'Jobs and Resources', 'Links', 'Performance', 'Problem Determination', 'Software', 'Sysplex', and 'z/OS Classic Interfaces'. The main content area shows two terminal windows. The left window, titled '2 - PRIMARY', displays a terminal session with a header 'z/os 02.03.00' and a list of menu options: '0 - Specify ISPF PARAMETERS', '1 - BROWSE Datasets', '2 - EDIT Datasets', '3 - UTILITY Functions', '4 - FOREGROUND Language Processors', '5 - BATCH Language Processors', '6 - COMMAND (TSO,CLIST,REXX)', '7 - DIALOG TEST Dialog Test', '8 - LM UTILITIES Functions', and '9 - IBM PRODUCTS Development Products'. The right window, titled '4 - PRIMARY', shows a similar terminal session with the same header and menu options, but with the '0 - Specify ISPF PARAMETERS' option selected, leading to a list of sub-options: 'S - SDSF', 'IPCS - IPCS Dialog Management', 'R - RACF Panels', 'BM - Book Manager/Read', 'HCD - HCD Panels', 'RMF - RMF Panels', 'BDT - BDT Panels', 'ISMF - ISMF Panels', 'ICSF - ICSF Panels', 'H - DF/HSM', and 'E - (E)JES is N/A on 02.03.00'. The terminal windows also show system information like 'UserID - DEBUG1', 'Logon Proc - PROCWB', 'Time - 07:39', 'System - P00/SVPLEX6', and 'Terminal - 3278 PF Keys - 12'.

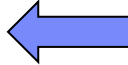
# Agenda

- What's z/OSMF
- How does z/OSMF fit in your environment
- z/OSMF configuration
- z/OSMF portfolio
  - Plugins with UI (Demo)
  - [Workflow](#) 
  - Cloud Provisioning
  - RESTful services

# Agenda

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- What's z/OSMF
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  - RESTful services 

## Why RESTful services?

- z/OSMF RESTful services are based on HTTP:
  - Easy to call
  - Could be driven remotely (via HTTPS) and securely
  - Language and platform independent
  - Exploiters could be anyone who can issue HTTP requests:
    - Web application
    - Stand alone application
    - Mobile App

## z/OSMF REST services \*

- z/OS jobs service
- z/OS data set and file service
- z/OSMF workflow service
- z/OS Cloud Provisioning and Management
- Application Linking Manager interface service
- TSO/E address space service
- Data persistence service
- Topology service
- Multisystem routing service
- Software Management service
- Notification service
- z/OS Operator Consoles services

Please refer to <z/OS Management Facility Programming Guide> for details:  
[https://www.ibm.com/support/knowledgecenter/en/SSLTBW\\_2.3.0/com.ibm.zos.v2r3.izu.a700/toc.htm](https://www.ibm.com/support/knowledgecenter/en/SSLTBW_2.3.0/com.ibm.zos.v2r3.izu.a700/toc.htm)



# z/OSMF REST services Swagger Documentation

## Liberty REST APIs

Discover REST APIs available within Liberty

### Published Software Catalog

Show/Hide | List Operations | Expand Operations

### Resource Management

Show/Hide | List Operations | Expand Operations

### Software Service Instance Names

Show/Hide | List Operations | Expand Operations

### Software Services Catalog

Show/Hide | List Operations | Expand Operations

GET	/zosmf/provisioning/rest/1.0/scc	List the software services templates
POST	/zosmf/provisioning/rest/1.0/scc	Create a software services template
DELETE	/zosmf/provisioning/rest/1.0/scc/{object_id}	Delete a software services template
GET	/zosmf/provisioning/rest/1.0/scc/{object_id}	Get a software services template
POST	/zosmf/provisioning/rest/1.0/scc/{object_id}	Modify a software services template
POST	/zosmf/provisioning/rest/1.0/scc/{object_id}/actions/archive	Archive a software services template
POST	/zosmf/provisioning/rest/1.0/scc/{object_id}/actions/create_based_on	Create a new software services template based on an existing one
POST	/zosmf/provisioning/rest/1.0/scc/{object_id}/actions/create_new_version	Create a new version of a software services template
POST	/zosmf/provisioning/rest/1.0/scc/{object_id}/actions/publish	Publish a software services template
POST	/zosmf/provisioning/rest/1.0/scc/{object_id}/actions/refresh	Refresh a software services template
POST	/zosmf/provisioning/rest/1.0/scc/{object_id}/actions/security_complete	Complete for a software services template

Screenshot

# z/OSMF REST services Swagger Documentation

GET /zosmf/provisioning/rest/1.0/scc/{object\_id}

[Get a software services template](#)

## Implementation Notes

Retrieves a software services template from the catalog.

## Response Class (Status 200)

The request succeeded.

Model Example Value

```

"name": "string",
"version": "string",
"owner": "string",
"state": "archived",
"description": "string",
"tenants": [
  "string"
],
"domain-name": "string",
"approvals": [
  {

```

Response Content Type

## Parameters

Parameter	Value	Description	Parameter Type	Data Type
<b>object_id</b>	<input type="text" value="(required)"/>	<b>Identifies the software services template to retrieve.</b>	path	string

## Response Messages

HTTP Status Code	Reason	Response Model	Headers
400	The request contained incorrect parameters.		
401	The request cannot be processed because the client is not authorized.		
404	The requested resource does not exist.		
409	The request cannot be processed because of conflict in the request, such as an edit conflict between multiple updates.		
500	The server encountered an error that prevented it from completing the request.		

[Try it out!](#)

[Screenshot](#)

# z/OSMF REST service example (1/2)

- z/OS jobs service – List jobs you owned

The screenshot displays the HttpRequester application interface. The URL field is set to `https://pkstp03.pok.stglabs.ibm.com:1035/zosmf/restjobs/jobs`. The GET method is selected. The response status is 200 OK. The response body is a JSON array containing one job object. The headers section shows the following information:

Name	Value
X-Powered-By	Servlet/3.0
Content-Type	application/json
Content-Language	en-US
Transfer-Encoding	chunked
Date	Fri, 06 Feb 2015 12:36:27 GMT
Server	WebSphere Application Server

```
[
  {
    "jobname": "DEBUG20",
    "retcode": null,
    "subsystem": "JES2",
    "url": "https://pkstp03.pok.stglabs.ibm.com:1035/zosmf/restjobs/jobs/T0161971PKSTVS27CE7799C5.....%3A",
    "status": "ACTIVE",
    "owner": "DEBUG20",
    "jobid": "T0161971",
    "class": "TSU",
    "job-correlator": "T0161971PKSTVS27CE7799C5.....:",
    "files-url": "https://pkstp03.pok.stglabs.ibm.com:1035/zosmf/restjobs/jobs/T0161971PKSTVS27CE7799C5.....%3A/files",
    "type": "TSU",
    "phase": 14,
    "phase-name": "Job is actively executing"
  }
]
```

# z/OSMF REST service example (2/2)

- z/OS data set and file service – List data sets for “SYS1.\*lib”

The screenshot displays the z/OSMF REST client interface. On the left, the 'Request' section shows a GET request to the URL `/pkstp03.pok.stglabs.ibm.com:1035/zosmf/restfiles/ds/?dslevel=sys1.*lib`. The 'Response' section on the right shows a 200 OK status and a JSON array of data set names. The response is displayed in 'Text' format with 'Pretty format' checked. Below the response, the 'Headers' section lists various metadata such as 'X-Powered-By: Servlet/3.0', 'Content-Type: application/json; charset=UTF-8', and 'Date: Fri, 06 Feb 2015 12:39:19 GMT'.

**Request**

URL: `/pkstp03.pok.stglabs.ibm.com:1035/zosmf/restfiles/ds/?dslevel=sys1.*lib`

GET Submit GET POST PUT

New request Paste Request Authentication...

Content to Send Headers Parameters

Content Type: [ ]

Content Options: Base64 Parameter Body

Content  File [ ] Browse...

**Response**

GET on `https://pkstp03.pok.stglabs.ibm.com:1035/zosmf/restfiles/ds/?dslevel=sys1.*lib`

Status: 200 OK

Browser  Text  Pretty format [View raw transaction](#)

```
{
  "items": [
    {
      "dsname": "SYS1.BKPTLIB"
    },
    {
      "dsname": "SYS1.CHSLIB"
    },
    {
      "dsname": "SYS1.COMDLIB"
    },
    {
      "dsname": "SYS1.COBLIB"
    },
    {
      "dsname": "SYS1.COB2CLIB"
    },
    {
      "dsname": "SYS1.COB2MLIB"
    },
    {
      "dsname": "SYS1.COB2PLIB"
    },
    {
      "dsname": "SYS1.CSSLIB"
    }
  ]
}
```

**Headers**

X-Powered-By	Servlet/3.0
Content-Type	application/json; charset=UTF-8
Content-Language	en-US
Transfer-Encoding	chunked
Date	Fri, 06 Feb 2015 12:39:19 GMT
Server	WebSphere Application Server

**Thanks!**