



IBM z/OS Management Facility V1.11

Setup and configuration

With APAR PK97274

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This presentation is an overview of the end to end setup and configuration for the IBM z/OS Management Facility V1R11, also called z/OSMF. This presentation describes the functions delivered with APAR PK97274 (PTF UK52956)

Agenda

- Overview
- Packaging
- Installation
- Configuring WebSphere® Application Server OEM Edition 7.0 for z/OS
- Configuring z/OS Management Facility application
- Summary
- Appendix

This is the agenda. This session will cover packaging and setup of z/OSMF 1.11, and the configuration requirements based on the specific delivery package. In particular it will cover the key steps required to configure the components – WebSphere Application Server OEM and z/OSMF application.

IBM z/OS Management Facility V1.11 overview

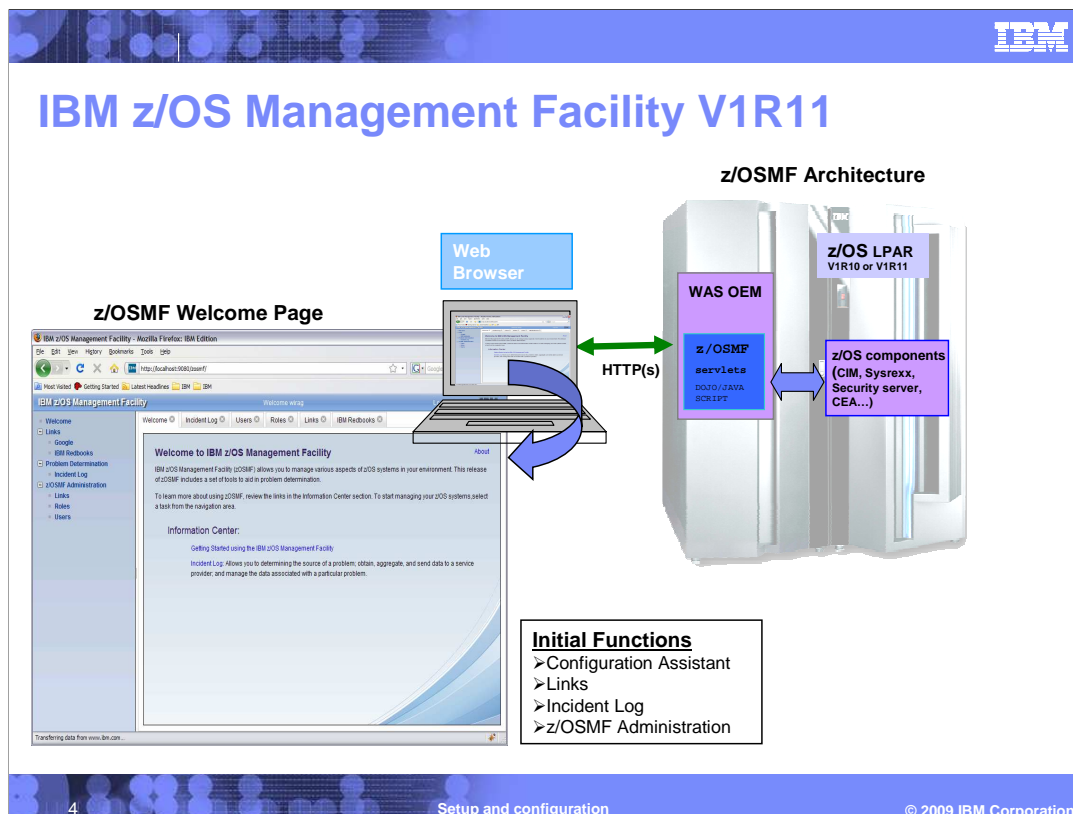
- The IBM z/OS Management Facility is a new, product for z/OS that provides support for a modern, Web-browser based management console for z/OS.
- Helps system programmers to more easily manage and administer a mainframe system by simplifying day to day operations and administration of a z/OS system.
- 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/OSMF), a new product, will simplify, optimize and modernize the z/OS **system programmer** experience starting with problem data management and TCP/IP Policy based configuration.

z/OSMF will deliver solutions in a task oriented, Web browser based user interface with integrated user assistance. And z/OSMF will make the day to day operations and administration of the mainframe z/OS systems easier to manage for both new and experienced system programmers. The focus is to help improve system programmer productivity, and make the functions easier to understand and use.

You may ask why is it Version 1 Release 11 if it is the first release? Why not V1.1? The goal was to align z/OSMF very closely with z/OS itself. Since for its initial release z/OSMF will be made available at the same time as z/OS V1.11 we wanted to have the same naming convention.



This chart explains the structure for z/OSMF and how it fits into the z/OS environment.

z/OSMF provides a Web browser interface that communicates with the z/OS system with direct access to z/OS data and information using HTTPS. z/OSMF is hosted on the IBM WebSphere Application Server OEM Edition for z/OS that is included with the product. The application server runtime is special version of WebSphere Application Server V7.0 for use by z/OSMF application. The z/OSMF applications exploit functions provided by z/OS system components. Everything is installed on the z/OS server and there are no client side install requirements. End-end configuration and setup of the application stack is simplified by using the scripts provided with the product.

Once WebSphere Application Server has been set up and installed, the z/OS Management Facility application itself is deployed into this runtime and this is where the application servlets and GUIs reside. Portions of z/OSMF use the DOJO technology for GUIs, which uses Java™ script and that helps improve performance overall because the GUI can perform all the graphics rendering in the browser on the workstation.

System Programmers invoke the application URL with a supported browser and login using their z/OS logon ID. The main navigator application authenticates and authorizes the user to a set of tasks which are then loaded into the Web browser.

The z/OSMF welcome page is displayed once the you log in to z/OSMF . That will be covered more in the follow on slides.

For this initial release the tasks and components are the Configuration Assistant for the z/OS Communications server – which performs network configuration; Links – which is a way to list links to external Web sites and products in an easily accessible location; Incident Log - the problem determination solution, which provides a consolidated view of abend-related problems on the system or sysplex with details behind it. It also provides the ability to send the data collected as a result of a problem to a destination of choice. Various z/OS facilities are employed to provide data and interact with the Web applications.

The initial functions include z/OSMF Administration, Incident Log, Configuration Assistant for z/OS Communication Server and Links

z/OSMF Administration gives you a:

- Display welcome page and deployed z/OSMF applications in Task list
- Provides Authorization services for the administrator
- Allows Dynamic addition of links to non-z/OSMF resources

Under the Problem Determination category on the navigation bar, you will find the Incident Log task.

This first release will help all system programmers with problem data management tasks, providing experienced teams with procedural advantages through an incident log summary and detail views of z/OS dump incidents. 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. **Configuration Assistant from Communication Server**

Simplified configuration and setup of TCP/IP policy-based networking functions

Another category on the navigation bar is Links which:

- Provides common launch point for accessing resources beyond the IBM z/OS Management Facility.
- Some links are pre-defined in the product.
- The administrators can define additional links to share commonly used resources for their installation.

z/OSMF packaging

z/OSMF V1R11 consists of:

- **PID# 5655-S28**
- **S/S PID# 5655-S29**
- **FMID# HBBN700 (IBM WebSphere Application Server OEM Edition for z/OS V7.0)**
 - ▶ COMPID 5655I3512 - WEBS APP SVR OEM
- **FMID# HSMA110 - Description: IBM z/OS Management Facility**
 - ▶ COMPID 5655S28SM – z/OSMF Core
 - ▶ COMPID 5655S2805 – z/OSMF Incident Log
 - ▶ COMPID 5655S28CA –Config Assist

These are the details of the z/OSMF 1.11 product package.

Prerequisites

- **z/OS Management Facility requires z/OS V1 R10 and later**
 - ▶ z/OS V1R10 requires additional service, as defined in the program directory
- **The Configuration Assistant for z/OS Communications Server portion of z/OS Management Facility requires z/OS V1.11 or later.**
- **Incident Log function in z/OS Management Facility requires the following z/OS components to be configured**
 - ▶ CIM server
 - ▶ Sysplex Dump Directory
 - ▶ CEA
 - ▶ System Rexx
 - ▶ Logger
- **Client machine (no client machine install requirements)**
 - ▶ Windows XP® operating system and later
 - ▶ Supported browsers:
 - Mozilla Firefox 3.0.6 (recommended)
 - Mozilla Firefox 2
 - Internet Explorer® 7
 - Internet Explorer 6

z/OSMF is supported on z/OS V1.10 and above. On R10 additional service is required. There is no client install requirements

The client/ browser machine is a Windows XP operating system and supported browsers: Mozilla Firefox 3.0.6 (recommended), Mozilla Firefox 2, Internet Explorer 7, Internet Explorer 6. Two of each browser technology.

Note Additional service required on z/OSV1R10 system will be stated in the program directory.

Installation

Installation scenarios:

- z/OS V1R11 ServerPac
 - ▶ Provides **default** customization by way of post install customization
 - ▶ Use the WebSphere Application Server OEM Configuration Guide and z/OSMF User's guide and Configuration scripts to setup if defaults are not viable
 - ▶ Provided for both Full System Replace and Software Upgrade installation paths
- z/OSMF V1R11 CBPDO
 - ▶ Can be installed on z/OS V1R10 or z/OS V1R11
 - ▶ Use Program directory to get started
 - ▶ Use the WebSphere Application Server OEM Configuration Guide and z/OSMF User's guide and Configuration scripts to setup
- Setting additional instances (test, service, backup)
 - ▶ Follow the User's guide for instructions

Here are the installation scenarios.

z/OSMF can be ordered in a Server Pac which provides a **default** customization, so that when the system is brought up you have an instance of z/OSMF up and running and all you have to do is point your browser to it. If system supplied defaults are not viable, the best approach is to use the scripts

z/OSMF can also be ordered in a CBPDO which means z/OS V1.10 customers can order z/OSMF by itself and get the WebSphere Application Server OEM edition and the z/OSMF application. z/OS V1.11 customers who did not order z/OSMF with R11 ServerPac ... can do so at a later date with CBPDO.

Setup and Configuration

V1R11 ServerPac

- The z/OS V1R11 ServerPac with z/OSMF V1R11 will have both the FMIDs that make up z/OSMF installed in the appropriate directories
- ServerPac provides post-install jobs to create a **default** instance of z/OSMF that has been setup end-end with all applications deployed. This includes:
 - ▶ Allocate and mount z/OSMF product and data file systems
 - ▶ Install and set up WebSphere Application Server OEM for z/OSMF and deploy z/OSMF applications
 - ▶ Create ZOSMFAD administrator identity
 - ▶ Set up z/OS for Incident Log (CIM Server, Sysplex Dump Directory, Logger, Log streams, System Rexx, Parmlib setup etc).
 - ▶ Prime z/OSMF data repository with ZOSMFAD user ID
- Note: When defaults cannot be taken, the User guides should be followed to setup the product

This focuses on z/OS V1.11 ServerPac.

z/OS V1.11 ServerPac will include it if you order z/OSMF as its an optional product. When you order z/OSMF in the z/OS V1.11 ServerPac, not only is z/OSMF installed in the Pac but there are also post-install steps and jobs that take you through end to end set up for WebSphere Application Server OEM and z/OSMF to create a default instance. This includes the defaults that come with z/OSMF, but also defining user requirements. So when z/OS V1.11 is brought up, so is z/OSMF V1.11.

It performs all of the requirements, including allocating and mounting file systems , creating the administrator identity, setting up all the z/OS requirements, .. in the stack chart that was shown, it is not just WebSphere Application Server OEM, and z/OSMF application, but it communicates with many components in z/OS. So it ensures that all the components that are required are all correctly set up – not only in terms of component set up with parmlibs or directories, but also from a security perspective for permissions and user definitions. The administrator user ID is defined during configuration, so you are truly ready to go and use this product.

Setup and Configuration

z/OSMF V1R11 CBPDO (on z/OS V1R10 or z/OS V1R11)

The program directory provides sample jobs to lay down both the FMIDs that make up z/OSMF in the appropriate directories

- If you are installing on z/OS **V1R10**, apply prerequisite service
- Setup z/OS as described in the Planning section of z/OSMF User's Guide and the WebSphere Application Server OEM 7.0 Configuration Guide
- Collect all the input as described in the WebSphere Application Server OEM Configuration Guide
- Collect all the inputs for application setup as described in the z/OSMF User's Guide
- Scripts are provided to configure and setup WebSphere Application Server OEM 7.0 and z/OSMF V1R11, and some of the required z/OS setup

In case of a PDO you have to use the documentation that is provided. It has a planning section that tells you all the different things you need to set up with very good guidance with samples and scripts. The planning section also puts together everything you will need to complete the set up end to end so you can collect the information that is needed, because very often it is not just one person with all the information. You need the networking person to give you some information, the security person needs to give you more information, the system programmer needs to provide information on the data sets and volumes. There are scripts that take you through the setup, with information you have collected as part of the planning exercise.

Setup and Configuration

■ Setting up additional instance for z/OSMF

- ▶ Install and setup WebSphere Application Server OEM.
Note that each WebSphere Application Server setup needs unique values (server, cell, and so on)
- ▶ Collect all the inputs as described in Planning section of z/OS User's Guide (At completion of ServerPac there is a configuration file, with most inputs that can be read in also)
- ▶ Invoke setup scripts to configure and setup z/OSMF

Note: z/OSMF is designed to be installed using the scripts provided.

There is additional information provided on how you would set up additional instances of z/OSMF for backup. z/OSMF does not have hot backup or hot failover at this point . You will have to ensure there is another z/OSMF instance set up that is configured appropriately but not started at the same time ... but can be started later as part of the same repository, so you don't have to go through and define it all over again.

You might also want to set up another instance for a test system.

Scripts are provided to perform the set up, and the setup is broken into 3-4 pieces for flexibility. The security is also broken into a separate script so you can review first – because the system programmer setting up z/OSMF is sometimes not the one to set up for security.

You can optionally read in values saved by ServerPac setup or start from beginning. When using ServerPac configuration file, make sure to update new WebSphere Application Server OEM values and member specific paths.

In order to switch z/OSMF instances and use the same customization, the sysplex must use shared SAF or identical SAF setup. For shared SAF, ServerPac has already setup needed SAF.

Setup and Configuration - Verification

For all scenarios:

- **Verify that z/OSMF has been properly setup and configured**
 - ▶ Script is provided to verify that all the z/OS setup was completed successfully
- **Verify the Client environment**
 - ▶ A client environment checking tool has been provided to check the browser settings. The URL to access is documented in the IBM z/OS Management Facility User's Guide
- **Start z/OSMF**
 - ▶ Starting WebSphere Application Server OEM will also start z/OSMF

Note: At the completion of above setup, the administrator - ZOSFMAD user can access all tasks on the UI.

- **To add additional users,**
 - ▶ The administrator, ZOSFMAD, needs to add and assign those users the appropriate roles on the UI under Administration category.
 - ▶ Use the sample scripts to generate and submit the RACF® commands needed to connect user to Core (includes Configuration Assistant) or Incident Log.
 - Note: You will need the z/OSMF configuration file as input

Beyond that scripts verify the set up is correct and complete for the flow that you want to work with so you have verification for basic z/OSMF setup and for incident log which has the biggest amount of setup requirements. This verifies that it is set up correctly all the way down to where the dumps are taken, where its visible as an incident, all the way up to the delete.

Client side check is also available, that you can invoke through a URL and it will actually check the browser environment . Not only giving a detailed report of the browser setting, but also point out any setting that is not correct for z/OSMF to run and how to fix that .

Once all the verifications have been done , you can start WebSphere Application Server OEM and start z/OSMF.

Once the administrator is set up by default, additional scripts are provided to add additional users. They encompass everything that is required to define additional users , end to end, authorization they may require so that you can easily enable more users.

To Start WebSphere Application Server OEM in UNIX®

issue - \$IZU_APPSERVER_ROOT/AppServer/bin/startServer.sh \$APPSERVER_NAME

Where by default:

APPSERVER_ROOT = /u/wasoeqcg

APPSERVER_NAME= server1 and can be found in:

\$IZU_APPSERVER_ROOT/AppServer/profiles/default/config/cells/*/nodes/*/servers

To Start WebSphere Application Server OEM on MVS Console

START appserver_proc_name,JOBNAME=server_short_name,

ENV=cell_short_name.node_short_name.server_short_name

For example:

START BBN7ACR,JOBNAME=BBNS001,ENV=BBNBASE.BBNNODE.BBNS001

z/OSMF Setup and Configuration detailed flow

- Configuring WebSphere Application Server OEM
- Configuring z/OSMF
- Creating new users for z/OSMF
- Customizing the z/OS setup

The following steps represent the flow of the configuration and setup process.

IBM z/OS Management Facility Web Page has links to all documentation

<http://www.ibm.com/systems/z/os/zos/zosmf/>

WebSphere Application Server OEM V7 Configuration – Overview

- Pre-requisites for WebSphere Application Server OEM
 - ▶ Some z/OS components and parmlibs need to be setup before configuring WebSphere Application Server OEM
- WebSphere Application Server OEM configuration is achieved in three phases
 - ▶ Step A – Config - Invoke WASOEM.sh in config mode:
 - Specific configuration and customization settings are collected as you respond to a series of interactive prompts.
 - A new version of the response file is generated that reflects your responses to the prompts.
 - Unless you specify the -nooverride parameter, the new response file is then updated with any information that you provided in the override response file.
 - Three security jobs are created for you to run to set up the security env
 - ▶ Step B – Security Customization - Submit Security Customization Jobs
 - BBOSBRAK
 - BBOSBRAM
 - BBOCBRAK
 - ▶ Step C – Create Instance - Invoke WASOEM.sh in create mode:
 - The helper script createWASOEMHFS.sh is invoked to create an instance of IBM WebSphere Application Server OEM Edition for z/OS
 - The wsadmin script updateConfigWASOEM.py is invoked to modify the configuration settings for this IBM WebSphere Application Server OEM Edition for z/OS instance.

In order to setup and configure WebSphere Application Server OEM, the pre-requisite setup on z/OS needs to be completed first. This is described in the Configuration Guide.

The WebSphere Application Server OEM configuration itself has three main steps and stated above and described further in following charts.

All instructions assume the use of RACF security product, but can be substituted with non-RACF commands as needed.

Configuration step A: Running WASOEM.sh in config mode

- Refer to Web site for link to all documentation
 - ▶ <http://www.ibm.com/systems/z/os/zos/zosmf/>
- Syntax :
 - WASOEM.sh -config
 - ▶ Where :
 - ▶ Required parameters
 - config = indication that this is the configuration phase of install
 - ▶ Optional parameters
 - showmsgprefix = indicates that message prefixes should display on the console.
 - noclear = indicates that the screen should not be cleared between prompts.
 - fastpath = indicates that you want to use the variable values that are already specified in the response file, and potentially in the override response file. When you specify this parameter, you are not prompted for new values for the response file variables during the configuration process.
 - nooverride = indicates that you do not want to use the variable values that are specified in the override response file.
 - v = additional detail included in the log file and displayed on the console.
 - responsefile = specifies the fully-qualified name of the response file that you want WASOEM.sh to use as its input file.

The first step in configuring WebSphere Application Server OEM is to collect the required by invoking the script with the requested parameters. This will create a new or updated response file and the required security jobs.

Configuration step A (continued)

- ▶ If you do not specify a file name to save the configuration into, it will be
- ▶ saved in `/etc/zWebSphereOEM/V7R0/conf/`
- ▶ Make sure when you run this, you also have access to:
 - `load module plexname`
 - `createWASOEMHFS.sh`
 - `modifyWASOEM.py`
- ▶ These are located in the same dir as `WASOEM.sh` (`/usr/lpp/zWebSphereOEM/V7R0/bin`). The `PATH` should also be setup so these scripts can be referenced.
- ▶ This, and all other shell scripts must run in either an OMVS, telnet or rlogin session. It cannot be run from under ISHELL.
- ▶ This shell script invokes WebSphere Application Server install technology in the form of the `zpmtd.sh` install tool. This script accepts the `responseFile` after it has been tailored and produces three security jobs that are submitted in the next step

Here are additional notes and considerations when using the script to create the new response file

Configuration step B: Running the security customization jobs

- The newly created customization jobs are located in the `$zTargetHLQ.CNTL` library.
 - ▶ Ex: if the default.Responsefile contained a setting of `$zTargetHLQ=BBN.V7R0.CONFIG1.ZPMTJOBS` Then the security customization jobs would be found in the library `BBN.V7R0.CONFIG1.ZPMTJOBS.CNTL`
- The security customization jobs must be submitted in the following order:
 - ▶ BBOSBRAK
 - creates the Administrator ID `{zAdminUserid}` without a password, or password phrase. This is the ID used to log onto the WebSphere Application Server administrative console
 - ▶ BBOSBRAM
 - creates the various home directories for IBM WebSphere Application Server OEM Edition for z/OS.
 - ▶ BBOCBRAK
 - creates the following RACF users and profiles that are required by the IBM WebSphere Application Server OEM Edition for z/OS node.

The security jobs that have been created need to be reviewed and run by the security administrator. If a security product other than RACF is used, the equivalent commands can be substituted here instead.

Configuration step C: Running WASOEM.sh in create mode

- Syntax :

- ▶ WASOEM.sh -create <*configuration_name*>

- ▶ Where :

- Required parameters

- -create = indication that this is the instance creation phase of install

- Optional parameters

- -showmsgprefix = indicates that message prefixes should display on the console.

- -noclear = indicates that the screen should not be cleared between prompts.

- -v = additional detail included in the log file and displayed on the console

- -nocustom = indicates that you do not want to run the customization portion of the WASOEM script.

Finally, the instance of WebSphere Application Server OEM is created by invoking the script with the –create parameter.

z/OSMF configuration overview

Action to perform	Script invocation	Performed by
"Step 1: Create the initial configuration"	<code>izusetup.sh -file <i>configfilename</i> -config [-system <i>sysname</i>] [..other options...]</code>	Super user
"Step 2: Run the security commands"	<code><i>configfilename</i>.rexx</code>	Security administrator
"Step 3: Verify the RACF security setup"	<code>izusetup.sh -file <i>configfilename</i> -verify racf</code>	Security administrator
"Step 4: Prime the z/OSMF data file system"	<code>izusetup.sh -file <i>configfilename</i> -prime</code>	Super user
"Step 5: Complete the setup"	<code>izusetup.sh -file <i>configfilename</i> -finish</code>	z/OSMF administrator
"Step 6: Verify the z/OSMF configuration"	At the end of the z/OSMF configuration process, you can verify the success of your configuration changes by opening your browser to the z/OSMF Welcome task.	z/OSMF administrator

Note: The configuration guide uses `/etc/zosmf/izuconfig1.cfg` for the `-file` value

The table describes the steps for configuring z/OSMF. The first column describes the steps for configuring z/OSMF. The second column contains the commands used to invoke the script to perform the action. The third column identifies the user authorization level required to perform the action.

The configuration guide uses `/etc/zosmf/izuconfig1.cfg` for the `-file` value

z/OSMF configuration log files

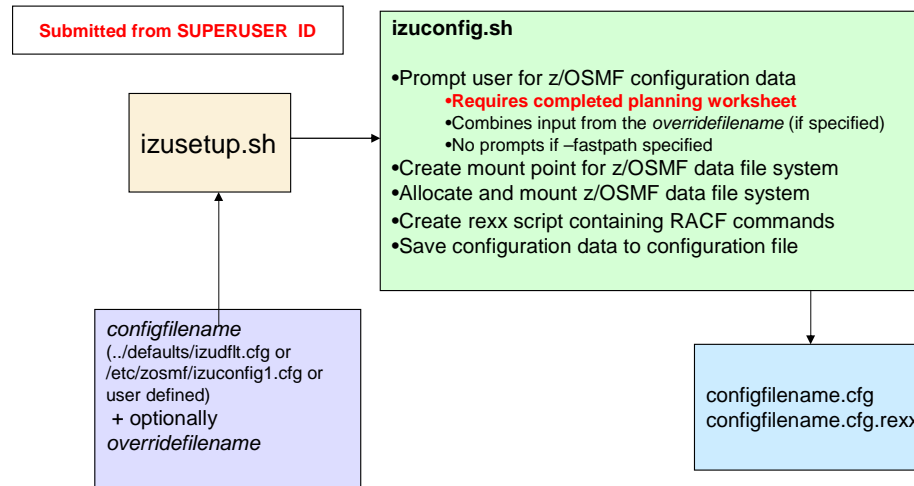
- Format: script_\$(date +"%m%d%y")_\$(date +"%H%M%S").log
- Configuration logs are written to \$IZU_CONFIG_DIR (by default: /etc/zosmf)
- For most scripts, if \$IZU_CONFIG_DIR is not available logs are written to /tmp.

Log files for z/OSMF configuration are given the following naming convention. The “script” prefix identifies the name of the script that has been invoked. It is followed by a timestamp and ending with a “log” extension.

The logs are written to \$IZU_CONFIG_DIR (/etc/zosmf). If this directory does not exist the logs are written to \$TMPDIR. If \$TMPDIR is not set then it is written to /tmp.

Step 1: Create the initial z/OSMF configuration

izusetup.sh -file configfilename -config [-system sysname] [-overridefile overridefilename] [-fastpath]



This is the first step in the configuration for z/OSMF. It creates the configuration file needed for the remainder of the steps in the configuration. The planning worksheet **MUST** be completed before this step. The installer is prompted for values that will be saved to a caller specified configuration file. The caller can also provide an 'overridefile' to substitute the IBM provided defaults. When the `-fastpath` option is used, there are no prompts. This step also allocates and mounts the z/OSMF data file system (if it doesn't already exist). It creates the logs directory on the data file system that is used to store the run time logs for z/OSMF.

Some highlights for this step:

- Requires super user authority with a UID of 0 to run this script.
- Provides option to setup Incident Log
- Provides option to setup CIM
- Default saved configuration file format is same as input file name or `/etc/zosmf/izuconfig1.cfg` and is saved in `$IZU_CONFIG_DIR (/etc/zosmf)`
- User specified configuration file can also be provided to prime the prompts with default values
- In creating the z/OSMF data file system, zFS and HFS file systems are supported, as is SMS managed storage, using the `*` parameter

<pre> .defaults/izudflt.cfg IZU ADMIN_NAME=ZOSMFAD IZU ADMIN_REGION=2096128 IZU ADMIN_UID=9001 IZU ADMIN_GROUP=ZOSMFGRP IZU ADMIN_GROUP_GID=9003 IZU ADMIN_HOME=/u/zosmfad IZU ADMIN_PROGRAM=/bin/sh IZU WAS_CONFIG_FILE_KNOWN=Y IZU WAS_CONFIG_FILE_LOCATION= /etc/zWebSphereOEM/V7R0/conf/CONFIG1/CONFIG1.responseFile IZU WAS_PROFILE_PREFIX=BBNBASE IZU CLUSTER_TRANSITION_NAME=BBNC001 IZU APPSERVER_GROUP=WSCFG1 IZU APPSERVER_ROOT=/zWebSphereOEM/V7R0/config1 IZU CELL_SHORT_NAME=BBNBASE IZU CONTROL_USERID=WSCRU1 IZU SERVANT_USERID=WSSRU1 IZU WBEM_ROOT=/usr/lpp/wbem IZU DATA_FS_NAME=IZU.SIZUDATA IZU DATA_FS_TYPE=ZFS IZU DATA_FS_SIZE=100 IZU DATA_FS_VOLUME="" IZU CODE_ROOT=/usr/lpp/zosmf/V1R11 IZU DATA_DIR=/var/zosmf/data IZU_CONFIG_DIR=/etc/zosmf IZU_CIM_GROUP_NAME=CIMGP IZU_CIM_GROUP_ID=5321 IZU_CEA_UID=9002 IZU_CEA_GROUP_NAME=CEAGP IZU_CEA_GROUP_ID=6321 IZU_CEA_PARM_NAME=01 IZU_JEA_PARM_NAME=ZM IZU_PARMLIB=SYS1.PARMLIB IZU_PARMLIB_SOURCE=SYS1.PARMLIB IZU_INCIDENT_LOG=Y IZU_CIM_SETUP=N IZU_CIM_ADMIN_NAME=ZOSMFAD IZU_SYSNAME_PREFIX=@SYSNAME IZU_ADMIN_PROC=NO.DEFAULT.VALUE IZU_ADMIN_ACCOUNT=NO.DEFAULT.VALUE IZU_COUNTRY_CODE=NO.DEFAULT.VALUE IZU_BRANCH_CODE=NO.DEFAULT.VALUE IZU_STORAGE_VALUE=NO.DEFAULT.VALUE </pre>	<pre> .defaults/izudflt.ovr IZU ADMIN_NAME=ZOSMFAD IZU ADMIN_REGION=2096128 IZU ADMIN_UID=9001 IZU ADMIN_GROUP=ZOSMFGRP IZU ADMIN_GROUP_GID=9003 IZU ADMIN_HOME=/u/zosmfad IZU ADMIN_PROGRAM=/bin/sh IZU WAS_CONFIG_FILE_KNOWN=Y IZU WAS_CONFIG_FILE_LOCATION= /etc/zWebSphereOEM/V7R0/conf/CONFIG1/CONFIG1.responseFile IZU_DATA_FS_NAME=IZU.SIZUDATA IZU_DATA_FS_TYPE=ZFS IZU_DATA_FS_SIZE=100 IZU_DATA_FS_VOLUME="" IZU_DATA_DIR=/var/zosmf/data IZU_CONFIG_DIR=/etc/zosmf IZU_CIM_GROUP_NAME=CIMGP IZU_CIM_GROUP_ID=5321 IZU_CEA_UID=9002 IZU_CEA_GROUP_NAME=CEAGP IZU_CEA_GROUP_ID=6321 IZU_CEA_PARM_NAME=01 IZU_JEA_PARM_NAME=ZM IZU_PARMLIB=SYS1.PARMLIB IZU_PARMLIB_SOURCE=SYS1.PARMLIB IZU_INCIDENT_LOG=Y IZU_CIM_SETUP=N IZU_CIM_ADMIN_NAME=ZOSMFAD IZU_SYSNAME_PREFIX=@SYSNAME IZU_ADMIN_PROC=NO.DEFAULT.VALUE IZU_ADMIN_ACCOUNT=NO.DEFAULT.VALUE IZU_COUNTRY_CODE=NO.DEFAULT.VALUE IZU_BRANCH_CODE=NO.DEFAULT.VALUE IZU_STORAGE_VALUE=NO.DEFAULT.VALUE #IZU_STORAGE_VALUE="STORCLAS(STRCLS)" #IZU_STORAGE_VALUE="VOLSER(VOL1,VOL2,VOL3,VOL4,VOL5,VOL6,VOL7)" </pre>
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This is a sample. The left represents the current default configuration file. It contains the properties and default values provided for the configuration.

The right shows an example of the default override file that's shipped with the product.

Your resultant configuration file, that is the one you specified as the value for the `-file` parameter on the previous slide, will have the same format as the default configuration file pictured in this slide, but will have the values you specified either in the override file if you used one, or, the input you typed as a response to the prompts.

Step 2: Run the security commands configfilename.cfg.rexx

Submitted by security administrator

/etc/zosmf/izuconfig1.cfg.rexx

•The rexx script contains RACF commands to:

- Create z/OSMF Administrator
- Connect / Permit z/OSMF Administrator to Core
- Create CIM and CEA groups
- Connect z/OSMF Administrator to CIM and CEA groups
- Connect / Permit z/OSMF Administrator to Incident Log

Note: The script must be reviewed before being run

izuracfbase.template
izuracfincidentlog.template

The script should be reviewed, modified as needed and run by the security administrator. If another security product is used instead, the commands can be substituted appropriately.

The rexx script contains RACF commands used to create the z/OSMF administrator and to connect and permit it to core functions.

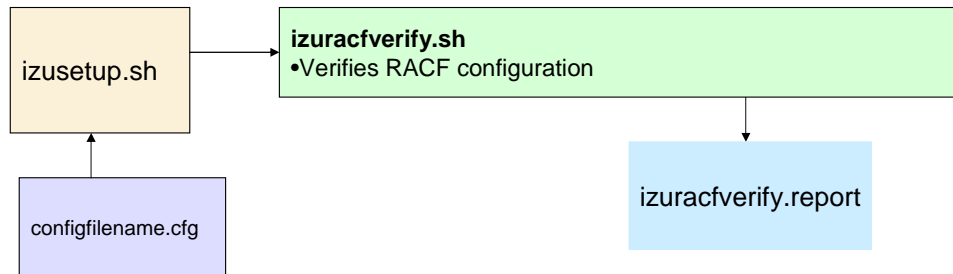
It also contains the RACF commands for the Incident Log functions, including RACF commands used to create CIM and CEA groups. The z/OSMF administrator is connected/permited to CIM and CEA groups required for Incident Log.

For cases where CIM is already configured, no CIM group is created. Instead the z/OSMF administrator is permitted to the existing CIM RACF classes. More information on this subject is provided later on.

Step 3: Verify the RACF security setup

izusetup.sh -file configfilename.cfg -verify racf

Submitted by security administrator

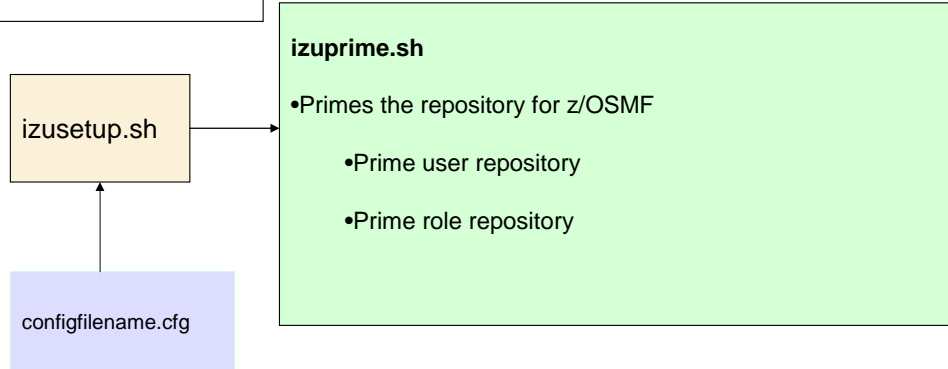


This step verifies the RACF settings for z/OSMF. A report file (izuracfverify.report) is created. It contains the sequence of RACF commands that were issued to validate the setup. If an error occurs the error can be found within this file.

Step 4: Prime the z/OSMF data file system

izusetup.sh -file configfilename.cfg -prime

Submitted from SUPERUSER ID

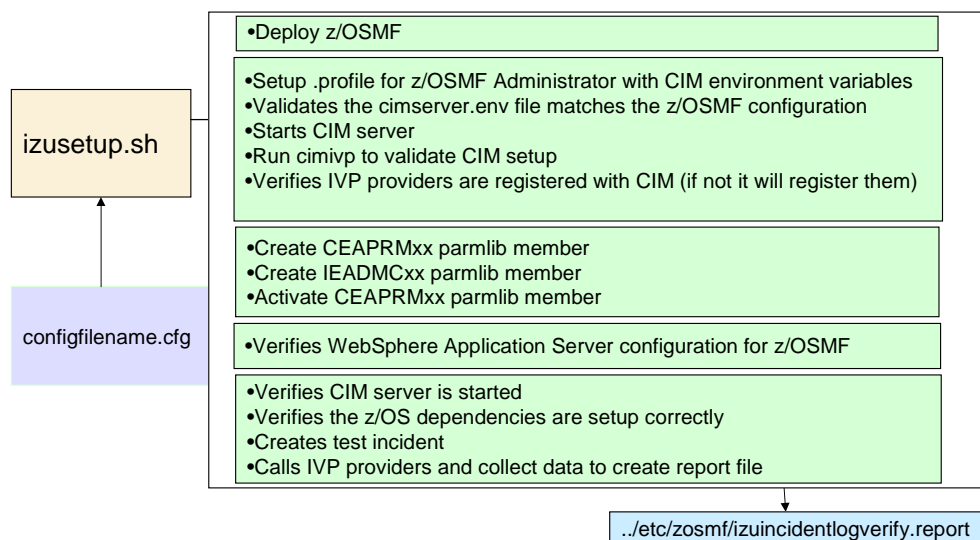


This step primes the z/OSMF data file system with the user and role repository. This sets up the persistent data for z/OSMF.

Step 5: Complete the setup

izusetup.sh –file configfilename.cfg -finish

Submitted from z/OSMF Administrator ID



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Setup and configuration

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The following steps depend on your specific configuration and whether you specified to setup Incident log and CIM.

Configuring Core

Performs the required WebSphere Application Server administration for z/OSMF and Deploys the application .EAR to the application server.

Configuring CIM

The script verifies the values in `/etc/wbem/cimserver.env` file matches the configuration, Updates z/OSMF administrator's .profile with CIM environment variables, Starts the CIM server, Validates the CIM server setup and verifies that the IVP CIM Providers are registered with CIM (if not registered, it will register them).

Configuring Incident Log

The script copies `SYS1.SAMPLIB(IEADMCZM)` into specified PARMLIB dataset, where the suffix used for IEADMC is based on value in configuration file.

The script also copies CEAPRM from source parmlib dataset into specified PARMLIB dataset. The CEAPRM member is updated with data from configuration file: Branch, Country Code, Storage. The suffix used for CEAPMRxx is based on value in configuration file.

Finally the script calls `IBMzOS_PDW_IVP` (method `SetCEAMember`) to activate the CEA member on the system.

Verifies the configuration for both core and Incident Log functions.

The core verification validates the WebSphere Application Server configuration for z/OSMF.

The Incident Log verification validates Incident Log configuration for z/OSMF. This includes verifying all the z/OS dependencies (CEA, Sysrex, Logger, and others), Creating a test dump on the target system and running a series of Incident Log operations against it to verify function and lastly, Creating a test report which details the results of the verification

The core verification can be invoked independently with the following command: `izusetup.sh –file configfilename.cfg –verify core`

The Incident Log verification can be invoked independently with the following command: `izusetup.sh –file configfilename.cfg –verify log`

izuincidentlogverify.report –

Incident Log Verification Report

To verify the configuration of the Incident Log task, z/OSMF creates a test SVC dump on the system and performs a series of tests on the test dump. For each test, this report shows either "SUCCESS" or an error message. For information about the errors and corrective actions you can take, see the Troubleshooting chapter of IBM z/OS Management Facility User's Guide, SA38-0652. Each error message corresponds to a possible cause and one or more corrective actions for the problems described by this report.

The following section describes key dependencies for the Incident Log task. A value of "SUCCESS" indicates that the dependency is configured and active on the system.

Sysplex Dump Directory : SUCCESS
CEA : SUCCESS
System REXX : SUCCESS

Diagnostic Data Results

Four diagnostic data objects are associated with an incident: The SVC dump and three "log snapshots". A value of "SUCCESS" indicates that the diagnostic objects were found for the incident. Identified errors are described in the Troubleshooting chapter of z/OSMF User's Guide.

SVCDump : SUCCESS
Operations Log : SUCCESS
Error Log : SUCCESS
Error Log Summary : SUCCESS

continue →

Incident Log Operations Results

Each diagnostic object is "prepared", that is, formatted and tersed. Usually, each diagnostic object is prepared before the incident is sent to IBM through FTP. A value of "SUCCESS" indicates that the diagnostic information was prepared successfully. Identified errors are described in the Troubleshooting chapter of z/OSMF User's Guide.

Prepare Dump Request : SUCCESS
Prepare Operations Log Request : SUCCESS
Prepare Error Log Request : No diagnostic data available.
Prepare Error Log Summary Request : SUCCESS
Set PMR Request : SUCCESS
Set Tracking Request : SUCCESS

CEA Parnlib Member

The common event adapter (CEA) component of z/OS captures diagnostic data objects. The following section describes the relevant properties in the active CEAPRMxx parmlib member. Identified errors are described in the Troubleshooting chapter of z/OSMF User's Guide.

SnapShot : Y
Branch : 999
Country : 000
Storage Value : PEVDIM3
HLQ : CEA

SLIP OperLog time : 3540
SLIP LOGREC time : 3540
SLIP LOGRECSUMMARY time : 86400
DUMP OperLog time : 3540
DUMP LOGREC time : 3540
DUMP LOGRECSUMMARY time : 86400
ABEND OperLog time : 3540
ABEND LOGREC time : 3540
ABEND LOGRECSUMMARY time : 86400

This is an example of the Incident Log verification report.

izuincidentlogverify.report – continued

----- Incident Log Logstreams Properties

OPERLOG and sysplex logrec diagnostic snapshots are written to system logger log streams. The following section describes the log stream properties expected to be active on the system. Identified errors are described in the Troubleshooting chapter of z/OSMF User's Guide.

System Logger : TRUE
OperLog set to Logstream : TRUE
Logrec set to Logstream : TRUE
Primary Logger CDS : "CIMPROV.LOGR001"
Alternate Logger CDS : "CIMPROV.LOGR002"
Number of LSR for Primary CDS : 60
CEA OperLog Logstream : ""
CEA Logrec Logstream : ""

----- Sysplex Dump Directory Properties

The sysplex dump directory contains the inventory of SVC dumps that are described by z/OSMF incidents. The following section describes the sysplex dump directory that is active on the z/OS system. Identified errors are described in the Troubleshooting chapter of z/OSMF User's Guide.

Name : "MVSSPT.SYSPLEX.DMPDIR"
Size : 112
On shared volume : FALSE
Full : FALSE
IPCS initialized : TRUE

This is a continued example of the Incident Log verification report.

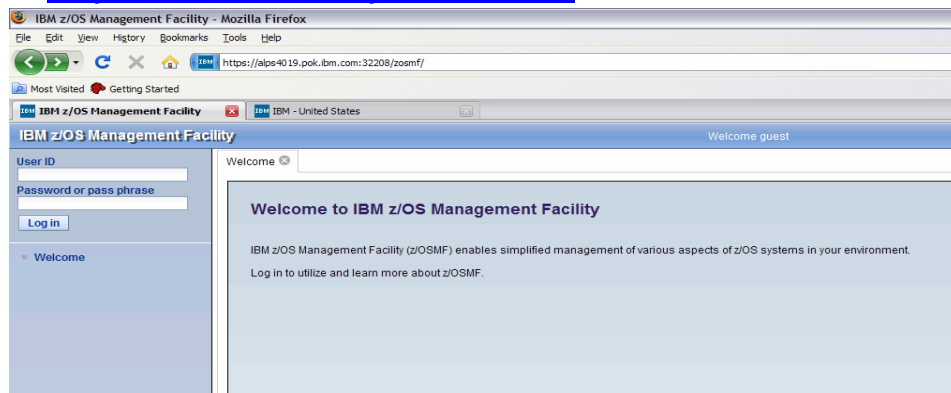
Step 6: Verify the z/OSMF configuration

- Start WebSphere Application Server OEM:

- ▶ START BBN7ACR,JOBNAME=BBNS001,ENV=BBNBASE,BBNNODE,BBNS001

- Point your browser to:

<https://hostname:port/zosmf/>



This is the final step to the z/OSMF configuration. Once WebSphere Application Server is started, point the browser to the URL of the target system and log on as the z/OSMF administrator.

By default, the configured “port” is 32208, so the URL would be <https://<yourHostName>:32208/zosmf>

z/OSMF Configuration with pre-existing CIM setup

- If CIM server is already setup and operational, then it is assumed that
 - ▶ CIM administrator has been created
 - ▶ CIM RACF setup has been completed
- In order for z/OSMF to also use the CIM server, the scripts will perform the required steps as follows
 - ▶ In step 1, create configuration, only needs to know the name of the existing CIM administrator, and will bypass all other prompts relating to CIM.
 - When configuring security for the Incident Log, no CIM RACF setup will take place. It is assumed that this has already been completed.
 - Instead, the z/OSMF administrator will be permitted to the CIM/Incident Log RACF classes.
 - ▶ In Step 5, completing the setup for Incident Log, the scripts to handle the CIM configuration will not be called. The CIM server is expected to be running for this case. The configuration will verify that the CIM server is running and will only perform the PARMLIB updates

If the CIM environment has already been setup on the target system, the setup scripts will take that into account. No special action has to be taken, other than provide the name of the currently setup CIM administrator.

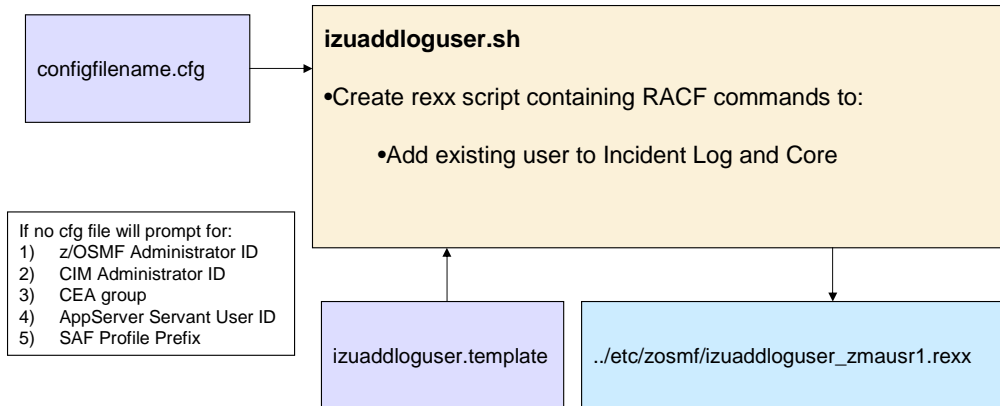
Adding users to z/OSMF

- Adds an existing user to z/OSMF
- The z/OSMF administrator needs to add the user to z/OSMF by way of the Users task
- Two scripts are provided:
 - ▶ izuaddloguser.sh: adds user to both Core and Incident Log
 - ▶ izuaddcoreuser.sh: adds user to Core only
- The configuration file name is required as input.
 - ▶ If scripts are invoked without configuration file the caller will be prompted for required values.

After completing the configuration for z/OSMF two scripts are provided to allow existing users to be added to z/OSMF.

The scripts can be invoked with the configuration file used for the z/OSMF configuration or (if omitted) prompts will be displayed for the properties required to add the users.

izuaddloguser.sh -file configfilename.cfg -username zmausr1

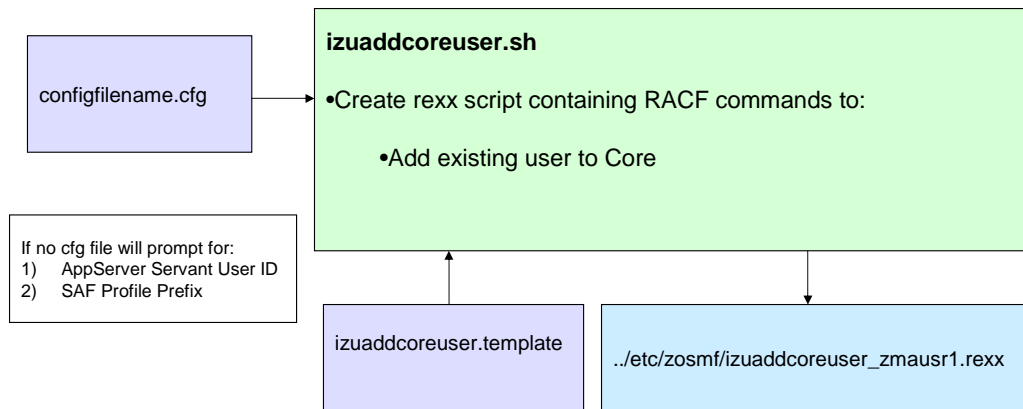


Adding a user to the Incident Log functions can be done using the `izuaddloguser.sh` script. Using a template file, values are applied to the template file to create a RACF rexx script containing the RACF commands to add the specified user to the Incident Log and core functions. In this example, the output rexx script will be named `izuaddloguser_zmausr1.rexx`.

This script can be passed in the configuration file used for the z/OSMF configuration. Or, if the file is omitted, the caller will be prompted for the values required.

The required values are: z/OSMF Admin ID, CIM Admin ID, CEA group, AppServer Servant User ID and SAF Profile Prefix

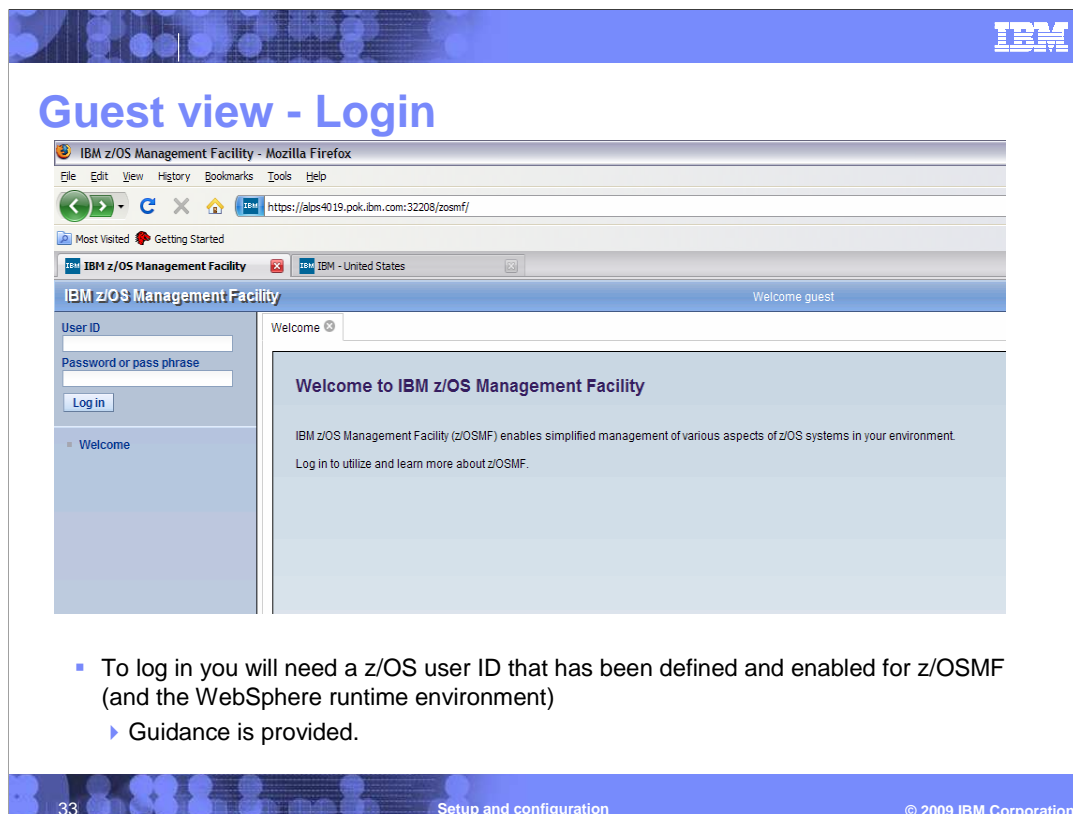
izuaddcoreuser.sh -file configfilename.cfg -username zmausr1



Adding a user to the core functions can be done using the `izuaddcoreuser.sh` script. Using a template file, values are applied to the template file to create a RACF rexx script containing the RACF commands to add the specified user to the core functions. In this example, the output rexx script will be named `izuaddcoreuser_zmausr1.rexx`.

This script can be passed in the configuration file used for the z/OSMF configuration. Or, if the file is omitted, the caller will be prompted for the values required.

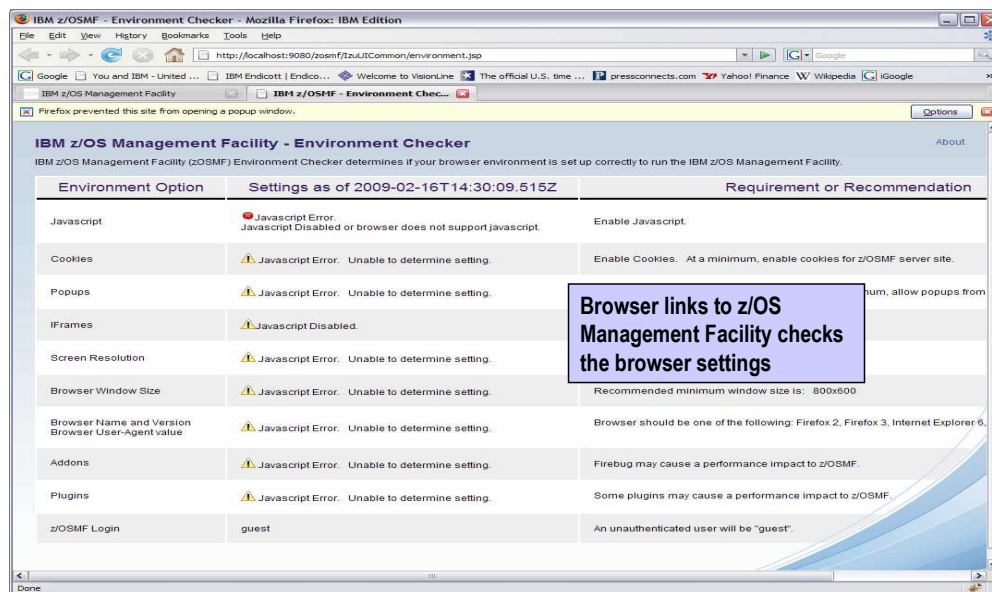
The required values are AppServer Servant User ID and SAF Profile Prefix



This shows the Welcome page when user first accesses the URL and has not logged in yet

Once z/OSMF has been set up and configured and started on a z/OS system, a z/OS user can access z/OSMF in a browser session. The URL is the host name, the port name and the context route for z/OSMF. The user initially accesses z/OSMF as a 'GUEST' until they login. On the left side is the navigation pane with the login at the top and the large center pane is where the tasks will open up. At this point you can log in with a valid z/OS user ID that has been defined and enabled for z/OSMF and the WebSphere OEM runtime environment.

Client side environment checking tool



Separate URL to access the tool (documented in the User's Guide). Checker collects the client setup data, and indicates any issues for the specific browser being used, or supported client operating system.

Setting up System Logger log streams

1. Define and start OPERLOG in a system logger log stream.

Define a coupling facility (CF) structure

Activate the operations log (OPERLOG) through the VARY HARDCPY command.

2. Define and start the LOGREC data set in a system logger log stream.

Define a CF structure

Activate it through the SETLOGRC command.

3. Create log streams for CEA.

Create OPERLOG and LOGREC model log streams for the common event adaptor (CEA) component.

4. Define a couple data set for system logger.

Define a couple data set for the system logger component (or update your existing LOGR data set) with a large enough log stream records (LSR) value to allow sufficient space for managing the DASDONLY log streams that will be created for capturing diagnostic log snapshots.

Note: These actions are not recommended in a Basic Sysplex.

z/OS system will take snapshots of the OPERLOG and LOGREC if these have been setup in the system Logger log stream and the appropriate setting enabled in the parmlib. This is an overview of the high level setup required to achieve that.

Note: In a Basic Sysplex, you should set up z/OSMF to view incidents to take advantage of the incident functions provided, but not set up the system to capture Operlog and Logrec diagnostic snapshots.

Other z/OS setup

1. Sysplex Dump Directory (SYS1.DDIR)

This value is stored in the BLSCUSER member in PARMLIB
The recommended data set size is 60 cylinders, enough to hold approx 15,000 directory records.

2. Start auto-dump.

Start automatic SVC dump data set allocation (auto-dump).

3. Start DAE.

Start dump analysis and elimination (DAE) to ensure that duplicate SVC dumps are suppressed.

4. Ensure that SYSREXX and CEA are active.

Verify that the System REXX (SYSREXX) and CEA components are active. To do so, verify that the AXR and CEA address spaces are active.

5. Ensure that SYS1.MIGLIB is APF-authorized.

The SYS1.MIGLIB data set requires APF authorization to allow AMATERSE to be called by SYSREXX execs, which are authorized.

1. Setup Sysplex dump directory. The name of the Sysplex Dump Directory is SYS1.DDIR. This value is stored in the BLSCUSER member in PARMLIB.

2. Start SVC automatic dump data set allocation.

- Define the dump data set naming convention to be used by the system. Specify it using the "DUMPDS NAME=" command, for example:

```
$sysplex..DUMP.D&date..T&time..&sysname..&S&seq
```

- Determine where the dumps are to be stored. You should use an SMS storage class or a shared DASD volume for dumps. Examples:

```
DUMPDS ADD,SMS=class
```

```
DUMPDS ADD,VOL=(volser,volser,volser,..)
```

- Start the function through the following command:

```
DUMPDS ALLOC=ACTIVE
```

- For more information:

- Topic on the DUMPDS command in *z/OS MVS System Commands*, SA22-7627

- Topic on SVC Dump in *z/OS Tools and Service Aids*, GA22-7589.

3. Start DAE - see *z/OS MVS Diagnosis: Tools and Service Aids*, GA22-7589.

4. Ensure that SYSREXX and CEA address spaces are active

5. Ensure that SYS1.MIGLIB is APF-authorized

Additional information

- Program Directory for z/OS Management Facility
GI11-2886-00
- IBM z/OS Management Facility License Information
GC52-1263-00
- IBM z/OS Management Facility User's Guide SA38-0652-02
- IBM WebSphere Application Server OEM Edition for z/OS V7.0
Quickstart Guide
- IBM WebSphere Application Server OEM Edition
for z/OS Configuration Guide, Version 7.0,
GA32-0631-00
- IBM z/OS Management Facility Web page
▶ <http://www.ibm.com/systems/z/os/zos/zosmf/>

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