IBM

# IBM WebSphere Application Server OEM Edition for z/OS Configuration Guide

*Version 7.0.x*

# Contents

# Tables

# Summary of changes

## Summary of changes for GA32-0631-02 (May 2010)

- Updated some of the WASOEM.sh prompts to reflect code changes included in IBM® WebSphere® Application Server OEM Edition for z/OS® Fix Pack 2.
- The statement that /tmp/zWebSphereOEM/V7R0/zpmt/work has to be used as the name of the directory has been removed from the description of message BBN0004W.
- The example of the ALTUSER command has been changed to ALTUSER WWWSERV OMVS(ASSIZEMAX(2147483647)).
- Figure 1 has been updated to make the annotations in the figure more readable.
- The "Before you begin:" section of the description of the typical configuration procedure in Chapter 2 has been updated to include the following information: "

  Set the following $PATH value:

  ```
  export PATH=.:/usr/lpp/zWebSphereOEM/V7R0/bin:$PATH
  ```

  Setting this value provides all of the WebSphere Application Server OEM Edition for z/OS scripts system wide access to required items.
- The list of directories and files that the WASOEM.sh script creates under the WASOEM_CONFIG_WORKDIR=*directory_name* has been changed to the following:

  ```
  zWebSphereOEM/V7R0/conf
  zWebSphereOEM/V7R0/conf/wasOverride.responseFile
  zWebSphereOEM/V7R0/conf/wasOEM_env.sh
  ```
- Steps 1 and 3 of the typical configuration procedure were updated to indicate that the 17 consecutive ports that are required for the dedicated use of your WebSphere Application Server OEM for z/OS server instance are dynamically selected.

## Summary of changes for GA32-0631-01 (January 2010)

This publication underwent a major reorganization for this revision.

- The Planning chapter was replaced with a series of checklists, (see Appendices A - D) that simplify the planning process.
- Chapter 2 now describes two configuration paths that you can follow to configure IBM WebSphere Application Server OEM Edition for z/OS:
  - The typical configuration procedure, which you should follow if most of the default values provided in the default response file are appropriate for your system environment.
  - The advanced configuration procedure, which should only be used if you have a deep understanding of the WebSphere Application Server for z/OS configuration process.

  **Note:** Some of the default names used in the typical configuration procedure are different from the default names used in the advanced configuration procedure.
- Descriptions of the WASOEM.sh script, the default response file, the default override response file and the environment variables files have been removed from the procedure steps to which they apply and placed in the Appendix. This change makes the procedure steps more concise.

# Introduction

This document is intended for users of the IBM WebSphere Application Server OEM Edition for z/OS product. It should be used in conjunction with the documentation provided with the z/OS system application that you will be deploying on a IBM WebSphere Application Server OEM Edition for z/OS server instance.

Any specific IBM WebSphere Application Server OEM Edition for z/OS configuration settings required by that z/OS system application are described in the documentation provided with that application. Therefore, you should consult that documentation for IBM WebSphere Application Server OEM Edition for z/OS requirements before starting the IBM WebSphere Application Server OEM Edition for z/OS configuration process.

This document provides:

- A high-level description of the IBM WebSphere Application Server OEM Edition for z/OS product
- Two configuration procedures to help you through the IBM WebSphere Application Server OEM Edition for z/OS configuration and server instance creation processes.
- A description of how to create multiple IBM WebSphere Application Server OEM Edition for z/OS server instances.
- An appendix that includes worksheets to help you plan for the IBM WebSphere Application Server OEM Edition for z/OS configuration and server instance creation processes.

**Note:** The configuration information, and examples that are provided in this document are for generic purposes only. They are not associated with any specific z/OS system application.

Where necessary, this document references:

- Information about other elements and features of z/OS that are documented in z/OS publications. For complete titles and order numbers for all z/OS publications, see the *z/OS Information Roadmap*, GC28–1727.

  You can also visit the z/OS Internet Library at http://www.ibm.com/systems/z/os/zos/bkserv/.

- Information about elements and features of WebSphere Application Server for z/OS that are documented in the z/OS version of the WebSphere Application Server Version 7.0 Information Center. This information center is available at http://www.ibm.com/software/webservers/appserv/was/library/v70/was-zos/index.html.

# Chapter 1. Creating an IBM WebSphere Application Server OEM Edition for z/OS server instance

The IBM WebSphere Application Server OEM Edition for z/OS configuration script, WASOEM.sh, is designed to allow you to configure an instance of IBM WebSphere Application Server OEM Edition for z/OS in a seamless manner, requiring minimal knowledge of the underlying WebSphere Application Server configuration process. You can run this script from an OMVS or telnet/rlogin session. You cannot run this script from under ISHELL.

The WASOEM.sh script uses a configuration file, known as a response file, along with the underlying WebSphere Application Server configuration technology, to configure an instance of the IBM WebSphere Application Server OEM Edition for z/OS server. A default response file, which contains default configuration key and value pairs that can be used to create an out of the box base IBM WebSphere Application Server OEM Edition for z/OS server instance is provided with the product. The main task of the WASOEM.sh configuration script is to provide a prompt environment that makes it easy to modify the required subset of default response file settings needed for a basic configuration of an IBM WebSphere Application Server OEM Edition for z/OS server instance.

The following figure illustrates the relationship between the IBM WebSphere Application Server OEM Edition for z/OS product libraries, the individual configuration files that are required for each server instance, and the server instances that are created from these configuration files during the SMP/E installation of the product libraries.
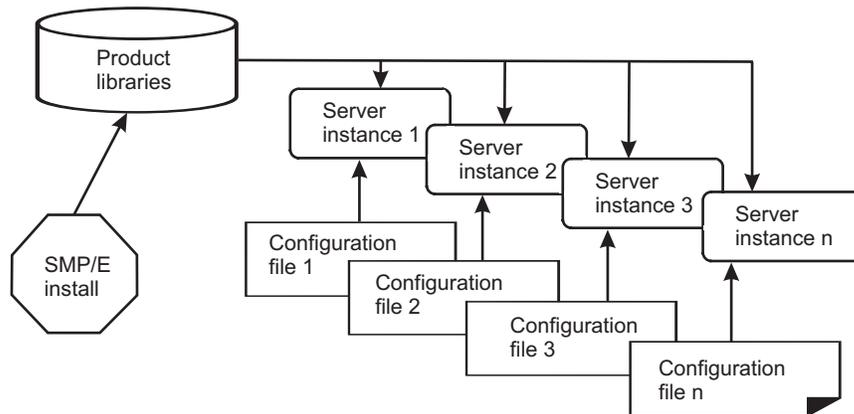
*Figure 1. IBM WebSphere Application Server OEM Edition for z/OS product libraries, configuration files and server instances*

During WASOEM.sh processing, a series of prompts display on your console. All of these prompts require a response: either an acceptance of a default value, or a value that you enter in response to the prompt. All prompts include the setting that will be used if you accept the default, which is presented along with the prompt itself. The default values that are presented are based on a subset of configuration values contained in the default response file. If any default value is not appropriate for your system environment, you can change the value when you respond to the prompt. Before you begin the configuration process, depending on which configuration procedure you plan to follow, you can use either the Appendix B,

"WASOEM.sh shell script prompt responses worksheet for the typical configuration procedure," on page 41 or the Appendix C, "WASOEM.sh shell script prompt responses worksheet for the advanced configuration procedure," on page 51 to determine which prompt default values you can accept, and which ones you need to change. After you respond to all of the prompts that display, the WASOEM.sh scripting process creates a final tailored response file based on the prompt updates you provide, and the values contained in the default response file.

IBM WebSphere Application Server OEM Edition for z/OS provides an override response file that is used in both the typical and advanced configuration processes. If you are an administrator who has a deeper understanding of the WebSphere Application Server for z/OS product, you can edit this file and specify a new value for any valid IBM WebSphere Application Server OEM Edition for z/OS configuration key value pair found in a typical response file outside of the prompt environment. This capability enables you to fine tune your IBM WebSphere Application Server OEM Edition for z/OS configuration in a way that makes sense for your environment by updating any key value configuration beyond the ones affected by the WASOEM.sh prompt environment. See "Default override response file" on page 89 for a complete list and description of the IBM WebSphere Application Server OEM Edition for z/OS configuration key and variable pairs that can be overridden.

## The configuration process

Following are the main components of the IBM WebSphere Application Server OEM Edition for z/OS configuration process. The directory paths mentioned in this section are the default directory paths for the product and might be different for your system. See "Directories" on page 4 for more information about these directory paths.

**WASOEM.sh**
> The script used to configure and create an IBM WebSphere Application Server OEM Edition for z/OS server instance. This script is located in the /usr/lpp/zWebSphereOEM/V7R0/bin directory

**wasOEM_env.sh**
> The file used to configure the IBM WebSphere Application Server OEM Edition for z/OS configuration environment. As part of its processing, the WASOEM.sh shell script performs various file creations, and writes logs of its activity to the file system. The locations of these various files are set by this shell script and can be changed by an administrator. This file is located in the /etc/zWebSphereOEM/V7R0/conf directory. See Appendix G, "Environment variables file," on page 93 for a description of each setting contained in this file.

**wasOEMDefault.responseFile**
> The initial response file that is provided with IBM WebSphere Application Server OEM Edition for z/OS. This file contains initial configuration values that are used as a read-only base configuration. This file is the starting point for the IBM WebSphere Application Server OEM Edition for z/OS scripts. It is located in the /usr/lpp/zWebSphereOEM/V7R0/zOS-config/zpmt/ samples directory.

**wasOEMOverride.responseFile**
> The file that is used to override any of the configuration key and value pairs found in the default response file. Any changes that you need to make to this file should be completed before you invoke the WASOEM.sh script. This file is located in the /etc/zWebSphereOEM/V7R0/conf directory.

The configuration process occurs in three stages, and in the following order:
1. Stage 1 - Configuration
2. Stage 2 - Security setup
3. Stage 3 - Server instance creation

**Configuration stage**

During this stage, you interact with a series of prompts. Your responses to these prompts are used to generate a response file that is specific to the IBM WebSphere Application Server OEM Edition for z/OS server instance that you are configuring. You should use these prompts to change any of the default values that are not appropriate for your system environment.

Any name and value pairs that you provide in the override response file before invoking the WASOEM.sh script are incorporated into the resulting response file.

The configuration stage can be run in either the typical or advanced mode:

- The typical mode only prompts you for very system specific configuration details. and utilizes many of the best practices defaults values that are used for a basic WebSphere Application Server for z/OS configuration. Use this mode if you desire a basic functional configuration with minimal prompt interaction.

- The advanced mode includes additional prompt that enable you to specify most configuration settings for your installation, and should only be used if the IBM WebSphere Application Server OEM Edition for z/OS server instance that you are creating requires a fine level of configuration specification. During processing in the advanced mode, you can still select any of the default values that meet the needs of your installation. However, the additional prompts that display give you the opportunity to override any of these default values that are not appropriate for your environment.

If you do not include the -mode parameter when you issue the WASOEM.sh –config command, the typical mode processing occurs because typical is the default value for the -mode parameter.

**Security setup stage**

WebSphere Application Server installation technology generates three security jobs that contain UID, GID , and RACF® definitions and setup. These jobs are specific to the instance being configured, and contain information gathered during the configuration stage. These jobs are placed in a data set whose high level qualifier (HLQ) is gathered as part of the prompt interaction. and ends with the qualifier CNTL. Your RACF administrator should review and then submitted these jobs.

**Server instance creation stage**

The WASOEM.sh script uses the response file, that was created in the configuration stage, to create your IBM WebSphere Application Server OEM Edition for z/OS server instance.

There are some z/OS system setup tasks that must be completed before you start the configuration stage. Use the checklist that is provided in Appendix A, "z/OS system preparation checklist," on page 35 to verify that all of these setup tasks have been completed before you run the WASOEM.sh script.

There are other z/OS system tasks that must be completed after you complete the server instance creation stage, but before you start the server instance. Use the

checklist that is provided in Appendix D, "Post-configuration tasks check list," on page 71 to verify that all of these tasks have been completed.

# Directories

Several directories are created during the IBM WebSphere Application Server OEM Edition for z/OS installation process. The following table specifies the default value and description of each of these directories. These directories have the following access requirements. If you use different directories, verify that the other directories have these access requirements.

- /usr/ - requires READ and EXECUTE permissions for running scripts, and for the IBM WebSphere Application Server OEM Edition for z/OS server ID.
- /etc/ - requires READ, WRITE, and EXECUTE permissions. These permissions enable you to copy, or modify the configuration file and default environment files.

> **Note:** If you cannot use the /etc/ directory to store the configuration file and the default environment files, you can specify a different working directory for these files when you receive the following prompts. These prompts only appear the first time you issue the WASOEM.sh command.
>
> ```
> BBN0400I:The current WebSphere Application Server OEM configuration
>     working directory is not set
> BBN0094I:Enter a file system location under which the WebSphere
>     Application Server OEM working directories will be located, or
>     press Return to accept (/etc):
> ```

- /tmp/ - requires READ and WRITE permissions to create directories, and to read and write files.
- /var/ - requires READ, WRITE, and EXECUTE permissions. These permissions enable you to run scripts with log output.

*Table 1. Default directory names and descriptions*

| Directory | Permission bit | Description |
|---|---|---|
| /usr/lpp/zWebSphereOEM/ V7R0 | 755 | Default read-only mount point |
| /usr/lpp/zWebSphereOEM/ V7R0/bin | 755 | Script files WASOEM.sh, createWASOEMHFS.sh, updateConfigWASOEM.py, zpmt.sh and the plexname module. |
| /usr/lpp/zWebSphereOEM/ V7R0/zOS-config/zpmt/ samples | 755 | Samples of the default response files wasOEMDefault.responseFile, and wasOEMOverride.responseFile, and the environment shell script wasOEM_env.sh, |
| /etc/zWebSphereOEM/V7R0/ conf | 755 | Location of the environment shell script along with custom response file entries |
| /var/zWebSphereOEM/V7R0/ logs | 755 | Location of the log files |
| /tmp/zWebSphereOEM/V7R0/ zpmt/work | 755 | Work area for zPMT |

As part of its initial processing, the WASOEM.sh script creates a series of subdirectories for its use. The default values for these directories are provided in the following table as examples of the directory schema. The table also provides a

description of each directory, and, where appropriate, the approximate space requirements that each directory requires for each instance of IBM WebSphere Application Server OEM Edition for z/OS.

Because the subdirectories that are created as part of the /etc and /var directories have minimal space requirements, the product file system can typically include these objects without any additional storage allocations. However, the subdirectory that, by default, is added to the /tmp directory is a temporary directory that requires a minimum of 25 megabytes of free space that is used during WASOEM.sh processing. The default mount point for the configuration file system requires approximately 1 GB of storage. Therefore, WASOEM.sh creates and allocates the space for this mount point as a separate file system.

If your /tmp directory meets the minimum space requirements, you do not have to allocate a separate file system for this /tmp directory structure. However, if your /tmp directory does not meet the minimum space requirements, or if you have other products using the /tmp directory you might need to increase the size of this directory, or allocate a separate file system for this /tmp directory structure. WASOEM.sh does not automatically allocate a separate file system for you.

After WASOEM.sh processing completes, the objects created in this directory are no longer needed, and can be deleted.

*Table 2. Directories created by the WASOEM.sh script*

| Directory | Description |
| --- | --- |
| /etc/zWebSphereOEM/V7R0/conf | The suggested directory for the IBM WebSphere Application Server OEM Edition for z/OS configuration files. The IBM WebSphere Application Server OEM Edition for z/OS scripts, by default, use this location, unless a different location is specified in the wasOEM_env.sh file. You should keep all of the configuration files in one place. |
| /var/zWebSphereOEM/V7R0/logs | The suggested directory where all IBM WebSphere Application Server OEM Edition for z/OS script log files are placed. The IBM WebSphere Application Server OEM Edition for z/OS scripts will by default use this location for storing log files unless it's been overridden by the wasOEM_env.sh file. **Note:** If you have other products using the /var directory you might need to increase the size of this directory to accommodate the IBM WebSphere Application Server OEM Edition for z/OS script log files. |
| /tmp/zWebSphereOEM/V7R0/zpmt/work | The suggested directory that one of the scripts uses as a work area. This work area requires approximately 25 MB of storage. |
| /zWebSphereOEM/V7R0/config1 | The suggested default mount point for the configuration file system. The configuration file system requires approximately 1 GB of storage. |

# Chapter 2. IBM WebSphere Application Server OEM Edition for z/OS configuration procedures

This chapter describes two configuration procedures:

- "Typical configuration procedure" on page 8
- "Advanced configuration procedure" on page 11

The typical configuration procedure, which is also referred to as the quickstart procedure, is the appropriate configuration process to follow for most z/OS systems. This procedure enables you to quickly run through a short series of prompts where you can accept most of the default settings that are provided in the wasOEMDefault.responseFile file. These default settings match the system requirements for most z/OS systems. If you want the WASOEM.sh script to complete the typical configuration procedure, either do not include the -mode parameter, or include the -mode typical parameter when you issue the WASOEM.sh -config command. typical is the default value for the -mode parameter.

The advanced configuration process should only be used if you have a deep understanding of the WebSphere Application Server for z/OS configuration process, or if several of the default values provided in the wasOEMDefault.responseFile file do not match the system requirements for your environment. The series of prompts that display during the advanced configuration procedure is lengthier than the series of prompts that display for the typical configuration process. If you want the WASOEM.sh script to complete the advanced configuration procedure, you must include the -mode advanced parameter when you issue the WASOEM.sh -config command. If you do not include the -mode parameter, the typical configuration procedure is completed because typical is the default value for the -mode parameter.

**Reminders:**

- You can run the WASOEM.sh script from an OMVS or telnet/rlogin session. You **cannot** run this script from under ISHELL.
- The user ID you use to run the WASOEM.sh script must:
  - Be authorized to create and modify directories, data sets, and file systems in the locations specified by the variables in the configuration file.
  - Have at least 2 GB of memory allocated for its use. WASOEM.sh requires this amount of memory to properly complete the configuration, and instance creation processes.

  If you are going to use the same user ID to run the script and the three customization security jobs, the user ID must also have file system update authority, and RACF special authority to run three three security jobs.

  If the user ID does not have the proper authority, or if there is not enough memory allocated to this user ID, use the RACF ALTUSER command to change the attributes and authorities for this user ID. For example, to increase the memory allocation for user ID WWWSERV, issue the following command:

  ```
  ALTUSER WWWSERV OMVS(ASSIZEMAX(2147483647))
  ```

  You must also make sure that command aliases is disabled for this user ID before you run the WASOEM.sh script.

# Typical configuration procedure

The following procedure can be used to create a IBM WebSphere Application Server OEM Edition for z/OS server instance. This procedure assumes that:

- You have already used SMP/E to install IBM WebSphere Application Server OEM Edition for z/OS, according to the instructions provided in the IBM WebSphere Application Server OEM Edition for z/OS Program Directory.
- Most of the default values provided in the default response file are appropriate for your system environment.
- You do not need to change any of the values in the override response file.

# Before you begin:

- Print a copy of the Appendix A, "z/OS system preparation checklist," on page 35, and verify that the setup tasks listed in that checklist have been completed for the target z/OS image. These setup tasks must be completed before you start to configure IBM WebSphere Application Server OEM Edition for z/OS.
- Print a copy of the Appendix B, "WASOEM.sh shell script prompt responses worksheet for the typical configuration procedure," on page 41 so that you understand what is being requested in each prompt. Using this worksheet as a guide, if the default value does not suffice for the system onto which IBM WebSphere Application Server OEM Edition for z/OS is being configured, determine the appropriate value that should be specified for that system.
- Print a copy of the Appendix D, "Post-configuration tasks check list," on page 71, so that you can refer to it when you are ready to complete Step 4.
- Make sure that you know the VOLSER on which you are going to have the WASOEM.sh script allocate the two data sets into which the WebSphere Application Server for z/OS configuration technology generates internal configuration jobs.

  You will enter this VOLSER value in response to the following prompt:

  ```
  BBN0133I:Enter the volume name to allocate the DATA and CNTL data sets on,
   or enter * to select SMS managed:
  ```

- Make sure that you know the VOLSER that can be used by the WASOEM.sh script to allocate a HFS or ZFS data set to contain the IBM WebSphere Application Server OEM Edition for z/OS configuration file system. This VOLSER must be able to allow an allocation of a ZFS or HFS data set that has 420 primary cylinders and 100 secondary cylinders. SMS managed volumes can be specified with the * value.

  You will enter this VOLSER value in response to the following prompt:

  ```
  BBN0110I:To allocate the configuration file system on a particular volume,
  enter the volser here, or press Return to accept (BBNVOL):
  ```

- Make sure you know that data set name that you need to specify for the configuration file system data set if the default data set name BBN.V7R0.CONFIG1.ZFS does not conform to your local data set naming policies. When you run the WASOEM.sh -config script, this data set name must then be entered in response to the following WASOEM.sh prompt:

  ```
  BBN0110I:To allocate the configuration file system on a particular volume,
  enter the volser here, or press Return to accept (BBNVOL):
  ```

- Set the following $PATH value:

  ```
  export PATH=.:/usr/lpp/zWebSphereOEM/V7R0/bin:$PATH
  ```

  Setting this value provides all of the WebSphere Application Server OEM Edition for z/OS scripts system wide access to required items.

- Issue the following command to update the WASOEM_CONFIG_WORKDIR environmental variable with the name of the directory under which you want the IBM WebSphere Application Server OEM Edition for z/OS configuration files, and instance configuration working directories to be located. WASOEM.sh uses the value specified for this variable to locate these files and working directories during the IBM WebSphere Application Server OEM Edition for z/OS configuration process.

  `export WASOEM_CONFIG_WORKDIR=directory_name`

  where *directory_name* is the name of the top level directory under which WASOEM.sh creates the following IBM WebSphere Application Server OEM Edition for z/OS product configuration files:

  ```
  zWebSphereOEM/V7R0/conf
  zWebSphereOEM/V7R0/conf/wasOverride.responseFile
  zWebSphereOEM/V7R0/conf/wasOEM_env.sh
  ```

  For example, issue the following command to set up a working directory that is consistent with the product default directories:

  `export WASOEM_CONFIG_WORKDIR=/etc`

  The working directories for each configuration of IBM WebSphere Application Server OEM Edition for z/OS will also be located in this directory.

  **Note:** The value you specify on this export statement for the WASOEM_CONFIG_WORKDIR variable only remains in effect for the current WASOEM.sh session. To make this directory the value to use for any WASOEM.sh sesson, add this export statement to the .profile file for the ID that is used to invoke WASOEM.sh. The default setting for this variable is the /etc/ directory.

- If this is the first time the product is being configured since it was installed, issue the following command to copy the two required configuration files from the product installation location to a predetermined location in the file system. This action is required once per product installation:

  `WASOEM.sh`

  If you issue this command, and the files have already been copied to the predetermined location in the file system, the help message for the WASOEM.sh command displays.

## Procedure:

1. Issue the following command to configure a IBM WebSphere Application Server OEM Edition for z/OS server instance:

   `WASOEM.sh —config -mode typical`

   When you issue the WASOEM.sh –config command, the prompts start. Except for the two volume prompts previously mentioned, you can press Enter for each prompt to accept the default values. See Appendix E, "WASOEM.sh script," on page 75 for more information about the WASOEM.sh script and its parameters

   During WASOEM.sh -config processing, a final response file is created which is used to invoke WebSphere Application Server for z/OS configuration technology. In turn, this technology creates the IBM WebSphere Application Server OEM Edition for z/OS server instance configuration jobs.

   The response file created by this step, if you accepted the default values for the configuration files directory, and the configuration name, can be found at:

   ```
   /etc/zWebSphereOEM/
   V7R0/conf/CONFIG1/CONFIG1.responseFile.
   ```

Also during WASOEM.sh -config processing, 17 consecutive ports are dynamically selected and dedicated to your IBM WebSphere Application Server OEM Edition for z/OS server instance.

The instructions that display on the console at the completion of this step guide you through the process of submitting the newly created security jobs. These instructions include the name and location of the data set where these three jobs reside.

2. Submit the security jobs.

   Submit the security jobs in the order specified by the instructions that display at the completion of the previous step. If you did not note the order in which these jobs should be submitted, this information is included in Appendix H, "Security jobs," on page 95.

   You should have your RACF administrator review these jobs before you submit them.

3. Create an IBM WebSphere Application Server OEM Edition for z/OS server instance.

   Following is an example of the command you issue to create a IBM WebSphere Application Server OEM Edition for z/OS server instance. This example uses the default configuration name, CONFIG1.

   ```
   WASOEM.sh -create CONFIG1
   ```

   The configuration data set specified in the configuration step is allocated and mounted during this step.

   When this step completes a series of messages, similar to the following messages display.

   **Note:** The ports listed in the following example are for illustrative purposes only. The port information messages that display as part of the WASOEM.sh -create step indicate the actual ports that are dedicated to your IBM WebSphere Application Server OEM Edition for z/OS server instance.

   ```
   BBN0016I:Success: Update of configuration completed.
   The following ports have been set, ensure that they are added to the reserved
      port list:
    zDaemonPort                          30000
    zDaemonSslPort                       30001
    zSoapPort                            30002
    zOrbListenerPort                     30003
    zOrbListenerSslPort                  30004
    zAdminConsolePort                    30005
    zAdminConsoleSecurePort              30006
    zHttpTransportPort                   30007
    zHttpTransportSslPort                30008
    zAdminLocalPort                      30009
    zHighAvailManagerPort                30010
    zServiceIntegrationPort              30011
    zServiceIntegrationSecurePort        30012
    zServiceIntegrationMqPort            30013
    zServiceIntegrationSecureMqPort      30014
    zSessionInitiationPort               30015
    zSessionInitiationSecurePort         30016
   BBN0152I:To start the application server, issue the MVS command:
   BBN0153I:START server_instance_name,JOBNAME=
      job_name,ENV=cell_name.node_name.server_short_name
   BBN0154I:To stop the application server, enter the MVS command:
   BBN0155I:STOP server_instance_name
   BBN0231I:The administrative console for your server can be accessed at
      url/console using user ID ID
   BBN0237I:A password needs to be assigned to BNADMIN before it can be used.
   BBN0148I:WASOEM.sh has completed
   ```

Keep a record of the start command that is specified in this group of messages. You need to issue this command to start this IBM WebSphere Application Server OEM Edition for z/OS server instance, but do not try to start the server instance until after the post-configuration tasks are completed.

4. Have the appropriate person complete the post-configuration tasks listed in the Appendix D, "Post-configuration tasks check list," on page 71. These tasks must be completed before you start the server instance.

5. Start the server instance.

   Issue the start command that is included in the instructions that display at the completion of Step 3.

## Results

After you have successfully followed the procedure instructions, you will have configured and started a WebSphere Application Server OEM Edition for z/OS server instance

## Advanced configuration procedure

The following procedure should only be used if you have a deep understanding of the WebSphere Application Server for z/OS configuration process, and several of the default values provided in the wasOEMDefault.responseFile file, and the wasOEMOverride.responseFile file are not appropriate for your environment.

This procedure assumes that you have already used SMP/E to install IBM WebSphere Application Server OEM Edition for z/OS, according to the instructions provided in the IBM WebSphere Application Server OEM Edition for z/OS Program Directory.

## Before you begin:

- Print a copy of the Appendix A, "z/OS system preparation checklist," on page 35, and verify that the setup tasks listed in that checklist have been completed for the target z/OS image. These setup tasks must be completed before you start to configure IBM WebSphere Application Server OEM Edition for z/OS.

- Print a copy of the Appendix C, "WASOEM.sh shell script prompt responses worksheet for the advanced configuration procedure," on page 51 so that you understand what is being requested in each prompt. Using this worksheet as a guide, if the default value does not suffice for the system onto which IBM WebSphere Application Server OEM Edition for z/OS is being configured, determine the appropriate value that should be specified for that system.

  One of the prompt sections requires you to supply valid user ID names, group names, UID/GID values and TCP/IP port numbers. Filling in this information on the worksheet will help to ensure that you know the correct values to enter for the prompts prior to starting the WASOEM.sh script.

  **Note:** Instead of manually providing UID/GID values, you can specifying the AUTOUID operand on ADDUSER and ALTUSER commands, and the AUTOGID operand on ADDGROUP and ALTGROUP commands to have RACF automatically generate a unique ID values. Refer to the *z/OS Security Server RACF Security Administrator's Guide* for your z/OS system for more information on how to use these operands.

  The following prompt sections are the ones that are most likely to require changes:

  – GID and UID defaults

- Port defaults
- Target Data sets High-level qualifier (HLQ)
- Target Data sets High-level qualifier (HLQ) VOLSER
- System name – this value is dynamically determined for the system by the script, but can be overridden
- Sysplex name - this value is dynamically determined for the system by the script, but can be overridden
- PROCLIB data set name
- Configuration File System - Mount point
- Configuration File System - Data set name
- Configuration File System - File system type
- Configuration File System - VOLSER
- WebSphere Application Server Product File System - Product file system directory

However, you should review all of the other sections of the worksheet to determine if any additional configuration variables need to be updated, either in responses to the prompts, or by changing the values in the wasOEMOverride.responseFile file.

- Print a copy of the Appendix D, "Post-configuration tasks check list," on page 71, so that you can refer to it when you are ready to complete Step 6.

- Make sure that you know the VOLSER on which you are going to have the WASOEM.sh script allocate the two data sets into which the WebSphere Application Server for z/OS configuration technology generates internal configuration jobs.

  You will enter this VOLSER value in response to the following prompt:

  ```
  BBN0133I:Enter the volume name to allocate the DATA and CNTL data sets on,
   or enter * to select SMS managed :
  ```

- Make sure that you know the VOLSER that can be used by the WASOEM.sh script to allocate a HFS or ZFS data set to contain the IBM WebSphere Application Server OEM Edition for z/OS configuration file system. This VOLSER must be able to allow an allocation of a ZFS or HFS data set that has 420 primary cylinders and 100 secondary cylinders. SMS managed volumes can be specified with the * value.

  You will enter this VOLSER value in response to the following prompt:

  ```
  BBN0110I:To allocate the configuration file system on a particular volume,
  enter the volser here, or press Return to accept (BBNVOL):
  ```

- Make sure you know that data set name that you need to specify for the configuration file system data set if the default data set name BBN.V7R0.CONFIG1.ZFS does not conform to your local data set naming policies. When you run the WASOEM.sh -config script, this data set name must then be entered in response to the following WASOEM.sh prompt:

  ```
  BBN0110I:To allocate the configuration file system on a particular volume,
  enter the volser here, or press Return to accept (BBNVOL):
  ```

- Set the following $PATH value:

  ```
  export PATH=.:/usr/lpp/zWebSphereOEM/V7R0/bin:$PATH
  ```

  Setting this value provides all of the WebSphere Application Server OEM Edition for z/OS scripts system wide access to required items.

- Issue the following command to update the WASOEM_CONFIG_WORKDIR environmental variable with the name of the directory under which you want the IBM WebSphere Application Server OEM Edition for z/OS configuration files, and instance configuration working directories to be located. WASOEM.sh uses the

value specified for this variable to locate these files and working directories during the IBM WebSphere Application Server OEM Edition for z/OS configuration process.

```
export WASOEM_CONFIG_WORKDIR=directory_name
```

where *directory_name* is the name of the top level directory under which WASOEM.sh creates the following IBM WebSphere Application Server OEM Edition for z/OS product configuration files:

```
zWebSphereOEM/V7R0/conf
zWebSphereOEM/V7R0/conf/wasOverride.responseFile
zWebSphereOEM/V7R0/conf/wasOEM_env.sh
```

For example, issue the following command to set up a working directory that is consistent with the product default directories:

```
export WASOEM_CONFIG_WORKDIR=/etc
```

The working directories for each configuration of IBM WebSphere Application Server OEM Edition for z/OS will also be located in this directory.

**Note:** The value you specify on this export statement for the WASOEM_CONFIG_WORKDIR variable only remains in effect for the current WASOEM.sh session. To make this directory the value to use for any WASOEM.sh sesson, add this export statement to the .profile file for the ID that is used to invoke WASOEM.sh. The default setting for this variable is the /etc/ directory.

- If this is the first time the product is being configured since it was installed, issue the following command to copy the two required configuration files from the product installation location to a predetermined location in the file system. This action is required once per product installation:

```
WASOEM.sh
```

If you issue this command, and the files have already been copied to the predetermined location in the file system, the help message for the WASOEM.sh command displays.

## Procedure:

1. Edit and update the override response file if required.
2. Allocate the configuration file system if required.
3. Issue the following command to configure an IBM WebSphere Application Server OEM Edition for z/OS server instance:

```
WASOEM.sh —config -mode advanced
```

When you issue the WASOEM.sh –config command, the prompts start. In response to these prompts, using the Appendix C, "WASOEM.sh shell script prompt responses worksheet for the advanced configuration procedure," on page 51 that you filled out as a guide, press Enter to accept the default values, or specify your new values. See Appendix E, "WASOEM.sh script," on page 75 for more information about the WASOEM.sh script and its parameters.

During WASOEM.sh -config processing, a final response file is created which is used to invoke WebSphere Application Server for z/OS configuration technology. In turn, this technology creates the IBM WebSphere Application Server OEM Edition for z/OS server instance configuration jobs.

The response file that is created during this step is located at:

```
OEM_directory/configuration_name/configuration_name.responseFile.
```

where *OEM_directory* is your directory for the IBM WebSphere Application Server OEM Edition for z/OS configuration files, and configuration_name is the name of your IBMWebSphere Application Server OEM Edition for z/OS configuration.

If you are using the default value for the IBM WebSphere Application Server OEM Edition for z/OS configuration files directory, and the default value for the configuration name, the response file is located at:

```
/etc/zWebSphereOEM/
V7R0/conf/CONFIG1/CONFIG1.responseFile.
```

The instructions that display on the console at the completion of this step guide you through the process of submitting the newly created security jobs. These instructions include the name and location of the data set where these three jobs reside.

4. Submit the security jobs.

   Submit the jobs in the order specified by the instructions that display at the completion of the previous step. If you did not note the order in which these jobs should be submitted, this information is included in Appendix H, "Security jobs," on page 95.

   You should have your RACF administrator review these jobs before you submit them.

5. Create an IBM WebSphere Application Server OEM Edition for z/OS server instance.

   Following is an example of the command you issue to create a IBM WebSphere Application Server OEM Edition for z/OS server instance. This example uses the default configuration name, CONFIG1.

   ```
   WASOEM.sh -create CONFIG1
   ```

   The configuration data set specified in the configuration step is allocated and mounted during this step.

   When this step completes a series of messages, similar to the following messages display:

```
BBN0016I:Success: Update of configuration completed.
The following ports have been set, ensure that they are added to the reserved
    port list:
 zDaemonPort                            32200
 zDaemonSslPort                         32201
 zSoapPort                              32202
 zOrbListenerPort                       32203
 zOrbListenerSslPort                    32204
 zAdminConsolePort                      32205
 zAdminConsoleSecurePort                32206
 zHttpTransportPort                     32207
 zHttpTransportSslPort                  32208
 zAdminLocalPort                        32209
 zHighAvailManagerPort                  32210
 zServiceIntegrationPort                32211
 zServiceIntegrationSecurePort          32212
 zServiceIntegrationMqPort              32213
 zServiceIntegrationSecureMqPort        32214
 zSessionInitiationPort                 32215
 zSessionInitiationSecurePort           32216
BBN0152I:To start the application server, issue the MVS command:
BBN0153I:START server_instance_name,JOBNAME=
    job_name,ENV=cell_name.node_name.server_short_name
BBN0154I:To stop the application server, enter the MVS command:
BBN0155I:STOP server_instance_name
```

```
BBN0231I:The administrative console for your server can be accessed at
    url/console using user ID ID
BBN0237I:A password needs to be assigned to BNADMIN before it can be used.
BBN0148I:WASOEM.sh has completed
```

Keep a record of the start command that is specified in this group of messages. You need to issue this command to start this IBM WebSphere Application Server OEM Edition for z/OS server instance, but do not try to start the server instance until after the post-configuration tasks are completed.

6. Have the appropriate person complete the post-configuration tasks listed in the Appendix D, "Post-configuration tasks check list," on page 71. These tasks must be completed before you start the server instance.

7. Start the server instance.

   Issue the start command that is included in the instructions that display at the completion of Step 5.

## Results

You have configured and started a WebSphere Application Server OEM Edition for z/OS server instance.

## What to do next

If you need to re-run the configuration process to update an erroneous configuration value, you must re-run all of the processes in this procedure. However, instead of repeating the prompts, you can manually update any incorrect values in the wasOEMOverride.responseFile file, and include the –fastpath parameter on the WASOEM -config command. The fastpath version of the WASOEM.sh script bypasses the prompt session, and uses the values in the override response file to create a fully formed, and updated response file that is then used as input to the WebSphere Application Server for z/OS configuration technology.

Before using the -fastpath parameter, verify that actual values have been set for the zDaemonHomePath, and zDaemonIPName variables in both the default response file, and the override response file. These variables are initially set to the following values, which are not valid settings:

```
zDaemonHomePath=generated
zDaemonIPName=generated
```

**CAUTION:**
**You should only run the fastpath version of the WASOEM.sh script if you feel comfortable manually updating the configuration key value pairs found in a response file.**

To rerun the configuration of a WebSphere Application Server OEM Edition for z/OS server instance using the -fastpath parameter:

1. Update the response file with the correct values. The response file is located at /etc/zWebSphereOEM/V7R0/conf/CONFIG1/CONFIG1.responseFile

2. Issue the following command:
   ```
   WASOEM.sh —config —responseFile
   /etc/zWebSphereOEM/V7R0/conf/CONFIG1/CONFIG1.responseFile -fastpath
   ```

3. Review and submit the security jobs.

4. Issue the WASOEM.sh –create *responsefile_name* command.

5. Start the server.

# Chapter 3. Starting and stopping an IBM WebSphere Application Server OEM Edition for z/OS server instance

Starting an IBM WebSphere Application Server OEM Edition for z/OS server instance, starts a new server process that is based on the process definition settings of the server instance configuration. Stopping the server instance ends this server process.

## Before you begin

Before you start a server instance, verify that all of the application required resources are available. You must also start all prerequisite subsystems.

Before stopping a server instance, make sure that you understand the impact that this action has on your ability to handle work requests, especially if you need to maintain a highly available environment.

## Procedure

Complete one of the following steps to start, or stop an IBM WebSphere Application Server OEM Edition for z/OS server instance.

1. Start an IBM WebSphere Application Server OEM Edition for z/OS server instance.

   You can use either the MVS START command, or the startServer.sh command to start your IBM WebSphere Application Server OEM Edition for z/OS server instance.

   To use the MVS START command, enter the following command:

   ```
   START zControlProcName,JOBNAME=server_short_name,
         ENV=cell_short_name.node_short_name.server_short_name
   ```

   For example, if you are using the default response file, you would issue the following command:

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

   To use the startServer.sh command, enter the following command from a shell environment:

   ```
   /zWebSphereOEM/V7R0/config1/AppServer/profiles/default/bin/startServer.sh
       server_name
   ```

   Messages, similar to the following messages, are displayed on the z/OS console after the IBM WebSphere Application Server OEM Edition for z/OS server instance successfully starts:

   ```
   SY1 BBO00247I INITIALIZATION COMPLETE FOR WEBSPHERE FOR Z/OS CONTROL
   PROCESS BBNBASE.BBNNODE.BBNS001.BBNS001.
   SY1 +BBO00248I INITIALIZATION COMPLETE FOR WEBSPHERE FOR Z/OS SERVANT
   PROCESS BBNBASE.BBNNODE.BBNS001.BBNS001
   ```

   To verify that your IBM WebSphere Application Server OEM Edition for z/OS server instance is functioning properly, you can issue the following command from a shell environment to invoke the Installation Verification application. The user ID used to invoke this command must be defined to the z/OS Unix System Services.

   ```
   /zWebSphereOEM/V7R0/config1/AppServer/bin/ivt.sh server_name default
   ```

   When ivt.sh completes successfully, the following messages display in the shell:

**17**

```
ivt.sh server_name default
Server name is:server_name
Profile name is:default
Profile home is: /zWebSphereOEM/V7R0/conf/CONFIG1/AppServer/profiles/default
Profile type is:default
Cell name is:bbnbase
Node name is:bbnnode
Current encoding is:ISO8859-1
Server port number is:32207
IVTL0010I: Connecting to the MYSERVER.MYCOMPANY.COM WebSphere Application
  Server on port: 32207
IVTL0015I: WebSphere Application Server MYSERVER.MYCOMPANY.COM is running on
  port: 32207 for profile default
Testing server using the following URL:
  http://MYSERVER.MYCOMPANY.COM:32207/ivt/ivtserver?parm2=ivtservlet
IVTL0050I: Servlet engine verification status: Passed
Testing server using the following URL:
   http://MYSERVER.MYCOMPANY.COM:32207/ivt/ivtserver?parm2=ivtAddition.jsp
IVTL0055I: JavaServer Pages files verification status: Passed
Testing server using the following URL:
   http://MYSERVER.MYCOMPANY.COM:32207/ivt/ivtserver?parm2=ivtejb
IVTL0060I: Enterprise bean verification status: Passed
IVTL0070I: The Installation Verification Tool verification succeeded.
IVTL0080I: The installation verification is complete.
```

If your network connectivity is functioning properly, but the browser cannot obtain network connectivity to the host where the IBM WebSphere Application Server OEM Edition for z/OS instance is running, check the digital certificates that are used for SSL connections.

If, during the configuration process, the digital certificates were created with NOTRUST status, you must update the certificates such that they have TRUST status. After you update the certificates, stop and start the server again, and then reissue the ivt.sh command.

2. Stop a IBM WebSphere Application Server OEM Edition for z/OS instance.

When you stop a server instance, you must stop all of the application servers that are still running on that instance, and then stop the daemon for that server instance.

a. Issue the STOP *server_name* command for each application server that is currently running on the server instance that you want to stop.

The STOP command reads the configuration file for the specified server process, and stops that server.

For example, issue the following command to stop the server BBN7ACRS:

```
STOP BBN7ACRS
```

If the application server does not respond to the STOP command, try using the CANCEL command:

```
F BBN7ACRS,CANCEL
```

You should only use the CANCEL command in situations where the STOP command fails. When a server starts, a new temp directory, called *app_server_root/*profiles/default/temp/*node_name*/*server_name*, is created off of the servant process token. When you use the STOP command to stop a server, this temp directory is removed. However, if you use the CANCEL command to stop a server, the temp directory is not removed. If you use the CANCEL command too frequently, the HFS that is used for these temp directories eventually becomes full.

**Note:** *app_server_root* refers to the top directory for a WebSphere Application Server OEM Edition for z/OS node.

b. Stop the daemon.

After all of your application servers have stopped running, issue the STOP command for the daemon. For example, if the process for running the daemon is named daemon1, issue the following command to stop that server:

```
STOP daemon1
```

If the daemon does not respond to the STOP command, try using the use the CANCEL command:

```
F daemon1,CANCEL
```

You should only use the CANCEL command in situations where the STOP command fails. When a daemon starts, a new temp directory, called *app_server_root/*profiles/default/temp/*node_name*/*daemon_name*, is created off of the servant process token. When you use the STOP command to stop a daemon, this temp directory is removed. However, if you use the CANCEL command to stop a daemon, the temp directory is not removed. If you use the CANCEL command too frequently, the HFS that is used for these temp directories eventually becomes full.

# Chapter 4. Setting up workload management

Workload management optimizes the distribution of incoming work requests to the application servers, enterprise beans, servlets, and other objects that can most effectively process the requests. Workload management also provides failover support when a server is not available, thereby improving application availability. For details on workload management, see the z/OS MVS Planning: Workload Management publication, which is available on the z/OS Internet Library Web site at:

`http://www.ibm.com/systems/z/os/zos/bkserv/`

The default service class setting for IBM WebSphere Application Server OEM Edition for z/OS is SYSOTHER. Because SYSOTHER is the service class with the lowest priority, this setting might negatively affect response times when the z/OS system is busy, because resources are given to other applications ahead of IBM WebSphere Application Server OEM Edition for z/OS. Before changing this setting, you should understand the implications of the other service class settings. See the z/OS MVS Planning: Workload Management publication for a description of the available service class settings.

# Chapter 5. Error logging

The WASOEM.sh script produces its own time stamped log files. You can also use a log stream as the error log for the product because IBM WebSphere Application Server OEM Edition for z/OS is predefined as a z/OS system logger application.

## Log files that the WASOEM.sh script produces

In addition to the information that displays on the console, every time that you run the WASOEM.sh script, two log files are written to one of the following directories, in the following order:

1. A location identified by the WASOEM_LOGFILE_ROOT value in the /etc/zWebSphereOEM/V7R0/conf/wasOEM_env.sh file. The identified location must already exist.
2. /etc/zWebSphereOEM/V7R0.
3. /tmp .

These files require approximately 30 KB of storage. Therefore, verify that your /var directory has sufficient storage available to accommodate these log files.

The name of this log file displays on the console when you run the script file. Following is an example of a log file name that might display:

```
WASOEM_030708_131002.log
```

## Defining an error log stream

Defining a log stream enables you to direct error information to a coupling facility log stream, which provides sysplex-wide error logging, or to a DASD-only log stream, which provides single system-only error logging.

The use of the error log stream is not required in a single server environment such as IBM WebSphere Application Server OEM Edition for z/OS.

If you decide to use an error log stream, you can set up a common log stream for all IBM WebSphere Application Server OEM Edition for z/OS server instances, or individual log streams for each server instance. Local z/OS client ORBs can also log data in log streams. The system logger APIs are unauthorized, but log stream resources can be protected using security products such as RACF.

If your installation is running multiple IBM WebSphere Application Server OEM Edition for z/OS instances, the log stream can be shared either in DASDONLY configuration, if all the IBM WebSphere Application Server OEM Edition for z/OS instances are on a single z/OS image, or through CF, if multiple z/OS images in a z/OS sysplex are involved.

You can use the variable, ras_time_local, to control whether timestamps in the error log appear in local time (ras_time_local=1), or Greenwich Mean Time (GMT)(ras_time_local=0), which is the default.

The following JCL statements illustrate how you can define an error log stream

```
://BBORCLGS EXEC PGM=IXCMIAPU
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
    DATA TYPE(LOGR)
```

```
       DEFINE LOGSTREAM NAME(XDOMAIN.ERROR.LOG)
         DASDONLY(YES)
         HLQ(IXGLOGR)
         LS_SIZE(3000)
         STG_SIZE(3000)
         MAXBUFSIZE(4096)
         AUTODELETE(YES)
         RETPD(1)
         LS_DATACLAS(STANDARD)
//
```

For additional information about z/OS log stream requirements, see z/OS MVS Setting up a Sysplex, SA22-7625, which is available on the z/OS Library Web page, at:

```
http://www.ibm.com/systems/z/os/zos/bkserv/
```

# Chapter 6. Enabling message translation

Run the BBOMSGC messages customization job if you require message translation. This job, which is located in the zTargetHLQ.CNTL library, sets up MMS to translate messages for IBM WebSphere Application Server OEM Edition for z/OS.

The user ID used to run this job must have the authority to update data sets SYS1.MSGENU and SYS1.MSGJPN.

This job includes two steps: one to update data set SYS1.MSGENU, and one to update data set SYS1.MSGJPN. Remove the step that you do not need to run, and change the target libraries, if necessary.

After this job finishes, verify that:
- The WSCFG1 group has read access to all IBM WebSphere Application Server OEM Edition for z/OS data sets, as well as to any other data sets which will be placed in IBM WebSphere Application Server OEM Edition for z/OS cataloged procedure STEPLIB concatenations
- The user IDs WSCRU1, and WSSRU1 have read access to the resolver configuration file that is in use on your system. Depending on your IP setup, this file might be called /etc/resolv.conf, or SYS1.TCPPARMS(TCPDATA).

  See the z/OS eNetwork Communication Server IP Configuration publication for your z/OS release for information about the resolver search order.
- The user ID WSCRU1 has read access to the data sets in your system PARMLIB concatenation.

  If operator commands are protected by the z/OS security server at your installation, make sure that IBM WebSphere Application Server OEM Edition for z/OS tasks are given sufficient authority to control its processing operations. The user ID, WSCRU1, needs the ability to perform operations on started tasks that belong toIBM WebSphere Application Server OEM Edition for z/OS.

  The asynchronous administrator user ID, and any other user ID that is used to run the federation job when the node agent is started automatically, need the authority to issue the MVS START command.

  If you are currently controlling MVS console command authority with SAF OPERCMDS profiles, grant the following authorities, substituting your own profile names:

```
PERMIT  START_profile_name  CLASS(OPERCMDS)
     ID (WSCRU1  WSADMSH)  ACCESS(UPDATE)
PERMIT  STOP_profile_name  CLASS(OPERCMDS)
     ID (WSCRU1 )  ACCESS(UPDATE)
PERMIT  MODIFY_profile_name  CLASS(OPERCMDS)
     ID (WSCRU1 )  ACCESS(UPDATE)
PERMIT  CANCEL_profile_name  CLASS(OPERCMDS)
     ID (WSCRU1 )  ACCESS(UPDATE)
PERMIT  FORCE_profile_name  CLASS(OPERCMDS)
     ID (WSCRU1 )  ACCESS(UPDATE)
```

# Chapter 7. Creating multiple IBM WebSphere Application Server OEM Edition for z/OSserver instances

You can rerun the WASOEM.sh script to create additional instances of IBM WebSphere Application Server OEM Edition for z/OS. However, unless an additional instance is going to be used strictly as a backup of an existing instance, each additional instance must be created in a separate node in a separate cell. Creating multiple instances in separate nodes in separate cells enables you to run multiple instances simultaneously in their respective environments. If you create an instance as a backup for an existing instance, you can configure this instance with identical settings in the same node as the instance it is backing up.

If you have a single z/OS image, the following figure illustrates how to configure and run multiple IBM WebSphere Application Server OEM Edition for z/OS instances on a single operating system image.
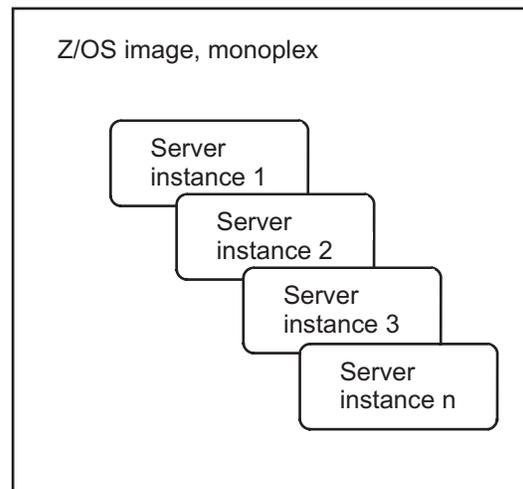


*Figure 2. Multiple IBM WebSphere Application Server OEM Edition for z/OS instances on a single operating system image*

All of these instances use the same installed IBM WebSphere Application Server OEM Edition for z/OS product libraries. Each instance needs its own IBM WebSphere Application Server OEM Edition for z/OS configuration file that contains unique values. How to configure multiple instances is described later in this document.

The following figure illustrates how you can configure and run multiple IBM WebSphere Application Server OEM Edition for z/OS instances within a sysplex. In this figure, one of the operating system images is running two instances, and the other two operating system images are each running a single IBM WebSphere Application Server OEM Edition for z/OS instance. As is the case with a single operating system image environment, all of these instances use the same IBM WebSphere Application Server OEM Edition for z/OS product libraries.
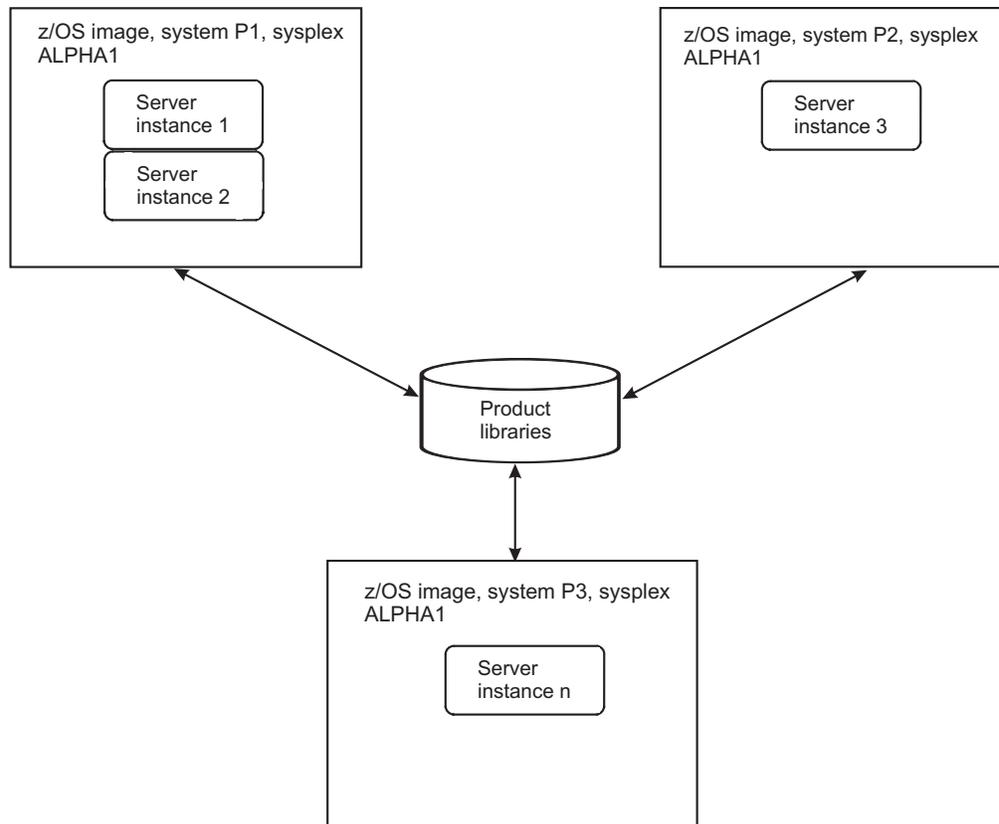
*Figure 3. Multiple IBM WebSphere Application Server OEM Edition for z/OS instances in a sysplex*

There are two possible scenarios for simultaneously running multiple instances:

- You intend to run these instances within the same operating system, and you are specifying the same TCP/IP host name. For this scenario, when you configure each instance, you must specify a different range of ports for each instance you create. You must also specify unique values for the following variables:
  - zCellShortName
  - cellName
  - profilePath
  - zConfigHfsName
  - zConfigMountPoint
  - zTargetHLQ
  - zAdjunctProcName
  - zAdminAsynchProcName
  - zControlProcName
  - zDaemonProcName
  - zServantProcName
- You intend to run these instances within a Sysplex on different operating systems, and you are specifying different TCP/IP host names. For this scenario, when you configure each instance, you can specify the same range of ports because the host name will be different for each instance. However, you must specify unique values for the following variables:
  - cellName

- zCellShortName
- zConfigHfsName
- zConfigMountPoint
- The procedure names
- zDaemonIPName

The following table lists the prompts that correspond with these variables.

| Variable | Prompt |
|---|---|
| zCellShortName and cellName (the cell name is derived from the value you specify for the cell short name) | BBN0101I:Enter the cell short name, or press Return to accept (BBNBASE): |
| profilePath (the profile path becomes /etc/zWebSphereOEM/V7R0/ conf/ *name*/zpmt | BBN0121I:Enter a 1-12 character name to call this configuration, or press Return to accept (CONFIG1): |
| zConfigHfsName (the configuration file system name becomes BBN.V7R0.*name*.ZFS | BBN0112I:Enter the name of the configuration file system data set to create, or press Return to accept (BBN.V7R0.CONFIG1.ZFS): |
| zConfigMountPoint | BBN0108I:Enter the path of the configuration file system mount point, or press Return to accept (/zWebSphereOEM/ V7R0/config1): |
| zTargetHLQ | BBN0115I:Enter a high-level qualifier for the target z/OS data sets that will contain the generated jobs and instructions (BBN.V7R0.CONFIG1.ZPMTJOBS): |
| zAdjunctProcName (zAdjunctProcName becomes | |
| zAdminAsynchProcName | BBN0060I:Enter a user ID for the Asynchronous administrator, or press Return to accept [BNADMSH]: |
| zControlProcName | BBN0058I:Enter a user ID for the Common controller, or press Return to accept [BNACRU]: |
| zDaemonProcName | |
| zServantProcName | BBN0059I:Enter a user ID for the Common servant, or press Return to accept [BNASRU]: |
| zDaemonIPName | |

Based on the security policies for your environment, or the security requirements of specific deployed applications, you can configure your additional instance to use:

- The same RACF user IDs, and groups as your initial instance. For example, if you create an instance as a backup for an existing instance, you might need to use the same RACF configuration for both instances.
- Different RACF user IDs and groups than your initial instance. If configure your additional instance to use different RACF user IDs, you should also configure different RACF groups for this additional instance

You should use unique configuration file names for each new instance that you create. The unique names enable the files to be persisted, and easily associated with the IBM WebSphere Application Server OEM Edition for z/OS server instance to which it applies.

# Chapter 8. Creating and running multiple mozilla Firefox browser sessions

IBM WebSphere Application Server OEM Edition for z/OS uses session cookies to track which users are logged in from a specific browser. Mozilla Firefox allows for only one session cookie per site and per instance. If you want multiple users logged in from a single location, or if you want to log in to multiple servers at the same host name, you might need to configure your browser to accommodate multiple session cookies.

A Mozilla Firefox add-on exists that helps to facilitate multiple identities. For more information about this add-on see the mozilla Firefox Add-ons Web page at:

`https://addons.mozilla.org/en-US/firefox/addon/3255`

For more information about the -no-remote Firefox command-line argument, see the mozillaZine article, Opening a new instance of your Mozilla application with another profile, at:

`http://kb.mozillazine.org/Opening_a_new_instance_of_Firefox_with_another_profile`

IBM does not provide support for these options or their effects.

# Chapter 9. Troubleshooting problems

This chapter is intended to aid you in understanding why IBM WebSphere Application Server OEM Edition for z/OS is not working, and to help you resolve the problem.

**Controller ID cannot issue RRS commands**

RRS commands can be protected by a RACF profile. If this is the situation in your installation, after the Controller ID is created, that ID must be permitted to the RACF profile that protects the RRS command. If the Controller ID is not permitted to that profile, and the Controller ID tries to issue an RRS command, an error message displays on the console that indicates this ID, and the profile that the ID is trying to access.

**File system shutdown is incomplete**

When you run the WASOEM.sh script to create an IBM WebSphere Application Server OEM Edition for z/OS server instance, the script allocates, and mounts the configuration file system using the default attributes. If one of the defaults is AUTOMOVE=Y, you might receive the following message when your system shuts down:

```
BPXM048I BPXOINIT FILE SYSTEM SHUTDOWN INCOMPLETE.
2 FILESYSTEM(S) ARE STILL OWNED BY THIS SYSTEM.
```

To prevent this situation, add the UNMOUNT parameter to the MOUNT statement. For example:

```
MOUNT FILESYSTEM('BBN.SBBN7ZFS') MOUNTPOINT('/usr/lpp/zWebSphereOEM/V7R0')
    TYPE(ZFS) MODE(READ) UNMOUNT
```

**SHRLIBRGNSIZE setting is too small**

If, while running WASOEM.sh in create mode, you receive an error message that indicates that the SHRLIBRGNSIZE setting is too small, you need to increase this setting to a more appropriate value. However, when adjusting this setting, you must be careful not to make the setting for IBM WebSphere Application Server OEM Edition for z/OS so large for that it impacts other processes running in that library space. IBM WebSphere Application Server OEM Edition for z/OS requires a minimum of 1 GB of real storage.

Refer to the topic Using the shared library extended attribute in the z/OS Internet Library at http://www.ibm.com/systems/z/os/zos/bkserv/ for guidelines on how to determine an appropriate setting for the SHRLIBRGNSIZE parameter.

**When attempting to connect to a secure application, the browser either does not connect or waits indefinitely**

The IBM WebSphere Application Server OEM Edition for z/OS configuration completes without error messages, and the server starts successfully. However, when you attempt to use a browser to connect to a secure application, such as the administrative console, the browser either does not connect, or waits indefinitely.

In this situation, you should verify that the browser has network connectivity to the host where the IBM WebSphere Application Server OEM Edition for z/OS instance is running. Appendix D, "Post-configuration tasks check list," on page 71 describes how to use the ping command to check your network connectivity.

If your network connectivity is functioning properly, check the digital certificates that are used for SSL connections. During the configuration process, the digital certificates might have been created with NOTRUST status. In this situation, you must update the certificates such that they have TRUST status, and then stop and start the server again before you can successfully connect to a secure application on that server.

If you are using RACF as your security product, look for IRRD113I messages in the job log for the CNTL.BBOCBRAK job. You can also use RACF commands to view the digital certificate for the controller.

**WASOEM.sh -create cannot update the target procedure library**

If, when you run the WASOEM.sh -create script for the first time, the script fails because it cannot update the procedure library (PROCLIB) that is specified as the value for the zProclibName variable in the response file, verify that:

- The user ID that you are using to run this script is authorized to update the target procedure library.
- The library space allocation (volume and data set compress) is large enough for the update.
- The target procedure library is not open. The default target procedure library is BBN.V7R0.CONFIG1.PROCLIB.

# Appendix A. z/OS system preparation checklist

This checklist will assist you in planning for the changes that need to be make to the z/OS system on which you will be installing and configuring IBM WebSphere Application Server OEM Edition for z/OS. Complete this checklist before you start the installation and configuration process.

**Note:** This worksheet is formatted in landscape view to improve usability when you print copies of these pages. To adjust the view in Adobe® Reader, select View > Rotate View >Clockwise.

| Check when change is completed | z/OS system change | Description |
|---|---|---|
| | Determine where you will be locating the product file system. | The suggested product installation location for the IBM WebSphere Application Server OEM Edition for z/OS read-only file system is /usr/lpp/zWebSphereOEM/V7R0.

If you need to use a different location, record your location here. You will need this information during both the installation and configuration processes.

Product file system location: |
| | Reserve 17 free TCP ports for the sole use of IBM WebSphere Application Server OEM Edition for z/OS. | IBM WebSphere Application Server OEM Edition for z/OS requires 17 ports. These ports, which are listed in Appendix C, "WASOEM.sh shell script prompt responses worksheet for the advanced configuration procedure," on page 51, cannot be shared with any other application. If you are not going to use the default ports, record the ports you reserve here, and in the WASOEM.sh shell script prompt responses worksheet.

<pre>
Default ports:                                                              Your ports:
Location Service Daemon port .......................  (32200)
Location Service Daemon SSL port ...................  (32201)
JMX SOAP connector port ............................  (32202)
ORB port ...........................................  (32203)
ORB SSL port .......................................  (32204)
Administrative console port ........................  (32205)
Administrative console secure port .................  (32206)
HTTP transport port ................................  (32207)
HTTPS transport port ...............................  (32208)
Administrative interprocess communication port .....  (32209)
High Availability Manager Communications port ......  (32210)
Service Integration port ...........................  (32211)
Service Integration Secure port ....................  (32212)
Service Integration MQ Interoperability port .......  (32213)
Service Integration MQ Interoperability Secure port   (32214)
Session Initiation Protocol (SIP) port .............  (32215)
Session Initiation Protocol (SIP) secure port ......  (32216)
</pre> |

| Check when change is completed | z/OS system change | Description |
|---|---|---|
| | Determine a target VOLSER that the WASOEM.sh script can use to allocate the HFS or ZFS data set that will contain the IBM WebSphere Application Server OEM Edition for z/OS configuration file system. This VOLSER must be able to allow for the allocation of a ZFS or HFS data set that has 420 primary cylinders and 100 secondary cylinders.<br><br>When the WASOEM.sh -config script runs, this VOLSER must be entered in response to the following prompt:<br><br>`BBN0110I:To allocate the configuration file system on a particular volume, enter the volser here, or press Return to accept (BBNVOL):`<br><br>If you are going to use an SMS managed volume, you can enter an asterisk (*) in response to this prompt.<br><br>**Caution:** During WASOEM.sh -config processing, the automount rule cannot be enabled for the mount point directory. If the automount rule is enabled, either disable this rule, or perform the following steps manually:<br><br>1. Allocate the configuration file system data set.<br>2. Issue the following shell commands, which cause the automount function to mount the file system:<br><br>`chmod 775 /wasoemcfg`<br>`chown WOEMADM:WSCFG1`<br>`/wasoemcfg` | The configuration file system is a file system that contains the fully configured runtime artifacts of a WebSphere Application Server OEM Edition for z/OS server instance. |
| | Determine an appropriate name for the configuration file system dataset. The default name of the configuration file system data set allocated by the configuration script, is BBN.V7R0.CONFIG1.ZFS.<br><br>If the default data set name cannot be used, the new data set name must be entered in response to the following WASOEM.sh script prompt:<br><br>`BBN0112I:Enter the name of the configuration file system data set to create, or press Return to accept (BBN.V7R0.CONFIG1.ZFS):` | If the default data set name does not conform to your local data set naming policies, determine a data set name for the IBM WebSphere Application Server OEM Edition for z/OS configuration files system that is more appropriate. When the WASOEM.sh -config script runs, this data set name must then be entered in response to the following WASOEM.sh prompt:<br><br>`BBN0110I:To allocate the configuration file system on a particular volume, enter the volser here, or press Return to accept (BBNVOL):`<br><br>**DO NOT ALLOCATE** this dataset at this time. |

| Check when change is completed | z/OS system change | Description |
|---|---|---|
| | Update your active BPXPRMxx member with a mount statement for the IBM WebSphere Application Server OEM Edition for z/OS product file system. This file system must be mounted in read-only mode.<br><br>**Example:**<br><br>`MOUNT FILESYSTEM('BBN.SBBN7ZFS')`<br>`MOUNTPOINT('/usr/lpp/zWebSphereOEM/V7R0')`<br>`TYPE(ZFS) MODE(READ)` | This statement has the z/OS system automatically mount the IBM WebSphere Application Server OEM Edition for z/OS product file system whenever an IPL occurs. |
| | Verify that the MAXFILEPROC parameter for your BPXPRMxx members is set to a value that is greater than, or equal to 2000.<br><br>One way to verify this setting is to issue the following command:<br><br>`D OMVS,OPTIONS,SHRLIBRGNSIZE,MAXTHREADTASK` | IBM WebSphere Application Server OEM Edition for z/OS regions typically include more than 1024 files. Therefore, set the MAXFILEPROC parameter for your BPXPRMxx members to a value that is greater than, or equal to 2000. |
| | Verify that the following libraries are in the system link list and are APF authorized:<br><br>• Language Environment® libraries, SCEERUN, and SCEERUN2<br>• System SSL library, SIEALNKE<br>• 64-bit support library, SCLBDLL2<br><br>You can issue the following command to verify that the libraries are in the system link list and are APF authorized:<br><br>`D PROG,LNKLIST` | Placing these data sets in the link list keeps your IBM WebSphere Application Server OEM Edition for z/OS configuration from being affected by data set name changes.<br><br>See the Language Environment, System SSL, and 64-bit support documentation for your z/OS release for a description of how to place these libraries into the system link pack area. |
| | Verify that Resource Recovery Services (RRS) is defined. See you z/OS documentation for more information about RRS.<br><br>You can issue the following command to verify that RRS is active:<br><br>`D A,RRS` | |
| | Optional: Update the SMFPRMxx member if you want to collect the SMF Type 120 records that the run-time servers create.<br><br>**Example:**<br><br>`SUBSYS(STC,EXITS(IEFU29,IEFACTRT),`<br>`INTERVAL(SMF,SYNC),`<br>`TYPE(0,30,70:79,88,89,120,245))` | The SMF Type 120 record is described in the z/OS version of the WebSphere Application Server Information Center at http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/topic/com.ibm.websphere.zseries.doc/info/zseries/ae/rtrb__SMFrt120overview.html. |

| Check when change is completed | z/OS system change | Description |
|---|---|---|
| | Optional: Define a log stream for IBM WebSphere Application Server OEM Edition for z/OS to use | Because IBM WebSphere Application Server OEM Edition for z/OS is predefined as a z/OS system logger application, you can use a log stream as the error log for the product. Defining a log stream enables you to direct error information to a coupling facility log stream, which provides sysplex-wide error logging, or to a DASD-only log stream, which provides single system-only error logging. See Chapter 5, "Error logging," on page 23 for more information about setting up this log stream. |

# Appendix B. WASOEM.sh shell script prompt responses worksheet for the typical configuration procedure

The following worksheet lists the information messages and prompts that display after you issue the WASOEM.sh -config command to perform the typical configuration procedure for IBM WebSphere Application Server OEM Edition for z/OS. Because some of the default values might not be appropriate for your environment, use this worksheet to plan your responses to these prompts before you issue the WASOEM.sh -config command.

**Note:** This worksheet is formatted in landscape view to improve usability when you print copies of these pages. To adjust the view in Adobe Reader, select View > Rotate View >Clockwise.

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| **Log directory information:**<br><br>BBN0011I:Log directory has been set to /var/zWebSphereOEM/V7R0/logs.<br>BBN0012I:WASOEM.sh log will be written to /var/zWebSphereOEM/V7R0/logs/WASOEM_111909_171403.log. | | | |
| BBN0000I:WASOEM.sh started. - *day date time year* | Information message that indicates the WASOEM.sh script has started. | | |
| BBN0004W:ZPMT_WORK_ROOT directory *directory_name* does not exist. Would you like to create it? (Y/N) | The zpmt.sh script uses this directory for the eclipse work area, and your profiles. If you do not specify a directory, you will receive an error message that indicates that processing cannot continue. A minimum of 25 MB of storage is required for this work area. | /tmp/zWebSphereOEM/V7R0/zpmt/work | |
| BBN0022I:ZPMT_WORK_ROOT directory has been set to *directory_name*. | Information message that indicates the location of the work area that the zpmt.sh script will use for the eclipse work area, and your profiles. | | |
| **WASOEM.sh startup information:**<br><br>```<br>***************************************************<br>* IBM WebSphere Application Server OEM Edition for z/OS Version 7, Release 0<br>* Version version<br>* Date updated date<br>* Options selected:<br>*    -v            1 if selected;  0 if not selected<br>*    -noclear      1 if selected;  0 if not selected<br>*    -nooverride   1 if selected;  0 if not selected<br>*    -fastpath     1 if selected;  0 if not selected<br>*    -showmsgprefix 1 if selected;  0 if not selected<br>*    -nocustom     1 if selected;  0 if not selected<br>*    -create       1 if selected;  0 if not selected<br>*    -config       1 if selected;  0 if not selected<br>***************************************************<br>``` | | | |
| BBN0025I:Reading in response file /usr/lpp/zWebSphereOEM/V7R0/zOS-config/zpmt/samples/wasOEMDefault.responseFile. | Information message that indicates IBM WebSphere Application Server OEM Edition for z/OS is reading the default values in the wasOEMDefault.responseFile. | | |
| BBN350I: Using typical mode | Information message that indicates that the typical configuration procedure is being followed to create your IBM WebSphere Application Server OEM Edition for z/OS configuration. | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| **Configuration naming information messages:**<br><br>BBN0118I:Naming your configuration.<br>BBN0119I:Make sure that the name you choose contains only alphanumeric characters, and<br>  complies to UNIX file naming standards. The name is folded to upper case for ease of use.<br>BBN0120I:This name becomes a directory under WASOEM_CONF_ROOT (/etc/zWebSphereOEM/V7R0/conf)<br>  As an example, if you choose config1 as your configuration name, the path to it is<br>  /etc/zWebSphereOEM/V7R0/conf/CONFIG1 | | | |
| **Configuration naming prompts:** | | | |
| BBN0121I:Enter a 1-12 character name to call this configuration, or press Return to accept (CONFIG1): | If you accept config1 as the name for your configuration file system, and /etc/zWebSphereOEM/ V7R0/conf/ is the directory that you are using for the IBM WebSphere Application Server OEM Edition for z/OS configuration files, the fully-qualified name of your configuration is:<br><br>/etc/zWebSphereOEM/V7R0/conf/CONFIG1<br><br>**Note:** You should keep all of the IBM WebSphere Application Server OEM Edition for z/OS configuration files in one place. The IBM WebSphere Application Server OEM Edition for z/OS scripts, by default, look for all IBM WebSphere Application Server OEM Edition for z/OS configuration files in the /etc/zWebSphereOEM/V7R0/conf/ directory unless a different location is specified in the wasOEM_env.sh file. | CONFIG1 | |
| BBN0114I:When a z/OS customization definition is uploaded to the target z/OS system, the customization jobs and files are written to a pair of partitioned data sets.<br><br>BBN0115I:Enter a high-level qualifier for the target z/OS data sets that will contain the generated jobs and instructions (BBN.V7R0.CONFIG1.ZPMTJOBS): | These prompts define the high level qualifier for the location of the partitioned data sets where the generated customization jobs and files will be stored. When IBM WebSphere Application Server OEM Edition for z/OS uploads a z/OS customization definition to the target z/OS system, the customization jobs and files are written to these data sets. Press Return to accept the default value. | BBN.V7R0.CONFIG1.ZPMTJOBS | |
| BBN0133I: Enter the volume name to allocate the DATA and CNTL datasets on, or enter * to select SMS managed : | This value indicates the volume serial number of the DASD that contains the file system data set.<br><br>If SMS automatic class selection (ACS) routines are set up to handle data set allocation automatically you can specify * to let SMS select a volume for you. If SMS is not set up to handle data set allocation automatically, and you do not want to use the default volume, you must specify a specific volume. | BBNVOL | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0238I:Enter the WebSphere Application Server Product File System directory, or press Return to accept (/usr/lpp/zWebSphereOEM/V7R0): | This directory is the WebSphere Application Server read-only file system mount point.<br><br>If you want to use a symbolic link mount point, enter that mount point instead of the absolute mount point in response to this prompt.<br><br>If you specify a symbolic link mount point, during WASOEM -create processing symbolic inks are created in the configuration file system that point to the product files mounted at the location that you specified. | /usr/lpp/zWebSphereOEM/V7R0 | |
| **Configuration file system prompts** | | | |
| BBN0112I:Enter the name of the configuration file system data set to create, or press Return to accept (BBN.V7R0.CONFIG1.ZFS): | This character string is the name of the file system data set that will be created and mounted at the mount point specified for the zConfigMountPoint variable in the response file. The data set name can include up to 44 characters. | BBN.V7R0.CONFIG1.ZFS | |
| BBN0109I:Enter the type of the configuration file system (ZFS/HFS), or press Return to accept (ZFS): | This value indicates the type of configuration file system you will use to run IBM Application Server OEM Edition for z/OS. You must use either a ZFS file system or an HFS file system. | ZFS | |
| BBN0110I:To allocate the configuration file system on a particular volume, enter the volser here, or press Return to accept (BBNVOL): | This is the volume that you want allocated for the configuration file system. | BBNVOL | |
| BBN0108I:Enter the path of the configuration file system mount point, or press Return to accept (/zWebSphereOEM/ V7R0/config1): | This value indicates the read/write file system directory mount point where application data and environment files will be written The customization process creates this mount point if it does not already exist. | /zWebSphereOEM/V7R0/config1 | |
| **Server, cell and node configuration prompts:** | | | |
| BBN0999I:Would you like to use the WebSphere Application Server OEM default values for the cell, cluster and system identifiers? (Y/N) | If you enter Y, the following message displays, and you do not receive any more server, cell and node configuration prompts.<br><br>`Assigning default values` | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0093I:Enter a two character cell identifier, or press Return to accept (BN): | This two character alphanumeric cell identifier is used to construct the names of the SAF user IDs and groups that will be used for all cells and servers that share the same cell identifier. Together with the system identifier, the cell identifier is used to build cell names, node names, and other values.<br><br>See the WebSphere Application Server Information Center topic "z/OS standard naming convention" for more information about a cell identifier. | BN | |
| BBN0094I:Enter a 2 character cluster identifier, or press Return to accept (00): | This two character alphanumeric cluster identifier is used to construct the names of the SAF user IDs and groups that will be used for all cells and servers that share the same cell identifier. Together with the system identifier, the cluster identifier is used to build cell names, node names, and other values.<br><br>See the WebSphere Application Server Information Center topic "z/OS standard naming convention" for more information about a cluster identifier. | 00 | |
| BBN0095I:Enter a single character system identifier, or press Return to accept (A): | This one-character, alphanumeric system identifier is used to distinguish the application server nodes in a Network Deployment cell and the various types of other servers (standalone application servers, administrative agents, job managers, and secure proxy servers) from each other. The name comes from the practice of creating a Network Deployment cell with one application server node on each z/OS system that the cell spans. However, the one-character identifier can also be used to distinguish several nodes on the same z/OS system, or to identify several single-node cells that have the same cell identifier. In these latter cases, the system identifier does not have to represent an actual z/OS system.<br><br>See the WebSphere Application Server Information Center topic "z/OS standard naming convention" for more information about a server identifier. | A | |
| **UID and GID prompts:** | | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0099I:Would you like to use the default UID range for UIDs required by WebSphere Application Server OEM? (Y/N) | If you enter Y, the following message displays, and you do not receive any more UID prompts.<br><br>`Assigning default values`<br>`Automatically assigning UIDs`<br>`using 1234 as a base value` | | |
| BBN0078I:Enter a base UID value to have the UIDs automatically assigned. For example, if you enter 1234, UIDs 1234-1238 are assigned. | OS security automatically assigns the UIDs based on the base port number you enter. | | |
| BBN0099I:Would you like to use the default GID range for GIDs required by WebSphere Application Server OEM? (Y/N)" | If you enter Y, the following messages display, and you do not receive any more GID prompts:<br><br>`Assigning default values`<br>`Automatically assigning GIDs`<br>`using 4321 as a base value` | | |
| BBN0068I:Enter a base GID value to have the GIDs automatically assigned. For example, if you enter 4321, GIDs 4321-4323 are assigned. | OS security automatically assigns the UIDs based on the base GID value you enter. | | |
| **Hostname prompt:** | | | |
| BBN0096I:Enter the DNS hostname for TCP/IP, or press return to accept (BBN.HOSTNAME): | TCP/IP network name for the TCP/IP stack within the z/OS Operating System on which IBM WebSphere Application Server OEM Edition for z/OS is configured. The override response file sets this variable to @HOSTNAME.<br><br>When you run the WASOEM.sh script in config mode, you can specify a specific host name. However, any host name you specify in the response file is overridden by the value in the override response file unless you issue the WASOEM.sh -config command. | When @HOSTNAME is the value in the response file, the scripts do a hostname lookup on the system during the configuration process. | |
| **System and data set names prompts:** | | | |
| BBN0099I:Select System and Data Set Names. | This message indicates that the next series of prompts give you the opportunity to specify system and data set names that are more appropriate for your environment. | | |
| BBN0097I:Enter the system name, or press Return to accept .......... (SY1): | This value is the name for the target z/OS system on which you will be configuring IBM WebSphere Application Server OEM Edition for z/OS. If you are not sure of the system name, issue the D SYMBOLS command from the OMVS shell on the target z/OS system. This command will display the system and sysplex name for that target z/OS system. | If you do not provide a system name, the scripts do a sysname lookup on the system during the configuration process. | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0098I:Enter the sysplex name, or press Return to accept .......... (PLEX1) | This value is the sysplex name for the target z/OS system on which you will be configuring IBM WebSphere Application Server OEM Edition for z/OS. If you are not sure of the sysplex name, issue the D SYMBOLS command from the OMVS shell on the target z/OS system. This command will display the system and sysplex name for that target z/OS system. | If you do not provide a sysplex name, the scripts do a plexname lookup on the system during the configuration process. | |
| **WASOEM.sh -config completion information messages:** | | | |
| BBN0122I:Invoking /usr/lpp/zWebSphereOEM/V7R0/bin/ zpmt.sh -workspace /tmp/zWebSphereOEM/V7R0/zpmt/work -transfer -responseFile /etc/zWebSphereOEM/V7R0/conf/ CONFIG1/CONFIG1.responseFile<br><br>BBN0007I:Wait …<br><br>Customization definition successfully written to /etc/zWebSphereOEM/V7R0/conf/CONFIG1/zpmt<br><br>Copying CNTL files to BBN.V7R0.CONFIG2.ZPMTJOBS.CNTL…<br><br>Copy successful.<br><br>Copying DATA files to BBN.V7R0.CONFIG2.ZPMTJOBS.DATA…<br><br>Copy successful.<br><br>BBN0143I:Success: customization jobs have been created successfully.<br><br>BBN0144I:Submit the following jobs before running WASOEM.sh -create<br><br>BBN0225I:First, submit *name_qualifier*.CNTL(BBOSBRAK) - Make sure that you select BBOSBRAK.<br><br>BBN0236I:After *name_qualifier*.CNTL(BBOSBRAK) completes, submit the following; BBN0226I: *name_qualifier*.CNTL(BBOSBRAM)<br><br>BBN0227I: *name_qualifier*.CNTL(BBOCBRAK) | This series of messages indicate that WASOEM.sh -config process has completed. You must now run the three security customization jobs that were created as part of this processing. After you run the three security jobs, you can run the WASOEM.sh -create script to create your IBM WebSphere Application Server OEM Edition for z/OS server instance.<br><br>**Important:** You do not have to run the BBOSBRAK and BBOSBRAM jobs if the indicated groups, user IDs and directories already exist with the correct GID, UID, and ownership permission values.<br><br>See Appendix H, "Security jobs," on page 95 for more information about running the security customization jobs. | | |

Assuming that you plan to use all of the default values for the instance that you are creating, after WASOEM.sh processing completes, the following table summarizes the values that will be defined for your configuration in the response file for the server instance you will be creating.

**Note:** Some variables do not have default values. A *user_determined* placeholder in the Configuration value column indicates that the value for that variable is determined by your response to a typical configuration process prompt.

| Variable | Configuration value |
| --- | --- |
| cellName | bbnbase |
| hostName | bbn.hostname |
| nodeName | bbnnode |
| omitAction | samplesInstallAndConfig |
| profileName | default |
| profilePath | /etc/zWebSphereOEM/V7R0/conf/CONFIG1/zpmt |
| serverName | server1 |
| targetOS | os390 |
| templatePath | zos-appserver |
| zAdjunctProcName | BBN7CRA |
| zAdminAsynchProcName | BBN7ADM |
| zAdminAsynchTaskUid | 2504 |
| zAdminAsynchTaskUserid | WSADMSH |
| zAdminConsolePort | *user_determined* |
| zAdminConsoleSecurePort | *user_determined* |
| zAdminLocalPort | *user_determined* |
| zAdminSecurityType | websphereForZos |
| zAdminUid | 2403 |
| zAdminUnauthenticatedUid | 2402 |
| zAdminUnauthenticatedUserid | WSGUEST |
| zAdminUserid | WOEMADM |
| zCaAuthorityExpirationDate | 2018/12/31 |
| zCellShortName | BBNBASE |
| zClusterTransitionName | BBNC001 |
| zConfigHfsName | BBN.V7R0.CONFIG1.ZFS |
| zConfigHfsPrimaryCylinders | 420 |
| zConfigHfsSecondaryCylinders | 100 |
| zConfigHfsVolume | BBNVOL |
| zConfigMountPoint | /zWebSphereOEM/V7R0/config1 |
| zConfigurationGroup | WSCFG1 |
| zConfigurationGroupGID | *user_determined* |
| zControlProcName | BBN7ACR |
| zControlUid | *user_determined* |
| zControlUserid | WSCRU1 |

| Variable | Configuration value |
|---|---|
| zDaemonHomePath | No default. System generated. |
| zDaemonIPName | No default. System generated. |
| zDaemonJobName | BBN7ACRS |
| zDaemonListenIP | * |
| zDaemonPort | *user_determined* |
| zDaemonProcName | BBN7DMNB |
| zDaemonRegisterWlmDns | false |
| zDaemonSslPort | *user_determined* |
| zDefaultSAFKeyringName | WASKeyring.BBNBASE |
| zEnableIntermediateSymlink | false |
| zEnableSslOnDaemon | true |
| zEnableWritableKeyring | false |
| zFilesystemType | ZFS |
| zGenerateCaCertificate | true |
| zHighAvailManagerPort | *user_determined* |
| zHttpTransportHostName | * |
| zHttpTransportPort | *user_determined* |
| zHttpTransportSslPort | *user_determined* |
| zInstallAdminConsole | true |
| zInstallDefaultApp | true |
| zInstallSamples | false |
| zJobStatement1 | (ACCTNO,ROOM),'USERID',CLASS= A,REGION=0M, |
| zJobStatement2 | //* |
| zJobStatement3 | //* |
| zJobStatement4 | //* |
| zJvmMode | 64bit |
| zLocalUserGroup | WSCLGP |
| zLocalUserGroupGID | *user_determined* |
| zNodeShortName | BBNNODE |
| zOrbListenerHostName | * |
| zOrbListenerPort | *user_determined* |
| zOrbListenerSslPort | *user_determined* |
| zProclibName | BBN.V7R0.CONFIG1.PROCLIB |
| zSAFProfilePrefix | BBNBASE |
| zSSLCaKeylabel | WebSphereCA |
| zServantGroup | WSSR1 |
| zServantGroupGID | *user_determined* |
| zServantProcName | BBN7ASR |
| zServantUid | *user_determined* |
| zServantUserid | WSSRU1 |
| zServerShortName | BBNS001 |

| Variable | Configuration value |
|---|---|
| zServiceIntegrationMqPort | *user_determined* |
| zServiceIntegrationPort | *user_determined* |
| zServiceIntegrationSecureMqPort | *user_determined* |
| zServiceIntegrationSecurePort | *user_determined* |
| zSessionInitiationPort | *user_determined* |
| zSessionInitiationSecurePort | *user_determined* |
| zSmpePath | /usr/lpp/zWebSphereOEM/V7R0 |
| zSoapPort | *user_determined* |
| zSysplexName | PLEX1 |
| zSystemName | SY1 |
| zTargetHLQ | BBN.V7R0.CONFIG1.ZPMTJOBS |
| zUserIDHomeDirectory | /var/zWebSphereOEM/V7R0/home |
| zWasServerDir | AppServer |

# Appendix C. WASOEM.sh shell script prompt responses worksheet for the advanced configuration procedure

The following worksheet lists the information messages and prompts that display after you issue the WASOEM.sh -config command to perform the advanced configuration procedure for IBM WebSphere Application Server OEM Edition for z/OS. Because some of the default values might not be appropriate for your environment, use this worksheet to plan your responses to these prompts before you issue the WASOEM.sh -config command.

**Note:** This worksheet is formatted in landscape view to improve usability when you print copies of these pages. To adjust the view in Adobe Reader, select View > Rotate View >Clockwise.

**51**

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0002W:Log directory /var/zWebSphereOEM/V7R0/logs does not exist. Would you like to create it? (Y/N) | This prompt displays the first time you run the WASOEM.sh -config script. You should respond Y to this prompt. The prompt does not display the next time you run the WASOEM.sh - config script even if you respond N to this prompt. | There is no default. You must specify either Y or N. | |
| **Log directory information:**<br><br>`BBN0011I:Log directory has been set to directory/logs.`<br>`BBN0012I:WASOEM.sh log will be written to directorylogs/WASOEM_date_time.log.` | | | |
| BBN0000I:WASOEM.sh started. - *day date time year* | Information message that indicates the WASOEM.sh script has started. | | |
| BBN0004W:ZPMT_WORK_ROOT directory *directory_name* does not exist. Would you like to create it? (Y/N) | The zpmt.sh script uses this directory for the eclipse work area, and your profiles. If you do not specify a directory, you will receive an error message that indicates that processing cannot continue. A minimum of 25 MB of storage is required for this work area. | /tmp/zWebSphereOEM/V7R0/zpmt/ work | |
| BBN0022I:ZPMT_WORK_ROOT directory has been set to *directory_name*. | Information message that indicates the location of the work area that the zpmt.sh script will use for the eclipse work area, and your profiles. | | |
| **WASOEM.sh startup information:**<br><br>`*******************************************************************`<br>`* IBM WebSphere Application Server OEM Edition for z/OS Version 7, Release 0`<br>`* Version version_number`<br>`* Date updated 11/16/2009`<br>`* Options selected:`<br>`*     -v            0`<br>`*     -noclear      1`<br>`*     -nooverride   1`<br>`*     -fastpath     0`<br>`*     -showmsgprefix 0`<br>`*     -nocustom     1`<br>`*     -create       0`<br>`*     -config       1`<br>`*******************************************************************` | | | |
| BBN0025I:Reading in response file /usr/lpp/ zWebSphereOEM/V7R0/zOS-config/ zpmt/samples/ wasOEMDefault.responseFile. | Information message that indicates IBM WebSphere Application Server OEM Edition for z/OS is reading the default values in the wasOEMDefault.responseFile. | | |

| Prompt | Description | Default value | Your value |
|--------|-------------|---------------|------------|
| BBN0238I:Enter the IBM WebSphere Application Server OEM Edition for z/OS Product File System directory, or press Return to accept (/usr/lpp/zWebSphereOEM/V7R0): | This directory is the IBM WebSphere Application Server OEM Edition for z/OS read-only file system mount point.<br><br>If you want to use a symbolic link mount point, enter that mount point instead of the absolute mount point in response to this prompt.<br><br>If you specify a symbolic link mount point, during WASOEM -create processing symbolic inks are created in the configuration file system that point to the product files mounted at the location that you specified. | /usr/lpp/zWebSphereOEM/V7R0 | |
| BBN0114I:When a z/OS customization definition is uploaded to the target z/OS system, the customization jobs and files are written to a pair of partitioned data sets.<br><br>BBN0115I:Enter a high-level qualifier for the target z/OS data sets that will contain the generated jobs and instructions (BBN.V7R0.CONFIG1.ZPMTJOBS): | These prompts define the high level qualifier for the location of the partitioned data sets where the generated customization jobs and files will be stored. When IBM WebSphere Application Server OEM Edition for z/OS uploads a z/OS customization definition to the target z/OS system, the customization jobs and files are written to these data sets. Press Return to accept the default value. | BBN.V7R0.CONFIG1.ZPMTJOBS | |
| BBN0132I:Have the BBN.V7R0.CONFIG1.ZPMTJOBS.DATA and BBN.V7R0.CONFIG1.ZPMTJOBS.CNTL data sets already been allocated? (Y/N) | Enter Y if you have already allocated these data sets. Enter N if you want the WASOEM.sh script to allocate these data sets for you. | There is no default. You must specify either Y or N. | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| **Names, users, procedures and groups information messages:** | | | |
| BBN0083I:Selection of Names, Users, Procs and Groups.<br>BBN0004I:Review the following options before making your selection.<br>BBN0002I: * Use the values from your response file.<br>BBN0084I: * Automatically generate the names based on the cell, cluster and system identifiers.<br>BBN0085I:--These settings closely follows the Washington Systems Center recommendations.<br>  Here are the values currently defined for your configuration.<br>BBN0181I:Cell Long Name ....................... (bbnbase)<br>BBN0182I:Cell Short Name ...................... (BBNBASE)<br>BBN0183I:Node Long Name ....................... (bbnnode)<br>BBN0184I:Node Short Name ...................... (BBNNODE)<br>BBN0185I:Server Long Name ..................... (server1)<br>BBN0186I:Server Short Name .................... (BBNS001)<br>BBN0187I:Cluster Transition Name ............. (BBNC001)<br>BBN0188I:Daemon Job Name ..................... (BBN7ACRS)<br>BBN0189I:SAF Profile Prefix .................. (BBNBASE)<br>BBN0190I:Default SAF Keyring Name ............ (WASKeyring.BBNBASE)<br>BBN0191I:Adjunct Proc Name ................... (BBN7CRA)<br>BBN0192I:Admin Asynch Proc Name ............. (BBN7ADM)<br>BBN0193I:Control Proc Name ................... (BBN7ACR)<br>BBN0194I:Daemon Proc Name .................... (BBN7DMNB)<br>BBN0195I:Servant Proc Name ................... (BBN7ASR)<br>BBN0196I:Controller User ID .................. (WSCRU1)<br>BBN0197I:Servant User ID ..................... (WSSRU1)<br>BBN0198I:Admin Unauthenticated User ID ... (WSGUEST)<br>BBN0199I:Admin Asynch Task User ID ........ (WSADMSH)<br>BBN0200I:Admin User ID ....................... (WOEMADM)<br>BBN0201I:Servant Group ....................... (WSSR1)<br>BBN0202I:Local User Group ................... (WSCLGP)<br>BBN0203I:Configuration Group ............... (WSCFG1) | | | |
| **Names, users, procedures and groups prompts:** | | | |
| BBN0005I:Simply press Return to accept the values from your response file. | If you plan to use the default cell, cluster and system identifiers, press Enter in response to this prompt. | | |
| BBN0086I:Enter a 0 (zero) to enter the cell, cluster and system identifiers that you want used to automatically generate the names. | | | |
| BBN0006I:Make a selection: | | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0081I: * Assign each of the five Procedure names individually. | If you enter 0 to assign the proc names individually, you will be prompted for the names that you want assigned to each of the five procedures. | | |
| Here are the user IDs currently defined for your configuration | | | |
| BBN0176I: WebSphere Application Server Adjunct Proc Name ................ (BBN7CRA) | | | |
| BBN0177I: WebSphere Application Server Admin Asynch Proc Name .............. (BBN7ADM) | | | |
| BBN0178I: WebSphere Application Server Control Proc Name ................ (BBN7ACR) | | | |
| BBN0179I: WebSphere Application Server Daemon Proc Name .................. (BBN7DMNB) | | | |
| BBN0180I: WebSphere Application Server Servant Proc Name .................. (BBN7ASR) | | | |
| BBN0005I:Simply press Return to accept the values from your response file. | | | |
| BBN0082I:Or, enter a 0 (zero) to assign the proc names individually. | | | |
| BBN0006I:Make a selection: | | | |
| BBN0200I:Enter a PROCNAME name for the Adjunct Proc Name, or press Return to accept (BBN7CRA): | The name you specify is the user ID that will be used to run the IBM WebSphere Application Server OEM Edition for z/OS adjunct procedure. | BBN7CRA | |
| BBN0201I:Enter a PROCNAME name for the Admin Asynch Proc Name, or press Return to accept (BBN7ADM): | The name you specify is the user ID that will be used to run the IBM WebSphere Application Server OEM Edition for z/OS admin asynch procedure. | BBN7ADM | |
| BBN0202I:Enter a PROCNAME name for the Control Proc Name, or press Return to accept (BBN7ACR): | The name you specify is the user ID that will be used to run the IBM WebSphere Application Server OEM Edition for z/OS controller procedure. | BBN7ACR | |
| BBN0203I:Enter a PROCNAME name for the Daemon Proc Name, or press Return to accept (BBN7DMNB): | The name you specify is the user ID that will be used to run the IBM WebSphere Application Server OEM Edition for z/OS daemon procedure. | BBN7DMNB | |
| BBN0204I:Enter a PROCNAME name for the Servant Proc Name, or press Return to accept (BBN7ASR): | The name you specify is the user ID that will be used to run the IBM WebSphere Application Server OEM Edition for z/OS servant procedure. | BBN7ASR | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0093I:Enter a two character cell identifier, or press Return to accept (BN): | This two character alphanumeric cell identifier is used to construct the names of the SAF user IDs and groups that will be used for all cells and servers that share the same cell identifier. Together with the system identifier, the cell identifier is used to build cell names, node names, and other values.<br><br>See the WebSphere Application Server Version 7.0 Information Center topic "z/OS standard naming convention" for more information about a cell identifier. | BN | |
| BBN0094I:Enter a 2 character cluster identifier, or press Return to accept (00): | This two character alphanumeric cluster identifier is used to construct the names of the SAF user IDs and groups that will be used for all cells and servers that share the same cell identifier. Together with the system identifier, the cluster identifier is used to build cell names, node names, and other values.<br><br>See the WebSphere Application Server Information Center topic "z/OS standard naming convention" for more information about a cluster identifier. | 00 | |
| BBN0095I:Enter a single character system identifier, or press Return to accept (A): | This one-character, alphanumeric system identifier is used to distinguish the application server nodes in a Network Deployment cell and the various types of other servers (standalone application servers, administrative agents, job managers, and secure proxy servers) from each other. The name comes from the practice of creating a Network Deployment cell with one application server node on each z/OS system that the cell spans. However, the one-character identifier can also be used to distinguish several nodes on the same z/OS system, or to identify several single-node cells that have the same cell identifier. In these latter cases, the system identifier does not have to represent an actual z/OS system.<br><br>See the WebSphere Application Server Information Center topic "z/OS standard naming convention" for more information about a server identifier. | A | |
| BBN0003I:Press enter if done with this section, or enter an N if not. | This message gives you the opportunity to reenter values for any of the identifiers. If you enter N, the names, users, procedures and groups prompts are repeated. | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| **Configuration naming information messages:**<br><br>`BBN0118I:Naming your configuration.`<br>`BBN0119I:Make sure that the name you choose contains only alphanumeric characters, and`<br>`  complies to UNIX file naming standards. The name is folded to upper case for ease of use.`<br>`BBN0120I:This name becomes a directory under WASOEM_CONF_ROOT (/etc/zWebSphereOEM/V7R0/conf)`<br>`  As an example, if you choose config1 as your configuration name, the path to it is`<br>`  /etc/zWebSphereOEM/V7R0/conf/CONFIG1` | | | |
| **Configuration naming prompts:** | | | |
| BBN0121I:Enter a 1-12 character name to call this configuration, or press Return to accept (CONFIG1): | If you accept config1 as the name for your configuration file system, and /etc/zWebSphereOEM/ V7R0/conf/ is the directory that you are using for the IBM WebSphere Application Server OEM Edition for z/OS configuration files, the fully-qualified name of your configuration is:<br><br>`/etc/zWebSphereOEM/V7R0/conf/CONFIG1`<br><br>**Note:** You should keep all of the IBM WebSphere Application Server OEM Edition for z/OS configuration files in one place. The IBM WebSphere Application Server OEM Edition for z/OS scripts, by default, look for all IBM WebSphere Application Server OEM Edition for z/OS configuration files in the /etc/zWebSphereOEM/V7R0/conf/ directory unless a different location is specified in the wasOEM_env.sh file. | CONFIG1 | |
| Configuration file system prompts | | | |
| BBN0111I:Configuration File System Selections. Choose the data set, file system type, volume, and mount point. | | | |
| BBN0112I:Enter the name of the configuration file system data set to create, or press Return to accept (BBN.V7R0.CONFIG1.ZFS): | This character string is the name of the file system data set that will be created and mounted at the mount point specified for the zConfigMountPoint variable in the response file. The data set name can include up to 44 characters. | BBN.V7R0.CONFIG1.ZFS | |
| BBN0109I:Enter the type of the configuration file system (ZFS/HFS), or press Return to accept (ZFS): | This value indicates the type of configuration file system you will use to run IBM Application Server OEM Edition for z/OS. You must use either a ZFS file system or an HFS file system. | ZFS | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0133I: Enter the volume name to allocate the DATA and CNTL datasets on, or enter * to select SMS managed : | This value indicates the volume serial number of the DASD that contains the file system data set.<br><br>If SMS automatic class selection (ACS) routines are set up to handle data set allocation automatically you can specify * to let SMS select a volume for you. If SMS is not set up to handle data set allocation automatically, and you do not want to use the default volume, you must specify a specific volume. | BBNVOL | |
| BBN0108I:Enter the path of the configuration file system mount point, or press Return to accept (/zWebSphereOEM/ V7R0/config1): | This value indicates the read/write file system directory mount point where application data and environment files will be written The customization process creates this mount point if it does not already exist. | /zWebSphereOEM/V7R0/config1 | |
| BBN0003I:Press Enter if done with this section, or enter an N if not. | This message gives you the opportunity to reenter values for any of the identifiers. If you do not need to make any changes, press Enter. If you enter N, the configuration file system prompts are repeated. | | |
| **UID information messages:**<br><br>`Automatic UID and GID assignment. Many installations support having the OS security automatically`<br>`set the UIDs and GIDs to unused values. There are specific steps that need to be performed`<br>`before this feature can be used  Here are the UIDs currently defined for your configuration`<br>`BBN0156I:  Asynchronous administrator user ID ....................  (2504)`<br>`BBN0157I:  WebSphere Application Server administrator ............  (2403)`<br>`BBN0158I:  WebSphere Application Server unauthenticated user ID ..  (2402)`<br>`BBN0159I:  Common controller user ID ...........................   (2431)`<br>`BBN0160I:  Common servant user ID ...............................  (2432)`<br>`BBN0161I:Here are the GIDs currently defined for your configuration`<br>`BBN0162I:  WebSphere Application Server Configuration group ......  (2500)`<br>`BBN0163I:  WebSphere Application Server local user group .........  (2502)`<br>`BBN0164I:  WebSphere Application Server servant group ............  (2501)` | | | |
| **UID prompts:** | | | |
| BBN0062I:Press Enter to accept the preceding values, or enter N to allow OS security to automatically assign the UID and GID values. | **Caution:** Before you decide to enter N, verify that the OS security on your system is permitted to automatically assign UID and GUID values. | | |
| BBN0062I:Press Enter to accept the preceding values, or enter N to allow OS security to automatically assign the UID and GID values. | | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| **Group information messages:** | | | |
| BBN0069I:GROUP Selections<br>BBN0070I:There are three GROUP names needed for your configuration.<br>BBN0004I:Review the following options before making your selection.<br>BBN0002I: * Use the values from your response file.<br>BBN0071I: * Assign each of the three GROUPS individually Here are the GROUPS currently defined<br>  for your configuration<br>BBN0168I: WebSphere Application Server Configuration group .. (WSCFG1)<br>BBN0169I: WebSphere Application Server local user group ...... (WSCLGP)<br>BBN0170I: WebSphere Application Server servant group ........ (WSSR1) | | | |
| **Group prompts:** | | | |
| BBN0005I:Simply press Return to accept the values from your response file.<br><br>BBN0072I:Or, enter a 0 (zero) to assign the GROUPSs individually.<br><br>BBN0006I:Make a selection: | These names become the default names for the three security groups that are defined during WASOEM.sh -config processing. If you plan to use the default values, press Enter in response to this prompt. | | |
| BBN0049I:Enter a GROUP name for the administrator and all server user IDs, or press Return to accept [WSCFG1]: | This is the name of the group that includes the ID for the IBM WebSphere Application Server OEM Edition for z/OS administrator, and the user IDs for all IBM WebSphere Application Server OEM Edition for z/OS servers. | WSCFG1 | |
| BBN0050I:Enter a GROUP name for the IBM WebSphere Application Server OEM Edition for z/OS local user group, or press Return to accept [WSCLGP]: | This is the name of the group that includes local user group IDs. | WSCLGP | |
| BBN0051I:Enter a GROUP name for the IBM WebSphere Application Server OEM Edition for z/OS servant group, or press Return to accept [WSSR1]: | This is the name of the group that includes the servant IDs. | WSSR1 | |
| **GID information messages:** | | | |
| BBN0063I:GID Selections<br>BBN0064I:There are three GIDs needed for your configuration.<br>BBN0004I:Review the following options before making your selection.<br>BBN0002I: * Use the values from your response file.<br>BBN0065I: * Assign each of the three GIDs individually.<br>BBN0066I: * Automatically generate three GIDs using the number that you enter as the base number.<br>  Make sure that you have three contiguous GID values that are free. Here are the GIDs currently<br>  defined for your configuration.<br>BBN0165I: WebSphere Application Server Configuration group .. (2500)<br>BBN0166I: WebSphere Application Server local user group ...... (2502)<br>BBN0167I: WebSphere Applicatoin Server servant group ........ (2501) | | | |
| **GID prompts:** | | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0005I:Simply press Return to accept the values from your response file.<br><br>BBN0067I:Or, enter a 0 (zero) to assign the GIDs individually.<br><br>BBN0068I:Or, enter a base GID value to have the GIDs automatically assigned. For example, if you enter 4321, GIDs 4321-4323 are assigned.<br><br>BBN0006I:Make a selection: | If you plan to use the default GIDs, or are going to enter a base GID value to have OS security automatically assigns the GIDs based on this GID value, press Enter in response to this prompt. | | |
| BBN0046I:Enter a GID for the administrator and all server user IDs, or press Return to accept the default value. | This GID will be used to connect the administrator ID and all server user IDs to the configuration group. | 2500 | |
| BBN0047I:Enter a GID for the IBM WebSphere Application Server OEM Edition for z/OS local user group, or press Return to accept the default value. | This GID will be used to connect user IDs to the local user group. | 2502 | |
| BBN0048I:Enter a GID for the IBM WebSphere Application Server OEM Edition for z/OS servant group, or press Return to accept the default value. | This GID will be used to connect servant IDs to the servant group. | 2501 | |
| BBN0003I:Press Enter if done with this section, or enter an N if not. | This message gives you the opportunity to change your UID and GID settings. If you do not need to make any changes, press Enter in response to this prompt. If you enter N, the group and GID prompts are repeated. | | |

**ID information messages:**

```
BBN0079I:user ID Selections.
BBN0080I:A total of five user IDs are needed for your configuration.
BBN0004I:Review the following options before making your selection.
BBN0002I: * Use the values from your response file.
BBN0081I: * Assign each of the five user IDs individually. Here are the user IDs currently
    defined for your configuration
BBN0176I:  Asynchronous administrator user ID ..................    (WSADMSH)
BBN0177I:  WebSphere Application Server administrator ...........    (WSADMIN)
BBN0178I:  WebSphere Application Server unauthenticated user ID ..  (WSGUEST)
BBN0179I:  Common controller user ID .........................    (WSACRU1)
BBN0180I:  Common servant user ID ...........................    (WSASRU1)
```

**ID prompts**

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0005I:Simply press Return to accept the values from your response file. | If you plan to use the default IDs, press Enter in response to this prompt. | | |
| BBN0082I:Or, enter a 0 (zero) to assign the user IDs individually. | | | |
| BBN0006I:Make a selection: | | | |
| BBN0057I:Enter a user ID for the IBM WebSphere Application Server OEM Edition for z/OS Administrator, or press Return to accept [WSADMIN]: | This SAF user ID is used to administrator IBM WebSphere Application Server OEM Edition for z/OS. If this user ID already exists, it must have the IBM WebSphere Application Server OEM Edition for z/OS configuration group for this cell as its default UNIX® System Services group. | WSADMIN | |
| BBN0058I:Enter a user ID for the Common controller, or press Return to accept [WSACRU1]: | This user ID is used to issue commands that govern application server controller processing. **Caution:** RRS commands can be protected by a RACF profile. If this is the situation in your installation, after the Controller ID is created, that ID must be permitted to the RACF profile that protects the RRS command. | WSACRU1 | |
| BBN0059I:Enter a user ID for the Common servant, or press Return to accept [WSASRU1]: | This user ID is used to issue commands that govern application server servant processing. | WSASRU1 | |
| BBN0060I:Enter a user ID for the Asynchronous administrator, or press Return to accept [WADMSH]: | This user ID is used to run asynchronous administration operations procedure. | WSADMSH | |
| BBN0061I:Enter a user ID for the IBM WebSphere Application Server OEM Edition for z/OS unauthenticated user, or press Return to accept [WSGUEST]: | This SAF user ID will be associated with unauthenticated client requests. | WSGUEST | |

**UID information messages:**

```
BBN0073I:UID Selections
BBN0074I:There are five UIDs needed for your configuration.
BBN0004I:Review the following options before making your selection.
BBN0002I: * Use the values from your response file.
BBN0075I: * Assign each of the five UIDs individually.
BBN0076I: * Automatically generate five UIDs using the number that you enter as the base number.
    Make sure that you have five contiguous UID values that are free. Here are the UIDs currently
    defined for your configuration
BBN0171I:  Asynchronous administrator user ID ................  (2504)
BBN0172I:  WebSphere Application Server administrator ........  (2403)
BBN0173I:  WebSphere Application Server unauthenticated user ID ..  (2402)
BBN0174I:  Common controller user ID ........................  (2431)
BBN0175I:  Common servant user ID ...........................  (2432)
```

**UID prompts:**

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0005I:Simply press Return to accept the values from your response file.<br><br>BBN0078I:Enter a base UID value to have the UIDs automatically assigned. For example, if you enter 1234, UIDs 1234-1238 are assigned.<br><br>BBN0077I:Or, enter a 0 (zero) to assign the UIDs individually.<br><br>BBN0006I:Make a selection: | If you plan to use the default UIDs, or enter a base UID value to have OS security automatically assign the UIDs based on this base UID value, press Enter in response to this prompt. | | |
| BBN0055I:Enter a UID for the asynchronous administrator user ID, or press Return to accept the default value. | This is the port number that you want to use as the UID for the asynchronous administrator user ID. | 2504 | |
| BBN0052I:Enter a UID for the IBM WebSphere Application Server OEM Edition for z/OS administrator, or press Return to accept the default value. | This is the port number that you want to use as the UID for the IBM WebSphere Application Server OEM Edition for z/OS administrator user ID. | 2403 | |
| BBN0053I:Enter a UID for the Common controller user ID, or press Return to accept the default value. | This is the port number that you want to use as the UID for the Common controller user ID. | 2431 | |
| BBN0054I:Enter a UID for the Common servant user ID, or press Return to accept the default value. | This is the port number that you want to use as the UID for the Common servant user ID. | 2432 | |
| BBN0054I:Enter a UID for the IBM WebSphere Application Server OEM Edition for z/OS unauthenticated user ID, or press Return to accept the default value. | This is the port number that you want to use as the UID for the IBM WebSphere Application Server OEM Edition for z/OS unauthenticated user ID. | 2402 | |
| BBN0106I:Enter the IBM WebSphere Application Server OEM Edition for z/OS user ID home directory, or press Return to accept (/var/zWebSphereOEM/V7R0/home): | The BBOSBRAM security job that the WASOEM.sh script creates places the SAF group profiles in this directory. | /var/zWebSphereOEM/V7R0/home | |
| BBN0003I:Press Enter if done with this section, or enter an N if not. | This message gives you the opportunity to change your user ID settings. If you do not need to make any changes, press enter. If you enter N, the user ID prompts are repeated. | | |
| **Hostname prompts:** | | | |
| BBN0142I:Hostname and Port Selection | | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0096I:Enter the DNS hostname for TCP/IP, or press Return to accept *host_name*): | TCP/IP network name for the TCP/IP stack within the z/OS Operating System on which IBM WebSphere Application Server OEM Edition for z/OS is configured. The override response file sets this variable to @HOSTNAME.<br><br>When you run the WASOEM.sh script in config mode, you can specify a specific host name. However, any host name you specify in the response file is overridden by the value in the override response file unless the nooverride parameter is included when you issue the WASOEM.sh -config command. | When @HOSTNAME is the value in the response file, the scripts do a hostname lookup on the system during the configuration process. | |

**Port information messages:**

```
BBN0087I:Port Selections.
BBN0088I:A total of 17 free ports are needed for your configuration.
BBN0004I:Review the following options before making your selection.
BBN0002I: * Use the values from your response file.
BBN0089I: * Assign each of the 17 ports individually.
BBN0090I: * Automatically generate 17 ports using a base number. This process  requires that you
    have 17 contiguous ports that are free Here are the port values currently defined for your
    configuration.
BBN0204I: Location Service Daemon port ..........  (32200)
BBN0205I: Location Service Daemon SSL port .......  (32201)
BBN0206I: JMX SOAP connector port ...............  (32202)
BBN0207I: ORB port ..............................  (32203)
BBN0208I: ORB SSL port ..........................  (32204)
BBN0209I: Administrative console port ............  (32205)
BBN0210I: Administrative console secure port .....  (32206)
BBN0211I: HTTP transport port ...................  (32207)
BBN0212I: HTTPS transport port ..................  (32208)
BBN0213I: Administrative interprocess communication port .......  (32209)
BBN0214I: High Availability Manager Communications port .......  (32210)
BBN0215I: Service Integration port ...............  (32211)
BBN0216I: Service Integration Secure port .......  (32212)
BBN0217I: Service Integration MQ Interoperability port .......  (32213)
BBN0218I: Service Integration MQ Interoperability Secure port ..  (32214)
BBN0219I: Session Initiation Protocol (SIP) port ...........  (32215)
BBN0220I: Session Initiation Protocol (SIP) secure port ........  (32216)
```

**Port selection prompts:**

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0005I:Simply press Return to accept the values from your response file.<br><br>BBN0091I:Or, enter a 0 (zero) to assign the ports individually.<br><br>BBN0092I:Or, enter a base port to automatically assign the 17 ports. For example, if you enter 32200, ports 32200-32216 are assigned.<br><br>BBN0006I:Make a selection: | If you plan to accept the default port values, or enter the first port in a range of 17 ports, press Enter in response to this prompt.<br><br>**Caution:** Even if you decide to use the default ports, make sure these ports are currently free ports.<br><br>If you enter a base port number, a messages similar to the following message displays:<br><br>BBN0229I: * Your response was [32300] Automatically assigning ports using 32300 as a base value. | | |
| BBN0030I:Enter the Location Service Daemon port number, or press Return to accept. the default value. | This is the unsecure port used to communicate with the Location Service Daemon. | 32200 | |
| BBN0029I:Enter the Location Service Daemon SSL port number, or press Return to accept. the default value. | This is the secure port used to communicate with the Location Service Daemon. | 32201 | |
| BBN0031I:Enter the JMX SOAP connector port number, or press Return to accept. the default value. | This is the port used to communicate with the JMX SOAP connector. | 32202 | |
| BBN0032I:Enter the ORB port number, or press Return to accept. the default value. | This is the unsecure port used to communicate with the ORB. | 32203 | |
| BBN0033I:Enter the ORB SSL port number, or press Return to accept. the default value. | This is the secure port used to communicate with the ORB. | 32204 | |
| BBN0035I:Enter the administrative console port number, or press Return to accept. the default value. | This is the unsecure port used to communicate with the administrative console. | 32205 | |
| BBN0029I:Enter the administrative console secure port number, or press Return to accept. the default value. | This is the secure port used to communicate with the Location Service Daemon. | 32206 | |
| BBN0036I:Enter the HTTP transport port number, or press Return to accept. the default value. | This is the unsecure port used to communicate with the HTTP transport. | 32207 | |
| BBN0037I:Enter the HTTPS transport port number, or press Return to accept. the default value. | This is the secure port used to communicate with the HTTP transport. | 32208 | |
| BBN0038I:Enter the Administrative Interprocess Communication port number, or press Return to accept. the default value. | This is the port that is used to communicate with the Administrative Interprocess Communicator Connector. | 32209 | |
| BBN0039I:Enter the High Availability Manager Communications port number, or press Return to accept. the default value. | This is the port used to communicate with the High Availability Manager. | 32210 | |
| BBN0040I:Enter the Service Integration port number, or press Return to accept. the default value. | This is the unsecure port used for service integration bus requests and responses. | 32211 | |
| BBN0041I:Enter the Service Integration secure port number, or press Return to accept. the default value. | This is the secure port used for service integration bus requests and responses. | 32212 | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0042I:Enter the Service Integration MQ Interoperability port number, or press Return to accept. the default value. | This is the unsecure port used for service integration MQ interoperability bus requests and responses. | 32213 | |
| BBN0043I:Enter the Service Integration MQ Interoperability secure port number, or press Return to accept. the default value. | This is the secure port used for service integration MQ interoperability bus requests and responses. | 32214 | |
| BBN0044I:Enter the Session Initiation Protocol (SIP) port number, or press Return to accept. the default value. | This is the port used for Session Initiation Protocol (SIP) requests and responses. | 32215 | |
| BBN0045I:Enter the Session Initiation Protocol (SIP) secure port number, or press Return to accept. the default value. | This is the secure port used for Session Initiation Protocol (SIP) requests and responses. | 32216 | |
| BBN0003I:Press Enter if done with this section, or enter an N if not. | This message gives you the opportunity to change the hostname and port settings that you just specified. If you do not need to make any changes, press Enter in response to this prompt. If you enter N, the hostname and port prompts are repeated. | | |

**Server, cell and node configuration information messages:**

```
BBN0135I:Update the Server, Cell and Node values
BBN0136I:Some installations might want to set the server, cell and node to specific values that are
    not consistent with the default values
BBN0137I:The current values for your configuration are:
BBN0138I:Server Long Name ... (server1) Short Name (BBNS001)
BBN0139I:Cell Long Name .....  (bbnbase)     Short Name (BBNBASE)
BBN0140I:Node Long Name .....  (bbnnode)     Short name (BBNNODE)
```

**Server, cell and node configuration prompts:**

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0135I:Update the Server, Cell and Node values | If you plan to use the default values, press Enter in response to this prompt. | | |
| BBN0150I:Press Enter to accept the preceding values, or enter an N if you would like to make changes: | | | |
| BBN0104I:When you change the server short name, you will also alter the following value: | This series of messages indicates the implications of changing the server short name and prompts you to either accept the default name or enter a name that is more appropriate for your environment. | BBNS001 | |
| BBN0224I: Server Long Name ........... (server1) | | | |
| BBN0105I:Enter the server short name, or press Return to accept (BBNS001): | | | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0100I:When you change the cell short name, you also change the following values:<br><br>BBN0221I: Cell Long Name ............. (bbnbase)<br><br>BBN0222I: Default SAF Keyring Name ...... (WASKeyring.BBNBASE)<br><br>BBN0223I: SAF Profile Prefix .......... (BBNBASE)<br><br>BBN0101I:Enter the cell short name, or press Return to accept (BBNBASE): | This series of messages indicates the implications of changing the cell short name and prompts you to either accept the default name or enter a name that is more appropriate for your environment. | BNBASEB | |
| BBN0102I:When you change the node short name, you also change the following value:<br><br>BBN0230I: Node Long Name ............. (bbnnode)<br><br>BBN0103I:Enter the node short name, or press Return to accept (BBNNODE): | This series of messages indicates the implications of changing the node short name and prompts you to either accept the default name or enter a name that is more appropriate for your environment. | BBNNODE | |
| BBN0003I:Press Enter if done with this section, or enter an N if not. | This message gives you the opportunity to change the hostname and port settings that you just specified. If you do not need to make any changes, press Enter in response to this prompt. If you enter N, the server, cell and node configuration prompts are repeated. | | |
| **System and data set names prompts:** | | | |
| BBN0099I:Select System and Data Set Names. | This message indicates that the next series of prompts give you the opportunity to specify system and data set names that are more appropriate for your environment. | | |
| BBN0097I:Enter the system name, or press Return to accept ........... (SY1): | This value is the name for the target z/OS system on which you will be configuring IBM WebSphere Application Server OEM Edition for z/OS. If you are not sure of the system name, issue the D SYMBOLS command from the OMVS shell on the target z/OS system. This command will display the system and sysplex name for that target z/OS system. | If you do not provide a system name, the scripts do a sysname lookup on the system during the configuration process. | |

| Prompt | Description | Default value | Your value |
|---|---|---|---|
| BBN0098I:Enter the sysplex name, or press Return to accept ............ (PLEX1) | This value is the sysplex name for the target z/OS system on which you will be configuring IBM WebSphere Application Server OEM Edition for z/OS. If you are not sure of the sysplex name, issue the D SYMBOLS command from the OMVS shell on the target z/OS system. This command will display the system and sysplex name for that target z/OS system. | If you do not provide a sysplex name, the scripts do a plexname lookup on the system during the configuration process. | |
| BBN0113I:Enter the name of a cataloged PROCLIB PDS into which to copy the started task procs, or press Return to accept (BBN.V7R0.CONFIG1.PROCLIB): | This value is the name of an existing procedure library to which the IBM WebSphere Application Server OEM Edition for z/OS cataloged procedures will be added. | BBN.V7R0.CONFIG1.PROCLIB | |
| BBN0003I:Press Enter if done with this section, or enter an N if not. | This message gives you the opportunity to change the system and data set names that you just specified. If you do not need to make any changes, press Enter in response to this prompt. If you enter N, the system and data set names prompts are repeated. | | |
| **WASOEM.sh -config completion information messages:** | | | |
| BBN0122I:Invoking /usr/lpp/zWebSphereOEM/V7R0/bin/ zpmt.sh -workspace /tmp/zWebSphereOEM/V7R0/zpmt/work -transfer -responseFile /etc/zWebSphereOEM/V7R0/conf/ CONFIG1/CONFIG1.responseFile<br><br>BBN0007I:Wait ...<br><br>Customization definition successfully written to /etc/zWebSphereOEM/V7R0/conf/CONFIG1/zpmt<br><br>Copying CNTL files to BBN.V7R0.CONFIG2.ZPMTJOBS.CNTL...<br><br>Copy successful.<br><br>Copying DATA files to BBN.V7R0.CONFIG2.ZPMTJOBS.DATA....<br><br>Copy successful.<br><br>BBN0143I:Success: customization jobs have been created successfully.<br><br>BBN0144I:Submit the following jobs before running WASOEM.sh -create | This series of messages indicate that WASOEM.sh -config process has completed. You must now run the three security jobs that were created as part of this processing. After you run the three security jobs, you can run the WASOEM.sh -create script to create your IBM WebSphere Application Server OEM Edition for z/OS server instance.<br><br>**Important:** You do not have to run the BBOSBRAK and BBOSBRAM jobs if the indicated groups, user IDs and directories already exist with the correct GID, UID, and ownership permission values. | | |

Assuming that you plan to use all of the default values for the instance that you are creating, after WASOEM.sh processing completes, the following table summarizes the values that will be defined for your configuration in the response file for the server instance you will be creating.

| Variable | Configuration values |
| --- | --- |
| cellName | bbnbase |
| hostName | bbn.hostname |
| nodeName | bbnnode |
| omitAction | samplesInstallAndConfig |
| profileName | default |
| profilePath | /etc/zWebSphereOEM/V7R0/conf/CONFIG1/zpmt |
| serverName | server1 |
| targetOS | os390 |
| templatePath | zos-appserver |
| zAdjunctProcName | BBN7CRA |
| zAdminAsynchProcName | BBN7ADM |
| zAdminAsynchTaskUid | 2504 |
| zAdminAsynchTaskUserid | WSADMSH |
| zAdminConsolePort | 32205 |
| zAdminConsoleSecurePort | 32206 |
| zAdminLocalPort | 32209 |
| zAdminSecurityType | websphereForZos |
| zAdminUid | 2403 |
| zAdminUnauthenticatedUid | 2402 |
| zAdminUnauthenticatedUserid | WSGUEST |
| zAdminUserid | WOEMADM |
| zCaAuthorityExpirationDate | 2018/12/31 |
| zCellShortName | BBNBASE |
| zClusterTransitionName | BBNC001 |
| zConfigHfsName | BBN.V7R0.CONFIG1.ZFS |
| zConfigHfsPrimaryCylinders | 420 |
| zConfigHfsSecondaryCylinders | 100 |
| zConfigHfsVolume | BBNVOL |
| zConfigMountPoint | /zWebSphereOEM/V7R0/config1 |
| zConfigurationGroup | WSCFG1 |
| zConfigurationGroupGID | 2500 |
| zControlProcName | BBN7ACR |
| zControlUid | 2431 |
| zControlUserid | WSCRU1 |
| zDaemonHomePath | No default. System generated. |
| zDaemonIPName | No default. System generated. |
| zDaemonJobName | BBN7ACRS |

| Variable | Configuration values |
|---|---|
| zDaemonListenIP | * |
| zDaemonPort | 32200 |
| zDaemonProcName | BBN7DMNB |
| zDaemonRegisterWlmDns | false |
| zDaemonSslPort | 32201 |
| zDefaultSAFKeyringName | WASKeyring.BBNBASE |
| zEnableIntermediateSymlink | false |
| zEnableSslOnDaemon | true |
| zEnableWritableKeyring | false |
| zFilesystemType | ZFS |
| zGenerateCaCertificate | true |
| zHighAvailManagerPort | 32210 |
| zHttpTransportHostName | * |
| zHttpTransportPort | 32207 |
| zHttpTransportSslPort | 32208 |
| zInstallAdminConsole | true |
| zInstallDefaultApp | true |
| zInstallSamples | false |
| zJobStatement1 | (ACCTNO,ROOM),'USERID',CLASS= A,REGION=0M, |
| zJobStatement2 | //* |
| zJobStatement3 | //* |
| zJobStatement4 | //* |
| zJvmMode | 64bit |
| zLocalUserGroup | WSCLGP |
| zLocalUserGroupGID | 2502 |
| zNodeShortName | BBNNODE |
| zOrbListenerHostName | * |
| zOrbListenerPort | 32203 |
| zOrbListenerSslPort | 32204 |
| zProclibName | BBN.V7R0.CONFIG1.PROCLIB |
| zSAFProfilePrefix | BBNBASE |
| zSSLCaKeylabel | WebSphereCA |
| zServantGroup | WSSR1 |
| zServantGroupGID | 2501 |
| zServantProcName | BBN7ASR |
| zServantUid | 2432 |
| zServantUserid | WSSRU1 |
| zServerShortName | BBNS001 |
| zServiceIntegrationMqPort | 32213 |
| zServiceIntegrationPort | 32211 |
| zServiceIntegrationSecureMqPort | 32214 |

| Variable | Configuration values |
|---|---|
| zServiceIntegrationSecurePort | 32212 |
| zSessionInitiationPort | 32215 |
| zSessionInitiationSecurePort | 32216 |
| zSmpePath | /usr/lpp/zWebSphereOEM/V7R0 |
| zSoapPort | 32202 |
| zSysplexName | PLEX1 |
| zSystemName | SY1 |
| zTargetHLQ | BBN.V7R0.CONFIG1.ZPMTJOBS |
| zUserIDHomeDirectory | /var/zWebSphereOEM/V7R0/home |
| zWasServerDir | AppServer |

# Appendix D. Post-configuration tasks check list

Use the following checklist to verify that all post-configuration tasks have been completed before you start your IBM WebSphere Application Server OEM Edition for z/OS server instance.

| Check when task is completed | Task | Description |
| --- | --- | --- |
| | If your RRS commands are protected by a RACF profile permit the Common controller ID to the RACF profile that protects the RRS command. | Refer back to the user ID Selections prompt messages in your WASOEM.sh shell script prompt responses worksheet if you do not remember what you specified for the Common controller ID.<br><br>See you z/OS RACF documentation for a description of how to permit this ID to the RACF profile that protects the RRS command. |
| | Add the 17 ports that are reserved for IBM WebSphere Application Server OEM Edition for z/OS to the file referenced by the DD statement for the TCP/IP profile in your TCP/IP start procedure. | During WASOEM.sh -config processing you specified the ports that IBM WebSphere Application Server OEM Edition for z/OS will be using. Based on your responses to the port number prompts, WASOEM.sh creates TCP/IP profile entries, and places them in the BBOTCPIP member in the .CNTL library on your target system. You must add the content of this member to the PORT section of the file referenced by the DD statement for the TCP/IP profile in your TCP/IP start procedure. |
| | Update your active BPXPRMxx member with a mount statement for each of your IBM WebSphere Application Server OEM Edition for z/OS server instance configuration file systems. All of the configuration file systems must be mounted in read/write mode.<br><br>**Example:**<br>`MOUNT FILESYSTEM('BBN.V7R0.CONFIG1.ZFS')`<br>`MOUNTPOINT('/zWebSphere0EM/V7R0/config1')`<br>`TYPE(ZFS) MODE(RDWR) PARM('AGGRGROW')` | These statements have the z/OS system automatically mount the configuration file systems, that the WASOEM.sh script created, whenever an IPL occurs.<br><br>If you are going to be running IBM WebSphere Application Server OEM Edition for z/OS in a sysplex environment, you might want to add the NOAUTOMOVE parameter to these MOUNT statements. The NOAUTOMOVE parameter prevents the configuration file systems from being mounted on a different z/OS system in a shared file system configuration. Mounting these configuration file systems on different z/OS systems might impact performance.<br><br>For more information about automounting a file system, see the *z/OS UNIX System Services Planning* publication for your z/OS system. |
| | Include a rule in your WLM policy that instructs WLM to run OMVS work with job BBNS001 in a service class with a high service objective. | This rule is can improve performance if your system will be handling lots of work items in addition to what your IBM WebSphere Application Server OEM Edition for z/OS server instance will be handling. |
| | Issue the following command to verify that Resource Recovery Services (RRS) is active.<br><br>`D A,RRS`<br><br>In response to this command, the address space should display, verifying that RRS is active. If RRS is not running, issue of the following OMVS shell command to start RRS with a specific log group name:<br><br>`START RRS,GNAME=log_group_name` | RRS must be running before you start an IBM WebSphere Application Server OEM Edition for z/OS server instance. For more information about RRS, see z/OS MVS Programming: Resource Recovery, SA22-7616, which is available on the z/OS Library Web page, at http://www.ibm.com/systems/z/os/zos/bkserv/. |

| Check when task is completed | Task | Description |
|---|---|---|
| | Issue the following commands from your OMVS shell to verify that your TCP/IP configuration is working properly:<br><br>`hostname`<br>`ping host_name`<br>`ping client_name`<br>`nslookup yourserver.yourcompany.com`<br>`nslookup IP_address` | |
| | Issue the following command from the client to verify that the client can communicate with your host:<br><br>`ping host_name` | |

# Appendix E. WASOEM.sh script

The WASOEM.sh script is an interactive program that is provided with IBM WebSphere Application Server OEM Edition for z/OS. Run this script in config mode to create the response file for a IBM WebSphere Application Server OEM Edition for z/OS server instance. Then use this script in create mode to create that server instance.

The following actions occur when you issue the WASOEM.sh -config command:
- Your 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 IBM WebSphere Application Server OEM Edition for z/OS security.

When you issue the WASOEM.sh -create command, the WASOEM.sh script invokes the zpmt.sh script. The zpmt.sh script generates the components, or system jobs, that are used to create and configure an IBM WebSphere Application Server OEM Edition for z/OS instance based on the content of the response file.

## Format

```
WASOEM.sh [-config -mode <mode>] [-showmsgprefix] [-create <configuration_name>]
  [-noclear] [-fastpath] [-nooverride] [-v] [-responsefile <path_to_response_file>]
  [-nocustom]
```

## Required parameters

Either the -config or the -create parameter is required. You cannot specify both -config and -create on the same command.

**-config -mode** *<mode>*

This parameter indicates that you are using this script to configure the system. The **mode** attribute on this parameter must be set to either **typical** or **advanced**. If you specify **typical**, the WASOEM.sh script goes through the "Typical configuration procedure" on page 8. If you specify **advanced**, the WASOEM.sh script goes through the "Advanced configuration procedure" on page 11.

You must include either the config parameter or the create parameter when you run this script.

**-create** *<configuration_name>*

This parameter indicates that you want to create a IBM WebSphere Application Server OEM Edition for z/OS instance that you previously configured. If you specify this parameter, you must include the *configuration_name* attribute.

The *configuration_name* attribute specifies the name that you gave to a IBM WebSphere Application Server OEM Edition for z/OS configuration when you ran the WASOEM.sh script in -config mode. This configuration must be located in the /etc/zWebSphereOEM/V7R0/conf directory.

# Optional parameters

**-showmsgprefix**

This optional parameter, which can be specified with either the config or the create parameter, indicates that you want the message prefixes to display on the console. The message prefixes are always shown in the log file.

**-noclear**

This optional parameter, which can be specified with either the config or the create parameter, indicates that you do not want the screen cleared between prompts. Not clearing the screen might be useful if you need to debug a problem.

**-fastpath**

This optional parameter, which can only be specified with the config parameter, indicates that you want to use the variable values that are already specified in the response file, or in the override response file. When you specify this parameter, during the configuration process, you are not prompted for new values for the response file variables.

Before using this parameter, verify that actual values have been set for the zDaemonHomePath, and zDaemonIPName variables in both the default response file, and the override response file. These variables are initially set to the following values, which are not valid settings:

```
zDaemonHomePath=generated
zDaemonIPName=generated
```

Because the override functionality is used when the -fastpath parameter is specified, you must ensure that valid values are specified for the zDaemonHomePath, and zDaemonIPName variables in the override response file. If these variables are net set to valid values, you must manually update the override response file before you issue the WASOEM.sh -config -fastpath command.

The following examples show valid values for these variables:

```
zDaemonHomePath=/zWebSphereOEM/V7R0/Daemon
zDaemonIPName=MyServer.MyCompany.com
```

**-nooverride**

This optional parameter, which can only be specified with the config parameter, indicates that you do not want to use the variable values that are specified in the override response file.

**-v**

This optional parameter indicates that you want additional detail included in the log file and displayed on the console.

**-responsefile**

This optional parameter specifies the fully-qualified name of the response file that you want WASOEM.sh script to use as its input file. The fully-qualified name includes the directory path to the file, and the file name. Include this parameter if you want to use a response file other than the wasOEMDefault.responseFile response file.

You can also use this parameter to pass the name of an existing configuration, that is located in your /etc/zWebSphereOEM/V7R0/conf directory, to the

WASOEM.sh script. For example, you would issue the following command if
you want the WASOEM.sh script to use the config1 configuration:

```
WASOEM.sh -responsefile config1
```

**-nocustom**

This optional parameter, which can only be specified with the create parameter,
indicates that you do not want to run the customization portion of the
WASOEM.sh script.

## Examples

In the following example, the typical configuration procedure is used to create an
IBM WebSphere Application Server OEM Edition for z/OS configuration:

```
/usr/lpp/zWebSphereOEM/V7R0/bin/WASOEM.sh -config -mode typical
```

In the following example, a configuration is updated:

```
/usr/lpp/zWebSphereOEM/V7R0/bin/WASOEM.sh -v -nooverride -responsefile
    /etc/zWebSphereOEM/V7R0/conf/CONFIG1/responseFile.txt
```

In the following example, an instance of IBM WebSphere Application Server OEM
Edition for z/OS is created based on the variable settings in the default response
file:

```
/usr/lpp/zWebSphereOEM/V7R0/bin/WASOEM.sh -create CONFIG1
```

In the following example, an instance of IBM WebSphere Application Server OEM
Edition for z/OS is created based on the variable settings in the default response
file, but the customization portion of the WASOEM.sh script processing does not
occur:

```
/usr/lpp/zWebSphereOEM/V7R0/bin/WASOEM.sh -create CONFIG1 -nocustom
```

## Usage rules

The WASOEM.sh script must have access to the zpmt.sh, createWASOEMHFS.sh,
updateConfigWASOEM.py, and load module plexname. These items, as well as the
WASOEM.sh script are located in the following directory:

```
/usr/lpp/zWebSphereOEM/V7R0/bin
```

To provide system wide script access to these items, set the following $PATH value:

```
export PATH=.:/usr/lpp/zWebSphereOEM/V7R0/bin:$PATH
```

Use the ZPMT_WORK_ROOT variable in the wasOEM_env.sh file to specify the
location of the zPMT work area.

The shell script must run in either an OMVS or telnet/rlogin session. It cannot be
run from under ISHELL.

During WASOEM.sh script processing, each variable that is contained in the
response file displays on the console, along with its current value. When a variable
displays you are given the opportunity to modify that value with a different value
that better fits your environment. It is important that you to read each prompt
carefully because some prompts ask you to select multiple options.

One of the prompts enables you to specify a name for your configuration. This
name then becomes a directory under the WASOEM_CONF_ROOT directory, which
is defined in the wasOEM_env.sh file.

After you respond to all of the variable prompts, the WASOEM.sh script creates an updated response file, and saves that file in the directory that is created based on the name you specified for your configuration. For example, if your WASOEM_CONF_ROOT environment variable is set to /etc/zWebSphereOEM/V7R0/conf and you specified CONFIG1 for the name of your configuration, the updated response file is called CONFIG1.responseFile and is located in the /etc/zWebSphereOEM/V7R0/conf/CONFIG1 directory.

When the WASOEM.sh script invokes the zpmt.sh script, the WASOEM.sh script passes the location of the response file to the zpmt.sh script as input. The zpmt.sh script then generates the components, or system jobs, that are used to create and configure an instance of IBM WebSphere Application Server OEM Edition for z/OS, based on the content of the response file.

The components that the zpmt.sh script creates are stored in the /etc/zWebSphereOEM/V7R0/conf/CONFIG1/zpmt directory, which includes the following subdirectories:

```
/etc/zWebSphereOEM/V7R0/conf/CONFIG1/zpmt/
/etc/zWebSphereOEM/V7R0/conf/CONFIG1/zpmt/cntl
/etc/zWebSphereOEM/V7R0/conf/CONFIG1/zpmt/data
```

After each processing stage completes, you should receive a completion confirmation message. If you do not see these messages, check the log file for error messages. For information on how to access these log files, see Chapter 5, "Error logging," on page 23.

You can use a browse command to view the content of the response file, and verify that the variable values reflect your responses to the interactive prompts. Issue the following command to view the content of the response file:

```
cat <directory_path_to_the_response file>
```

After WASOEM.sh –create processing successfully completes, your configuration HFS has the following structure

```
:/mount_point
    cell_shortname.NODE1.server_shortname
    cell_shortname.NODE1.server_shortname.HOME
    cell_shortname.cell_shortname.daemon_name
      /Daemon
      /AppServer
```

In this directory structure:

- *cell_shortname*.NODE1.*server_shortname*.HOME is a symbolic link to /*mount_point*/AppServer

- *cell_shortname*.NODE1.*server_shortname* is a symbolic link to /*mount_point*/AppServer/profiles/default/config/cells/*cell_name*>/nodes/node1/servers/*server_shortname*

- *cell_shortname.cell_shortname.daemon_name* is a symbolic link to /*mount_point*/Daemon/config/*cell_name*/*cell_name*/*cell_name*/*daemon_name*. This directory contains the wasOEM_env.sh file.

# Appendix F. Default response file, and default override response file variables

A default response file, called wasOEMDefault.responseFile, and a default override response file, called wasOEMOverride.responseFile, are provided with IBM WebSphere Application Server OEM Edition for z/OS. The WASOEM.sh script provides these default response file, or updated versions of these files, as input to the IBM WebSphere Application Server OEM Edition for z/OS zPMT component.

## Default response file

The default response file, wasOEMDefault.responseFile, contains the variables, and associated default values, that the zpmt.sh script uses to configure your IBM WebSphere Application Server OEM Edition for z/OS server instance. This file is located in the *zSmpePath*/zOS-config/zpmt/samples directory.

*Table 3. Default response file*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| create | None | None | |
| cellName | bbnbase | Primary external identification of this IBM WebSphere Application Server OEM Edition for z/OS cell. This name identifies the cell as displayed through the administrative console. The name must be 50 or fewer characters in length, and can be a mixture of uppercase and lowercase alphabetic characters. The name must also be unique among all other cells on the same operating system instance, or within the same sysplex. | Yes |

*Table 3. Default response file (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| hostName | bbn.hostname | TCP/IP network name for the TCP/IP stack within the z/OS Operating System on which IBM WebSphere Application Server OEM Edition for z/OS is configured. The override response file sets this variable to @HOSTNAME, which instructs the scripts to determine the host name.<br><br>If you have multiple IBM WebSphere Application Server OEM Edition for z/OS instances that need to operate concurrently, specify @HOSTNAME. for the hostName variable. When the hostName variable is set to @HOSTNAME, the scripts lookup the hostname for each instance. If you are only running a single instance, you can either specify the host name associated with that instance, or you can specify @HOSTNAME. for the hostName variable.<br><br>When you run the WASOEM.sh script in config mode, you can specify a specific host name. However, any host name you specify in the response file is overridden by the value in the override response file unless the nooverride parameter is included when you issue the WASOEM.sh -config command.<br><br>If you have multiple IBM WebSphere Application Server OEM Edition for z/OS instances that need to operate concurrently, specify @HOSTNAME. for the hostName variable. When the hostName variable is set to @HOSTNAME, the scripts lookup the hostname for each instance. If you are only running a single instance, you can either specify the host name associated with that instance, or you can specify @HOSTNAME. for the hostName variable. | |
| nodeName | bbnnode | Primary external identification of this IBM WebSphere Application Server OEM Edition for z/OS node This name identifies the node as displayed through the administrative console. The name must be 50 or fewer characters in length, and consist of a mixture of uppercase and lowercase alphabetic characters. The name must also be unique within the cell, and the application server must be defined on its own node; no other application server can exist on the same node as this application server. | |
| omitAction | samplesInstallAndConfig | Name of the configuration action for the provided samples. | |
| profileName | default | Name of the profile that is being used. | |

*Table 3. Default response file (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| profilePath | /etc/zWebSphereOEM/V7R0/conf/ CONFIG1/zpmt | Path to the profile. | |
| serverName | server1 | Name of the application server, and the primary external identification of this IBM WebSphere Application Server OEM Edition for z/OS server instance. This name identifies the server as displayed through the administrative console. The name must be 50 or fewer characters in length, and can consist of a mixture of uppercase and lowercase alphabetic characters. | |
| targetOS | os390 | Target operating system. | |
| templatePath | zos-appserver | Path to the profile template. | |
| zAdjunctProcName | BBN7CRA | Name of the member in your procedure library that starts the control region adjunct. The name must only contain uppercase alphabetic characters, and is typically seven or fewer characters in length, unless the data set used to store the procedure library member allows longer member names. | |
| zAdminAsynchProcName | BBN7ADM | JCL procedure name of the started task that is used to perform certain asynchronous administrative operations, such as node synchronization, and adding or removing a node. The node agents or application servers use the START command to launch this procedure. | |
| zAdminAsynchTaskUid | 2504 | User identifier that is associated with the user ID that is used to run asynchronous administration operations procedure. The UID must be a numbers between 1 and 2,147,483,647 that is unique within the system. | |
| zAdminAsynchTaskUserid | WSADMSH | User ID that is used to run asynchronous administration operations procedure. The ID must be a member of the IBM WebSphere Application Server OEM Edition for z/OS configuration group. | |
| zAdminConsolePort | 32205 | Port for HTTP requests to the administrative console. | |
| zAdminConsoleSecurePort | 32206 | Port for secure HTTP requests to the administrative console. | |
| zAdminLocalPort | 32209 | Port for the JMX connector that listens on the loopback adapter. The connector uses local comm communications protocol, which means that the port is used only for communications that are local to the z/OS system image (or sysplex). | |

*Table 3. Default response file  (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| zAdminSecurityType | websphereForZos | Use the z/OS SAF-compliant security database to define IBM WebSphere Application Server OEM Edition for z/OS users. The EJBROLE profile is used to control role-based access to applications. An administrator user ID, and an unauthenticated user ID are created and defined in the security database.<br><br>Select this option if the IBM WebSphere Application Server OEM Edition for z/OS environment runs entirely on a z/OS system with a shared SAF-compliant (Local OS) user registry, or if you plan to implement a non-Local OS user registry, such as LDAP, with mapping to SAF user IDs. | |
| zAdminSecurityType (continued) | websphereForZos | Change the value of this variable to websphereFamily if you want to use a simple file-based registry to define WebSphere Application Server users. An administrator user ID is created and defined in the file-based registry.<br><br>You can set this variable to none if you do not want to enable administrative security, however doing so is not recommended. | |
| zAdminUid | 2403 | Valid UID for the administrator user ID. The UID must be a number between 1 and 2,147,483,647, and must be unique within the system. | |
| zAdminUnauthenticatedUid | 2402 | Valid UID for the unauthenticated user ID. The UID must be a number between 1 and 2,147,483,647, and must be unique within the system. | |
| zAdminUnauthenticatedUserid | WSGUEST | Valid SAF user ID that is associated with unauthenticated client requests. | |
| zAdminUserid | WOEMADM | The SAF user ID for the initial cell administrator. If this user ID already exists, it must have the IBM WebSphere Application Server OEM Edition for z/OS configuration group for this cell as its default UNIX System Services group. | |
| zCaAuthorityExpirationDate | 2018/12/31 | Expiration date used for any X509 Certificate Authority certificates, as well as the expiration date for the personal certificates generated for IBM WebSphere Application Server OEM Edition for z/OS servers. You must specify a value for this variable even if you selected false for the zGenerateCaCertificate variable. | |
| zCellShortName | BBNBASE | Name by which the cell is identified to such z/OS facilities as SAF. The name must be eight or fewer uppercase alphabetic characters, and must be unique among all other cells in the sysplex. | |

*Table 3. Default response file (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| zClusterTransitionName | BBNC001 | WLM application environment (WLM APPLENV) name for this server. If this server is converted into a clustered server, this name becomes the cluster short name. The cluster short name is the WLM APPLENV name for all of the servers that are part of the same cluster. The name must be eight or fewer uppercase alphabetic characters. | |
| zConfigHfsName | BBN.V7R0.CONFIG1.ZFS | File system data set that you create, and mount at the mount point specified for the zConfigMountPoint variable. The data set name can include up to 44 characters. | |
| zConfigHfsPrimaryCylinders | 420 | Initial size allocation, in cylinders, for the file system data set. The minimum suggested size is 420 cylinders. | |
| zConfigHfsSecondaryCylinders | 100 | Size of each secondary extent in cylinders. The minimum suggested size is 100 cylinders. | |
| zConfigHfsVolume | BBNVOL | Volume serial number of the DASD that contains the file system data set. Specify * to let SMS select a volume. Using * requires that SMS automatic class selection (ACS) routines be in place to select the volume. If you do not have SMS set up to handle data set allocation automatically, list the volume explicitly. | |
| zConfigMountPoint | /zWebSphereOEM/V7R0/config1 | Read/write file system directory mount point where application data and environment files are written The customization process creates this mount point if it does not already exist. | |
| zConfigurationGroup | WSCFG1 | Name of the configuration group. | |
| zConfigurationGroupGID | 2500 | Configuration group ID. Values must be unique numeric values between 1 and 2,147,483,647. Specify * if you want the operating system security to assign the group ID. | |
| zControlProcName | BBN7ACR | Name of member in your procedure library that is used to start the application server controller. The name must only contain uppercase alphabetic characters, and is typically seven or fewer characters in length, unless the data set used to store the procedure library member allows longer member names. | |
| zControlUid | 2431 | User identifier that is associated with this user ID. The UID must be a number between 1 and 2,147,483,647 that is unique within the system. | |

*Table 3. Default response file (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| zControlUserid | WSCRU1 | User ID that is associated with the application server controller If you are using a non-IBM security system, the user ID might have to match the procedure name. Please refer to the documentation for your security system. | |
| zDaemonHomePath | No default. System generated. | Directory in which the location service daemon resides This variable must be set to the configuration file system mount point/Daemon and cannot be changed. | |
| zDaemonIPName | No default. System generated. | Fully qualified IP name, registered with the Domain Name Server (DNS), that the location service daemon uses. The default is your node host name. This name must not be a numeric, such as 3.7.2543. Select the IP name for the location service daemon carefully. After you specify a name, it is difficult to change that name, even in the middle of customization. In a sysplex, you consider using a virtual IP address (VIPA) for the location service daemon IP name. | |
| zDaemonJobName | BBN7ACRS | Job name of the location service daemon, specified in the JOBNAME parameter of the MVS start command used to start the location service daemon. If you configure a new cell, be sure to choose a new daemon job name value. A server automatically starts the location service daemon if it is not already running. | |
| zDaemonListenIP | * | The IP address on which the Daemon listens for requests. | |
| zDaemonPort | 32200 | Port number on which the location service daemon listens. Select the port number for the location service daemon carefully. You can choose any value you want, but it is difficult to change this value, even if you are still in the middle of customization. | |
| zDaemonProcName | BBN7DMNB | Name of the member in your procedure library to start the location service daemon. The name must only contain uppercase alphabetic characters, and is typically seven or fewer characters in length, unless the data set used to store the procedure library member allows longer member names. | |

*Table 3. Default response file  (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| zDaemonRegisterWlmDns | false | If you use the WLM DNS (connection optimization), you must select true to register your location service daemon with WLM DNS. Otherwise, select false. Only one location service daemon per LPAR can register its domain name with WLM DNS. If you have multiple cells in the same LPAR and register one location service daemon and then a second, the second location service daemon does not start. | |
| zDaemonSslPort | 32201 | Port number on which the location service daemon listens for SSL connections. | |
| zDefaultSAFKeyringName | WASKeyring.BBNBASE | Default name given to the RACF key ring used by IBM WebSphere Application Server OEM Edition for z/OS. The key ring names created for repertoires are all the same within a cell. | |
| zEnableIntermediateSymlink | false | Specify true to set up an intermediate symbolic link, and specify the path name of that link if you select it. If you specify an intermediate symbolic link, symbolic links are created from the configuration file system to the intermediate symbolic link; otherwise, they are created directly to the product file system. | |
| zEnableSslOnDaemon | true | Specifies whether secure communications support using Inter-ORB Request Protocol (IIOP) to the location service daemon using SSL is enabled (true) or disabled (false). If you specify true, a RACF key ring is generated for the location service daemon to use. | |
| zEnableWritableKeyring | false | Specifies whether writable SAF key ring support is enabled (true) or disabled (false). | |
| zFilesystemType | ZFS | Type of file system that ise used when creating the IBM WebSphere Application Server OEM Edition for z/OS configuration file system. | |
| zGenerateCaCertificate | true | Select true to generate a new CA certificate. Select false to have an existing CA certificate generate server certificates. | |
| zHighAvailManagerPort | 32210 | Port on which the high availability manager listens The value specified for this variable cannot be 0. | |

*Table 3. Default response file  (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| zHttpTransportHostName | * | IP address on which the Web container for the server listens for incoming HTTP requests. Specifying an * instructs the Web container to listen on all available IP addresses. The transport host name becomes the host name in the virtualhosts.xml file, which makes setting a specific IP address here less than ideal because, if you do so, you are restricting yourself to that IP address until you go into the administrative console and add another virtual host. | |
| zHttpTransportPort | 32207 | Port for HTTP requests. The value for this variable cannot be 0. | |
| zHttpTransportSslPort | 32208 | Port for secure HTTP requests. The value for this variable cannot be 0. | |
| zInstallAdminConsole | true | Specifies whether you do (true) or do not (false) want to deploy the IBM WebSphere Application Server OEM Edition for z/OS administrative console | |
| zInstallDefaultApp | true | Specifies whether you do (true) or do not (false) want to deploy the IBM WebSphere Application Server OEM Edition for z/OS application. | |
| zInstallSamples | false | Do not change this setting, No installation samples are provided with IBM WebSphere Application Server OEM Edition for z/OS. | |
| zJobStatement1 | (ACCTNO,ROOM),'USERID', CLASS=A,REGION=0M | Customizable JOB statement that is used during the IBM WebSphere Application Server OEM Edition for z/OS server instance creation process. | |
| zJobStatement2 | //* | Customizable JOB statement that is used during the IBM WebSphere Application Server OEM Edition for z/OS server instance creation process. | |
| zJobStatement3 | //* | Customizable JOB statement that is used during the IBM WebSphere Application Server OEM Edition for z/OS server instance creation process. | |
| zJobStatemen4 | //* | Customizable JOB statement that is used during the IBM WebSphere Application Server OEM Edition for z/OS server instance creation process. | |
| zJvmMode | 64bit | Specifies that the JVM mode is 64 bit, which is the required setting for IBM WebSphere Application Server OEM Edition for z/OS. | |
| zLocalUserGroup | WSCLGP | Name of the local group. | |
| zLocalUserGroupGID | 2502 | Configuration group ID. Values must be unique numeric values between 1 and 2,147,483,647. Specify * if you want the operating system security to assign the group ID. | |

*Table 3. Default response file (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| zNodeShortName | BBNNODE | Name by which the node is know to such z/OS facilities as SAF. The name must consist of eight or fewer uppercase alphabetic characters, and must be unique within the cell. | |
| zOrbListenerHostName | * | IP address on which the ORB for the server listens for incoming IIOP requests Specifying an * instructs the ORB to listen on all available IP addresses. | |
| zOrbListenerPort | 32203 | Port for IIOP requests that acts as the bootstrap port for this server, and also as the port through which the ORB accepts IIOP requests. The value for this variable cannot be 0. | |
| zOrbListenerSslPort | 32204 | Port for secure IIOP requests. Specifying 0 enables the system to choose this port. | |
| zProclibName | BBN.V7R0.CONFIG1.PROCLIB | An existing procedure library where the IBM WebSphere Application Server OEM Edition for z/OS cataloged procedures are added. | |
| zSAFProfilePrefix | BBNBASE | A SAF profile prefix that is included in certain SAF security checks (APPL, CBIND, EJBROLE). The SAF profile prefix can be 8 or fewer uppercase alphabetic characters. | |
| zSSLCaKeylabel | WebSphereCA | Name of the key label that identifies the certificate authority (CA) to be used in generating server certificates. | |
| zServantGroup | WSSR1 | Name of the servant group. | |
| zServantGroupGID | 2501 | Servant group ID. Values must be unique numeric values between 1 and 2,147,483,647. Specify * if you want the operating system security to assign the group ID. | |
| zServantProcName | BBN7ASR | Name of the member in your procedure library that is used to start the application server servant. The name must only contain uppercase alphabetic characters, and is typically seven or fewer characters in length, unless the data set used to store the procedure library member allows longer member names. | |
| zServantUid | 2432 | User identifier that is associated with this user ID. The UID must be a number between 1 and 2,147,483,647, and must be unique within the system. | |
| zServantUserid | WSSRU1 | User ID associated with the application server servant Note: If you are using a non-IBM security system, the user ID might have to match the procedure name. Please refer to your security system's documentation. | |

*Table 3. Default response file  (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| zServerShortName | BBNS001 | This value identifies the server to z/OS facilities such as SAF. The server short name is also used as the server JOBNAME. The name must contain seven or fewer uppercase alphabetic characters, unless your z/OS system is configured to accept longer job names. | |
| zServiceIntegrationMqPort | 32213 | Port for service integration MQ interoperability requests. A value of 0 cannot be specified for this variable. | |
| zServiceIntegrationPort | 32211 | Port for service integration requests. A value of 0 cannot be specified for this variable. | |
| zServiceIntegrationSecureMqPort | 32214 | Port for secure service-integration MQ interoperability requests. A value of 0 cannot be specified for this variable. | |
| zServiceIntegrationSecurePort | 32212 | Port for secure service-integration requests. A value of 0 cannot be specified for this variable. | |
| zSessionInitiationPort | 32215 | Port for session initiation requests. A value of 0 cannot be specified for this variable. | |
| zSessionInitiationSecurePort | 32216 | Port for secure session initiation requests. A value of 0 cannot be specified for this variable. | |
| zSmpePath | /usr/lpp/zWebSphereOEM/V7R0 | Name of the directory where WebSphere Application Server for z/OS files reside after installation. | |
| zSoapPort | 32202 | Port number for the JMX HTTP connection to this server based on the SOAP protocol. JMX is used for remote administrative functions, such as invoking scripts through wsadmin.sh. The value for this variable cannot be 0. | |
| zSysplexName | No default. User specified. | The sysplex name for the target z/OS system on which you configure IBM WebSphere Application Server OEM Edition for z/OS. If you are not sure what the system name (&SYSNAME) and sysplex name (&SYSPLEX) are, use the console command D SYMBOLS on the target z/OS system to display them. | |
| zSystemName | No default. User specified. | The system name for the target z/OS system on which you configure IBM WebSphere Application Server OEM Edition for z/OS. | |

*Table 3. Default response file  (continued)*

| Variable name | Default value | Description | Modified by WASOEM.sh script |
|---|---|---|---|
| zTargetHLQ | BBN.V7R0.CONFIG1.ZPMTJOBS | The high-level qualifier for the target z/OS data sets that contain the generated jobs and instructions. The high-level qualifier can consist of multiple qualifiers, up to 39 characters.<br><br>When a customization definition is uploaded to the target z/OS system, the customization jobs, and files are written to a pair of partitioned data sets. Even though you can reuse these data sets, it is better to create separate data sets for each IBM WebSphere Application Server OEM Edition for z/OS configuration. The best practice is to use the customization data set name prefix, which is sometimes referred to as config_hlq, to indicate the version and release of IBM WebSphere Application Server OEM Edition for z/OS, the task that you are performing, and the cell, and, in some cases, the node name, that you are configuring. | |
| zTargetHLQ (continued) | | The generated batch jobs and instructions are uploaded to two z/OS partitioned data sets:<br>• HLQ.CNTL, which is a partitioned data set with fixed block 80-byte records, that is used to contain the customization jobs.<br>• HLQ.DATA, which is a partitioned data set with variable-length records, that is used to contain other data that is contained in the customization definition. | |
| zUserIDHomeDirectory | /var/WebSphereOEM/V7R0/home | File system directory in which home directories for IBM WebSphere Application Server OEM Edition for z/OS user IDs are created during the customization process. | |
| zWasServerDir | AppServer | Name of the directory where IBM WebSphere Application Server OEM Edition for z/OS files reside after installation. | |

# Default override response file

The default override response file, wasOEMOverride.responseFile, is the last response file to be processed. Therefore, you can use this file to:

- Override values in the default response file without directly modifying the default response file.
- Make variable substitutions.
- Override any zpmt.sh variable that is located in the default response file.

The first time that you run the WASOEM.sh script, a copy of this file is placed in the following directory?

```
/etc/zWebSphereOEM/V7R0/conf
```

After you copy the file, you can update the variable settings that are contained in the file to meet your configuration requirements. If the file is not copied to the above location, an error message displays on the MVS console, and the WASOEM.sh script stops.

The following three special values are included in the default override response file. These values only apply for the respective variables within the context of this file. If these values are specified, they are dynamically resolved during WASOEM.sh script processing. Because these values are dynamic, they only resolve information for the operating system instance where the WASOEM.sh script is run. The three variables are independent of each other and you can specify any, or all of them. @HOSTNAME @PLEXNAME@SYSNAME

Following is the content of the default override response file:

```
# Note: //jobname JOB is automatically added as appropriate.
# Do not code them
cellName=bbnbase
hostName=@HOSTNAME
nodeName=bbnnode
profileName=default
serverName=server1
zAdjunctProcName=BBN7CRA
zAdminAsynchProcName=BBN7ADM
zAdminAsynchTaskUid=2504
zAdminAsynchTaskUserid=WSADMSH
zAdminConsolePort=32205
zAdminConsoleSecurePort=32206
zAdminLocalPort=32209
zAdminUid=2403
zAdminUnauthenticatedUid=2402
zAdminUnauthenticatedUserid=WSGUEST
zAdminUserid=WOEMADM
zCellShortName=BBNBASE
zClusterTransitionName=BBNC001
zConfigHfsName=BBN.V7R0.CONFIG1.ZFS
zConfigHfsVolume=BBNVOL
zConfigMountPoint=/zWebSphereOEM/V7R0/config1
zConfigurationGroup=WSCFG1
zConfigurationGroupGID=2500
zControlProcName=BBN7ACR
zControlUid=2431
zControlUserid=WSCRU1
zDaemonHomePath=generated
zDaemonIPName=generated
zDaemonJobName=BBN7ACRS
zDaemonPort=32200
zDaemonProcName=BBN7DMNB
zDaemonRegisterWlmDns=false
zDaemonSslPort=32201
zDefaultSAFKeyringName=WASKeyring.BBNBASE
zEnableIntermediateSymlink=false
zEnableSslOnDaemon=true
zEnableWritableKeyring=false
zFilesystemType=ZFS
zHighAvailManagerPort=32210
zHttpTransportPort=32207
zHttpTransportSslPort=32208
zJobStatement1=(ACCTNO,ROOM),'USERID',CLASS=A,REGION=0M,
zJobStatement2=// MSGCLASS=H,NOTIFY=&SYSUID,MSGLEVEL=(1,1)
zJobStatement3=//*
zJobStatement4=//*
zLocalUserGroup=WSCLGP
```

```
zLocalUserGroupGID=2502
zNodeShortName=BBNNODE
zOrbListenerPort=32203
zOrbListenerSslPort=32204
zProclibName=BBN.V7R0.CONFIG1.PROCLIB
zSAFProfilePrefix=BBNBASE
zServantGroup=WSSR1
zServantGroupGID=2501
zServantProcName=BBN7ASR
zServantUid=2432
zServantUserid=WSSRU1
zServerShortName=BBNS001
zServiceIntegrationMqPort=32213
zServiceIntegrationPort=32211
zServiceIntegrationSecureMqPort=32214
zServiceIntegrationSecurePort=32212
zSessionInitiationPort=32215
zSessionInitiationSecurePort=32216
zSmpePath=/usr/lpp/zWebSphereOEM/V7R0
zSoapPort=32202
zSysplexName=@PLEXNAME
zSystemName=@SYSNAME
zTargetHLQ=BBN.V7R0.CONFIG1.ZPMTJOBS
zUserIDHomeDirectory=/var/zWebSphereOEM/V7R0/home
```

# Appendix G. Environment variables file

The WASOEM.sh script uses several z/OS UNIX environment variables as input when it configures and creates an IBM WebSphere Application Server OEM Edition for z/OS server instance. These variables are defined in the wasOEM_env.sh file.

When you issue the WASOEM.sh -config command, a read/write copy of the wasOEM_env.sh file is added to the ../etc/zWebSphereOEM/V7R0/conf directory, if a copy does not already exist there. If this directory does not exist, the WASOEM.sh script creates the directory for you.

You can update the copy of the wasOEM_env.sh file to meet the configuration requirements for your environment. This is the version of the file that the WASOEM.sh script uses during the IBM WebSphere Application Server OEM Edition for z/OS set up process.

The following table lists the environment variables contained in the wasOEM_env.sh file, and provides a description of each of these variables.

| Variable and default value | Description |
|---|---|
| export WASOEM_LOGFILE_ROOT="/var/zWebSphereOEM/V7R0/logs" | The location of the WASOEM.sh log files. If this directory does not already exist, you are prompted to create it. If you do not specify a directory in response to this prompt, then the logs are written to the /tmp directory. |
| export ZPMT_WORK_ROOT="/tmp/zWebSphereOEM/V7R0/zpmt/work" | The storage area that the zpmt.sh script uses for the eclipse work area, as well as where your profiles are created. If this location is not created, you are prompted to create it. If you do not specify a directory, you receive an error message that indicates that processing cannot continue. A minimum of 25 MB of storage is required for this work area. |
| export WASOEM_CONF_ROOT="/etc/zWebSphereOEM/V7R0/conf" | The location where all configuration information resides. IBM recommends all configuration data reside in this default location. The WASOEM.sh script creates subdirectories within this location to preserve your configuration data. This is not the directory or mount point for the IBM WebSphere Application Server OEM Edition for z/OS configuration file system. |
| export CELL_IDENTIFIER=BN | The two character cell identifier that is used during the creation of names, users, and groups. You can use responses to WASOEM.sh script prompts to change the value of this variable. Any new value must start, and end with an alphanumeric character. |

| Variable and default value | Description |
| --- | --- |
| export CLUSTER_IDENTIFIER=00 | The two character cluster identifier that is used during the creation of names, users, and groups. You can use responses to WASOEM.sh script prompts to change the value of this variable Any new value must start and end with an alphanumeric character. |
| export SYSTEM_IDENTIFIER=A | The single character system identifier that is used during the creation of names, users, and groups. You can use responses to WASOEM.sh script prompts to change the value of this variable Any new value must be an alphanumeric character. |
| export CONFIG_NAME=CONFIG1 | The default profile name that is used to created the directory in WASOEM_CONF_ROOT/CONFIG1. The response file CONFIG1.responseFile is located in this directory. |

# Appendix H. Security jobs

During WASOEM.sh -config processing three security customization jobs are created and written to a partitioned data set. The setting of the zTargetHLQ variable in the defaultResponseFilename file determines the name of this data set.

You must run these customization jobs in the indicated order, using a user ID that has RACF special authority to run these jobs, and file system update authority, which is required by the BBOSBRAM job. Whenever file system update authority is indicated for one of these jobs, the user ID that you use to run that job must have either uid = 0, or the following UNIXPRIV class profile privileges:

```
CONTROL access to SUPERUSER.FILESYS
UPDATE access to SUPERUSER.FILESYS.MOUNT
READ access to SUPERUSER.FILESYS.CHOWN
READ access to SUPERUSER.FILESYS.CHANGEPERMS
READ access to SUPERUSER.FILESYS.PFSCTL
```

For more information about the UNIXPRIV class, see the z/OS Unix System Services Planning publication for your z/OS release. This publication is included in the z/OS Internet Library at:

```
http://www.ibm.com/systems/z/os/zos/bkserv/
```

**Notes:**

1. After each job completes, carefully check the output. Errors might exist even if all of the Return codes are zero.

2. If you respond N to the prompt:

   ```
   Press Enter to accept the preceding values, or enter N to allow
   OS security to automatically assign the UID and GID values
   ```

RACF must be able to automatically select an unused UID or GID value for IBM WebSphere Application Server OEM Edition for z/OS user IDs and groups. Therefore the SHARED.IDS and BPX.NEXT.USER RACF profiles must be defined, and the BPX.NEXT.USER RACF profile must be used to indicate the ranges from which UID and GID values are selected.

You do not have to run the BBOSBRAK and BBOSBRAM jobs if the indicated groups, user IDs and directories already exist with the correct GID, UID, and ownership permission values.

See the topic Preparing the Security Server (RACF) in the z/OS version of the WebSphere Application Server Information Center, and the RACF and z/OS Unix", in the z/OS Security Server RACF Security Administrator's Guide for your z/OS target system for more information about defining these profiles.

The security jobs must be run in the following order:

1. The **BBOSBRAK** security job

   Running this job creates the following common IBM WebSphere Application Server OEM Edition for z/OS groups, and user IDs. If these group and user IDs have already been created during a previous IBM WebSphere Application Server OEM Edition for z/OS configuration, and are in all target system RACF databases, you do not have to run this job.

   **Note:** This job creates the administrator ID (zAdminUserid) without a password, or password phrase. You must assign this user ID a password, or

password phrase that complies with your standards. You must use the password or password phrase that you assign to this user ID when you logon to the IBM WebSphere Application Server OEM Edition for z/OS administrative console.

If you are using a different security system, make sure that the administrator ID has a password or password phrase.

Enter the following RACF command to assign a password:

```
ALTUSER WOEMADM PASSWORD(password) NOEXPIRED
```

To use RACF password phrase support, your target system must be running z/OS Version 1.9 or higher. Enter the following RACF command to assign a password phrase:

```
ALTUSER WOEMADM PHRASE('password phrase') NOEXPIRED
```

*Table 4. IBM WebSphere Application Server OEM Edition for z/OS groups, and user IDs*

| Type | Group/User ID | GID/UID |
|---|---|---|
| Administrator user ID | WOEMADM | uid 2403 |
| Control user ID | WSCRU1 | uid 2431 |
| Servant user ID | WSSRU1 | uid 2432 |
| Configuration group | WSCFG1 | gid 2500 |
| Servant group | WSSR1 | gid 2501 |
| Local user group | WSCLGP | gid 2502 |

If you specify an * for one of these GIDs or UIDs, the system assigns the GID or UID for you.

If you receive error messages from this job, such as messages that indicate that the user is invalid because a user ID, group, or profile is already defined, make sure that the existing user ID, group, or profile has the same characteristics as the user ID, group, or profile that the BBOSBRAK job is creating. If the characteristics are not the same, use the Profile Management Tool to change the values that are causing the conflict, and then upload the updated customization jobs, and restart the process.

When this job completes, all groups and user IDs listed in the previous table for job BBOSBRAK are defined in the RACF database on each target system for the cell.

Before proceeding, verify that the IBM WebSphere Application Server OEM Edition for z/OS administrator user ID has the configuration group WSCFG1 as its default OMVS group.

2. The **BBOSBRAM** security job

Running this job creates the following home directories for IBM WebSphere Application Server OEM Edition for z/OS. All of these home directories are subdirectories of /var/WebSphereOEM/home, which has permission bits 755. If these directories already exist with the specified ownership, and permission on a target system, you do not have to run this job on that system.

- /var/WebSphereOEM/home/WSCFG1 with ownership WSCRU1:WSCFG1, and permission bits 770
- /var/WebSphereOEM/home/WSSR1 with ownership WSCRU1:WSSR1, and permission bits 770
- /var/WebSphereOEM/home/WSCFG1 with ownership WSCRU1:WSCLGP, and permission bits 770

Run this job on each z/OS system that will host IBM WebSphere Application Server OEM Edition for z/OS nodes using the IBM WebSphere Application Server OEM Edition for z/OS common groups and owner user ID.

After this job finishes, verify that the directories exist on each system and have the correct permissions.

**Note:** If the directory /var/WebSphereOEM/home is used by applications other than IBM WebSphere Application Server OEM Edition for z/OS, make sure that the permission bits 755 that the BBOSBRAM job sets are appropriate, or manually change these permission bits. This directory must be world-readable for IBM WebSphere Application Server OEM Edition for z/OS to run correctly

3. The **BBOCBRAK** security job

Running this job creates the following RACF users and profiles that are required by the IBM WebSphere Application Server OEM Edition for z/OS node. Carefully review these definitions with your security administrator.

*Table 5. RACF users and profiles required by the IBM WebSphere Application Server OEM Edition for z/OS node*

| Type | User ID | UID |
|---|---|---|
| Asynch admin user ID | WSADMSH | uid 2504 |
| Unauthenticated user ID | WSGUEST | uid 2402 |

If you specify an * for one of these UIDs, the system assigns the UID for you.

If you receive error messages from this job, such as messages that indicate that the user is invalid because a user ID, group, or profile is already defined, make sure that the existing user ID, group, or profile has the same characteristics as the user ID, group, or profile that the BBOCBRAK job is creating. If the characteristics are not the same, use the Profile Management Tool to change the values that are causing the conflict, and then upload the updated customization jobs, and restart the process.

When this job completes, all user IDs listed in the previous table for job BBOCBRAK should be defined in the RACF database on each target system for the cell.

# Appendix I. Additional messages

The following tables list the information and error messages that might display on the MVS console while WASOEM.sh is running.

## Messages that might display while WASOEM.sh is running

*Table 6. WASOEM.sh error messages. This table lists the information and error messages that might display on the MVS console during WASOEM.sh processing.*

| Message ID | Message Text | User Response |
|---|---|---|
| BBN0000E | Processing has halted. | Check the error log for additional information. |
| BBN0000I | *script_name* started - | |
| BBN0001E | Script has trapped an error. Processing has halted. | Check the error log for additional information. |
| BBN0002E | Cell identifier must be 2 characters in length, and must begin with an alphanumeric character, and end with an alphanumeric character. | Reenter the cell identifier |
| BBN0002W | Log directory *directory_name* does not exist. Would you like to create it? (Y/N) | Enter Y to have WASOEM.sh create the log directory. |
| BBN0003E | Could not create log directory. Will default to /tmp directory. | Information message. No action required. |
| BBN0003W | Could not find *override_file_name* file. Processing will continue. | Information message. No action required. |
| BBN0004E | The WASOEM_CONF_ROOT variable has not been defined in the *environment_file_name* file. | Check the content of the file containing your IBM WebSphere Application Server OEM Edition for z/OS environment variables. |
| BBN0004W | ZPMT_WORK_ROOT directory *directory_name* does not exist. Would you like to create it? (Y/N) | The zpmt.sh script uses this directory for the eclipse work area, and your profiles. If you do not specify a directory, you will receive an error message that indicates that processing cannot continue. A minimum of 25 MB of storage is required for this work area. |
| BBN0005E | Unable to locate *environment_file_name*. No global defaults set. Copy *default_environment_file_name* to *new_environment_file_name*, and modify as appropriate. | Perform the indicated file copy. |
| BBN0005W | WASOEM_CONF_ROOT directory *directory_name* does not exist. Would you like to create it? (Y/N) | Enter Y. |
| BBN0006E | Update of configuration failed. Return code=*number*. Script processing is ending. | Check the error log for additional information. |
| BBN0006W | The hostname you entered does not resolve. | Enter a valid hostname. |

*Table 6. WASOEM.sh error messages  (continued).  This table lists the information and error messages that might display on the MVS console during WASOEM.sh processing.*

| Message ID | Message Text | User Response |
|---|---|---|
| BBN0007E | Read of *override_file_name* override response file failed. Return code=*number*. Script processing is ending. | Check the error log for additional information. |
| BBN0007I | Wait ..... | Information message. No action required. |
| BBN0007W | Could not find plexname module. | The plexname module must be located in the *mount_point*/bin directory. |
| BBN0008E | ZPMT_WORK_ROOT *directory_name* must exist. | Create this directory if it does not already exist. WASOEM.sh processing cannot continue without this directory. |
| BBN0008I | Setting mode of *mount_point* to 775. | Information message. No action required. |
| BBN0008W | Name must consist of a 1-12 character alphanumeric value with no spaces. | Reenter a valid name. |
| BBN0009E | Cannot find WASOEM_CONF_ROOT. *root_directory_name* must exist. | Create this directory if it does not already exist. |
| BBN0009I | Setting ownership of *mount_point* to *user_ID*:*configuration_group* | Information message. No action required. |
| BBN0009W | Name must consist of a 1-12 character alphanumeric value with no spaces. | Reenter a valid name. |
| BBN0010E | Cannot find Response file *file_name*. Response file *file_name* must exist. | Run the WASOEM.sh -config script to create the response file for your WebSphere Application Server OEM Edition for z/OS server instance. |
| BBN0010I | Log directory has been set to *directory_path*. | Information message. No action required. |
| BBN0010W | The configuration name you Entered is already used. Would you like to re-use this value? (Y/N) | Enter Y or N. |
| BBN0011E | Write of response file to *file_name*failed. Return code=*number*. Script processing is ending. | Check the error log for additional information. |
| BBN0011I | Log directory has been set to *directory_path*. | Information message. No action required. |
| BBN0011W | Could not mount *file_name* at *mount_point*. Assume the file system has not yet been allocated. | Allocate the file system and rerun WASOEM.sh -config |
| BBN0012E | Could not find *directory path*. *directory_path* must exist. | Create the indicated directory. |
| BBN0012I | createit log will be written to *file_name*. | Information message. No action required. |

*Table 6. WASOEM.sh error messages  (continued).  This table lists the information and error messages that might display on the MVS console during WASOEM.sh processing.*

| Message ID | Message Text | User Response |
|---|---|---|
| BBN0013E | Read of response file failed. Return code=*number*. Script processing is ending. | Check error log for more information. |
| BBN0013I | IBM WebSphere Application Server OEM Edition for z/OS Version 7, Release 0, configuration request is being processed. | Information message. No action required. |
| BBN0013W | Could not create the mount point *mount_point*. | Check error log for more information. |
| BBN0014E | Could not find property *property_name*. | Make sure the indicated property exists in one of the response file for your IBM WebSphere Application Server OEM Edition for z/OS server instance. |
| BBN0014I | Located *file_name*. Setting global defaults. | Information message. No action required. |
| BBN0014W | Could not set mode of *mount_point* to 775. You might need to set it manually. | Either rerun the script or manually set the mode of the mount point. |
| BBN0015E | *value* must be a number between 1 and 2147483647. | ReEnter a correct value. |
| BBN0015I | Updating configuration. | Information message. No action required. |
| BBN0016E | *value* must be a 1-8 character alphanumeric value with no spaces. | ReEnter a correct value. |
| BBN0016I | Success: Update of configuration completed. | Information message. No action required. |
| BBN0016W | Owner of file system is not *user_id*. Were the *security_ job1*, *security_ job2*, *security_ job3* jobs run? | Verify that these three security jobs successfully completed. |
| BBN0017E | Port must be a number between 1 and 65520. | ReEnter a valid port number. |
| BBN0017I | Read *property* override. | Information message. No action required. |
| BBN0017W | Owning group of file system is not *security_group*. Were the *security_ job1*, *security_ job2*, *security_ job3* jobs run? | Verify that these three security jobs successfully completed. |
| BBN0018E | GID base must be a number between 1 and 2147483647. | ReEnter a valid value. |
| BBN0018I | Override variable is *value* | Information message. No action required. |
| BBN0018W | Could not set mode of *mount_point* to 775. You might need to set it manually. | Either rerun the script or manually set the mode of the mount point. |
| BBN0019E | UID base must be a number between 1 and 2147483647. | ReEnter a valid value. |

*Table 6. WASOEM.sh error messages  (continued).  This table lists the information and error messages that might display on the MVS console during WASOEM.sh processing.*

| Message ID | Message Text | User Response |
|---|---|---|
| BBN0019I | Override value is *value*. | Information message. No action required. |
| BBN0019W | The hostname of the local system (*host_name*) does not match the one Entered for your configuration (*host_name*). | Make sure the hostname you enter is the hostname of the local system. |
| BBN0020E | Incorrect response. | Reenter a correct value. |
| BBN0020W | Invalid Product File System directory. Can not find *zSmpe_path*/zOS-config/zpmt/samples/ wasOEMDefault.responseFile. | Make sure you specified the correct directory path. |
| BBN0020I | Copy *default_override_file* to *new_override_file*, and modify as appropriate. | Perform the indicated file copy. |
| BBN0021E | Port base must be a number between 1 and 65520. | Reenter a correct value. |
| BBN0021I | Use of override response file has been bypassed. | Information message. No action required. |
| BBN0022E | Cluster identifier must be a two character alphanumeric value. | Reenter a valid cluster identifier. |
| BBN0022I | ZPMT_WORK_ROOT directory has been set to *directory_name*. | Information message. No action required. |
| BBN0023E | System identifier must be a single character alphanumeric value. | Reenter a correct value. |
| BBN0023I | WASOEM_CONF_ROOT directory has been set to *directory_name*. | Information message. No action required. |
| BBN0025E | Configuration file system type must be ZFS or HFSV. | Check the file type of your configuration file system |
| BBN0025I | Reading in response file *file_name*. | Information message. No action required. |
| BBN0026E | Volume serial is too long. Must be less then 7 characters. | Enter a valid volume serial. |
| BBN0026I | Read *variable*. | Information message. No action required. |
| BBN0027E | File cannot be saved to a read-only file system. *file_name*. | Make sure the file system you are saving the file to is a read/write file system. |
| BBN0027I | Exported *variable_name*. | Information message. No action required. |
| BBN0028E | zpmt.sh failed while creating customization jobs. | Check the error log for more information. |
| BBN0028I | Config property *property_name* was updated with *value*. | Information message. No action required. |
| BBN0029E | The *mount_point* directory must be empty before you continue. | Remove any content that exists in the indicated directory. |
| BBN0030E | Could not create the mount point *mount_point*. | Check the error log for more information. |

*Table 6. WASOEM.sh error messages (continued). This table lists the information and error messages that might display on the MVS console during WASOEM.sh processing.*

| Message ID | Message Text | User Response |
|---|---|---|
| BBN0031E | Could not create profile. | Check the error log for more information. |
| BBN0032E | Must enter a valid volume name. | Reenter a correct value. |
| BBN0033E | Could not allocate *dataset_name* on volume *volume*. | Check the error log for more information. |
| BBN0034E | Could not allocate *dataset_name* on volume *volume*. | Check the error log for more information. |
| BBN0035E | Could not allocate *dataset_name* on SMS managed volumes. | Check the error log for more information. |
| BBN0036E | Could not allocate *file_name* on SMS managed volumes. | Check the error log for more information. |
| BBN0037E | Could not find *response_file*. | Make sure you specified the correct file name. |
| BBN0038E | Could not fine profile *profile_name*. | Make sure you specified the correct profile name. |
| BBN0040E/ BBN0041E | *file_name* was already mounted at *mount_point*. You must resolve this before mounting to *mount_point*. Would you like to re-specify your configuration file system selections? (Y/N) | Specify Y if you want the configuration file system prompts repeated. |
| BBN0043E | *file_name* was already mounted at *mount_point*. You must resolve this before mounting to *mount_point*. | Resolve the mount point conflict. |
| BBN0044E | Could not locate *file_name*. | Make sure you specified the correct file name, and verify that the file is in the correct directory. |
| BBN0045E | Could not create *directory_name*. | Check the error log for more information. |
| BBN0046E | Could not copy *default_environment_file_name* to *new_environment_file_name*. | Check the error log for more information. |
| BBN0047E | Mount point must begin with a / (forward slash). | Reenter the mount point. |
| BBN0048E | Mount point can not end in a / (forward slash). | Reenter the mount point. |
| BBN0049E | Directory must start with a / (forward slash). | Reenter the directory. |
| BBN0050E | Directory can not end in a / (forward slash). | Reenter the directory. |
| BBN0051E | Could not create symbolic link to WASOEM.registrar. | Check the error log for more information. |
| BBN0125I | Mount point *mount_point* already exists. | Enter a different mount point. |
| BBN0126I | Creating mount point *mount_point*. | Information message. No action required. |

*Table 6. WASOEM.sh error messages (continued). This table lists the information and error messages that might display on the MVS console during WASOEM.sh processing.*

| Message ID | Message Text | User Response |
|---|---|---|
| BBN0127I | *volume* is not mounted at *mount_point*. It may not be allocated. | Allocate the volume if it is not already allocated. |
| BBN0128I | Has the configuration file system *volume* already been allocated and cataloged? (Y/N) | Enter Y if the volume has been allocated and cataloged. If you specify N, the WASOEM.sh script allocates the volume for you. |
| BBN0130I | Invoking *script_name*/ createWASOEMHFS.sh *parameters*. | Information message. No action required. |
| BBN0131I | Success: Profile has been successfully created. | Information message. No action required. |
| BBN0132I | Have the *dataset_name* and *dataset_name* data sets already been allocated? (Y/N) | Enter Y if these data sets have already been allocated. If you specify N, the WASOEM.sh script allocates the data sets for you. |
| BBN0134I | *dataset_name* and *dataset_name* data sets have been allocated. | Information message. No action required. |
| BBN0146I | Could not find *profile_name*. Now trying *config_root*/*profile_name*. | Information message. No action required. |
| BBN0147I | Must use -config with -fastpath. | Reenter the command. |
| BBN0148I | WASOEM.sh has completed. | Information message. No action required. |
| BBN0231I | The administrative console for your server can be accessed at http://*host_name:port*/ibm/console using user ID *user_id* | Information message. No action required. |
| BBN0232I | Could not locate *environment_variables_file*. | Make sure you specified the correct name for the file that contains the environment variables, and that the file is in the correct directory. |
| BBN0233I | *environment_variables_file* was copied to *new_environment_variables_file*. Review the contents of *new_environment_variables_file* before continuing. | Review the content of the newly created file. |
| BBN0234I | *override_file* was copied to *new_override_file* Review the contents of *new_override_file* before continuing. | Review the content of the newly created file. |
| BBN0235I | Creating configuration directory *directory_name*. | Information message. No action required. |
| BBN0237I | A password needs to be assigned to *user_id* before it can be used. | Create a password for the indicated user ID. |
| BBN0239I | Creating a symbolic link to *fully_name*. | Information message. No action required. |

*Table 6. WASOEM.sh error messages (continued). This table lists the information and error messages that might display on the MVS console during WASOEM.sh processing.*

| Message ID | Message Text | User Response |
|------------|--------------|---------------|
| BBN0240I | The file system already contains an application server. Would you like to reuse (erase) the *directory_name* and *directory_name* directories? (Y/N) | Respond Y if you want to reuse these directories. |

# Messages that might display while updateConfigWASOEM.py is running

updateConfigWASOEM.py is an internal script that WASOEM.sh invokes.

*Table 7. updateConfigWASOEM.py error messages*

| Message ID | Message text | User Response |
|------------|--------------|---------------|
| BBN2000I | updateConfigWASOEM.py is starting. | Information message. No action required. |
| BBN2001E | Servant JVM could not be found. | Check the error log for more information. |
| BBN2001I | Set garbage collection policy to gencon. | Set the value for the garbage collection policy to gencon. |
| BBN2002E | Control JVM could not be found. | Check the error log for more information. |
| BBN2002I | Set pass by reference to noLocalCopies. | Information message. No action required. |
| BBN2003I | Disabling PMI. | Information message. No action required. |
| BBN2004I | Set startupTraceSpecification to warning. | Set the startupTraceSpecification property to warning. |
| BBN2005I | Enabling Application Security. | Information message. No action required. |
| BBN2006I | Exiting updateConfigWASOEM.py. | Information message. No action required. |

# Messages that might display while createWASOEMHFS.sh is running

createWASOEMHFS.sh is an internal script that WASOEM.sh invokes.

*Table 8. createWASOEMHFS.sh error messages*

| Message ID | Message text | User Response |
|------------|--------------|---------------|
| BBN3000E | A zpmt-generated profile path was not specified. | Check the error log for more information. |
| BBN3001E | *profile_path* does not exist. | Check the error log for more information. |
| BBN3002E | *profile_path* is not a directory. | Check the error log for more information. |
| BBN3003E | *profile_path* is not a valid zpmt-generated profile path. | Check the error log for more information. |

*Table 8. createWASOEMHFS.sh error messages (continued)*

| Message ID | Message text | User Response |
|---|---|---|
| BBN3004E | Error copying *string1* to *string2*. | A problem occurred while copying the indicated file or data set. Check the error log for more information. |
| BBN3005E | Error performing TSO allocate for data set *dataset_name* on volume *volume*. | Check the error log for more information. |
| BBN3006E | *string*: Error performing TSO define for VSAM linear data set *dataset_name* on volume *volume*. | Check the error log for more information. |
| BBN3007E | Error formatting zfs data set *dataset_name*. | |
| BBN3008E | Error performing TSO mount for data set *dataset_name* at mount point *mount_point* | Check the error log for more information. |
| BBN3009E | Error encountered while invoking symlink script. | Check the error log for more information. |
| BBN3010E | Error encountered while invoking post installer setup script. | Check the error log for more information. |
| BBN3011E | Error creating directory *directory_name*. | Check the error log for more information. |
| BBN3012E | Error copying ports file *file_name* to *new_file_name*. | Check the error log for more information. |
| BBN3013E | Error encountered during profile creation. | Check the error log for more information. |
| BBN3014E | Error setting permissions on *string*. | Check the error log for more information. |
| BBN3015I | Copying WebSphere procs into proclib data set *dataset_name*. | Information message. No action required. |
| BBN3016I | Finished copying WebSphere procs into proclib data set *dataset_name*. | Information message. No action required. |
| BBN3017I | Allocating configuration file system data set *dataset_name*. | Information message. No action required. |
| BBN3018I | Finished allocating configuration file system data set *dataset_name*. | Information message. No action required. |
| BBN3019I | Mounting data set *dataset_name* at mount point *mount_point*. | Information message. No action required. |
| BBN3020I | Finished mounting *dataset_name* at mount point *mount_point*. | Information message. No action required. |
| BBN3021I | Invoking symlink script. | Information message. No action required. |
| BBN3022I | Invoking post installer setup script. | Information message. No action required. |
| BBN3023I | Invoking profile creation wizard. | Information message. No action required. |

# Index

## Special characters