# IBM

# Program Directory for

# WebSphere eXtreme Scale V8.6.0 for z/OS

Version 8 Release 6 Modification 0

Program Number 5655-VX8
HEJD860

WebSphere Application Server for z/OS V7.0
WebSphere Application Server for z/OS V8.0
OR
WebSphere Application Server for z/OS V8.5

AND
z/OS V1.12 or higher

Document Date: December 2012

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**Note**
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Before using this information and the product it supports, be sure to read the general information under Appendix B, "Notices" on page 33.

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# Contents

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# 1.0  Introduction

This program directory is intended for system programmers who are responsible for program installation and maintenance.  It contains information about the material and procedures associated with the installation of WebSphere eXtreme Scale V8.6.0 for z/OS under program number 5655-VX8.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page  3 identifies the basic and optional program materials and documentation for WebSphere eXtreme Scale V8.6.0 for z/OS.

- 3.0, "Program Support" on page  6 describes the IBM support available for WebSphere eXtreme Scale V8.6.0 for z/OS.

- 4.0, "Program and Service Level Information" on page  8 lists the APARs (program level) and PTFs (service level) that have been incorporated into WebSphere eXtreme Scale V8.6.0 for z/OS.

- 5.0, "Installation Requirements and Considerations" on page  9 identifies the resources and considerations that are required for installing and using WebSphere eXtreme Scale V8.6.0 for z/OS.

- 6.0, "Installation Instructions" on page  17 provides detailed installation instructions for WebSphere eXtreme Scale V8.6.0 for z/OS.  It also describes the procedures for activating the functions of WebSphere eXtreme Scale V8.6.0 for z/OS, or refers to appropriate publications.

WebSphere eXtreme Scale V8.6.0 for z/OS is a highly available and linearly scalable data grid that integrates with WebSphere Application Server for z/OS V7.0, WebSphere Application Server for z/OS V8.0, or WebSphere Application Server for z/OS V8.5 plus enabling the service level which will extend its cabilities and manageability.

This product is shipped alone through CBPDO and as an additional feature to WebSphere ServerPac, or WebSphere Z/OS ServerPac.

Prerequisite WebSphere Application Server for z/OS V7.0, WebSphere Application Server for z/OS V8.0, or WebSphere Application Server for z/OS V8.5 provides the runtime environment needed for WebSphere eXtreme Scale V8.6.0 for z/OS.  There are no additional CDs or products shipped with WebSphere eXtreme Scale V8.6.0 for z/OS.

Before installing WebSphere eXtreme Scale V8.6.0 for z/OS, read the *CBPDO Memo To Users* and the *CBPDO Memo To Users Extension* that are supplied with this program in softcopy format and this Program Directory; then keep them for future reference.  Section 3.2, "Preventive Service Planning" on page  6 tells you how to find any updates to the information and procedures in this Program Directory.

WebSphere eXtreme Scale V8.6.0 for z/OS is supplied in a Custom-Built Product Delivery Offering (CBPDO, 5751-CS3). The Program Directory that is provided in softcopy format on the CBPDO tape is identical to the hardcopy format if one was included with your order.  All service and HOLDDATA for WebSphere eXtreme Scale V8.6.0 for z/OS are included on the CBPDO tape.

Do not use this program directory if you install WebSphere eXtreme Scale V8.6.0 for z/OS with a SystemPac or ServerPac. When you use one of those offerings, use the jobs and documentation supplied with the offering. The offering will point you to specific sections of this program directory as needed.

## 1.1 WebSphere eXtreme Scale V8.6.0 for z/OS Description

WebSphere eXtreme Scale V8.6.0 for z/OS provides Extreme Transaction Processing (XTP) capabilities that ensure a smarter application infrastructure to support your most demanding business-critical applications. You can overcome traditional IT performance limitations to generate the levels of global scale, process efficiencies, and business intelligence needed for smarter outcomes and competitive advantage for your business. WebSphere eXtreme Scale V8.6.0 for z/OS provides client support access to the following new capabilities:

- Improved ease of use with automated handling of common retry and exception logic.

Enhanced XTP capabilities:

- Further simplification in building multi-tenant applications

- Improved memory density through the implementation of byte array maps.

- Query optimization and simplification of index usage with enhancements to the built-in HashIndex plug-in.

## 1.2 WebSphere eXtreme Scale V8.6.0 for z/OS FMIDs

WebSphere eXtreme Scale V8.6.0 for z/OS consists of the following FMID:

HEJD860

# 2.0  Program Materials

An IBM program is identified by a program number.  The program number for WebSphere eXtreme Scale V8.6.0 for z/OS is 5655-VX8.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature numbers, and are required for the use of the product.  Optional Machine-Readable Materials are orderable under separate feature numbers, and are not required for the product to function.

The program announcement material describes the features supported by WebSphere eXtreme Scale V8.6.0 for z/OS. Ask your IBM representative for this information if you have not already received a copy.

## 2.1  Basic Machine-Readable Material

The distribution medium for this program is magnetic tape or downloadable files.  This program is in SMP/E RELFILE format and is installed by using SMP/E. See 6.0, "Installation Instructions" on page 17 for more information on how to install the program.

You can find information about the magnetic tape for the basic machine-readable materials for WebSphere eXtreme Scale V8.6.0 for z/OS in the *CBPDO Memo To Users Extension*.

## 2.2  Optional Machine-Readable Material

No optional machine-readable materials are provided for WebSphere eXtreme Scale V8.6.0 for z/OS.

## 2.3  Program Publications

The following sections identify the basic and optional publications for WebSphere eXtreme Scale V8.6.0 for z/OS. Note that the main documentation distribution medium for WebSphere eXtreme Scale V8.6.0 for z/OS is the Information Center, which can be accessed from the WebSphere eXtreme Scale Library page at http://www.ibm.com/software/webservers/appserv/extremescale/library/

In addition to the Information Center, other WebSphere eXtreme Scale V8.6.0 for z/OS articles are available in PDF format at the same URL.

### 2.3.1  Basic Program Publications

Figure 1 on page 4 identifies the basic unlicensed program publications for WebSphere eXtreme Scale V8.6.0 for z/OS.  One copy of each of these publications is included when you order the basic materials for WebSphere eXtreme Scale V8.6.0 for z/OS.  Additional copies can be obtained from the IBM Publications Website at URL:  http://www.ibm.com/shop/publications/order/ Contact your IBM representative for further assistance.

| Figure 1. Basic Material: Unlicensed Publications | |
| --- | --- |
| **Publication Title** | **Form Number** |
| Program Directory for WebSphere eXtreme Scale V8.6.0 for z/OS | GI11-9489-00 |
| License Information WebSphere eXtreme Scale V8.6.0 for z/OS | GC14-7542-00 |

Figure 2 identifies the basic unlicensed or licensed publications that are not available in hardcopy format, but are available through the internet or other media for WebSphere eXtreme Scale V8.6.0 for z/OS.

| Figure 2. Basic Material: Other Unlicensed or Licensed Publications | | |
| --- | --- | --- |
| **Publication Title** | **Form Number** | **Media Format** |
| WebSphere eXtreme Scale V8.6.0 for z/OS Customization Guide | GL10-0775-06 | Library page |

### 2.3.2  Optional Program Publications

No optional publications are provided for WebSphere eXtreme Scale V8.6.0 for z/OS.

### 2.4  Program Source Materials

No program source materials or viewable program listings are provided for WebSphere eXtreme Scale V8.6.0 for z/OS.

### 2.5  Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of WebSphere eXtreme Scale V8.6.0 for z/OS. To order copies, contact your IBM representative or visit the IBM Publications Center at:  http://www.ibm.com/shop/publications/order/

| Figure 3. Publications Useful During Installation | |
|---|---|
| **Publication Title** | **Form Number** |
| *IBM SMP/E for z/OS User's Guide* | SA22-7773 |
| *IBM SMP/E for z/OS Commands* | SA22-7771 |
| *IBM SMP/E for z/OS Reference* | SA22-7772 |
| *IBM SMP/E for z/OS Messages, Codes, and Diagnosis* | GA22-7770 |
| *z/OS MVS JCL Reference* | SA22-7597 |
| *IBM Installation Manager for z/OS V1.5.2 Program Directory* | GI11-9487 |

# 3.0 Program Support

This section describes the IBM support available for WebSphere eXtreme Scale V8.6.0 for z/OS.

## 3.1 Program Services

Contact your IBM representative for specific information about available program services.

## 3.2 Preventive Service Planning

Before you install WebSphere eXtreme Scale V8.6.0 for z/OS, make sure that you have reviewed the current Preventive Service Planning (PSP) information. Review the PSP Bucket for General Information, Installation Documentation, and the Cross Product Dependencies sections. For the Recommended Service section, instead of reviewing the PSP Bucket, it is recommended you use the IBM.ProductInstall-RequiredService fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.ProductInstall-RequiredService)** operand on the **APPLY CHECK command**. See 6.1.10, "Perform SMP/E APPLY" on page 22 for a sample APPLY command.

If you obtained WebSphere eXtreme Scale V8.6.0 for z/OS as part of a CBPDO, HOLDDATA is included.

If the CBPDO for WebSphere eXtreme Scale V8.6.0 for z/OS is older than two weeks by the time you install the product materials, you can obtain the latest PSP Bucket information by going to the following website:

http://www14.software.ibm.com/webapp/set2/psearch/search?domain=psp

You can also use S/390 SoftwareXcel or contact the IBM Support Center to obtain the latest PSP Bucket information.

For program support, access the Software Support Website at http://www-01.ibm.com/software/support/.

PSP Buckets are identified by UPGRADEs, which specify product levels; and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for WebSphere eXtreme Scale V8.6.0 for z/OS are included in Figure 4.

| UPGRADE | SUBSET | Description |
|---------|--------|-------------|
| *Figure 4. PSP Upgrade and Subset ID* | | |
| WASXS860 | HEJD860 | WebSphere eXtreme Scale V8.6.0 for z/OS |
| IIMZOSV1 | HGIN140 | Installation Manager for z/OS V1.4 |

## 3.3  Statement of Support Procedures

Report any problems which you feel might be an error in the product materials to your IBM Support Center. You may be asked to gather and submit additional diagnostics to assist the IBM Support Center in their analysis.

Figure 5 on page 7 identifies the component ID (COMPID) for WebSphere eXtreme Scale V8.6.0 for z/OS.

| Figure 5. Component IDs | | | |
| --- | --- | --- | --- |
| **FMID** | **COMPID** | **Component Name** | **RETAIN Release** |
| HEJD860 | 5655VX8 | WebSphere eXtreme Scale V8.6.0 for z/OS | 860 |

# 4.0 Program and Service Level Information

This section identifies the program and relevant service levels of WebSphere eXtreme Scale V8.6.0 for z/OS. The program level refers to the APAR fixes that have been incorporated into the program. The service level refers to the PTFs that have been incorporated into the program.

## 4.1 Program Level Information

No APARs have been incorporated into WebSphere eXtreme Scale V8.6.0 for z/OS.

This is the first release of WebSphere eXtreme Scale V8.6.0 for z/OS.

## 4.2 Service Level Information

No PTFs against this release of WebSphere eXtreme Scale V8.6.0 for z/OS have been incorporated into the product package.

Frequently check the WebSphere eXtreme Scale V8.6.0 for z/OS PSP Bucket for HIPER and SPECIAL attention PTFs against all FMIDs that you must install. You can also receive the latest HOLDDATA, then add the **FIXCAT(IBM.ProductInstall-RequiredService)** operand on your APPLY CHECK command. This will allow you to review the recommended and critical service that should be installed with your FMIDs.

# 5.0  Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating WebSphere eXtreme Scale V8.6.0 for z/OS.  The following terminology is used:

- *Driving system*: the system on which SMP/E is executed to install the program.

  The program might have specific operating system or product level requirements for using processes, such as binder or assembly utilities during the installation.

- *Target system*: the system on which the program is configured and run.

  The program might have specific product level requirements, such as needing access to the library of another product for link-edits.  These requirements, either mandatory or optional, might directly affect the element during the installation or its basic or enhanced operation.

In many cases, you can use a system as both a driving system and a target system.  However, you can make a separate IPL-able clone of the running system to use as a target system.  The clone must include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Use separate driving and target systems in the following situations:

- When you install a new level of a product that is already installed, the new level of the product will replace the old one. By installing the new level onto a separate target system, you can test the new level and keep the old one in production at the same time.

- When you install a product that shares libraries or load modules with other products, the installation can disrupt the other products.  By installing the product onto a separate target system, you can assess these impacts without disrupting your production system.

## 5.1  Driving System Requirements

This section describes the environment of the driving system required to install WebSphere eXtreme Scale V8.6.0 for z/OS.

### 5.1.1  Machine Requirements

The driving system can run in any hardware environment that supports the required software.

### 5.1.2  Programming Requirements

| Figure 6. Driving System Software Requirements | | | | |
| --- | --- | --- | --- | --- |
| Program Number | Product Name | Minimum VRM | Minimum Service Level will satisfy these APARs | Included in the shipped product? |
| 5694-A01 | z/OS with APAR OA34228 applied to the driving system | V1.12 or higher | N/A | No |
| Any one of the following: | | | | |
| 5655-N98 | IBM 31-bit SDK for z/OS, JAVA 2 Technology Edition | Version 5 | N/A | No |
| 5655-N99 | IBM 64-bit SDK for z/OS, JAVA 2 Technology Edition | Version 5 | N/A | No |

**Note:** Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

**Note:** WebSphere eXtreme Scale V8.6.0 for z/OS installs in the z/OS (X038) SREL.

- UNIX must be up in full function mode on your driving system so that the utilities are available for the Shell Script support.

- Before installing WebSphere eXtreme Scale V8.6.0 for z/OS,you must ensure that the HFS of the target system is available (OMVS active and the target file system is mounted) for processing.

## 5.2 Target System Requirements

This section describes the environment of the target system required to install and use WebSphere eXtreme Scale V8.6.0 for z/OS.

### 5.2.1 Machine Requirements

The target system can run in any hardware environment that supports WebSphere Application Server for z/OS V7.0 plus service associated with PTF 7.0.0.25. As well, the target system can run in an environment that supports WebSphere Application Server for z/OS V8.0 plus service associated with PTF 8.0.0.4, and WebSphere Application Server for z/OS V8.5 plus service associated with PTF 8.5.0.1. Consider using binary float point hardware, such as S/390 Parallel Enterprise Generation 5 systems and higher.

### 5.2.2 Programming Requirements

### 5.2.2.1 Installation Requisites

Installation requisites identify products that are required and *must* be present on the system or products that are not required but *should* be present on the system for the successful installation of this product.

Mandatory installation requisites identify products that are required on the system for the successful installation of this product. These products are specified as PREs or REQs.

| Figure 7. Target System Mandatory Installation Requisites | | | | |
|---|---|---|---|---|
| Program Number | Product Name | Minimum VRM | Minimum Service Level will satisfy these APARs | Included in the shipped product? |
| 5694-A01 | z/OS with APAR OA34228 applied to the target system | V1.12 or higher | N/A | No |
| 5655-G44 | IBM SMP/E for z/OS | Version 3.05 or higher | N/A | No |
| 5655-W65 | IBM Installation Manager | Version 1.5.2 or higher | N/A | N/A |
| 5655-W65 | WebSphere Application Server for z/OS* | Version 8.0.0 | N/A | No |

*Only required if WebSphere eXtreme Scale V8.6.0 for z/OS will be used with WebSphere Application Server for z/OS V8.0 or higher.

**Note:** Installation might require migration to new z/OS releases to be service supported. See http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

### 5.2.2.2 Operational Requisites

Operational requisites are products that are required and *must* be present on the system or products that are not required but *should* be present on the system for this product to operate all or part of its functions.

Mandatory operational requisites identify products that are required for this product to operate its basic functions. These products are specified as PREs or REQs.

| Figure 8. Target System Mandatory Operational Requisites | |
|---|---|
| **Program Number** | **Product Name and Minimum VRM/Service Level** |
| 5694-A01 | z/OS V1.12 or higher |

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions, but are required at times for this product to operate specific functions. These products are specified as IF REQs.

| Figure 9. Target System Conditional Operational Requisites | |
|---|---|
| **Program Number** | **Product Name and Minimum VRM/Service Level** |
| Any **one** of the following: | |
| 5655-N02 | WebSphere Application Server for z/OS V7.0 Fix pack 7.0.0.25 |
| 5655-W65 | WebSphere Application Server for z/OS V8.0 Fix pack 8.0.0.4 |
| 5655-W65 | WebSphere Application Server for z/OS V8.5 Fix pack 8.5.0.1 |

### 5.2.2.3 Toleration/Coexistence Requisites

Toleration/coexistence requisites identify products that must be present on sharing systems. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD environment at different time intervals.

WebSphere eXtreme Scale V8.6.0 for z/OS has no toleration/coexistence requisites.

### 5.2.2.4 Incompatibility (Negative) Requisites

Negative requisites identify products that must *not* be installed on the same system as this product.

WebSphere eXtreme Scale V8.6.0 for z/OS has no negative requisites.

## 5.2.3 DASD Storage Requirements

WebSphere eXtreme Scale V8.6.0 for z/OS libraries can reside on all supported DASD types.

Figure 10 lists the total space that is required for each type of library.

| Figure 10. Total DASD Space Required by WebSphere eXtreme Scale V8.6.0 for z/OS | | |
|---|---|---|
| **Library Type** | **Total Space Required in 3390 Trks** | **Component** |
| Target | 20 | WebSphere eXtreme Scale V8.6.0 for z/OS |
| Distribution | 4070 | WebSphere eXtreme Scale V8.6.0 for z/OS |
| File System | 4500 | For the product repository |
| File System | 3000 | WebSphere eXtreme Scale V8.6.0 for z/OS product files |

**Note:**

1. For non-RECFM U data sets, IBM recommends using system-determined block sizes for efficient DASD utilization.  For RECFM U data sets, IBM recommends using a block size of 32760, which is most efficient from a performance and DASD utilization perspective.

2. Abbreviations used for data set types are shown as follows.

   **U**     Unique data set, allocated by this product and used by only this product. This table provides all the required information to determine the correct storage for this data set. You do not need to refer to other tables or program directories for the data set size.

   **S**     Shared data set, allocated by this product and used by this product and other products.  To determine the correct storage needed for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories).  If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

   **E**     Existing shared data set, used by this product and other products.  This data set is *not* allocated by this product. To determine the correct storage for this data set, add the storage size given in this table to those given in other tables (perhaps in other program directories). If the data set already exists, it must have free space to accommodate the storage size given in this table.

   If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old release and reclaim the space that was used by the old release and any service had been installed. You can determine whether these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

   For more information about the names and sizes of the required data sets, see 6.1.7, "Allocate SMP/E Target and Distribution Libraries" on page 21.

3. Abbreviations used for the file system path type are as follows.

   **N**     New path, created by this product.
   **X**     Path created by this product,but might already exist from a previous release.
   **P**     Previously existing path, created by another product.

4. All target and distribution libraries listed have the following attributes:

   • The default name of the data set can be changed.

- The default block size of the data set can be changed.
- The data set can be merged with another data set that has equivalent characteristics.
- The data set can be either a PDS or a PDSE.

5. All target libraries listed have the following attributes:

- These data sets can be SMS-managed, but they are not required to be SMS-managed.
- These data sets are not required to reside on the IPL volume.
- The values in the "Member Type" column are not necessarily the actual SMP/E element types that are identified in the SMPMCS.

6. All target libraries that are listed and contain load modules have the following attributes:

- These data sets can be in the LPA, but they are not required to be in the LPA.
- These data sets can be in the LNKLST.
- These data sets are not required to be APF-authorized.

| Library DDNAME | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|---|---|---|---|---|---|---|
| *Figure 11. Storage Requirements for SMP/E Work Data Sets* | | | | | | |
| SMPWRK1 | E | PDS | FB | 80 | 120 | 10 |
| SMPWRK2 | E | PDS | FB | 80 | 30 | 10 |
| SMPWRK3 | E | PDS | FB | 80 | 9500 | 150 |
| SMPWRK4 | E | PDS | FB | 80 | 80 | 10 |
| SMPWRK6 | E | PDS | FB | 80 | 4100 | 400 |
| SYSUT1 | E | SEQ | -- | -- | 7500 | 0 |
| SYSUT2 | E | SEQ | -- | -- | 30 | 0 |
| SYSUT3 | E | SEQ | -- | -- | 30 | 0 |
| SYSUT4 | E | SEQ | -- | -- | 30 | 0 |

If the table indicates that the SMPLTS data set must be a PDSE and your existing SMPLTS is a PDS, you must allocate a new PDSE and copy your SMPLTS into it; then change the SMPLTS DDDEF entry to indicate the new PDSE data set.

| Library DDNAME | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|---|---|---|---|---|---|---|
| *Figure 12 (Page 1 of 2). Storage Requirements for SMP/E Data Sets* | | | | | | |
| SMPLTS | E | PDSE | U | 0 | 50 | - |

| Figure 12 (Page 2 of 2). Storage Requirements for SMP/E Data Sets | | | | | | |
|---|---|---|---|---|---|---|
| Library DDNAME | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
| SMPMTS | E | PDS | FB | 80 | 15 | 80 |
| SMPPTS | E | PDS | FB | 80 | 8000 | 80 |
| SMPSCDS | E | PDS | FB | 80 | 15 | 80 |
| SMPSTS | E | PDS | FB | 80 | 15 | 80 |

The following figures describe the target and distribution libraries and file system paths required to install WebSphere eXtreme Scale V8.6.0 for z/OS. The storage requirements of WebSphere eXtreme Scale V8.6.0 for z/OS must be added to the storage required by other programs that have data in the same library or path.

**Note:** Use the data in these tables to determine which libraries can be merged into common data sets. In addition, since some ALIAS names may not be unique, ensure that no naming conflicts will be introduced before merging libraries.

| Figure 13. Storage Requirements for WebSphere eXtreme Scale V8.6.0 for z/OS Target Libraries | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Library DDNAME | Member Type | Target Volume | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
| SEJDEXEC | EXEC | TVOL1 | U | PDS | VB | 255 | 10 | 5 |
| SEJDJCL | Sample | TVOL2 | U | PDS | FB | 80 | 10 | 5 |

| Figure 14. WebSphere eXtreme Scale V8.6.0 for z/OS File System Paths | | |
|---|---|---|
| DDNAME | T Y P E | Path Name |
| SEJDIMR | N | /usr/lpp/InstallationManagerRepository/HEJD860/IBM |

| Library DDNAME | T Y P E | O R G | R E C F M | L R E C L | No. of 3390 Trks | No. of DIR Blks |
|---|---|---|---|---|---|---|
| *Figure 15. Storage Requirements for WebSphere eXtreme Scale V8.6.0 for z/OS Distribution Libraries* | | | | | | |
| AEJDEXEC | U | PDS | VB | 255 | 10 | 5 |
| AEJDIMR | U | PDS | VB | 255 | 9000 | 15 |
| AEJDJCL | U | PDS | FB | 80 | 10 | 5 |

**Note:** WebSphere eXtreme Scale V8.6.0 for z/OS requires several thousand additional tracks (3390) for run time data sets; the amount of space depends on the application server structure to be used, the applications to be run and the amount of data storage the applications will require.

## 5.3  FMIDs Deleted

Installing WebSphere eXtreme Scale V8.6.0 for z/OS might result in the deletion of other FMIDs. To see which FMIDs will be deleted, examine the ++VER statement in the SMPMCS of the product.

If you do not want to delete these FMIDs at this time, install WebSphere eXtreme Scale V8.6.0 for z/OS into separate SMP/E target and distribution zones.

**Note:**   These FMIDs are not automatically deleted from the Global Zone. If you want to delete these FMIDs from the Global Zone, use the SMP/E REJECT NOFMID DELETEFMID command.  See the SMP/E Commands book for details.

## 5.4  Special Considerations

If you currently have a prior release of WebSphere eXtreme Scale installed with IBM Installation Manager, it must be uninstalled before installing WebSphere eXtreme Scale V8.6.0 for z/OS. If you have augmented the WebSphere eXtreme Scale default profile into and existing WebSphere Application Server, you must unaugment the profile before you uninstall.  When uninstalling WebSphere eXtreme Scale Version 8.5 using Installation Manager, error CRIMA1158E: Error uninstalling is received.  The uninstallation process will complete successfully.  See the following technote:
 http://www-01.ibm.com/support/docview.wss?uid=swg21600122.

# 6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of WebSphere eXtreme Scale V8.6.0 for z/OS.

Please note the following points:

- If you received WebSphere eXtreme Scale V8.6.0 for z/OS through CBPDO or ServerPac, follow the instructions in the Program Directory for that package.

- If you want to install WebSphere eXtreme Scale V8.6.0 for z/OS into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets.

- You can use the sample jobs that are provided to perform part or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries that are required for SMP/E execution have been defined in appropriate zones.

- You can use the SMP/E dialogs instead of the sample jobs to accomplish the SMP/E installation steps.

**Note:** WebSphere eXtreme Scale V8.6.0 for z/OS can be installed into new or existing SMP/E zones.

## 6.1 Installing WebSphere eXtreme Scale V8.6.0 for z/OS

Run all the installation steps from a user ID that is defined to UNIX Systems Services, and has the following attributes:

- UID(0) or READ access or higher to the BPX.SUPERUSER facility class.

- READ access or higher to the BPX.FILEATTR.PROGCTL and BPX.FILEATTR.APF and BPX.FILEATTR.SHARELIB facility classes.

### 6.1.1 SMP/E Considerations for Installing WebSphere eXtreme Scale V8.6.0 for z/OS

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install the Installation Manager repository for this release of WebSphere eXtreme Scale V8.6.0 for z/OS, then use Installation Manager to complete product installation.

You must have an Installation Manager at Version 1.5.2 or higher. For more information, see: http://publib.boulder.ibm.com/infocenter/install/v1r5/index.jsp

You can find a summary on how to use Installation Manager in the IBM Installation Manager for z/OS V1.5.2 Program Directory, GI11-9487. See http://ehone.ibm.com/publications/servlet/pbi.wss?CTY=US

Install the Installation Manager repository for WebSphere eXtreme Scale V8.6.0 for z/OS using SMP/E as explained in section 6.1.3 "Sample Jobs" through section section 6.1.11 "Perform SMP/E Accept".

To complete product installation with IBM Installation Manager, follow the instructions in section 6.3, "Installing WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V8.0 or WebSphere Application Server for z/OS V8.5 using Installation Manager". If you are installing for WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V7.0, then follow the instructions in section 6.2, "Installing WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V7.0".

We recommend that you install WebSphere eXtreme Scale V8.6.0 for z/OS into a separate set of SMP/E zones from WebSphere Extended Deployment V6.1.0 for z/OS if you want to continue to use that product. WebSphere eXtreme Scale V8.6.0 for z/OS is not compatible with the eXtreme Scale product (Data Grid) shipped with WebSphere Extended Deployment 6.1.0 and should not be configured in the same WebSphere Application Server.

**Note:** If you choose to install WebSphere eXtreme Scale V8.6.0 for z/OS into existing SMP/E target and distribution zones, be sure to completely remove any previous versions of WebSphere eXtreme Scale from the zones and remove the previous version DDDEFs before installing the new version. See section 5.4, "Special Considerations" on page 15 for more information.

## 6.1.2  SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 16. Using values lower than the recommended values can result in failures in the installation. DSSPACE is a subentry in the GLOBAL options entry. PEMAX is a subentry of the GENERAL entry in the GLOBAL options entry. See the SMP/E manuals for instructions on updating the global zone.

| Figure 16.  SMP/E Options Subentry Values | | |
|---|---|---|
| **Subentry** | **Value** | **Comment** |
| DSSPACE | 5000, 1000, 1300 | Space allocation for SMPTLIB datasets |
| PEMAX | SMP/E Default | IBM recommends using the SMP/E default for PEMAX. |

## 6.1.3  Sample Jobs

The following sample installation jobs are provided as part of the product to help you install WebSphere eXtreme Scale V8.6.0 for z/OS:

| Figure 17 (Page 1 of 2).  Sample Installation Jobs | | | |
|---|---|---|---|
| **Job Name** | **Job Type** | **Description** | **RELFILE** |
| EJDCSICR | Setup | Creates an SMP/E global zone | IBM.HEJD860.F1 |
| EJDZNCRT | Setup | Creates SMP/E target and distribution zones | IBM.HEJD860.F1 |

*Figure 17 (Page 2 of 2). Sample Installation Jobs*

| Job Name | Job Type | Description | RELFILE |
|---|---|---|---|
| EJDALLOC | ALLOCATE | Allocates target and distribution libraries for WebSphere eXtreme Scale V8.6.0 for z/OS | IBM.HEJD860.F1 |
| EJDISMKD | MKDIR | Invokes the supplied EJDMKDIR EXEC to create HFS paths for WebSphere eXtreme Scale V8.6.0 for z/OS | IBM.HEJD860.F1 |
| EJDDDDEF | DDDEF | Defines SMP/E DDDEFs for WebSphere eXtreme Scale V8.6.0 for z/OS | IBM.HEJD860.F1 |
| EJDAPPLY | APPLY | Applies ordered FMIDs and maintenance | IBM.HEJD860.F1 |
| EJDACCEP | ACCEPT | Accepts ordered FMIDs and maintenance | IBM.HEJD860.F1 |
| EJDRECEV | RECEIVE | Receives ordered FMIDs and maintenance | IBM.HEJD860.F1 |
| EJD1INS | INSTALL | Sample install job to install WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V8.0 or higher. | IBM.HEJD860.F1 |
| EJD1UNIN | UNINSTALL | Sample uninstall job to uninstall a previously installed WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V8.0 or higher. | IBM.HEJD860.F1 |
| EJD2CFS | ALLOCIM | Allocate a new HFS for WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V7.0 | IBM.HEJD860.F1 |
| EJD2INS | INSTALL | Sample install job to install WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V7.0. | IBM.HEJD860.F1 |
| EJD2UNIN | UNINSTALL | Sample uninstall job to uninstall a previously installed WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V7.0 | IBM.HEJD860.F1 |

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.6, "Perform SMP/E RECEIVE" on page 21) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 17 on page 18 to find the appropriate relfile data set.

You can also copy the sample installation jobs from the tape or product files by submitting the following job. Depending on your distribution medium, use either the //TAPEIN or the //FILEIN DD statement and comment out or delete the other statement. Before you submit the job, add a job card and change the lowercase parameters to uppercase values to meet the requirements of your site.

```
//STEP1    EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//TAPEIN   DD DSN=IBM.HEJD860.F1,UNIT=tunit,
//         VOL=SER=volser,LABEL=(x,SL),
//         DISP=(OLD,KEEP)
//FILEIN   DD DSN=IBM.HEJD860.F1,UNIT=SYSALLDA,DISP=SHR,
//         VOL=SER=filevol
//OUT      DD DSNAME=jcl-library-name,
//         DISP=(NEW,CATLG,DELETE),
//         VOL=SER=dasdvol,UNIT=SYSALLDA,
//         SPACE=(TRK,(30,20,5))
//SYSUT3   DD UNIT=SYSALLDA,SPACE=(CYL,(1,1))
//SYSIN    DD *
    COPY INDD=xxxxIN,OUTDD=OUT
/*
```

See the following information to update the statements in the previous sample.

> TAPEIN:
>> **tunit** is the unit value that matches the product package.
>>
>> **volser** is the volume serial that matches the product package.
>>
>> **x** is the tape file number that indicates the location of the data set name on the tape.
>>
>> See the documentation that is provided by CBPDO for the location of IBM.fmid.Fy on the tape.
>
> FILEIN:
>> **filevol** is the volume serial of the DASD device where the downloaded files reside.
>
> OUT:
>> **jcl-library-name** is the name of the output data set where the sample jobs are stored.
>>
>> **dasdvol** is the volume serial of the DASD device where the output data set resides.
>
> SYSIN:
>> **xxxxIN** is either TAPEIN or FILEIN depending on your input DD statement.

### 6.1.4  Allocate SMP/E CSI (Optional)

If you are using an existing CSI, do not execute this job.

If you are allocating a new SMP/E CSI data set for this install, edit and submit sample job EJDCSICR to allocate the SMP/E CSI data set for WebSphere eXtreme Scale V8.6.0 for z/OS. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

### 6.1.5  Define New SMP/E TARGET and DLIB Zones (Optional)

Edit and submit sample job EJDZNCRT to define new SMP/E Target and Distribution zones. Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

## 6.1.6  Perform SMP/E RECEIVE

If you have obtained WebSphere eXtreme Scale V8.6.0 for z/OS as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the WebSphere eXtreme Scale V8.6.0 for z/OS FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

The CBPDO contains all the non-integrated PTFs for every WebSphere eXtreme Scale V8.6.0 for z/OS FMID. (Cumulative service is included in CBPDO orders, so there is no separate tape.) Depending on the options selected when you ordered the CBPDO, your order may contain service for other products in your profile.

Edit and submit sample job EJDRECEV to receive sysmod for installation into the GLOBAL zone.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

## 6.1.7  Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job EJDALLOC to allocate the SMP/E target and distribution libraries for WebSphere eXtreme Scale V8.6.0 for z/OS.  Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

## 6.1.8  Allocate File system Paths

Mount the file system data set of the target system on the driving system when you run the sample EJDISMKD job because the job will create paths in the file system.

Before you run the sample job to create the paths in the file system, ensure that OMVS is active on the driving system and that the file system of the target system is mounted to the driving system. If you install WebSphere eXtreme Scale V8.6.0 for z/OS into a zSeries file system (zFS), zFS must be active on the driving system.

If you plan to install WebSphere eXtreme Scale V8.6.0 for z/OS into a new file system, create the mountpoint and mount the new file system to the driving system. For WebSphere eXtreme Scale V8.6.0 for z/OS, the recommended mountpoint is -PathPrefix-/usr/lpp/InstallationManagerRepository/HEJD860

Edit and submit sample job EJDISMKD to mount the repository file system for WebSphere eXtreme Scale V8.6.0 for z/OS. Consult the instructions in the sample job for more information.

If you create a new file system for this product, consider updating the BPXPRMxx PARMLIB member to mount the new file system at IPL time. This action can be helpful if an IPL occurs before the installation is completed.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

> **Important!**
>
> - The EJDISMKD and EJDDDDEF jobs use -PathPrefix- to represent a service directory on your driving system. It is assumed that you will be mounting WebSphere eXtreme Scale V8.6.0 for z/OS HFS data sets under a service directory that already contains the /usr and /usr/lpp directories. If you specify a -PathPrefix directory which does not contain /usr/lpp subdirectories, you must manually create these before running the EJDISMKD job. If -PathPrefix- /usr/lpp is not a read/write HFS, you will need to manually create some additional subdirectories as well. See the comments in the EJDISMKD job for further information.

## 6.1.9  Create DDDEF Entries

Edit and submit sample job EJDDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for WebSphere eXtreme Scale V8.6.0 for z/OS.  Consult the instructions in the sample job for more information.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

## 6.1.10  Perform SMP/E APPLY

Ensure that you have the latest HOLDDATA; then edit and submit sample job EJDAPPLY to perform an SMP/E APPLY CHECK for WebSphere eXtreme Scale V8.6.0 for z/OS.  Consult the instructions in the sample job for more information.

SMP/E apply processing for WebSphere eXtreme Scale V8.6.0 for z/OS uses the Java SDK JAR command to extract certain HFS files. In order for the JAR command to run correctly, SMP/E must be running with a fix for APAR IR54653. If either SMP/E APAR IO04924 or IO05943 is installed, then SMP/E will NOT run etc/profile or $HOME/.profile and the PATH environment variable will not be set. A new DDDEF entry name SMPJHOMEin the target zone is required.  For example: //SMPJHOME DD PATH='usr/lpp/java/J5.0'

Test the availability of the JAR command by logging into the OMVS Shell with the user ID that will be used to run the EJDAPPLY job and entering the following command: /usr/lpp/java/J5.0/jar

The JAR command should print its usage information.

If neither SMP/E APAR IO04924 or IO05943 is installed, then SMP/E will run /etc/profile OR $HOME/.profile and the PATH environment variable will be set. The DDEF entry named SMPJHOME in the target zone (set in samples job EJDZNCRT) is not required and can be removed if you choose. The user ID used to run the EJDAPPLY job must have the SDK bin directory in its UNIX System Services PATH. This can be accomplished in one of two ways:

1. Add an SDK bin directory containing the JAR command (such as /usr/lpp/java/IBM/J5.0/bin) to the PATH variable in /etc/profile before running the EJDAPPLY job. For example:

   PATH=/usr/lpp/java/IBM/J5.0/bin:<rest of PATH>.

2. Add an SDK bin directory to the PATH variable in a file named `.profile` in the HOME directory for the user ID used in running the EJDAPPLY job.

Test the availability of the JAR command by logging into the OMVS shell with the user ID that will be used to run the EJDAPPLY job and entering the command "jar"; the JAR command should print its usage information. See the z/OS Unix Systems Services User's Guide for information about using /etc/profile and `$HOME/.profile` scripts.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report do not bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/e root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E.

The latest HOLDDATA is available through several different portals, treated as warnings, not errors, by SMP/E).

Enhanced HOLDDATA introduced ERROR HOLDs against FMIDs for HIPER APARS. Prior to installing, you should ensure that you have the latest enhanced HOLDDATA available at: http://service.software.ibm.com/holdata/390holddata.html. The FMID(s) should be installed regardless of the status of unresolved HIPERS, however, the software should not be deployed until the unresolved HIPERs have been analyzed to determine applicability.

There are two methods to complete an FMID installation where ++HOLDS for HIPERs exist for the FMID(s) being installed: The latest HOLDDATA may identify HIPER and FIXCAT APARs for the FMIDs you will be installing. An APPLY CHECK will help you determine if any HIPER or FIXCAT APARs are applicable to the FMIDs you are installing. If there are any applicable HIPER or FIXCAT APARs, the APPLY CHECK will also identify fixing PTFs that will resolve the APARs, if a fixing PTF is available.

You should install the FMIDs regardless of the status of unresolved HIPER or FIXCAT APARs. However, do not deploy the software until the unresolved HIPER and FIXCAT APARs have been analyzed to determine their applicability. That is, before deploying the software either ensure fixing PTFs are applied to resove all HIPER or FIXCAT APARs, or ensure the problems reported by all HIPER or FIXCAT APARs are not applicable to your environment.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the APPLY CHECK. The SMP/E root cause analysis identifies the cause only of *errors* and not of *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings, instead of errors).

Here are sample APPLY commands:

1. To ensure that all recommended and critical service is installed with the FMIDs, add the SOURCEIDs of PRP, HIPER, and RSU* to the APPLY command. There may be PE or HIPER APARs that do not have resolving PTFs available yet. You need to analyze the same flags to determine if you want to BYPASS the specific ERROR HOLDs and continue the FMID installation.

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(PRP, HIPER, RSU*,...)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND .
```

Some HIPER APARs might not have fixing PTFs available yet.  You should analyze the symptom flags for the unresolved HIPER APARs to determine if the reported problem is applicable to your environment and if you should bypass the specific ERROR HOLDs in order to continue the installation of the FMIDs.

This method requires more initial research, but can provide resolution for all HIPERs that have fixing PTFs available and are not in a PE chain.  Unresolved PEs or HIPERs might still exist and require the use of BYPASS.

2. To install the FMIDs without regard for unresolved HIPER APARs, you can add the BYPASS(HOLDCLASS(HIPER)) operand to the APPLY CHECK command. This will allow you to install FMIDs even though one or more unresolved HIPER APARs exist.  After the FMIDs are installed, use the SMP/E REPORT ERRSYSMODS command to identify unresolved HIPER APARs and any fixing PTFs.

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(RSU)
FIXCAT(IBM.ProductInstall-RequiredService)
GROUPEXTEND
BYPASS(HOLDCLASS(HIPER)) .
  ..any other parameters documented in the program directory
```

This method is the quicker, but requires subsequent review of the Exception SYSMOD report produced by the REPORT ERRSYSMODS command to investigate any unresolved HIPERs.  If you have received the latest HOLDDATA, you can also choose to use the REPORT MISSINGFIX command and specify Fix Category IBM.ProductInstall-RequiredService to investigate missing recommended service.

If you bypass HOLDs during the installation of the FMIDs because fixing PTFs are not yet available, you can be notified when the fixing PTFs are available by using the APAR Status Tracking (AST) function of ServiceLink or the APAR Tracking function of ResourceLink.

After you take actions that are indicated by the APPLY CHECK, remove the CHECK operand and run the job again to perform the APPLY.

**Note:** The GROUPEXTEND operand indicates that SMP/E applies all requisite SYSMODs.  The requisite SYSMODS might be applicable to other functions.

**Expected Return Codes and Messages from APPLY:** You will receive a return code of 0 if this job runs correctly.

### 6.1.11  Perform SMP/E ACCEPT

Edit and submit sample job EJDACCEP to perform an SMP/E ACCEPT CHECK for WebSphere eXtreme Scale V8.6.0 for z/OS.  Consult the instructions in the sample job for more information.

Perform an SMP/E ACCEPT CHECK for WebSphere eXtreme Scale V8.6.0 for z/OS.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the PRE, ID, REQ, and IFREQ on the ACCEPT CHECK.  The SMP/E root cause analysis identifies the cause of only *errors* but not *warnings* (SMP/E treats bypassed PRE, ID, REQ, and IFREQ conditions as warnings rather than errors).

Before you use SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. In this way, you can save the entries that are produced from JCLIN in the distribution zone whenever a SYSMOD that contains inline JCLIN is accepted.  For more information about the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E Commands book for details.

After you take actions that are indicated by the ACCEPT CHECK, remove the CHECK operand and run the job again to perform the ACCEPT.

**Note:**  The GROUPEXTEND operand indicates that SMP/E accepts all requisite SYSMODs.  The requisite SYSMODS might be applicable to other functions.

**Expected Return Codes and Messages from ACCEPT CHECK:**  You will receive a return code of 0 if this job runs correctly.

If PTFs that contain replacement modules are accepted, SMP/E ACCEPT processing will link-edit or bind the modules into the distribution libraries.  During this processing, the Linkage Editor or Binder might issue messages that indicate unresolved external references, which will result in a return code of 4 during the ACCEPT phase.  You can ignore these messages because the distribution libraries are not executable and the unresolved external references do not affect the executable system libraries.

**Expected Return Codes and Messages from ACCEPT:**  You will receive a return code of 0 if this job runs correctly.

### 6.1.12  Run REPORT CROSSZONE

The SMP/E REPORT CROSSZONE command identifies requisites for products that are installed in separate zones.  This command also creates APPLY and ACCEPT commands in the SMPPUNCH data set.  You can use the APPLY and ACCEPT commands to install those cross-zone requisites that the SMP/E REPORT CROSSZONE command identifies.

After you install WebSphere eXtreme Scale V8.6.0 for z/OS, it is recommended that you run REPORT CROSSZONE against the new or updated target and distribution zones.  REPORT CROSSZONE requires

a global zone with ZONEINDEX entries that describe all the target and distribution libraries to be reported on.

For more information about REPORT CROSSZONE, see the SMP/E manuals.

## 6.2   Installing WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V7.0

This section contains instructions to create a copy of WebSphere eXtreme Scale V8.6.0 for z/OS with WebSphere Application Server for z/OS V7.0.

### 6.2.1   Mount the WebSphere eXtreme Scale V8.6.0 for z/OS repository

The SEJDIMR file system now contains the Installation Manager files for WebSphere eXtreme Scale V8.6.0 for z/OS product.

Unmount the SEJDIMR file system and remount it *read-only* at a location of your choice. The recommended location is:

/usr/lpp/InstallationManagerRepository/HEJD860

### 6.2.2   Create a file system for WebSphere eXtreme Scale V8.6.0 for z/OS for use with WebSphere Application Server for z/OS V7.0

Edit and submit sample job EJD2CFS to allocate and mount a file system for WebSphere eXtreme Scale V8.6.0 for z/OS base product code. Consult the instructions in the sample job for more information.

Mount this file system at a location where IBM Installation Manager will install, uninstall, or apply maintenance to products in the file system. The mount location does not need to be the same location at which the file system is mounted in production.

**Expected Return Codes and Messages:** You will receive a return of 0 if the job runs correctly.

### 6.2.3   Install WebSphere eXtreme Scale V8.6.0 for z/OS with WebSphere Application Server for z/OS V7.0

Edit and submit sample job EJD2INS to install WebSphere eXtreme Scale V8.6.0 for z/OS. Consult the instructions in the sample job for more information.

By default, the latest version of the product is installed from the product repository with the default list of optional features.

To install a particular product level from the product repository, see the instructions in the sample job.

**Expected Return Codes and Messages:** You will see a return of 0 if this job runs correctly.

When the installation is complete, unmount the product file system and remount it on your target system at the location at which it is to accessed.

## 6.3   Installing WebSphere eXtreme Scale V8.6.0 for z/OS for WebSphere Application Server for z/OS V8.0 or V8.5 using Installation Manager

This section contains instructions to create a copy of WebSphere eXtreme Scale V8.6.0 for z/OS for use with WebSphere Application Server for z/OS V8.0 or WebSphere Application Server for z/OS V8.5.

### 6.3.1   Mount the WebSphere eXtreme Scale V8.6.0 for z/OS product repository

The SEJDIMR file system now contains the Installation Manager repository files for the WebSphere eXtreme Scale V8.6.0 for z/OS product.

Unmount the SEJDIMR file system and remount it *read-only* at a location of your choice.  The recommended location is:

   /usr/lpp/InstallationManagerRepository/HEJD860

### 6.3.2   Mount a file system for WebSphere eXtreme Scale V8.6.0 for z/OS for use with WebSphere Application Server for z/OS V8.0 or WebSphere Application Server for z/OS V8.5

When used with WebSphere Application Server for z/OS V8.0 or WebSphere Application Server for z/OS V8.5, the WebSphere eXtreme Scale V8.6.0 for z/OS product code is installed into the WebSphere Application Server for z/OS V8.0 or WebSphere Application Server for z/OS V8.5 file system.

Choose a copy of the WebSphere Application Server for z/OS product code that you will use with WebSphere eXtreme Scale V8.6.0 for z/OS.

Mount the WebSphere Application Server for z/OS product file system, read/write, at the same location at which it was originally installed with the IBM Installation Manager. You can use the zMountFileSystem.sh script in the eclipse/tools subdirectory of the Installation Manager binaries location to mount this file system. For example,

```
cd /InstallationManager/bin/eclipse/tools
zMountFileSystem.sh
 -name WAS.V80.SBBOHFS -mountpoint /usr/lpp/zWebSphere/V8R0
```

You can add the -owner, -group, and -perm options to this command to set the ownership and permissions for all files in the file system.

### 6.3.3  Install WebSphere eXtreme Scale V8.6.0 for z/OS with WebSphere Application Server for z/OS V8.0. or WebSphere Application Server for z/OS V8.5.

Edit and submit sample job EJD1INS to install the WebSphere eXtreme Scale V8.6.0 for z/OS with IBM Installation Manager. Consult the instruction in the sample job for more information.

**Expected Return Codes and Messages:** You will receive a return code of 0 if this job runs correctly.

## 6.4  Activating WebSphere eXtreme Scale V8.6.0 for z/OS

For instructions on how to activate and use WebSphere eXtreme Scale V8.6.0 for z/OS see: http://publib.boulder.ibm.com/infocenter/wxsinfo/v8r6/index.jsp

When configuring WebSphere eXtreme Scale V8.6.0 for z/OS for use with WebSphere Application Server for z/OS V7.0 you will specify the path to the separate copy of the WebSphere eXtreme Scale V8.6.0 for z/OS product code.

When configuring WebSphere eXtreme Scale V8.6.0 for z/OS for use with WebSphere Application Server for z/OS V8.0 or WebSphere Application Server for z/OS V8.5, you will not need to specify a path to a separate copy of the WebSphere eXtreme Scale V8.6.0 for z/OS product code.

# Appendix A. Using compressed repositories to install WebSphere eXtreme Scale V8.6.0 for z/OS

This appendix describes the installation method and the step-by-step procedures to install and to activate the functions of WebSphere eXtreme Scale V8.6.0 for z/OS using compressed repositories on product media (DVD), as an alternative to the traditional SMP/E install.

## A.1 Setting up the product repositories

WebSphere eXtreme Scale V8.6.0 for z/OS is installed using the IBM Installation Manager and one or more repositories containing the WebSphere eXtreme Scale V8.6.0 for z/OS product code. The following sections explain how to set up the product repositories.

## A.2 Uploading the initial repositories

Repositories containing the initial level of WebSphere eXtreme Scale V8.6.0 for z/OS product are provided on product media (DVD) in the form of compressed repository files. Depending on your order, you may receive product media as physical disks or as disk images (iso). If you did not order physical media, create physical disks from the disk images. The disk labelled **Compressed repositories for WebSphere eXtreme Scale V8.6.0 for z/OS** contains the following files:

| File name | File size |
|---|---|
| Figure 18. WebSphere eXtreme Scale V8.6.0 for z/OS Compressed repositories | |
| image_xs_zOS_was8.8600.zip | 111 MB |
| image_xs_zOS_was7.8600.zip | 82 MB |

File sizes are given in megabytes. Copy these files in binary to your z/OS system and uncompress each file into its own directory. For example, you might create the following directories on your z/OS system.

/repo/WXS86/base/initial

Into these directories you store the uncompressed repository contents. Total space required for the uncompressed repositories is 8000 tracks (3390). You can delete the compressed repository files from your z/OS system once they have been successfully uncompressed.

## A.3  Downloading service repositories (optional)

To install the product at a level other than the initial product level, you will require additional fix pack repositories, which can be downloaded to your z/OS system or accessed directly from the IBM service repository. This section explains how to download service repositories from the IBM Fix Central web site. Follow the instructions in the WebSphere eXtreme Scale V8.6.0 for z/OS information center to locate fix pack repositories for the components you will install. Each fix pack repository contains all files necessary to upgrade the product component from the initial level to the specific fix pack level contained in the fix pack repository.

Download the fix pack repositories for the WebSphere eXtreme Scale V8.6.0 for z/OS product components and fix packs you plan to install. Uncompress each fix pack repository into its own directory. For example, you might create the following directories on your z/OS system.

/repo/WXS86/base/8.6.0.1

You use these directories to store the fix pack repository contents.  Download only the fix pack you will need. You can delete the compressed fix pack repository files from you z/OS system once they have been successfully uncompressed.

## A.4  Accessing the web-based service repository (optional)

Instead of downloading fix pack repositories, you can obtain fix pack content directly from the Web-based product service repository.  You will need an IBM Software and user ID and password.  Issue the following Installation Manager command to create a keyring file containing your IBM Software user ID and password.

imutilsc saveCredential
 -keyring filename
 -userName userID -userPassword password
 -url https://www.ibm.com/software/repositorymanager/
     com.ibm.websphere.WXS.zOS.was8.v86/repository.xml

For example:

```
/InstallationManager/bin/eclipse/tools/imutilsc saveCredential
 -keyring /u/madmin/WAS.keyring
 -userName jsmith998 -userPassword tr1sfmtp
 -url https://www.ibm.com/software/repositorymanager/
     com.ibm.websphere.WXS.zOS.was7.v86/repository.xml
```

Make sure that the keyring can be read by the user ID that will invoke the Installation Manager to install or or apply maintenance to WebSphere eXtreme Scale V8.6.0 for z/OS.

## A.5  Using the IBM Installation Manager

Use the IBM Installation Manager to install components of WebSphere eXtreme Scale V8.6.0 for z/OS. For more information, see Installation Manager Program Directory, or the Installation Manager information center.

http://publib.boulder.ibm.com/infocenter/install/V1R5/index.jsp

The product installation is performed with the imcl install command:

```
imcl install package_name
 -installationDirectory installation_path
 -sharedResourcesDirectory shared_resources_location
 -repositories repository_list
 -acceptLicense
```

The package name identifies the product to be installed, and may be followed by an underscore and a specific product level in the form v.r.m.date_time. If you do not specify a particular level, then the latest level in the repository_list is installed.

Use the Installation Manager command listAvailablePackages to see the product levels that can be installed.

```
imcl listAvailablePackages -repositories repository_list
```

The installation path is the directory into which the product will be installed. It must be writeable by the Installation Manager user ID.  If the Installation Manager is set up to run in group mode, then the directory must have group write permissions (chmod g+w) and be owned by the Installation Manager group. The shared resources directory is used to collect and validate files and metadata. The directory should contain at least 30000 tracks (of free space), and cannot be used by more than one Installation Manager. The shared resources location is set during the first product install and cannot be changed unless all products have been uninstalled.

Once installation is complete, the files in the shared resources directory are only needed for product rollback when the product repositories are not available. If the product repositories will remain available to your system, you can add the following option to the imcl install command to direct the Installation Manager to clear the shared resources directory once installation is complete. This prevents the shared resources directory space requirements from growing over time.

The repository_list must contain the initial product repository, and any desired fix pack repositories. Each repository is specified as a file path or URL (file:,ftp:,or http:). Separate the repositories in the list with commas, but no spaces.

To add the web-based service repository to the repository search order, include the -useServiceRepository option, and a keyring option to point to a keyring file containing your IBM Software user ID and password.

```
-useServiceRepository -keyring keyring_file
```

The -acceptLicense option indicates that you have read and accept the license terms, which can usually be found in the root of the product repository or in a directory named lafiles.

## A.5.1  Example 1

Install using only initial repository.

```
/InstallationManager/bin/eclipse/tools/imcl
install com.ibm.websphere.WXS.zOS.was7.v86
-installationDirectory /usr/lpp/zWebSphereXS/V8R6
-sharedResourcesDirectory /InstallationManager/sharedResources
-repositories /repo/WXS86/base/initial
-acceptLicense
```

## A.5.2  Example 2

Install using only the initial repository and a fix pack repository, deleting the shared resources when finished.

```
/InstallationManager/bin/eclipse/tools/imcl
install com.ibm.websphere.WXS.zOS.was7.v86
-installationDirectory /usr/lpp/zWebSphereXS/V8R6/8.6.0.1
-sharedResourcesDirectory /InstallationManager/sharedResources
-preferences
com.ibm.cic.common.core.preferences.preserveDownloadedArtifacts
   =false
-respositories /repo/WXS86/base/initial,/repo/WXS86/base/8.6.0.1
-acceptLicense
```

## A.5.3  Example 3

Install a particular level, using the service repository. The shared resources location is already set and does not need to be re-specified.

```
/InstallationManager/bin/eclipse/tools/imcl
install com.ibm.websphere.WXS.zOS.was7.v86_8.0.0_20130202_0100
-installationDirectory /usr/lpp/zWebSphereXS/VR86/8.6.0.1
-preferences
com.ibm.cic.common.core.preferences.preserveDownloadedArtifacts
   =false
-repositories /repo/WXS86/base/initial
-useServiceRepository
-keyring keyring_file
-acceptLicense
```

# Appendix B.  Notices

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# Reader's Comments

**Program Directory for WebSphere eXtreme Scale V8.6.0 for z/OS, December 2012**

You may use this form to comment about this document, its organization, or subject matter with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

For each of the topics below please indicate your satisfaction level by circling your choice from the rating scale. If a statement does not apply, please circle N.

```
┌── RATING SCALE ─────────────────────────────────────────────────────────────
│    very                            very         not
│  satisfied  <====================>  dissatisfied  applicable
│     1       2       3       4         5            N
└──────────────────────────────────────────────────────────────────────────────
```

| | **Satisfaction** | | | | | |
|---|---|---|---|---|---|---|
| Ease of product installation | 1 | 2 | 3 | 4 | 5 | N |
| Contents of Program Directory | 1 | 2 | 3 | 4 | 5 | N |
| Installation Verification Programs | 1 | 2 | 3 | 4 | 5 | N |
| Time to install the product | 1 | 2 | 3 | 4 | 5 | N |
| Readability and organization of Program Directory tasks | 1 | 2 | 3 | 4 | 5 | N |
| Necessity of all installation tasks | 1 | 2 | 3 | 4 | 5 | N |
| Accuracy of the definition of the installation tasks | 1 | 2 | 3 | 4 | 5 | N |
| Technical level of the installation tasks | 1 | 2 | 3 | 4 | 5 | N |
| Ease of getting the system into production after installation | 1 | 2 | 3 | 4 | 5 | N |

How did you order this product?

___ CBPDO
___ CustomPac
___ ServerPac
___ Independent
___ Other

Is this the first time your organization has installed this product?

___ Yes
___ No

Were the people who did the installation experienced with the installation of z/OS products?

___ Yes

___    No

If yes, how many years? __

If you have any comments to make about your ratings above, or any other aspect of the product installation, please list them below:

    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____
    _____

Please provide the following contact information:

    _____
    Name and Job Title
    _____
    Organization
    _____

    _____
    Address
    _____
    Telephone

Thank you for your participation.

Please send the completed form to (or give to your IBM representative who will forward it to the WebSphere eXtreme Scale V8.6.0 for z/OS Development group):

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