



Program Directory for IBM Db2 DevOps Experience for z/OS

V01.01.00

Program Number 5698-DEX

FMID HDOE110

for Use with
z/OS

Document Date: October 2018

GI13-5008-00

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 25.

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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 IBM Db2 DevOps Experience for z/OS. This publication refers to IBM Db2 DevOps Experience for z/OS as Db2 DevOps Experience.

The Program Directory contains the following sections:

- 2.0, “Program Materials” on page 3 identifies the basic program materials and documentation for Db2 DevOps Experience.
- 3.0, “Program Support” on page 6 describes the IBM support available for Db2 DevOps Experience.
- 4.0, “Program and Service Level Information” on page 8 lists the APARs (program level) and PTFs (service level) that have been incorporated into Db2 DevOps Experience.
- 5.0, “Installation Requirements and Considerations” on page 9 identifies the resources and considerations that are required for installing and using Db2 DevOps Experience.
- 6.0, “Installation Instructions” on page 17 provides detailed installation instructions for Db2 DevOps Experience. It also describes the procedures for activating the functions of Db2 DevOps Experience, or refers to appropriate publications.

Before installing Db2 DevOps Experience, 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; after which, keep the documents for your 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.

Db2 DevOps Experience 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 Db2 DevOps Experience are included on the CBPDO tape.

Do not use this program directory if you install Db2 DevOps Experience 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 Db2 DevOps Experience Description

The Db2 DevOps Experience for z/OS V1.1 product provides the following capabilities:

- **Visual and syntax-based application discovery**
- **Db2 Environment self-provisioning and de-provisioning**
- **Application schema management through source control**

- **Site rule definition and enforcement**

1.2 Db2 DevOps Experience FMIDs

Db2 DevOps Experience consists of the following FMID:

HDOE110

2.0 Program Materials

An IBM program is identified by a program number. The program number for Db2 DevOps Experience is 5698-DEX.

Basic Machine-Readable Materials are materials that are supplied under the base license and are required for the use of the product.

The program announcement material describes the features supported by Db2 DevOps Experience. 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 physical media 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 about how to install the program.

You can find information about the physical media for the basic machine-readable materials for Db2 DevOps Experience in the *CBPDO Memo To Users Extension*.

Figure 1 describes the program file content for Db2 DevOps Experience. You can refer to the *CBPDO Memo To Users Extension* to see where the files reside on the tape.

Notes:

1. The data set attributes in this table must be used in the JCL of jobs that read the data sets. However, because the data sets are in IEBCOPY unloaded format, their actual attributes might be different.
2. If any RELFILEs are identified as PDSEs, ensure that SMPTLIB data sets are allocated as PDSEs.

Figure 1 (Page 1 of 2). Program File Content for Db2 DevOps Experience

Name	O R G	R E C F M	L R E C L	BLK SIZE
HDOE110.F1	PDS	FB	80	8800
HDOE110.F2	PDS	VB	256	27920
HDOE110.F3	PDS	FB	80	8800
HDOE110.F4	PDS	FB	80	8800
HDOE110.F5	PDS	FB	80	8800
HDOE110.F6	PDS	U	0	6144

Figure 1 (Page 2 of 2). Program File Content for Db2 DevOps Experience

Name	O R G	R E C F M	L R E C L	BLK SIZE
HDOE110.F7	PDSE	U	0	6144
HDOE110.F8	PDS	FB	80	8800
HDOE110.F9	PDS	U	0	6144
HDOE110.F10	PDS	FB	80	8800
HDOE110.F11	PDS	FB	80	8800
HDOE110.F12	PDS	FB	80	8800
HDOE110.SMPMCS	PS	FB	80	8800

2.2 Program Publications

The following sections identify the basic publications for Db2 DevOps Experience.

Figure 2 identifies the basic unlicensed publications for Db2 DevOps Experience. Those that are in softcopy format can be obtained from the Db2 DevOps Experience for z/OS Library page at <https://www.ibm.com/support/home/>

Figure 2. Basic Material: Unlicensed Publications

Publication Title	Form Number	Media Format
<i>IBM Db2 DevOps Experience for z/OS Administrator Guide</i>	SC27-9138	PDF

2.3 Program Source Materials

No program source materials or viewable program listings are provided for Db2 DevOps Experience.

2.4 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of Db2 DevOps Experience.

Figure 3. Publications Useful During Installation

Publication Title	Form Number	Media Format
<i>IBM SMP/E for z/OS User's Guide</i>	SA23-2277	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Commands</i>	SA23-2275	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Reference</i>	SA23-2276	http://www.ibm.com/shop/publications/order/
<i>IBM SMP/E for z/OS Messages, Codes, and Diagnosis</i>	GA32-0883	http://www.ibm.com/shop/publications/order/

3.0 Program Support

This section describes the IBM support available for Db2 DevOps Experience.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install Db2 DevOps Experience, 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-REQUIRESERVICE fix category in SMP/E to ensure you have all the recommended service installed. Use the **FIXCAT(IBM.PRODUCTINSTALL-REQUIRESERVICE)** operand on the **APPLY CHECK** command. See 6.1.8, "Perform SMP/E APPLY" on page 21 for a sample APPLY command

If you obtained Db2 DevOps Experience as part of a CBPDO, HOLDDATA is included.

If the CBPDO for Db2 DevOps Experience 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.ibm.com/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 Db2 DevOps Experience are included in Figure 4.

Figure 4. PSP Upgrade and Subset ID

UPGRADE	SUBSET	Description
DOE110	HDOE110	Db2 DevOps Experience

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 IDs (COMPID) for Db2 DevOps Experience.

<i>Figure 5. Component IDs</i>			
FMID	COMPID	Component Name	RETAIN Release
HDOE110	5698DEX00	Db2 Devops Experience	110

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of Db2 DevOps Experience. 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 Db2 DevOps Experience.

The following APAR fixes against previous releases of Db2 DevOps Experience have

4.2 Service Level Information

No PTFs against this release of Db2 DevOps Experience have been incorporated into the product package.

Frequently check the Db2 DevOps Experience 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-REQUIRESERVICE)** 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 Db2 DevOps Experience. 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 in 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 Db2 DevOps Experience.

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?
5650-ZOS	z/OS	V02.02.00	N/A	No

Note: SMP/E is a requirement for Installation and is an element of z/OS but can also be ordered as a separate product, 5655-G44, minimally V03.06.00.

Note: Installation might require migration to new z/OS releases to be service supported. See https://www-01.ibm.com/software/support/lifecycle/index_z.html.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use Db2 DevOps Experience.

Db2 DevOps Experience installs in the DBS (P115) SREL.

5.2.1 Machine Requirements

The target system requires the following hardware:

- IBM zEnterprise EC12 (zEC12) in z/Architecture mode, or later

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.

<i>Figure 7. Target System Mandatory Installation Requisites</i>				
Program Number	Product Name	Minimum VRM	Minimum Service Level will satisfy these APARs	Included in the shipped product?
5650-ZOS	Z/OS	02.02.00 or higher	N/A	No
5650-ZOS	Z/OS (Graphical Data Display Manager (GDDM)) component	02.02.00 or higher	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.

Conditional installation requisites identify products that are *not* required for successful installation of this product but can resolve such things as certain warning messages at installation time. These products are specified as IF REQs.

Db2 DevOps Experience has no conditional installation requisites.

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.

Db2 DevOps Experience has no mandatory operational requisites.

Conditional operational requisites identify products that are *not* required for this product to operate its basic functions but are required at run time for this product to operate specific functions.

<i>Figure 8. Target System Conditional Operational Requisites</i>		
Program Number	Product Name and Minimum VRM/Service Level	Function
Any one of the following:		
5615-DB2	IBM DB2 UDB for z/OS V11.1.0 or higher	Db2 Database
5650-DB2	IBM DB2 UDB for z/OS V12.1.0 or higher	Db2 Database

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.

Db2 DevOps Experience 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.

Db2 DevOps Experience has no negative requisites.

5.2.3 DASD Storage Requirements

Db2 DevOps Experience libraries can reside on all supported DASD types.

Figure 9 lists the total space that is required for each type of library.

<i>Figure 9. Total DASD Space Required by Db2 DevOps Experience</i>		
Library Type	Total Space Required in 3390 Trks	Description
Target	6025	
Distribution	8270	
File System(s)	4800	/usr/lpp/IBM/does/v1r1m0/bin/IBM/

Notes:

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 the 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 enough 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 that 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 6.1.5, "Allocate SMP/E Target and Distribution Libraries" on page 19.

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, with some exceptions. If the value in the "ORG" column specifies "PDS", the data set must be a PDS. If the value in "DIR Blks" column specifies "N/A", the data set must be 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 not be in the LPA, with some exceptions. If the value in the "Member Type" column specifies "LPA", it is advised to place the data set in the LPA.
- These data sets can be in the LNKLIST.
- These data sets are not required to be APF-authorized, with some exceptions. If the value in the "Member Type" column specifies "APF", the data set must be APF-authorized.

The following table provides an estimate of the storage needed in the SMP/E data sets for Db2 DevOps Experience. You must add the estimates to those of any other programs and service that you install to determine the total additional storage requirements.

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.

Figure 10. 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
SMPLTS	E	PDSE	U	0	15	N/A
SMPMTS	E	PDS	FB	80	15	60
SMPPTS	E	PDSE	FB	80	15	300
SMPSCDS	E	PDS	FB	80	15	300
SMPSTS	E	PDS	FB	80	15	150
SMPLOG		PS	VB	510	15	

The following figures describe the target and distribution libraries required to install Db2 DevOps Experience. The storage requirements of Db2 DevOps Experience 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 11 (Page 1 of 2). Storage Requirements for Db2 DevOps Experience 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
SDOEBASE	SAMPLE	ANY	U	PDS	FB	80	55	5
SDOECLST	CLIST	ANY	U	PDS	FB	80	25	5
SDOEDBRM	MAC	ANY	U	PDS	FB	80	55	5
SDOEEEXEC	EXEC	ANY	U	PDS	FB	80	525	5
SDOELINK	PROGRAM	ANY	U	PDS	U	0	125	5
SDOELLIB	PROGRAM	ANY	U	PDS	U	0	4500	8

Figure 11 (Page 2 of 2). Storage Requirements for Db2 DevOps Experience 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
SDOELoad	PROGRAM	ANY	U	PDSE	U	0	125	N/A
SDOEMLIB	MSG	ANY	U	PDS	FB	80	75	5
SDOESAMP	SAMP	ANY	U	PDS	FB	80	180	20
SDOESLIB	SKL	ANY	U	PDS	FB	80	180	5
SDOETLIB	SAMP	ANY	U	PDS	FB	80	180	5

Figure 12. Db2 DevOps Experience File System Paths

DDNAME	T Y P E	Path Name
SDOEBIN	N	/usr/lpp/IBM/does/v1r1m0/bin/IBM/

Figure 13. Storage Requirements for Db2 DevOps Experience Distribution Libraries

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
ADOEBASE	U	PDS	FB	80	55	5
ADOEBIN	U	PDS	VB	256	2250	5
ADOECLST	U	PDS	FB	80	25	5
ADOEDBRM	U	PDS	FB	80	55	5
ADOEEXEC	U	PDS	FB	80	525	5
ADOELINK	U	PDS	U	0	825	5
ADOELoad	U	PDSE	U	0	125	N/A
ADOEMLIB	U	PDS	FB	80	75	5
ADOENCAL	U	PDS	U	0	1275	8
ADOESAMP	U	PDS	FB	80	2700	20
ADOESLIB	U	PDS	FB	80	180	5
ADOETLIB	U	PDS	FB	80	180	5

5.3 FMIDs Deleted

Installing Db2 DevOps Experience 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 Db2 DevOps Experience 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

Db2 DevOps Experience has no special considerations for the target system.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install and to activate the functions of Db2 DevOps Experience.

Please note the following points:

- If you want to install Db2 DevOps Experience 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.

6.1 Installing Db2 DevOps Experience

6.1.1 SMP/E Considerations for Installing Db2 DevOps Experience

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of Db2 DevOps Experience.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 14. 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.

Subentry	Value	Comment
DSSPACE	500,500,500	3390 tracks
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 Db2 DevOps Experience:

Figure 15. Sample Installation Jobs

Job Name	Job Type	Description	RELFILE
DOEALA	SMPE	Sample allocate for SMP/E CSI	IBM.HDOE110.F1
DOEALB	SMPE	Sample allocate for SMPE datasets	IBM.HDOE110.F1
DOERECV	RECEIVE	Sample RECEIVE job	IBM.HDOE110.F1
DOEALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.HDOE110.F1
DOEZFS	ALLOMZFS	Sample job to allocate, create mountpoint, & mount zFS data sets	IBM.HDOE110.F1
DOEISMKD	MKDIR	Sample job to invoke the supplied DOEMKDIR EXEC to allocate file system paths	IBM.HDOE110.F1
DOEDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.HDOE110.F1
DOEAPPLY	APPLY	Sample APPLY job	IBM.HDOE110.F1
DOEACCEP	ACCEPT	Sample ACCEPT job	IBM.HDOE110.F1

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.4, “Perform SMP/E RECEIVE” on page 19) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 15 on page 17 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.HDOE110.F1,UNIT=tunit,
// VOL=SER=volser,LABEL=(x,SL),
// DISP=(OLD,KEEP)
//FILEIN DD DSN=IBM.HDOE110.F1,UNIT=SYSALLDA,DISP=SHR,
// VOL=SER=filevol
//OUT DD DSNAME=jc1-library-name,
// DISP=(NEW,CATLG,DELETE),
// VOL=SER=dasdvol,UNIT=SYSALLDA,
// SPACE=(TRK,(primary,secondary,dir))
//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 Perform SMP/E RECEIVE

If you have obtained Db2 DevOps Experience as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the Db2 DevOps Experience FMIDs, service, and HOLDDATA that are included on the CBPDO package. For more information, see the documentation that is included in the CBPDO.

You can also choose to edit and submit sample job DOERECV to perform the SMP/E RECEIVE for Db2 DevOps Experience. 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 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job DOEALLOC to allocate the SMP/E target and distribution libraries for Db2 DevOps Experience. 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 Allocate, create and mount ZFS Files (Optional)

This job allocates, creates a mountpoint, and mounts zFS data sets.

If you plan to install Db2 DevOps Experience into a new z/OS UNIX file system, you can edit and submit the optional DOEZFS job to perform the following tasks:

- Create the z/OS UNIX file system
- Create a mountpoint
- Mount the z/OS UNIX file system on the mountpoint

Consult the instructions in the sample job for more information.

The recommended z/OS UNIX file system type is zFS. The recommended mountpoint is */usr/lpp/IBM/does/v1r1m0/bin*.

Before running the sample job to create the z/OS UNIX file system, you must ensure that OMVS is active on the driving system. zFS must be active on the driving system if you are installing Db2 DevOps Experience into a file system that is zFS.

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.

```
MOUNT FILESYSTEM('#zfsdsn')
MOUNTPOINT('/usr/lpp/IBM/ibm/v1r1m0/bin')
MODE(RDWR) /* can be MODE(READ) */
TYPE(ZFS) PARM('AGGRGROW') /* zFS, with extents */
```

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

#zfsdsn is the name of the data set holding the z/OS UNIX file system.
/usr/lpp/IBM/ibm/v1r1m0/bin is the name of the mountpoint where the z/OS UNIX file system will be mounted.

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

The target system HFS or zFS data set must be mounted on the driving system when running the sample DOEISMKD job since the job will create paths in the HFS or zFS.

Before running the sample job to create the paths in the file system, you must ensure that OMVS is active on the driving system and that the target system's HFS or zFS file system is mounted to the driving system. zFS must be active on the driving system if you are installing Db2 DevOps Experience into a file system that is zFS.

If you plan to install Db2 DevOps Experience into a new HFS or zFS file system, you must create the mountpoint and mount the new file system to the driving system for Db2 DevOps Experience.

The recommended mountpoint is */usr/lpp/IBM/ibm/v1r1m0/bin*.

Edit and submit sample job DOEISMKD to allocate the HFS or zFS paths for Db2 DevOps Experience. 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.

6.1.7 Create DDDEF Entries

Edit and submit sample job DOEDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for Db2 DevOps Experience. 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 Perform SMP/E APPLY

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job DOEAPPLY to perform an SMP/E APPLY CHECK for Db2 DevOps Experience. Consult the instructions in the sample job for more information.

Perform an SMP/E APPLY CHECK for Db2 DevOps Experience.

The latest HOLDDATA is available through several different portals, including <http://service.software.ibm.com/holddata/390holddata.html>. 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 resolve 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:

- a. To ensure that all recommended and critical service is installed with the FMIDs, receive the latest HOLDDATA and use the APPLY CHECK command as follows

```
APPLY S(fmid,fmid,...) CHECK
FORFMID(fmid,fmid,...)
SOURCEID(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.

- b. 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 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.

2. 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 CHECK: You will receive a return code of 0 if this job runs correctly.

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

6.1.9 Perform SMP/E ACCEPT

Edit and submit sample job DOEACCEP to perform an SMP/E ACCEPT CHECK for Db2 DevOps Experience. Consult the instructions in the sample job for more information.

Perform an SMP/E ACCEPT CHECK for Db2 DevOps Experience.

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 *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.

6.1.10 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 Db2 DevOps Experience, 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 Activating Db2 DevOps Experience

6.3 Product Customization

Following the SMP/E installation of Db2 DevOps Experience, see publication *Getting Started with DevOps Experience for z/OS* (GC27-9133) which contains the necessary information to customize and use Db2 DevOps Experience.

7.0 Notices

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Printed in USA

G113-5008-00

