IBM

Program Directory for

IBM DB2 Administration Tool for z/OS

V12.01.00

Program Number 5655-DT2

FMID H0IHC10

for Use with
z/OS

Document Date: July 2019

Note

Before using this information and the product it supports, be sure to read the general information under 7.0, "Notices" on page 24.

Contents

Figures

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 Administration Tool for z/OS. This publication refers to IBM DB2 Administration Tool for z/OS as DB2 Administration Tool.

The Program Directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic program materials and documentation for DB2 Administration Tool.

- 3.0, "Program Support" on page 6 describes the IBM support available for DB2 Administration Tool.

- 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 Administration Tool.

- 5.0, "Installation Requirements and Considerations" on page 10 identifies the resources and considerations that are required for installing and using DB2 Administration Tool.

- 6.0, "Installation Instructions" on page 17 provides detailed installation instructions for DB2 Administration Tool. It also describes the procedures for activating the functions of DB2 Administration Tool, or refers to appropriate publications.

Before installing DB2 Administration Tool, 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.

DB2 Administration Tool 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 Administration Tool are included on the CBPDO tape.

Do not use this program directory if you install DB2 Administration Tool 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 Administration Tool Description

DB2 Administration Tool, V12.1 (5655-DT2) enables the day-to-day tasks that are associated with managing a DB2 database, simplifying the complex tasks associated with safely managing DB2 objects and schema throughout the application lifecycle with the least possible impact to availability.

With DB2 Administration Tool for z/OS, you can:

- Allow users to navigate the DB2 catalog quickly and easily

- Build and execute dynamic SQL statements without knowing the exact SQL syntax
- Manage and track changes made to DB2 object definitions, resolving any potential conflicts prior to execution
- Help build DB2 commands to execute against databases and tables
- Enable users to create, alter, migrate, drop, and reverse-engineer DB2 objects
- Build and execute utility jobs, allowing users to take advantage of LISTDEFs and TEMPLATEs for increased productivity

With new enhancements to DB2 Administration Tool for z/OS, users can now:

- Allow changes to table spaces and indexes to generate new ADMIN ALTER statements that reflect the intended change and are stored in the change management database.
- Format change statements when registering a change using ALT.
- Work with accelerator-only tables (AOTs) in Catalog Navigation - including DDL and GEN - and to use the panels to create an AOT.
- Have support for new columns or new values for existing columns in DB2 V12 catalog tables.
- Generate a CM batch job with various options specified when using the RN / RNO & AN / ANO line commands against a multi-target change.
- Preserve menu options on panel ADB21 across multiple interaction

Other new enhancements to DB2 Administration Tool for z/OS provide users with the ability to:

- Exploit new features in DB2 Version 12.
- Overwrite the RESTRICT ON DROP attribute for tables.
- Verify that the attributes for objects that are being changed are valid on their system and to report any incorrect attribute values, as well as to stop the process if errors are found.
- Analyze and run a multi-target change via CM batch.
- Produce a report containing affected object counts when analyzing a multi-target change
- Produce a report containing statement totals when running a multi-target change.
- Have granular control over accelerator objects (add, delete, or load operations) during alter, compare, and change management scenarios.
- Restore distribution and organization keys associated with accelerated tables when corresponding DB2 tables are dropped and recreated.
- Use a new RUNSTATS option to minimize RUNSTATS and only run RUNSTATS if a table is created or an index is changed.

Additionally, DB2 Administration Tool for z/OS now provides support via Data Server Manager for GEN (re-engineering DDL) and CMBATCH functions, as well as enhanced integration with DB2 High Performance Upload (HPU) to allow users to edit HPU parameters using panels.

1.2 DB2 Administration Tool FMID

DB2 Administration Tool consists of the following FMID:

H0IHC10

2.0 Program Materials

An IBM program is identified by a program number. The program number for DB2 Administration Tool is 5655-DT2.

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 Administration Tool. 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 Administration Tool in the *CBPDO Memo To Users Extension*.

Figure 1. Program File Content				
Name	**O R G**	**R E C F M**	**L R E C L**	**BLK SIZE**
SMPMCS	SEQ	FB	80	6400
IBM.H0IHC10.F1	PDS	FB	80	8800
IBM.H0IHC10.F2	PDS	FB	80	8800
IBM.H0IHC10.F3	PDS	FB	80	8800
IBM.H0IHC10.F4	PDS	FB	80	8800
IBM.H0IHC10.F5	PDS	FB	80	8800
IBM.H0IHC10.F6	PDS	FB	80	8800
IBM.H0IHC10.F7	PDS	FB	80	8800
IBM.H0IHC10.F8	PDS	U	0	6144
IBM.H0IHC10.F9	PDS	FB	80	8800
IBM.H0IHC10.F10	PDS	FB	80	8800
IBM.H0IHC10.F11	PDS	FB	80	8800
IBM.H0IHC10.F12	PDS	FB	80	8800

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for DB2 Administration Tool.

2.3 Program Publications

The following sections identify the basic publications for DB2 Administration Tool.

Figure 2 identifies the basic unlicensed publications for DB2 Administration Tool. Those that are in softcopy format publications can be obtained from the IBM Publications Center website at: http://www.ibm.com/shop/publications/order/

Figure 2. Basic Material: Unlicensed		
Publication Title	**Form Number**	**Media Format**
IBM DB2 Administration Tool for z/OS License Information	GC27-9101	http://www.ibm.com/software/sla/sladb.nsf
IBM DB2 Administration Tool for z/OS User's Guide	SC27-8898	http://www.ibm.com/support/docview.wss?uid=swg27020910

2.3.1 Optional Program Publications

No optional publications are provided for DB2 Administration Tool.

2.4 Program Source Materials

No program source materials or viewable program listings are provided for DB2 Administration Tool.

2.5 Publications Useful During Installation

You might want to use the publications listed in Figure 3 during the installation of DB2 Administration Tool.

Figure 3 (Page 1 of 2). Publications Useful During Installation		
Publication Title	**Form Number**	**Media Format**
IBM SMP/E for z/OS User's Guide	SA23-2277	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Commands	SA23-2275	http://www.ibm.com/shop/publications/order/
IBM SMP/E for z/OS Reference	SA23-2276	http://www.ibm.com/shop/publications/order/

	Form	
Figure 3 (Page 2 of 2). Publications Useful During Installation		
Publication Title	**Number**	**Media Format**
IBM SMP/E for z/OS Messages, Codes, and Diagnosis	GA32-0883	http://www.ibm.com/shop/publications/order/

3.0 Program Support

This section describes the IBM support available for DB2 Administration Tool.

3.1 Program Services

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

3.2 Preventive Service Planning

Before you install DB2 Administration Tool, 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 21 for a sample APPLY command.

If you obtained DB2 Administration Tool as part of a CBPDO, HOLDDATA is included.

If the CBPDO for DB2 Administration Tool 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 DB2 Administration Tool are included in Figure 4.

Figure 4. PSP Upgrade and Subset ID		
UPGRADE	**SUBSET**	**Description**
5655DT2	H0IHC10	DB2 Administration Tool

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 Administration Tool.

Figure 5. Component IDs			
FMID	**COMPID**	**Component Name**	**RETAIN Release**
H0IHC10	568851500	DB2 Administration Tool	C10

4.0 Program and Service Level Information

This section identifies the program and relevant service levels of DB2 Administration Tool. 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

The following APAR fixes against previous releases of DB2 Administration Tool have been incorporated into this release. They are listed by FMID.

- FMID H0IHB20

PI40660	PI48883	PI51826	PI54689	PI58499
PI40738	PI48944	PI51968	PI54709	PI58587
PI42134	PI49017	PI51990	PI55224	PI58649
PI45372	PI49024	PI52097	PI55235	PI58657
PI45883	PI49205	PI52323	PI55246	PI58703
PI46159	PI49289	PI52695	PI55249	PI58705
PI46245	PI49738	PI52917	PI55359	PI58768
PI46271	PI50386	PI52939	PI55361	PI59093
PI46307	PI50420	PI53028	PI55426	PI59144
PI46428	PI50478	PI53030	PI55436	PI59276
PI46696	PI50571	PI53163	PI55567	PI59299
PI46732	PI50592	PI53345	PI55587	PI59306
PI46755	PI50666	PI53442	PI55693	PI59656
PI46792	PI50685	PI53455	PI55694	PI59825
PI46818	PI50686	PI53464	PI55735	PI60137
PI46863	PI50699	PI53615	PI55783	PI60551
PI47154	PI50737	PI53628	PI55812	PI60587
PI47635	PI50786	PI53708	PI56095	PI60614
PI47662	PI50793	PI53805	PI56130	PI60687
PI47677	PI50807	PI53835	PI56347	PI60767
PI47753	PI50932	PI53946	PI56431	PI60808
PI47919	PI50963	PI54011	PI56821	PI60818
PI48076	PI51255	PI54016	PI56902	PI60936
PI48077	PI51350	PI54082	PI57039	PI61111
PI48105	PI51397	PI54148	PI57422	PI61126
PI48357	PI51466	PI54444	PI57480	PI61333
PI48358	PI51497	PI54565	PI57514	PI61612
PI48476	PI51511	PI54572	PI57528	PI61678
PI48551	PI51516	PI54597	PI57592	PI61918
PI48724	PI51554	PI54617	PI57749	PI62085
PI48740	PI51566	PI54643	PI58220	

PI62340
PI62908

4.2 Service Level Information

No PTFs against this release of DB2 Administration Tool have been incorporated into the product package.

Frequently check the DB2 Administration Tool 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 DB2 Administration Tool. 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 Administration Tool.

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	V02.01.00 or higher	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 http://www-03.ibm.com/systems/z/os/zos/support/zos_eos_dates.html.

5.2 Target System Requirements

This section describes the environment of the target system required to install and use DB2 Administration Tool.

DB2 Administration Tool installs in the DBS (P115) SREL.

5.2.1 Machine Requirements

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

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.

DB2 Administration Tool has no mandatory installation requisites.

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.

DB2 Administration Tool 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.

Figure 7. Target System Mandatory Operational Requisites	
Program Number	**Product Name and Minimum VRM/Service Level**
Any **one** of the following:	
5655-V93	IBM Tools Base for z/OS V01.05.00*
5655-TC1	HTCZ110 IBM Tools Customizer for z/OS
Any **one** of the following:	
5615-DB2	DB2 for z/OS V11.01.00
5697-P43	DB2 for z/OS Value Unit Edition V11.01.00
5650-DB2	DB2 for z/OS V12.01.00
5770-AF3	DB2 for z/OS Value Unit Edition V12.01.00

Note: *FMID HTCZ110, which is delivered either with IBM Tools Base for z/OS V01.05.00 or earlier, or, IBM Tools Customizer for z/OS, is required to customize DB2 Administration Tool. Both IBM Tools Base for z/OS V01.05.00 and IBM Tools Customizer for z/OS are no-charge products that must be separately ordered. All of these versions of Db2 for z/OS are supported as of the General Availability (GA) date of Db2 Administration Tool V12R1. If a version of Db2 for z/OS is withdrawn from service, it will no longer be supported by Db2 Administration Tool.

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.

Figure 8. Target System Conditional Operational Requisites		
Program Number	**Product Name and Minimum VRM/Service Level**	**Function**
5655-DC2	DB2 Object Comparison Tool for z/OS V12.01 .00	Required for use of the Change Management function

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 Administration Tool 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 Administration Tool has no negative requisites.

5.2.3 DASD Storage Requirements

DB2 Administration Tool libraries can reside on all supported DASD types.

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

Figure 9. Total DASD Space Required by DB2 Administration Tool	
Library Type	**Total Space Required in 3390 Trks**
Target	6565 Tracks
Distribution	2765 Tracks

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 6.1.8, "Allocate SMP/E Target and Distribution Libraries" on page 20.

3. 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.

4. 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.

5. 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.
   - For APF authorization requirements, see the customization information in the DB2 Administration Tool for z/OS User's Guide.

The following figures describe the target and distribution libraries required to install DB2 Administration Tool. The storage requirements of DB2 Administration Tool must be added to the storage required by other programs that have data in the same library.

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 10 (Page 1 of 2). Storage Requirements for DB2 Administration Tool Target Libraries								
Library DDNAME	Member Type	Target Volume	TYPE	ORG	RECFM	LRECL	No. of 3390 Trks	No. of DIR Blks
SADBBASE	SAMP	Any	U	PDS	FB	80	10	5
SADBCLST	CLIST	Any	U	PDS	FB	80	25	5

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
SADBDBRM	MAC	Any	U	PDS	FB	80	55	10
SADBDENU	DATA	Any	U	PDS	FB	80	45	10
SADBEXEC	EXEC	Any	U	PDS	FB	80	525	35
SADBLINK	LMOD	Any	U	PDS	U	0	125	10
SADBLLIB	LMOD	Any	U	PDS	U	0	4500	25
SADBMLIB	MSG	Any	U	PDS	FB	80	20	15
SADBPLIB	PNL	Any	U	PDS	FB	80	1050	150
SADBSAMP	SAMP	Any	U	PDS	FB	80	15	10
SADBSLIB	SKL	Any	U	PDS	FB	80	180	25
SADBTLIB	TBL	Any	U	PDS	FB	80	15	10

Figure 10 (Page 2 of 2). Storage Requirements for DB2 Administration Tool Target 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
AADBBASE	U	PDS	FB	80	10	5
AADBCLST	U	PDS	FB	80	25	5
AADBDBRM	U	PDS	FB	80	55	10
AADBDENU	U	PDS	FB	80	45	10
AADBEXEC	U	PDS	FB	80	525	35
AADBMLIB	U	PDS	FB	80	20	15
AADBNCAL	U	PDS	U	0	825	50
AADBPLIB	U	PDS	FB	80	1050	150
AADBSAMP	U	PDS	FB	80	15	10
AADBSLIB	U	PDS	FB	80	180	25
AADBTLIB	U	PDS	FB	80	15	10

Figure 11. Storage Requirements for DB2 Administration Tool Distribution Libraries

5.3 FMIDs Deleted

Installing DB2 Administration Tool 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 Administration Tool 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 Administration Tool 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 Administration Tool.

Please note the following points:

- If you want to install DB2 Administration Tool 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.

- If you are also installing DB2 Object Comparison Tool for z/OS, it requires DB2 Administration Tool. There is a REQ for DB2 Administration Tool (H0IHC10) in the DB2 Object Comparison Tool for z/OS (H25GC10) SMPMCS.

- Both of these FMIDs, H0IHC10 for DB2 Administration Tool and H25GC10 for DB2 Object Comparison Tool for z/OS, need to be installed in the same SMP/E target and distribution zone.

6.1 Installing DB2 Administration Tool

6.1.1 SMP/E Considerations for Installing DB2 Administration Tool

Use the SMP/E RECEIVE, APPLY, and ACCEPT commands to install this release of DB2 Administration Tool.

6.1.2 SMP/E Options Subentry Values

The recommended values for certain SMP/E CSI subentries are shown in Figure 12. 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 12. SMP/E Options Subentry Values		
Subentry	**Value**	**Comment**
DSSPACE	(200,200,500)	3390 DASD tracks
PEMAX	SMP/E Default	IBM recommends using the SMP/E default for PEMAX.

6.1.3 SMP/E CALLLIBS Processing

DB2 Administration Tool uses the CALLLIBS function provided in SMP/E to resolve external references during installation. When DB2 Administration Tool is installed, ensure that DDDEFs exist for the following libraries:

- CSSLIB
- SCEELKED
- SDSNLOAD
- SISPLOAD

Note: CALLLIBS uses the previous DDDEFs only to resolve the link-edit for DB2 Administration Tool. These data sets are not updated during the installation of DB2 Administration Tool.

6.1.4 Sample Jobs

The following sample installation jobs are provided as part of the product to help you install DB2 Administration Tool:

Figure 13. Sample Installation Jobs			
Job Name	**Job Type**	**Description**	**RELFILE**
ADBALA	SMP/E	Sample job to allocate and initialize a new SMP/E CSI data set **(Optional)**	IBM.H0IHC10.F2
ADBALB	SMP/E	Sample job to allocate SMP/E data sets **(Optional)**	IBM.H0IHC10.F2
ADBRECEV	RECEIVE	Sample RECEIVE job	IBM.H0IHC10.F2
ADBALLOC	ALLOCATE	Sample job to allocate target and distribution libraries	IBM.H0IHC10.F2
ADBDDDEF	DDDEF	Sample job to define SMP/E DDDEFs	IBM.H0IHC10.F2
ADBAPPLY	APPLY	Sample APPLY job	IBM.H0IHC10.F2
ADBACCEP	ACCEPT	Sample ACCEPT job	IBM.H0IHC10.F2

You can access the sample installation jobs by performing an SMP/E RECEIVE (refer to 6.1.7, "Perform SMP/E RECEIVE" on page 20) then copy the jobs from the RELFILES to a work data set for editing and submission. See Figure 13 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=*
//*************************************************************
//* Make the //TAPEIN DD statement below active if you install*
//* from a CBPDO tape by uncommenting the DD statement below. *
//*************************************************************
//*TAPEIN   DD DSN=IBM.H0IHC10.F2,UNIT=tunit,
//*         VOL=SER=volser,LABEL=(x,SL),
//*         DISP=(OLD,KEEP)
//*************************************************************
//* Make the //TAPEIN DD statement below active if you install*
//* from a product tape received outside the CBPDO process   *
//* (using the optional SMP/E RECEIVE job) by uncommenting    *
//* the DD statement below.                                   *
//*************************************************************
//*TAPEIN   DD DSN=IBM.H0IHC10.F2,UNIT=tunit,
//*         VOL=SER=0IHC10,LABEL=(3,SL),
//*         DISP=(OLD,KEEP)
//*************************************************************
//* Make the //FILEIN DD statement below active for          *
//* downloaded DASD files.                                    *
//*************************************************************
//*FILEIN   DD DSN=IBM.H0IHC10.F2,UNIT=SYSALLDA,DISP=SHR,
//*         VOL=SER=filevol
//OUT       DD DSNAME=jcl-library-name,
//          DISP=(NEW,CATLG,DELETE),
//          VOL=SER=dasdvol,UNIT=SYSALLDA,
//          SPACE=(TRK,(20,10,5))
//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.H0IHC10.F2 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.

6.1.5 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 data set for this install, edit and submit sample job ADBALA to allocate the SMP/E data set for DB2 Administration Tool. 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 Initialize CSI zones (Optional)

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

Edit and submit sample job ADBALB to initialize SMP/E zones for DB2 Administration Tool. 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.

6.1.7 Perform SMP/E RECEIVE

If you have obtained DB2 Administration Tool as part of a CBPDO, use the RCVPDO job in the CBPDO RIMLIB data set to receive the DB2 Administration Tool 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 ADBRECEV to perform the SMP/E RECEIVE for DB2 Administration Tool. 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 SMP/E Target and Distribution Libraries

Edit and submit sample job ADBALLOC to allocate the SMP/E target and distribution libraries for DB2 Administration Tool. 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.

6.1.9 Create DDDEF Entries

Edit and submit sample job ADBDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for DB2 Administration Tool. 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

1. Ensure that you have the latest HOLDDATA; then edit and submit sample job ADBAPPLY to perform an SMP/E APPLY CHECK for DB2 Administration Tool. Consult the instructions in the sample job for more information.

   The latest HOLDDATA is available through several different portals, including http://service.software.ibm.com/holdata/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),HOLDFIXCAT) .
 ..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 or 4 if this job runs correctly.

   You may receive the following message during the APPLY CHECK which does not affect the product installation

   Expected Return Codes and Messages from APPLY: You will receive a return code of 0 or 4 if this job runs correctly.

   You may receive the following message codes which do not affect the product installation: GIM23903W, GIM23904W, GIM43401W, IEW2455W.

6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job ADBACCEP to perform an SMP/E ACCEPT CHECK for DB2 Administration Tool. Consult the instructions in the sample job for more information.

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.

6.1.12 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 DB2 Administration Tool, 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 Administration Tool

6.2.1 Product Customization

The publication *IBM DB2 Administration Tool for z/OS User's Guide* (SC27-8898) contains the necessary information to customize and use DB2 Administration Tool. You must have SYSADM (or equivalent) DB2 authority to install DB2 Administration Tool.

7.0 Notices

This information was developed for products and services offered in the U.S.A. IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the

> IBM Director of Licensing
> IBM Corporation
> North Castle Drive
> Armonk, New York 10504-1785
> USA

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

> Intellectual Property Licensing
> Legal and Intellectual Property Law
> IBM Japan, Ltd.
> 19-21, Nihonbashi-Hakozakicho, Chuo-ku
> Tokyo 103-8510, Japan

7.1 Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Reader's Comments

Program Directory for IBM DB2 Administration Tool for z/OS, July 2019

We appreciate your input on this publication. Feel free to comment on the clarity, accuracy, and completeness of the information or give us any other feedback that you might have.

Use one of the following methods to send us your comments:

1. Send an email to comments@us.ibm.com

2. Use the form on the Web at:

www.ibm.com/software/data/rcf

When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

IBM or any other organizations will only use the personal information that you supply to contact you about the issues that you submit.

Thank you for your participation.

IBM

Printed in USA