software AG

Adabas Statistics Facility

Adabas Statistics Facility (ASF) Version 8.1.1 Installation Documentation

Version 8.1.1

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This document applies to Adabas Statistics Facility Version 8.1.1.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Adabas Statistics Facility (ASF) Version 8.1.1 Installation Documentation

This document describes the installation procedure for the Adabas Statistics Facility (ASF). The use of ASF is described in the Adabas Statistics Facility User's Guide.

⚠ **Important:** Before installing or upgrading, review the release notes, readmes, changes, system requirements, and installation or upgrade guide for the products you want to install. This documentation provides information you must know about the products before installing or upgrading, and also describes information you will need to provide during installation. Documentation is available on the Software AG **Empower** website.

The following topics are covered:

Installation Notes	This describes the contents of the distribution medium and the product prerequisites.
ASF Installation	This contains all information required to perform the first-time installation of ASF.
Upgrading an ASF Installation	This contains all information required for an upgrade installation of ASF.
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ASF Corrections	This contains information regarding ASF corrections.

1 Installation Notes

This section describes the contents of the distribution medium and the Software AG product pre-requisites.

> **Note:** For information regarding Software AG product compatibility with IBM platforms and any IBM requirements for Software AG products, please review the **Product Compatibility** for IBM Platforms web page.

This chapter covers the following topics:

Distribution of ASF

This document refers only to dataset names, so the information presented here is applicable to each type of medium.

> **Note:** *Most parts of the ASF installation can be performed with Software AG's System Maintenance Aid (SMA). Refer to the SMA documentation for more details.*

Contents of the Distribution Medium

Data Set Name	Contents	Format
ASFvrs.INPL	ASF programs and messages.	INPL/OBJH
ASFvrs.SYS1	ASF-DATA	ADALOD
ASFvrs.SYS2	ASF-PROFILES (Profiles and Help Texts)	ADALOD
ASFvrs.HELP	ASF-PROFILES (Help Texts for upgrade installation only.)	ADALOD
ASFvrs.JOBS	ASF Installation Jobs (z/OS and BS2000 only)	SOURCE
ASFvrs.LIBJ	ASF Installation Jobs (z/VSE only)	SOURCE
ASFvrs.TAPE	ASF Installation Jobs (z/VM only)	SOURCE

(v = version, r = release, s = SM level)

Installing the Release Medium

Following operating systems are supported:

- Installing the Release Medium on z/OS
- Installing the Release Medium on z/VM
- Installing the Release Medium on z/VSE
- Installing the Release Medium on BS2000

Installing the Release Medium on z/OS

This section explains how to:

- Copy data set COPY.JOB from medium to disk.

- Modify the data set according to your local naming conventions.

You can use the modified data set to copy all data sets from medium to disk. You will then need to perform the individual install procedure for each component.

> **Note:** *If you are using SMA, please refer to the chapter Installing Software AG Products with SMA in the System Maintenance Aid documentation. If you are not using SMA, please follow the instructions below.*

- Step 1a: Copy Data Set COPY.JOB from Medium to Disk (SMA Job Number T*nnn*).

- Step 1b: Modify COPY.JOB to Local Naming Conventions.

- Step 1c: Submit COPY.JOB.

Step 1a: Copy Data Set COPY.JOB from Medium to Disk (SMA Job Number Tnnn)

The data set COPY.JOB (label 2) contains the JCL to unload all other existing data sets from medium to disk. To unload COPY.JOB, use the following sample JCL:

```
//SAGTAPE JOB SAG,CLASS=1,MSGCLASS=X
//* - - - - - - - - - - - - - - - - -
//COPY EXEC PGM=IEBGENER
//SYSUT1 DD DSN=COPY.JOB,
// DISP=(OLD,PASS),
// UNIT=(CASS,,DEFER),
// VOL=(,RETAIN,SER=<Tnnnnn>),
// LABEL=(2,SL)
//SYSUT2 DD DSN=<hilev>.COPY.JOB,
// DISP=(NEW,CATLG,DELETE),
// UNIT=3390,VOL=SER=<vvvvvv>,
// SPACE=(TRK,(1,1),RLSE),
// DCB=*.SYSUT1
```

```
//SYSPRINT DD SYSOUT=*
//SYSIN DD DUMMY
//
```

where

- *<hilev>* is a valid high level qualifier.
- *<Tnnnnn>* is the medium number.
- *<vvvvvv>* is the desired volser.

Step 1b: Modify COPY.JOB to Local Naming Conventions

There are three parameters to set before you can submit this job:

- Set HILEV to a valid high level qualifier.
- Set LOCATION to a storage location.
- Set EXPDT to a valid expiration date.

Step 1c: Submit COPY.JOB

Submit COPY.JOB to unload all other data sets from medium to your disk.

Installing the Release Medium on z/VM

To position the medium for the TAPE LOAD command, calculate the number of medium marks as follows:

1. If the sequence number of ASFnnn.TAPE, as shown by the Software AG Product Delivery Report, is n, you must position over 3n - 2 medium marks (that is, FSF 1 for the first dataset, FSF 4 for the second, etc.).

2. Access the disk that is to contain the ASF installation files as disk "A" or use the Shared File System (SFS).

3. Ask the system operator to attach a medium drive to your virtual machine at address X'181' and mount the ASFnnn installation medium.

4. Position the medium by issuing the CMS command:

```
TAPE FSF fsfs
```

   where fsfs is the number of medium marks and is calculated as described above.

5. Load the ASF installation material by issuing the CMS command:

```
TAPE LOAD * * A
```

6. Keep the medium drive attached to your virtual machine, because the medium is still needed during the installation procedure.

Installing the Release Medium on z/VSE

This section explains how to:

- Copy data set COPY.JOB from medium to disk.

- Modify this member according to your local naming conventions.

The JCL in this member is then used to copy all data sets from the medium to disk.

If the data sets for more than one product are delivered on the medium, the member COPY-TAPE.JOB contains JCL to unload the data sets for all delivered products from the medium to your disk, except the data sets that you can directly install from medium, for example, INPL objects.

You can use the modified data set to copy all data sets from medium to disk. You will then need to perform the individual install procedure for each component.

> **Note:** *If you are using SMA, please refer to Installing Software AG Products with SMA in the System Maintenance Aid documentation. If you are not using SMA, please follow the instructions below.*

- Step 1: Copy Data Set COPYTAPE.JOB from Medium to Disk.

- Step 2: Modify COPYTAPE.JOB.

- Step 3: Submit COPYTAPE.JOB.

Step 1: Copy Data Set COPYTAPE.JOB from Medium to Disk

The data set COPYTAPE.JOB (file 5) contains the JCL to unload all other existing data sets from medium to disk. To unload COPYTAPE.JOB, use the following sample JCL:

```
* $$ JOB JNM=LIBRCAT,CLASS=0, +
* $$ DISP=D,LDEST=(*,UID),SYSID=1
* $$ LST CLASS=A,DISP=D
// JOB LIBRCAT
* *****************************************
* CATALOG COPYTAPE.JOB TO LIBRARY
* *****************************************
// ASSGN SYS004,nnn <------ medium address
// MTC REW,SYS004
// MTC FSF,SYS004,4
ASSGN SYSIPT,SYS004
// TLBL IJSYSIN,'COPYTAPE.JOB'
// EXEC LIBR,PARM='MSHP; ACC S=lib.sublib' <------- for catalog
```

```
/*
// MTC REW,SYS004
ASSGN SYSIPT,FEC
/*
/&
* $$ EOJ
```

where *nnn* is the medium address, and lib.sublib is the library and sublibrary of the catalog.

Step 2: Modify COPYTAPE.JOB

Modify COPYTAPE.JOB to conform with your local naming conventions and set the disk space parameters before submitting this job.

Step 3: Submit COPYTAPE.JOB

Submit COPYTAPE.JOB to unload all other data sets from the medium to your disk.

Installing the Release Medium on BS2000

Release mediums available to Software AG affiliates contain all Adabas product options. The affiliates use these release mediums to create custom installation mediums for customers according to contract agreements.

For specific information about your particular release medium, refer to the Installation Notes delivered with the installation medium.

- Installation Using SMA
- Installation Not Using SMA

Installation Using SMA

If you are installing Adabas using the Software AG System Maintenance Aid (SMA), refer to the *System Maintenance Aid* documentation and to the information provided with the installation medium for specific installation instructions.

Installation Not Using SMA

If you are not using SMA, copy the data sets from medium to disk using the procedure described below:

- Step 1: Copy the Library SRV*nnn*.LIB from Medium to Disk.
- Step 2: Copy the Procedure COPY.PROC from Medium to Disk.
- Step 3: Copy all Product Files from Medium to Disk.

Step 1: Copy the Library SRVnnn.LIB from Medium to Disk

> **Note:** *This step is not necessary if you have already copied the library SRVnnn.LIB from another Software AG medium. For more information, refer to the element #READ-ME in this library.*

The library SRV*nnn*.LIB is stored on the medium as the sequential file SRV*nnn*.LIBS containing LMS commands. The current version *nnn* can be obtained from the Software AG Product Delivery Report. To convert this sequential file into an LMS library, execute the following commands:

```
/IMPORT-FILE SUPPORT=*TAPE(FILE-NAME=SRVnnn.LIBS, -
/ VOLUME=<volser>, DEV-TYPE=<tape-device>)
/ADD-FILE-LINK LINK-NAME=EDTSAM, FILE-NAME=SRVnnn.LIBS, -
/ SUPPORT=*TAPE(FILE-SEQ=3), ACC-METH=*BY-CAT, -
/ BUF-LEN=*BY-CAT, REC-FORM=*BY-CAT, REC-SIZE=*BY-CAT
/START-EDT
@READ '/'
@SYSTEM 'REMOVE-FILE-LINK EDTSAM'
@SYSTEM 'EXPORT-FILE FILE-NAME=SRVnnn.LIBS'
@WRITE 'SRVnnn.LIBS'
@HALT
/ASS-SYSDTA SRVnnn.LIBS
/MOD-JOB-SW ON=1
/START-PROG $LMS
/MOD-JOB-SW OFF=1
/ASS-SYSDTA *PRIMARY
```

<tape-device> = device type of the medium, for example, TAPE-C4.

<volser> = VOLSER of medium (see Software AG Product Delivery Report).

Step 2: Copy the Procedure COPY.PROC from Medium to Disk

Call the procedure P.COPYTAPE in the library SRV*nnn*.LIB to copy the procedure COPY.PROC to disk:

```
/CALL-PROCEDURE (SRVnnn.LIB,P.COPYTAPE), -
/ (VSNT=<volser>, DEVT=<tape-device>)
```

If you use a TAPE-C4 device, you can omit the parameter DEVT.

Step 3: Copy all Product Files from Medium to Disk

Enter the procedure COPY.PROC to copy all Software AG product files from medium to disk:

```
/ENTER-PROCEDURE COPY.PROC, DEVT=<tape-device>
```

If you use a TAPE-C4 device, you can omit the parameter DEVT. The results of this procedure are written to the file L.REPORT.SRV.

Software AG Product Prerequisites

The following environment is required to install ASF:

- Adabas Version 7 or above.
- Natural Version 4.2 or above.
- Adabas Online Services.

Environment Planning

We recommend you to install ASF in a central service database containing service programs for the whole Adabas environment.

Disk Space Requirements for the System Files

The following examples show the calculation of disk requirements for ASF-DATA and ASF-PROFILES. Also the minimum disk requirements for the Natural system file are listed.

The values shown are for a 3390 disk, on which the DATA block size is 4820 bytes and the ASSO block size is 2004 bytes. The RABNSIZE is 3. The block sizes of DATA and ASSO on all supported disks, as well as the cylinder size of the disks, are listed in Appendix A of the *Adabas Operations* documentation.

You can use the AOS "space calculation" function for the calculation of your own disk requirements.

This section covers the following topics:

- ASF-DATA:
- ASF-PROFILES:

- Natural System File: Minimum Requirements

ASF-DATA:

For the calculation of MAXISN and the required disk space, it is important to n ote that the following Nucleus information is stored in ASF-DATA:

- A record is created for every database

- An additional record is created for every file

Example 1: One database with 50 files, data is stored once per day over a period of 1 year:

The number of records created is (1 database + 50 files) * 365 days = 18615 records. Therefore MAXISN can be set to 18615. The average compressed record length is 400 bytes, and the padding factor is 3%. The number of different values per record is 1, so the number of different values in the file is 18615. The average length of the descriptor value is 84 bytes.

Area	Size (blocks)	Size (cylinders)
AC	28	1
NI	853	3
UI	42	1
DS	1693	11

Example 2: Ten databases, each with 50 files, data is stored 3 times per day over a period of 1 year:

The number of records created is (10 databases + 10*50 files) * 3 stores per day * 365 days = 558450 records. Therefore MAXISN can be set to 558450. The average compressed record length is 400 bytes, and the padding factor is 3%. The number of different values per record is 1, so the number of different values in the file is 558450. The average length of the descriptor value is 84 bytes.

Area	Size (blocks)	Size (cylinders)
AC	837	3
NI	25569	74
UI	1209	5
DS	50769	309

ASF-PROFILES:

This file is used for storing profile information. For each profile, 10 records are generated. The maximum length of a record before compression is 3600 bytes.

Example 1: Ten profiles, each referencing 10 databases:

There are 10 profiles, so MAXISN is 10 * 10 = 100. The average compressed record length is 100 bytes, and the padding factor is 3%. The number of different values in the file is 400. The average length of the descriptor value is 38 bytes.

Area	Size (blocks)	Size (cylinders)
AC	1	1
NI	9	1
UI	2	1
DS	1	1

Example 2: One hundred profiles, each referencing 10 databases:

There are 100 profiles, so MAXISN is 100 * 10 = 1000. The average compressed record length is 100 bytes, and the padding factor is 3%. The number of different values in the file is 4000. The average length of the descriptor value is 38 bytes.

Area	Size (blocks)	Size (cylinders)
AC	2	1
NI	84	1
UI	3	1
DS	1	1

Natural System File: Minimum Requirements

ASF requires the following additional disk space in the Natural System File:

Area	Size (blocks)
UI	15
NI	280
DS	2000

The value of TOPISN must also be increased by 8500.

2   **ASF Installation**

This section describes how to set up the ASF environment for the first time. Information concerning upgrading an existing ASF installation is contained in the section **Upgrading an ASF Installation**.

This chapter covers the following topics:

Step 1: Customizing Natural

The Natural environment should be customized as follows:

- The parameter MAXCL must be at least 1500.

- The parameter MADIO must be at least 512.

- Ensure that the following data is included in the PARAMETER module of Natural:

```
NTPRM ....
   CSTATIC=(AOSASM,...)
NTFILE ID=181,DBID=???,FNR=???          ASF-DATA (File 1)
NTFILE ID=182,DBID=???,FNR=???          ASF-PROFILES (File 2)
```

The DBID and FNR of ID=181 must be the database ID and file number into which the dataset ASFvrs.SYS1 was loaded.

The DBID and FNR of ID=182 must be the database ID and file number into which the dataset ASFvrs.SYS2 was loaded.

- If you plan to use the Con-nect API feature, ensure that the following additional data is included in the PARAMETER module of Natural:

```
NTFILE ID=251,DBID=???,FNR=???                CON-NECT Files
```

The DBID and FNR of ID=251 must be the database ID and file number of the file which contains the CON-NECT interface modules.

- ASF uses the module AOSASM. AOSASM must be linked to the Natural nucleus and also to the Natural Batch nucleus, since ASF can run online as well as in batch mode. Please make sure that the Adabas Online Services are installed (both Batch and Online) before using ASF. For information on how to install Adabas Online Services see the installation notes for that product. Ensure that the Link Job for Natural is modified appropriately

- Assemble and link the Natural parameter module.

- Re-link both Online and Batch Natural with this new parameter module.

> **Note:** *The modifications in the parameter module are essential for both Online Natural and Batch Natural.*

Step 2: Customizing Adabas

The ADARUN parameter LFP must be set to at least 100 000, otherwise the ASF evaluation reports cannot run.

Step 3: Loading ASF System Files

(Job I050, Step 4100 and 4101)

> **Note:** *Follow these instructions for first-time installation only! For an upgrade installation, see the appropriate description in the section **Upgrading an ASF Installation**.*

The files ASFvrs.SYS1 and ASFvrs.SYS2 are delivered on the installation medium in Adabas unload format.

Load these system files with LOAD function of the Adabas load utility ADALOD:

- ASFvrs.SYS1 (ASF-DATA).
- ASFvrs.SYS2 (ASF-PROFILES).

You can use the following ADALOD parameters to save ISNs and disk space:

- ISNREUSE=YES
- DSREUSE=YES

Step 4: Loading Programs and Messages

(Job I061, Step 4100)

Use the INPL utility to load the ASF programs and messages into the Natural system file. The programs and messages are in the dataset ASFvrs.INPL. All messages start with "ASF" and are application specific.

Refer to the *Natural Administration* documentation for further information about usage of this utility and its parameters.

Please check the reports produced to ensure that no errors have occurred.

Step 5: Setting up User Security

If you are using Natural Security, you must define the group ASFGROUP, containing the names of all users permitted to use ASF. Additionally, one user must be defined as the Administrator. This group must be linked to the ASF application. When you subsequently run ASF, and select the option U (User Maintenance) in the main menu, the names which you have defined in the Natural Security group ASFGROUP will be displayed. You must then grant or deny permission to the users to modify Store Profiles, to modify Evaluation Profiles, to store data, or to run evaluations.

You can copy the following modules from the SYSSEC library to SYSASF:

- NSC---O
- NSCDA
- NSCDU
- NSCLU-G

Alternatively, you can add the library "SYSSEC", or any other library which contains these modules, to the steplibs of "SYSASF".

If you are not using Natural Security, then all users who have access to ASF are allowed to access all ASF functions.

Step 6: Creating the user BATCH

For certain batch ASF operations, it is necessary to access the user account "BATCH". You create the account in ASF by typing the command "PROFILE BATCH" in the Direct Command Line. Configure the parameters of the BATCH account as required for your batch operations with ASF (for example, default printer for output reports).

If you are using Natural Security, you must also include the user BATCH in the group ASFGROUP (see the previous step "Setting up User Security"). Then, in the User Maintenance service of ASF, grant permission to BATCH for all functions.

Step 7: Customizing the Workplan

The Workplan is the set of predefined evaluations supplied with the ASF product. If you wish, you can modify or extend the Workplan according to your environment. Refer to the section Workplan: Predefined Evaluations and Reports in the *ASF User's Guide* for details of using the Workplan.

Step 8: Setting up Con-nect

If you are using the ASF feature to send the output of Critical Reports to CON-NECT cabinets, you must set up the correct CON-NECT environment:

■ You must define a Con-nect shared cabinet named "SYSASF" whose password is "SYSASF".

You must copy the following Con-nect API subprograms from SYSCNT2 to SYSASF:

■ Z-ADD11

■ Z-MAILA

■ Z-ERA11

Furthermore you must copy all Con-nect API subprograms which are called by the subprograms listed above. The names of these subprograms can be found in the Con-nect *Application Programming Interface* documentation.

If you are using Natural Security, you do not need to copy the Con-nect API subprograms. Instead you can define "SYSCNT2" in the steplibs of the library maintenance of "SYSASF".

3 Upgrading an ASF Installation

This section describes how to upgrade an existing ASF installation.

Information concerning a first-time installation of ASF is contained in the section **ASF Installation**.

If you are using Software AG's System Maintenance Aid (SMA) for the upgrading process, set the ASF-FIRST-INSTALL parameter to N. Then the jobs required are generated automatically. For information about using SMA, refer to the *System Maintenance Aid* documentation.

This chapter covers the following topics:

Step 1: Customize Natural and ADARUN Parameters

The Natural and ADARUN parameters must be set as described in the section ASF Installation, steps **1** and **2**.

Step 2: Load Programs and Messages

(Job I061, Step 4100)

Use the INPL Utility to load the ASF programs and messages into the Natural system file. Follow the same procedure as described in **Step 4** in the section ASF Installation.

Important Note for Users of the ASF User Exits

The user exit source programs are no longer delivered on a special library. They are delivered on SYSASF. The delivered sources are named XXXUEX*, the delivered cataloged members are named ASFUEX*.

The user exits ASFUEXIT and ASFUEX01 have been changed to reflect the new layout of the ASF Data view ASF-STAMM. If you have modified any of these two user exits, you must copy the definitions of the ASF Main Data Area ASF-STAMM from the corresponding XXXUEX* member into your ASFUEX* member. In ASFUEX01 you must additionally replace the ASF-STAMM-N view. Then re-catalog your user exit program.

Step 3: Customize Adabas Field Definitions

(Job I051, Step 4100)

This step must be performed when upgrading from ASF 7.1 to ASF 8.1 or when it is mentioned in the ASF Release Notes.

Add new fields and modify field definitions of the ASF Data file with the Adabas ADADBS utility. You can use the delivered sample JCL to perform this task.

Step 4: Delete Old Help Texts

(Job I200, Step 4120)

Start ASF and specify the command "DELETE HELP" in the ASF Direct Command Line to delete the old help texts. You must confirm the deletion of the help texts by typing "Y" in a pop–up window.

Step 5: Load the New Help Texts

(Job I200, Step 4122)

Load the following file with the UPDATE function of the Adabas load utility ADALOD:

■ ASFvrs.HELP (ASF-PROFILES Help Texts)

🔴 **Caution:** *Do not load ASFvrs.SYS1 or ASFvrs.SYS2, otherwise you will destroy your existing ASF profiles and data.*

4   Installation Verification

This section provides a procedure to verify the successful installation of the ASF.

The main ASF functions which must be tested are described in the following list:

- Start the ASF Menu Program
- Create a Store Profile
- Modify an Evaluation Profile
- Run a General Evaluation
- Produce an Evaluation report on a printer
- Download an Evaluation report

≫ **To test these functions, perform the following steps:**

1 Start the ASF Menu Program.

2 Perform the direct command "VERSION" and verify the ASF version and the ASF Data and Profile settings. Return to the Main Menu.

3 Select the function "Store-profile administration", then select "Add a Store Profile", and define a Store Profile. Return to the Main Menu.

4 Select the function "Store Nucleus Records", then select "Store Data Now", specifying the Store Type "Ad Hoc" (AH). This collects one set of data. If not all records have been stored, check with PF9 what the reason for the failure was. Return to the Main Menu.

5 Select the function "Evaluation Profile Administration", then select "Modify an evaluation profile". Specify the example profile SAG-ALL-3.

6 Add new fields by pressing PF5. Mark group 13 "Tech. ASF fields" and add the fields "STORE TYPE", "RECORD TYPE", and "STORE USER". Confirm your selection with PF6 and return to the "Profile element : Accumulation" screen.

7   Edit the database list. If you have performed an upgrade installation, delete all DB-ID entries. For a new installation, the database list should already be empty. Note that the list is generated dynamically if no DB-ID is specified. Save your modifications and return to the Main Menu.

8   Select "General Evaluation", specifying Evaluation Profile=SAG-ALL-3, Points of Time = today from 00:00 till 23:59, Store Profile as in 3, Store Type = AH, with output to the screen. Verify that the data is correct. Return to the "General evaluation" screen.

9   Perform the same function, with output to the printer. Check that the printout is correct.

10   Perform the same function, with output to the PC. Specify a "C" (download CSV format) in the PC-File field. Specify ".csv" as file extension. Open the CSV with Excel and check that the values are correct.

5 ASF Corrections

This section provides information about ASF corrections.

ASF corrections are named "ASF*vrsnn*" where

```
v is the ASF version,
r the ASF release,
s the ASF SM level, and
nn the correction number.
```

In the Natural SYSUPD utility, the member describing the ASF correction is also named "ASF*vrsnn*".

In the Software AG support system, ASF corrections have the correction Id "ASF*vrs*I0*nn*". They are delivered as Natural INPL files. The member name is "ASF*vrs*.IS*nn*".

ASF corrections are always cumulative. This means that any correction contains all previous corrections of the same SM level. If you apply a correction with a number smaller than the last applied correction, you can run into unpredictable problems. In this case you should apply the highest correction again.

With the ASF direct command "VERSION" the last applied correction name is displayed. If you start the Natural SYSPROD utility and look into the extended product information for ASF, the "Update Level" contains the last applied correction number.

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