

Installing Adabas Transaction Manager for z/VSE

- The Installation Tape
 - Installation Checklist
 - Installation Procedure
-

The Installation Tape

Review the *Report of Tape Creation* that accompanies the release package before restoring the release data to disk.

The installation tape contains the following datasets in the sequence indicated in the report:

Dataset	Contents
ATM vrs .LIBR	Executable modules and sample jobs
ATM vrs .SYS5	ADALOD input for the ATM PRR file
ATM vrs .SYS6	ADALOD input for the ATM STJ file
ATM vrs .SYS7	ADALOD input for the user proxy log (UPL) file
ATM vrs .SYS8	ADALOD input for the ET data file
ATM vrs .INPL	Online Services application
ATM vrs .ERRN	Online Services messages

where vrs is the version, revision, and system maintenance level of the product. Use the comments in the jobs when modifying them to conform to site requirements.

Installation Checklist

The steps needed for a successful installation are as follows:

Step	Description	Job Name
	Before proceeding with the installation, ensure that all necessary preparation has been completed as described in section Before You Install.	
1	Restore the libraries from the installation tape.	
2	Create the transaction manager's database.	ATMI030
3	Load the transaction manager files to the ATM transaction manager's database.	ATM1050
4	INPL the Online Services application SYSATM.	ATM1061
5	Define the default client runtime controls for use by the transaction manager client proxy.	
6	Prepare the ATM transaction manager job.	ATMI200
7	Enable databases for two-phase commit.	
8	Prepare the Adabas System Coordinator daemons to support ATM.	
9	Make Adabas Transaction Manager components available as required.	
10	Define Adabas Transaction Manager to MSHP CORRECT facility.	

Installation Procedure

Following is the general Adabas Transaction Manager installation procedure. The actual installation depends on your particular requirements and the specific contents of the release package provided by Software AG for your site. Information in the release package is intended for your system. If that information differs from the information in this section, use the release package information or contact Software AG technical support for assistance.

Step 1: Restore Libraries from the Installation Tape

 to restore libraries from the installation tape:

- Use LIBR to unload the library:

Variable	Is the...
<i>cuu</i>	tape unit number
<i>vrs</i>	version, revision, and system maintenance level
<i>ttttt</i>	volume serial number of the installation tape
<i>xx</i>	file spacing information; see the Report of Tape Creation

```

* $$ JOB JNM=LIBREST,CLASS=O,DISP=D
* $$ LST CLASS=A,DISP=H
// JOB LIBREST
// ASSGN SYS006,cuu,VOL=tttttt
// ASSGN SYS005,IGN
// MTC REW,SYS006
// MTC FSF,SYS006,xx
// EXEC LIBR
RESTORE S=SAGLIB.AVIVrs:SAGLIB.AVIVrs -
TAPE=SYS006 TL=tttttt LIST=Y
/*
// MTC REW,SYS006
/&
* $$ EOJ

```

Step 2: Create the Transaction Manager Database (Job ATMI030)

The transaction manager database holds recovery information and, depending on the setting of the TMETDATA parameter, ET data, but no other operational data. The remaining files are for occasional use for special purposes – to store diagnostic log information obtained by the transaction manager client proxy, and to hold details of transactions that were forcibly terminated. The size of this database depends mainly on the number of transactions that might be in progress at the same time, and the total amount of ET data, if any, that the ATM manager will need to store.

to create the database:

- Use sample job ATMI030, modified to meet your requirements, to establish the database.

Initially, define a database with the following component sizes:

```

DATA: 250 cylinders
ASSO: 50 cylinders
WORK: 50 cylinders
TEMP: 20 cylinders
SORT: 20 cylinders

```

Enough Data Storage space in the recovery file must be allocated to accommodate the maximum number of concurrently active transactions. The following can be used as a guide for calculating the required Data Storage space:

x times y is the required number of Data Storage blocks,

where x is the maximum number of concurrent transactions/branches at the local transaction manager, and y is the average number of compressed recovery records (PRRs) per Data Storage block. Assume that a compressed PRR requires about 2300 bytes if the transaction has 2000 bytes (compressed) of ET data, and 300 bytes if there is no ET data. It is recommended to allow a safety margin of about 50 percent extra space.

Standard block sizes are adequate for most sites. However, if transactions which perform changes to many databases are to be used, it may be necessary to increase the Data Storage block size to accommodate large recovery records.

No ET data will be stored in this database's checkpoint file. The following parameters should be adequate for the checkpoint file.

```
MAXISN=10,000
DSSIZE=100B
NISIZE=20B
UISIZE=8B
```

Use the normal reporting utilities to determine whether space shortages are likely to occur.

Step 3: Load the Transaction Manager Files into the Transaction Manager's Database (Job ATMI050)

The recovery record file, suspect transaction file, proxy log file and ET data file have numbers 5, 6, 7 and 8, respectively. These file numbers are fixed. Since no application files should be loaded into this database, there should be no conflict.

If ET data is to be stored in the transaction manager's database (TMETDATA=ATM), define file 8 with MAXISN large enough to allow an ISN for each ETID that will ever be used in this Adabas Transaction Manager's local system. A decompressed ET data record occupies about 2 kilobytes. If you choose to store ET data in target databases (TMETDATA=TARGETS), file 8 will not be used. For more information, see TMETDATA parameter.

▶ to load the transaction manager files into the transaction manager's database:

- Use job ATMI050 to define the recovery record, suspect transaction, proxy log and ET data files in the ATM transaction manager's database.

The suggested sizes are adequate for the purposes of testing. You can use the normal reporting utilities to check whether your system needs larger files.

Step 4: Install the Online Services Application SYSATM (Job ATMI061)

The Adabas Transaction Manager Online Services application is delivered on the installation tape as a NATUNLD dataset created under Natural. The application programs are stored in libraries SYSATM and SYSMT vrs where vrs is the version, revision, and system maintenance level of the product.

▶ to install the Online Services application SYSATM:

1. Use a Natural utility to install the Online Services application and ERRLODUS to install its messages.
2. If Natural Security is installed, define the libraries SYSATM and SYSMT vrs (where vrs is the version you are installing, for example 812) and protect as required. You may define MENU as the startup transaction for SYSATM. DO NOT define a startup transaction for SYSMT vrs .

Step 5: Define the Default Client Runtime Controls for the Transaction Manager Client Proxy

The default client runtime controls for the Transaction Manager client proxy must be defined. For further information, see Online Services, Client Runtime Controls. See also the section Adabas Transaction Manager Components.

▶ **to define the default client runtime controls for the transaction manager client proxy:**

1. Start a Natural session and log on to the newly installed SYSATM application. Invoke the Menu function. If you have not defined LFILE 152 for your Natural session, a message will prompt you to define it now. Select Systems Settings, then option LFILE 152 Maintenance. Enter the Database ID and file number of the system file that you created when you installed the Adabas System Coordinator. Enter values for the remaining input fields, and confirm your definition. Now return to the main menu and select the Client Runtime Controls option. For a detailed description of the following step, refer to Online Services, Client Runtime Controls
2. On the Client Runtime Controls screen, press PF10 to add a new default definition. Select an appropriate job type and press Enter. On the next screen, enter *DEFAULT as the job name, and press PF5. Now you can specify the default ATM runtime control settings for the selected job type. Make sure that you set Adabas Transaction Manager to ON. Set the SVC number that will be used by the Adabas Transaction Manager that you are installing. You must also set the name of the Adabas System Coordinator group in which your client jobs and TP systems will execute. The provided default values for the remaining controls should be satisfactory for the purpose of completing and verifying the installation. You can review and change them as required once you have completed and verified the installation.

Step 6: Prepare the ATM Transaction Manager Job

Because the ATM transaction manager executes as a special kind of Adabas nucleus, its JCL is similar to that of a normal Adabas nucleus.

▶ **to prepare the ATM transaction manager job:**

1. Make any necessary site-specific changes to ATMI200 so that it can be used as a procedure for a started task.
2. Ensure that any ADALNK module that can be loaded by the ATM job does not have the Adabas System Coordinator stub linked into it.
3. Specify ADARUN DTP=TM.
4. Specify ADARUN TMLOG=NEVER for the purpose of verifying the installation. Once the verification process has been completed, reconsider this parameter setting.
5. Specify ADARUN NONDES=YES. This is the default setting.

Set other ADARUN parameters as you would for a normal database. For initial testing, the default limits and pool and buffer sizes should be sufficient.

See the section Parameters for a description of the ADARUN parameters that affect Adabas Transaction Manager operation.

Note:

An Adabas Transaction Manager job must be run in each operating system image that will participate in distributed transaction processing (DTP). If more than one Adabas SVC is used in the same system image, an Adabas Transaction Manager must be run under each Adabas SVC that will participate in DTP.

Step 7: Enable Databases for Two-Phase Commit Processing

to enable databases for two-phase commit processing

1. Ensure that the parameter

```
ADARUN DTP=RM
```

is set in every database that participates in global transactions coordinated by Adabas Transaction Manager.

2. Add the ATM load library to the LIBDEF SEARCH chain.
3. Ensure that the JCL contains a specification for DDWORKR4, and that it identifies a suitable WORK dataset.
4. Ensure that the WORK 4 dataset is allocated and formatted.

The WORK 4 dataset should be allocated and formatted in the same way as the main WORK dataset. In the case of a Cluster Services or Parallel Services database, the WORK 4 dataset is shared by all members of the cluster.

Important Note:

For details about the WORK4 dataset, including information about sizing, please refer to the Adabas documentation, under *Defining an Adabas Database*, which is part of *Database Maintenance Tasks* in the section *DBA Tasks*.

Step 8: Prepare the Adabas System Coordinator Daemons

The ATM load library should be made available to all SYSCO daemons which will run under the same Adabas SVC as an ATM transaction manager.

Note:

An application job or TP system that requires ATM services must execute alongside an ATM transaction manager and a SYSCO daemon, executing in the same system and under the same Adabas SVC or ID table.

The SYSCO daemons must be started with the parameter setting `PRODUCT=ATM`.

Step 9: Make Adabas Transaction Manager Components Available

The ATM load library should be made available:

- in the LIBDEF SEARCH chain of batch jobs and JCL procedures for IMS TM systems that will be used by users or applications that require Adabas Transaction Manager services;
- in either the DFHRPL or the LIBDEF SEARCH chain of CICS systems that will be used by clients or applications that require Adabas Transaction Manager services. Software AG recommends that you use DFHRPL. If you are not using the autoinstall feature, see member DFHDUP in the JOBS library for samples of the required CICS program definitions. Please also see the *Adabas System Coordinator* documentation for details of that component's CICS requirements.

- in the COMPLIB of the JCL procedures for Complete systems that will be used by users or applications that require Adabas Transaction Manager services.

Ensure that the Adabas System Coordinator stub has been linked into the Adabas link modules that will be executed in each of the above environments.

The ATM load library and the Adabas System Coordinator library should be made available:

- in the LIBDEF SEARCH chain of Adabas Transaction Managers;
- in the LIBDEF SEARCH chain of multiuser database nucleus jobs that will run with DTP=RM.

Note:

As in previous releases, there is a requirement to use an unmodified ADALNK in certain areas. With Version 8.1 this restriction has been reduced to unmodified ADALNK being needed only when running standalone Adabas utility jobs.

Step 10: Define Adabas Transaction Manager to MSHP CORRECT Facility

Corrections for Adabas Transaction Manager will be distributed as zaps that are to be applied using the MSHP CORRECT facility. Before applying corrections you must define Adabas Transaction Manager to MSHP with the MSHP ARCHIVE command (see the following sample job):

```
// JOB ARCHIVE
// OPTION LOG
// EXEC MSHP
ARCHIVE ATMvrs
COMPRISES 9001-ATM-00
RESOLVES 'SOFTWARE AG - ADABAS TRANSACTION MANAGER Vv.r'
ARCHIVE 9001-ATM-00-vrs
RESIDENCE PRODUCT=ATMvrs -
PRODUCTION=saglib.ATMvrs -
GENERATION=saglib.ATMvrs
/*
/ &
```