ち software ^AG

Adabas for Linux, UNIX and Windows

Adabas Version 7.0 Release Notes

Version 7.0

October 2022

ADABAS & NATURAL

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1   Adabas Version 7.0 Release Notes

This document gives an overview of the features of Adabas Version 7.0 that have been introduced or modified since the previous release (Version 6.7.1). It also describes how to convert to and from previous database versions; e.g. Versions 6.3, 6.4, 6.5, 6.6, 6.7 and 6.7.1.

The document contains the following sections:

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2 About this Documentation

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
`Monospace font`	Identifies service names and locations in the format `folder.subfolder.service`, APIs, Java classes, methods, properties.
Italic	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
`Monospace font`	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
|	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the | symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Online Information and Support

Product Documentation

You can find the product documentation on our documentation website at **https://documentation.softwareag.com**.

In addition, you can also access the cloud product documentation via **https://www.software-ag.cloud**. Navigate to the desired product and then, depending on your solution, go to "Developer Center", "User Center" or "Documentation".

Product Training

You can find helpful product training material on our Learning Portal at **https://knowledge.softwareag.com**.

Tech Community

You can collaborate with Software AG experts on our Tech Community website at **https://tech-community.softwareag.com**. From here you can, for example:

- Browse through our vast knowledge base.

- Ask questions and find answers in our discussion forums.

- Get the latest Software AG news and announcements.

- Explore our communities.

- Go to our public GitHub and Docker repositories at **https://github.com/softwareag** and **https://hub.docker.com/publishers/softwareag** and discover additional Software AG resources.

Product Support

Support for Software AG products is provided to licensed customers via our Empower Portal at **https://empower.softwareag.com**. Many services on this portal require that you have an account. If you do not yet have one, you can request it at **https://empower.softwareag.com/register**. Once you have an account, you can, for example:

- Download products, updates and fixes.

- Search the Knowledge Center for technical information and tips.

- Subscribe to early warnings and critical alerts.

- Open and update support incidents.

- Add product feature requests.

Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

3 General Information

This chapter provides information which you should be aware of before you install and use Adabas Version 7.0.

Supported Operating Systems

Software AG generally provides support for the operating system platform versions supported by their respective manufacturers; when an operating system platform provider stops supporting a version of an operating system, Software AG will stop supporting that version.

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.

Before attempting to install this product, ensure that your host operating system is at the minimum required level. For information on the operating system platform versions supported by Software AG products, complete the following steps.

1. Access Software AG's Empower web site at *https://empower.softwareag.com*.

2. Log into Empower. Once you have logged in, you can expand **Products & Documentation** in the left menu of the web page and select **Product Version Availability** to access the Product Version Availability screen.

3. Use the fields on the top of this screen to filter its results for your Software AG product. When you click the **Search** button, the supported Software AG products that meet the filter criteria are listed in the table below the filter criteria.

   This list provides, by supported operating system platform:

   ▪ the Software AG general availability (GA) date of the Software AG product;

   ▪ the date the operating system platform is scheduled for retirement (OS Retirement);

   ▪ the Software AG end-of-maintenance (EOM) date for the product; and

   ▪ the Software AG end-of-sustained-support (EOSS) date for the product.

> **Note:** Although it may be technically possible to run a new version of your Software AG product on an older operating system, Software AG cannot continue to support operating system versions that are no longer supported by the system's provider. If you have questions about support, or if you plan to install this product on a release, version, or type of operating system other than one listed on the Product Version Availability screen described above, consult Software AG technical support to determine whether support is possible, and under what circumstances.

Installation

System Requirements

The system requirements for the current version of Adabas are contained in the installation documentation *System Requirements* (for UNIX platforms) and *System Requirements* (for Windows platforms).

Compatibility with Previous Versions

If you are upgrading from an earlier version of Adabas to Version 7.0, you should first read the release notes of any intermediate or skipped versions in order to find out about any compatibility issues that might exist.

Support for Adabas Version 6.7

Adabas Version 7.0 is the official replacement for Adabas Version 6.7. Details of when support for earlier versions will cease can be found in Empower.

4   New, Modified and Dropped Features

This chapter describes the new and modified features in Adabas Version 7.0.

New Features

Adabas Security

In previous versions, new features to protect data from illegal access (the protection of data-in-use and data-in-motion) were introduced.

Adabas Role-Based Security implements Role-Based Access Control (RBAC) and provides a means to restrict access to data. The communication between the Adabas nucleus and the Adabas clients, the data-in-motion, is protected by the TCP/IP TLS/SLL protocol; its use by Adabas can be enabled with an appropriate license key.

With version 7.0, encryption of data-at-rest, namely data held in the containers ASSO and DATA, is provided. Data is decrypted on access. This means its use is transparent to utilities and application programs.

The key to encrypt and decrypt the data, the data encryption key, is stored in encrypted form in the ASSO; the key encryption key is held in an external key management system. With this release, a local file-based key store is used. On Amazon's AWS, the built-in key management system is supported.

An encrypted database is created with ADAFRM or ADABCK. Utilities such as ADABCK, ADA-MUP and ADAORD encrypt non-encrypted data during import processing.

A detailed description of the use of this new feature is given in the *Adabas Security* documentation.

systemd Support

This version provides a script which allows you start or stop a database, and to inquire about its status using the Linux system and service manager system. If you plan to make use of systemd, please be aware that conflicts might arise using ADABAS Manager, or starting and stopping databases via operator commands such as ADAOPR.

Modified Features

Changes in the Setup of the Environmental Variable $PATH

One of the tasks of Software AG's Installer is to add scripts which set up an appropriate execution environment. In the case of Adabas, the script modifies, amongst other things, the environmental variable *$PATH*. Up to version 6.7.1, the dot (.) was included in the list of libraries held in $PATH. This is no longer the case. Please be aware that this might have implications in your execution environment.

Business Data Extension for Adabas Analytics

Adabas Analytics now supports conditions in the event type definitions. These conditions can be file-based and/or field-based. Access to a file or field which meets the condition will trigger an event. In case of an UPDATE event, the before and after values will be displayed.

The definition of the user-defined event types is changed to JSON format.

Dropped Features

Security Configuration Files

The following security configuration files have been deprecated and will be removed in a future release:

- *adaauth.ini*
- *adaaudit.ini*
- *adarbac.ini*

Authorization for Adabas Utilities (MODE INI)

The functionality provided with MODE INI has been deprecated. The security definitions are now located in the RBAC system file.

You should replace the MODE INI setting with MODE ADABAS in the configuration file *adaauth.ini*. Use the ADARBA utility to define your site-specific security definitions, which you entered in *adarbac.ini* configuration file.

Nucleus Parameter READ_PARALLEL_LIMITS

The nucleus parameter READ_PARALLEL_LIMITS has been disabled. Specifying this parameter will have no adverse effect on your environment - it will be disregarded by the command interpreter.

5   Limitations and Restrictions

The following limitations and restrictions exist in Adabas Version 7.0. Enhancements to resolve these limitations will be considered in a future update package.

■ Currently, only the printout of the old CLOG layout (CLOGLAYOUT=5) is supported. All commands are logged, but the information on commands using the new ACBX interface is incomplete.

6 Converting a Database from a previous Version to Version 7.0 and vice versa

This section describes how to convert an existing database from one version to another.

When the Adabas Role-Based Security feature is enabled, proceed with the steps described in the section *Converting Databases with Adabas Role-Based Security*.

The sections below describe a conversion of databases without the security feature:

Procedural Steps

Software AG strongly recommends the following steps when converting a database:

1. Create a backup of your existing database. Use the old version of *ADABCK* to backup the whole database.

2. Modify the security configuration files.

3. Convert the version of the database by performing the steps described below.

4. Validate the consistency of the database. Use the *FIELD* and *INDEX* functions of the *ADAVFY* utility to validate the consistency of the database.

Converting Databases from Versions 6.1 Through Version 6.7.1 to Version 7.0

Modify the Security Configuration Files (Version 6.6 and above)

The following settings in the security configuration file *adaauth.ini* are mandatory:

```
ACTION= YES
MODE=ADABAS
```

Please refer to the section *Configuration of Adabas Role-Based Security* for further information on the file location and content.

Convert the Database Version

If you want to upgrade a database from Version 6.1 through Version 6.7.1 to Version 7.0, there are two options available to you:

1. Convert the data using either the utility *ADABCK* or *ADAORD*. This option requires that you

   a. Create a new Version 7.0 database;

   b. Unload the old database using *ADABCK DUMP* or *ADAORD EXPORT* with the utilities supplied for the old database version;

   c. Load the new database using *ADABCK RESTORE* or *ADAORD IMPORT* with version 7.0 utilities.

2. Convert the data using the utility *ADACVT* of version 7.0. This utility converts an existing database in place.

The utilities *ADACVT*, *ADABCK* and *ADAORD* make the following modifications:

- The structure level in the General Control Block (GCB) is increased;

- The structure of the FDT is changed when a Version 6.1 database is converted;

- Databases are included in the *ADABAS.INI* file when a *DBxxx.INI* file exists;

- The AUTOSTART options in ADABAS.INI file are adapted.

Converting Databases with a Version Prior to Version 6.1

If you want to convert a database from Version 3 or Version 5, you must first upgrade the database to any of the versions Version 6.1 through 6.7.1, as described in the Release Notes of the version-specific documentation, and then proceed as described above.

Converting Databases with Version 7.0 to a Previous Version

Two options are available to go back to a previous version. You can either convert a database in place to a previous version, or you can take a backup of the database and restore it to a different place. If the database was encrypted, you can only use the second method.

Converting a Database in Place

You can use the utility *ADACVT* to convert a database to a previous version. ADACVT converts the database in place to the selected target version (Version 6.3 through Version 6.7.1). A downgrade is not possible if features introduced with Version 7.0 were used. Moreover, a downgrade will be rejected if features introduced with Version 7.0 and the target version had been used.

Please bear in mind that ADATCP is available since Version 6.7.1. Going back to an older version might imply changes in your infrastructure if ADATCP is in use.

Alternative Method to convert from Version 7.0 to Version 6.7.1, 6.7, 6.6, 6.5, 6.4 or 6.3

It is also possible to convert a Version 7.0 database back to Version 6.3 through 6.7.1 using the utility *ADABCK*. This is done by restoring a backup made with ADABCK Version 7.0 with the utility ADABCK of the respective target version. Unless the database is restored from scratch, ADABCK's version and the version of target database must coincide. However, this method is not applicable if features introduced with Version 7.0 and the target version (Version 6.7.1 or below) were used. A backup of an encrypted Version 7.0 database is restored in an older version without encryption.

Please bear in mind that ADATCP is available since Version 6.7.1. Going back to an older version might imply changes in your infrastructure if ADATCP is in use.

Collation Descriptors Created with ICU Version 5.4

Collation descriptors created with ICU Version 5.4 are not processed correctly with Adabas Versions 6.3 to 6.4. Therefore, after the conversion to the target version with ADACVT/ADABCK, it is necessary to perform an *ADAINV REINVERT* of the collation descriptors with the ADAINV of the target version.

Without the REINVERT, you may get unexpected errors or incorrect results when you try to access the collation descriptors.

Modify the Security Configuration Files

The following settings in the security configuration file *adaauth.ini* are mandatory:

```
ACTION= YES
MODE=ADABAS
```

Please refer to the section *Configuration of Adabas Role-Based Security* for further information on the file location and content.

Converting Databases with Adabas Role-based Security

This section describes how to convert a database when the Adabas role-based security feature is enabled:

- Authentication for Adabas
- Authorization for Adabas

Procedural Steps

The procedure to convert a database with Adabas role-based security is:

1. Create a backup of your existing database, as described above;

2. If the database had been encrypted, delete it and restore it from the backup taken in step 1 with the option ENCRYPTION=NO;

3. Modify the security configuration files;

4. Create a backup of your existing security definitions;

5. Convert the database using ADACVT;

6. Load your security definitions;

7. Validate the consistency of the database, as described above.

Modify the Security Configuration Files

The following settings in the security configuration file *adaauth.ini* are mandatory:

```
ACTION= YES
MODE=ADABAS
```

Please refer to the section *Configuration of Adabas Role-Based Security* for further information on the file location and content.

Authentication

When the Authentication feature is enabled for your database, please contact your nearest Adabas support center for a detailed description on how to proceed.

Authorization

Perform the following steps, when the Authorization for Adabas Utilities feature is enabled for your database:

MODE INI

- Save the security definitions that are stored in the security configuration file *adarbac.ini*;
- Use ADADBM RBAC_FILE to load the RBAC system file;
- Use ADACVT to convert the database;
- Use ADARBA to define your site-specific security definitions that are defined in the file *adarbac.ini.*

MODE ADABAS

- Save the security definitions that are stored in the RBAC system file;

- Use ADACVT to convert the database;

- Use ADARBA to define your site-specific security definitions.

Audit Trail

The location and layout of the audit trail log file created by Authentication has been modified, please refer to the section Audit of the document *Adabas Role-Based Security*.

7 Legacy-Unix Platforms

Software AG has decided to adjust its strategy regarding the Legacy-Unix platforms HP-UX®, AIX® and Solaris®. Due to cost and technical reasons, many of our customers have already departed from their legacy Unix platforms, or are planning to do so in the near future. For this reason, Software AG has decided that Linux x86 will be its strategic open systems platform going forward with Adabas & Natural 2050+. This will allow Software AG to focus more resources on this platform and maximize the overall value to our customer base.

The end-of-maintenance date (EOM) for Software AG support of the Legacy-Unix platforms is December 31, 2024. For the period from December 31, 2024 to December 31, 2025 Software AG will offer options for non-standard sustained support on the Legacy-Unix platforms for customers who are unable to rehost by the regular EOM date. Both dates apply to all Software AG A&N products (excluding CONNX, which will still be available on Legacy-Unix).

This will provide you with more than five (5) years to rehost your Software AG applications from the legacy-Unix platform to your preferred Linux x86 platform(s). Software AG recommends one of the following rehosting options:

- RedHat Enterprise Linux®
- SUSE Linux Enterprise
- CentOS

Please be assured that Software AG is prepared to offer assistance in planning and executing your rehosting from the Legacy-Unix platform to an alternative platform.

Following the principles of our "A&N 2050+ Initiative", your rehosting project will be a high priority to Software AG. Our local Software AG teams will be happy to discuss any rehosting topic with you.

If you have any questions regarding the Adabas & Natural platform roadmap, please do not hesitate to contact Adabas & Natural Product Management (e-mail: *AskANProdMgt@softwareag.com*).

For the Adabas & Natural products on the Legacy-Unix platforms HP-UX®, AIX® and Solaris® we currently plan the following final versions:

	Final Version (GA)	EOM	EOSS
Adabas HP-UX®	6.7.0 October 2018	31.12.2024	31.12.2025
Adabas AIX® and Solaris®	7.0 October 2020	31.12.2024	31.12.2025
Natural HP-UX®	9.1.1 October 2018	31.12.2024	31.12.2025
Natural AIX® and Solaris®	9.1.4 October 2021	31.12.2024	31.12.2025

For additional information on how long a product is supported by Software AG, access Software AG's Empower web site at **https://empower.softwareag.com**.

Log into Empower. Once you have logged in, you can expand Products in the left menu of the web page and select Product Version Availability to access the Product Version Availability application. This application allows you to review support information for specific products and releases.

8 **End of Maintenance**

For information on how long a product is supported by Software AG, access Software AG's Empower web site at *https://empower.softwareag.com*.

Log into Empower. Once you have logged in, you can expand **Products** in the left menu of the web page and select **Product Version Availability** to access the Product Version Availability application. This application allows you to review support information for specific products and releases.

9 Documentation and Other Online Information

The following online resources are available for you to obtain up-to-date information about your Software AG products:

Software AG Documentation Website

You can find documentation for all Software AG products on the Software AG Documentation website at *https://documentation.softwareag.com*. This site requires Empower credentials. If you do not have an Empower user ID and password yet, you will find instructions for registering on this site (free for customers with maintenance contracts) or you can also use the TECHcommunity website to access the latest documentation.

Software AG TECHcommunity

You can find documentation and other technical information on the Software AG TECHcommunity website at *http://techcommunity.softwareag.com*. You can:

- Access product documentation, if you have TECHcommunity credentials. If you do not, you will need to register and specify "Documentation" as an area of interest. If you already have TECHcommunity credentials, you can adjust your areas of interest on the TECHcommunity website by editing your TECHcommunity profile. To access documentation in the TECHcommunity once you are logged in, select **Documentation** from the **Communities** menu.

- Access articles, demos, and tutorials.

- Use the online discussion forums, moderated by Software AG professionals, to ask questions, discuss best practices, and learn how other customers are using Software AG technology.

- Link to external websites that discuss open standards and web technology.

Software AG Empower Product Support Website

You can find product information on the Software AG Empower Product Support website at *https://empower.softwareag.com*. This site requires Empower credentials. If you do not have an Empower user ID and password yet, you will find instructions for registering on this site (free for customers with maintenance contracts).

To submit feature/enhancement requests, get information about product availability, and download products and certified samples, select **Products & Documentation** from the menu once you are logged in.

To get information about fixes and to read early warnings, technical papers, and knowledge base articles, select **Knowledge Center** from the menu once you are logged in.