Adabas Caching Facility

Adabas Caching Facility Installation

Version 8.5.3

April 2020

ADABAS & NATURAL

This document applies to Adabas Caching Facility Version 8.5.3 and all subsequent releases.

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

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1 About this Documentation

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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

Software AG Documentation Website

You can find documentation on the Software AG Documentation website at **https://documentation.softwareag.com**.

Software AG Empower Product Support Website

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- Access articles, code samples, 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.

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.

2 Adabas Caching Facility Installation

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This document provides information for installing Adabas Caching Facility.

System Requirements

This section describes the system requirements of Adabas Caching Facility.

- Supported Operating System Platforms
- Supported Hardware
- Supported Cache Space Types
- Adabas Requirements
- IBM System Requirements for Large Page Support
- Adabas Online System (AOS) Requirements
- Natural Security Requirements
- Storage Requirements

Supported Operating System Platforms

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.

Supported Hardware

For general information regarding Software AG product compatibility with other platforms and their requirements for Software AG products, visit Software AG's *Hardware Supported* web page.

Supported Cache Space Types

Adabas Caching supports the following types of cache space.

Adabas Caching Version 8.5.1

Operating System	Cache Type: Extended Memory	Cache Type: Data Spaces	Cache Type: Hiperspace	Cache Type: 64-bit Virtual	Cache Type: 64-bit Virtual Backed by Large Pages
z/OS	Yes	Yes	Yes	Yes	Yes
VSE/ESA	Yes	Yes	No	No	No
BS2000	Yes	Yes	No	No	No

For information about setting up data spaces (or hiperspace if supported in your environment), refer to the documentation for the operating system. Specifically for 64-bit address space, refer to the IBM documentation *SA22-7614-00, MVS Programming: Extended Addressability Guide, second edition October 2001*, which applies to z/OS 1.2 and above.

Adabas Requirements

Adabas Caching Version 8.5 requires Adabas Version 8.5 or later.

IBM System Requirements for Large Page Support

The following requirements must be met to support 1M large pages and 2G large pages:

- Virtual 64-bit storage backed by 1M large pages can only be used on IBM z10 (or later) mainframes running z/OS Version 1.9 or later and for which IBM large page support has been enabled. .
- Virtual 64-bit storage backed by 2G large pages can only be used on IBM zEC12 (or later) mainframes running z/OS Version 2.1 or later. (IBM enhanced DAT architecture, which provides 2G large page support, has been enabled on zEC12 machines).

In both cases (1M and 2G large page installations), you must also allocate the size of the large page pool (use the LFAREA parameter in the IEASYS*xx* member of SYS1.PARMLIB). The LFAREA parameter allows you to specify the amount of real storage to be used for large pages; this parameter cannot be changed dynamically and, if it is not set, page frames will remain allocated at a size of 4K.

Adabas Online System (AOS) Requirements

Adabas Online System (AOS), either the demo version delivered with Adabas or the full version available as a selectable unit, is a prerequisite for using Adabas Caching Online Services (Natural application SYSACF). SYSACF is the online, menu-driven application used to monitor the Adabas Caching environment. It is included as part of Adabas Version 8.1 and above. Natural Version 3.1 or above is a prerequisite for Adabas Online System.

Note: Adabas Caching Facility Version 8.5 can only be used with Adabas Online System Version 8.5 SP1 or later. If you are currently using an earlier version of Adabas Caching Facility and want to use Adabas Online System 8.5 SP1 or later, you must first migrate to Adabas Caching Facility Version 8.5.

Natural Security Requirements

If Natural Security is installed, the SYSACF library needs to be defined to it.

Storage Requirements

Adabas Caching requires storage for the RABN indexes to be acquired above the 16M line (AMODE=31). When using Virtual 64 or Virtual 64 storage backed by large pages, the RABN indexes will be acquired in Virtual 64 storage. This may require an adjustment to the REGION size.

Determine the maximum available storage from your systems programming staff:

- for extended memory usage (BS2000 and all ESA environments)
- for data space (BS2000 - except RISC machines - and all ESA environments)
- for hiperspace (z/OS environments only)
- for virtual 64 storage (z/OS environments only)
- for virtual 64 storage backed by large pages enabled by IBM z/OS 1.9 Large Page Support (z/OS environments only). Refer to the Prerequisites section above regarding the use of the LFAREA parameter for setting the size of the Large Page pool.

Note: When using data space storage on BS2000 systems, allocation units are rounded to one-megabyte units. The Adabas Caching Facility may extend data space storage and deliver the message ADAN8M *ddddd area-type* (*stg-type*) size extended by *nnnnnn* bytes. However, if the megabyte limit is reached, it will deliver the message: ADAN8S *area-type* (*stg-type*) Allocate failed. Retcode=64. We recommend that you set the ADARUN

parameters CASSOMAXS and CDATAMAXS high enough (in the megabyte range) to prevent repeated expansion. It may be necessary to set the BS2000 user attribute ADDRESS-SPACE-LIMIT high enough to accommodate this.

The cache type and sizes specified for Adabas Caching may have an effect on overall computer performance.

Installation Data Sets (Files)

- z/OS

z/OS

The installation tape for Adabas Caching contains the following data set for z/OS:

Data Set	Description of Contents
ADA*vrs*.LOAD	Packaged in the Adabas load library containing the load modules ADACSH, ADACS1, ADACS6 and ADACSZ; are now executable with the distributed ACF license module.

Installation Steps

- Step 1: Load Adabas Caching Facility Objects into Natural System File
- Step 2: Assemble and Link the ADASCSH User Exit (optional)
- Step 3: Add the Adabas Caching Facility License as documented
- Step 4: Start Adabas Caching Online Services

Step 1: Load Adabas Caching Facility Objects into Natural System File

Use the INPL utility to load the objects required by Adabas Caching Facility into the Natural system file. The objects are in the data set (file) AOS*vrs*.INPL. 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.

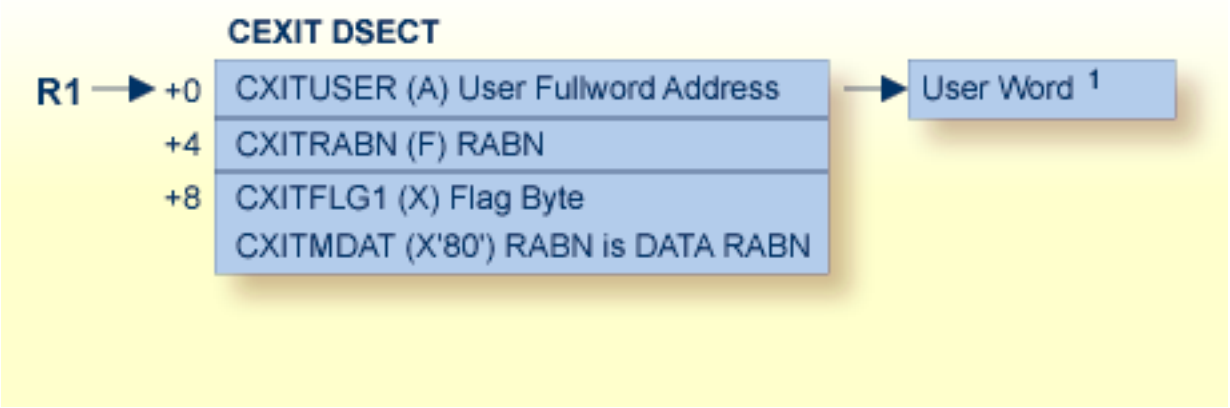
Step 2: Assemble and Link the ADASCSH User Exit (optional)

You can optionally provide a user exit to be invoked at nucleus initialization, termination or when ADACSH is called. The exit must be called ADACSHUX and be available in the nucleus library concatenation. There is no parameter to activate the exit. A sample ADACSHUX module is provided in the.ADA*vrs*.MVSSRCE.

On entry R0 contains a function code:

- 0 Initialization
- 4 Termination
- 8 Data block access

On entry R1 contains the address of a CXIT parameter list:



[1]*User Word*: Before calling user exit 11, the fullword reserved for the user is set to zero. It is not altered by Adabas between UEX11 invocations. It may be used for any purpose, typically to retain the address of storage acquired for the exit's workarea.

Caution: Sample user exits and programs are not supported under any maintenance contract agreement.

Step 3: Add the Adabas Caching Facility License as documented

Beginning with Version 8.5.1 the Adabas installation package includes a set of sub-products or add-ons. In order to be able to use the sub-products they must be licensed and the corresponding product license file must be provided with the nucleus or utility execution. The following table describes for a product the member name of the license load module created with LICUTIL and the DD/link name for the license file:

Product	Product Code	Load Module	DD/Link Name
Adabas	ADA	ADALIC	DDLIC
Adabas for ZIIP	AZPAD	AZPADLIC	DDLAZPAD
Adabas Caching Facility	ACF	ACFLIC	DDLACF
Adabas Delta Save	ADE	ADELIC	DDLADE
Adabas Cluster Services	ALS	ALSLIC	DDLALS
Adabas Parallel Services	ASM	ASMLIC	DDLASM
Adabas Online Services	AOS	AOSLIC	DDLAOS

- Verify you have prepared and installed the product license file, as described in the Adabas for Mainframes Version 8.5 installation.
- The ADARUN parameter `CACHE=YES` must be included in the Adabas nucleus start-up job to activate Adabas Caching. Other Adabas Caching parameter settings are described in the section Adabas Caching Parameters.

Step 4: Start Adabas Caching Online Services

To verify successful Adabas Caching Facility installation, start Adabas Caching Online Services as follows:

1 Verify that the latest Adabas Caching Facility maintenance has been applied for the current Adabas Caching Facility release. Likewise, verify that the latest Adabas Online System maintenance has been applied for your Adabas Online System installation.

2 Log on to the application SYSAOS (Adabas Online System).

3 Select **Caching Facility** from the main menu.

For more information about the online services provided for Adabas Caching Facility in Adabas Online System, see section *Adabas Caching Online Services*.

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