

# Adabas Caching Facility Installation

This document provides information for installing Adabas Caching Facility.

- Supported Environments
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## Supported Environments

Adabas Caching supports the following types of cache space.

### Adabas Caching Version 8.2

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.

## Prerequisites

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.

- Adabas Requirements
- IBM System Requirements for Large Page Support
- Adabas Online System (AOS) Requirements
- Natural Security Requirements
- Storage Requirements

## Adabas Requirements

Adabas Caching Version 8.3 requires Adabas Version 8.3 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 `IEASYSxx` 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 8.2 can only be used with Adabas Online System Version 8.2 SP2 or later. If you are currently using an earlier version of Adabas Caching Facility and want to use Adabas Online System 8.2 SP2 or later, you must first migrate to Adabas Caching Facility Version 8.2.

## 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 *dddd 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
- VSE/ESA
- BS2000

### z/OS

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

Data Set	Description of Contents
ACFvrs.LOAD	A load library containing the load modules ADACSH, ADACS1, ADACS6.

### VSE/ESA

The installation tape for Adabas Caching contains the following data set for VSE/ESA:

Data Set	Description of Contents
ACFvrs.LIBR	A load library that includes the phases ADACSH and ADACS1.

### BS2000

The installation tape for Adabas Caching contains the following file for BS2000:

File	Description of Contents
ACFvrs.MOD	A load library containing the modules ADACSH and ADACS1.

## Installation Steps

- Step 1: Load Adabas Caching Facility Objects into Natural System File
- Step 2: Add the Adabas Caching Facility Load Library to the STEPLIB
- Step 3: 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) AOSvrs.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: Add the Adabas Caching Facility Load Library to the STEPLIB

The ACFvrs.LOAD library must be added to the STEPLIB concatenation chain of the database startup JCL.

- The Adabas Caching load library must appear as the first STEPLIB DD statement if there are any concatenated load libraries.
- 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 3: 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*.