

Adabas for Linux and Cloud

Adabas in a Docker Environment

Version 7.3.0

February 2025

This document applies to Adabas for Linux and Cloud Version 7.3.0 and all subsequent releases.

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

Copyright © 1987-2025 Software GmbH, Darmstadt, Germany and/or its subsidiaries and/or its affiliates and/or their licensors.

The name Software AG and all Software GmbH product names are either trademarks or registered trademarks of Software GmbH and/or its subsidiaries and/or its affiliates and/or their licensors. Other company and product names mentioned herein may be trademarks of their respective owners.

Detailed information on trademarks and patents owned by Software GmbH and/or its subsidiaries is located at <https://softwareag.com/licenses>.

Use of this software is subject to adherence to Software GmbH's licensing conditions and terms. These terms are part of the product documentation, located at <https://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

This software may include portions of third-party products. For third-party copyright notices, license terms, additional rights or restrictions, please refer to "License Texts, Copyright Notices and Disclaimers of Third-Party Products". For certain specific third-party license restrictions, please refer to section E of the Legal Notices available under "License Terms and Conditions for Use of Software GmbH Products / Copyright and Trademark Notices of Software GmbH Products". These documents are part of the product documentation, located at <https://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

Use, reproduction, transfer, publication or disclosure is prohibited except as specifically provided for in your License Agreement with Software GmbH.

Document ID: ADAOS-DOCKER-730-20250228

Table of Contents

Preface	v
1 About this Documentation	1
Document Conventions	2
Online Information and Support	2
Data Protection	3
2 Using the Official Software AG Adabas Container Images	5
3 Creating Container Images	7
Adabas Docker Creation Scripts	8
Building a Docker Image	8
4 Starting the Docker Container	11

Preface

This document provides information about Adabas in a Docker environment. It is organized as follows:

<i>Using the Official Software AG Adabas Container Images</i>	Describes the location and basic usage of the prebuilt official Software AG Adabas Container Images.
<i>Creating Container Images</i>	Describes how to build a docker image.
<i>Starting the Docker Container</i>	Provides information on the steps and tasks that can be executed when the docker container starts up.

1

About this Documentation

■ Document Conventions	2
■ Online Information and Support	2
■ Data Protection	3

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Monospace font	Identifies service names and locations in the format <i>folder.subfolder.service</i> , APIs, Java classes, methods, properties.
<i>Italic</i>	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>.

Product Training

You can find helpful product training material on our Learning Portal at <https://learn.software-ag.com>.

Tech Community

You can collaborate with Software GmbH 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 GmbH news and announcements.
- Explore our communities.
- Go to our public GitHub and Docker repositories at <https://github.com/softwareag> and <https://containers.softwareag.com/products> and discover additional Software GmbH resources.

Product Support

Support for Software GmbH 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 GmbH 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 Using the Official Software AG Adabas Container Images

Prior to the release of Adabas 7.3, the only way to use Adabas in a container environment was to use scripts to build the container image by yourself. With the new Adabas release, Software AG now also provides prebuilt Adabas container images for easy and quick use. The following images are available:

Image name and version	Description
<code>softwareagcr.azurecr.io/adabas:version</code>	Container image of Adabas excluding trace binaries
<code>softwareagcr.azurecr.io/adabas:version-trace</code>	Container image of Adabas including trace binaries
<code>softwareagcr.azurecr.io/adabas-rest:version</code>	Container image containing Adabas and the RESTful Administration Service
<code>softwareagcr.azurecr.io/adabas-rest:version-trace</code>	Container image containing Adabas including trace binaries and the RESTful Administration Service

The images are updated with every Adabas update.

To access the images, you have to:

1. Visit the official Software AG Container Registry at <https://containers.softwareag.com/products>.
2. Authenticate yourself using your Empower credentials.
3. Visit your [profile](#) and generate the required Container Registry credentials to pull container images from the official Software AG Container Registry.
4. To use these credentials on your local machine, enter `docker login -u username -p token softwareagcr.azurecr.io`.
5. Go to the product page of the desired container image and get the `docker pull` command.
6. Use the `docker pull` command on your local machine to download the desired container image.

For more information on how to use the images, visit the [Adabas](#) or [Adabas with RESTful Administration Service](#) product page on the official [Software AG Container Registry](#).

3

Creating Container Images

■ Adabas Docker Creation Scripts	8
■ Building a Docker Image	8

This section describes how to create your own container images if you do not want to use the official pre-built container images.

Adabas Docker Creation Scripts

The *Software AG installation directory/Adabas/docker/Adabas* directory contains scripts to create Docker-compatible packages from the Adabas installation. A prerequisite to use the scripts is to use the Software AG Installer for the installation of Adabas.

Use the scripts to generate a package for:

- a single Adabas instance without add-ons.
- a single Adabas instance with Adabas RESTful Administration. The installation must contain the Adabas RESTful Administration component.

The Adabas RESTful Administration allows you to administer and monitor an Adabas Docker container through a REST server port instead of using the `docker attach` command. Software AG provides a batch tool to connect to the container through a REST server port. For more information about administering Adabas through REST, see *Adabas REST Administration*.

Building a Docker Image

To create a Docker image, you need temporary and prepared files from an Adabas installation for your local instance. These temporary files can be removed after the desired container images are created.

You can use the `createAdabasSAGtar.sh` script inside the corresponding product directory (Adabas or Adabas-RestAdministration) to perform this specific task. Run the script for your desired use case (Adabas or Adabas with RESTful administration service) to create the temporary files in the same directory.

For example, to create the necessary files for a single Adabas instance without add-ons:

1. In a terminal window, go to *Software AG installation directory/Adabas/docker/Adabas*.
2. Execute the following command:

```
./createAdabasSAGtar.sh Software AG installation directory
```

where *Software AG installation directory* is the directory containing your Adabas installation.

The files now created under *Software AG installation directory/Adabas/docker/Adabas/tmp* contain the configuration of the Adabas installation and any custom scripts required for your container environment. You must generate new temporary files every time a configuration change occurs.

Before you build the Docker image, you can specify the values for user ID and group ID in the Dockerfile for your desired *sag* user inside the container. Docker creates the *sag* user and group during the image creation. This user requires a unique user ID and a group ID to create files in the persistent volume, located at */data*.

To build the container image with the default user ID and group ID of 1724, enter:

```
docker build --tag name:tag .
```

If you want to change the default values, add the `--build-arg` parameter to your build command:

```
docker build --tag name:tag --build-arg sag_user_id=XXXX --build-arg group_id=XXXX .
```


4 Starting the Docker Container

When you run the Docker container, an entry point shell script executes the following tasks:

1. Checks if the EULA is accepted, `ACCEPT_EULA=Y`.
2. Prepares the environment for Adabas.
3. Prepares the environment for the Adabas RESTful Administration service if you have Adabas REST Administration included.
4. Initializes the mounted Adabas license files if they are available.
5. Creates a new Adabas database. This step is optional.

If you want to automatically generate a new Adabas database the first time you start the container, you need to set the following environment variables in your `docker run` command:

- a. Use the `ADABAS_DB_CREATION` environment variable to generate a database. Either use the `demodb` parameter to create the Adabas example database or define the `ADAFRM` Adabas parameters to create specific database container sizes.

```
ADABAS_DB_CREATION=name=ABC assosize=(100M,100M)
assoblock=(4k,16k) datasize=100M
datablock=16k worksize=200M
```

- b. Specify the database ID using the `ADABAS_DBID` environment variable.

```
ADABAS_DBID=177
```

If you do not specify `ADABAS_DBID`, the ID of your Adabas database is equal to the default value of 001.

- c. Specify the exposed access ports with the `docker run -p` parameter.
6. Restores the Adabas backup. This step is optional.

If you want to restore an Adabas backup, you must first edit the script. Use the `ADABAS_RESTORE_BCK` environment variable to restore files. For example:

```
ADABAS_RESTORE_BCK=/data/data.bck 4-10
```

7. Enables Adabas Analytics. This step is optional.

If you want to enable Adabas Analytics, you must first edit the script. Use the `ADABAS_ELA` environment variable to enable the Adabas Analytics server.

8. Checks if another instance on a remote host is already started.

The Adabas High Availability Tool *ADAHAM* allows you to have multiple Adabas database nuclei work on the same database container. In that case, the tool synchronizes all Adabas database nuclei, but only one is active at a time. If the active nucleus fails, the next nucleus becomes active.

The tool creates a new file called *ADAHAM*, with which it synchronizes the different Docker container instances.

9. Starts the Adabas nucleus.
10. Starts the Adabas RESTful Administration service if Adabas REST Administration is included.
11. Checks the health of the database periodically.