Adabas for Linux, UNIX and Windows

Adabas in a Docker Environment

Version 7.0

October 2022

ADABAS & NATURAL

This document applies to Adabas for Linux, UNIX and Windows Version 7.0 and all subsequent releases.

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

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Document ID: ADAOS-DOCKER-70-20220622

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Preface

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

Adabas Docker Creation Scripts	Describes the location and basic usage of the Adabas docker creation scripts.
How to Build a Docker Image	Describes how to build a docker image.
Start the Docker Container	Provides information on the steps and tasks that can be executed when the docker container starts up.
Concurrent Run Check	Provides information on the check and validation methods in a docker environment.

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 (...).

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- Get the latest Software AG news and announcements.
- Explore our communities.
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- 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.

2 Adabas Docker Creation Scripts

The directory <*Software AG product installation directory*>/Adabas/docker/ contains scripts to create Adabas Docker images. Different use cases are provided.

The following use cases are possible:

- Adabas single instance without any add-on or administration
- Adabas with Adabas RESTful administration for administration and monitoring

A corresponding Docker build directory is provided. A prerequisite to use the Docker scripts is to use the Software AG Installer for the installation of Adabas. The installation has to contain Adabas and, for the Adabas administration use case, the Adabas RESTful administration component.

You can create a docker package using the *createAdabasSAGtar.sh* script. For example, to create the Adabas single instance use case, enter the Adabas directory and type `sh createAdabasSAGtar.sh <Software AG product installation directory>`, where <*Software AG product installation directory*> is the directory containing your Adabas installation.

If the Software AG environment is defined, the script can be used without the Software AG product installation directory option.

The corresponding *.tar* file is created inside the Adabas directory. Within this directory the Docker specific files are stored. You may start the docker run call in there.

Hint

If you plan to add adaption to your local environment, the scripts should be copied to a private location. Software AG update manager might overwrite changes during the update process.

3 How to Build a Docker Image

Inside Docker image process, the user `sag` is created. This user requires a valid user ID and group ID. The default user ID is used to create files in the persistence volume located at */data*.

Adabas container and log files are used to be stored in the persistence volume. You have to specify the default user ID and password during image creation. It is possible to overwrite user IDs using the docker run `--user <user id>` option.

The Docker image can be built by entering:

```
docker build --build-arg sag_user_id=1234 --build-arg group_id=1234 --tag
adabas:6.7
```

4 Start the Docker Container

During Docker container startup, the following checks and tasks can be executed:

- Check that the EULA is accepted ACCEPT_EULA=Y
- Create a new Adabas database [optional]
- Restore Adabas backup [optional]
- Enable Adabas Analytics [optional]
- Check if another instance on a remote host is already started
- The Adabas nucleus is started
- In the use case with Adabas REST administration the web service is started
- Periodic check if the database health is valid

With the Docker environment variable `ADA_DB_CREATION` a database can be generated. Either use parameter `demodb` to create the Adabas example database or you may define the Adabas ADAFRM parameters to create specific database container sizes.

During start and Database creation, a specified Adabas Backup may be restored. The environment variable `ADA_RESTORE_BCK` should define the file and the files to be restored.

Example

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

With environment variable ADA_ELA the Adabas Analytics server is enabled.

The database ID is specified using the ADADBID environment variable.

5 Concurrent Run Check

Inside the Docker container an Adabas tool is checking, if a second instance is trying to access the Adabas container. A new file called "ADAHAM" is created to share information between different Docker container instances.

If an instance is already registered and uses the Adabas container, the second instance will wait for the release of the access. During the database creation process inside the container it might happen, that the process does not work correctly.

The Adabas use case and the Adabas administration use case work with the same concurrent check. But the Adabas administration of the second Docker container is not able to access the running Adabas information of the first Docker container.