

Adabas for Linux and Cloud

Adabas in a Docker Environment

Version 7.1.1

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This document applies to Adabas for Linux and Cloud Version 7.1.1 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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Preface

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

<i>Adabas Docker Creation Scripts</i>	Describes the location and basic usage of the Adabas docker creation scripts.
<i>How to Build a Docker Image</i>	Describes how to build a docker image.
<i>Start 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

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Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Monospace font	Identifies service names and locations in the format <code>folder.subfolder.service</code> , 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>.

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.

2 Adabas Docker Creation Scripts

The *Software AG product installation directory/Adabas/docker/* 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*.

3 How to Build a Docker Image

To create a Docker image, you need a *.tar* package from an Adabas installation. Run the script for your desired use case to create the package in the same directory.

For example, to create a package for a single Adabas instance without add-ons:

1. In a terminal window, go to *Software AG installation directory/Adabas/docker/Adabas*.
2. Type `sh createAdabasSAGtar.sh Software AG product installation directory`, where *Software AG product installation directory* is the directory containing your Adabas installation.

The created *.tar* package will have the configuration of the Adabas installation and any custom scripts. A new package must be created every time a configuration change occurs.

Before you build the Docker image, you must specify the values for user ID and group ID in the Dockerfile for each user, including the `sag` user. Docker creates the `sag` user during the image creation. This user requires a unique user ID and a group ID in order to create files in the persistent volume, located at */data*.

To build the Docker image, enter:

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


4 Start the Docker Container

When you run the Docker container, Docker executes the following checks and tasks:

1. Check if the EULA is accepted `ACCEPT_EULA=Y`.
2. Create a new Adabas database [optional].

Use the `ADA_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.

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

Specify the database ID with the `ADADBID` environment variable.

```
ADADBID=177
```

Specify the access ports with the `-p` option.

3. Restore Adabas backup [optional].

Use the `ADA_RESTORE_BCK` environment variable to restore files. For example:

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

4. Enable Adabas Analytics [optional].

Use the `ADA_ELA` environment variable to enable the Adabas Analytics server.

5. Check 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 will synchronize all the

Adabas database nuclei, but only one will be 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.

6. Start the Adabas nucleus.
7. Start the Adabas REST Administration web service if Adabas REST Administration is included.
8. Check the health of the database periodically.