᛭ software AG

Adabas Native SQL

Installation Manual for Linux

Version 2.4.1

October 2022

ADABAS & NATURAL

Table of Contents

Installation Manual for Linux

This document describes how to install and use Adabas Native SQL on Linux.

⚠️ **Important:** Before installing or upgrading, review the release notes, readmes, changes, system requirements, and installation or upgrade guide for the products you want to install. This documentation provides information you must know about the products before installing or upgrading, and also describes information you will need to provide during installation. Documentation is available on the Software AG **Empower** website.

This information is structured into the following sections:

Installation   This section describes how to perform the installation.

Using Adabas Native SQL This section describes how to use Adabas Native SQL.

1   About this Documentation

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

Product Documentation

You can find the product documentation on our documentation website at **https://documenta-tion.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.soft-wareag.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   **Installation**

This product is installed using the Software AG Installer, which can be downloaded from the Software AG Empower website.

When installing Adabas Native SQL, you can select a typical development installation. The installer automatically groups and selects the Software AG products and components that make up that installation.

This release of the product supports COBOL only. The generated COBOL files can be compiled by the GnuCOBOL compiler or the Raincode COBOL compiler.

This chapter covers the following topics:

System Requirements

A minimum of 10 MB disk space is required to install the software.

A minimum of 2 GB system memory is required to run the software.

This product supports Red Hat 8 and above and SUSE 12 and above.

License Key

This product requires a permanent license in order to run. Every time you launch the software, the system reads the license key file and checks its validity.

The license key file is provided as an XML document. This document can be viewed, using a browsing tool or text editor. During the installation, the Software AG Installer validates the license file and copies it `Software AG installation directory`/`common/conf`. Without a valid license, the installation fails and the Installer displays an error message.

> **Note:** Any modification of the license key file will invalidate the digital signature and the license key check will fail. If the check fails, you will not be able to install or run the product. In the event of a check failure, contact your Software AG Support representative.

Prerequisites

- Software AG Software
- Third-Party Software

Software AG Software

The following components must be installed and accessible in order to access Adabas data:

Adabas 7.0 SP1 or later
Natural 9.1 SP4 or later
Predict 8.5 SP1 or later

These products can be installed locally with Adabas Native SQL or remotely on a different machine or LUW platform.

The installation of Adabas Native SQL selects its direct dependencies for accessing local Adabas databases and Predict files.

If the Adabas target database or Predict file are located on a remote machine, Entire Net-Work Client is required to be installed locally in the same environment as Adabas Native SQL.

Third-Party Software

Compiling your COBOL scripts with Adabas Native SQL requires a third-party COBOL compiler installed on your system and accessible to the environment. The following COBOL compilers are supported:

GnuCOBOL 3.1.2 or later
Raincode COBOL Compiler 4.1.332 or later

Installation Steps

≫ **To install Adabas Native SQL, verify that a valid license key file is present in your environment and perform the following steps:**

1 In the Software AG Installer wizard, fill the required fields until you reach the **Products** panel.

2 From the product selection tree, select **Adabas Native SQL** and any other products from the **Adabas Family** you want to install.

3   In the **Consent** panel, read the license agreement and select **Agree** to agree to the terms of the license agreement.

4   In the **Install** panel, review the list of products and items you have selected for installation. If the list is not correct, click **Back** until you reach the product tree and correct your selections. If the list is correct, click **Next** to start the installation process.

Uninstallation Steps

To uninstall Adabas Native SQL, use the Software AG Installer. For detailed information, see *Software AG Installer > Uninstall*.

Configuration

After you install Adabas Native SQL, perform the following configurations:

- Load the Error Messages File into Adabas
- Edit the Global Configuration File

Load the Error Messages File into Adabas

The `Software AG installation directory`/`AdabasNativeSQL/errmsgfile` directory contains the files and script necessary to load the error message file for AdabasNativeSQL in an Adabas database. If errors occur when a program is being compiled, this file is accessed to display and log details of the error.

The Adabas database containing this file can be on the local system or on a remote Adabas instance. If loading this file from a remote database, transfer the contents of the `/errmsgfile` directory to the local machine where Adabas is installed. Using the script *importSqlErrMsg.sh* will invoke the necessary Adabas utilities to load the new file. The syntax of the command is:

```
importSqlErrMsg.sh -d DBID -f FNR
```

Check the contents of the *SQLERRMSG* file with the `adarep` command to make sure the file loaded into Adabas, e.g.:

```
adarep db=12 file=255
```

Edit the Global Configuration File

The *ADAGLOB.txt* file, located in the `/examples` directory, specifies the location of the Predict data dictionary file and the Adabas Native SQL error messages file.

Edit this file to provide the correct values for the location of the Predict data dictionary file (`FDIC`) and the Adabas Native SQL error messages file (`FNAT`).

The database containing these files can be local or remote. If remote, you must have Entire Net-Work Client installed to access the remote database.

3 Using Adabas Native SQL

Before you use Adabas Native SQL, verify that you have installed and configured the product correctly.

With Adabas Native SQL for Linux, you can convert your existing COBOL scripts previously used on the mainframe to create executable code to run under Linux operating systems. The name of the compiled executable and the Adabas Native SQL script differ depending on which third-party compiler you use on your Linux system.

The *sagenv.new* script, located in the `Software AG installation directory`/bin directory enables the environment necessary for Adabas Native SQL to run.

> **Note:** Transfer any mainframe scripts you want to the local machine in ASCII format and with *.cob* file extension.

This chapter covers the following topics:

Compiling with GnuCOBOL

≫ **To compile a program with GnuCOBOL:**

1   Create a directory to contain your COBOL code and place your COBOL scripts and programs in this directory.

2   Copy the *ADAGLOB.txt* file, which you modified during the installation steps, to this directory.

3   In the COBOL scripts directory you created, type `gsqlcomp.sh ./ScriptName`

    This script invokes the GnuCOBOL compiler and produces an executable program in the local directory with the same name as your COBOL script without an extension.

Compilation errors are either printed in the console or logged in the *ADAMES.txt* file, located in the current direcotry.

≫ **To execute the compiled program:**

1   Specify the Adabas database ID with the `SQL_DEFAULT_DBID` environment option.

2   Execute the program.

```
./program
```

Compiling with Raincode COBOL

≫ **To compile a program with Raincode COBOL:**

1   Create a directory to contain your COBOL code.

2   Copy the *ADAGLOB.txt* file, which you modified during the installation steps, to this directory.

3   Copy the `/Raincode` directory from the examples directory to this directory.

4   In the COBOL scripts directory you created, type `rsqlcomp.sh ./ScriptName`

    This script invokes the Raincode COBOL compiler and creates a new directory called `/Raincode_ScriptName`. The compiler produces an executable program in the new directory with the same name as your COBOL script with a *.dll* extension.

Compilation errors are either printed in the console or logged in the *ADAMES.txt* file, located in the current direcotry.

≫ **To execute the compiled program:**

1   Specify the Adabas database ID with the `SQL_DEFAULT_DBID` environment option.

2   Type to `rclrun ScriptName.dll` execute the program.

Working with the Example Files

The `/examples` directory contains three example programs, a sample global configuration file (*ADAGLOB.txt*), and the `/Raincode` directory that the Raincode compiler uses. You can use the example programs to verify the program and environment are correctly set up to use Adabas Native SQL for the installation.

Viewing these files in a text editor gives you an idea of what each does. Note that two of the example programs (*CEX2.cob* and *CEX3.cob*) actually modify the example data in Adabas.

- Load Adabas and Predict Example Data
- Compile the Program

- Execute the Program

Load Adabas and Predict Example Data

The example programs are designed to work with the *EMPLOYEES* and *VEHICLES* Adabas example files. These files must be loaded into your Adabas target database ID.

> **Note:** The *EMPLOYEES* file is delivered in the Adabas for Linux, UNIX and Windows installation examples under the name *EMPLOYEES-NAT*.

Your Predict data dictionary file (`FDIC`) must contain the example dictionary data for these files.

If the database containing these files is remote, you must have Entire Net-Work Client installed to access the remote database.

The example programs utilize the relation between identical fields in the two example files. In order to compile the example programs, you must create a soft-couple relation between the two files in Predict. To establish this file relation, use the Natural SYSDIC library and perform the following:

1. Type `M` after `Function for Maintenance`, type `RL` after `Object Type`, and press **Enter** to go to the next panel.

2. Type `A` after `Function` to add a file relation, type `EMPL` as the `File relation ID`, and press **Enter** to go to the next panel.

3. Type `S` for adding a soft-couple relation type, then enter *File 1, File ID* (e.g. `EMPLOYEES, PERSONNEL-ID`). Then, enter *File 2, File ID* (e.g `VEHICLES, PERSONNEL-ID`).

Compile the Program

If using the GnuCOBOL compiler, type the following to compile en example program:

```
gsqlcomp.sh ./program.cob
```

If using the Raincode COBOL compiler, type the following to compile en example program:

```
rsqlcomp.sh ./program.cob
```

Compilation errors are either printed in the console or logged in the *ADAMES.txt* file, located in the current direcotry.

Execute the Program

To execute the compiled program:

1. Specify the appropriate Adabas database ID with the `SQL_DEFAULT_DBID` environment option.

2. If using GnuCOBOL, execute the program.

```
./program
```

3. If using the Raincode COBOL compiler, navigate to the directory created during the compilation and locate the executale *.dll* file. Execute the program.

```
rclrun ./program.dll
```