



ARIS

SWITCH DATABASE SYSTEM

Version 10.0 - Service Release 4

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This document applies to ARIS Version 10.0 and to 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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1 Warning

When you switch to a different Database Management System (DBMS) all stored data in the DBMS is lost.

The following runnables are affected:

- adsadmin
- apg
- abs
- copernicus
- ecp
- octopus
- dashboarding

You are strongly recommend to back up all tenants before you switch the installation to a different DBMS.

2 Switching from standard installation (PostgreSQL) to Oracle/MSSQL

Create schemes on the Oracle/Microsoft SQL database management system using the related SQL scripts provided on the ARIS DVD. The following commands refer to ARIS Cloud Controller (ACC) (see ARIS Cloud Controller (ACC) Command-Line Tool.pdf (../../documents/3 Installation/31 Initial installation/312 Server/3121 Basic (Single node)/ARIS Cloud Controller (ACC) Command-Line Tool.pdf) document).

Prerequisites

Depending on the database management system to be used, you need:

- An operating Microsoft SQL Server database. If you have not yet installed the Microsoft SQL Server, please follow the instructions in the Microsoft installation program, as well as the documentation provided by the manufacturer. The external database management system is not included in this package. If you need help in setting up ARIS using your external database system, please contact Software AG (<https://empower.softwareag.com/>). Please note that this service is not subject to the standard Software AG software maintenance agreement and that these changes can only be performed if you requested and agreed on them.

You have downloaded the latest version of the Microsoft SQL Server JDBC driver, for example, **sqljdbc4-4.0.2206.100.jar** from the Microsoft Download Center to a directory of your choice.

SQL scripts and all additional files. All scripts and files are located on the installation medium (Add-ons\DatabaseScripts\ARIS Server\mssql) or they can be downloaded from the ARIS Download Center (aris.softwareag.com).

You need to know the port number, the database name of the new database instance and also the user name and the password of the application user.

If you are going to use Windows authentication (see: ARIS Server Installation - Windows), download the **sqljdbc_auth.dll** file (<https://www.microsoft.com>). Otherwise select the **SQL Server and Windows authentication mode** (mixed mode) option (Microsoft SQL Console > **Security** tab).

- An operating Oracle database management system. If you have not yet installed the Oracle database management system, please follow the instructions in the Oracle installation program, as well as the documentation provided by the manufacturer. The external database management system is not included in this package. If you need help in setting up ARIS using your external database system, please contact Software AG (<https://empower.softwareag.com/>). Please note that this service is not subject to the standard Software AG software maintenance agreement and that these changes can only be performed if you requested and agreed on them.

Ensure that **SQL*PLUS** is available. Therefore an ORACLE client or an ORACLE server must be installed on the machine where the scripts are run.

Use of the database character set **AL32UTF8** is mandatory.

You need to know the port number, the database/service name of the new database instance and also the credentials, for example, the user name and the password of the application user.

You have downloaded the latest version of the Oracle JDBC driver, for example, **ojdbc7-12.1.0.1.jar** from the Oracle Web Site to a directory of your choice.

SQL scripts and all additional files. All scripts and files are located on the installation medium (Add-ons\DatabaseScripts\ARIS Server\oracle) or they can be downloaded from the ARIS Download Center (aris.softwareag.com).

Procedure

1. Start the ACC.
2. Stop all runnables. Enter: **stopall**
3. Start the service registry. Enter, for example: **start zoo_m**
4. Deconfigure the modeling database. Enter, for example: **deconfigure postgres_m**
5. Enhance the following runnables with the Oracle/Microsoft SQL Server JDBC driver:
 - abs
 - apg
 - copernicus
 - ecp
 - simulation
 - octopus
 - adsadmin
 - dashboarding

Example (Oracle): **enhance abs_m with commonsClasspath local file "d:/ARIS10.0/server/ojdbc7-12.1.0.1.jar"**

Example (Microsoft SQL Server): **enhance abs_m with commonsClasspath local file "d:/ARIS10.0/server/sqljdbc4-4.0.2206.100.jar"**

6. Register external service:

If you use Oracle, enter:

```
register external service db url="
jdbc:oracle:thin:@<server>:<port>/<sid/service_name>"
driverClassName="oracle.jdbc.OracleDriver" username="<application user>"
password="<application user password>" maxIdle=15 maxActive=300
maxWait=10000 removeAbandoned=false removeAbandonedTimeout=600
logAbandoned=false initialSize=0 testOnBorrow=true validationQuery="select 1
from dual" defaultAutoCommit=false rollbackOnReturn=true host=<Oracle
server> jmxEnabled=true
jdbcInterceptors="com.sag.aris.cip.dbcp.CachedSchemaAssignmentJdbcInterceptor"
```

If you use Microsoft SQL Server, enter:

```
register external service db
url="jdbc:sqlserver://<server>:<port>;DatabaseName=<database>"
driverClassName="com.microsoft.sqlserver.jdbc.SQLServerDriver"
username="<application user>" password="<application user password>"
maxIdle=15 maxActive=300 maxWait=10000 removeAbandoned=false
removeAbandonedTimeout=600 logAbandoned=true initialSize=0
testOnBorrow=true validationQuery="select 1" defaultAutoCommit=false
rollbackOnReturn=true host=<Microsoft SQL Server> jmxEnabled=true
jdbcInterceptors="com.sag.aris.cip.dbcp.CachedSchemaAssignmentJdbcInterceptor"
```

If you are using Windows authentication, the **integratedSecurity=true** parameter must be added to the URL as well. Additionally, you must perform the following steps:

- a. Open the **ARIS Agent 10.0 Properties** dialog.
 - b. In the **Log on** tab and select **This account**.
 - c. Click **Browse** and specify the name of the domain account to be used.
 - d. Enter the password and click **OK**.
 - e. Restart the service.
 - f. Copy the downloaded **sqljdbc_auth.dll** file (<https://www.microsoft.com>) to <ARIS Server installation directory>\server\jre\bin.
7. Change tenant data for each existing tenants:
- master tenant
set tenant master data for service db com.aris.cip.db.schema=<master tenant schema name>
 - default tenant
set tenant default data for service db com.aris.cip.db.schema=<default tenant schema name> com.aris.ecp.db.schema=<default tenant schema name>
 - custom tenant(s)
set tenant custom data for service db com.aris.cip.db.schema=<custom tenant schema name> com.aris.ecp.db.schema=<custom tenant schema name>
8. Start all runnables. Enter: **startall**

3 Moving the database management system

If you run ARIS using an external database management system and the operational database server has moved you must update the settings, for example, the IP address and the server name. The following commands refer to ARIS Cloud Controller (ACC) (see ARIS Cloud Controller (ACC) Command-Line Tool.pdf (../documents/3 Installation/31 Initial installation/312 Server/3121 Basic (Single node)/ARIS Cloud Controller (ACC) Command-Line Tool.pdf document)).

Procedure

1. Start the ACC.
2. Stop all runnables, except the **zoo** runnable (service registry).
3. Determine the service ID of the external database service to be changed. Enter: **list external services**
4. Check the current settings of the external database settings. Enter: **show external service <service ID>**

Example: **show external service db0000000000**

Depending on the database system in use different settings are displayed.

Output example (Oracle):

Service db0000000000 (Type DB)

Parameters:

...

host sbrva100.com.ad.aaf

...

url jdbc:oracle:thin:@//sbrva100.com.ad.aaf:1521/aris

...

Output example (Microsoft SQL Server):

Service db0000000000 (Type DB)

Parameters:

...

host sbrva100.com.ad.aaf

...

url jdbc:sqlserver://sbrva100.com.ad.aaf;DatabaseName=aris10db;instanceName=aris

...

5. Change the required settings using the **update external service** command.

Example (Oracle):

```
update external service <service ID> url="jdbc:oracle:thin:@//<Oracle server>:<listener port>/<instance name>" host=<Oracle server>
```

Example (Microsoft SQL Server):

```
update external service <service ID> url="jdbc:sqlserver://<Microsoft SQL Server>:<listener port>;DatabaseName=<database name>;instanceName=<instance name>" host=<Microsoft SQL Server>
```

6. Check the applied database schema. Enter: **list tenant <name> data for service db**

Output example (default tenant):

```
Data of tenant default tenant for application db
Key Value
com.aris.cip.db.schema aris_default
com.aris.ecp.db.schema aris_default
name default
```

7. Change the schema settings for all tenants, if required. Enter:

```
set tenant <tenant name> data for service db com.aris.cip.db.schema=<new schema name>
```

Example (master tenant):

```
set tenant master data for service db com.aris.cip.db.schema=aris10_master
(com.aris.ecp.db.schema not needed)
```

Example (default tenant):

```
set tenant default data for service db com.aris.cip.db.schema=aris10_default
com.aris.ecp.db.schema=aris10_default
```

8. Check the new settings using the commands:

```
show external service <service ID>
```

```
list tenant <tenant name> data for service db
```

9. Start all runnables. Enter: **startall**

4 Switching from Oracle/MSSQL to standard installation (PostgreSQL)

The following commands refer to ARIS Cloud Controller (ACC) (see ARIS Cloud Controller (ACC) Command-Line Tool.pdf (../../documents/3 Installation/31 Initial installation/312 Server/3121 Basic (Single node)/ARIS Cloud Controller (ACC) Command-Line Tool.pdf) document).

Procedure

1. Start the ACC.

2. Stop all runnables. Enter: **stopall**

Start the service registry. Enter, for example: **start zoo_m**

1. Deregister external service:

a. Discover the database service ID <service ID>. Enter: **list external services**

b. Deregister the external service: **deregister external service <service ID>**.

2. Configure the **postgres** runnable. Enter, for example: **configure postgres_m postgres_m**.

3. Change tenant data for each tenant:

master tenant:

set tenant master data for service db com.aris.cip.db.schema=aris_master

default tenant:

set tenant default data for service db com.aris.cip.db.schema=aris_default

com.aris.ecp.db.schema=aris_default

custom tenant(s):

set tenant default data for service db com.aris.cip.db.schema=aris_custom

com.aris.ecp.db.schema=aris_custom

4. Start all runnables. Enter: **startall**

5 Support

ONLINE

A valid support contract allows you to access the solution database.

Click <https://empower.softwareag.com/> (<https://empower.softwareag.com/>).

If you have any questions on specific installations that you cannot perform yourself, contact your local Software AG sales organization (https://empower.softwareag.com/public_directory.asp).

BY TELEPHONE

If you have a valid support contract, you can contact Global Support ARIS at:

+800 ARISHELP

"+" stands for the prefix required in a given country to dial an international connection.

Example for dialing within Germany with a direct extension line: 00 800 2747 4357

6 Disclaimer

ARIS products are intended and developed for use by persons. Automated processes, such as the generation of content and the import of objects/artifacts via interfaces, can lead to an outsized amount of data, and their execution may exceed processing capacities and physical limits. For example, processing capacities are exceeded if models and diagrams transcend the size of the modeling area or an extremely high number of processing operations is started simultaneously. Physical limits may be exceeded if the memory available is not sufficient for the execution of operations or the storage of data.

Proper operation of ARIS products requires the availability of a reliable and fast network connection. Networks with insufficient response time will reduce system performance and may cause timeouts.

If ARIS products are used in a virtual environment, sufficient resources must be available there in order to avoid the risk of overbooking.

The system was tested using scenarios that included 100,000 groups (folders), 100,000 users, and 1,000,000 modeling artifacts. It supports a modeling area of 25 square meters.

If projects or repositories are larger than the maximum size allowed, a powerful functionality is available to break them down into smaller, more manageable parts.

Some restrictions may apply when working with process administration, ARIS Administration, ARIS document storage, and ARIS Process Board, and when generating executable processes. Process Governance has been tested and approved for 1000 parallel process instances. However, the number may vary depending on process complexity, for example, if custom reports are integrated.

ARIS document storage was tested with 40.000 documents. We recommend monitoring the number and overall size of stored documents and archiving some documents if needed.