



ARIS UPDATE COOKBOOK

VERSION 10.0 - SERVICE RELEASE 12
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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 Text conventions

Menu items, file names, etc. are indicated in texts as follows:

- Menu items, key combinations, dialogs, file names, entries, etc. are displayed in **bold**.
- User-defined entries are shown as **<bold text in angle brackets>**.
- Example texts that are too long to fit on a single line, such as a long directory path, are wrapped to the next line by using ↵ at the end of the line.
- File extracts are shown in this font format:
This paragraph contains a file extract.
- Warnings have a colored background:

Warning

This paragraph contains a warning.

2 Scope & Motivation

This document describes the steps that you must perform if you manually update any ARIS 10.0 installation to any 10.0 SR.

Do not update ARIS manually if you have installed the current ARIS Server using the ARIS Server setup. To update such an installation, start the most current ARIS Server setup program to update your installation.

From ARIS 10.0.12.0, ARIS Risk & Compliance Manager and ARIS Server use the same external database management system if configured. When you update your ARIS Server, ARIS Risk & Compliance Manager still uses the database connection as configured for ARIS Risk & Compliance Manager. If you want ARIS Server and ARIS Risk & Compliance Manager to use the same connection, you must first update ARIS Server. Then configure the database connection manually, as described in the ARIS Risk & Compliance Manager Installation Guide.

Depending on the current version (source version) that you are going to update to (target version), some of the steps described below are optional or might not be needed. Some steps are only required if you are using an external database system, such as Oracle or Microsoft SQL Server. In these cases, this is indicated at the beginning of the related steps. If there is no such indication, the step is required regardless of current source or target version.

The steps described in this document are only necessary if you want to:

- Update an ARIS installation that was originally installed manually by provisioning (either on a single node or on multiple nodes). We consider an installation as manual if it was not created with one of the product-specific setups, for example, the ARIS Connect Server setup for a single-node installation, but by manually installing (empty) ARIS Agent(s) on the machine(s) and then using ARIS Cloud Controller (ACC) to install or "configure" the individual components (so called runnables) that comprise an ARIS system on these agent(s).
- Update a setup-based ARIS installation that was changed so that the update setup refuses to update.
- Learn about what goes on under the hood of an update setup. After all, the steps described here are basically what the setup does (but of course only for simple single node, that is, not distributed installations).

3 Checklist

This list gives an overview about the procedure to be performed.

1. Ensure that required prerequisites are met (page 4)
2. Archive all log files (page 7).
3. Delete old log files (page 7).
4. Backup data (page 8).
5. Log modification steps and backup all manual changes (page 11).
6. Update ARIS Agents on all nodes (page 12).
7. Validate the ARIS Agent updates (page 12).
8. Prepare ARIS Cloud Controller (ACC) (page 13).
9. Provide a remote repository (page 16).
10. Update all runnables on all nodes (page 18).
11. Adjust elasticsearch cluster (page 20).
12. Start ARIS after the update of all runnables is completed (page 26).
13. Update the system database for each tenant (page 32).
14. Adjust timestamps (ARIS document storage) (page 27).
15. Optionally update ARIS Aware (page 28).
16. Update the demo databases for each tenant (page 29).
17. Check and upload missing fonts (ARIS 10.0.5 or earlier) (page 30).
18. Update the ARIS online help (page 22).
19. Optionally re-index modeling data for each tenant (page 33).
20. Optionally configure the ARIS Agents on all nodes to use the local repository (page 34).

4 Prerequisites

Before updating an ARIS installation, you must assure that the following prerequisites are met.

- **You know all required user credentials.**
 - The ARIS Agent user name and password (default credentials: **Clous/g3h31m**) for each node that is part of the installation to be updated.
 - The password of the **superuser** user (default credentials: **superuser/superuser**) or the password of a user who has all function privileges for each tenant.
- **You have enough free disk space available.**

For a successful update, sufficient free disk space must be available on each node that is part of the update installation.

Warning

Do not try an update if free disk space is limited. The update might fail, and the installation cannot be repaired. Try to clean up your current installation to delete content that is not needed any longer (page 6).

The following is a rough guideline on how to determine the disk space required:

- Determine the currently available free disk space **f** on the machine where ARIS Agent runs.
- Determine the current size **w** of all runnables working directories located in:
 - **Windows:** <installation directory>\server\bin\work
 - **Linux:** /home/ARIS/cloudagent/work).
- Make sure that the condition **f > w + 100 GB** is met.
- **All runnables are activated** (affecting source versions from 9.8.4 and later)

Starting with ARIS 9.8 SR4, individual runnables can be deactivated. A deactivated runnable is ignored by the startup process of the runnables. This can be useful in cases where the full product is installed, but where only a subset of the functionality is initially used. For example, you might start out only with ARIS Design Server, but for an easier upgrade to ARIS Connect, ARIS Connect Server was installed. In this case, the unneeded runnables can be deactivated, such as **ECP** and **PostgresECP**.

To keep an installation consistent, however, deactivated runnables must also be updated. Hence, a deactivated runnable is not ignored by the update process. Some of the steps described in this guide might require the entire installation or at least one instance of a specific application to be started for the step to be successful. So, unless you fully understand the dependencies of the different runnables and which runnables are involved in which step, it is therefore highly recommended to activate all runnables before proceeding and deactivate them again later.

- **Sufficient amount of virtual memory is available** (affecting ARIS Server installations on Linux machines)

From ARIS 10 SR4, the **elastic** runnable (elastic search) requires more virtual memory on your Linux operating system to prevent indices from causing out-of-memory exceptions.

On the machine where the **elastic** runnable is installed, check which value the **vm.max_map_count** system parameter is currently set to.

For this, use the **sysctl vm.max_map_count** command. If the value is lower than **262144**, change it to **262144**.

To change the value for this session only, use the following command (root access permissions required):

```
sudo sysctl -w vm.max_map_count=262144
```

This command changes the value for the current session only. After a reboot, this change is undone.

To change the value permanently, add this line to the **sysctl.conf** configuration file that is available in the ARIS installation directory on your machine:

```
vm.max_map_count=262144
```

5 Clean up the installation

During the update procedure, backups of the working directories of all runnables are created. This is to be able to roll back to the original version if the update fails.

Depending on the number of files stored in the working directories of the runnables, backups consume free disk space. Creating these backups can take a long time. Particularly in environments with limited disk I/O, such as virtual machines or physical machines using **SAN** or **NAS** as their IO subsystem, the time to create these backups can significantly influence the total time for performing the update. Nonetheless, you are highly recommended to leave the automatic backup of runnable working directories enabled.

However, as a preparation step, you can remove unnecessary files from the working directories. Former ARIS versions used to write many log files that were not removed automatically.

To provide more free disk space, you can first archive and then delete all log files from the current ARIS installation. Make sure to store the archive file containing the log files on a different drive or partition from the one where ARIS is installed.

To archive and delete all log files, use the **collect log files** and the **delete log files** ACC commands. You can also use the batch files provided (see <ARIS installation directory>\support: **collectLogFiles** and **cleanLogFiles**). On Linux systems you can find the related **sh** files in the **home** directory of the ARIS user that was created by the ARIS Cloud Controller Linux packages.

5.1 Archive and then delete all old log files (Optional)

To reduce the used disk space, you can first archive and then delete all log files of the ARIS installation. Two batch files are provided for this: **collectLogFiles** and **cleanLogFiles** (**.bat** on Windows, **.sh** on Linux). On Windows systems, the files are available in the **support** folder of the ARIS installation directory>.

On Linux systems, you can find them in the **home** directory of the ARIS user that is created by the ARIS Cloud Controller Linux packages:

```
:/home/ARIS# ls -ls
total 36
4 -rwxr--r-- 1 aris root 321 Jun 30 19:45 21-aris.conf
4 -rwxr--r-- 1 aris root 182 Jun 30 19:45 aris
8 -rwxr--r-- 1 aris root 4406 Jun 30 19:45 ArisCloudagent
4 drwxr-xr-x 9 aris root 4096 Jul 1 10:45 cloudagent
4 -rwxr-xr-x 1 aris root 594 Jun 30 19:45 collectLogFiles.sh
4 -rwxr-xr-x 1 aris root 501 Jun 30 19:45 deleteLogFiles.sh
4 drwxr-xr-x 5 aris root 4096 Jul 1 10:32 jre
4 -rwxr--r-- 1 aris root 2461 Jun 30 19:45 support.xml
:/home/ARIS#
```

5.1.1 Archive all log files

This step is optional but recommended. The **collectLogFiles** utility collects all log files of all runnables and the ARIS Agent and puts them into a single **LogFiles.zip** archive. If you want to archive all log files before cleaning them, run **collectLogFiles** first. Depending on the amount of log files accumulated in your installation, this can take quite a while and of course you need additional free disk space for the log file archive.

After **collectLogFiles** has completed, copy the resulting **logfiles.zip** file to a safe location.

Warning

If you keep the **logfiles.zip** file with the log files on the same drive/partition where ARIS is installed, make sure that there is still enough free disk space as described in the **Prerequisites** chapter (page 4).

5.1.2 Delete all log files

After you successfully archived the log files, run the **deleteLogFiles** utility or use the **delete log files** ACC command to remove them from the installation directory to increase free disk space.

6 Backup data

The very first step of an ARIS update is to back up all data.

Warning

If you run an update without having current and complete data backups, you bear the risk for any data loss or system outage.

There are multiple ways to do a backup:

- Start a tenant backup for all tenants using ARIS Cloud Controller (ACC). This backup contains all essential data of a tenant, with the notable exception of any portal customizations and tenant-specific portal settings.
- Using the Tenant Management tool is a way to backup and restore the infrastructure tenant (master) as well as all productive tenants.

By default, backups are stored in the ARIS Server installation directory (`..\server\bin\work\work_umcadmin_<s, m or l>\backup`). If you have not yet defined a different folder on a physical drive, make sure to save the backup folder. As the default **backup** folder is overwritten by the update, all backups are lost.

- Most ARIS components offer individual backup functionalities (page 9). You can back up databases in ARIS Architect or you can backup user data in the ARIS Administration. These components also provide command-line tools to be used, such as ARIS Server Administrator or command line tools for the ARIS Administration.
- Copy the working directories of all runnables to a safe place or copy the whole ARIS installation folder. If an external DBMS is used, such as Oracle or Microsoft SQL Server, create dumps of each schema containing ARIS data.

6.1 How to back up data manually

Administrators have multiple alternatives for manually backing up data.

DATABASE

In ARIS Architect on the **Administration** tab, using the  **Backup** functionality.

On the command line tool ARIS Server Administrator, using the **backup** or **backupasn** commands.

In ARIS Server Administrator, use the **backupsystemdb** command to backup filters, method modifications (such as user defined attributes, model types etc.), configuration, queries, report scripts, macros and semantic checks. Alternatively, you can back up the data mentioned before individually as follows.

FILTER

In ARIS Architect on the 'Administration' tab, using the function  **Export**.

METHOD, CONFIGURATION, AND QUERIES


In ARIS Server Administrator, using the **backupsystemdb** command.

REPORT SCRIPTS, MACROS AND SEMANTIC CHECKS

In ARIS Architect on the **Administration** tab individually backup scripts with the function **Export** in the pop-up menu for a script. If you have adapted standard scripts and standard files instead of copies the individual backup is mandatory. All standard scripts and standard files will be overwritten by an updated. Modifications will be lost.

In ARIS Server Administrator, using the **backupsystemdb** command.


QUERIES AND AD HOC ANALYSES

In ARIS Architect on the **Administration** tab with the  **Back up analysis data** function.

When you perform an update installation, add languages, or uninstall a component, the relevant files and directories are backed up automatically. A selection of files is listed here to provide examples for server installations:

- <ARIS installation directory>\server\backup
- <ARIS installation directory>\server\data (saved databases after uninstallation)
- <ARIS installation directory>\server\sysconfig
- <ARIS installation directory>\server\templates

PORTAL CONFIGURATION AND MODIFICATION SETS

You can back up the configurations that you configured via the graphical user interface in ARIS Administration on the **Configuration** tab with the  **Backup** function (Portal > Manage views).

The **default** and the **classic** configuration set must not be modified. These sets, holding all new features, are used as template for all future modification sets. The **default** and the **classic** configuration sets are automatically updated.

If the **default** or the **classic** configuration set was modified on file level, all changes are lost after the update. To keep the modifications, proceed as follows:

Copy the folders of the modified default or custom configuration sets from <ARIS installation path>\server\bin\work\, for example:

- **work_copernicus_<s, m or I>\base\webapps\ROOT\WEB-INF\config\default**
- **work_abs_<s, m or I>\base\webapps\abs\WEB-INF\config\default**
- If a Heavy-duty Server (HDS) is in use, the related folder of the **hds_<s, m or I>** runnable must be copied as well.

After the update, the content of the **default** and the **classic** folders are updated, and your modifications are lost. Paste the copied folders into the <ARIS installation path>\server\bin\work\ subfolders, for example:

- **work_copernicus_<s, m or I>\base\webapps\ROOT\WEB-INF\config\<name of the customized default configuration set>**
- **work_abs_<s, m or I>\base\webapps\abs\WEB-INF\config\<name of the customized default configuration set>**
- If a Heavy-duty Server (HDS) is in use, the related folder of the **hds_<s, m or I>** runnable must be copied as well.

To make the content update-proof, the folder must be named other than **default**, for example, **customized_default**.

New ARIS functionality will not be available in the copied configuration sets. You can manually copy additional lines from the updated **default** or **classic** configuration sets and paste them to the related customized configuration sets.

This advanced configuration requires high knowledge on XML configuration, that can be acquired in the 742- <ID> ARIS Connect Portal Configuration training (<https://knowledge.softwareag.com/course/view.php?id=16>). Errors in XML configuration files may cause strong impact. You might not be able to start ARIS Connect again.

Depending to the level of customization, you are recommend using a prepared customization package obtained by the original customizer. If you need help, contact Software AG (<https://empower.softwareag.com/>) for a customization request. Customization and training services are not subject to the standard Software AG software maintenance agreement. Configuration changes can only be performed by Software AG if you requested and agreed on them.

7 Log modification steps and backup all manual changes

To modify the ARIS installation or add third party files to your installation, such as JDBC drivers, SAP JCo adapters, SSL certificates, etc., you are recommended to use the ACC **reconfigure** and **enhance** commands. However, some modifications cannot yet be performed by ACC, for example, modifications made in configuration files, such as:

- **ARIS Connect/ARIS Design Server**

```
<installDir>\server\bin\work\work_abs_<sizing>\base\webapps\abs\downloadClient\config\arisloader.cfg
```

```
<installDir>\server\bin\work\work_abs_<sizing>\base\webapps\abs\config\defaultServerSettings.cfg
```

- **ARIS Publisher Server**

```
<installDir>\server\bin\work\work_businesspublisher_<sizing>\base\webapps\businesspublisher\config\webappserver.cfg
```

```
<installDir>\server\bin\work\work_businesspublisher_<sizing>\base\webapps\businesspublisher\config\umcconfig.cfg
```

or all files defining ARIS Publisher layouts.

Warning

Any changes made to these files will be lost after an update. You must repeat your documented changes to those files after each update. Note that some of those changes might also no longer be relevant in the new ARIS version.

Expect any files copied manually into an installation will be gone after an update. Therefore, archive these files and document where they need to be copied back to after the update.

Certificates stored in the JRE of ARIS Agent are overwritten by an update. If you update ARIS Server, the latest JRE containing its own cacert keystore are installed. Certificates stored in the JRE of ARIS Agent are used, for example, if you use SSL access and ARIS Aware Dashboards or LDAP.

If you previously had added certificates to your current system to allow SSL connections between ARIS Server and external systems, you must make these certificates available again after each update of ARIS Agent.

Any manual changes and physical modifications made on an ARIS installation, such as adding files, are not preserved during an update. Only modifications made using the **reconfigure** and **enhance** ACC commands are safe unless stated otherwise.

Make sure to note each manual step done after the initial ARIS installation in an installation protocol.

Of course, all **content** that you enter into ARIS (models, users, documents, collaboration comments etc.) via the UI or official interfaces is preserved during an update.

8 Update ARIS Agents on all nodes

Assure that all installation files can be updated. Especially on Windows systems, a file that is still being used by a process cannot be replaced during the update. Therefore, you must assure that no program is still using any files or folders inside the ARIS installation directory.

Therefore, make sure that the following prerequisites are met:

- All ACC commands are stopped
- All ACC command-line prompts are closed
- All Windows command-line prompts that access a folder inside the ARIS installation directory are closed.
- All Windows Explorers that point to the ARIS installation folder are closed.

All files inside the ARIS installation directory that are not used by external programs, for example, log files opened by a text editor.

8.1 Update ARIS Agents

Update the ARIS Agents on all nodes of the installation by running the ARIS Agent setup (for Windows machines) or use the update packages for Linux machines.

Refer to the ARIS Server Update Installation Guides for detailed instructions.

The ARIS Agent setup stops all runnables to update the Java runtime environment (JRE).

8.2 Validate the ARIS Agent update

After ARIS Agent was updated, run the following ACC command to check the new ARIS version number of all ARIS Agents currently registered in ACC:

on all nodes get agent.version

Make sure that all lines show the same version of the latest update.

9 Prepare ARIS Cloud Controller (ACC)

Copy the **generated.apptypes.cfg** file from the **ARIS Server setup** folder and overwrite the existing file in the ARIS installation folder, for example, **C:\SoftwareAG\ARIS10.0\server**. Then start ARIS Cloud Controller (ACC) (page 14) with the command-line option **-c <path to generated.apptypes.cfg>** to provide ACC with the necessary information about the runnable of the new ARIS version. Make sure that ACC is started from now on with the new **generated.apptypes.cfg** file, for example, by creating or modifying a shortcut to ARIS Cloud Controller.

Examples

```
acc.bat -c "C:\SoftwareAG\ARIS10.0\server\generated.apptypes.cfg"
```

```
acc.bat -c "C:\SoftwareAG\ARIS10.0\server\generated.apptypes.cfg" -n nodes.nf
```

nodes.nf (example):

```
add node n1 ARISServerNode1 Clous g3h31m
```

```
add node n2 ARISServerNode2 Clous g3h31m
```

```
add node n3 ARISServerNode3 Clous g3h31m
```

Add all nodes of your distributed ARIS installation:

- Either use the **add node** command manually whenever you start ACC
- Or use a node file containing all **add node** commands which you pass as command-line option **-n** to ACC

The default settings for runnables provided in the **generated.apptypes.cfg** file can change from version to version.

However, in versions prior to **ARIS 9.8**, changes to the settings in the new **generated.apptypes.cfg** file (everything in the lines after defaults) will not be applied during an update.

As of version 9.8, only a selected subset of the default parameter changes is applied. You can identify the parameters in the **generated.apptypes.cfg** file that are changed during the update. They are marked with the prefix **!** or **~**. For example:

```
register app type umcadmin_s com.aris.umcadmin.y-umcadmin-run-prod 98.1.0
defaults JAVA-Xmx="128m" ~httpNumWorkerThreads=50 ~ajpNumWorkerThreads=50
CATALINA_PORT=10083 CATALINA_AJP_PORT=11083 JAVA_OPTS="-server" JAVA-
Dcom.sun.management.jmxremote="/enabled" JAVA-
Dcom.sun.management.jmxremote.port="9602" JAVA-
Dcom.sun.management.jmxremote.authenticate="false" JAVA-
Dcom.sun.management.jmxremote.ssl="false" ~CATALINA_AJP_packetSize=32768
~CATALINA_HTTP_maxHttpHeaderSize=32768 !zookeeper.session.timeout.ms="60000"
zookeeper.connect.retry.time.ms="30000" -"JAVA-XX\:\:MaxPermSize"
```

- Parameters marked with the prefix **~** are applied, if the parameter is **NOT** already set for the runnable. Parameters that were set or changed manually are retained.
- Parameters marked with the prefix **!** are applied regardless of whether the parameter is already set or not.

Warning

Parameters that were set or changed manually are overwritten.

9.1 How to start ARIS Cloud Controller (ACC)

ACC is a command-line tool (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)) for administrating and configuring an ARIS installation. It communicates with ARIS Agents on all nodes.

Warning

Using ACC commands will deeply affect your system. This requires profound knowledge of the technical ARIS infrastructure and environment. The required know-how can be acquired only by attending the training course **ARIS Server Installation**, available via Global Education Services (<http://softwareag.com/training>). If you use ACC commands without this knowledge or without the services of Software AG, according to the standard Software AG software maintenance agreement, we cannot guarantee proper functioning.

ARIS Cloud Controller (ACC) can be used in three modes:

- **Interactive mode (default)**

ACC runs with an interactive shell, allowing you to manually issue commands.

- **Batch mode**

Activated by specifying a command file with the **-f** command line parameter (see ACC command line parameters below). ACC will execute the commands in the file in the given sequence and exit after execution or if one of the commands fails.

A command file line starting with **#** will be interpreted as a comment line and ignored by ACC.

- **Command mode**

You can directly pass a single command to ACC as a command line parameter. The command will be executed and ACC will exit afterwards.

When passing commands directly as an ACC command line parameter, you have to be careful when escaping strings in your command, for example, double-quote-delimited parameters. The operating system command **shell** will consume the double quotes, leaving your string parameter unescaped. So please escape the quote characters.

If you issue the command in command mode, for example:

```
set remote.repository.url="http://something.com/repo"
```

You should enter:

```
acc.bat -h localhost -u <user name> -pwd <remoteAccessPassword> set
remote.repository.url="\http://something.com/repo\"
```

If you enter:

```
acc.bat -h localhost -u <user name> -pwd <remoteAccessPassword> set
remote.repository.url="http://something.com/repo"
```

ACC will return an error message, for example:

```
line 1:52 mismatched character '<EOF>' expecting '\n'  
Invalid or erroneous command "set  
remote.repository.url=http://something.com/repo ": line 1:30 extraneous  
input ':' expecting EOF  
Use "help" to display a list of available commands.
```

To get information about the usage of ACC commands, enter **help** or **help <command>**.

WINDOWS OPERATING SYSTEM

To start ACC under a Windows operating system click **Start > All Programs > ARIS > Administration > Start ARIS Cloud Controller**. If you have changed agent user credentials you must enter the user name and/or the password.

LINUX OPERATING SYSTEM

To start ACC under a Linux operating system, execute the **acc10.sh** shell script instead. To do so, enter: **su -c acc10.sh aris10**. After the ARIS Server installation has completed on a Linux operating system, the **aris10** user is locked and has no password. Command-line tools (**sh** files), such as **ARIS Server Administrator** or **ARIS Cloud Controller** can only be started by the **aris10** user related to the ARIS Agent.

- To unlock the **aris10** user, enter: **passwd -u aris10**
- To interactively enter a password, enter: **passwd aris10**
- To start the command-line tools, enter: **su -c acc10.sh aris10** or **su -c arisadm.sh aris10**
- To execute these command-line tools as an ARIS user that has no **root** privileges, you must enter the password of the **aris10** user.
- To copy files manually into the **ARIS** directory, as the **aris10** user use the commands: **su aris10** and **sudo aris10**

As an ARIS user that has no **root** privileges, you must make sure that the files have the correct ownership (**aris10**).

- To unlock the **aris10** user again enter: **passwd -l aris10**

10 Prepare and provide remote repository

On all nodes, each ARIS Agent must be set so that it does NOT use the local repository. Enter this ACC command:

on all nodes set local.repository.only=false

10.1 Provide remote repository using a Web server

Copy the **Setup_Data** folder from the **ARIS DVD** to a Web or FTP server.

If you use Inter Information Server (IIS) to serve as remote repository, add the extension **.war** with MIME Type **text/plain** to avoid issues that can occur when importing the ARIS help.

On all nodes, point each ARIS Agent to the prepared web server that holds the repository containing the runnables of the new ARIS version. The following command points to a web server:

on all nodes set

remote.repository.url="http://<your_webserver>/<full_path_to_Setup_Data_folder>"

Example

If the host name of your Web server is **intranet**, the Web server is serving **http** requests on port **8080** instead of using the default port **80**, and the contents of the **Setup_data** folder are copied the folder **arisrepo/10.0.12.0** enter this command to provide a remote repository using a Web server:

on all nodes set remote.repository.url=http://intranet:8080/arisrepo/10.0.12.0

10.2 Provide remote repository using a local file folder

If you do not have a Web or FTP server available in your environment, and you do not want to install one, you can copy the **Setup_Data** folder to a local folder on all nodes and point to that location.

Warning

Note that each location must be a physical drive because mapped network drives do not work as repositories, because the ARIS Agent runs in the security context system that can only access physical drives.

Copy the **Setup_Data** directory from the ARIS DVD to a physical drive on each node. Use the same folder on every node to simplify the procedure, because only if you use the same name you can use the **on all nodes** command.

On all nodes, specify that each ARIS Agent uses a local folder by using a file URL in the **remote.repository.url** ACC command set.

To use a local folder using a file URL in the ACC command **set remote.repository.url** enter:

on all nodes set remote.repository.url="file://<physicalPath>"

Replace **<physicalPath>** with the path to the folder that contains the **Setup_data** folder. If you copy the physical path from your Windows Explorer, make sure to replace the backslashes with forward slashes. The URL must only contain forward slashes.

For example, if you copied the **Setup_Data** folder to **C:\temp\Setup_Data**, enter:

on all nodes set remote.repository.url="file://c:/temp/Setup_Data"

11 Update all runnables on all nodes

To update all runnables on all nodes, run this ACC command:

on all nodes updateall

or

on all nodes force updateall

The **force updateall** command prevents confirmation for each node.

This command creates a backup of all working folders before any change is made. The backups are stored in the folder **<ARIS Installation path>\server\bin\.backup**.

These backups allow to reset to the previous ARIS version. This prevents a possible impairment of the system. If an update fails, a mixture of runnables from the previous version and the most recent version would result. Such an ARIS installation will most likely not work. Note that reset to the previous ARIS version is not required for the ARIS Agent because the ARIS Agent can use runnables of former ARIS versions.

The backup of the working folders takes some time and consumes a significant amount of disk space.

Warning

Make sure to backup application data before starting the update setup because the backups created automatically during the update process cannot be used as a backup of your application data.

You can turn the backup option off. If you do so, a rollback to the previous ARIS version is no longer possible. If you attempt an update without backing up your data, you run the risk of system outages and/or data loss, for which Software AG assumes no responsibility.

The **updateall** command first checks whether enough disk space is available. If the required amount is not available, a message is displayed, such as:

```
On node localhost 20,93 GB of usable space is available for back up, downloaded artifacts, working directory, plugins and unpacked runnables, but 72,67 GB must be available.
```

In this case, make sure that the requires amount of free disk space is available.

If the **updateall** ACC command was successful, the output looks like the following example of a three-node installation. Of course, versions, node names, runnable instance IDs, etc. can vary depending on the environment:

```
ACC+ >on all nodes updateall
WARNING! The updateall command will update ALL currently not running instances on all nodes. Are you
sure? (Y/N)
y
Runnable zoo0 on node n1 will be updated to version 10.0.12.0
Runnable cloudsearch_m on node n1 will be updated to version 10.0.12.0
Runnable umcadmin_m on node n1 will be updated to version 10.0.12.0
Runnable abs_m on node n1 will be updated to version 10.0.12.0
Runnable apg_m on node n1 will be updated to version 10.0.12.0
Runnable copernicus_m on node n1 will be updated to version 10.0.12.0
Runnable zoo0 on node n2 will be updated to version 10.0.12.0
Runnable elastic_m on node n2 will be updated to version 10.0.12.0
Runnable couchdb_m on node n2 will be updated to version 10.0.12.0
Runnable adsadmin_m on node n2 will be updated to version 10.0.12.0
Runnable umcadmin_m on node n2 will be updated to version 10.0.12.0
Runnable octopus_m on node n2 will be updated to version 10.0.12.0
Runnable simulation_m on node n2 will be updated to version 10.0.12.0
Runnable loadbalancer_m on node n2 will be updated to version 10.0.12.0
Runnable zoo0 on node n3 will be updated to version 10.0.12.0
Runnable postgresECP_m on node n3 will be updated to version 10.0.12.0
Runnable cloudsearch_m on node n3 will be updated to version 10.0.12.0
Runnable couchdb_m on node n3 will be updated to version 10.0.12.0
Runnable adsadmin_m on node n3 will be updated to version 10.0.12.0
Runnable abs_m on node n3 will be updated to version 10.0.12.0
Runnable copernicus_m on node n3 will be updated to version 10.0.12.0
Runnable ecp_m on node n3 will be updated to version 10.0.12.0
Runnable loadbalancer_m on node n3 will be updated to version 10.0.12.0
Successfully updated runnable zoo0 on node n2 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable elastic_m on node n2 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable couchdb_m on node n2 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable adsadmin_m on node n2 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable umcadmin_m on node n2 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable octopus_m on node n2 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable simulation_m on node n2 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable loadbalancer_m on node n2 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable zoo0 on node n1 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable cloudsearch_m on node n1 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable umcadmin_m on node n1 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable abs_m on node n1 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable apg_m on node n1 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable copernicus_m on node n1 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable zoo0 on node n3 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable postgresECP_m on node n3 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable cloudsearch_m on node n3 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable couchdb_m on node n3 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable adsadmin_m on node n3 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable abs_m on node n3 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable copernicus_m on node n3 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable ecp_m on node n3 from version 10.0.0.2 to version 10.0.12.0
Successfully updated runnable loadbalancer_m on node n3 from version 10.0.0.2 to version 10.0.12.0
23 of 23 runnables updated.
```

12 Adjust elasticsearch cluster

To update all cluster-related configuration parameters of all **elastic** runnables, run this ACC command (see example (page 20)):

repair elasticsearch cluster

Warning

If you do not execute this command before you start all runnables, all **elastic** runnables will remain in the **STARTING** state and the system cannot be started. In this case, you must take more extensive action (page 21) to get all elastic runnables started.

12.1 Example: adjust elasticsearch cluster

If you updates all runnables on all nodes, you must execute the adjust elasticsearch cluster command:

```
ACC+ >adjust elasticsearch cluster
Checking current cluster state
Determining necessary repair operations.
Found 3 Elasticsearch instances that must be adjusted:
Instance elastic_1 on node n1:
    JAVA-Xms will be set to 4g
    ELASTICSEARCH.cluster.initial_master_nodes will be set to sbrvmaris01_eur_com,
sbrvmaris02_eur_com, sbrvmaris03_eur_com
Instance elastic_1 on node n2:
    JAVA-Xms will be set to 4g
    ELASTICSEARCH.cluster.initial_master_nodes will be set to sbrvmaris01_eur_com,
sbrvmaris02_eur_com, sbrvmaris03_eur_com
Instance elastic_1 on node n3:
    JAVA-Xms will be set to 4g
    ELASTICSEARCH.cluster.initial_master_nodes will be set to sbrvmaris01_eur_com,
sbrvmaris02_eur_com, sbrvmaris03_eur_com
There were no errors or warnings.

Do you want to continue with the adjustment? (Y/N)
y

Checking current cluster state
Determining required adjustments.
Repairing instance elastic_1 on node
n1. OK
Repairing instance elastic_1 on node
n2. OK
Repairing instance elastic_1 on node
n3. OK
3 Elasticsearch instances were adjusted:

Instance elastic_1 on node n1:
    JAVA-Xms was set to 4g
    ELASTICSEARCH.cluster.initial_master_nodes was set to sbrvmaris01_eur_com,
sbrvmaris02_eur_com, sbrvmaris03_eur_com
Instance elastic_1 on node n2:
    JAVA-Xms was set to 4g
    ELASTICSEARCH.cluster.initial_master_nodes was set to sbrvmaris01_eur_com,
sbrvmaris02_eur_com, sbrvmaris03_eur_com
Instance elastic_1 on node n3:
    JAVA-Xms was set to 4g
    ELASTICSEARCH.cluster.initial_master_nodes was set to sbrvmaris01_eur_com,
sbrvmaris02_eur_com, sbrvmaris03_eur_com
There were no errors or warnings.
```


12.2 Getting elastic runnables started again

If you did not execute the **adjust elasticsearch cluster** ACC command before you started all runnables (page 20), you must take more extensive action to get all elastic runnables started again.

- If elastic runnables remain in the **STARTING** state, enter:
on all nodes stopall
- If runnables cannot be stopped, enter:
on all nodes killall
on all nodes startall to zoo<m or l>
- If runnables still do not start properly, you must delete the migration node from the leader node of the **elastic** runnable in the ARIS Zookeeper. To do so, enter:
force zk delete /aris/services/elasticsearch/migration
force adjust elasticsearch cluster

Because all ARIS Agents that contain nodes holding **elastic** runnables, you must restart all related ARIS Agents. To do this prevent the autostart of the ARIS agents.

To get all runnables started after you executed the **adjust elasticsearch cluster** ACC command, follow the steps in the following examples:

- If **n1** contains an **elastic** runnable, enter:
on n1 set autostart.mode="off"
on n1 restart agent
on n1 set autostart.mode="all"
on n1 get autostart.mode
- If **n2** contains an **elastic** runnable, enter:
on n2 set autostart.mode="off"
on n2 restart agent
on n2 set autostart.mode="all"
on n2 get autostart.mode
- If **n3** contains an **elastic** runnable, enter:
on n3 set autostart.mode="off"
on n3 restart agent
on n3 set autostart.mode="all"
on n3 get autostart.mode
- To start all runnables, enter:
on all nodes startall

13 Update the ARIS online help

In newer ARIS versions, the **online help** files are no longer part of the runnables. That is why help files must be updated by so-called **enhancements** that add files to a runnable. Updating a runnable removes such enhancements. Hence, the help files of the new ARIS version must be added again after the update.

The online help files for ARIS Publisher Server are part of the runnable and do not have to be enhanced.

The same applies to ARIS Risk & Compliance Manager up to and including version 9.8 SR1. Since version 9.8 SR2 the ARIS Risk & Compliance Manager online help must be added as with ARIS.

13.1 Stop the related runnables

Even if the system was not started yet, check that on all nodes all runnables that are to be enhanced are in the **STOPPED** state.

To check the state, enter:

on all nodes list

You can stop all runnables with a specific instance ID on all nodes using the ACC command:

on all nodes stopall

13.2 Enhance help

The basic structure of an enhancement command for adding the help to runnables **apg**, **umcadmin**, **adsadmin**, **octopus**, and **copernicus** is as follows:

on <node name> enhance <instance ID> with help <help artifact> <version> type war

where:

<node name> is the logical name of the node, for example, **n1**.

<instance ID> is the instance ID of the runnable you want to add the help to, for example, **octopus_m**.

<help artifact> is the technical name of the actual set of help files, for example, **com.aris.documentation.architect**. The technical name can be different for the help of different runnables.

<version> is the version you are updating to, for example, **10.0.12.0**.

For the **abs** runnable, some parts of the online help have been separated into dedicated files for different languages. The language can be specified with an additional option, the **<classifier>** in the enhance command. For adding help to the **abs** runnable, the structure of the **enhance** command is therefore:

on <node name> enhance <instance ID> with help <help artifact> <version> classifier <lang> type war

The placeholders **<node name>**, **<instance ID>**, **<help artifact>**, and **<version>** have the same meaning as described above.

<lang> is the language of the help artifact. Currently, there are **abs** help files for five different languages available: **en** (English), **de** (German), **fr** (French), **es** (Spanish), and **ja** (Japanese).

You can easily add all languages using multiple enhancement commands or just select the languages you need depending on your user base.

We recommend using the **enhanceall** command (see ACC help).

13.3 Names of the help artifacts

The name of the help artifacts of the different runnables are the following:

Runnable	Help artifacts (since version)	Languages
abs	com.aris.documentation.architect	de, en, fr, es, ja pt (since 9.8.2) ru, zh, nl (since 9.8.6)
	com.aris.documentation.architect-scripthelp	-
	com.aris.documentation.architect-methodhelp	¹ , de, en, fr, es, ja pt, ru, zh, nl (since 9.8.6)
adsadmin	com.aris.documentation.administration.ads	-
umcadmin	com.aris.documentation.administration.administration	-
	com.aris.documentation.administration.tm	-
	com.aris.documentation.administration.infrastructure (since 10.9.0)	-
copernicus	com.aris.documentation.connect	-
apg	com.aris.documentation.processboard	-
businesspublisher	com.aris.documentation.publisher.publisher	-
arcm	com.aris.documentation.arcm.arcm	-

¹The ARIS method help consists of a common part (an artifact without language classifier) and parts for the different languages. The common part should always be enhanced, while the language specific parts can be chosen depending on the languages required by users.

13.4 Execute the help enhancement

To add all required **enhance** commands, take the basic structure of the **enhance** commands shown above and replace the parameters **<node name>**, **<instance ID>**, **<artifact name>**, **<version>**, and for the **abs** runnable only the parameter **<lang>** accordingly.

```

enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier de type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier en type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier fr type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier es type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier ja type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier pt type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier ru type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier zh type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
classifier nl type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.12.0
type war
enhanceall abs_1 with help com.aris.documentation.architect-scripthelp 10.0.12.0
type war
enhanceall umcadmin_1 with help
com.aris.documentation.administration.administration 10.0.12.0 type war
enhanceall umcadmin_1 with help com.aris.documentation.administration.tm
10.0.12.0 type war
enhanceall adsadmin_1 with help com.aris.documentation.administration.ads
10.0.12.0 type war
enhanceall apg_1 with help com.aris.documentation.processboardhelp 10.0.12.0
type war
enhanceall copernicus_1 with help com.aris.documentation.connect 10.0.12.0 type
war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
de type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
fr type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
en type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
ja type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
es type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
pt type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
ru type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
zh type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.12.0 classifier
nl type war
enhanceall arcm_1 with help com.aris.documentation.arcm.arcm 10.0.12.0 type war

```

14 Check for incompatible JDBC drivers (optional)

This action is only required if you use an external database system, such as **Microsoft SQL Server** or **Oracle**, and you update from an ARIS version that uses an outdated JDBC driver. This can result in runnables that will remain in the **STARTING** state. The listed runnables use JDBC drivers and can be affected: **adsadmin**, **umcadmin**, **copernicus**, **octopus**, **abs**, **hds**, **apg**, **ecp**, **dashboarding**, and **arcm**.

If you had enhanced a JDBC driver in your former ARIS installation using an ACC command, such as:

```
enhanceall abs_I with commonsClasspath path "<JDBC Driver name with version>jar"
```

this JDBC driver file was copied to the <ARIS installation directory>\server\bin\work\work_abs_I\base\lib.

If you add the latest file to update your JDBC driver with the **enhance** ACC command, both driver files, the obsolete file and the latest file are present. As a result, runnables will not start correctly because the JDBC driver to be used cannot be determined.

If **abs** and **copernicus** runnables remain in the **STARTING** state, delete obsolete JDBC driver files from the <ARIS installation directory>\server\bin\work\work_abs_I\base\lib.

15 Start ARIS

To be able to perform the next steps, ARIS must be started. Start ARIS on all nodes with this ACC command:

on all nodes startall

Wait for the command to complete and all runnables have started properly on all nodes. Check this with the following ACC command:

on all nodes list

This should show all runnables in status **STARTED**.

If any node does not start up properly, you may have missed an essential step during the update. Known problems are failed database accesses, indicated by **umcadmin** instances with the status **FAILED**, and/or **abs** and **copernicus** instances stuck in the **STARTING** state (page 25). If elastic runnables do not start properly (page 21), you did not repair the elasticsearch cluster before starting the runnables.

16 Adjust timestamps (ARIS document storage)

In previous ARIS versions, ARIS document storage stored timestamps, for example **Creation time** and **Update time**, referred to documents and folders in local server time and without any time zone information. If data was moved between ARIS Servers or if a tenant was restored from a backup file, timestamps were likely adjusted using a wrong time offset.

Since ARIS 10 SR6, **Coordinated Universal Time** (UTC) is mandatory for timestamps stored by ARIS document storage. Because time zone information in existing data is not available, the timestamps of existing documents and folders cannot be adjusted automatically. After the update to ARIS 10 SR6, you must manually adjust timestamps. In a Windows-based installation with local time UTC-2, for example, use the **y-admintool.bat** command-line tool and, considering UTC offset of your ARIS Servers>, enter the following:

```
y-admintool.bat -s https://localhost -t default adjustTimestamps -offset "-120" -u system -p manager
```

If you have restored a tenant from backup file created with ARIS 10 SR5 or earlier, you must adjust the timestamps as well.

17 ARIS Aware specific topics

The predefined ARIS Aware content of the **dashboarding** runnable is covered by the tenant backup.

Warning

Please note that if you restore **dashboarding** content, all existing dashboards, feeds and documents stored in ARIS document storage are overwritten. You are recommended to import ARIS Aware content only initially on a completely new ARIS Server installation.

If ARIS Aware was installed as a master-slave scenario, the following procedure is mandatory to reconfigure the **dashboarding** runnable after update.

On the master node all slave nodes must be added in a comma separated list of its FQDN (fully qualified domain name) + its IP address. The following is an example for two slave nodes:

```
reconfigure dashboarding_<s,m,l> um-server.slaveNodes="<FQDN dashboarding slave node 1>,<FQDN dashboarding slave node 2>,<IP of dashboarding slave node 1>,<IP of dashboarding slave node 2>"
```

On all slave nodes the master node must be specified (FQDN + IP):

```
reconfigure dashboarding_<s,m,l> um.deactivated="true" um-core.sessionFactory.realmUrl.1="nsp://<FQDN dashboarding master node>:${um-server.port}"
```


18 Update the demo databases for each tenant

You find the most current demo databases on the ARIS DVD (see **<ARIS DVD>\Content\Databases** folder). demo databases contain predefined contents for demonstration purposes. With each new ARIS version, demo databases come with updates and corrections which are required to properly demonstrate new ARIS functionalities.

Available demo databases:

- ARIS Connect Governance Models.adb
- Governance Automation Models.adb
- Performance.Ready - light.adb
- United Motor Group.adb

In new ARIS installations, you can rely on the auto-import mechanism to import the latest **United Motor Group** demo database. However, the existing demo database is not overwritten when ARIS is updated. You must update it manually if required.

If you are not sure whether users have made changes to any of the demo databases in the ARIS installation, rename the old databases and import the new demo databases.

19 Check and upload missing fonts after updating ARIS 10.0.5 or earlier versions

Fonts define the way how text attribute values are displayed, such as names or descriptions in models, tables, output files, print outs and PDF outputs. These fonts are related to languages used in ARIS. The fonts used are taken from different sources, such as the operating system (OS), the JRE used and the system database of the tenant.

Since ARIS version 10.0.6, **Azul Zulu** JRE is used as an internally used JRE. This JRE provides no fonts anymore.

Make sure that all needed fonts are available on the operating system of the machine where by ARIS Server is installed or in the related tenant.

- To make fonts available server wide, use the tools and procedures related to the operating system in use.

If you add fonts to the operating system or delete fonts, you must restart ARIS Server so that the changes take effect.

- To make fonts available tenant wide, you must add (page 31) the missing fonts to the system database of each tenant.

Adding fonts to the system database has the advantages that font sets are update-proof and there is no need restarting ARIS Server to make changes available.

19.1 Add fonts

Fonts define the way how text attribute values are displayed, such as names or descriptions in models, tables, output files, print outs and PDF outputs. These fonts are related to languages used in ARIS. The fonts used are taken from different sources, such as the operating system (OS), the JRE used and the system database of the tenant.

When ARIS Server is installed on a Windows® operating system, all fonts saved in the **Fonts** folder of the operating system are available for report and model graphic generation. Linux operating systems usually provide a smaller set of fonts.

If you use additional fonts in report scripts or in models, you must add the missing fonts to the system database of this tenant. If a used font is missing, unreadable content appears in report output files or incorrect line breaks show up in model graphics. This can occur, for example, in Japanese, if the default attribute font **MS UI Gothic** is missing. In this case, add at least the **msgothic.ttc** font file.




Warning

If ARIS Server is installed on a Linux operating system, usually no Windows® standard fonts are available. To prevent unreadable content or incorrect line breaks, make sure to add all used fonts from your Windows® operating system to the system database of the tenant.

Prerequisite

- You are script administrator for this tenant.
- You have access to the required font file (*.ttf or *.ttc).


Procedure

1. Click **ARIS** >  **Administration**.
2. Click  **Navigation** in the bar panel if the **Navigation** bar is not activated yet.
3. In the navigation tree, click the folder  **Evaluations** > **F** **Fonts**. All additional fonts available in the system database of this tenant are listed. If no fonts are displayed, only the fonts of the Windows® operating system are in use. These fonts are not displayed here.
4. Click **F+** **Add font**. The dialog for file selection opens.
5. Navigate to the required **ttf** or **ttc** file.

If you want to add fonts, such as the **msgothic.ttc** font file from your **Windows/Fonts** folder, you must first copy them to a different folder. The **Windows/Fonts** folder cannot be used as source folder because the Windows® operating system does not allow direct access.

6. Select the font files and click **Open**.

The fonts are added to the system database of this tenant. They are available for reports and model graphic generation.

If you want to delete a font, move the mouse pointer to the required font, right-click, and click  **Delete**.

20 Update the system database for each tenant

The system database holds content available for all databases of a tenant, such as the ARIS method (all model/object/connection/symbol types), filters, macros, reports, semantic checks, and similar content.

In a new ARIS installation, the system database only holds predefined ARIS content provided by Software AG. ARIS users can customize the system database and add new content to it, for example, by defining custom method extensions, writing their own reports, etc.

Each tenant in your system has its own system database. And each ARIS tenant has its own method customizing, additional reports, etc. which are not shared with other tenants.

Because the default content of the system database shipped together with ARIS is updated as part of a new ARIS version, the new version of the system database is applied to an existing installation during an update. It only updates filters, reports, and templates shipped with the standard product. Usually, you have their own filters and templates and do not need updates for those that ship with the standard product.

If you have an issue with any of the standard reports, macros or scripts, or standard workflows of ARIS Process Governance, the system database should be updated. In that case, it might also make sense to execute this command only for a "test" tenant and select individual report script(s) from there for distribution to other tenants.

Run the **updatesystemdb** ACC command for all tenants, except for the **master** tenant, beginning with the **default** tenant. Enter:

```
invoke updatesystemdb on <abs_instance ID> tenant.name=default \  
tenant.user.name=superuser tenant.user.pwd="<superuser password in default>"  
invoke updatesystemdb on <abs_instance ID> tenant.name=<tenant1> \  
tenant.user.name=superuser tenant.user.pwd="<superuser password in tenant1>"  
invoke updatesystemdb on <abs_instance ID> tenant.name=<tenant2> \  
tenant.user.name=superuser tenant.user.pwd="<superuser password in tenant2>"
```

If you use multiple nodes, you might need to prefix the invoke command with **on <node name>**. Alternatively use **set current node** to switch to those nodes with **abs** runnables.

If you have more than one **abs** instance in your installation, you only need to update the system database once per tenant on each instance.

If you do not update the system database for all tenants, the system will work but you will not have the updates and fixes for SAG standard reports, semantic checks, macros, etc.

21 Re-index modeling data for each tenant (optional)

This step is optional, but highly recommended, when updating from ARIS **10.0.9** or an older version to an ARIS **10.0.10** service release or a newer ARIS **10** version.

By default, re-indexing is started automatically at the first login to each database. This causes some delay and the delayed login may bother users. Therefore we recommend you to re-index all databases on each tenant within the update maintenance window.

Warning

Do not use ARIS while databases are re-indexed using the **maintainAll** ACC command. Make sure that no scheduled tasks are running, such as, backups or reports. During **maintainAll** users cannot log into a database.

If you attempt an update without backing up your data, you run the risk of system outages and/or data loss, for which Software AG assumes no responsibility.

The syntax of the ACC command is as follows:

```
on <node name> invoke maintainAll on <abs instance ID> tenant.name="<tenant ID>" tenant.user.name="<user name>" tenant.user.pwd="<password>"
```

- **<node name>**: Name of a node that contains an ABS instance.
- **<abs instance ID>**: Instance ID of this ABS instance.
- **<tenant ID>**: ID of the related tenant.
- **<user name>** and **<password>**: User credentials of a user related to the specified tenant. This user must have either have the Database administrator or the Server administrator function privilege. You can also enter the credentials of the superuser user. Make sure to use quotes to avoid any problems with special characters.

EXAMPLE (ACC)

If you want to re-index your databases contained in the **mycompany** tenant on node **n1** that contains the **abs_m** instance, and you use the **system** user (password is **1234ArisAdmin**), enter:

```
on n1 invoke maintainAll on abs_m tenant.name="mycompany" tenant.user.name="system" tenant.user.pwd="1234ArisAdmin"
```

EXAMPLE (ARISSERVER> ADMINISTRATOR)

As an alternative to the **maintainAll** ACC command, after login to each tenant, you can use the **maintain all** ARIS Server Administrator command:

INTERACTIVE MODE

```
server <server name>:<port> <tenant> <user> <password> maintain all
```

BATCH MODE

```
arisadm.bat -s <server name>:<port> -t <tenant> -u <user> <password> maintain all
```

22 Configure the ARIS Agents on all nodes to use the local repository (optional)

Because all runnables were updated at this stage, the remote repository is no longer needed, and it can be shut down. However, if you want to configure another instance of a runnable later, you must keep the remote repository. Otherwise, configuring a new runnable will fail, because ARIS Agent first checks the remote repository for the most recent runnable version, and uses its local repository only if the file in the remote repository is of the same version. If you want to be able to configure additional runnables, you can now switch the ARIS Agents to again only use the runnables already contained in their local repository. To do so, enter this ACC command:

on all nodes set local.repository.only=true

Note that you can only configure additional instances of those runnables that are already in the local repository of the related ARIS Agent in the respective version.

For example, if you have configured, an **abs** runnable on a node **n1**, after applying the setting above, you can configure an additional **abs** runnable on the same node (or configure it again if you had de-configured it). However, you cannot configure an additional **abs** runnable that runs on node **n2**, for example, if no instance of the **abs** runnable exists on this node.

If the server you are using is running and the disk space is not a critical factor so that you can leave the remote repository in place, you are recommended to leave the **local.repository.only** parameter set to **false**. In this case, you can configure additional instances of any runnable on any node. Only if you must shut down the remote repository due to limited disk space after the update has completed, use the setting mentioned above.

23 Update completed

If no problems have occurred yet, you have successfully updated your ARIS installation. You can use the application, find all your data as before and use all functions and bug fixes of the new ARIS version.

24 Legal information

24.1 Documentation scope

The information provided describes the settings and features as they were at the time of publishing. Since documentation and software are subject to different production cycles, the description of settings and features may differ from actual settings and features. Information about discrepancies is provided in the Release Notes that accompany the product. Please read the Release Notes and take the information into account when installing, setting up, and using the product.

If you want to install technical and/or business system functions without using the consulting services provided by Software AG, you require extensive knowledge of the system to be installed, its intended purpose, the target systems, and their various dependencies. Due to the number of platforms and interdependent hardware and software configurations, we can describe only specific installations. It is not possible to document all settings and dependencies.

When you combine various technologies, please observe the manufacturers' instructions, particularly announcements concerning releases on their Internet pages. We cannot guarantee proper functioning and installation of approved third-party systems and do not support them. Always follow the instructions provided in the installation manuals of the relevant manufacturers. If you experience difficulties, please contact the relevant manufacturer.

If you need help installing third-party systems, contact your local Software AG sales organization. Please note that this type of manufacturer-specific or customer-specific customization is not covered by the standard Software AG software maintenance agreement and can be performed only on special request and agreement.

If a description refers to a specific ARIS product, the product is named. If this is not the case, names for ARIS products are used as follows:

Name	Includes
ARIS products	Refers to all products to which the license regulations of Software AG standard software apply.
ARIS Client	Refers to all programs that access shared databases by using ARIS Server.
ARIS Download Client	Refers to an ARIS Client that can be accessed using a browser.

24.2 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.

24.3 Restrictions

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 your product contains ARIS document storage, the following applies:

ARIS document storage was tested with 40.000 document items. This includes documents, document versions or folders. We recommend monitoring the number and overall size of stored document items and archiving some document items if needed.

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 regarding the use of process administration, ARIS Administration, ARIS document storage, and ARIS Process Board, and the generation of 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.