



ARIS UPDATE COOKBOOK

VERSION 10.0 - SERVICE RELEASE 9

July 2019

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 Scope & Motivation

This document describes the steps necessary to **manually** perform an update of any ARIS 10.0 installation to any 10.0 SR.

Depending on the actual version being updated from (the **source** version) or being updated to (the **target** version) some of the steps described below might not be needed or be optional. Similarly, some steps might depend on whether or not you are using an external database system with your ARIS installation, for example, Oracle or Microsoft SQL Server. In these cases, this will be indicated at the beginning of the respective section. If there is no such indication, the step is required regardless of actual source or target version.

It is important to point out that the steps described in this document are **not** required if ARIS was originally installed via setup - to update such an installation, all you need to do is run the ARIS setup of the new version to update your installation.

The following steps described in this document are only necessary if you...

- ...want to update an ARIS installation that was originally installed manually via 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).
- ...want to update a setup-based ARIS installation that has been changed so that the update setup refuses to update.
- ...want to 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).

2 Preconditions for an update

Before even attempting to update an ARIS installation, you must check if the following preconditions are met.

2.1 Availability of all required credentials


In general, you need the following credentials during the update.

- The ARIS Agent username and password (default credentials: Clous/g3h31m) on each node that is part of the installation to be updated.
- The password of the user **superuser** (default credentials: superuser/superuser) or alternatively, the password of a user with all functional privileges for **each** tenant.

2.2 Available disk space

For a successful update, sufficient free disk space must be available on each node that is part of the update installation. 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 the ARIS Agent runs.
- Determine the current size **w** of the runnable working directories located in (under Windows: <installDir>\server\bin\work, under Linux: /home/ARIS/cloudagent/work).
- Make sure that the condition **f > w + 100 GB** is fulfilled.

 If there is not enough disk space available on the system, **do not try an update!**
The update will probably fail so that the installation cannot be repaired!

2.3 Activating deactivated runnables (for source versions 9.8.4 and later)

Starting with ARIS 9.8 SR4 (Versions $\geq 9.8.4$), it is possible to deactivate individual runnables. 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, a customer might start out with only the ARIS Design Server, but for an easier upgrade to ARIS Connect, they have already installed ARIS Connect Server. In that case, the unneeded runnables can be deactivated (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.

2.4 Check `vm.max_map_count`

From ARIS 10 SR4, the **elastic** runnable (elastic search) requires more virtual memory on your Linux operating system in order 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
```

3 Backup your data

As the very first step of any update of an ARIS installation, all data have to be backed up.

There are basically three ways to do a backup:

- Creating a tenant backup for all tenants using ARIS Cloud Controller. This contains all essential data of a tenant, with the notable exception of any portal customizations and tenant-specific portal settings.
- Copying the working directories of all runnables to a safe place, or even the whole ARIS installation folder. In addition, if an external DBMS is used (Oracle or MS SQL Server) dumps of all schemas containing ARIS data are needed.
- Using the backup functionality offered by most applications via their UI (e.g., backup database in ABS, UMC's "backup data" etc.), or their command-line tools (ABS: arisadm, UMC: y-tenantmgmt). Please note that not all applications offer such functionality, but depending on your usage of ARIS, this might be all you need.

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

4 Cleaning up the installation

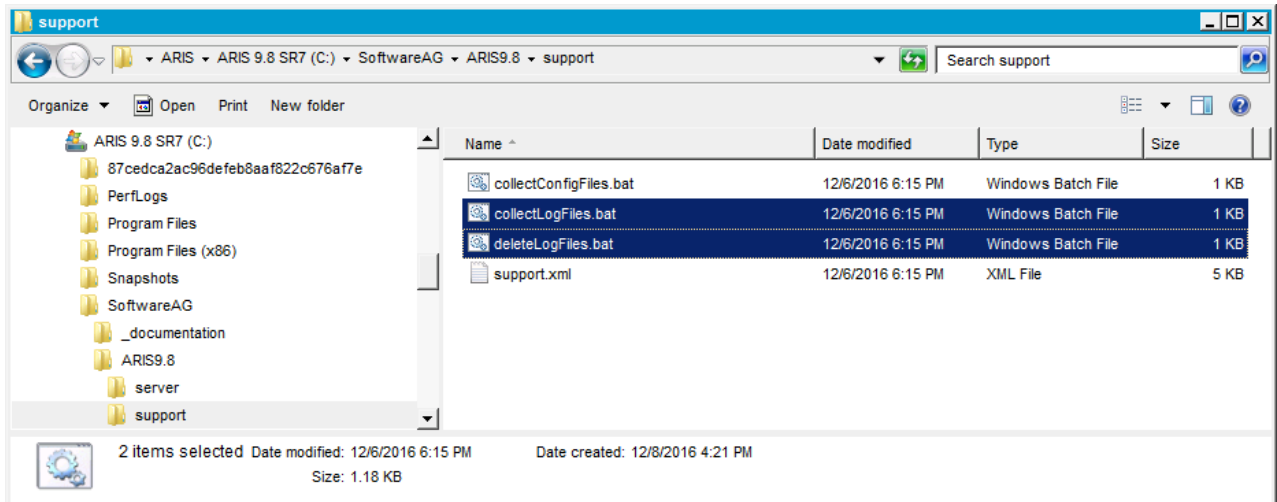
During the actual update procedure, backups of the working directories of all runnables are created in order to be able to roll back to the original version if the update fails.

Depending on how many files there are in the runnables' working directories, these backups will take up considerable space and it can take considerable time to create them. Particularly in environments with limited disk I/O, which is often the case for 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, it is highly recommend to leave the automatic backup of runnable working directories enabled.

However, as a preparation step, you can remove unnecessary files from the working directories. In particular, older versions of ARIS wrote a large number of log files that would not be cleaned automatically. This has been improved considerably in more recent versions.

4.1 Archiving and then deleting 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 you can find them in the **<installDir>\support** folder, as shown in the screenshot below:




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#
```

4.1.1 Archiving all log files (Optional, but recommended)

The **collectLogFiles** utility collects all log files of all runnables and the agent and puts them into a single **LogFiles.zip** archive. If you want to archive all the 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 space on the disk for the log file archive.

Once **collectLogFiles** is complete, copy the resulting **logfiles.zip** file to a safe location.

 If you keep the archive 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 **Preconditions** section in this document.

4.1.2 Deleting all log files

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

5 Documentation and backup of all manual changes

 Manual changes to an installation will not survive an update.

In general, **any manual, physical modification** of an ARIS installation, in particular manual modification or addition of files, **are not preserved during an update**. All manual changes not done using ACC commands after the initial installation of ARIS must therefore be documented in an installation protocol. Only modifications made using ACC commands ("**reconfigure**", "**enhance**") are safe unless stated otherwise.

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.

In general, you are recommended to use ACC commands (in particular **reconfigure** and **enhance**) to make configuration changes or add third party files to your installation (JDBC drivers, SAP JCo adapters, SSL certificates etc.). However certain types of modification cannot yet be performed with ACC. Common valid cases for manual modification are usually related to certain configuration files, in particular these files:

ARIS Connect / 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
```


Another common case of manual modification is adapting the files of ARIS Publisher layouts.

 Any changes to the above files will be lost after an update.

You must repeat your documented changes to those files after performing the update. Note that some of those changes might also no longer be relevant in the new ARIS version.

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 in order to allow SSL connections between ARIS Server and external systems, you must make these certificates available again after each update of ARIS Agent.

 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.

6 Updating ARIS Agents on all nodes

6.1 Making sure 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, it is absolutely necessary to make sure that no program is still using any files or folders inside the ARIS installation directory.


Therefore, make sure that you have done the following:

- Stop and close all ACC command-line prompts.
- Exit all Windows command-line prompts that access a folder inside the ARIS installation directory.
- Close all Windows Explorers that point to the ARIS installation folder.
- Close all files inside the ARIS installation directory that are still open in external programs (for example, log files opened by a text editor).

6.2 Updating ARIS Agents

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

Refer to the **ARIS Server Installation Guides** for detailed instructions on how to run the update ARIS Agent.

 The ARIS Agent setup has to stop all runnables in order to update the Java runtime environment.

6.3 Validating the ARIS Agent update

After performing the update, run the following ACC command to check the new ARIS version number of all agents currently registered in ACC:

```
on all nodes get agent.version
```

Make sure that all lines show the same version that you wanted to update to.

7 Prepare ARIS Cloud Controller

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) 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

Background information for updating runnable parameters

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

However, in versions prior to 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 **!** 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 **~** are applied if the parameter is **NOT** already set for the runnable. Parameters set or changed by the customer are retained.

Parameters marked with **!** are applied regardless of whether the parameter is already set or not.

Parameters that the customer has set or changed are overwritten.


8 Prepare and set remote repository

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

```
on all nodes set local.repository.only=false
```

8.1 Provide remote repository via web server

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

 When using Internet Information Server to serve as remote repository, add the extension **.war** with **MIME Type text/plain** to avoid issues with the import of 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>"
```

For example, if your web server's hostname is **intranet**, is serving http requests on port 8080 (instead of the default port 80), and the contents of the **Setup_data** folder have been copied into the folder **arisrepo/10.0.9.0** you could use this command:

```
on all nodes set remote.repository.url=http://intranet:8080/arisrepo/10.0.9.0
```

8.2 Provide remote repository via local file folder

If you do not have a web or FTP server available in your environment, and 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.

 Note that each location must be a physical drive because mapped network drives do not function as repositories, as the 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, as this allows you to 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**:

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

Replace **<physicalPath>** with the path to the folder that contains the **Setup_data**. 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 **D:\ARIS\10.0.9.0**, set the remote repository like this:

```
on all nodes set remote.repository.url=file:///d:/ARIS/10.0.9.0
```

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

 These backups provide the option of a rollback to the former ARIS version in case the update fails, instead of having a mixture of runnables from the previous and new version that will most likely not work. The backup of the working folders takes some time and consumes a significant amount of disk space. These backups cannot be used as a backup of your application data. Always backup application data before updating!

Note that ARIS Agent updates are **NOT** rolled back, but this is normal and should not be a problem, as the new ARIS Agent can work with runnables of older ARIS versions.


 You can turn the backup option off, but then a rollback 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 cannot assume responsibility.

 The updateall command first checks whether enough free disc space is available. If not, a message like this will appear.

```
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.
```

Please make sure that sufficient free disc space is available.

 When the above ACC command was successful, the output looks similar to 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 10.0.9.0
Runnable cloudsearch_m on node n1 will be updated to version 10.0.9.0
Runnable umcadmin_m on node n1 will be updated to version 10.0.9.0
Runnable abs_m on node n1 will be updated to version 10.0.9.0
Runnable apg_m on node n1 will be updated to version 10.0.9.0
Runnable copernicus_m on node n1 will be updated to version 10.0.9.0
Runnable zoo0 on node n2 will be updated to version 10.0.9.0
Runnable elastic_m on node n2 will be updated to version 10.0.9.0
Runnable couchdb_m on node n2 will be updated to version 10.0.9.0
Runnable adsadmin_m on node n2 will be updated to version 10.0.9.0
Runnable umcadmin_m on node n2 will be updated to version 10.0.9.0
Runnable octopus_m on node n2 will be updated to version 10.0.9.0
Runnable simulation_m on node n2 will be updated to version 10.0.9.0
Runnable loadbalancer_m on node n2 will be updated to version 10.0.9.0
Runnable zoo0 on node n3 will be updated to version 10.0.9.0
Runnable postgresECP_m on node n3 will be updated to version 10.0.9.0
Runnable cloudsearch_m on node n3 will be updated to version 10.0.9.0
Runnable couchdb_m on node n3 will be updated to version 10.0.9.0
Runnable adsadmin_m on node n3 will be updated to version 10.0.9.0
Runnable abs_m on node n3 will be updated to version 10.0.9.0
Runnable copernicus_m on node n3 will be updated to version 10.0.9.0
Runnable ecp_m on node n3 will be updated to version 10.0.9.0
Runnable loadbalancer_m on node n3 will be updated to version 10.0.9.0
Successfully updated runnable zoo0 on node n2 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable elastic_m on node n2 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable couchdb_m on node n2 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable adsadmin_m on node n2 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable umcadmin_m on node n2 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable octopus_m on node n2 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable simulation_m on node n2 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable loadbalancer_m on node n2 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable zoo0 on node n1 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable cloudsearch_m on node n1 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable umcadmin_m on node n1 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable abs_m on node n1 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable apg_m on node n1 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable copernicus_m on node n1 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable zoo0 on node n3 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable postgresECP_m on node n3 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable cloudsearch_m on node n3 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable couchdb_m on node n3 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable adsadmin_m on node n3 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable abs_m on node n3 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable copernicus_m on node n3 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable ecp_m on node n3 from version 10.0.0.2 to version 10.0.9.0
Successfully updated runnable loadbalancer_m on node n3 from version 10.0.0.2 to version 10.0.9.0
23 of 23 runnables updated.
```


10 Starting ARIS after the update

For the next steps, the system needs to be up and running. Start ARIS on all nodes with this ACC command:

```
on all nodes startall
```

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

```
on all nodes list
```

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

11 Common startup problems after the update

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 **STARTED**.

12 Updating the system database for each tenant

i What is the **system database**?

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

In a new ARIS installation, the system database contains only 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.

Since the default content of the system database shipped together with ARIS is also often updated as part of a new ARIS version, the new version of the system database can be applied to an existing installation during an update. This is what the **updatesystemdb** step described here will do.

It only updates filters, reports, and templates shipped with the standard product. Usually, customers have their own filters and templates and do not need updates for those that ship with the standard product.

If a customer has 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 your tenants (except for the tenant **master**) beginning with the tenant **default**:

```
invoke updatesystemdb on <abs_instanceId> tenant.name=default \  
tenant.user.name=superuser tenant.user.pwd="<superuser password in default>"
```

```
invoke updatesystemdb on <abs_instanceId> tenant.name=<tenant1> \  
tenant.user.name=superuser tenant.user.pwd="<superuser password in tenant1>"
```

```
invoke updatesystemdb on <abs_instanceId> tenant.name=<tenant2> \  
tenant.user.name=superuser tenant.user.pwd="<superuser password in tenant2>"
```

If you have multiple nodes, you might need to prefix the invoke command with **on <nodename>**.

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, checks, etc.

13 Adjusting timestamps (ARIS document storage)

In previous ARIS versions, ARIS document storage stored timestamps, for example **Creation time** and **Update time** related to documents and folders in local server time and without any timezone information. If data was moved between ARIS Servers or if a tenant was restored from a backup file, timestamps probably were 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 command-line tool `y-admintool.bat` <**considering UTC offset of your ARIS Servers**>, enter, for example:

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

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

14 ARIS Aware specific topics

The predefined ARIS Aware content of the **dashboarding** runnable is covered by the tenant backup. Please note that if you restore **dashboarding** content, all existing dashboards, feeds and documents stored in Document storage are overwritten. You are recommended to import ARIS Aware content only initially on a completely new ARIS Server installation.

If ARIS Aware has been installed as a master-slave scenario, then the following procedure is needed 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}"
```

15 Updating the demo databases for each tenant

Demo databases are provided on the ARIS DVD with predefined contents for demonstration purposes. With each new ARIS version, those databases come with updates and corrections which are required to properly demonstrate new ARIS functionalities.

The demo databases can be found in the "<ARIS DVD>\Content\Databases" folder:

- 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. This database must therefore be updated manually.

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.

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

Fonts define the way to display text attribute values, such as names or descriptions in models, tables, in output files, print outs and PDF generation. These fonts are related to languages used in ARIS. The fonts used are taken from different sources, such as the operating system, 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 ARIS Server is installed or in the related tenant.

- To provide fonts 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 provide fonts tenant wide, you must add (page 21) 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 to restart ARIS Server.

16.1 Add fonts

Fonts define the way to display text attribute values, such as names or descriptions in models, tables, in output files, print outs and PDF generation. These fonts are related to languages used in ARIS. The fonts used are taken from different sources, such as the operating system, 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 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 language, 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. In order 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** >  **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  **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**.

17 Updating the ARIS online help

In newer ARIS versions, the **online help** files are no longer part of the runnables, but need to be updated via so-called **enhancements** which 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.

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

17.1 Stopping the runnables which will have their help enhanced

Ensure that on all nodes all runnables are in the **STOPPED** state:

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

```
on all nodes stopall
```

17.2 Enhancing help

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

```
on <nodeName> enhance <instanceId> with help <helpArtifact> <version> type war
```

where:

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

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

<helpArtifact> 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, 10.0.9.0.

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 **abs**, the structure of the enhancement command is therefore:

```
on <nodeName> enhance <instanceId> with help <helpArtifact> <version>  
classifier <lang> type war
```

The placeholders **<nodeName>**, **<instanceld>**, **<helpArtifact>**, and **<version>** have the same meaning as 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.

You are recommended to use the **enhanceall** command (see ACC help).

17.3 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 | - |

¹ The methodhelp 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 one's user base.

17.4 Executing the help enhancement


For adding all necessary enhance commands, take the basic structure of the enhance commands shown above and replace the parameters <nodename>, <instance ID>, <artifact name>, <version>, and for ABS only the parameter <lang> accordingly.

```
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier de type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier en type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier fr type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier es type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier ja type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier pt type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier ru type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier zh type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 classifier nl type war
enhanceall abs_1 with help com.aris.documentation.architect-methodhelp 10.0.9.0 type war
enhanceall abs_1 with help com.aris.documentation.architect-scripthelp 10.0.9.0 type war
enhanceall umcadmin_1 with help com.aris.documentation.administration.administration 10.0.9.0 type war
enhanceall umcadmin_1 with help com.aris.documentation.administration.tm 10.0.9.0 type war
enhanceall umcadmin_1 with help com.aris.documentation.administration.infrastructure 10.0.9.0 type war
enhanceall adsadmin_1 with help com.aris.documentation.administration.ads 10.0.9.0 type war
enhanceall app_1 with help com.aris.documentation.processboardhelp 10.0.9.0 type war
enhanceall copernicus_1 with help com.aris.documentation.connect 10.0.9.0 type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier de type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier fr type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier en type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier ja type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier es type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier pt type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier ru type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier zh type war
enhanceall abs_1 with help com.aris.documentation.architect 10.0.9.0 classifier nl type war
enhanceall arcm_1 with help com.aris.documentation.arcm.arcm 10.0.9.0 type war
```

18 Configure the agents on all nodes to use the local repository (optional)

Since all runnables have been 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 the 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 agents to again only use the runnables already contained in their local repository using this ACC command:

```
on all nodes set local.repository.only=true
```

 Note that you can only configure additional instances of those runnable types that are already in the respective agent's local repository 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 deconfigured 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.

It is therefore recommended that you leave the **local.repository.only** parameter set to **false** if you can simply leave the remote repository in place, that is, if the server you are using is running and the disk space is irrelevant. In this way, you can configure additional instances of any runnable type on any node. Only if you really need to shut down the remote repository after the update has completed should you use the above setting.

19 Update completed

If no problems have occurred up to this point, you have successfully updated your installation. You can use the application, find all your data as before and use all functions and bugfixes of the new version.

20 Legal information

20.1 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 Software AG's consulting services, 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 only describe 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 Clients | Refers to all programs that access shared databases via ARIS Server, such as ARIS Architect or ARIS Designer. |
| ARIS Download clients | Refers to ARIS clients that can be accessed using a browser. |

20.2 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.

20.3 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.

ABOUT SOFTWARE AG

The digital transformation is changing enterprise IT landscapes from inflexible application silos to modern software platform-driven IT architectures which deliver the openness, speed and agility needed to enable the digital real-time enterprise. Software AG offers the first end-to-end Digital Business Platform, based on open standards, with integration, process management, in-memory data, adaptive application development, real-time analytics and enterprise architecture management as core building blocks. The modular platform allows users to develop the next generation of application systems to build their digital future, today. With over 45 years of customer-centric innovation, Software AG is ranked as a leader in many innovative and digital technology categories. Learn more at www.SoftwareAG.com.

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