software AG

ARIS
BASIC TROUBLESHOOTING GUIDE

Version 10.0 - Service Release 2

October 2017

Contents

1   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.

2   General notices

This manual describes the settings and features as they were at the time of print.

- Each setup program will install one specific product. If you need different products, they must be installed on a dedicated machine each. For advanced installations Software AG strongly recommends that you request an installation service by Global Consulting Services. You can order that service from your Software AG sales representative (page 19). This is of particular importance when you intend to install ARIS across several computers/VMs (distributed installation). Such a specific scenario requires profound knowledge of the technical ARIS infrastructure and environment. This cannot be provided in the product documentation. 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).

- In general, it is advisable to use up-to-date hardware taking into account the number of users who will be accessing the ARIS.

- 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, please contact your local Software AG sales organization (page 19). Please note that this type of manufacturer-specific or customer-specific change is not subject to the standard Software AG software maintenance agreement and that these changes can only be performed if you requested and agreed on them.

- Please consider the legal notices (http://softwareag.com/licenses/).

3   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 **<in bold and in angle brackets>**.

- Single-line example texts (e.g., a long directory path that covers several lines due to a lack of space) are separated by ↵ 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.

4   Basic troubleshooting

If you face problems starting ARIS please refer to the Monitoring health chapter and read the following pages.

4.1   ARIS Download Client cannot be started

PROBLEMS

1. **Starting ARIS Download Client (Java applet) does not work.**

   Java applets are used by default to start ARIS download clients. Maybe your browse blocks Java applets.

2. **Using ARIS downloader, but double clicking the JAR file does not work and prompts with an error message.**

   Either there's no Java Runtime Environment installed on the user's computer, or the file extension **.JAR** is NOT assigned to the JRE.

SOLUTIONS

1. If your browser blocks Java applets, start ARIS Download Client using ARIS downloader.

2. If no JRE is installed on the user's computer, download and install it from http://java.com (http://java.com).

   a.   Start the Windows Explorer and navigate to the **%UserProfile%\downloads** download folder, or to that folder where the ARIS downloader **JAR** file has been saved by the browser.

   b.   Right click the ARIS downloader **JAR** file.

   c.   Select **Open with**.

   d.   Assign it with a locally installed Java ™ Platform SE binary Oracle Corporation **JAR** file.

   If a file extension assignment for **.JAR** files is not feasible, the ARIS downloader can be started using the JRE on a command line.

Examples

JRE version 7 is installed and the ARIS downloader should start ARIS Architect/Designer on the ARIS server **myARISserver.domain**:

%ProgramFiles(x86)%\Java\jre7\bin\java.exe -jar ARIS_myARISserver.domain.jar

JRE version 8 is installed and the ARIS downloader should start ARIS Architect/Designer on the ARIS server **myARISserver.domain**:

%ProgramFiles(x86)%\Java\jre1.8.0_60\bin\javaw.exe -jar ARIS_myARISserver.domain.jar

4.2 HTTPS connection fails (SSL) - wrong keystore password

PROBLEM

If the keystore password is wrong, an error message will be logged for the runnable:

```
SEVERE: Failed to initialize end point associated with ProtocolHandler ["http-bio-23456"]
java.io.IOException: Keystore was tampered with, or password was incorrect
        at sun.security.provider.JavaKeyStore.engineLoad(JavaKeyStore.java:772)
        at sun.security.provider.JavaKeyStore$JKS.engineLoad(JavaKeyStore.java:55)
        at java.security.KeyStore.load(KeyStore.java:1445)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.getStore(JSSESocketFactory.java:429)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.getKeystore(JSSESocketFactory.java:328)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.getKeyManagers(JSSESocketFactory.java:5
86)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.getKeyManagers(JSSESocketFactory.java:5
26)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.init(JSSESocketFactory.java:471)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.createSocket(JSSESocketFactory.java:218
)
        at org.apache.tomcat.util.net.JIoEndpoint.bind(JIoEndpoint.java:400)
        at org.apache.tomcat.util.net.AbstractEndpoint.init(AbstractEndpoint.java:649)
        at org.apache.coyote.AbstractProtocol.init(AbstractProtocol.java:434)
        at
org.apache.coyote.http11.AbstractHttp11JsseProtocol.init(AbstractHttp11JsseProtocol.java:
119)
        at org.apache.catalina.connector.Connector.initInternal(Connector.java:978)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
        at org.apache.catalina.core.StandardService.initInternal(StandardService.java:559)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
        at org.apache.catalina.core.StandardServer.initInternal(StandardServer.java:821)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
        at org.apache.catalina.startup.Catalina.load(Catalina.java:638)
        at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
        at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:62)
        at
sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
        at java.lang.reflect.Method.invoke(Method.java:497)
        at org.apache.catalina.startup.Bootstrap.load(Bootstrap.java:280)
        at org.apache.catalina.startup.Bootstrap.main(Bootstrap.java:454)
Caused by: java.security.UnrecoverableKeyException: Password verification failed
        at sun.security.provider.JavaKeyStore.engineLoad(JavaKeyStore.java:770)
        ... 25 more
```

SOLUTION

Provide the proper keystore password using the **connector.https.keystorePass** configure parameter.

4.3   HTTPS connection fails (SSL) - wrong key password

PROBLEM

If the key password is wrong, an error message will be logged for the runnable:

```
SEVERE: Failed to initialize end point associated with ProtocolHandler ["http-bio-23456"]
java.io.IOException: Cannot recover key
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.init(JSSESocketFactory.java:496)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.createSocket(JSSESocketFactory.java:218
)
        at org.apache.tomcat.util.net.JIoEndpoint.bind(JIoEndpoint.java:400)
        at org.apache.tomcat.util.net.AbstractEndpoint.init(AbstractEndpoint.java:649)
        at org.apache.coyote.AbstractProtocol.init(AbstractProtocol.java:434)
        at
org.apache.coyote.http11.AbstractHttp11JsseProtocol.init(AbstractHttp11JsseProtocol.java:
119)
        at org.apache.catalina.connector.Connector.initInternal(Connector.java:978)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
        at org.apache.catalina.core.StandardService.initInternal(StandardService.java:559)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
        at org.apache.catalina.core.StandardServer.initInternal(StandardServer.java:821)
        at org.apache.catalina.util.LifecycleBase.init(LifecycleBase.java:102)
        at org.apache.catalina.startup.Catalina.load(Catalina.java:638)
        at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
        at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:62)
        at
sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
        at java.lang.reflect.Method.invoke(Method.java:497)
        at org.apache.catalina.startup.Bootstrap.load(Bootstrap.java:280)
        at org.apache.catalina.startup.Bootstrap.main(Bootstrap.java:454)
Caused by: java.security.UnrecoverableKeyException: Cannot recover key
        at sun.security.provider.KeyProtector.recover(KeyProtector.java:328)
        at sun.security.provider.JavaKeyStore.engineGetKey(JavaKeyStore.java:138)
        at sun.security.provider.JavaKeyStore$JKS.engineGetKey(JavaKeyStore.java:55)
        at java.security.KeyStore.getKey(KeyStore.java:1023)
        at sun.security.ssl.SunX509KeyManagerImpl.<init>(SunX509KeyManagerImpl.java:133)
        at
sun.security.ssl.KeyManagerFactoryImpl$SunX509.engineInit(KeyManagerFactoryImpl.java:70)
        at javax.net.ssl.KeyManagerFactory.init(KeyManagerFactory.java:256)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.getKeyManagers(JSSESocketFactory.java:5
97)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.getKeyManagers(JSSESocketFactory.java:5
26)
        at
org.apache.tomcat.util.net.jsse.JSSESocketFactory.init(JSSESocketFactory.java:471)
        ... 18 more
```

SOLUTION

Provide the proper keystore password using the **connector.https.keyPass** configure
parameter.

4.4 ARIS clients cannot connect to servers using SSL

PROBLEM

A SSL certificate is available but ARIS clients cannot be started using SSL certification.

This may happen due to ARIS clients using Java trust store having trouble verifying the certificate chain.

SOLUTION

An additional certificate needs to be made available for the load balancer.

1. Download the zip file of the certificate from a certificate authority, e.g. GlobalSign.

2. Start ARIS Cloud Controller (ACC).

3. Stop the load balancer runnable.

4. Enhance the certificate using this command:

    enhance <runnable of the load balancer component> with sslCertificate local file "<path to the downloaded zip file>"

5. Start the **load balancer** runnable again.

The SSL certificate is available.

4.5 ARIS clients using SSL throw Java exceptions

PROBLEM

A SSL certificate is available but ARIS Client or ARIS Download Client throws Java exceptions like:

```
SEVERE: cannot login
com.aris.modeling.common.serverremoteapi.cscommon.umc.UMCLoginException: cannot
connect to server myARIS.customer.com. Reason:
sun.security.validator.ValidatorException: PKIX path building failed:
sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid
certification path to requested target
at
com.aris.modeling.common.serverremoteapi.cscommon.umc.UMCLogin.authenticateOnSer
ver(UMCLogin.java:218)
at
com.aris.modeling.common.serverremoteapi.cscommon.umc.UMCLogin.authenticate(UMCL
ogin.java:113)
at
com.aris.modeling.client.container.serveraccess.AServerContext.getUserToken(ASer
verContext.java:842)
at
com.aris.modeling.client.container.serveraccess.AServerContext.connectBLManager(
AServerContext.java:773)
cannot be started using SSL certification.
```

REASON

While you may have purchased a valid certificate from a reliable CA that was created for ARIS Server, i.g. the server's host & domain name in the certificate are correct, the Java Runtime environment (JRE) does not have certificate of the CA that signed it in its CA certificate store and therefore cannot confirm the certificate's validity.

If you use an internal CA, this is also not known to Java.

SOLUTION

You need to add the certificate to the JRE's certificate store.

The first step is to figure out which JRE is being used for the client.

If the client uses the download client, it will use the Java Runtime Environment that is installed on the machine. Usually, the installation directory will be **c:\Programs\java\jre7**. The installed ARIS client ships with its own JRE, it can be found in **<ARIS installation path>client\jre**.

Next step is to copy the certificate file to a directory on the machine e.g., **c:\temp\mycert.crt**, henceforth we will refer to this as **<ARIS installation path>client\jre**.

Inside **<ARIS installation path>client\jre\bin** there should be the file **keytool.exe**.

Open a Windows command prompt in this directory and run the command.

keytool.exe -importcert -file <pathToCertFile> -alias <certificateAlias> -keystore <ARIS installation path>client\jre\lib\security\cacerts -storepass <keystorePassword>

Replace all <placeholders> with the proper value. Aside from those mentioned above:

- **<certificateAlias>**

  is a name you give to your certificate, chose it so that you can later easily identify your certificate among those in the cacerts keystore.

- **<keystorePassword>**

  is the password to the cacerts keystore, the default value is **changeit**.

Afterwards, you have to restart your client. If you use the download client it is sometimes required to restart the browser as Java is often still active and has not re-read the cacerts keystore.

If you get an error message like this:

```
Jul 01, 2014 7:15:08 AM com.idsscheer.utils.logging.ALogger logException
SEVERE: cannot login
com.aris.modeling.common.serverremoteapi.cscommon.umc.UMCLoginException:
 cannot connect to server myARIS.customer.com. Reason: Certificate
for <myARIS.customer.com> doesn't contain CN or DNS
subjectAlt
at
com.aris.modeling.common.serverremoteapi.cscommon.umc.UMCLogin.authenticateOnSer
ver(UMCLogin.java:218)
at
com.aris.modeling.common.serverremoteapi.cscommon.umc.UMCLogin.authenticate(UMCL
ogin.java:113)
at
com.aris.modeling.client.container.serveraccess.AServerContext.getUserToken(ASer
verContext.java:842)
...
```

Your certificate is signed for the wrong server name. In this case, you need obtain a new certificate.

4.6   Using SSL or using other port than port 80

PROBLEM

The local script service **Determine link (design)** is currently not able to handle a changed port (default port is port **80**) or work properly in a system using Process Governance which is set up with SSL.

SOLUTION

Change the port and SSL-mode manually in the local script. To do so proceed as follows.

Procedure

1.   Start ARIS Architect

2.   Log into a database.

3.   Navigate to **Governance Resources > Determine link (design)**.

4.   Double-click the service **Determine link (design)**. The service opens on a separate tab. You can edit the code.

5.   In the **//link="http://** section of the code, add your port and your SSL-mode.

6.   Save the changes.

The problem should no longer occur.

4.7   Server started but no access to ARIS

PROBLEM

After you have started the server you still cannot access ARIS.

SOLUTION

Open the ARIS Cloud Controller (ACC) using the link in the start menu. Once the prompt appears, type **list**. Check if all runnables are in state **STARTED**.

If the output of the list command shows one or more runnables in state **STARTING** please wait a while and type **list** again.

Please ensure that the DNS name resolution works correctly.

4.8   Runnables do not start

PROBLEM

- Runnables are still in **STARTING** state.
- Runnables are in the **DEACTIVATED** state.

SOLUTION

Kill the runnable using the **kill** command. For example **kill abs_m**. Try starting it again with the **start** command, e.g. **start abs_m**.

If the output of the **list** command shows one or more runnables in state **FAILED** or **STOPPED**. Type **startall**. Once the command finishes give the runnables some time to complete startup and type **list** to see their current state.

If a runnable is **DEACTIVATED**, activate the runnable again.

4.9   Resolving port conflicts

PROBLEM

You have killed and restarted (page 11) a FAILED/STARTING runnable several times but it still doesn't start up properly.

SOLUTION

Port collisions are a common reason for runnables not starting up at all or not working properly. Beware of port conflicts, e.g. web servers or programs like **World Wide Web Publishing Service** or **Routing and Remote Access** might use the ports **80** and **443** by default.

1. Check the log files for messages indicating port conflicts.

2. Find out the ports used by an ARIS runnable using the ACC command **show instance <instanceId>**,

    e.g.

    ```
    ACC+ localhost>show instance abs_m
    ID:abs_m state:STARTED type:com.aris.modeling.runnables.y-server-run-prod-9.0.
    0-RC108-Trunk-SNAPSHOT)
    Configuration parameters:
            JAVA_OPTS=-server
    -Xrunjdwp:transport=dt_socket,address=9704,server=y,suspend=n
            JAVA-Dcom.sun.management.jmxremote.port=9604
            JAVA-Dcom.sun.management.jmxremote.ssl=false
            CATALINA_PORT=10080
            JAVA-Dcom.sun.management.jmxremote.authenticate=false
            JAVA-XX\:MaxPermSize=256m
            JAVA-Dcom.sun.management.jmxremote=/enabled
            JAVA-Xmx=8g
            zookeeper.connect.retry.time.ms=30000
            zookeeper.bundle.type=abs
            zookeeper.session.timeout.ms=60000
            CATALINA_AJP_PORT=11080

    START command was issued at Jun 5, 2013 8:47:11 AM
    Average startup time: 192915msec
    Autostart: OFF
    Desired state: STARTED
    ACC+ localhost>
    ```

3. Use the Windows **netstat** command to find ports used by other programs:

    netstat –ao |more

4. Look for lines containing the port number(s) of the runnable that is not starting up properly and which have the state **listening**.

    Sometimes, two programs might startup and use the same port. Only the first program will be reachable via this port.

    ```
    Proto  Local Address   Foreign Address   State       PID
    TCP    0.0.0.0:9701    MCY137201:0       LISTENING   5524
    TCP    0.0.0.0:9702    MCY137201:0       LISTENING   4652
    TCP    0.0.0.0:9703    MCY137201:0       LISTENING   5968
    TCP    0.0.0.0:9704    MCY137201:0       LISTENING   3632
    TCP    0.0.0.0:9705    MCY137201:0       LISTENING   9740
    TCP    0.0.0.0:9706    MCY137201:0       LISTENING   6464
    TCP    0.0.0.0:9707    MCY137201:0       LISTENING   6836
    TCP    0.0.0.0:9708    MCY137201:0       LISTENING   6400
    TCP    0.0.0.0:9709    MCY137201:0       LISTENING   7156
    TCP    0.0.0.0:10080   MCY137201:0       LISTENING   2992
    TCP    0.0.0.0:10080   MCY137201:0       LISTENING   6836
    TCP    0.0.0.0:10081   MCY137201:0       LISTENING   3632
    TCP    0.0.0.0:10082   MCY137201:0       LISTENING   7922
    TCP    0.0.0.0:10083   MCY137201:0       LISTENING   4094
    ...
    ```

5. Use Windows Task Manager to identify the program using its PID that is using that port.

After you have stopped the program causing the conflict or redirected ports, all ARIS runnables will start up properly.

4.10   Log files are not available

PROBLEM

After transferring projects/branches or performing SAP synchronization all actions are logged. The files can be opened alter each action and will be saved automatically. If log files are not saved in project or solution configurations in ARIS Architect, make sure that, in ARIS document storage configuration, the **txt** file extension is configured as valid extension.

SOLUTION

Prerequisite

You have the **Technical configuration administrator** function privilege.

Procedure

1.   Start ARIS Connect.

2.   Activate the ▦ **Configuration** tab.

3.   Select **Quota and restrictions** > General.

4.   Click ✏ **Edit >** ✏ **Contribute**.

5.   Make sure that **txt** is listed in the **Valid file extensions** field, and that the **txt** file type extension is **not** restricted.

6.   Click 💾 **Save**.

Log files with the **txt** extensions can be transferred. Log files will be available.

5 Known restrictions

In general, it is advisable to use up-to-date hardware taking into account the number of users who will be accessing the ARIS. For information about hardware and software requirements, please refer to the **ARIS System Requirements** document on the installation media. You can also download it from Empower (https://empower.softwareag.com/) (login required) or from the ARIS Download Center (aris.softwareag.com).

Please consider the legal notices (http://softwareag.com/licenses/).

Despite the approval of our software for operation with the listed operating system versions and other software and hardware requirements, we cannot exclude the possibility of problems arising from unpredictable incompatibility issues with certain hardware/software combinations.

5.1 Update Setup

- Use the **reconfigure** ACC command to change settings.

  If you have customized your ARIS Publisher Server manually by modifying **XML** and **CFG** files these modifications will be lost.

  Save modified configuration files locally and document your modifications. After an update installation you can easily compare your saved file and copy the modified line into the updated configuration file.

- Please make sure that no file in the installation directory is locked. Therefore, close all Command Prompts pointing into the ARIS installation folder.

- Please make sure to exit ACC before running the update setup.

- The update from ARIS **9.5** to higher ARIS versions using a Microsoft SQL database system is not possible. A new installation and database migration is recommended.

- Updating ARIS using Oracle as database management system:

  If you are about to update your ARIS installation using an Oracle database you must upgrade your database schema first before starting the server. Otherwise your runtime environment and data might be harmed and the application may not work anymore.

  To do so, use the files on you installation medium under **Add-ons\DatabaseScripts\Design&ConnectServer\Oracle**. Base requirement for this configuration is a correctly configured **envset.bat**.

  Execute the **cip_update_schema_for_tenant.bat** file for MS Windows operating system or **cip_update_schema_for_tenant.sh** file for a Unix operating system.

  This has to be executed for each tenant separately.

  Please consider that **in any case** you have to update the default and the master tenant and all other tenants used.

  cip_update_schema_for_tenant.bat <master tenant schema> (mandatory), e. g. **cip_update_schema_for_tenant.bat aris_master**

  cip_update_schema_for_tenant.bat <default tenant schema> (mandatory), e. g. **cip_update_schema_for_tenant.bat aris_default**

  Call the file directly on a computer where an Oracle client is installed in the following syntax:

  cip_update_schema_for_tenant.bat <tenant_name>, e.g.

  cip_update_schema_for_tenant.bat aris_default

  or

  cip_update_schema_for_tenant.bat myprojecttenant.

- If the ARIS help link doesn't work anymore (404 error) after the update of a custom configuration, it can easily be fixed by modifying the **useraction_default.xml** file (<ARIS installation directory>\server\bin\work\work_copernicus_<s, m or l>\base\webapps\ROOT\WEB-INF\config\<customization>\instances\UserAction\). In the help url e.g.:

  `/static/help/{locale}/handling/ca/index.htm#52910.htm`

  The **connect** directory is missing. Please ad this folder, e.g.:

  `/static/help/{locale}/handling`**`/connect/`**`ca/index.htm#52910.htm.`

- If you update an ARIS version older than 9.7, make sure to execute the **updatesystem** command. This is mandatory in order to make databases visible for all authorized users. Using large databases this may take some time.

5.2   Process Governance

You can use Process Governance with up to 1000 process instances running in parallel. But the number may differ depending on the complexity of the running process (e. g. self-created reports).

5.3   Right-to-left (RTL)

Right-to-left, top-to-bottom text is not officially supported. Arabic or Hebrew can be used with ARIS, but not all functionality support Right-to-left.

5.4   Tenant names

For tenant names please only use up to 30 lowercase ASCII characters and numbers. The name must begin with a character. Special characters and characters e. g. in Chinese, Cyrillic or Arabic cannot be used.

6 Contacting support

ONLINE

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

Click **https://empower.softwareag.com/** (**https://empower.softwareag.com/**).

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

BY TELEPHONE

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

+800 ARISHELP

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

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

7 Glossary

A

ACC locale file

ACC expression.

```
local file <key> (<relativePath> | <absolutePath>)
```
Uses a file on the machine on which the ACC is running as input for an invoke command, by specifying the file either as absolute path or as a path relative to the ACC's current working directory.

ARIS Agent

Required service on every machine (node) on which an ARIS server component (runnable) runs. It allows the remote installation, configuration, operation of ARIS runnables.

Absolute Path

ACC expression.

```
('/' | '\' | [A-Z] ':') <relativePath>
```
An absolute path starting with either a forward or backward slash (on Linux) or a file letter (on Windows), where the individual path steps are separated by either forward or backward slashes, e. g.

"d:/ojdbc6-11.2.0.3.jar" or **"d:\\ojdbc6-11.2.0.3.jar"**

<absoluteZookeeperPath>

Free variable parameter used in ACC expressions.

Absolute zookeeper path.

```
('/' | '\' ) <relativePath>
```
A path used in the zookeeper runnable.

<agentPort>

Free variable parameter used in ACC expressions.

Agent's Port number.

<appType>

Free variable parameter used in ACC expressions.

Application type.

```
umc | abs | ads | apg | ecp | cop | ...
```
A technical application type as defined by the zookeeper runnable.

<appTypeId>

Free variable parameter used in ACC expressions.

Application type ID

`<ID>`

An application type ID is used to uniquely identify a registered application type on the cloud controller. An application type ID can be any string without whitespace, starting with a letter or underscore character (_), and containing only letters, digits, or underscore characters.

ARIS Cloud Controller (ACC)

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

arisservice user

The user **arisservice** is created automatically. By default, this user is assigned the **Database administrator** and **Process Governance administrator** function privileges. This user only uses up a license if a license privilege is activated for this user. The default password is **arisservice**. You should change the default password to prevent unauthorized access. You can change all user data except for the user name.

Artifact Enhancement

ACC expression.

`<groupId>.<artifactId> <version> (classifier <ID>)? type <ID>`

Enhances a runnable with an artifact from the repository, by specifying the Maven-esque groupdId, artifactId, version, type, and optionally the classifier, of the artifact.

Artifact file

`file <key> <groupId> . <artifactId> <version> (classifier <classifier>)? type <type>`

Uses an artifact from the repository as input for an invoke command, by specifying the Maven-esque groupdId, artifactId, version, type, and optionally the classifier, of the artifact.

Free variable parameter used in ACC expressions.

Artifact ID.

`<ID>`

The common Maven-esque artifact ID of the runnable.

B

<backupId>

Free variable parameter used in ACC expressions.

Backup ID.

`<ID>`

A backup ID is used to uniquely identify a runnable backup for an instance within one node. It is only unique for an instance on a node. A backup Id is an integer number and will be generated temporary by the **list backups** command.

C

Collaboration database

The **postgresECP_<s,m or l>** runnable handles the internal database storing Collaboration content available in ARIS Connect.

D

Distributed installation

Byword for multi node installation. Using installation programs and performing manual tasks to establish an executable system on several servers.

Multi node installation, i.e., an installation spanning across several computers/VMs. Such a specific scenario requires profound knowledge of the technical ARIS infrastructure and environment. This cannot be provided in the product documentation. 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). For this type of installation Software AG strongly recommends that you request an installation service by Global Consulting Services. You can order that service from your Software AG sales representative.

E

<enhancement>

Free variable parameter used in ACC expressions.

Enhancement.

`<enhancementPoint> (<artifactEnhancement> | <fileEnhancement> | <localFileEnhancement>) (options ( <key> <value> (, <value>)*)+ )?`

Enhance a runnable with a file. There are two ways to specify the source file, as Maven repository artifact or as repository file. Optionally, parameters can be specified that are passed to the runnable's corresponding enhancement point.

Enhancement Point

ACC expression.

`<ID>`

The name of the runnable's enhancement point to which to send the file and the optional parameters to be used for enhancement.

G

ID

`('a'..'z'|'A'..'Z'|'_') ('a'..'z'|'A'..'Z'|'0'..'9'|'_'|'-')*`

An ID (identifier) is any string beginning with a letter or the underscore character (_), and containing only letters, digits, the underscore character (_), or a dash character (-).

Free variable parameter used in ACC expressions.

Group ID

`<ID> (. (<ID>|<INT>))+)`

The common Maven-esque group ID of the runnable, i.e., a sequence of identifiers separated by dots (.).

GUID

Globally **U**nique **Id**entifier (GUID).

The GUID is a character set that uniquely identifies elements worldwide.

guest user

The user **guest** is created automatically. By default, no function or license privileges are assigned to this user. This user serves technical purposes only. It is not for use by end users. Logging in to ARIS Connect or other Software AG products with this user is not allowed. Further information is available in the Software AG license terms (http://softwareag.com/licenses (http://softwareag.com/licenses)).

I

integer

`'-'? '0'..'9'+`

A positive or negative Integer number.

<instanceId>

Free variable parameter used in ACC expressions.

Instance ID.

<ID>

An instance ID is used to uniquely identify a runnable within one node. An instance ID can be any string without whitespace, starting with a letter or underscore character (_), and containing only letters, digits, or underscore characters.

Example

abs_m is the Instande ID representing the **abs** runnable. This runnable manages the Modeling & **Publishing** component.

<invocationFile>

Free variable parameter used in ACC expressions.

Invocation file.

`<artifactFile> | <repositoryFile> | <accLocalFile>`

Specifies a file to be used as input for the operation. The file can be specified using Maven artifact coordinates (GAV), as a relative path to a file in one of the repositories known to the respective agent, or as a file local to the machine on which the ACC is running.

<ipOrHostName>

Free variable parameter used in ACC expressions.

IP address or fully qualified name of the server to be connected.

J

JAAS

Java **A**uthentication and **A**uthorization **S**ervice (**JAAS**).

This is a Java interface, which provides services for the authentication and for the access in Java programs. JAAS supports a user based authentication.

K

\<key\>

Free variable parameter used in ACC expressions.

Key

```
<ID> (. (<ID> | <INT>))+
```

A key can be any identifier i.e. any string without whitespace, starting with a letter or underscore character (_), and containing only letters, digits, or underscore characters or a dotted identifier, i.e., a sequence of several identifiers integers as parts, separated by a . character, e.g.: **ShortId**, **ASimpleButLongerIdentifier12345**, **A.dotted.identifier.1**

L

Load balancer

In ARIS the **loadbalancer** runnable distributes the workload across the installed comopnents.

In computing, load balancing distributes workloads across multiple computing resources, such as computers, a computer cluster, network links, central processing units or disk drives. Load balancing aims to optimize resource use, maximize throughput, minimize response time, and avoid overload of any single resource. Using multiple components with load balancing instead of a single component may increase reliability and availability through redundancy. Load balancing usually involves dedicated software or hardware, such as a multilayer switch or a Domain Name System server process.

M

Multi node

Distributed ARIS installation spanning several computers, delivered by manual provisioning.

Such a specific scenario requires profound knowledge of the technical ARIS infrastructure and environment. This cannot be provided in the product documentation. 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).

Modeling database

The **postgres_<s,m or l>** runnable handles the internal standard database system storing all ARIS databases (modeling data) and the system databases (ARIS method, filters, templates, languages, fonts, font formats and script data).

This database can be replaced by an external Oracle® or Microsoft® SQL database.

N

Node

Virtual or physical machine on which ARIS Agent is installed to host ARIS runnables.

<nodeName>

Free variable parameter used in ACC expressions.

Node name.

A node name is a unique logical name given to a node registered by ACC. It can be any string without whitespace, starting with a letter or underscore character (_), and containing only letters, digits, or underscore characters.

<nodeSpec>

Free variable parameter used in ACC expressions.

Node specification.

```
on <nodeName>
```

All zookeeper ensemble management, lifecycle and agent configuration commands can optionally be prefixed with a node specification to send them to a node other than the current node or to determine the node if no current node has been set.

O

<operation>

Free variable parameter used in ACC expressions.

Operation.

```
<ID>
```

The name of the operation to invoke.

OTP

One-**T**ime-**P**ad (**OTP**).

This one-time encryption is a symmetric encryption method to transfer messages. Its characteristic is that the length of the encryption key is at least as long as the message itself.

OTP is considered information technology secure and cannot be broken.

P

<password>

Free variable parameter used in ACC expressions.

Required user password. This might be the ARIS Agent user's password, a database user, the superuser or a system user.

Free variable parameter used in ACC expressions.

Port specification.

port <key> (<INT> | <INT>:<INT>) (',' (<INT> | <INT>:<INT>))* (default <INT>)?

A port specification indicates that the configuration parameter "key" represents a port, i.e. key is the actual port. Individual or ranges of ports that are reserved for this port parameter can be specified. Further, a default can be declared, which indicates the port that is used by the runnable if no explicit value is specified for this port parameter during configure.

R

Relative Path

(<ID> | <STRING>) (('/' | '\') (<ID> | <STRING>))*

A relative path, where the individual path steps are separated by either forward or backward slashes.

Repository File

file <key> <relativePath>

Uses a file from the repository as input for an invoke command, by specifying the file's path relative to the repository's root.

Runnable

Name of ARIS server's program component.

Depending on the ARIS server type different runnables are running in order to provide full functionality. Runnables can be managed using ARIS Cloud Controller (ACC). The runnable's name is the InstanceID of ARIS server's program component.

S

SAML

Security **A**ssertion **M**arkup **L**anguage (**SAML**).

Standard for exchanging authentication data between security domains. SAML is an XML-based protocol that uses security tokens containing assertions to pass information about a user between an identity provider and a service provider and enables web-based authentication scenarios including single sign-on across all ARIS runnables.

Single node

An ARIS server installation delivered by an ARIS server setup.

<serviceId>

Free variable parameter used in ACC expressions.

Service ID.

<ID>

A service ID is used to uniquely identify a service. It is assigned automatically by the system when the service is registered. It can be used to refer to a specific service for updating or deregistering it.

<serviceType>

Free variable parameter.

Service type

db | smtp | proxy | postgresql-ecp | elasticsearch | rs | ...

A technical service type as defined by the zookeeper runnable. A service type specifies the type of an external or internal service to be registered.

This example shows how to register an external service db (Microsoft SQL) and the required configuration parameters (**bold**):

```
url="jdbc:sqlserver://<host name>:<port>;DatabaseName=<DATABASE NAME>"
driverClassName="com.microsoft.sqlserver.jdbc.SQLServerDriver"
username="<user name>"
password="<password>"
maxIdle=15
maxActive=300
maxWait=10000
removeAbandoned=false
removeAbandonedTimeout=600
logAbandoned=true
defaultAutoCommit=false
rollbackOnReturn=true
host=<host name>
jmxEnabled=true
```

Service registry

The **zoo_<s,m or l>** runnable is a server component managing the communication, configuration and status information of all available runnables and external services.

<s, m or l>

Free variable parameter used in ACC expressions.

Indicator for the three memory sizings **small (s)**, **medium (m)** and **large (l)**. This indicator is part of standard runnable names (runnables) It indicates the maximum size of the Java heap. The **S** sizing which at the time of this writing has a maximum heap size of 1152MB should be used for demonstration reasons (laptop) only. The **M** sizing sets the maximum heap size to 8GB, the **L** sizing to 16GB. You can always change this memory setting later with a **reconfigure** command.

<state>

Free variable parameter used in ACC expressions.

State.

```
STOPPED | STARTED | STARTING | STOPPING | UNKNOWN | DOWN |
```
The possible runnable lifecycle states.

<string>

Free variable parameter used in ACC expressions.

```
'' ( <any character but '\\' or '' )* ''
```
An almost arbitrary sequence of characters, delimited by double quotes. To represent certain special characters, you can use the common escape sequence via the backslash character (\), e.g.,   for newline, \\ for a backslash, \t for a tabulator, \ to obtain a double-quote as part of the string's content, etc.

superuser user

The user **superuser** is created automatically. By default, this user is assigned the **User management**, **License management**, and **Configuration administrator** function privileges. This user can also activate this function privilege for other users. The **superuser** user does not use up a license. The **superuser** user manages the system administration, but cannot use ARIS products due to license restrictions. The default password is **superuser**. You should change the default password to prevent unauthorized access. You can change all user data except for the user name.

system user

The **system** user is created automatically. This user can log in to process administration, ARIS Administration, User Management, and ARIS Process Board. In ARIS Architect and ARIS Designer, this user has all access privileges for all database groups of all databases.

You can create additional system users. Alternatively, an existing **system** user can be copied. Having more than one system user can avoid problems if, e. g., one system user has forgotten his password.

This user only uses up a license if a license privilege is activated for this user. The default password is **manager**. You should change the default password to prevent unauthorized access. You can change all user data except for the user name. By default, the **system** user has the following function privileges:

- ARCM administrator
- ARIS Connect administrator
- Analysis administrator
- Collaboration administrator
- Configuration administrator
- Dashboard administrator
- Database administrator
- Document administrator
- License administrator
- Portal administrator
- Process Governance administrator
- PPM user
- Publisher administrator
- Publishing administrator
- Script administrator
- Server administrator
- Technical configuration administrator
- UML Viewer
- User administrator

SSL

Secure **S**ocket **L**ayer (**SSL**).

Security software to encrypt data that are exchanged between programs.

SSO

Single **S**ign-**o**n.

Using SSO has the advantage that a user only has to log in once to the network. The user need only one login name and password to access all computers, services and programs whose usage is allowed.

System database

This database manages the content of the **configuration** and **evaluations** nodes displayed on ARIS Architect's **ARIS Administration** tab, e. g. filters, templates and font formats as well as ARIS method content and scripts.

The database is created while the first user logs in using an ARIS client. This content is available in all ARIS databases within this tenant. The system database can be backed up and restored.

T

Tenant

A tenant is a container having its own set of ARIS data.

After the installation two tenants are available. The infrastructure **master** tenant manages administrative users and all other tenants. The **default** tenant is available for operational use. It handles databases, documents, users/user groups, licenses etc. A single physical ARIS installation can host multiple operational tenants. Users of a specific tenant can't access data from other tenants. A tenant is a kind of logical ARIS installation. Tenants do not share any data.

<tenantId>

Free variable parameter used in ACC expressions.

Tenant ID.

`<ID>`

A tenant ID is used to uniquely identify a tenant. A tenant ID can be any string without whitespace, starting with a letter or underscore character (_), and containing only letters, digits, or underscore characters.

TLS

Transport **L**ayer **S**ecurity (**TLS**).

TLS is known under the name of **S**ecure **S**ockets **L**ayer (**SSL**). It is an encryption protocol to ensure a secure data transfer through the Internet.

U

<username>

Free variable parameter.

Required user name. This might be a remote access user, a database user, the superuser or a system user.

V

<value>

Free variable parameter used in ACC expressions.

Value.

`<ID> | <INT> | <STRING>`

A value can either be any identifier i.e., a string without whitespace, starting with a letter or underscore character (_), and containing only letters, digits, or underscore characters, and Integer number, or a string, i.e., an arbitrary, double-quote-delimited sequence of characters, e.g.: **ThisIsAnIdentifier435**, **_ThisIsAlsoAnIdentifier**, **12345**, **This is also a valid value!**.

<version>

Free variable parameter used in ACC expressions.

Version.

`('a'..'z'|'A'..'Z'|'0'..'9'|'_'|'-'|'.')+`

The common Maven-esque version of the runnable.