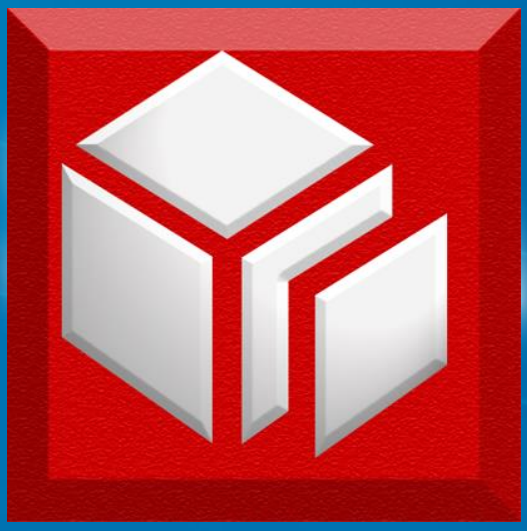

SOLA 6.4 Migration Guide

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Contents

Overview

The metadata maintained by SOLA has always been stored in a DB2 database. When Release 5.1 of SOLA was released, it needed to store additional data -- beyond what was stored in the database by SOLA Release 5.0 -- and it stored this extended metadata on the file-system of the SOLA server.

Release 6.1 of SOLA uses an extensible XML database instead of a traditional DB2 database, and that extensible XML database stores the data from the SOLA 5.1 DB2 database and the extended metadata from the file system.

Because the new 6.1 XML database is radically different from the traditional 5.1 DB2 database, SOLA Release 6.1 includes conversion utilities to import the data into the new XML database (from the 5.1 DB2 database and the file system). The utilities have been designed to be repeatable, allowing you to run a SOLA 5.1 installation alongside a SOLA 6.1 installation.

SOLA 6.1's database is a temporal database. A temporal database is one that's used to store time valued data. For time valued tables SOLA 6.1 uses a valid-time construct, where each record in the database denotes the time that is was valid by means of an effective timestamp and an expiration timestamp. The use of a temporal valid-time database design allows the elimination of the backup tables that were used by prior releases to maintain historical data. In SOLA 6.1 the historical data is stored in the same table as the current data.

Before you Begin

SOLA 6.1 must have been successfully installed. Please refer to the SOLA 6.1 Installation Guide for instructions on installing SOLA 6.1.

SOLA 5.1 Database

The SOLA 5.1 DB2 database comprises 50 tables (including the sample application table TBXMLWGT). SOLA 5.1 maintains historical data by maintaining 12 *backup* tables. The tables in the SOLA 5.1 database are:

Name	Backup	Description
TBXMLCAT		Category table. Deprecated
TBXMLCER		Certificate table
TBXMLCOL	TBXMLCOL_BACKUP	Commarea Column table – replaced by TBXMLMTL
TBXMLCOM	TBXMLCOM_BACKUP	Commarea table
TBXMLCTL		Control table. Deprecated
TBXMLDDI		File system properties backup. Deprecated
TBXMLDDM		File system properties backup. Deprecated
TBXMLDDP		File system properties backup. Deprecated
TBXMLDDS		File system properties backup. Deprecated
TBXMLDDU		File system properties backup. Deprecated
TBXMLENM	TBXMLENM_BACKUP	Enumeration table – replaced by TBXMLMTL
TBXMLEXT		User Exits
TBXMLIGR		IP Group – replaced by TBXMLGRP
TBXMLIPA		IP Address table
TBXMLLOG		Log table
TBXMLMAP	TBXMLMAP_BACKUP	BMS Map table
TBXMLMON		Monitor table
TBXMLMTD	TBXMLMTD_BACKUP	Method table
TBXMLMTL	TBXMLMTL_BACKUP	Method column table
TBXMLMTS	TBXMLMTS_BACKUP	3270 fields table
TBXMLOFT		Overflow table
TBXMLPAS		Program Association table – replaced by TBXMLGRP
TBXMLPGL	TBXMLPGL_BACKUP	Program List table. Deprecated
TBXMLPGM	TBXMLPGM_BACKUP	Program table
TBXMLPGR		Program Group table – replaced by TBXMLMSK
TBXMLPOL		Policy table
TBXMLPRG		Program mask table – replaced by TBXMLGRP
TBXMLPRJ	TBXMLPRJ_BACKUP	Project table
TBXMLSPT	TBXMLSPT_BACKUP	Split Field table
TBXMLTAS		TOR Association table – replaced by TBXMLGRP
TBXMLTGR		TOR Group table – replaced by TBXMLGRP
TBXMLTOR		TOR table
TBXMLUAC		User Activity child table
TBXMLUAP		User Activity parent table
TBXMLUAR		User Activity request table
TBXMLUSL	TBXMLUSL_BACKUP	User/project relationship table
TBXMLUSR		Authorized User table
TBXMLWGT		Sample application data table

SOLA 6.1 Database

The SOLA 6.1 DB2 database comprises 28 tables (including the sample application table TBXMLWGT). SOLA 6.1 maintains historical data by using a temporal database design. Temporal tables are noted in the list below by "YES" in the Valid-time column. The tables in the SOLA 6.1 database are:

Name	Valid-time?	Description
TBXMLACC	Yes	Access Control table
TBXMLALT	Yes	Alerts table
TBXMLASN	Yes	Asssociation table – used in combination with TBXMLGRP
TBXMLCER	Yes	Certificate table
TBXMLCOM	Yes	Commarea table
TBXMLENV	Yes	Environment table
TBXMLEXT	Yes	User Exits
TBXMLGRP	Yes	Group table
TBXMLIPA	Yes	IP Address table
TBXMLLOG	No	Log table
TBXMLMAP	Yes	BMS Map table
TBXMLMON	No	Monitor table
TBXMLMSK	Yes	Mask table
TBXMLMTD	Yes	Method table
TBXMLMTL	Yes	Method column table
TBXMLMTS	Yes	3270 fields table
TBXMLOFT	No	Overflow table
TBXMLPGM	Yes	Program table
TBXMLPOL	Yes	Policy table
TBXMLPRJ	Yes	Project table
TBXMLSCH	Yes	Schema table
TBXMLSPT	Yes	Field split table
TBXMLTOR	Yes	SOLA Container table
TBXMLUAC	No	User Activity child table
TBXMLUAP	No	User Activity parent table
TBXMLUAR	No	User Activity request table
TBXMLUSR	Yes	Authorized User table
TBXMLWGT	NA	Sample application data table

Mainframe Database Migration

NOTE: If you have already copied (but not migrated) your database and are working with SOLA 6.1, all new work that was created with 6.1 will not be affected by the migration process (you will not lose your data). However, you will lose any changes to SOLA 5.1 services that you made with SOLA 6.1.

Worksheet

Before starting the migration process, refer to the installation worksheet in the SOLA 6.1 Installation guide. The worksheet is included below for reference. The worksheet is a compilation of all the information you will need to install SOLA and customize the migration JCL. While filling out the worksheet is not part of the migration process, you may nevertheless find it helpful to compile all of the information you will need in one place before proceeding.

Parameter Name in the sample WRKSHEET provided	Description	Notes/Examples	Your Values
<jobcrd0>	Job card information (1st line)		
<jobcrd1>	Job card information (2nd line)		
<smpehlq>	SMP/E high level qualifier	"SOLA.GLOBAL" will result in "SOLA.GLOBAL.CSI"	
<smptzhlq>	SMP/E target zone high level qualifier	"SOLA.SOLA600.TZN" will result in "SOLA.SOLA600.TZN.CSI"	
<smpdzhlq>	SMP/E distribution zone high level qualifier	"SOLA.SOLA600.DZN" will result in "SOLA.SOLA600.DZN.CSI"	
<xmihlq>	SMP/E xmit high level qualifier	"SOLAXMI" will result in "SOLAXMI.SOLA600.F1.XMI" etc.	
<tlibhlq>	Temporary distribution high level qualifier (used by TSO RECEIVE)	Must be a single hlq. Cannot be a compound hlq (for example SYSE.SOLA is not allowed by SMP/E). "SOLA" will result in "SOLA.SOLA600.F1"	
<tlibhlq>	Target library high level qualifier	"SOLA.V6R0M1" will result in "SOLA.V6R0M1.LOADLIB"	
<dlibhlq>	Distribution library high level qualifier	SOLA.V6R0M1 will result in "SOLA.V6R0M1.AMODLIB"	
<tlibvol>	Target library VOLSER	SOAP00	
<dlibvol>	Distribution library VOLSER	SOAP00	

Parameter Name in the sample WRKSHEET provided	Description	Notes/Examples	Your Values
<smpevol>	SMP/E library VOLSER	SOAP00	
<smptlbpr>	SMP/E Rel Files prefix	SOLA.SMPTLIB will result in "SOLA.SMPTLIB.SOLA600.F1"	
<dclas>	Data class (optional)	Optional	
<mclas>	Management class (optional)	Optional	
<sclas>	Storage class (optional)	Optional	
<tgtdblks>	FB datasets blksize	27920	
<diskunit>	Disk unit name	SYSDA	
<smpetlib>	SMP/E Target Zone name	SOLATGT	
<smpedlib>	SMP/E Distribution Zone name	SOLADIS	
<sceelked.dsnm>	LE library	SYS1.SCEELKED	
<sezatcp.dsnm>	TCP/IP library	SYS1.SEZATCP	
<scsfmod0.dsnm>	ICSF library	SYS1.SCSFMOD0	
<csslib..dsnm>	CSS Library	SYS1.CSSLIB	
<db2SDSNLOAD>	DB2 SDSNLOAD Library	SYSAPF.DBMS.DB2GR0Q.SDSNLOAD	
<db2RunLoad>	DB2 Run load module library	DB2GR0Q.RUNLIB.LOAD	
<subSystem>	DB2 Subsystem	GR0Q	
<collection>	DB2 Package collection	XML	
<plan>	DB2 PLAN name	XMLPLAN	
<qualifier>	DB2 Qualifier	SOLA600	
<Oldqualifier>	SOLA 5.1 Qualifier (Migration Only)	SOLAQUAL	
<indexBP>	DB2 Index Buffer Pool	BP3	
<tableBP>	DB2 Tablespace BufferPool	BP2	
<BP32K2>	DB2 32K BufferPool	BP32K2	
<stoGroup>	DB2 Stogroup	SGXMLSMS	
<vCat>	DB2 VCAT (used to create stogroup)	SOLA	
<group>	RDO Group name	SOLAGRP	
<list>	List name	SOLA	
<cicsLOAD>	CICS LOAD library	CICS.TEST.WQ62.SDFHLOAD	
<csdFile>	CICS CSD File	TVWQCICS.CICSTS22.DFHCSD	
<vsamUMT>	UMT VSAM File name (used by SOLA)	SOLA.VSAM.MONTR.QCICST	
<vsamCMT>	CMT VSAM File (used by SOLA for	SOLA.VSAM.MAPPING.QCICST	

Parameter Name in the sample WRKSHEET provided	Description	Notes/Examples	Your Values
	Identity mapping)		
<vol>	Volume where VSAM file will be allocated	SOAP00	

Migration JCL

The database migration process comprises customizing and running seven jobs and a Java process. The jobs (described below) are shipped in the SAMPLIB *<tlibhlq>.SAMPLIB*, and you will need to customize them with the SOLAEDT macro before you can use them. The jobs perform the steps necessary to migrate your SOLA 5.1 data into the new SOLA 6.1 database.

Migration Summary

To complete the migration process, execute the following steps in the order specified:

Use the already customized SOLAEDT in *<tlibhlq>.SAMPLIB.* It should have been customized during the Installation of SOLA 6.1 with values from the WRKSHEET.

Ensure that single quotes (') and double quotes (" ") are not altered. SOLAEDT is a Rexx Exec. Rexx Execs can excute from either SYSPROC or SYSEXEC.

Copy SOLAEDT to a dataset in your SYSPROC or SYSEXEC concatenation. To find out what datasets are allocated to SYSPROC or SYSEXEC for your TSO session you can issue the TSO ISRDDN command from the ISPF command line and then find SYSPROC or SYSEXEC in the DDname column. Choose a dataset that you are authorized to write to and copy SOLAEDT from *<tlibhlq>.SAMPLIB* into that dataset.

SOLAEDT is executed by typing SOLAEDT on the command line while you are editing a dataset with ISPF edit. For example, to customize the dataset *<tlibhlq>*.SOLA600.SMPPTFIN(SOLA600) you would type SOLAEDT on the command line while editing *<tlibhlq>*.SOLA600.SMPPTFIN(SOLA600) using ISPF edit.

Run SOLAEDT to customize the following members of *<tlibhlq>.SAMPLIB*:

- BINDMIG
- BINDJCLM
- DDLMIG
- DDLJCLM
- MIGJOB1
- MIGJOB2
- MIGJOB3
- MIGJOB4
- MIGJOB5

Next, run these jobs in the following order:

- DDLJCLM, which creates the aliases used by the migration jobs.
- BINDJCLM, which binds the migration programs
- MIGJOB1, which validates the SOLA 5.1 database
- MIGJOB2, which prepares the SOLA 6.1 database for migration
- MIGJOB3, which migrates projects, programs and methods
- MIGJOB4, which migrates access related data
- MIGJOB5, which migrates TOR, IP and program mask related data

Finally, restart the SOLA Server.

Migration

MIGJOB1

This job verifies the SOLA 5.1 Database to check if there are any potential migration issues. If this job fails with Non-Zero Return code then stop your migration activities and contact SOLA Support, sending the full job output.

MIGJOB2

This job prepares the SOLA 6.1 database for migration.

The migration process was designed to allow you to run SOLA 5.1 and SOLA 6.1 in parallel, because the migration is a copy from the 5.1 database to the 6.1 database. Data in the SOLA 6.1 database that isn't also in the SOLA 5.1 database is not affected.

MIGJOB2 will purge the 6.1 database of all projects, programs, methods and associated data for every item that also exists in the old SOLA 5.1 database. It will not affect new projects, programs or methods that you may have created with SOLA 6.1, but any changes you made to SOLA 5.1 services using SOLA 6.1 will be lost.

MIGJOB3

This job will migrate all SOLA metadata (data related to projects, programs and methods) from the SOLA 5.1 database to the SOLA 6.1 database. The following tables are migrated:

- TBXMLENV
- TBXMLPRJ
- TBXMLPGM
- TBXMLMTD
- TBXMLCOM
- TBXMLMTL
- TBXMLMTS
- TBXMLSPT
- TBXMLLOG
- TBXMLENM

If this job fails with non-zero return code then stop migration activities and contact SOLA Support, sending the full job output.

MIGJOB4

This job will migrate all user and access related data from the SOLA 5.1 database to the SOLA 6.1 database.

This job migrates the following tables :

- TBXMLUSR
- TBXMLUSL

and maps the entries into following SOLA6.1 tables:

- TBXMLACC
- TBXMLGRP

If this job fails with non-zero return code then stop migration activities and contact SOLA Support and send the full job output.

MIGJOB5

This job will migrate all TOR, IP and program mask related data from the SOLA 5.1 database to the SOLA 6.1 database.

This job migrates the following tables :

- TBXMLTOR
- TBXMLTGR
- TBXMLDDI
- TBXMLTAS
- TBXMLPAS
- TBXMLIPA
- TBXMLIGR
- TBXMLPRG
- TBXMLPGR
- TBXMLCER
- TBXMLEXT

Default Policies are loaded by this job into the SOLA6.1 table TBXMLPOL.

Restart the SOLA Server

If you have opened the studio before migration is complete, then you will need to restart the SOLA Server.

If you are performing a migration then there is no need to run the install.html, because the migration will copy all of the properties that you would have entered in install.html

An existing SOLA customer who is installing SOLA 6.1 for the first time will execute the following steps:

1. SMP/E
2. Customization (DB2 Binds, IDCAM, RDO etc)
3. Migration
4. Then war file install.

If you have installed SOLA 6.1 Beta, then after running the migration batch jobs you will have to restart the server

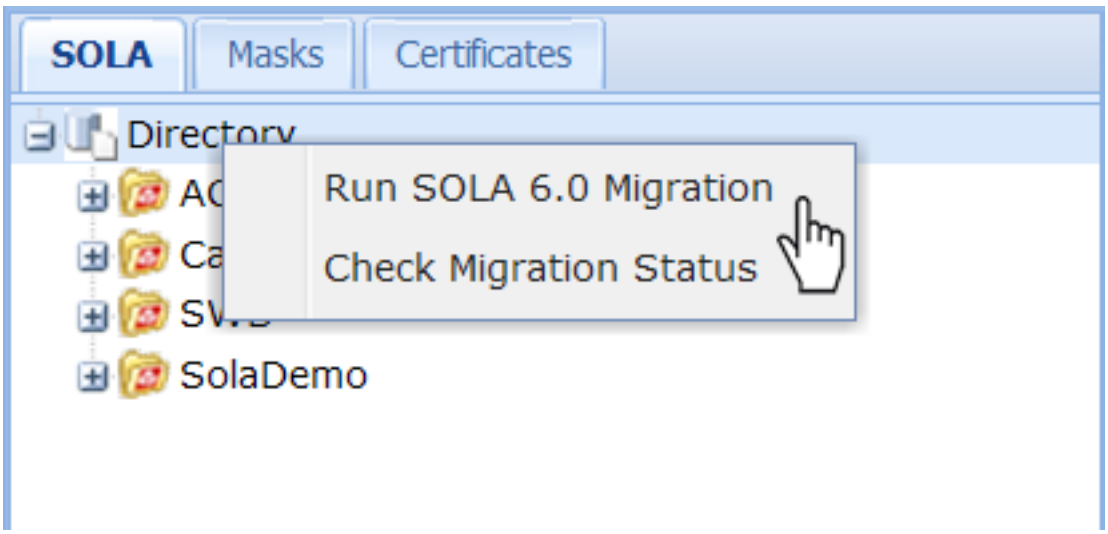
Server Migration

SOLA 5.1 stores various essential file properties in the file system of the JAVA server it runs on. In SOLA 6.1, this data is stored in the mainframe DB2 database. You will need to move these file properties from the JAVA server to the mainframe database.

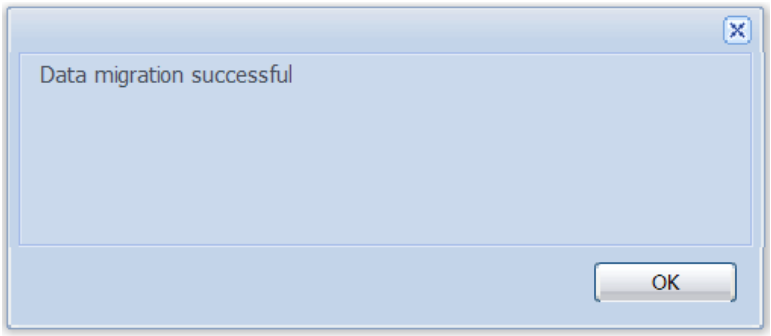
Begin by copying the contents of the SOLA 5.1 server's file-system to the new SOLA 6.1 file-system.

Moving File Properties

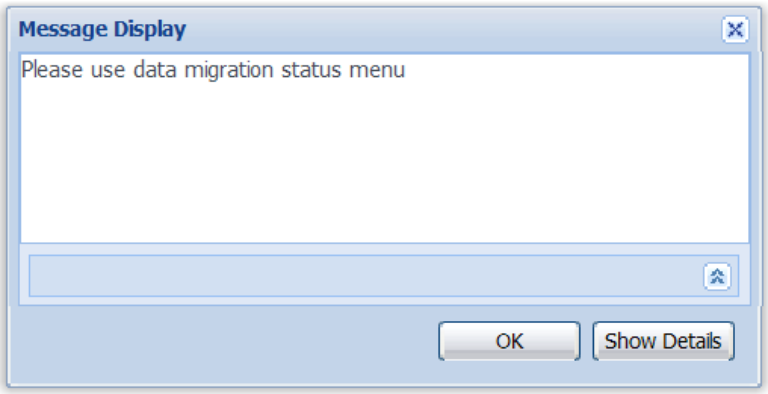
Moving the contents of the file system to the SOLA 6.1 database is completely automated. After you've finished the batch migration steps outlined above, log in to the Resource Manager and right click on the Directory icon at the root of the **SOLA** tree and click **Run SOLA 6.1 Migration**, as shown below:



SOLA will copy the contents of the file system to the SOLA 6.1 database. Once completed (warning, this may take a very long time) the following message will be displayed:

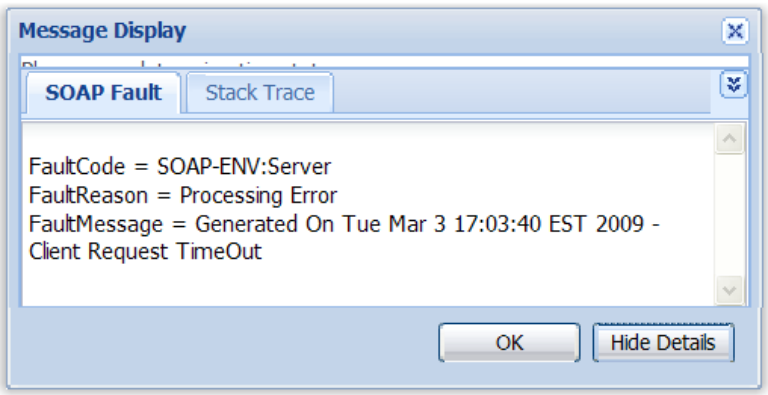


The Resource Manager will wait for two minutes before issuing a timeout message. If the migration takes longer than two minutes (which is very likely to happen) then the Resource Manager request will timeout. In the event of a timeout the migration will continue in the background. In this situation the following message will be displayed:



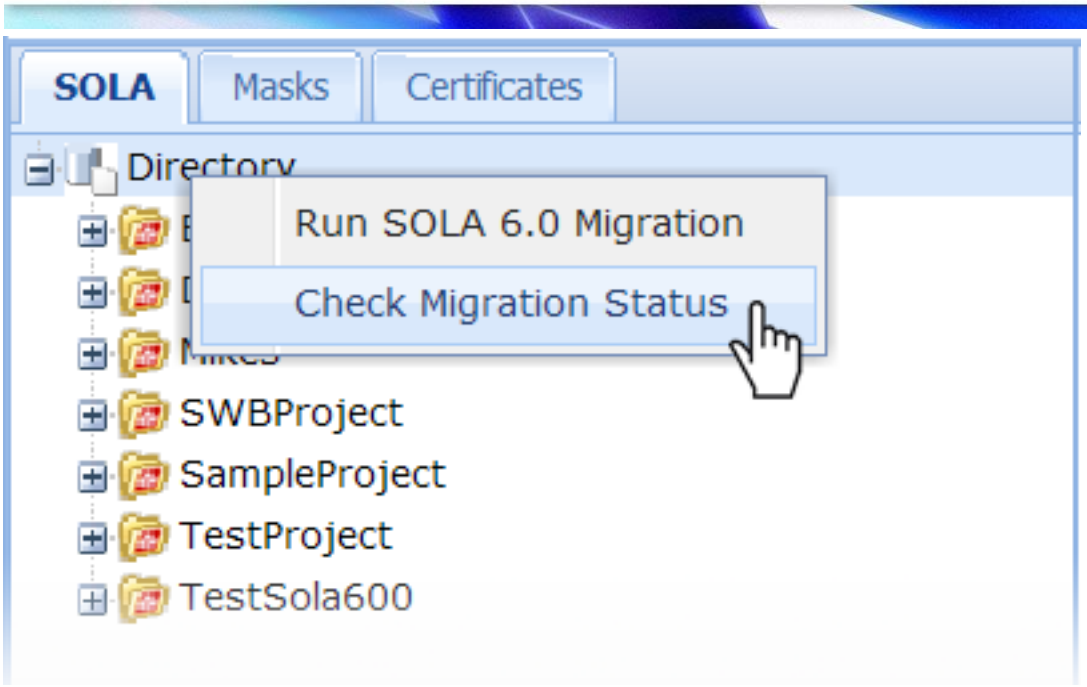
This message is telling you to use the **Check Migration Status** option (see below) to confirm the status of your migration.

You can get details on the status message by clicking the **Show Details** button.

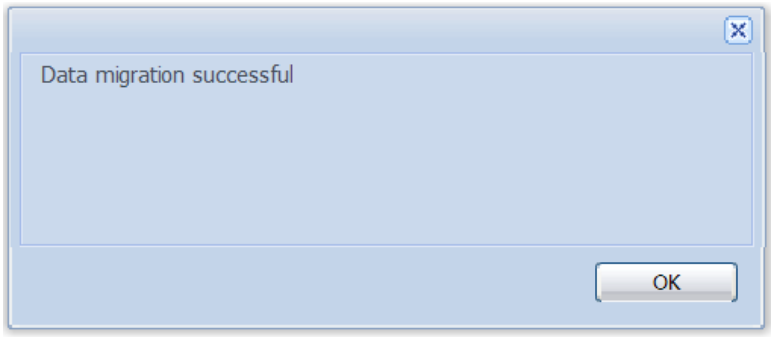


The message above indicates that your request timed out, but the migration is continuing in the background. Other conditions will be described appropriately. Refer to the text of the message for instructions.

If you receive a timeout message, or in any other circumstance, you can check the status by right clicking on the Directory icon at the root of the **SOLA** tree and clicking **Check Migration Status**, as shown below:



If your file system has been successfully migrated, you'll see the following message:

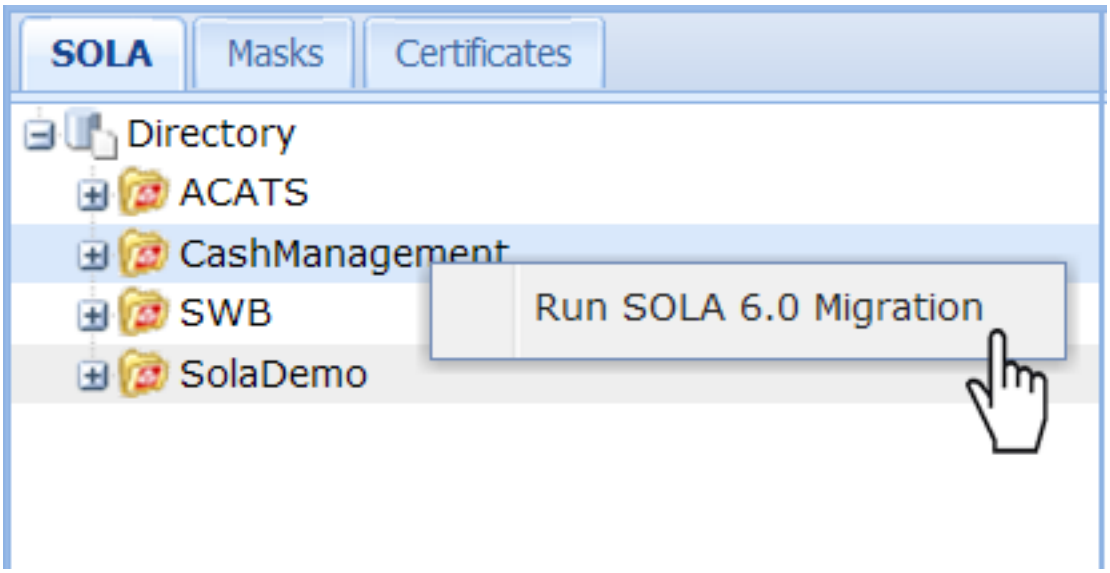


If your migration is still in progress you'll see the following message:

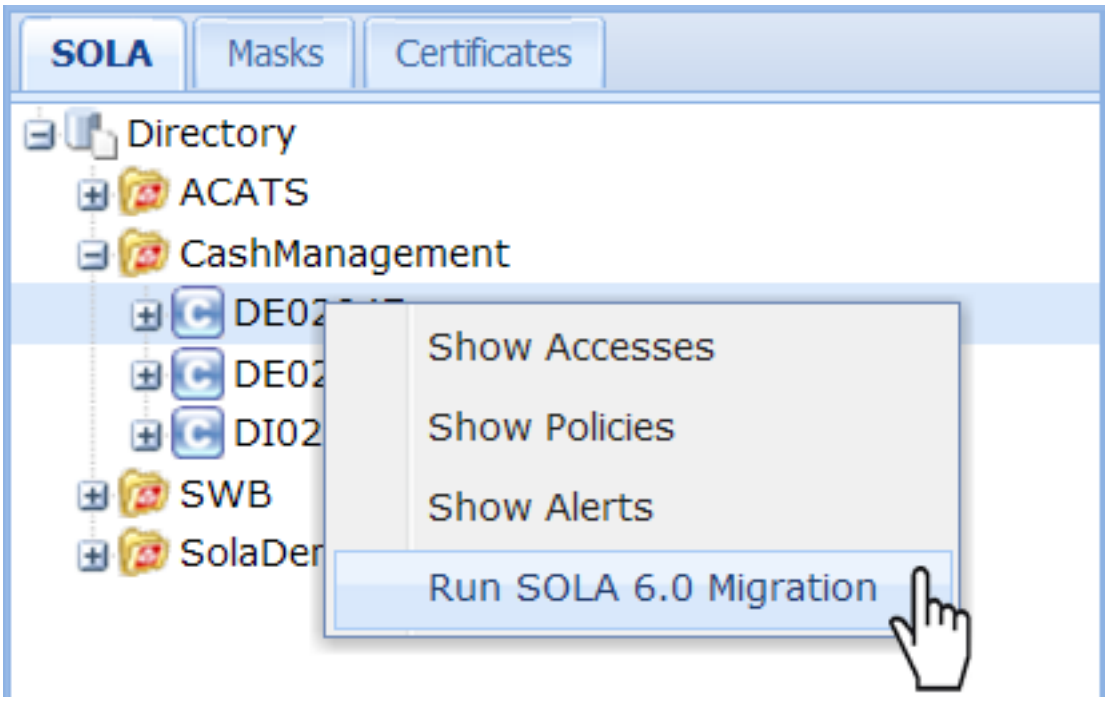
Migrating Individual Components

Because the migration can take a long time, some customers may prefer to migrate individual Projects, Programs or Methods. SOLA provides you with that ability by allowing you to choose migration of individual components at the Project, Program or Method level.

You can choose to migrate a Project by right-clicking on a project and choosing “Run SOLA6.1 Migration”.



You can migrate a Program by right-clicking on it and choosing “Run SOLA6.1 Migration”.



You can migrate a Method by right-clicking on it and choosing “Run SOLA6.1 Migration”.