LABWORKS LIMS v7.2

Upgrade Guide

Last Updated: March 2023

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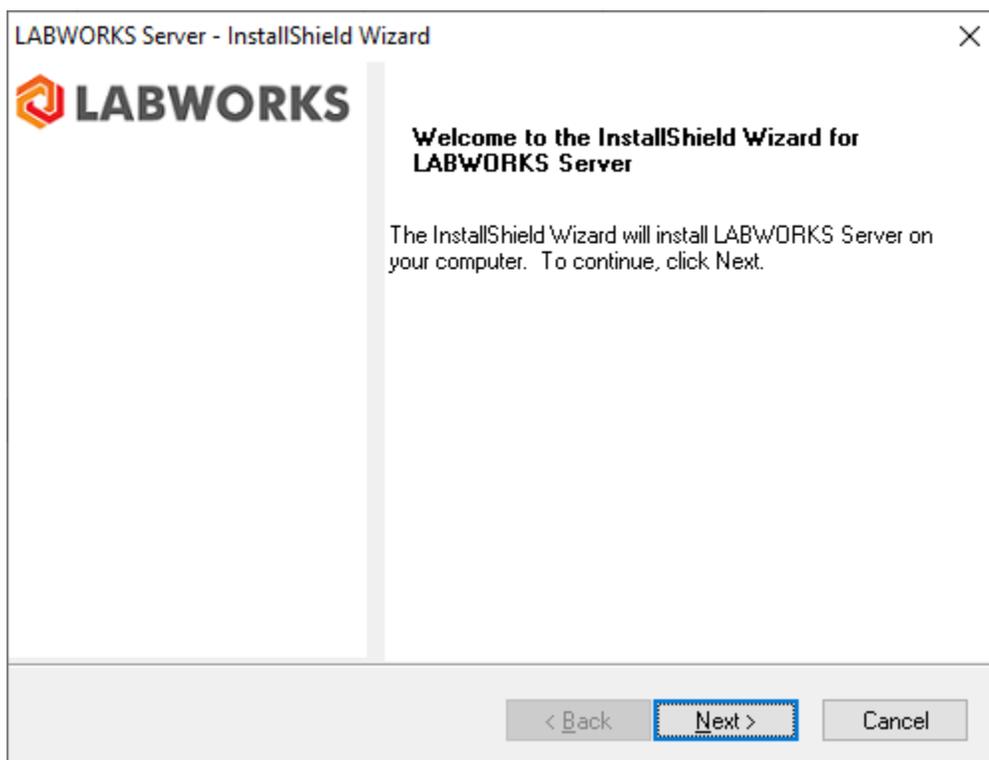
Upgrading LABWORKS 7.1.0.xxx to LABWORKS 7.2.0.xxx

Note – To upgrade from LABWORKS 7.1 or earlier to LABWORKS 7.2 or later, all the currently installed applications i.e LWServer, LWDataService, LWLicenseService and LWClient are required to be uninstalled. Further begin with installation of LABWORKS 7.2 or later by double clicking LWServer.exe .

Upgrade Steps -

1. LABWORKS Server upgrade

    a.   Double click on "LWServer.exe" file to launch Server upgrade. Refer below screen capture.

Name	Date modified	Type	Size
ISSetupPrerequisites	03/24/2023 09:03	File folder	
LWNGIIToolkit	03/24/2023 09:03	File folder	
LWRESTService	03/24/2023 09:03	File folder	
WebHelp	03/24/2023 09:05	File folder	
7.2.0.82_BlankDatabase.ZIP	03/23/2023 22:27	IZArc ZIP Archive	2,222 KB
Autorun.inf	03/23/2023 21:53	Setup Information	1 KB
LWDataServices.exe	03/23/2023 20:28	Application	11,851 KB
LWLicenseServices.exe	03/23/2023 20:23	Application	3,890 KB
LWServer.exe	03/23/2023 22:09	Application	4,28,241 KB
WindowsInstaller-KB893803-x86.exe	05/17/2005 04:12	Application	2,525 KB

LABWORKS Server - InstallShield Wizard

Welcome to the InstallShield Wizard for LABWORKS Server

The InstallShield Wizard will install LABWORKS Server on your computer. To continue, click Next.

< Back   Next >   Cancel

    b.

LABWORKS Server - InstallShield Wizard   ✕

Customer Information
Please enter your information.

User Name:

Admin

Company Name:

Company Name

Install this application for:

◉ Anyone who uses this computer (all users)

○ Only for me (Admin)

InstallShield

[< Back] [Next >] [Cancel]

LABWORKS Server - InstallShield Wizard   ✕
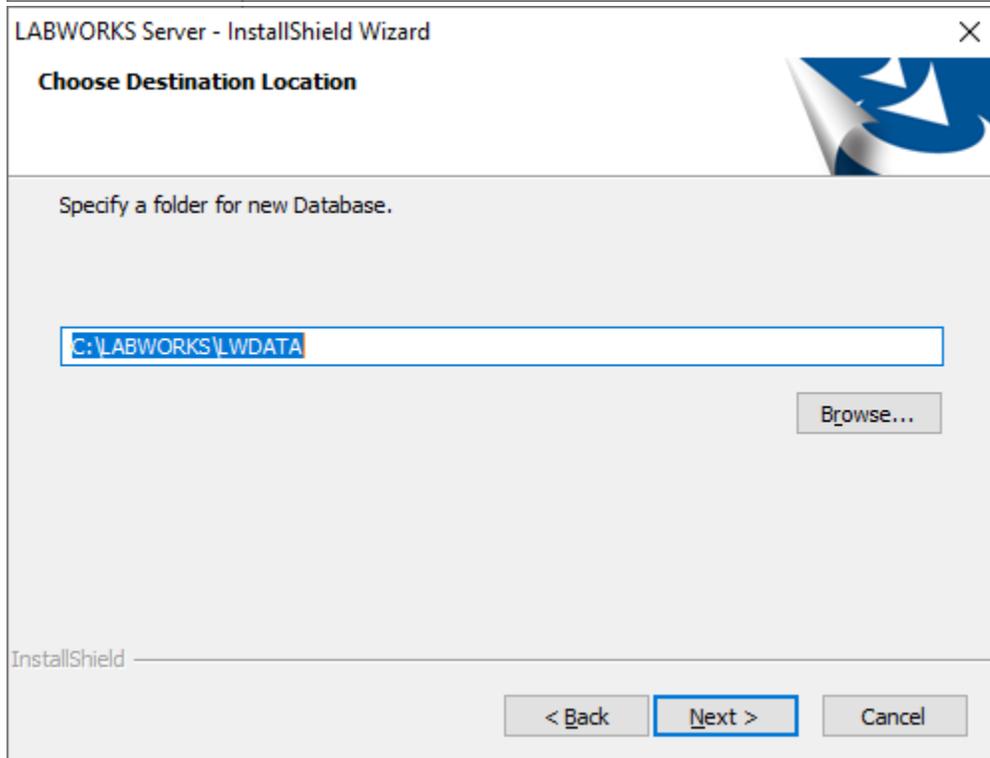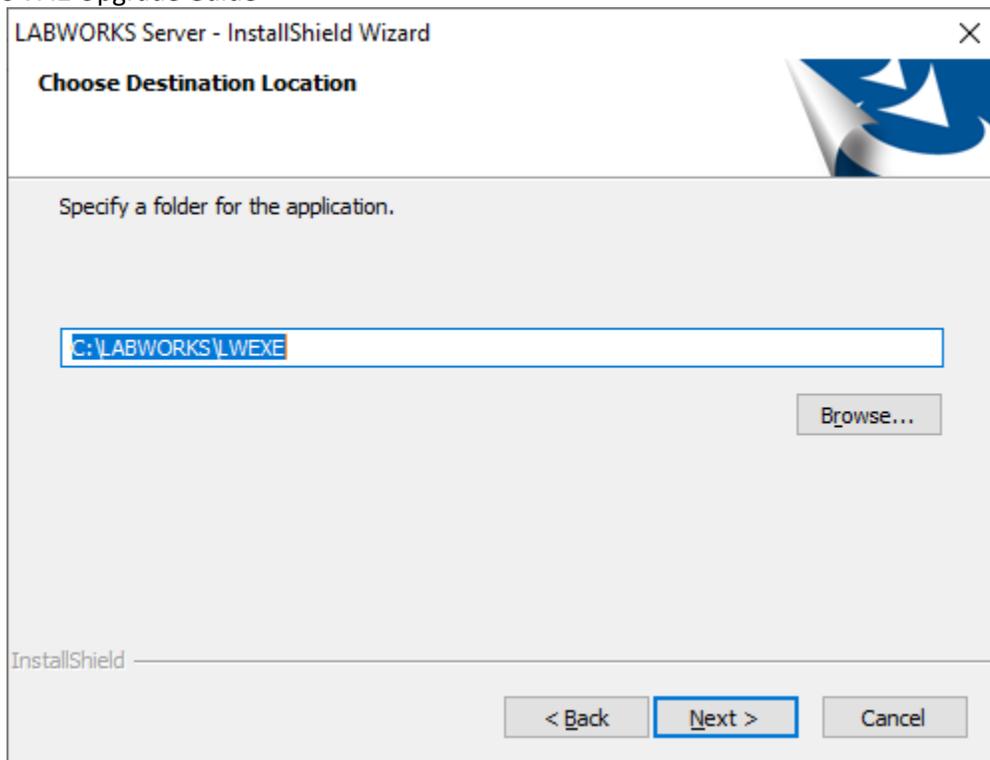
Setup Type
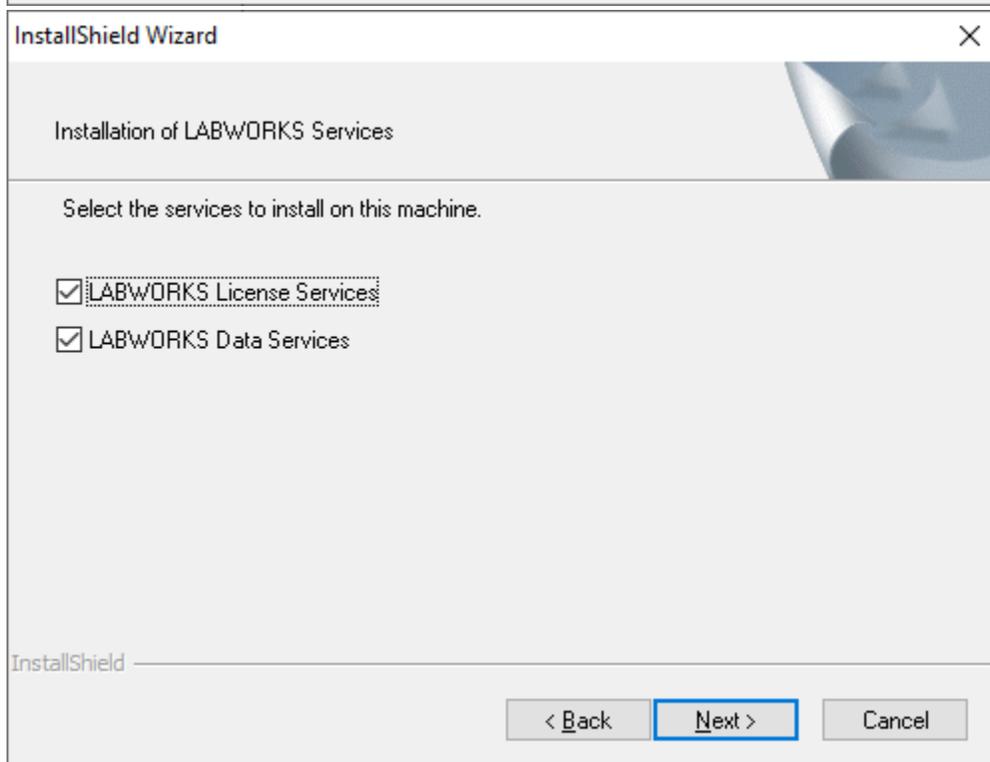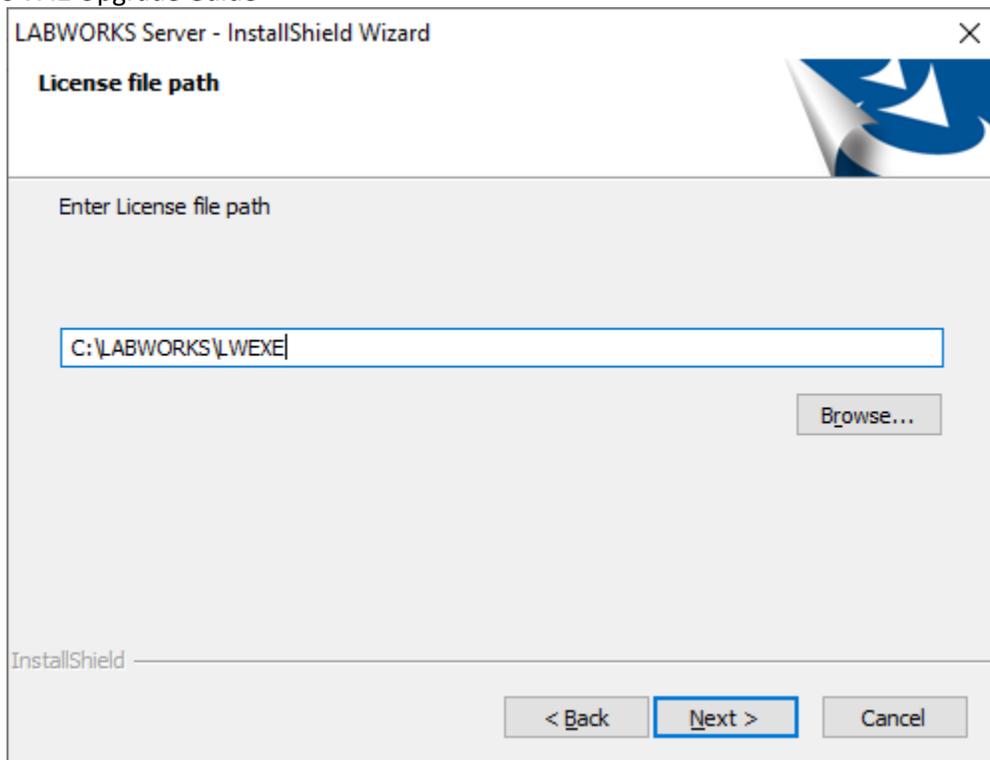Select the setup type to install.

Please select a setup type.

◉ Complete

All program features will be installed. (Requires the most disk space.)

○ Custom

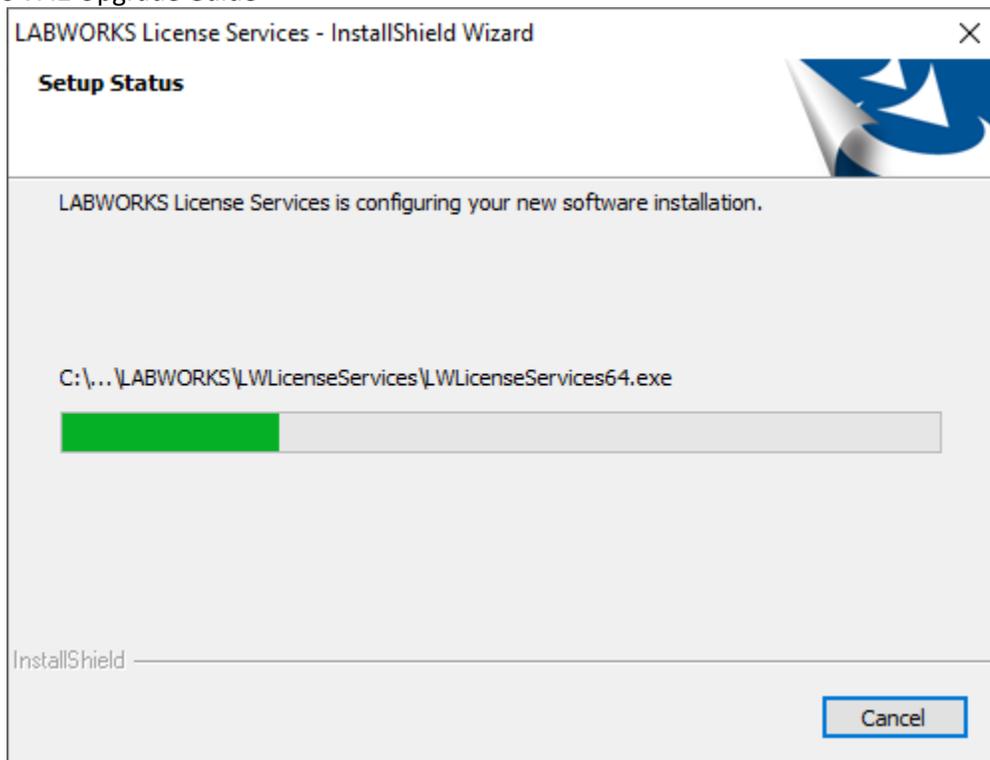Select which program features you want installed. Recommended for advanced users.

InstallShield

[< Back] [Next >] [Cancel]

LABWORKS

LABWORKS Server - InstallShield Wizard   ✕

Choose Destination Location

Specify a folder for the application.

| C:\LABWORKS\LWEXE |

Browse...

InstallShield

< Back   Next >   Cancel

LABWORKS Server - InstallShield Wizard   ✕

Choose Destination Location

Specify a folder for new Database.

| C:\LABWORKS\LWDATA |

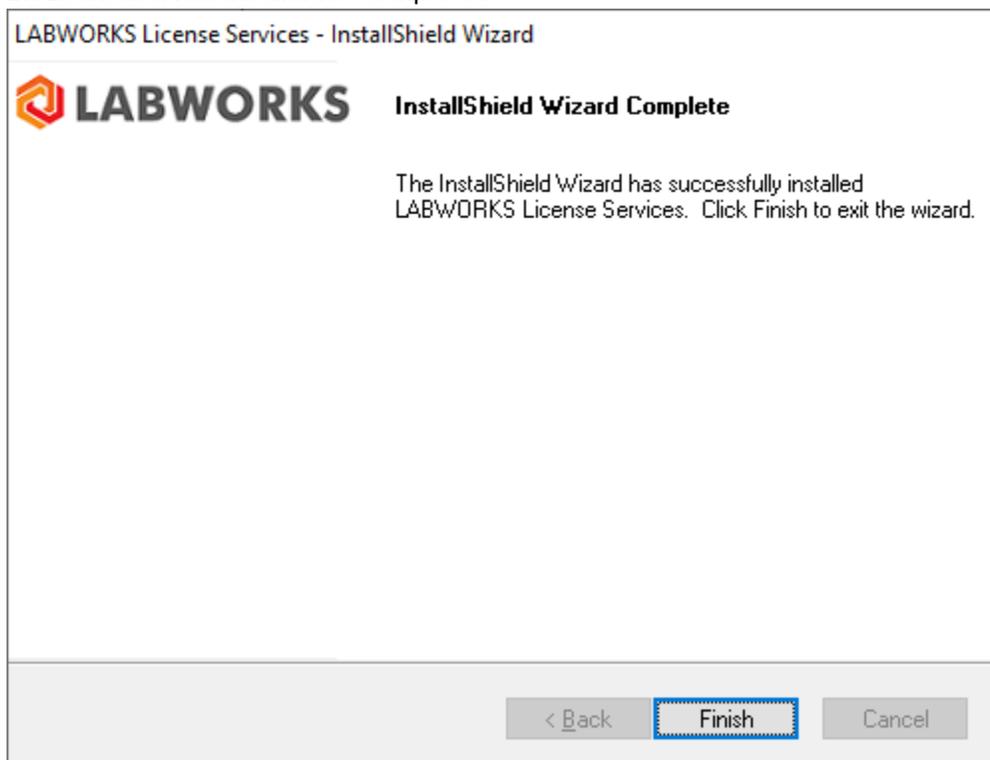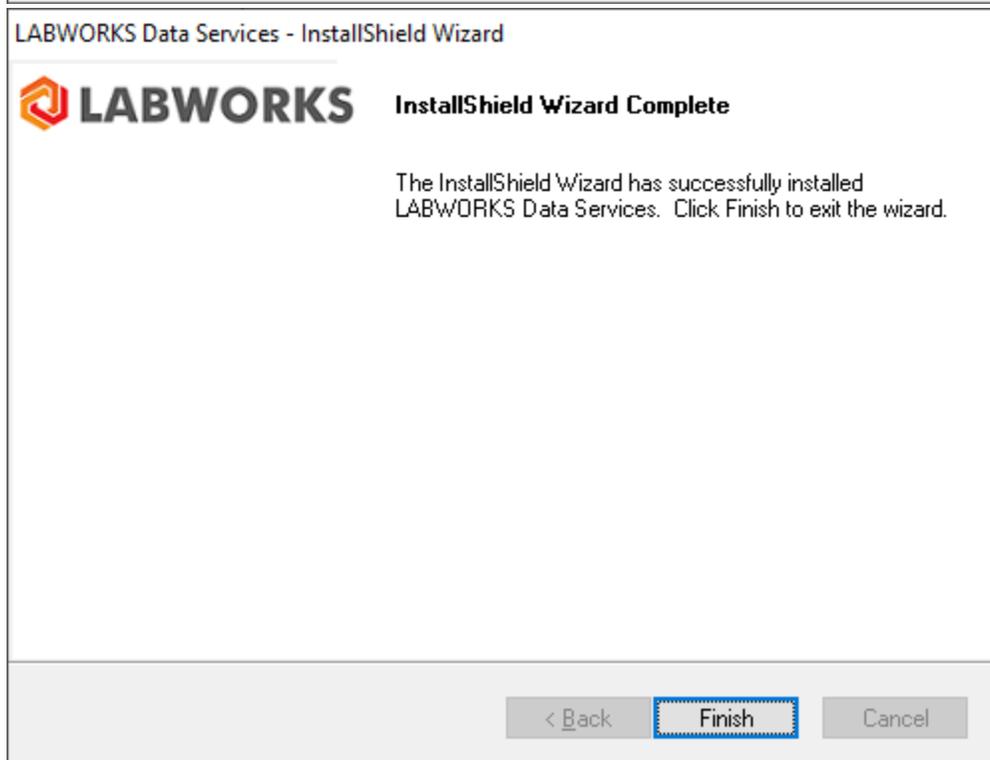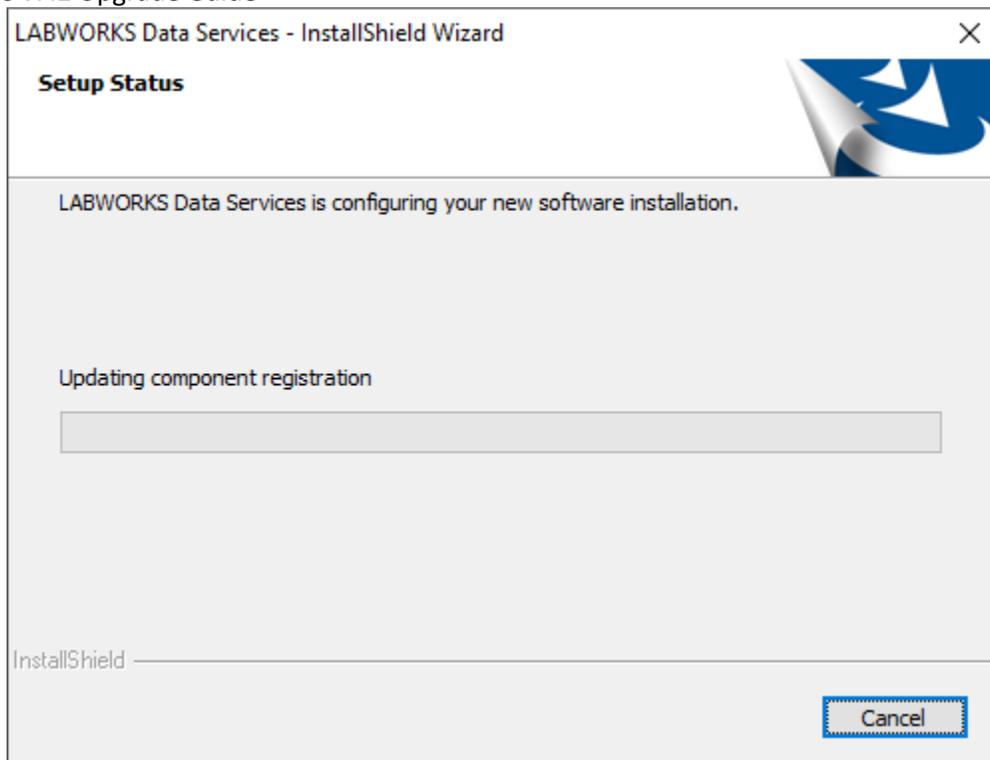Browse...

InstallShield
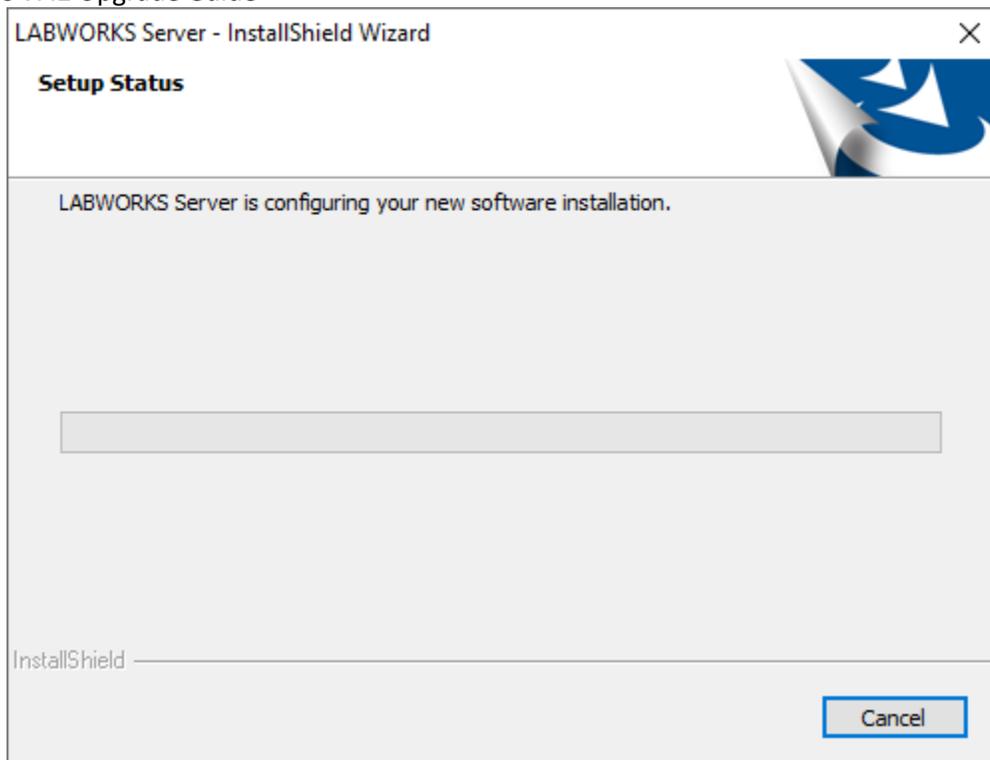
< Back   Next >   Cancel

LWLicenseService installation begins
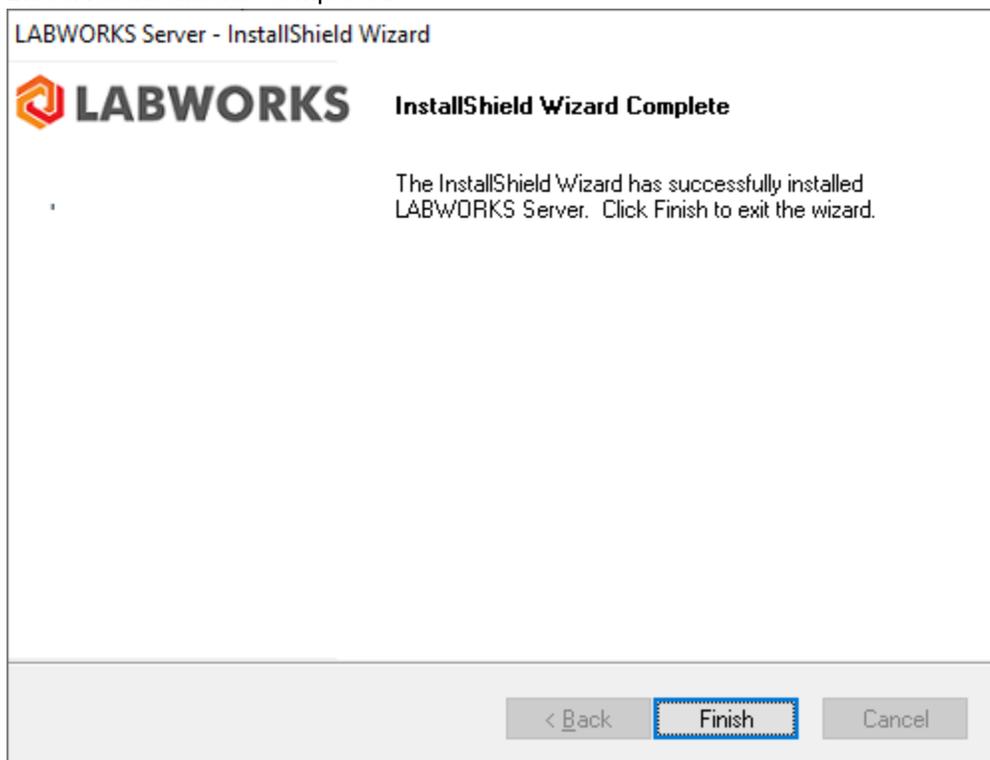
LWLicenseService installation completed

LWDataService Installation

LABWORKS

LABWORKS Data Services - InstallShield Wizard   ✕

Setup Status

LABWORKS Data Services is configuring your new software installation.

Updating component registration

InstallShield

Cancel

LABWORKS Data Services - InstallShield Wizard

LABWORKS

InstallShield Wizard Complete

The InstallShield Wizard has successfully installed
LABWORKS Data Services. Click Finish to exit the wizard.

< Back   Finish   Cancel

LWServer installation begins

LWServer installation completed

2. LABWORKS Database upgrade

a) Running Database Scripts and Update Tool

Update the Existing Database and Run the Update Tool.

LABWORKS 6.X to latest LABWORKS version

Step	User Input/Action	Expected Results
1	Use the Database tools to run either, LWScripts-SQLServer.sql or LWScripts-Oracle.sql, depending on your database system.	Scripts run.
2	Run the Update tool.exe using update files for all versions between your current and 7.2. Example, if upgrading from 6.6, then run the updatetool using LW67Release.xsp, LW68Release.xsp, LW69Release.xsp, LW610Release.xsp, LW70Release.xsp, LW71Release.xsp and LW72Release.xsp.	Updatetool.exe is run.
3	Run the utility, LWMigrationUtility.exe to update database tables new to latest LABWORKS version	Database tables are updated to latest LABWORKS version

Note: When upgrading an existing database it is recommended to run Lwwsystem6.exe from the C:\Labworks\Client folder because there are new applications-based privileges associated with the new Desktop.

The **LWMigrationUtility** was introduced in LABWORKS 6.2. It is used to copy data from an old format to a new format. In LABWORKS 6.2, the data storage for, AUDITTRAIL, CalcDefs, DMR, Specifications, and Special Info Forms has been updated. LWMigrationUtility should only be run if needed. See Appendix B for when and which options should be used for LWMigrationUtility. Running LWMigrationUtility on previoulsy migratated values like RLTSPECS can overwrite changes you made after the privous migration. LWMigrationUtility should only be run once or each object type.

AuditTrail. AuditTrail's data storage format changed in LABWORKS 6.0 from AUDTRAIL to AUDITTRAIL table. LWMigrationUtility converts records from AUDTRAIL (5.8) to AUDITTRAIL format.

CalcDefs. Internal LABWORKS Calculation Definitions were limited to 10 inputs. LABWORKS 6.2 adds a new table, CALCPARAMS which removes this 10 input limitation. LWMigrationUtility converts records from CALCDEFS to CALCPARAMS. Added in 6.2

DMR. (Optional Program, see DMR Documentation for specific detail.) LWMigration utility moves data into the primary LABWORKS database from the external DMR data storage previously used. Added in 6.2

RLTSPECS. RLTSPECS data storage has been changed to RESULTSPECS. This new format provides a better platform for extending what specifications can be defined. Additional specification capabilities will become available in future versions of LABWORKS Added in 6.2

SIFORM. Special Info Forms prior to LABWORKS 6.2 used multiple tables for storing defaults for Location Codes, Analyses and storing data for samples and analyses. All this data is now stored in the LABOBJSPECINFO table. Additionally, a field is added to the SIFORMDEF table to create a unique identifier for each field. This unique identifier allows for modifying a Special Info Form without losing the association between the fields and their values. Added in 6.2

MAILLIST. Migration of data from MLADDRESSES/SAMPMAILLIST to LABOBJMAILLIST Added in 6.4

COMMENTS. Migration of data from COMMENTS/DLCOMMENTS to LABOBJCOMMENTS Added in 6.4

LABOBJECTS. Migration of data from ANLOBJECT to LABOBJOBJECTS. Added in 6.4

RESULT. Addition of CHECKSUM data. Checksum is used to verify no one has modified the data outside of the LABWORKS application. Added in 6.4

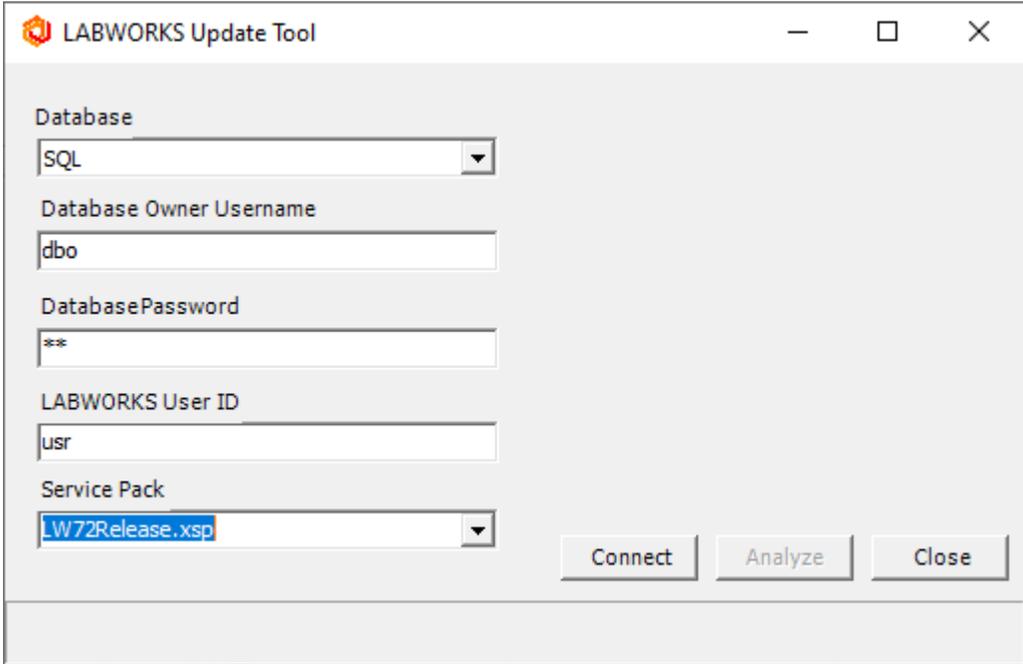**USERHEAD.** Addition of encrypted password. Added in 6.4

Migrate USERHEAD to FIPS Compliance. Migration of USERHEAD data to FIPS compliant using FIPS compliant encryption algorithm. Added in 6.10

Migrate RESULT to FIPS Compliance. Migration of RESULT data to FIPS compliant using FIPS compliant encryption algorithm. Added in 6.10

Migrate AuditTrail to FIPS Compliance. Migration of AuditTrail data to FIPS compliant using FIPS compliant encryption algorithm. Added in 6.10
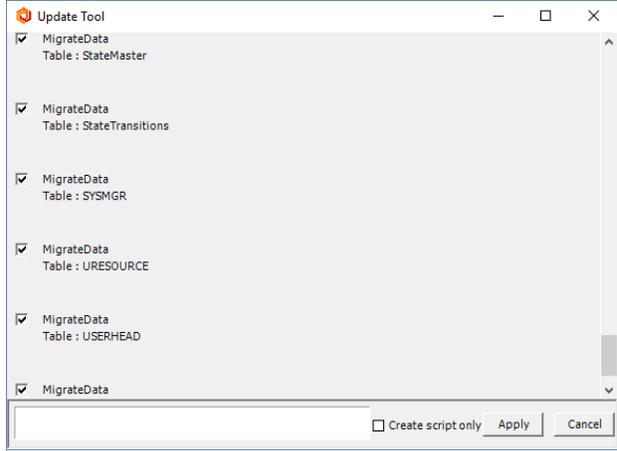
LABWORKS 6.4 has new security features for Encrypted passwords and Checksums on result data. If upgrading from 6.2 or 6.3 the migration utility needs to be run and the options for RESULT and USERHEAD need to be run.

Running the Update Tool

Step	User Input/Action	Expected Results
1	Select your database type, SQL or Oracle.	Database is selected.
2	Enter the database owner, likely dbo for SQL, and the schema owner for Oracle. New tables will be created under this owner.	Database owner entered.
3	Enter the database connection Password.	Database connection password entered.

LABWORKS

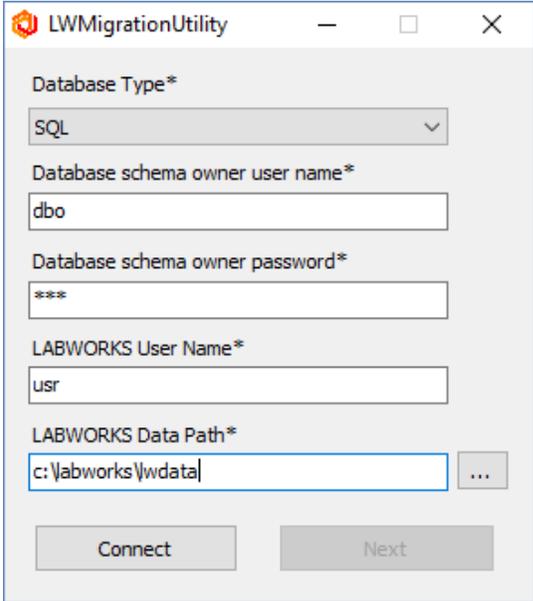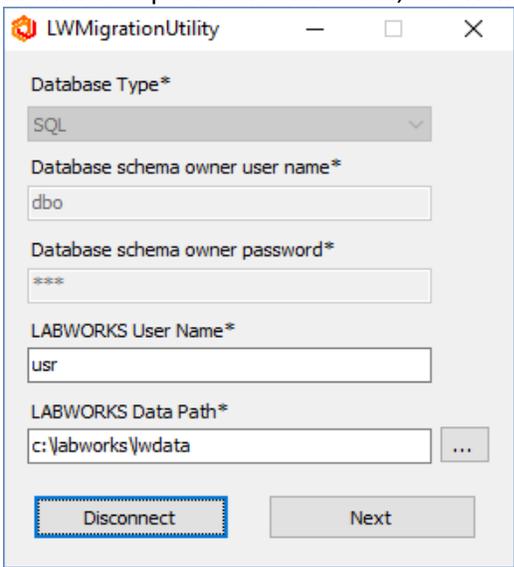| Step	User Input/Action	Expected Results
4	Enter the database connection User ID.	Database connection User ID entered.
5	Select the Service pack. The file LW72Release.xsp updates the database from 7.1 to 7.2 Desktop format. Run the Update tool.exe using update files for all versions between your current and 7.2. Example, if upgrading from 6.6, then run the updatetool using LW67Release.xsp, LW68Release.xsp, LW69Release.xsp, LW610Release.xsp, LW70Release.xsp, LW71Release.xsp and LW72Release.xsp. The service pack I18NTables.xsp is used to add additional language strings to the LABWORKS database and is used only if needed for multi-language sites. The service pack LW62DMRRelease.xsp is required for sites that are using the LABWORKS Discharge Monitoring Reports.	Service pack selected and run.
6	Press the Connect button to create a connection to the database. • For Oracle databases, select the Microsoft OLEDB Provider for Oracle provider and click 'Next'. Enter your Oracle service name as the server name, database connection username and password. Press Test Connection to confirm the connection. Enter your Oracle service name as the server name, database connection username and password. Click Test Connection to confirm the connections.	Connection to the database is established.
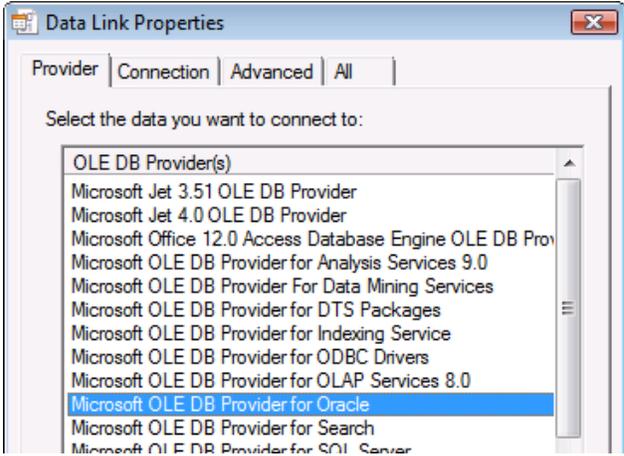
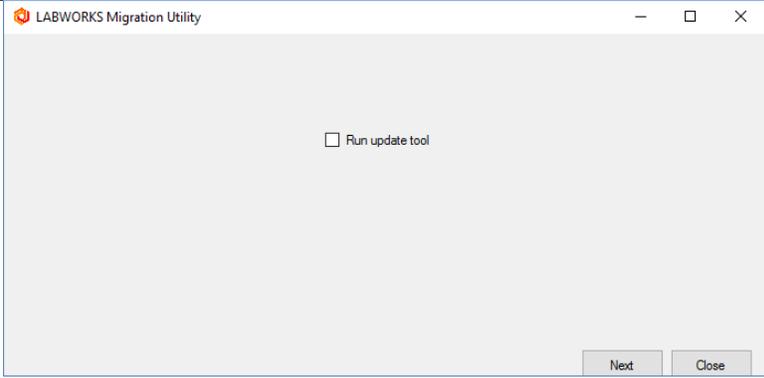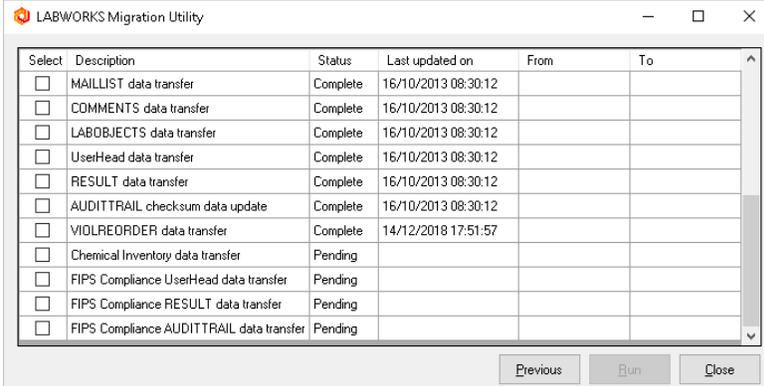| Step	User Input/Action	Expected Results
	   • For SQL Server databases, select the Microsoft OLEDB Provider for SQL Server provider and click 'Next'. Enter your SQL Server name, database connection username and password, and the database name. Press 'Test Connection' to confirm the connection. 	
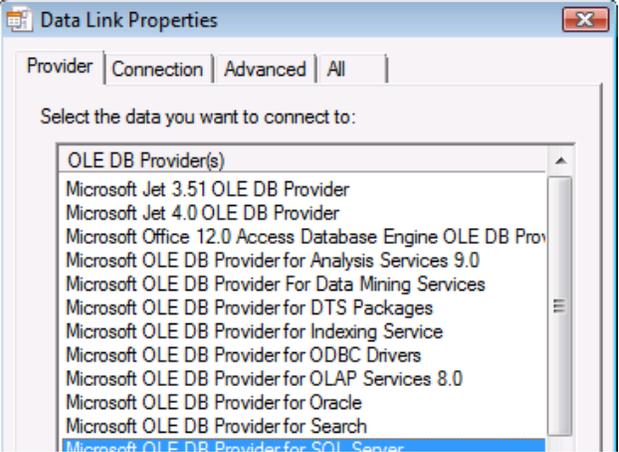
Step	User Input/Action	Expected Results
7	After the database connection is tested, press 'Analyze' to have the program identify the database modifications required. The program gives a preview of the changes to be made. To apply the changes press 'Apply'. If an error is encountered, the step that was unsuccessful appears in red. Clicking on the error message displays details about the error.	Database modifications are identified. Changes are applied.
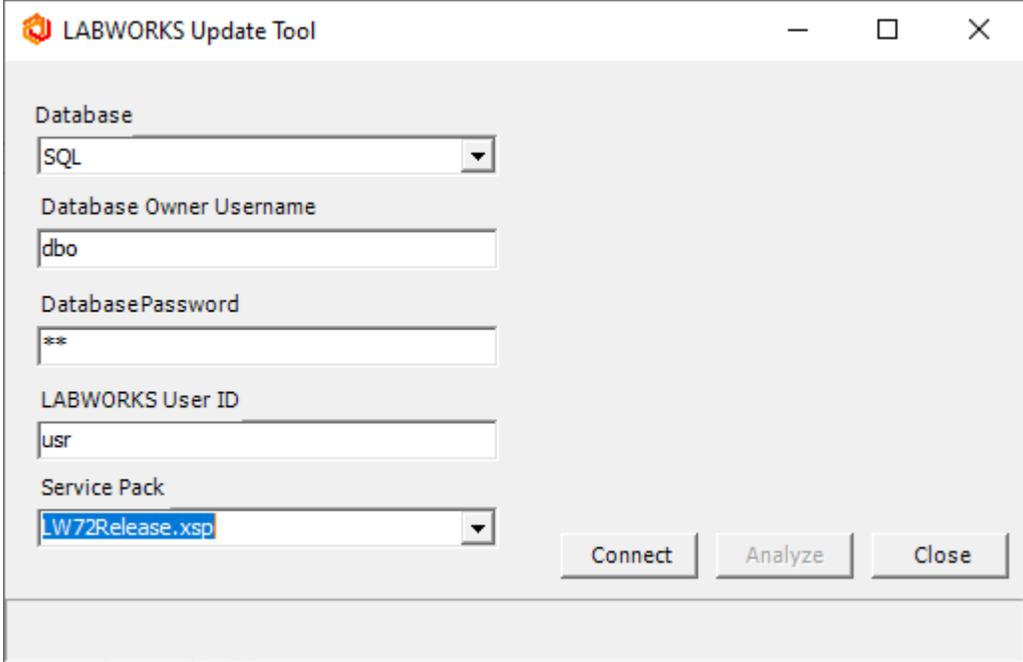
b) Running LWMigration Utility

Note: If upgrading from 6.4 or 6.5 the LWMigrationUtility is only requried for ViolationReorder or FIPS Encryption Migration. Re-migrating data that has been migrated can overwrite data that has been updated after a migration.

The LWMigrationUtility requires a valid LABWORKS login to the database, thus requiring Gateway Administrator be configured and the LWLicenseServices be running.

Step	User Input/Action	Expected Results
1	When LWMigrationUtility.exe starts it prompts for information about the database and users. **LWMigrationUtility** Database Type*: SQL Database schema owner user name*: dbo Database schema owner password*: *** LABWORKS User Name*: usr LABWORKS Data Path*: c:\labworks\wdata [Connect] [Next] Database schema owner user name: When new tables are created using the update tool, tables will be added to this schema Database schema owner password: The database user password.	LWMigration Utility prompt is displayed.
2	Then, connect using the same information/parameters as when running the UpdateTool in earlier steps. After connection, the 'Next' button will be available. **LWMigrationUtility** Database Type*: SQL Database schema owner user name*: dbo Database schema owner password*: *** LABWORKS User Name*: usr LABWORKS Data Path*: c:\labworks\wdata [Disconnect] [Next]	Connection to the database is established.
3	Then the program gives the option of running the Update Tool.	The option to run the

Step	User Input/Action	Expected Results
	 The Update Tool should have previously been run, but if not, it can be run at this time. 	Update Tool is presented. If applicable, the Update Tool is run.

The LABWORKS Migration Utility provides a method for migrating each type of data independently. And for data conversions that are sample related and may take long periods of time to process, the sample range can be defined. (Sample Specs, Sample Special Info, RESULT data transfer, FIPS Compliance RESULT data transfer). Date range can be defined for AUDITTRAIL checksum data transfer, FIPS Compliance AUDITTRAIL data transfer.

For each process in the migration the program stores the date the conversion was last executed. When doing an upgrade to LABWORKS 7.2, the programs will store their data in the new formats described earlier. Working with LABWORKS product specialist and support specialist, best practices for the migration process can be worked out for your configuration and change management processes.

When the Migration Utility is finished it provides a log file with a count of the number of records that were migrated.
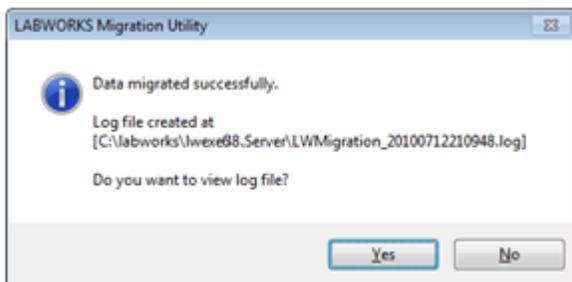
The log file can be helpful if there are errors in migrating data to the new format.

c) Running NGMigration Utility

NGMigrationTool is a common tool for various migrations. It needs to be executed when updating a version. Follow the instruction below for more details about each migration task.

Migration: Persisted group to Log Batch

This kind of migration is required to update from 6.9 or earlier to 6.10 or later.

Starting with 6.10, Desktop services do not work with persisted groups. Instead of using persisted groups, applications use log batch details associated with sample log batches. To avoid losing persisted group data, it can be associated with existing or new log batches using NGMigrationTool.

Note: NGMigrationTool can be run repeatedly to change the migration. It is available because the old relationships between persisted groups and samples are not removed from the database after the migration.

Step	User Input/Action	Expected Results
1	Run NGMigrationTool from LABWORKS\LWEXE\Server\NGMigrationTool.exe	Authentication window is open.
2	Select a database. Provide your login and password to access the database.	NGMigration Tool window is open.
3	Select "Persisted group to log batch" tile.	The migration wizard runs.

Step	User Input/Action	Expected Results
4	Read Welcome screen information. Click Next. 	Auto-merge screen is open.

Step	User Input/Action	Expected Results
5	Check Auto-merge information and click Next to continue. 	Manual merge screen is open.
6	Resolve conflicts following the instructions in the tool. Click Next to continue. 	Report screen is open.

Step	User Input/Action	Expected Results
7	After configuring the migration, NGMigrationTool provides a report to check changes before the migration. Print report if it is needed. Check changes and click Next to start the migration. 	Progress screen is open.
8	After the migration completes, the information dialog will be shown. Print report if it is needed.	The wizard will be closed.

LABWORKS

Step	User Input/Action	Expected Results
	Click Finish to finish the migration. 	
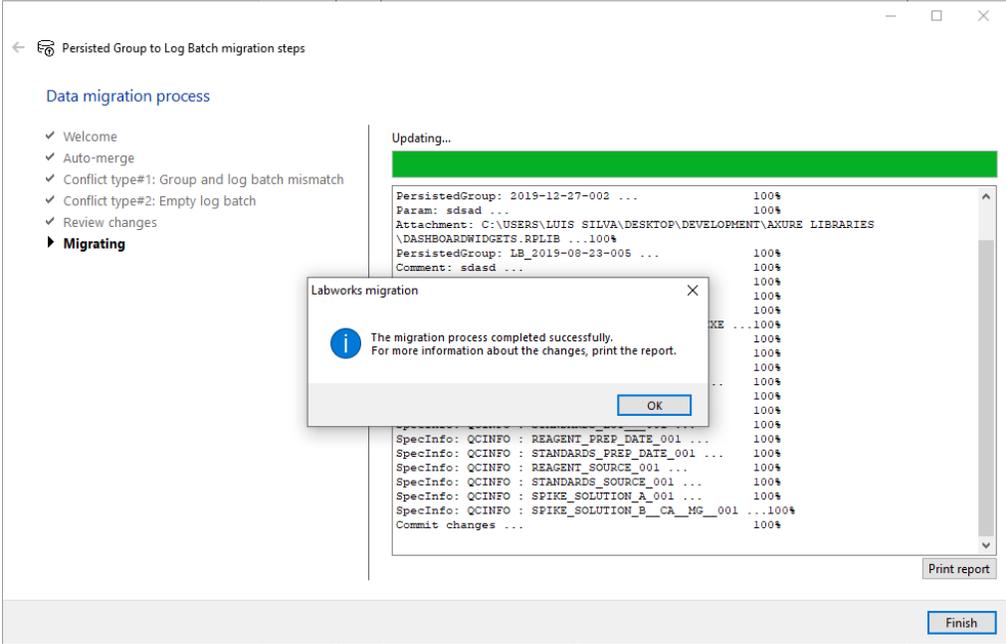
Migration: PsSchedule to Sample

This kind of migration is required to update from 6.10 or earlier to 7.0 or later.

Starting with 7.0, scheduled samples DB structure has been changed. Desktop services do not work with PSSchedule table. Instead of using PSSchedule table, applications will use Sample table. To avoid losing scheduled samples data, it is necessary to migrate it in Sample table using NGMigrationTool.

Step	User Input/Action	Expected Results
1	Run NGMigrationTool from LABWORKS\LWEXE\Server\NGMigrationTool.exe	Authentication window is open.
2	Select a database. Provide your login and password to access the database.	NGMigration Tool window is open.

Step	User Input/Action	Expected Results
3	Select "PSSchedule to Sample" tile. 	The migration wizard runs.

Step	User Input/Action	Expected Results
4		
5	7.x Database Migration Utility is launched. On selecting an date and clicking on button "Perform Upgrade", will update all the samples prior to selected date to INACTIVE. In Migration Results section, count of Process Scheduler samples which have statuses like Validation, Report and Invoice queue will be displayed. Select the required checkboxes corresponding to Validation, Report and Invoice queue status and click the button "Set selected statuses to Inactive", to set the status to INACTIVE for the corresponding samples. Count of samples with current state as NULL would be displayed as "Samples with ambiguous status". If count of samples with ambiguous status is greater than 0 then an button with text "Correct Data" will be visible at extreme right bottom of the 7.x Database Migration Utility window. Clicking the button "Correct Data" will fix the sample status discrepancy.	

Migration: Project management

This kind of migration is required to update from 7.1 or earlier to 7.2 or later.

Starting with 7.2, Desktop services work with a new system entity – project. Instead of using SAMPLE.PROJECT text field as a reference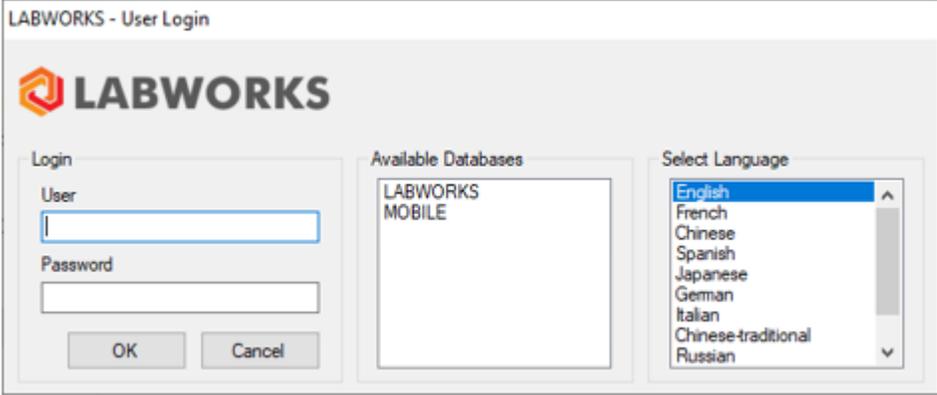, applications will use a new CIM_Project.ID field. To avoid losing existing sample project data, a new project should be created for each sample project value using NGMigrationTool.

To keep history, the value of the original project (SAMPLE.PROJECT) is stored in a separate CIM_Project.LEGACY_PROJECT field. Initial project status (CIM_Project.CURRENT_STATE) is determined by the workflow configuration when migrating projects.

Step	User Input/Action	Expected Results
1	Run NGMigrationTool from LABWORKS\LWEXE\Server\NGMigrationTool.exe	Authentication window is open.
2	Select a database. Provide your login and password to access the database.	NGMigrationTool window is open.
3	Select "Project management" tile.	The migration wizard runs.
4	Read Welcome screen information. Click Next.	Location project screen is open.
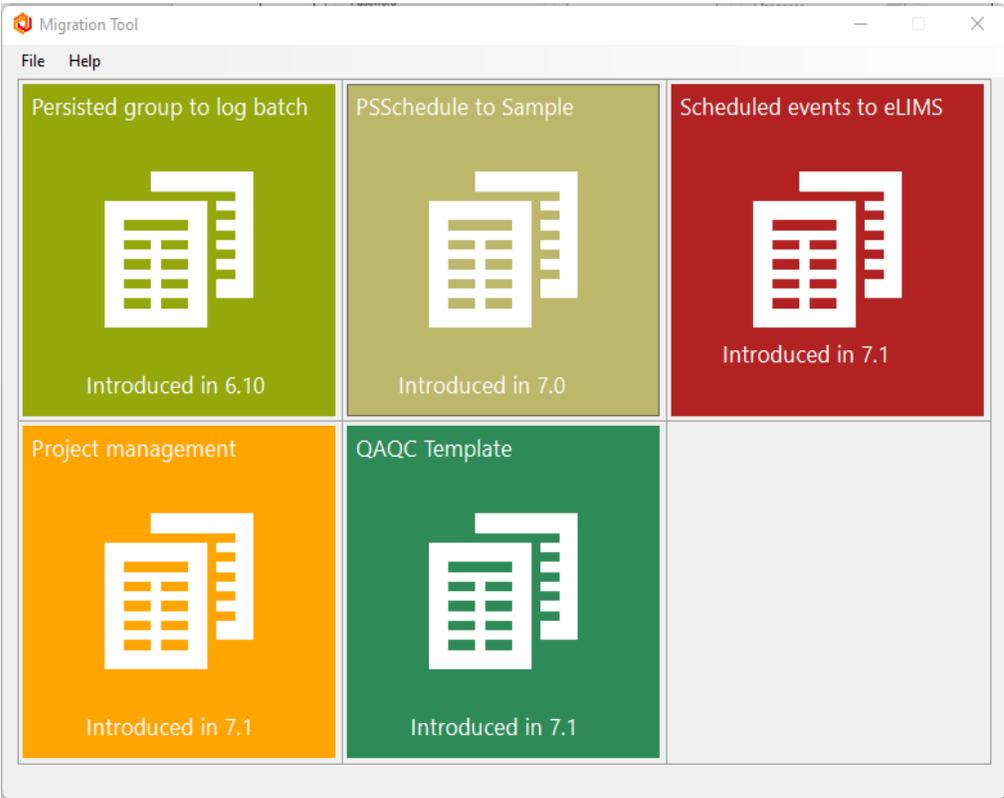
5	Check Location project updates and click Next to continue. 	Sample project screen is open.
6	Check Sample project updates and click Next to continue.	Prelogin group project screen is open.

7	Check Prelogin group project updates and click Next to continue. 	Project analyte reporting group project screen is open.
8	Check Project analyte reporting group project updates and click Next to continue.	Report screen is open.

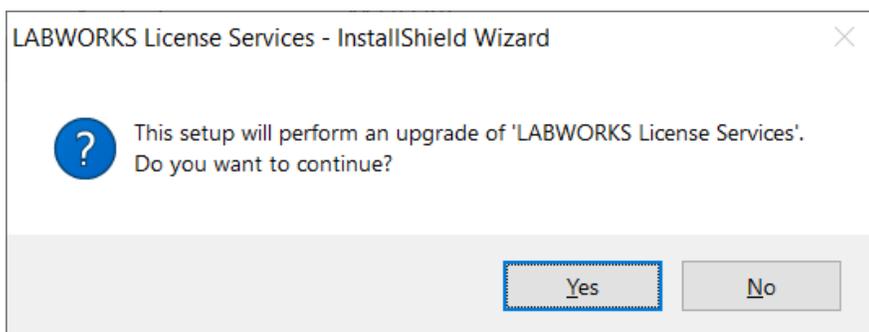| 9 | After configuring the migration, NGMigrationTool provides a report to check changes before the migration. Print report if it is needed.

Check changes and click Next to start the migration.

 | Progress screen is open. |
| 10 | After the migration completes, the information dialog will be shown. Print report if it is needed.

Click Finish to finish the migration. | The wizard will be closed. |
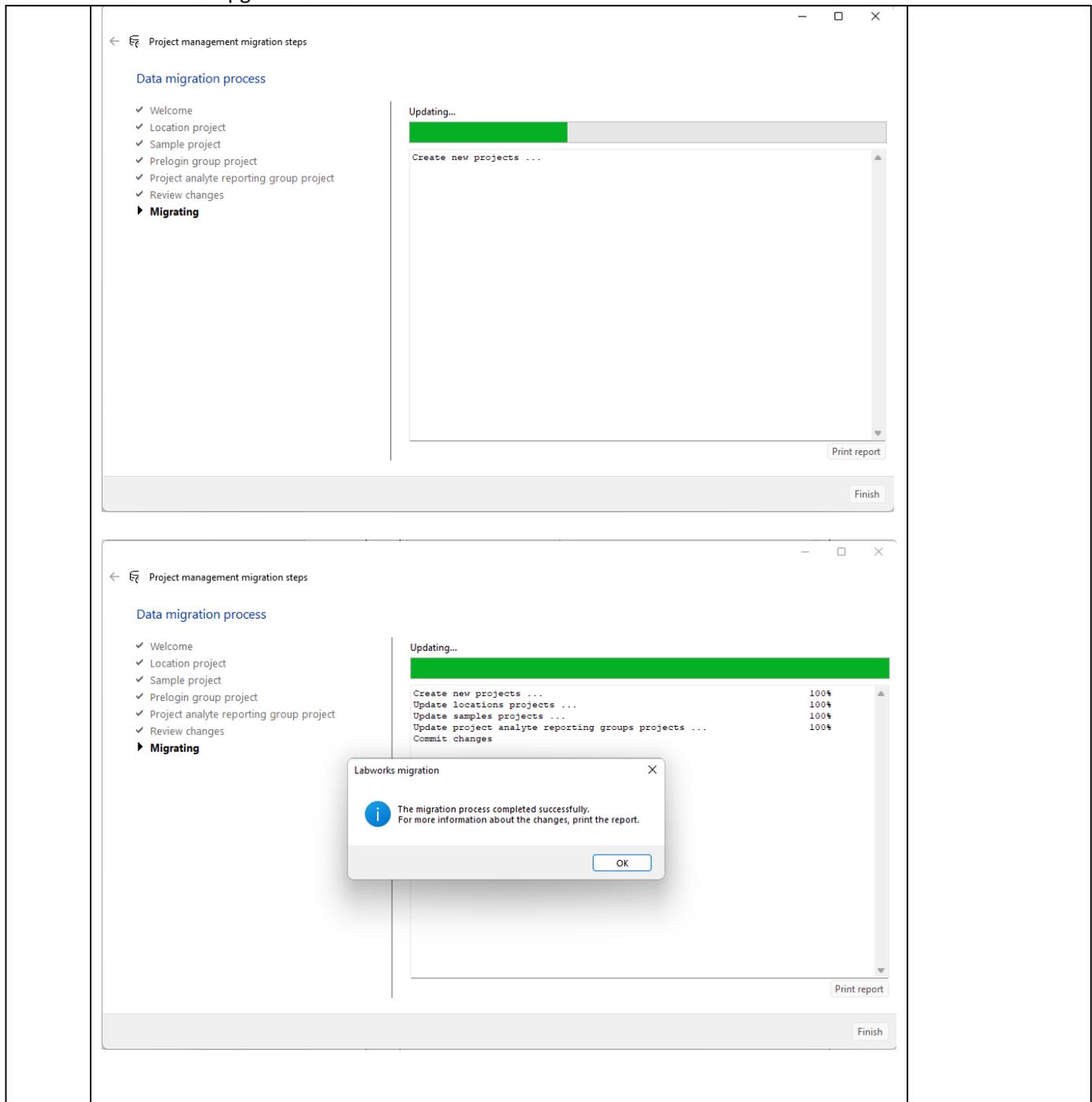
Migration: QAQC Template

This kind of migration is required to update from 7.1 or earlier to 7.2 or later.

Starting with 7.2, users can specify all the special QA sample in a single list in QAQC Template builder. The previous QAQC templates contained "Special QA Sample" and "Special QA Sample available for batch" as separate fields. Going forward these fields will be merged into a single list of "Special QA Sample available for batch".

To avoid losing existing "Special QA Sample" data, migrate the existing QAQC templates using NGMigrationTool.

Step	User Input/Action	Expected Results
1	Run NGMigrationTool from LABWORKS\LWEXE\Server\NGMigrationTool.exe	Authentication window is open.
2	Select a database. Provide your login and password to access the database. 	NGMigrationTool window is open.
3	Select "QAQC Template" tile. 	The migration wizard runs.
4	Read Welcome screen information. Click Next to start the migration.	Progress screen is open.
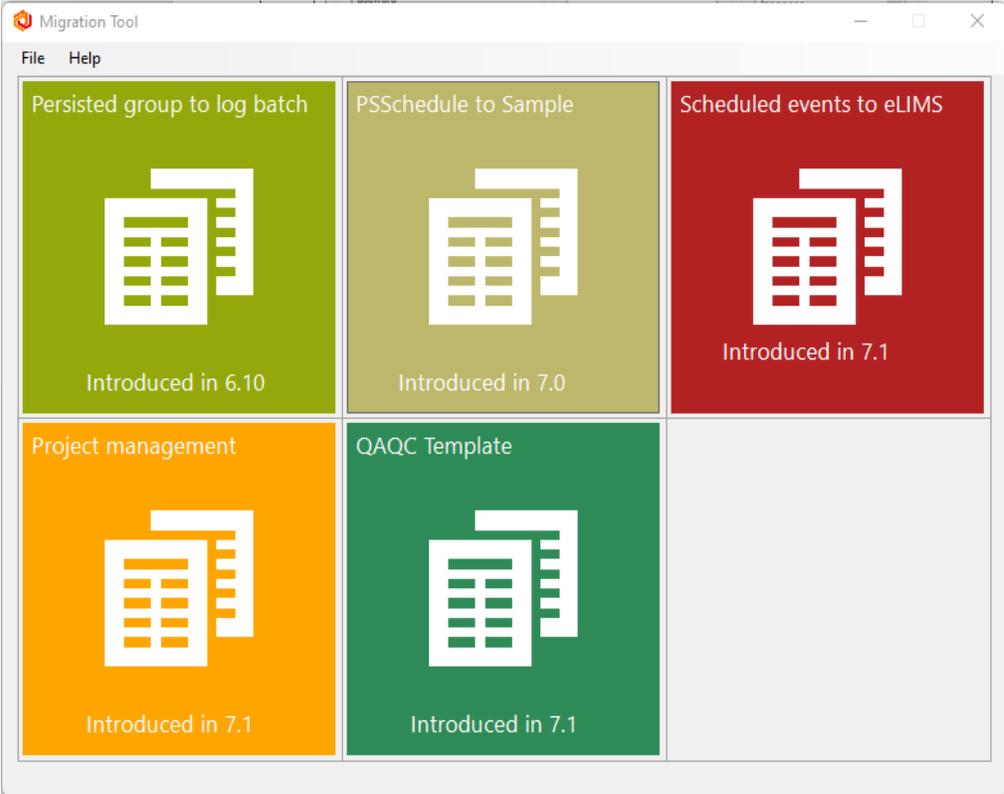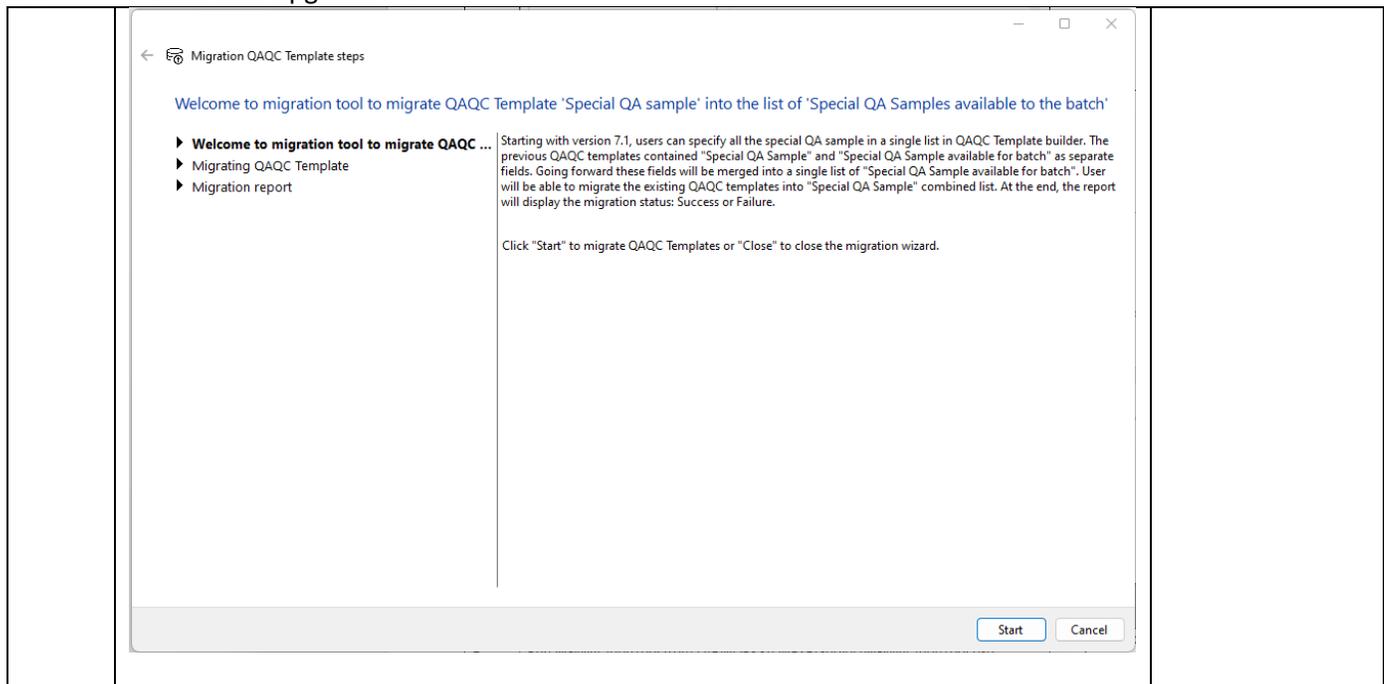
| | After the migration completes, the information dialog will be shown. Print report if it is needed. Click Close.
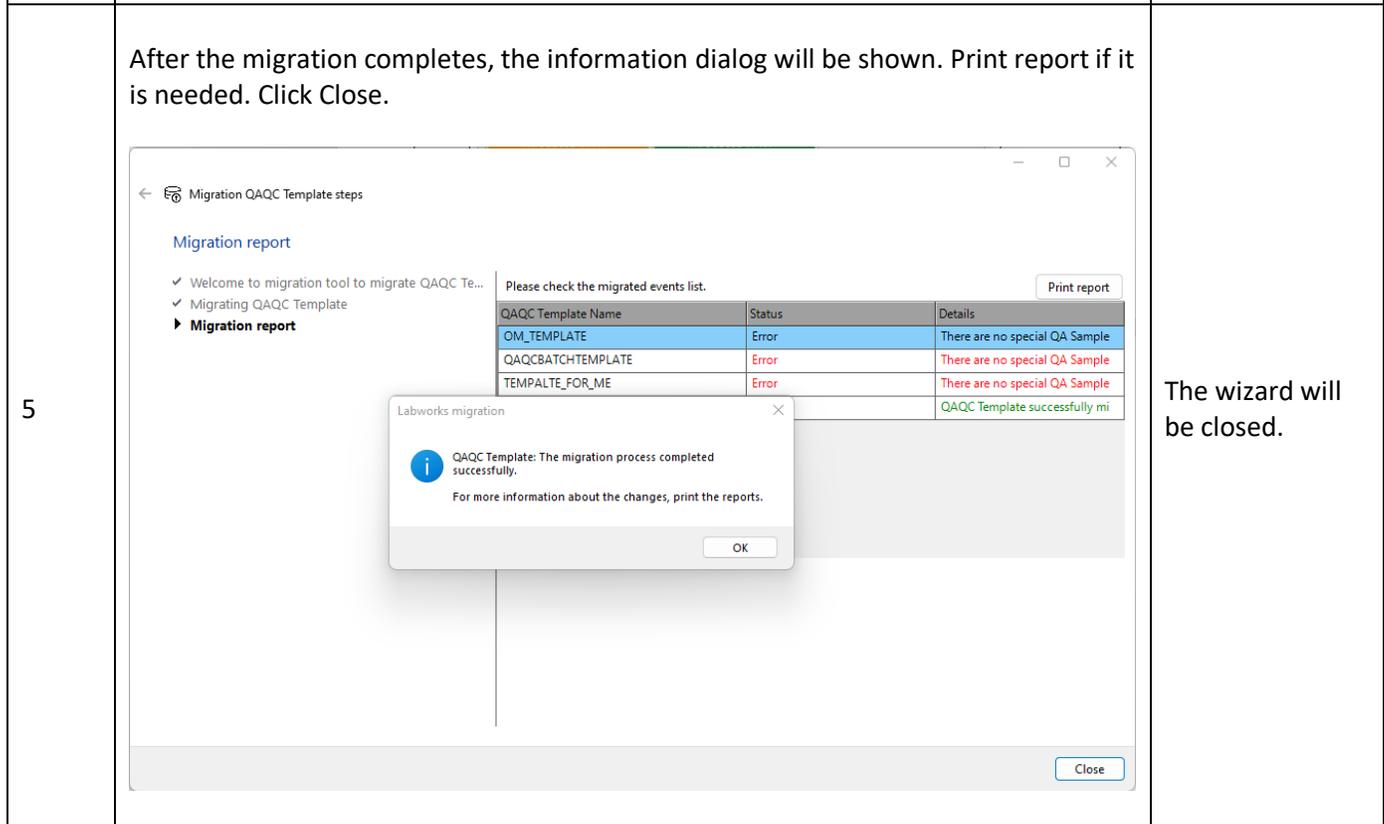
 | The wizard will be closed. |
| 5 | | |

3. LABWORKS License Services upgrade

a. Double click on "LWLicenseService.exe" file to launch License Services upgrade. Refer below screen capture.

| Name	Date modified	Type	Size
ISSetupPrerequisites	02/03/2022 12:05	File folder	
LWNGIIToolkit	02/03/2022 12:05	File folder	
LWRESTService	02/03/2022 12:05	File folder	
WebHelp	02/03/2022 12:07	File folder	
7.1.0.7_BlankDatabase.ZIP	02/03/2022 12:04	Compressed (zipp...	2,105 KB
Autorun.inf	02/03/2022 12:04	Setup Information	1 KB
LWDataServices.exe	02/03/2022 12:04	Application	11,678 KB
LWLicenseServices.exe	02/03/2022 12:04	Application	3,856 KB
LWServer.exe	02/03/2022 12:05	Application	4,01,200 KB
WindowsInstaller-KB893803-x86.exe	02/03/2022 12:05	Application	2,525 KB

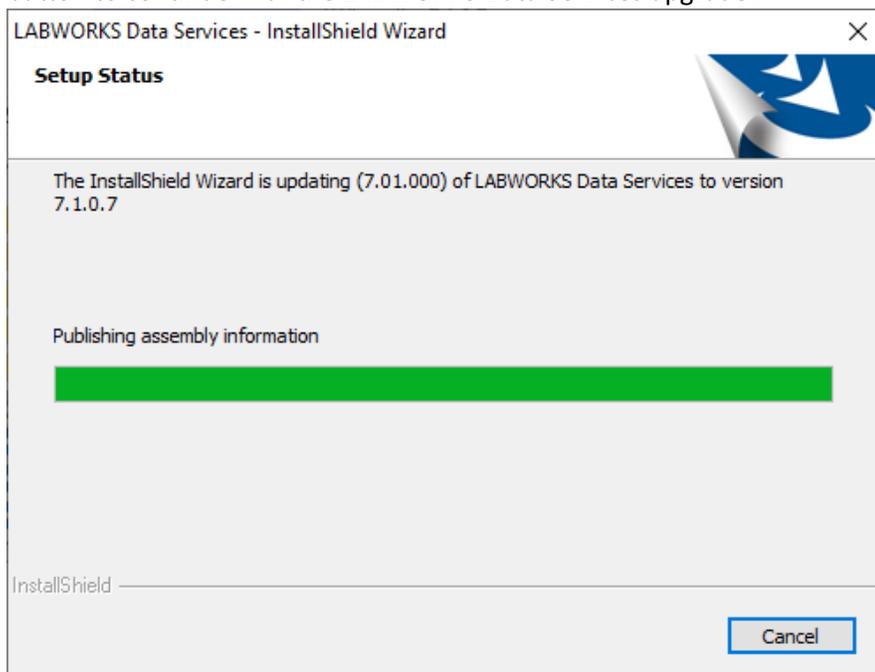b. Below confirmation message will appear.

LABWORKS License Services - InstallShield Wizard

? This setup will perform an upgrade of 'LABWORKS License Services'. Do you want to continue?

Yes   No

c. Click on "Yes" button to continue with LABWORKS License Services upgrade.

d. LABWORKS License Services upgrade will start. Refer below screen capture.

LABWORKS License Services - InstallShield Wizard

Resuming the InstallShield Wizard for LABWORKS License Services

Wizard will complete the installation of LABWORKS License Services on your computer. To continue, click Next.

< Back   Next >   Cancel
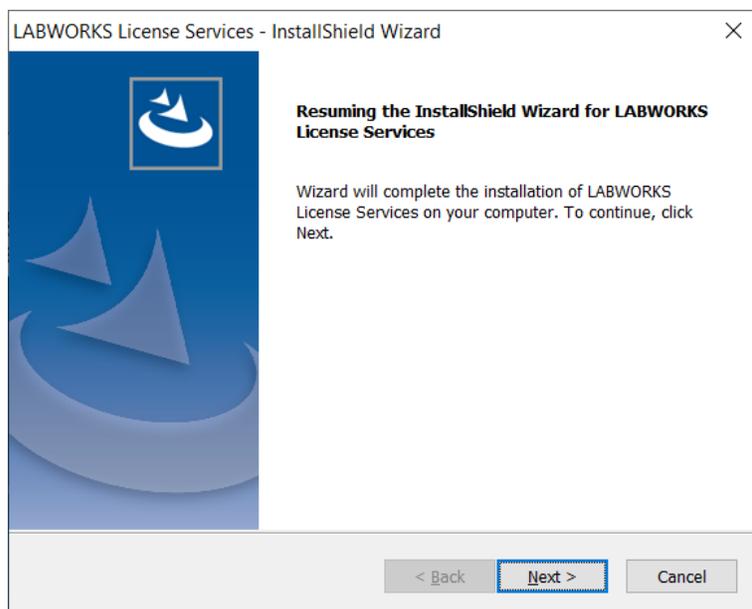
e. Click on "Next" button to continue with the LABWORKS License Services upgrade. If License service is running then below confirmation message will appear.
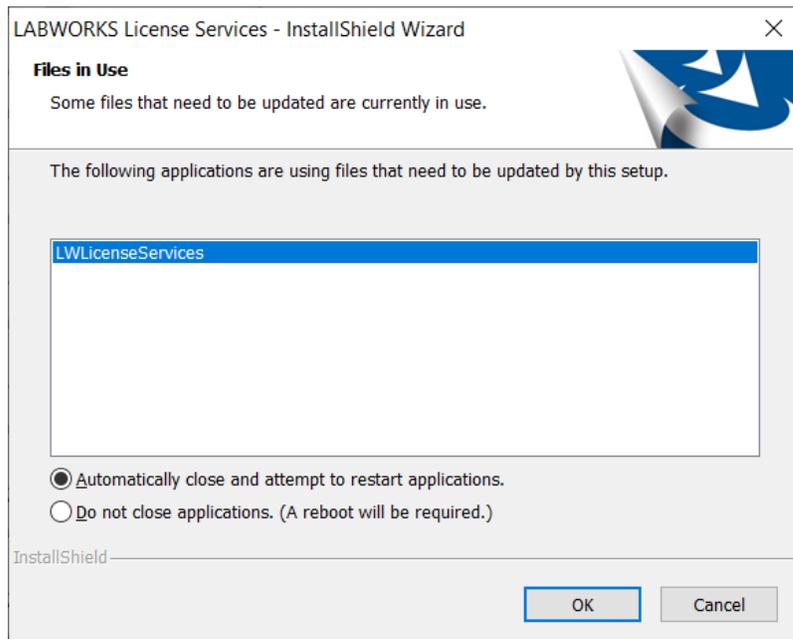
f. Select the first option i.e. "Automatically close and attempt to restart applications." And click on "OK" button to continue with the LABWORKS License Services upgrade.
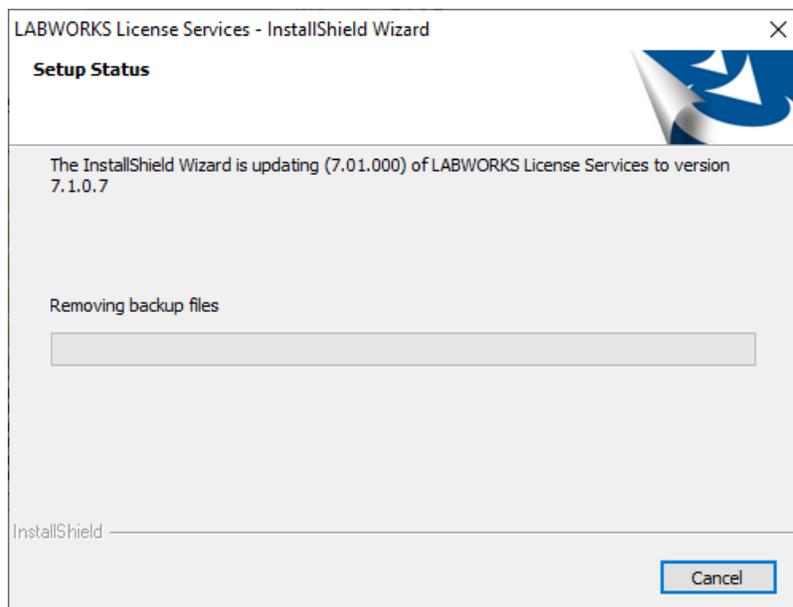
g. After completing LABWORKS License Services upgrade below confirmation window will appear.
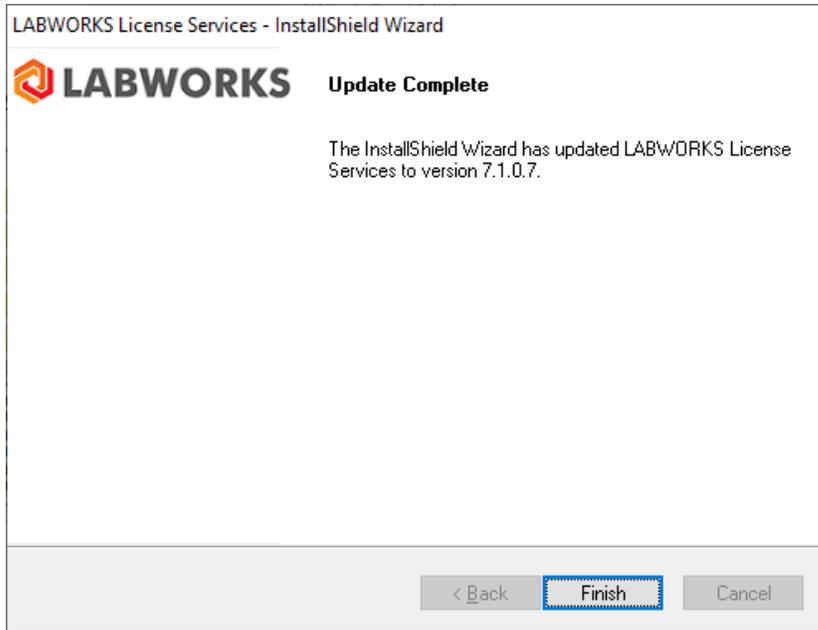
h. Click on "Finish" button to close the LABWORKS License Services upgrade installer.

4. LABWORKS Data Services upgrade

   a. Double click on "LWDataServices.exe" file to launch Data Services upgrade. Refer below screen
   capture.

Name	Date modified	Type	Size
ISSetupPrerequisites	02/03/2022 12:05	File folder	
LWNGIIToolkit	02/03/2022 12:05	File folder	
LWRESTService	02/03/2022 12:05	File folder	
WebHelp	02/03/2022 12:07	File folder	
7.1.0.7_BlankDatabase.ZIP	02/03/2022 12:04	Compressed (zipp...	2,105 KB
Autorun.inf	02/03/2022 12:04	Setup Information	1 KB
LWDataServices.exe	02/03/2022 12:04	Application	11,678 KB
LWLicenseServices.exe	02/03/2022 12:04	Application	3,856 KB
LWServer.exe	02/03/2022 12:05	Application	4,01,200 KB
WindowsInstaller-KB893803-x86.exe	02/03/2022 12:05	Application	2,525 KB

   b. Below confirmation message will appear.

LABWORKS Data Services - InstallShield Wizard   ✕

? This setup will perform an upgrade of 'LABWORKS Data Services'. Do you want to continue?

[Yes]   [No]

   c. Click on "Yes" button to continue with LABWORKS Data Services upgrade.
   d. LABWORKS Data Services upgrade will start. Refer below screen capture.

LABWORKS Data Services - InstallShield Wizard   ✕

Resuming the InstallShield Wizard for LABWORKS Data Services

Wizard will complete the installation of LABWORKS Data Services on your computer. To continue, click Next.

[< Back]   [Next >]   [Cancel]
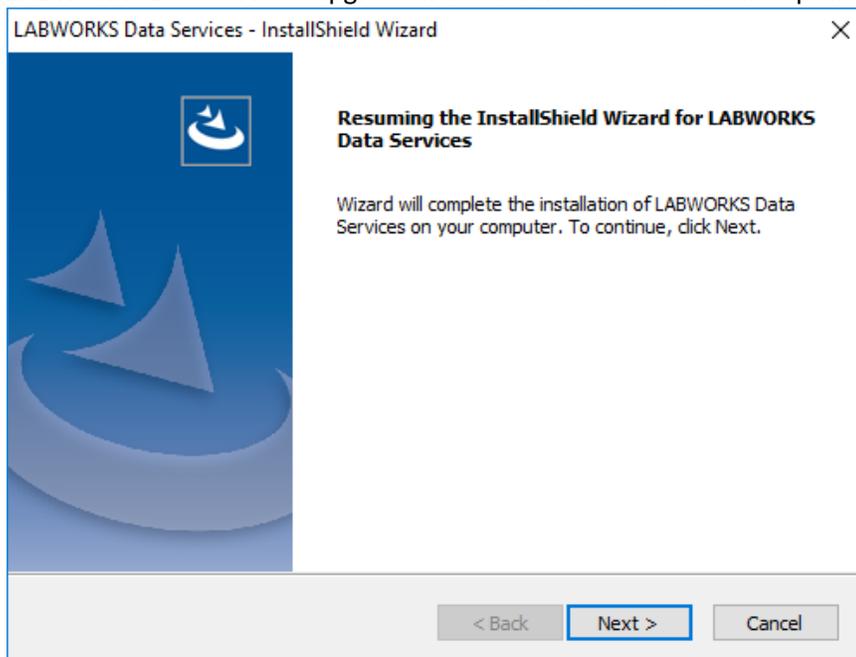
e. Click on "Next" button to continue with the LABWORKS Data Services upgrade. If Data service is running then below confirmation message will appear.
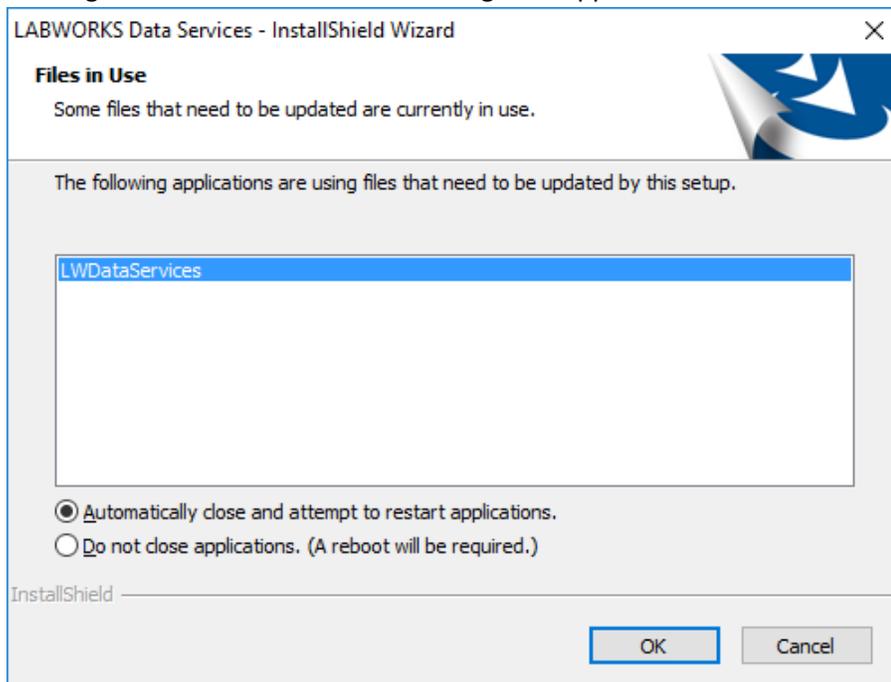
f. Select the first option i.e. "Automatically close and attempt to restart applications." And click on "OK" button to continue with the LABWORKS Data Services upgrade.

g. After completing LABWORKS Data Services upgrade below confirmation window will appear.
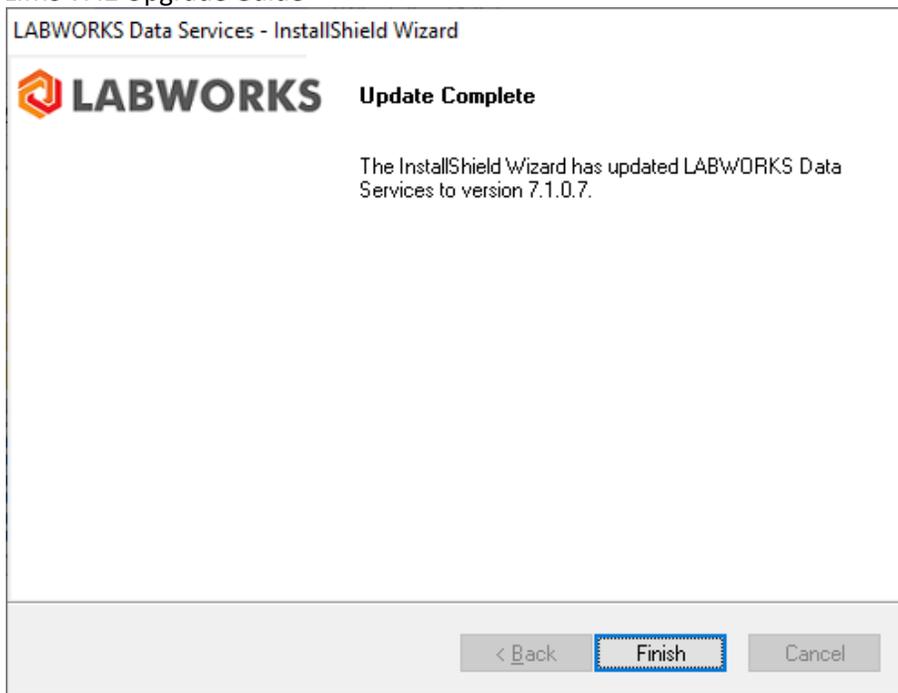
h. Click on "Finish" button to close the LABWORKS Data Services upgrade installer.

5. LABWORKS Client upgrade

    a. Go to the "\\LABWORKS\LWEXE" LABWORKS Server folder where LABWORKS Client Installer exist. Refer below screen capture.

    b. Double click on "Upgrade LABWORKS Client.bat" file to launch Client upgrade. Refer below screen capture.

LABWORKS Client upgrade will start. Refer below screen capture
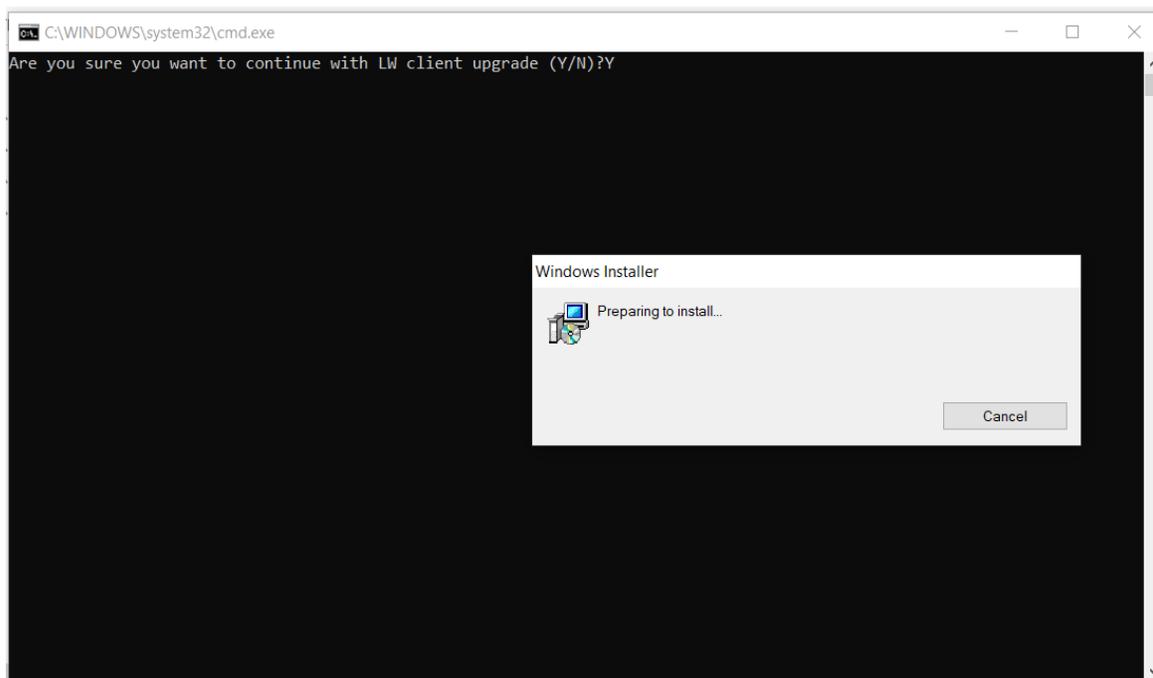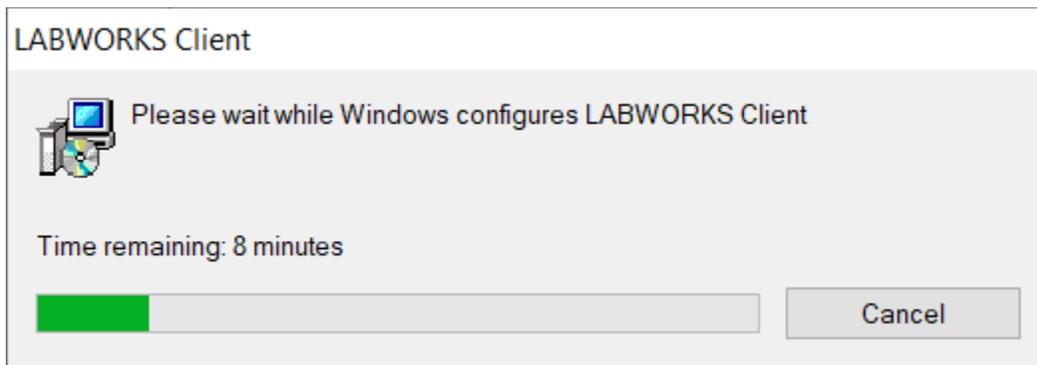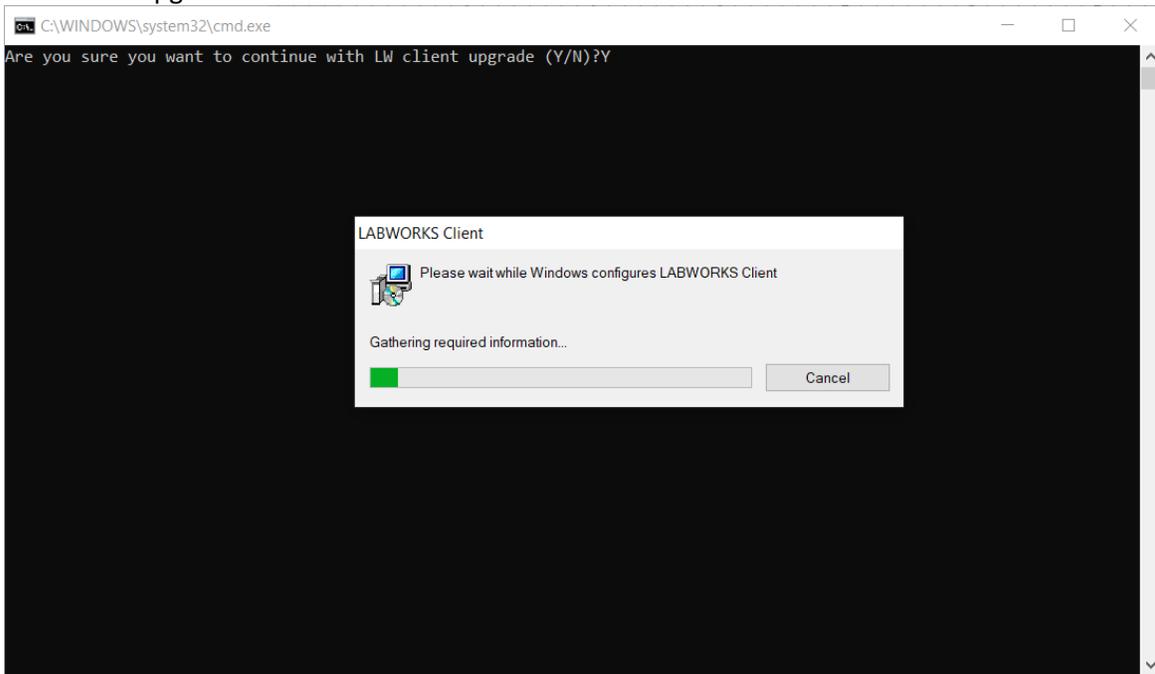
c. Click on "Finish" button to close the LABWORKS Client upgrade installer.
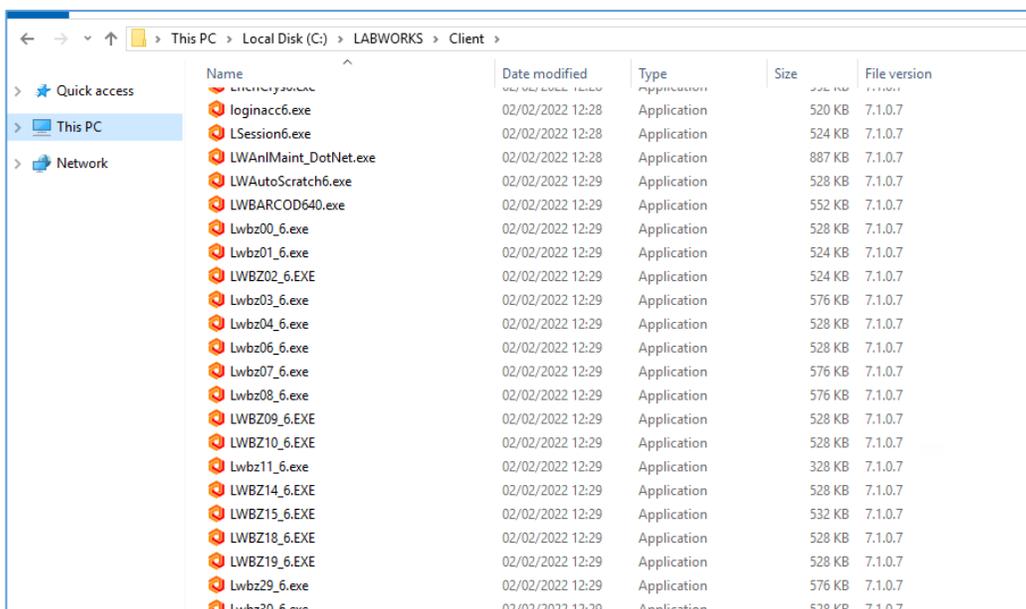
d. After LABWORKS Client upgrade need to reconfigure "**ApplicationSpec.xml**" file.