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# LABWORKS LIMS v7.2

**Installation Guide** 

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#### LABWORKS LIMS v7.2 Installation Guide



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# LABWORKS Overview

LABWORKS is a Laboratory Information Management System (LIMS). It is a database used for recording sample information and test results in a laboratory environment. LABWORKS essentially involves logging in a sample, entering test results for the sample, validating the sample, managing quality assurance for the sample, and providing invoices and/or reports for the sample.

LABWORKS is a modular application. Each set of related functions in LABWORKS is contained in a subset or smaller streamlined programs. For example, samples may be logged in by using a Single or Multi-Sample Login program. Sample results may be entered by using Results Entry or another Results uploading related program. Each of these modular programs is specialized for its function.

LABWORKS Desktop is a client/server application. There are two options for the client application: LABWORKS Desktop (thick client) and browser-based Webtop client with Desktop being primary. The client application interacts with the LABWORKS database to send, filter and read data. Additionally, the LABWORKS uses services that run on a server computer to authenticate users and provide and receive data. The server resides on the server computer that is running LABWORKS Services. The file server is a computer that contains files common to all users. The LABWORKS base files are stored on the file server. The LABWORKS database is accessed from a database server. The database options are: Microsoft SQL Server and Oracle.

# About this Guide

The purpose of this document is to provide the installation procedures for the different software packages within the LABWORKS LIMS offerings.

To help with the understanding of the installation procedure, a Planning and Definition section has been added to this document. This will be used to define the location where the software will be located on the network. The Planning and Definition Worksheet will also show what testing is recommended prior to the start of the installation.

The section on Planning and Definition, LABWORKS Desktop Installation, and Appendices A and B are used to install the core product. These sections are required for a functional installation of LABWORKS on your system.

**Note:** It is suggested that Appendix A, B, and C should be printed, completed, and followed during the installation. The check list will ensure that a step in the installation process is not omitted during the installation.

# **Planning and Definition**

LABWORKS Desktop is the latest in a succession of versions of LABWORKS LIMS. It provides significant new functionality, usability and reliability and is built using the latest in software development tools. In accordance with these newer tools and technologies the installation footprint on the server and client are different from previous version. Even if you are a long time LABWORKS user, it is recommended you read the complete installation guide and complete the *'Planning and Definition Worksheet'* before starting your LABWORKS Desktop installation or upgrade.

The following diagrams show the different folders used to install the LABWORKS Desktop and LABWORKS Webtop software. During the installation, the folders for the Server software and Client software are installed in different locations and can be selected/changed during the installation. Folders for the Webtop, LWLicenseServices and LWDataServices software are predefined as explained in the following pages and cannot be changed.



The LABWORKS Server Location (Loc1) could be different for each of the sub folders but for maintenance reasons it is suggested that you have only one folder defined on the server for the software. If the LABWORKS Server Location (Loc1) was defined as a version, then the grouping folder could be 'LABWORKS67' and the next installation would use 'LABWORKS68' or 'LABWORKS69' depending on the next version number.

After determining the LABWORKS Server Location (Loc1) then it is suggested that the Server Files be placed in LWEXE, Base Files in LWDATA, User Files in LWUSER, Temporary Files in LWTEMP, and SQC Files in the LWSQC folders. During the installation and Gateway Administrator operation these folders will be created.

The Planning and Definition Worksheet will require the location to be defined prior to the installation. If the 'LABWORKS Server Software (Loc1)' was defined to be **'C: \LABWORKS\'** then the Server Files folder would be **'C: \LABWORKS\LWEXE\'** and the Base Files folder would be C: **\LABWORKS\LWDATA\'**.

The default for the Client installation is **'C: \LABWORKS\Client'.** If user change the 'Client location (Loc4)' to other folder location (**D:\LABWORKS\**) then the software location for the client would be **'D: \LABWORKS\Client\'** 

LABW	LABWORKS WebTop Installation Folders				
LABWORKS WebTop Software	LABWORKS WebTop Software (Loc5) LW WebTop Server Base Files LWUser Files LWTemp Files Labels Crystal				
LABWORKS License Service Software	LWLicenseService         Labworks         LWLicenseService         Files				
LABWORKS Data Service Software	LWDataService Labworks Files Files				
LABWORKS Client Software	LABWORKS IIS Published Software (Loc6) LWWebTop App_images Files LWSampleLoginService Files				

The software location for the LABWORKS Webtop is controlled by either the LABWORKS software or the Internet Information Server (IIS). The 'LABWORKS Webtop Software (Loc5)' for the Webtop will be 'C:\Program Files (x86)\LABWORKS\' and the 'LABWORKS IIS Published Software (Loc6)' will be 'C: \inetpub\wwwroot\'. These folders are not changeable within the software. The installation of the Webtop software will create file main folders:

- *'C:\Program Files (x86)\Labworks\LWLicenseServices\'*
- *'C:\Program Files (x86)\Labworks\LWDataServices\'*
- 'C:\Program Files (x86)\Labworks\LWWebtop Server\'
- 'C:\inetpub\wwwroot\LWWebtop\'
- 'C:\inetpub\wwwroot\LWSampleLoginService\'

**Note:** If the LABWORKS server is also the IIS server then only one installation of the LWLicenseServices and LWDataServices will be installed.

# **Required Sharing and Permission**

The server folders need to be shared to the clients. The share should be set with required group based on Network Policy. Normally the Administrators (domain, backup, and other) groups will have Full Control access to the share and permission. Three additional groups should be added to the share to control the LABWORKS user access.

The permission on the share must be set to RWXD for the Groups required. (**RWXD** R = Read, W = Write, X = Execute, D = Delete)

Folder permission required					
	Folder	LABWORKS Users	LABWORKS Super User	LABWORKS Managers	Admin. Account
1	(Loc2) LWLicenseServices Location	N/A	N/A	N/A	Full Control
2	(Loc3) LWDataServices Location	N/A	N/A	N/A	Full Control
3	(Loc1)\LWEXE (Server Files)	RX	RX	RX	Full Control
4	(Loc1)\LWEXE\syscfg(Server Files)	RX	RX	RWXD	Full Control
5	(Loc1)\LWUSER (User Files)	RWXD	RWXD	RWXD	Full Control
6	(Loc1)\LWTEMP (Temporary Files)	RWXD	RWXD	RWXD	Full Control
7	(Loc1)\LWDATA (Base Files)	RWXD	RWXD	RWXD	Full Control
	Folder	LABWORKS Users	LABWORKS Super User	LABWORKS Managers	Admin. Account
1	(Loc2) Webtop LWLicenseServices Location	N/A	N/A	N/A	Full Control
2	(Loc3) Webtop LWDataServices Location	N/A	N/A	N/A	Full Control
3	(Loc5)\LWWebtop Server\LWEXE	Rx	RX	RX	Full Control
4	(Loc5)\LWWebtop Server\LWEXE\SysCfg	RX	RX	RWXD	Full Control
5	(Loc5)\LWWebtop Server\LWUSER	RWXD	RWXD	RWXD	Full Control
6	(Loc5)\LWWebtop Server\LWTEMP	RWXD	RWXD	RWXD	Full Control
7	(Loc5)\LWWebtop Server\LWDATA	RWXD	RWXD	RWXD	Full Control
8	(Loc6)\\LWWebtop\Reports	RX	RX	RWXD	Full Control
9	(Loc6)\\LWSampleLoginService	N/A	N/A	N/A	Full Control

# LABWORKS Desktop Installation Prerequisites

# Before You Start

LABWORKS Desktop is the latest in a succession of versions of LABWORKS LIMS. It provides significant new functionality, usability and reliability and is built using the latest in software development tools. In accordance with these newer tools and technologies the installation footprint on the server and client are different from previous version. Even if you are a long time LABWORKS user, it is recommended you read the complete installation guide

before starting your LABWORKS Desktop installation or upgrade. Complete the Planning and Definition section which can be used as a worksheet.

Installing LABWORKS is a multi-step process that involves performing a server installation, client installation on the server, creating a UNC path or mapped drive to the LABWORKS folder, running the update database tool, running the gateway administrator tool to configure workstations and LABWORKS databases, and finally performing a client installation on each workstation that is to run LABWORKS

LABWORKS installation involves the following steps:

- Step 1: Running LWServer.exe to install required folder, server software, and client installation.
- Step 2: Configure ApplicationSpec.xml
- Step 3: Create Folder Access and Permission
  - Define the UNC Path or create mapped drive to the LABWORKS folder.
- Step 4: Prepare the database by running the Microsoft SQL/Oracle Script and Update Tool.
  - 6.0/6.1/6.2/6.3/6.4/6.5/6.6/6.7/6.8/6.8.5/6.9/6.10/7.0/7.1/7.2 (Appendix D)
- Step 5: Run the Gateway Administrator Tool (LWSysCfg6.exe) to configure the LABWORKS software connection strings.
  - Configure the Database.
  - Configure Database Authentication.
  - Configure Global Database Availability.
- Step 6: Start LWLicenseServices/LWDataServices
- Step 7: Run Migration Utility to convert previous versions of LABWORKS 6.X to Latest version of LABWORKS.
- Step 8: Run NGMigrationTool to convert persisted groups to log batches. It is needed to be run in the case of updating from 6.9 or earlier to 6.10 or later version.
- Step 9: Run the ClientSetup.msi on each workstation that is to use LABWORKS
- **Note:** If you are using mapped drives then you must create a mapped drive on the server and then create the same mapped drive on each workstation that will run LABWORKS.

Before you start your LABWORKS Desktop installation you will need the following:

- LABWORKS Desktop Installation Disk
- LABWORKS License/Control File (\*.CTL)
- Completed Planning and Definition Worksheet
- Network Location/Share for Server Installation

If you are updating your existing LABWORKS LIMS program, back up your LABWORKS Base File folder and the database before beginning installation. LABWORKS is not responsible for any data loss or downtime caused by not creating backup files. Installation from the new LABWORKS CD should only begin after creation of a full backup of all existing files in your LABWORKS Server Files and Base Files and the actual database itself to tape, CD ROM, or other method.

It is recommended that you install any LABWORKS update on a test computer using a backup Base Files and database to test the program prior to installation on networks, servers, or multiple workstations. Even though

LABWORKS thoroughly tests the LABWORKS LIMS program in-house, there may be variables associated with your network, servers, workstations, environment, etc., that may present unforeseeable problems.

### **Server Installation**

LABWORKS Desktop has 2 components of installation, the Server and the Client.

#### Server Installation

• The server installation copies files to a designated location. These files include: System configuration and conversion tools, the LWDATA folder, the license file and client installation point.

# **Server Files**

- This is the location the LABWORKS server software will be located, normally referred to as LWExe. Within this folder, it will also contain the server documentation, system configuration, and updates.
- During the installation, the license (\*.CTL) file will be copied from the license file path into the Server Files Folder for LABWORKS to use.
- This folder contains utilities for updating the LABWORKS Database Schema to latest LABWORKS version, Conversion utilities for previous versions. It also includes utilities for Language translation and management.

### **Base Files**

• The Base File location is where the external files for the operation of LABWORKS will be located, normally referred to as LWData. These files include different types of reports, image files, and other files required for LABWORKS.

# License File Path

• This is the location where the installation program can find the license (\*.CTL) file to copy to the Server Files location.

### **Temporary Files**

- Path that the lwcs640 component will use for temporarily operations, normally referred to as LWTemp.
- For best performance, these files should be local to the user. The default location is the Windows folder for temporary files.

#### **User Files**

- Path where the user will find files created during the normal operation of the LABWORKS software, normally referred to as LWUser. The user path could be a folder located in the LWUser that would be created based on LABWORKS or Operating System login name.
- Files created as the data source for Crystal reports will be in the user folders.
- For best performance, these files should be local to the user.
- The default location is the Windows user profile location.

### **SQC** Files

• Path where the Northwest Analytical Software (NWA) will be located, which is normally referred to as LWSQC.

### **Database Server**

• The database server, SQL or Oracle requires a database instance be created. The instructions for creating the LABWORKS database are available in a separate document.

### LWLicenseServices

• This folder contains the LABWORKS License Service application. This service is used to authenticate users and provide database configuration information. This folder will be located in the "Program Files (x86)\Labworks\LWLicenseServices" folder.

# LWDataServices

• This folder contains the LABWORKS Data Service application. This service is used to provide data to the application. This folder will be located in the "Program Files (x86)\Labworks\LWDataServices" folder.



# **Installation Prerequisites**

The following is based on a Windows Server 2016 64-bit machine:

- 1. Dot Net Framework 4.7 needs to be installed on the Server.
  - a. Control Panel → Programs → Turn Windows Features On/Off
- 2. Enable Dot Net Framework 3.5 on the Server.



# LABWORKS Desktop Installation

# **Step 1: Server Installation**

The LABWORKS setup program is LWServer.exe.

p	User Input/Action						Expected Results
	Right click on the L Select 'Run as adm <b>Note:</b> Microsoft .N	iinistrator' 1	o install.	required.			
		rk > dtp208 > LAI Name	8WORKS → LWInstallers →	7.2 > Build_7.2.0.82 > Li	Winstaller.7.2.0.82 >	Size	
	<ul> <li>✓ Quick access</li> <li>OneDrive - Personal</li> <li>This PC</li> <li>③ DObjects</li> <li>④ Desktop</li> <li>☑ Documents</li> <li>↓ Downloads</li> <li>↓ Music</li> <li>☑ Pictures</li> <li>☑ Videos</li> <li>ٺ Local Disk (C:)</li> </ul>	ISSetupPrend LWNGIITool LWRESTServ WebHelp 7.2.0.82_Blai LUDataServ LWDataServ LWLicenseS LWServer.ex WindowsIns	kit ice nkDatabase.ZIP ices.exe ervices.exe	03/24/2023 09:03 03/24/2023 09:03 03/24/2023 09:03 03/24/2023 09:05 03/23/2023 22:27 03/23/2023 21:53 03/23/2023 20:28 03/23/2023 20:23 03/23/2023 22:09 05/17/2005 04:12	File folder File folder File folder IZArc ZIP Archive Setup Information Application Application Application	2,222 КВ 1 КВ 11,851 КВ 3,890 КВ 4,28,241 КВ 2,525 КВ	Windows installer initiates the installation from the Setur program.
	LABWORKS Server - I		Welcome to the LABWORKS S	he InstallShield W Server /izard will install LAB continue, click Nex	WORKS Server or	×	
	Click 'Next'		< [	<u>3</u> ack <u>N</u> ext >	Cancel		

	LABWORKS Server - InstallShield Wizard × Customer Information Please enter your information.	
	User Name:	
	MyName	
	Company Name:	Customer Information
	MyCompany	dialog is
2	Install this application for:	displayed.
	Anyone who uses this computer (all users)	User Name and
	Only for me (MyName)	Company name is entered.
	InstallShield	
	< Back Next > Cancel	
	Enter User Name and Company Name.	
	Click 'Next'.	
	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.)	
	⊖ Cu <u>s</u> tom	Setup Type dialog is
3	Select which program features you want installed. Recommended for	displayed.
	advanced users.	Setup Type is
		specified.
	InstallShield	
	< <u>B</u> ack <u>N</u> ext > Cancel	
	Select the Setup Type:	
	Complete: Created Client Install, System Admin Tools, New Database	
	Custom: Each piece can be selected separately.	
	Click 'Next'.	

	<ul> <li>When Complete is selected, you are first prompted for the Application Folder (The location for the client install and System Admin Tools)</li> <li>For the server application folder, or type/select the 'Server Files' in the Desktop Server section of the Planning and Definition Worksheet. This is the Network File server location where all clients will have access.</li> <li>Click 'Next' to proceed.</li> <li>Please note that the above folder should also be a different folder from the previous versions of LABWORKS. This is not an absolute requirement but using a different folder from previous versions makes it easier to differentiate between previous versions and LABWORKS Desktop. All program names for LABWORKS Desktop are different from previous versions of LABWORKS to provide easier user and system migration.</li> </ul>	
	LABWORKS Server - InstallShield Wizard	
	Choose Destination Location	
4	Specify a folder for the application.          C:\LABWORKS\LWEXE         Browse	Choose Destination Location dialog is displayed. Destination folder is specified.
	InstallShield	
	For the database folder, type the 'Base Files' in the Desktop Server section of the Planning and Definition Worksheet. LABWORKS Desktop uses the same folder structure as previous version of LABWORKS. The install won't overwrite existing files. If you are upgrading from a previous version of LABWORKS you should make a copy of your LWDATA folder for use with LABWORKS Desktop. LABWORKS Desktop uses Crystals Reports 2013 for displaying reports, with an optional install of the Crystal XI Release 2 (11.5) report designer. When existing reports are modified using LABWORKS Desktop they are saved in the new format and cannot be used with previous versions of LABWORKS.	

	LABWORKS Server - InstallShield Wizard	
	Choose Destination Location	
	Specify a folder for new Database.	
	specify a folder for new Database.	
	C:\LABWORKS\LWDATA	
	Browse	
	InstallShield	
	< Back Next > Cancel	
	Click 'Next' to continue.	
	LABWORKS Server - InstallShield Wizard	
	License file path	
	Enter License file path	
	C:\LABWORKS\LWEXE	License file
		path dialog is
	B <u>r</u> owse	displayed.
5		Location of
		license file is
		specified.
	InstallShield	
	< <u>B</u> ack <u>N</u> ext > Cancel	
	Select the location of your license file. This will most likely be from your Control File CD,	
	which is supplied on a separate disk from the installation disk.	
	LABWORKS recommends copying the license file from the CD to a folder on your	License file
6	network for easy access.	copied from CD
	Click 'Next' to proceed.	to folder on
		network.

	InstallShield Wizard X	
	Installation of LABWORKS Services	
	Select the services to install on this machine.	
	LABWORKS Data Service	
_		Installation of LABWORKS Services dialog is displayed.
7	InstallShield	LABWORKS services to install specified.
	< <u>B</u> ack <u>N</u> ext > Cancel	•
	For installation of LABWORKS License Service on same machine check the option 'LABWORKS License Service'. If you want to install the 'LWLicenseServices' on different machine uncheck the option.	
	For installation of 'LABWORKS Data Service' on same machine check the option 'LABWORKS Data Service'. If you want to install the 'LWDataServices' on different	
	machine uncheck the option.	
	Click 'Next 'to continue.	
	Note: If LWLicenseServices/LWDataServices is not being installed, proceed to Step 18.	
Instal	lation of LW License Service	
		The Welcome
		to the
0	The Server setup launches separate LWLicenseServices setup program, and the welcome	InstallShield
8	screen appears with brief instructions.	Wizard for LABWORKS
		License Service
		dialog opens.

	LABWORKS License Services - InstallShield Wizard X	
	<image/> Welcome to the InstallShield Wizard for LBWORKS License Services           The InstallShield Wizard will install LABWORKS License Services on your computer. To continue, dick Next.           Image: Market and Market	
	Click 'Next' to continue	
	LABWORKS License Services - InstallShield Wizard       ×         Customer Information       ×         Please enter your information.       ×	
	User Name:	
	MyName	The Customer
	Company Name:	Information
	MyCompany	dialog is displayed.
9	Install this application for:	
	Anyone who uses this computer (all users)	User Name and Company Name
	Only for me (MyName)	is specified.
	InstallShield	
	<pre>A Back Next &gt; Cancel</pre>	
	Enter your User Name and Company Name. Click 'Next' to continue.	

	LABWORKS License Services - InstallShield Wizard	
	Ready to Install the Program	
	The wizard is ready to begin installation.	
	Click Install to begin the installation.	
	If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.	The Deedute
		The Ready to Install the
		Program dialog
10		is displayed.
		The installation
		proceeds.
	InstallShield	
	< Back Install Cancel	
	Click 'Install' to begin the installation.	
	LABWORKS License Services - InstallShield Wizard	
	<b>ULABWORKS</b> InstallShield Wizard Complete	
	The InstallShield Wizard has successfully installed LABWORKS License Services. Click Finish to exit the wizard.	
	LABWORKS License Services. Click Finish to exit the wizard.	
		The
		InstallShield
		Wizard
11		Complete dialog is
		displayed.
		The installation
		is complete.
	< Back Finish Cancel	
	When the installation is complete, click 'Finish' to exit.	

12	For installation of the LWLicenseServices on different machine run LWLicenseServices.exe from the CD on desired machine.	If applicable, LWLicenseServi ces installed on a different machine.
Instal	lation of LW Data Service	
	The Server setup launches separate LWDataServices setup program, and the welcome screen appears with brief instructions.           LABWORKSDataServices - InstallShield Wizard         X	
13	Welcome to the InstallShield Wizard for LABWORKSDataServices         The InstallShield Wizard will install LABWORKSDataServices on your computer. To continue, dick Next.         Image: Comparison of the installShield Wizard for LABWORKSDataServices on your computer. To continue, dick Next.         Image: Comparison of the installShield Wizard for LABWORKSDataServices on your computer. To continue, dick Next.         Image: Comparison of the install co	The Welcome to the InstallShield Wizard for LABWORKS Data Service dialog opens.
14		The Customer Information dialog is displayed. User Name and Company Name is specified.

	LABWORKSDataServices - InstallShield Wizard X	
	Customer Information	
	Please enter your information.	
	User Name:	
	MyName	
	Company Name:	
	MyCompany	
	Install this application for:	
	Anyone who uses this computer (all users)	
	Only for me (MyName)	
	InstallShield	
	< Back Next > Cancel	
	Enter your User Name and Company Name. Click 'Next' to continue	
	LABWORKSDataServices - InstallShield Wizard	
	Ready to Install the Program	
	The wizard is ready to begin installation.	
	Click Install to begin the installation.	
	If you want to review or change any of your installation settings, click Back. Click Cancel to exit	The Ready to
	the wizard.	Install the
		Program dialog
15		is displayed.
		The installation
		proceeds.
	InstallShield	
	< Back Install Cancel	
	Click 'Install' to begin the installation.	
16		The InstallShield
	l	mstansmenu

		- LIMP	Wizard
	LABWORKSDataServices - InstallSh	ield Wizard	Complete dialog is
	<b>Q LABWORKS</b>	InstallShield Wizard Complete	displayed.
			The installation
		The InstallShield Wizard has successfully installed LABWORKSDataServices. Click Finish to exit the wizard.	is complete.
		< Back Finish Cancel	
	When the installation is com	plete click 'Finish' to exit	
		F	If applicable,
	For installation of the LWDat	aServices on different machine run LWDataServices.exe from	LWDataServices
17	the CD on desired machine.		installed on a
			different
			machine.
			The Ready to
			Install the
10	LABWORKS Server program	resumes and is ready to install.	Program dialog
18			is displayed.
			The installation
			proceeds.

	LABWORKS Server - InstallShield Wizard	
	Ready to Install the Program	
	The wizard is ready to begin installation.	
	Click Install to begin the installation.	
	If you want to review or change any of your installation settings, dick Back. Click Cancel to exit the wizard.	
	InstallShield	
	< Back Install Cancel	
	Click 'Install' to begin the installation. LABWORKS Server - InstallShield Wizard	
	LABWORKS Server - Instalishield Wizard	
	LABWORKS InstallShield Wizard Complete	
	The InstallShield Wizard has successfully installed LABWORKS Server, Click Finish to exit the wizard.	
		The
		InstallShield Wizard
10		Complete
19		dialog is
		displayed.
		The installation is complete.
		is complete.
	Kara Kara Kara Kara Kara Kara Kara Kara	
	When the installation is completed, click 'Finish' to exit.	

# Step 2: Create Folder Access and Permission

Because LABWORKS is installed on a server, the LABWORKS Grouping Folder 1 defined in the Planning and Definition Worksheet needs to be shared.

We suggest that you use a UNC (Universal Naming Convention) path to the server for the LABWORKS folders.

• Option 1: Using a UNC Path for LABWORKS

For example, if the LABWORKS Client Installation program is in the following folder: \LABWORKS\LWEXE, on Server 1, then the System Administrator must notify each user to log on, from their workstation, to the following shared folder: \\Server1\LABWORKS\LWEXE.

• Option 2: Create a Mapped Drive for LABWORKS

If you are using a mapped drive to access the LABWORKS folder, then every user must use the exact same map and have the mapped drive already in existence before the user can connect to LABWORKS. If the mapped drive is not created for each profile prior to the LABWORKS Client Install, then the administrator will have to log in as each user profile and map the drive.

To create the mapped location on the server, share the LABWORKS folder. Map this folder as a lettered drive, such as P:\. Then, for each workstation that is to run LABWORKS, create a mapped drive using the same drive letter and path on each workstation.

LABWORKS recommends the LABWORKS Server Application folder, <LWEXE>\Server (where <LWEXE> designates the path up to and including the \LWEXE folder) be set to Read-Only. The <LWEXE>\SysCfg folder must be set to Read/Write.

When using a UNC path for the LICENSE\_FILE\_PATH, please take note that even if the UNC path refers to a local drive, permissions and security are affected by the permissions and network security.

### **Step 3: Installing New Database**

#### **Create a New Database**

The LABWORKS Desktop Installation CD contains a folder with starter databases.

SQL Sever

Included with your LABWORKS Desktop installation is a BlankDatabase.zip file.

Use SQL Server tools to restore the zipped database. Then ensure there is a SQL login with access to the database.

Oracle

#### A. Create pluggable database-

- 1. Launch "Database Configuration Assistant" application as an administrator.
- 2. Select "Create a database" option.

	stant - Application - Step 1 of 14	
elect Database Operatio	on	19° Database
Database Operation	Select the operation that you want	to perform.
Creation Mode	Oreate a database	
Deployment Type	Configure an existing database	
Database Identification	O Delete database	
Storage Option	Manage templates	
<ul> <li>Fast Recovery Option</li> <li>Database Options</li> </ul>	Manage Pluggable databases	
Configuration Options	Oracle RAC database Instance	management
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Creation Option		
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Help		
		< Back Next > Finish Cancel
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	stant - Create a database - Step 2 of 14	
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3. Click Next and Finish.

4. Start the sqlplus prompt and Log in as sys in the role of sysdba

```
Enter user-name: sys as sysdba
Enter password:
```

5. Make sure the pluggable database has an open mode of read write

```
SQL> select name,open_mode from v$pdbs;
NAME
OPEN_MODE
PDB$SEED
READ ONLY
LABWORKS70PDB
READ WRITE
```

6. Make sure the pluggable database stays in read write mode next time you open it

```
SQL> alter pluggable database LABWORKS70PDB save state;
```

Pluggable database altered.

7. Check the status of the database using the command prompt directly

C:\WINDOWS\system32>lsnrctl status

```
Service " LABWORKS70;GALAXY.IN" has 1 instance(s).
Instance "LABWORKS70 status READY, has 1 handler(s) for this service...
Service LABWORKS70XDB,GALAXY.IN" has 1 instance(s).
Instance "LABWORKS70", status READY, has 1 handler(s) for this service...
Service " LABWORKS70PDB,GALAXY.IN" has 1 instance(s).
Instance "LABWORKS70", status READY, has 1 handler(s) for this service...
```

- 8. In the status we can see that "LABWORKS70PDB.GALAXY.IN" service has instance name as "LABWORKS70".
- 9. Connect to your new pluggable database. As we need to connect to the pluggable database, we need to use the instance name



- B. Create a user/schema named "LABWORKS"
- 1. Login into sqlplus with sys or system dba user then execute the following script for creating LABWORKS Schema.
- 2. SQL>CREATE USER LABWORKS IDENTIFIED BY password DEFAULT TABLESPACE "USERS" ACCOUNT UNLOCK;
- Note: in the above script password can be replaced to LABWORKS schema password
- 3. SQL>GRANT CONNECT, RESOURCE, DBA TO LABWORKS;
- Import the database file: \BlankDatabase\Oracle\LABWORKS.DMP. The export was done by the user "LABWORKS" (Schema owner)
   C:\ imp LABWORKS/password@ORADB file=labworks65.dmp analyze=y FROMUSER=LABWORKS
  - TOUSER=LABWORKS GRANTS=NO log=myerror.log
- 5. Run the below procedure using sqlplus. Or create a sql file and execute.

oracle begin
dbms\_stats.gather\_schema\_stats(ownname=> 'LABWORKS' , estimate\_percent=> 10 , cascade=>
TRUE );
end;
/
exit
/

6. Create an Oracle service connection to the LABWORKS Database.

**Note**: LABWORKS Applications and Server Utilities require the Oracle Client 32-bit version be installed.

### **Step 4: Configure database authentication for Oracle 19c**

When using Oracle 19c version, follow these steps:

- Run the command ALTER SYSTEM SET SEC\_CASE\_SENSITIVE\_LOGON = FALSE in the Oracle database.
- Change a password for existing users.
- Make sure that PASSWORD\_VERSIONS are compatible with 19c.
  - Run the following command in the database:
    - select USERNAME, ACCOUNT\_STATUS, PASSWORD\_VERSIONS from dba\_users;
  - The output should look like this:

USERNAME ACCOUNT_STATUS PASSWOP	ORD_VERSIONS
DIP EXPIRED & LOCKED 11G 120 SYSKM EXPIRED & LOCKED 11G 120	
ORACLE_OCM EXPIRED & LOCKED 11G 12C	2C
SYSDG         EXPIRED & LOCKED         116         120           SPATIAL_CSW_ADMIN_USR         EXPIRED & LOCKED         116         120           LABWORKS         OPEN         106         110	2C

#### Step 5: Gateway Administrator Setup

After the Server Installation has completed you must run the Gateway Administrator Tool, LWSysCfg6.exe, to set up LABWORKS user and workstation information. This information includes the location of the LABWORKS executables, locations and names of LABWORKS databases, and user file locations. The program is in the <LWEXE>\SysCfgfolder.

This section shows you how to use the Gateway Administrator to perform the following tasks:

- Set up a new database This section shows you how to add a database to the Gateway Administrator and set Data Path information for the database.
- **Configure the database** This section shows you how to configure the database by defining the type of database, type of connection to database, the database name; the server name, and the database user name and password.
- Select database authentication options This section shows you how to configure LABWORKS to validate a user's ID and Password by using LABWORKS authentication or domain authentication.
- Select global default database availability This section shows you how to select which databases will be visible, by default, to all users of LABWORKS.

The Gateway Administrator requires the LABWORKS client be installed on the workstation where Gateway Administrator is run. The Gateway administrator can be run from a network client or from the server console as long as the LABWORKS client install has been completed and the user has proper network access.

Access to the Gateway Administrator tool is controlled by network privileges and the program is also password protected. The first time you access the Gateway Administrator, if you are installing LABWORKS 6.8.5 Desktop or higher, the default password is **gateway**.

#### Set up a new Database

The Gateway Administrator allows you to specify which databases will be used in your LABWORKS system and how these databases will be configured. Setting up a new database is a four-part process that involves adding a new database to the Gateway Administrator program, setting data path information, configuring the database, and selecting database authentication. The following sections show you how to add a database to the Gateway Administrator and configure the database.

### Add a New Database and Set Data Path Information:

Step	User Input/Action	Expected Results
1	From the LABWORKS application folder, select <lwexe>\SysCfg\LWSysCfg6.exe.</lwexe>	File selected.
2	Before the Gateway Administrator launches a message appears prompting you to enter the Gateway Administrator password.          Image: Password       Image: Password         Image: Password	LABWORKS Gateway Administrato r message appears prompting you to enter Gateway Administrato r Password.
	Set Gateway Administrator Password	Gateway Administrato r Password is entered. Gateway Administrato r Password is changed.

Step	User Input/Action	Expected Results
3	Once you have entered the correct password and clicked 'OK' the Gateway Administrator opens, and the Global Setting node is highlighted on the tree and has focus. When the Global Setting node is selected, the database setup panel on the right appears and consists of three tabs: a Data Path tab, a Database tab, and an Authentication tab. All tab pages and fields appear blank and are disabled when the Global Setting node is selected.	The Gateway Administrato r opens. Database Setup panel appears in right hand pane.
4	From the Gateway Administrator click File>New. A pop-up window appears prompting you to enter a new name for the database:	LABWORKS Gateway Administrato r message appears prompting you to enter a new name

Step	User Input/Action	Expected Results
		for the database.
5	Enter a new name for the database you wish to set up and click 'OK'. The name you create for the database is the database name that users will see on the LABWORKS Login screen. The name can NOT contain spaces, semicolons (;), commas (,), plus sign (+), and the percent sign (%). The new database is added to the Global Setting node in the Gateway Administrator window and the database is selected by default. Information pertaining to the new database appears on the right-hand portion of the screen.	A new name is entered for the database.
6	Click In next to the Data Files Path field. The Data Path Selection window appears:	The Data Path Selection window appears. Data Files path is specified.
7	Clicknext to the License Path field.	The Client Program Path Selection window appears. The path to the License

Step	User Input/Action	Expected Results
	Browse for Folder × Data Path Selection C:\LABWORKS\LWEXE C:\LABWORKS\LWEXE LABWORKS LWDATA LWDATA LWDATA LWSQC LWTEMP LWUSER Other Stuff LABWORKS Images Logs V This is the path to the License file.	file is specified.
8	If you have the Northwest Analytical Quality Analyst software package, a third-party software package used for SQC charting, then select an SQC Path.	If applicable, SQC Path is specified.
9	Select the Default Language from the corresponding drop-down menu. For example, if you select English as the default language, then this will be the language LABWORKS runs in unless you specify a different default language for a specific Workstation or User. If you do not want to see language choices at log in, you must click on the Users node and check the Hide language selection at runtime check box.	Default language is specified. OR, if applicable, 'Hidden language selection at runtime' option is enabled.
10	Clicknext to the User Path field. The Client User Path Selection window appears:	The Client User Path Selection window appears.

Step	User Input/Action	Expected Results
	Browse for Folder × Data Path Selection C:\LABWORKS\LWUSER LABWORKS A Client	
	<ul> <li>LWDATA</li> <li>LWEXE</li> <li>LWSQC</li> <li>LWTEMP</li> <li>LWUSER</li> <li>Other Stuff</li> <li>LABWORKS Images</li> <li>Logs</li> </ul>	
11	Select the location for the User Path. The location of Server and User temporary files can affect application performance. Some parts of the application use temporary files to pass information between the middle tier and the user interface. Both programs execute on the client workstation. It is important that the temporary file read/write performance be as fast as possible. The recommended option is to use the Windows defaults. If required, specific files for these folders can be configured, and if you wish to append a unique path for each user or workstation, then check the Unique user path for each user box. When this option is checked you can then select the unique user path based on Domain ID, LABWORKS ID, or Workstation ID by clicking on the corresponding radio button. Based on your selection, LABWORKS will create a folder. Use Windows User Setting Folder (Default) User Patk Unique user path for each user C Labworks ID C Labworks ID For example, if you select L:\LWUSER and Unique user path for each user DomainID,	The location for the User Path is selected.
12	then the user temp path becomes L:\LWUSER\ <domainid></domainid>	The Server Temp Path Selection window appears. The Server Temp path is specified.



# Step 6: Configure ApplicationSpec.XML, ClientApp.config, LWServiceConfig.xml

The Server installation creates the files 'ApplicationSpec.xml' and 'ClientApp.config'. The files are used to configure the path to the license file and services from the clients.

During the upcoming client installation step, these files are copied to the client workstation. By configuring it before doing the client installation, the client installation configuration is already correctly configured.

Step	User Input/Action	Expected Results
1	Open the file 'ApplicationSpec.xml' using notepad.	The Application Spec.xml is opened.

	on					Expected Results
-   - =   C:\LABW	/ORKS\LWEXE		_	οx		
File Home Shar				~ 👩		
	his PC → Local Disk (C:) → LABWORKS → LWEX	F	✓ ひ Search LWE			
	. ^					
📌 Quick access	Name	Date modified	Туре	Size		
📃 Desktop 🛷	Server	5/10/2017 12:15 PM	File folder			
- Downloads 🖈	syscfg	5/10/2017 12:15 PM	File folder			
🔮 Documents 🖈	Updates	5/10/2017 12:15 PM	File folder			
Pictures 🖈	WebHelp	5/10/2017 12:15 PM 5/10/2017 12:17 PM	File folder XML Document	1 KB		
Sources 🖈	ClientApp.config	5/10/2017 12:17 PM	XML Configuratio	4 KB		
6.7	🐻 ClientSetup.msi	5/9/2017 7:48 AM	Windows Installer	97,885 KB		
LABWORKS66	🔁 CrystalXIRDC.msi	5/9/2017 7:58 AM	Windows Installer	69,814 KB		
LWEXE	Labworks.ini	7/12/2016 11:24 PM	Configuration sett	40 KB		
QuestionPapers	₩ LE512512.CTL	4/21/2017 6:11 PM	Visual Basic User	8 KB		
Question apers	LWI18NRES.MDB	3/30/2016 8:22 PM	MDB File	8,132 KB		
💻 This PC	LWI18NRES.xml	3/20/2017 7:54 AM	XML Document	8 KB		
Desktop	LWReporting.xsd	3/30/2016 8:22 PM	XML Schema File	19 KB		
Documents	<ul> <li>mcinstr6.lst</li> <li>scinstr6.lst</li> </ul>	5/9/2017 6:57 AM 5/9/2017 6:57 AM	MASM Listing MASM Listing	3 KB 4 KB		
🖶 Downloads	Scinstro.ist           Image: Scinstro.ist           Image: Upgrade LABWORKS Client.bat	5/4/2017 4:36 AM	Windows Batch File	4 KB 1 KB		
👌 Music	vcredist_x86.exe	5/9/2017 8:22 AM	Application	2,682 KB		
17 items 1 item selected	v <u> </u>					
	the server shared the folde are. The path can be a map			nt mapped	the L:	
drive to that sha ApplicationSpec.x <u>File Edit Fo</u> rmat <appsettings> <licen <appco <lsess <platf <login <check< th=""><th>are. The path can be a map ml - Notepad</th><th>ped drive lette</th><th>er</th><th>nt mapped</th><th>the L:</th><th></th></check<></login </platf </lsess </appco </licen </appsettings>	are. The path can be a map ml - Notepad	ped drive lette	er	nt mapped	the L:	
drive to that sha	are. The path can be a map ml - Notepad <u>View Help</u> SE_SERVER LICENSE_FILE_PATH NFIG REFRESH="TRUE"/> ION6 LAUNCH_DELAYTIME="40"/ DRM_SERVER_PATH PATH="LABWO _Page Flavor="Process"/> SUMVERSION VALUE="1"/> ath.	ped drive lette	er \LWEXE\"/>			
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drive to that sha ApplicationSpec.x <u>File Edit Format</u> <appsettings> <licen <appco <lsess <platf <login </login </platf </lsess </appco </licen </appsettings> <appsettings> <appco <lsess </lsess </appco </appsettings>  	are. The path can be a map ml - Notepad <u>View Help</u> SE_SERVER LICENSE_FILE_PATH NFIG REFRESH="TRUE"/> ION6 LAUNCH_DELAYTIME="40"/ ORM_SERVER_PATH PATH="LABWO _Page Flavor="Process"/> SUMVERSION VALUE="1"/> ath. ml - Notepad <u>View Help</u> SE_SERVER LICENSE_FILE_PATH NFIG REFRESH="TRUE"/> ION6 LAUNCH_DELAYTIME="40"/ ORM_SERVER_PATH PATH="LABWO _Page Flavor="Process"/> SUMVERSION VALUE="1"/>	ped drive lette	er \LWEXE\"/> LABWORK5\LWE	()     (		

Step	User Input/Action	Expected Results
	For using SQL Server database with LABWORKS: Microsoft SQL ADO is the default connect string for Database Type SQL Server	
	Data Paths Database Authentication	
	Database type     SQL Server - Database connect string     TLS Support MSOLEDBSQL	
	Note: If you require TLS 1.2 Support, check "TLS Support MSOLDEDBSQL"	
	1) In LWSYSCFG, check "TLS Support MSOLEDBSQL"     Data Paths Database Authentication	
	Oatabase type	
	<ul> <li>2) Install following drivers on the workstation :</li> <li>i) MSOLEDBSQL (Used by .net applications) <ul> <li>a. <u>https://www.microsoft.com/en-us/download/details.aspx?id=56730</u></li> <li>ii) ODBC FOR SQL 2017 (Used by legacy applications) (Install based on OS bitness)</li> </ul> </li> </ul>	
	a. <u>https://www.microsoft.com/en-us/download/details.aspx?id=56567</u> For using Oracle OLEDB Driver with LABWORKS: Prerequisite: Oracle Client 32 Bit, must include OLEDB Driver	
	Configuration Using LWSysconfig select Oracle OleDBORA.Oracle Connect String	
	Data Paths Database Authentication	
	Database type	
	SQL Server - Database connect string     Oracle - Database connect string	
	Microsoft MSDAORA      Oracle OleDBORA.Oracle	
	In ApplicationSpec.xml, add OracleHome	


р	User Input/	Action					Expecte Results
	Registry En	trv:					
	• •				-		
	Computer\	hkey local machine	SOFTWARE\ <b>WOW6432</b>	Node\ODB	C\ODBCINST.IN	I\OD	
	BC Drivers					-	
	📑 Reg	istry Editor			>	<	
	File Ec	dit <u>V</u> iew F <u>a</u> vorites <u>H</u> elp					
		ter\HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\ODBC\O	DBCINST.INI\ODBC Drivers				
		> ODBC.INI ^	Name	Туре	Data		
		ODBCINST.INI	ab (Default)	REG SZ	(value not set)		
		Conversor de pagina de codigo MS	CR SQL Server Classic Wire Protocol ODBC Driver 7.0.1	REG_SZ	Installed		
		CR SQL Server Classic Wire Protocol ODBC Driver 7.0.1	et CR SQL Server Native Wire Protocol ODBC Driver 7.0.1	REG_SZ	Installed		
		CR Subase Wire Protocol ODBC Driver 7.0.1	CR Sybase Wire Protocol ODBC Driver 7.0.1	REG_SZ	Installed		
		CR TextFile ODBC Driver 7.0.1	et CR TextFile ODBC Driver 7.0.1	REG_SZ	Installed		
		Driver da Microsoft para arquivos texto (*.txt; *.csv)	a) Driver da Microsoft para arquivos texto (*.txt; *.csv)	REG_SZ	Installed		
		Driver do Microsoft Access (*.mdb)	Driver do Microsoft Access (*.mdb)	REG_SZ	Installed Installed		
		Driver do Microsoft dBase (*.dbf)	briver do Microsoft dBase (*.dbf)     briver do Microsoft Excel(*.xls)	REG_SZ REG_SZ	Installed		
		Driver do Microsoft Excel(*.xls)	briver do Microsoft Excel(_xis)     briver do Microsoft Paradox (*.db )	REG_SZ	Installed		
		Microsoft Access dBASE Driver (*,dbf, *,ndx, *,mdx)	Microsoft Access dBASE Driver (*.dbf, *.ndx, *.mdx)	REG_SZ	Installed		
		Microsoft Access Driver (*.mdb)	Microsoft Access Driver (*.mdb)	REG_SZ	Installed		
		Microsoft Access Driver (*.mdb, *.accdb)	Microsoft Access Driver (*.mdb, *.accdb)	REG_SZ	Installed		
		Microsoft Access Text Driver (*.txt, *.csv)	Microsoft Access Text Driver (*.txt, *.csv)	REG_SZ	Installed		
		Microsoft Access-Treiber (*.mdb)	Microsoft Access-Treiber (*.mdb)	REG_SZ	Installed		
		Microsoft dBase Driver (*.dbf)	Microsoft dBase Driver (*.dbf)	REG_SZ	Installed		
		Microsoft dBase-Treiber (*.dbf) Microsoft Excel Driver (*.xls)	Microsoft dBase-Treiber (*.dbf)	REG_SZ	Installed		
		Microsoft Excel Driver (*.xls, *.xlsx, *.xlsm, *.xlsb)	(*.xls)	REG_SZ	Installed		
		Microsoft Excel-Treiber (*.xls)	Microsoft Excel Driver (*.xls, *.xlsx, *.xlsm, *.xlsb)     Microsoft Excel-Treiber (*.xls)	REG_SZ REG_SZ	Installed Installed		
		Microsoft ODBC for Oracle	Microsoft ODBC for Oracle	REG_SZ	Installed		
		Microsoft Paradox Driver (*.db )	Microsoft Paradox Driver (*.db.)	REG_SZ	Installed		
		Microsoft Paradox-Treiber (*.db ) Microsoft Text Driver (*.txt; *.csv)	Microsoft Paradox-Treiber (*.db )	REG_SZ	Installed		
		Microsoft Text-Treiber (*.txt; *.csv)	Microsoft Text Driver (*.txt; *.csv)	REG_SZ	Installed		
		Microsoft Visual FoxPro Driver	Microsoft Text-Treiber (*.txt; *.csv)	REG_SZ	Installed		
		MS Code Page Translator	Microsoft Visual FoxPro Driver	REG_SZ	Installed		
		MS Code Page-Ubersetzer	ODBC Driver 13 for SQL Server	REG_SZ	Installed		
		ODBC Core	Oracle in OraClient12Home1_32bit     SAP Salesforce ODBC Driver	REG_SZ	Installed		
		- ODBC Driver 13 for SQL Server	SAP Salestorce ODBC Driver     All SQL Server	REG_SZ REG_SZ	Installed Installed		
		ODBC Translators	ab SQL Server Native Client 11.0	REG_SZ	Installed		
		Oracle in OraClient12Home1_32bit					
		SAP Salesforce ODBC Driver					
	<	>	<			>	
	1						
	1						

## Step 7: Configure Service Security Mode as Transport

LABWORKS services (LWLicenseService and LWDataServices) has Security Mode as 'None' by default.

Follow below steps to configure LABWORKS services security mode to 'Transport':-

Step	User Input/Actio	n					Expected Results
	Open the file 'App	plicationSpec.xml' using	notepad.				The
	Image: Image	RKS\LWEXE View		_	□ × ~ ?		ApplicationSpec.x ml is opened.
	$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\square$ $\Rightarrow$ This	PC > Local Disk (C:) > LABWORKS > LW	EXE	✓ Ö Search LWEX	(E ,P		
1	Quick access  QuestionPapers  This PC  Documents  Documents  This PC  Documents  Documents  This PC  Desktop  Documents  Music  V  17 items 1 item selected 2	Name Server syscfg Updates WebHelp ClientApp.config ClientSetup.msi CrystalXIRDC.msi Labworks.ini ES12512.CTL LW118NRES.MDB LW118NRES.MDB LW118NRES.xml KWReporting.xsd MINISNRES.Xml UV18NRES.Xml UV18NRES.Xml UV18NRES.Xml Scinstr6.lst scinstr6.lst Scinstr6.lst Scinstr6.lst vcredist_x86.exe 30 bytes State: & Shared	Date modified 5/10/2017 12:15 PM 5/10/2017 12:15 PM 5/10/2017 12:15 PM 5/10/2017 12:15 PM 5/10/2017 12:17 PM 5/9/2017 7:48 AM 5/9/2017 7:58 AM 7/12/2016 11:24 PM 4/21/2017 6:11 PM 3/30/2016 8:22 PM 3/30/2016 8:22 PM 5/9/2017 6:57 AM 5/9/2017 6:57 AM 5/9/2017 4:36 AM 5/9/2017 8:22 AM	Type File folder File folder File folder File folder XML Configuratio Windows Installer Windows Installer Windows Installer Visual Basic User MDB File XML Document XML Schema File MASM Listing MASM Listing Windows Batch File Application	Size 1 KB 4 KB 97,885 KB 69,814 KB 40 KB 8 KB 8 KB 19 KB 3 KB 19 KB 3 KB 19 KB 3 KB 1 KB 2,682 KB 1 KB		
2	ApplicationSpect <u>File Edit Format</u> <appsettings> <licen <="" <appcc="" <check="" <login="" <lsess="" <oracl="" <platf="" <secur="" appsettings="">             Then copy ApplicationSpect</licen></appsettings>	<u>View</u> <u>Help</u> ISE_SERVER LICENSE_FIN ONFIG REFRESH="TRUE"/: SION6 LAUNCH_DELAYTIME CORM_SERVER_PATH PATH= .E_HOME HOME="Oracle if D_Page Flavor="Process (SUMVERSION VALUE="1") RITY MODE="Transport"; A	LE_PATH="C:\L ="40"/> ="DTP218"/> in OraClient1 5"/> /> />	_ ABWORKS\LWE 2Home1_32bi 2Home1_it in	XE\"/> t"/>	×	Security Mode is entered.
	<ul><li>\Program</li><li>\LABWOF</li></ul>	n Files (x86)\Labworks\LV n Files (x86)\Labworks\LV RKS\LWEXE\Server RKS\Client		25			

Step	User Input/Action	Expected Results
	Open the file 'BindingApp.config' using notepad from \LABWORKS\Client.	Security Mode is
	Enter the Security mode as 'Transport' in BindingApp.config	entered in BindingApp.config
	BindingApp.config - Notepad	
3	<pre>Eile Edit Format View Help  </pre>	
4	<pre>Open the file 'LWLicenseServices64.exe.config' using notepad from \Program Files (x86)\Labworks\LWLicenseServices. Enter the Security mode as 'Transport' for 'netTCPBindingConfig' in LWLicenseServices64.exe.config</pre>	Security Mode is entered in LWLicenseService s64.exe.config.
5	Open the file 'LWDataServices64.exe.config' using notepad from \Program Files (x86)\Labworks\LWDataServices. Enter the Security mode as 'Transport' for 'netTCPBindingConfig' and 'netTCPBindingConfig_Sample' in LWDataServices64.exe.config	Security Mode is entered in LWDataServices6 4.exe.config.

Step	User Input/Action	Expected Results
	🗐 LWDataServices64.exe.config - Notepad — 🗆 🗙	
	<u>F</u> ile <u>E</u> dit F <u>o</u> rmat <u>V</u> iew <u>H</u> elp	
	<pre>     <!--/security-->                </pre>	
6	Restart LWLicenceServices and LWDataServices	

## **Step 8: FIPS Compliance**

Step	User Input/Action	Expected Results
1	<ul> <li>Exact Security Pelocy</li> <li>Fite Action View Help</li> <li>Fite Action View Help</li> <li>Control Security Statisp</li> <li>Accurate Pelocy</li> <li>Control Pelocities</li> <li>Accurate Pelocy</li> <li>Restorate Security Force logif Wanager authon tours expres</li> <li>Hetwork security Restrict NTLM Add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM Add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM Add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM Add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM Add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork security Restrict NTLM add server exceptions in this domain</li> <li>Hetwork securit</li></ul>	
2	For FIPS Compliant Installation (supported in LABWORKS version 6.10 onwards): In ApplicationSpec.xml, add CHECKSUMVERION CHECKSUMVERSION VALUE="1" for Non-FIPS compliant installation. (default value) CHECKSUMVERSION VALUE="2" for FIPS compliant installation.	Path is entered.

Step	User Input/Action	Expected Results
	ApplicationSpec.xml - Notepad <u>File Edit Format View Help</u> <appsettings> <license_server license_file_path="C:\LABWORKS\LWEXE\"></license_server> <appconfig refresh="TRUE"></appconfig> <lsession6 launch_delaytime="40"></lsession6> <platform_server_path path="LABWORKS-TEST01"></platform_server_path> <login_page flavor="Process"></login_page> <checksumversion value="2"></checksumversion> </appsettings>	
3	Also, open 'ApplicationSpec.xml' located at \Program Files (x86)\Labworks\LWLicenseServices (where the LWLicense Service is installed) and perform the same changes as above.	Changes applied.
4	Also, open 'ApplicationSpec.xml'located at \Program Files (x86)\Labworks\LWDataServices (where the LWDataServices is installed) and perform the same changes as above.	Changes applied.
5	Copy 'ApplicationSpec.xml 'from <lwexe> to <lwexe>\Server (where the LWServiceControllers is installed) and perform the same changes as above.</lwexe></lwexe>	
6	Set all user passwords in clear text in "PASSWORD" field of your USERHEAD table so they can be encrypted in the next step	
7	After migrating the password from Clear to Encrypted values, be sure to clear all user passwords from the "PASSWORD" field of your USERHEAD table. This can be easily done with the following SQL command: UPDATE USERHEAD SET PASSWORD='XXXXXXXXXX'	
8	Start LWDataServices. Start LWLicenseServices. Start LWDesktop. Open System Manager, change CHECKSUMVERSION = 2 and save the changes.	

# Step 9: Service Connection Configuration

Step	User Input/Action	Expected Results
	Configure LWServiceConfig.xml:	
1	Launch 'LWServiceControllers.exe' application located at '\LABWORKS\LWEXE\Server '.	
2	Go to menu Configuration -> Service Connection Configuration:	

## LABWORKS LIMS v7.2 Installation Guide



Step	User Input/Action	Expected Results
	🕲 LABWORKS Service Controller —	×
	Configuration Help	
	Service Connection Configuration on Service Controller	
	PS Service	
	Service status Service and Controllers database mismatched.  Service connection information User name: Analyst First User Database: LABWORKS_68_T	EST
3	On Service Connection Configuration screen, enter valid LABWORKS username, password. Select desired database for connection and enter workstation name where platform service is running. Click Generate config file button. Click Generate config file button. LABWORKS Service Connection Configuration – • × LABWORKS user name LABWORKS password LABWORKS database CUSTOMER_NUTRA Platform Server path Generate config file	
4	Select path to save config file:	

Step	User Inp		Expected Results
		Browse For Folder ×	
		LABWORKS Service Configuration File Dialog	
		Desktop   This PC   This PC   Libraries   Potwork   Sourcel Panel   Recycle Bin     Make New Folder     OK   Cancel	
5	-	by 'LWServiceConfig.xml' from above selected location to \Program Files 6)\Labworks\LWDataServices (where the LWDataService is installed)	
6	Rest	tart LWDataServices	

## **Step 10: Configure the Database**

Once you have set up the Data Path information, the Database tab activates. On the Database tab page, you configure the database by defining the type of database, type of connection to database, the server name, the database name, the user name, and the password.

💂 LABWORKS Gateway Administra	ator
<u>F</u> ile Edit Tools	
🞯 🔳 🗙 🐰 🖻 🖺 🖄	
PRODUCTION	
Folder Items X Global Setting P- PRODUCTION P- Users	Data Paths       Database       Authentication         Database type <ul> <li>SQL Server - Database connect string</li> <li>Dracle - Database connect string</li> <li>TLS Support MSOLEDBSQL</li> </ul> Server Name (Service Name)         MyServer         Database Name         MyDatabase         Database user name         sa         Database password         ***
4 III +	

To configure the database, enter the Data Path information, and click on the Database tab.

For Oracle databases:

- Enter the name of the server where the database is located in the Server name (Service Name) field.
- Enter the Database user name and Database password.
- Click the 'Test Connection' button.

For SQL Server databases:

- Enter the name of the server where the database is located in the Server name (Service Name) field.
- Enter the name used to identify the LABWORKS database in the Database Name field.
- Enter the Database user name and Database password. If needed, ask your DBA for your database username and password.
- Click the 'Test Connection' button.

The Test Connection function uses the database information and the data path information (if necessary) to establish a connection to the database. If the connection is successful, a message appears stating that the connection was a success. If the connection is not successful, a message appears that provides a description of why the connection failed.

### **Step 11: Configure Database Authentication**

You can configure LABWORKS to validate a user's ID and Password by using one of the following methods:

- Authenticate against LABWORKS using the standard LABWORKS logon
- Authenticate against a domain with re-entry of domain user name and password to enter LABWORKS
- Authenticate against a domain with no password required to enter LABWORKS.

💂 LABWORKS Gateway Adm	inistrator
<u>F</u> ile Edit Tools <u>H</u> elp	
🞯 🖪 🗙 🐰 🖻 🖺 🖄	
PRODUCTION	
Folder Items     ×       □     Global Setting       H→     DEMO       H→     DEMO	Data Paths       Database       Authentication         Authentication Type:       C       LA8wORKS         © Domain Authentication       C       Workstation Authentication         Single Sign on       Group Name         Update user list       Update user list

### Standard LABWORKS Authentication

To authenticate against LABWORKS using the standard LABWORKS logon, skip the following sections and simply click the LABWORKS radio button on the Authentication tab of the Gateway Administrator.

When you select LABWORKS for the Authentication Type, it associates password with the selected database. When a user logs into a LABWORKS database for the first time, the Users node of the Gateway Administrator is populated with that users Domain ID. Once a User Domain ID is listed in the Users node, the administrator can select that user from the Users node and customize which databases are visible to the user as well as enable or disable the user from changing the language used by LABWORKS.

### **Domain Authentication**

To use Domain Authentication, you must perform the following Windows Administrative steps:

- Create a LABWORKS group on the domain
- Assign users to the LABWORKS group
- Define new authentication options in the Gateway Administrator
- Import users from domain into the LABWORKS application's list of users

The following section shows you how to perform the steps listed above.

Step	User Input/Action	Expected Results
1	Create a group called LABWORKS on the Domain.	A group called LABWORKS is created.
	Assign the users whom you wish to have access to the LABWORKS application to the LABWORKS group you just created.	Users are assigned to the LABWORKS
2	The users you assign to the LABWORKS group are the users who will be able to log into LABWORKS.	group.
	For example, below is a screen shot of an Active Directory Group on the Server.	

### **QLABWORKS**



Step	User Input/Action	Expected Results
		Domain Authentication radio button selected.
3	Check the Single Sign-on check box to have the LABWORKS Login screen show the user id and password automatically filled in with the current Windows User ID and Password at login. The screen below shows the LABWORKS User Login screen if Single Sign-On is enabled: Even when Single Sign-On is enabled, the user must re-enter his/her password when the FORCECHECKIN or SYSTEMTIMEOUT System Manager keys prompt for user password verification. Moreover, if only one database is configured and single sign on is enabled, the user logon dialog is not displayed.	Single Sign-on check box enabled or disabled, depending on
	-OR- Uncheck the Single Sign-on check box to have the user enter his/her user name and password at logon.	environment.
	Click Update User List to synchronize the group defined in the Group Name field with the LABWORKS user list. The new users' Domain IDs are added to the User Setting node of the Gateway Administrator for the database you just configured. In addition, these users inherit the	The new users'
4	global default databases available for viewing. The global default databases available for viewing can be set by clicking on the Users node of the Gateway Administrator and then by checking the databases you wish to have visible to all users and then clicking on the Set as Global Default button.	Domain IDs are added to the User Setting node of the
	If there are previously defined LABWORKS users that are not assigned to the group defined in Gateway Administrator, then the following screen appears and gives you the option to add the user to the group defined in the Gateway Administrator or to delete the user from the list.	Gateway Administrator for the database you just configured.
	<ul> <li>Even if domain authentication is used, the LABWORKS user list is still required for privilege management.</li> <li>If users wish to change their passwords, they must do so through their Operating System's password utility.</li> </ul>	Just comigured.

## Step 12: Configure Global Database Availability

When the Users node is selected, the right-hand pane of the Gateway Administrator displays the global default databases that can be seen by all users as well as a check box that enables or disables language selection at runtime for all users of LABWORKS.

🐺 LABWORKS Gateway Administrator			
<u>F</u> ile Edit Tools <u>H</u> elp			
💕 🖪 🗙 🐰 🖻 🖨 🖻			
Users			
Folder Items X Global Setting DEMO PRODUCTION Frouders FjeldsPA	Set default database(s) - selectable by user at Logon		
	Hide language selection at runtime	Set as Default	

Clicking on the Users node will allow you to select the databases that can be seen for all users. By selecting one or more of these databases, you are configuring the Gateway Administrator to add everyone to the selected databases' User Setting node for all selected databases. In addition, all users would see only those checked databases on the LABWORKS login window. The Hide language selection at runtime check box can also be selected to hide available languages option.

The Users node also lists all the Users that have logged into a LABWORKS database. All the User Domain IDs that have logged into LABWORKS are listed here so that the system manager can set properties for users that are different than the global settings. Therefore, when a specific User Domain ID is selected on the tree, the administrator can change the databases that can be seen by the selected user. By selecting one or many of the databases, the system manager is telling Gateway Administrator to list this individual on the User Setting node for just the checked databases. In addition, the user would only see those checked databases on the LABWORKS Login window.

### To configure global default database availability:

To allow all users on the system databases, check the databases you wish to set as the default databases available to all users at login and click the Set as Default button. When databases are checked the Gateway, Administrator lists all the users under the User Setting node for each checked database in Gateway Administrator.

The screen shows that the database named DEMO is available for viewing by all users, while no users can see the database named PRODUCTION, because the only database selected on the Users node is DEMO, and there are no exceptions set up for individual users who are listed under the Users node.

### Step 13: Start the LWLicenseServices/LWDataServices

The LWLicenseServices is installed as a Windows service and it supplies the list of databases to the login prompt and authenticates the users. The LWDataServices is installed as a Windows service and it provides data to the Labworks applications.

When the server is rebooted it starts automatically. During install the service is not started because of the prerequisite configurations. With the configurations complete, the service can be started. From the services management console, start the LWLicenseServices.

### LWLicenseServices start troubleshooting

If the LWLicenseServices fails to start with the following error message then to get more information about the error, open "LWErrorLog.xml" file from LWLicenseServices installed location i.e. C:\Program Files (x86)\LABWORKS\LWLicenseServices\LOGS\LWErrorLog.XML.



This error message comes due to one of the below reason-

- 1) "ApplicationSpec.xml" is not configured.
- 2) LABWORKS control file (.CTL) is not present at LABWORKS server folder (i.e. \\LABWORKS\LWEXE\)
- 3) LABWORKS license expired
- 4) LABWORKS control file (.CTL) is not compatible with latest LABWORKS version.

**Note:** If the LW DataService is already running, it must be restarted for the changes to take effect.

### LWDataServices start troubleshooting

If the LWDataServices fails to start with the following error message then to get more information about the error, open "LWErrorLog.xml" file from LWDataServices installed location i.e. C:\Program Files (x86)\LABWORKS\LWDataServices\LOGS\LWErrorLog.XML.

Services	×	(
	The LWDataServices service on Local Computer started and then stopped. Some services stop automatically if they are not in use by other services or programs.	
	ОК	

This error message comes due to one of the below reasons-

- 1) "ApplicationSpec.xml" is not configured.
- 2) "ClientApp.config" is not configured.
- 3) Domain user password has been expired
- 4) LWLicenseServices is not started

## **Step 14: Client Installation**

You are now ready to run the ClientSetup.msi program on each workstation that will use LABWORKS. After you run the Client Installation on each workstation you can access the Gateway Administrator tool again to customize individual user and workstation settings.

**Note:** You must log in as the Administrator, or have administrative rights, to run the Client Install.

**Note:** Client Install Prerequisite: Microsoft Visual C++ 2005 redistributable (**vcredist\_x86.exe**) for following versions:

This file can be found in the \LWEXE folder.

**Note:** Client Install Prerequisite: Crystal Report XI (**CrystalXIRDC.msi**) for following version: Crystal Report XI.

This file can be found in the \LWEXE folder.

After you have run the Server Installation and setup and configured workstation settings using the Gateway Administrator tool you must now run the Client Installation, located at <LWEXE>ClientSetup.msi on each workstation that is to use LABWORKS. Since LABWORKS is installed on a server, it is critical that every user access the ClientSetup.msi program that is located on the server in the same manner.

Step	User Input/Action	Expected Results
1	On each workstation that you wish to run LABWORKS access the server where you installed LABWORKS and open the LABWORKS application folder and select ClientSetup.msi.	The Welcome to the InstallShield for LABWORKS Client is displayed.

Step	User Input/Action		Expected Results
	🛃 LABWORKS Client - InstallShie	eld Wizard X	
		Welcome to the InstallShield Wizard for LABWORKS Client	
	Click 'Next'.	< Back Next > Cancel	
2	LABWORKS Client - InstallSh Customer Information Please enter your information. User Name: [MyName Organization: [MyCompany] InstallShield Enter your Name and Comp Click 'Next'to continue.	< Back Next > Cancel	Customer Information dialog is displayed. User Name and Company name is entered.
3			Destination Folder dialog is displayed.

Step	User Input/Action	Expected Results
	🛃 LABWORKS Client - InstallShield Wizard 🛛 🕹	Destination
	Destination Folder	folder is
	Click Next to install to this folder, or click Change to install to a different folder.	changed if required.
		required.
	Install LABWORKS Client to:	
	C:\LABWORKS\Client\ Change	
	InstallShield	
	< <u>B</u> ack <u>N</u> ext > Cancel	
	Click 'Change' if the location of the client software is to anywhere other than the default location.	
	Once specified, click 'Next' to proceed.	
	🛃 LABWORKS Client - InstallShield Wizard X	
	Ready to Install the Program	
	The wizard is ready to begin installation.	
	Click Install to begin the installation.	
	If you want to review or change any of your installation settings, click Back. Click Cancel to	The Beady
	exit the wizard.	The Ready to Install the
		Program
		dialog is
4		displayed.
		The
		installation
		proceeds.
	InstallShield	
	< <u>B</u> ack <b>◯</b> Install Cancel	
	Click 'Install' to begin the Installation.	

Step	User Input/Action			Expected Results
	During client installation the files ApplicationSpec.xml and ClientApp.config are copied to the Client folder. If user views the warning messages as per below screenshots, then user needs to copy Applicationspec.xml and ClientApp.config files manually from [SystemDrive]\Labworks\Server to [SystemDrive]\Labworks\Client folder.			
	LABWORKS Client - Insta Applicationspec.xml not co Please copy the file manual	pied: Access is denied.	vied: Access is denied.	
	🛃 LABWORKS Client - InstallShie	eld Wizard X	]	
		InstallShield Wizard Completed		
5		The InstallShield Wizard has successfully installed LABWORKS Client. Click Finish to exit the wizard.		The InstallShield Wizard Completed dialog is displayed. The installation is complete.
		< Back Finish Cancel		
	When the installation is co	mplete, click 'Finish' to exit.		

At this point your installation is complete. There is a new Program Group for LABWORKS and a LW Desktop application shortcut on your Desktop. By double clicking the new LW Desktop Icon, users are prompted to login:

LABWORKS - User Login			
<b>Q LABWORKS</b>			
Login			
User			
usr			
Password			
•			
<u>O</u> K <u>C</u> ancel			

The default credentials for a new database installation are as follows:

User: USR

Password: 1

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## LABWORKS Desktop System Upgrade

## Step 1: 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
	Select your database type, SQL or Oracle.	
	🕲 LABWORKS Update Tool - 🗆 X	
	Database SQL	
	Database Owner Username	
	dbo	
1	DatabasePassword **	Database is selected.
	LABWORKS User ID	
	usr	
	Service Pack	
	Connect Analyze Close	

Step	User Input/Action	Expected Results
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.
4	Enter the database connection User ID.	Database connection User ID entered.
	Select the Service pack.	
	The file LW72Release.xsp updates the database from 7.1 to 7.2 Desktop format.	
5	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.	Service pack selected and run.
	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.	
	<ul> <li>Press the Connect button to create a connection to the database.</li> <li>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.</li> <li>Data Link Properties</li> <li>Provider Connection Advanced All</li> </ul>	
	Select the data you want to connect to:	Connection to
6	OLE DB Provider(s) <ul> <li>Microsoft Jet 3.51 OLE DB Provider</li> <li>Microsoft Jet 4.0 OLE DB Provider</li> <li>Microsoft Office 12.0 Access Database Engine OLE DB Provider</li> <li>Microsoft OLE DB Provider for Analysis Services 9.0</li> <li>Microsoft OLE DB Provider for Data Mining Services</li> <li>Microsoft OLE DB Provider for DTS Packages</li> <li>Microsoft OLE DB Provider for Indexing Service</li> <li>Microsoft OLE DB Provider for ODBC Drivers</li> <li>Microsoft OLE DB Provider for OLAP Services 8.0</li> <li>Microsoft OLE DB Provider for Ocacle</li> <li>Microsoft OLE DB Provider for SOL Service</li> </ul>	the database is established.
	Enter your Oracle service name as the server name, database connection username and password. Click Test Connection to confirm the connections.	

Step	User Input/Action	Expected Results
	📑 Data Link Properties 🛛 💌	
	Provider Connection Advanced All	
	Specify the following to connect to Oracle data: 1. Enter a server name:	
	MYServiceName	
	2. Enter information to log on to the database:	
	User name: labworks	
	Password:	
	Blank password Allow saving password	
	<ul> <li>For SQL Server databases, select the Microsoft OLEDB Provider for SQL Server provider and click 'Next'.</li> </ul>	
	🗊 Data Link Properties	
	Provider Connection Advanced All	
	Select the data you want to connect to:	
	OLE DB Provider(s)	
	Microsoft Jet 3.51 OLE DB Provider Microsoft Jet 4.0 OLE DB Provider	
	Microsoft Office 12.0 Access Database Engine OLE DB Prov	
	Microsoft OLE DB Provider for Analysis Services 9.0 Microsoft OLE DB Provider For Data Mining Services	
	Microsoft OLE DB Provider for DTS Packages	
	Microsoft OLE DB Provider for ODBC Drivers	
	Microsoft OLE DB Provider for OLAP Services 8.0 Microsoft OLE DB Provider for Oracle	
	Microsoft OLE DB Provider for Oracle	
	Enter your SQL Server name, database connection username and password, and the database name. Press 'Test Connection' to confirm the connection.	
	🛃 Data Link Properties 💽	
	Provider Connection Advanced All	
	Specify the following to connect to SQL Server data:	
	1. Select or enter a server name:	
	mysqlserver <u>R</u> efresh	
	2. Enter information to log on to the server:	
	C Use <u>W</u> indows NT Integrated security	
	User <u>n</u> ame:  labworks	
	Password: +++	
	□ Blank password □ Allow saving password	
	3. Select the database on the server:	

Step	User Input/Action	Expected Results
Step	User Input/Action         After the database connection is tested, press 'Analyze' to have the program identify the database modifications required.         Image: Connect Analyze Close	
	The program gives a preview of the changes to be made. To apply the changes press 'Apply'.	applied.

## **Step 2: Configure database authentication for Oracle 19.c**

When using Oracle 19.c version, follow these steps:

- Run the command ALTER SYSTEM SET SEC\_CASE\_SENSITIVE\_LOGON = FALSE in the Oracle database.
- Change a password for existing users.
- Make sure that PASSWORD\_VERSIONS are compatible with 10g.

- Run the following command in the database:
  - select USERNAME, ACCOUNT\_STATUS, PASSWORD\_VERSIONS from dba\_users;

<ul> <li>The output should look like this:</li> </ul>		
USERNAME	ACCOUNT_STATUS	PASSWORD_VERSIONS
DIP	EXPIRED & LOCKED	11G 12C
SYSKM	EXPIRED & LOCKED	11G 12C
ORACLE_OCM	EXPIRED & LOCKED	11G 12C
SYSDG	EXPIRED & LOCKED	11G 12C
SPATIAL_CSW_ADMIN_USR	EXPIRED & LOCKED	11G 12C
LABWORKS	OPEN	10G 11G 12C

## Step 3: Gateway Administrator Setup

After the Server Installation has completed you must run the Gateway Administrator Tool, LWSysCfg6.exe, to set up LABWORKS with all of the user and workstation information. This information includes the location of the LABWORKS executables, locations and names of LABWORKS databases, and user file locations. The program is in the <LWEXE>\SysCfgfolder.

This section shows you how to use the Gateway Administrator to perform the following tasks:

- Set up a new database This section shows you how to add a database to the Gateway Administrator and set Data Path information for the database.
- Configure the database This section shows you how to configure the database by defining the type of database, type of connection to database, the database name; the server name, and the database user name and password.
- Select database authentication options This section shows you how to configure LABWORKS to validate a user's ID and Password by using LABWORKS authentication or domain authentication.
- Select global default database availability This section shows you how to select which databases will be visible, by default, to all users of LABWORKS.

The Gateway Administrator requires the LABWORKS client be installed on the workstation where Gateway Administrator is run. The Gateway administrator can be run from a network client or from the server console as long as the LABWORKS client install has been completed and the user has proper network access.

Access to the Gateway Administrator tool is controlled by network privileges and the program is also password protected. The first time you access the Gateway Administrator, if you are installing LABWORKS 6.8.5 Desktop or higher, the default password is **gateway**.

### Set up a new Database

The Gateway Administrator allows you to specify which databases will be used in your LABWORKS system and how these databases will be configured. When evaluating a LABWORKS Upgrade, creating an additional database as a Test or Sandbox environment can be useful. Setting up a new database is a four-part process that involves adding a new database to the Gateway Administrator program, setting data path information, configuring the database, and selecting database authentication. The following sections show you how to add a database to the Gateway Administrator program.

Step	User Input/Action	Expected Results
1	From the LABWORKS application folder, select <lwexe>\SysCfg\LWSysCfg6.exe.</lwexe>	File selected.

### Add a New Database and Set Data Path Information:

Step	User Input/Action	Expected Results
2	Before the Gateway Administrator launches a message appears prompting you to enter the Gateway Administrator password.	LABWORKS Gateway Administrat or message appears prompting you to enter Gateway Administrat or Password. Gateway Administrat or Password is entered. Gateway Administrat or Password is entered.
3	Once you have entered the correct password and clicked 'OK' the Gateway Administrator opens, and the Global Setting node is highlighted on the tree and has focus. When the Global Setting node is selected, the database setup panel on the right appears and consists of three tabs: a Data Path tab, a Database tab, and an Authentication tab. All tab pages and fields appear blank and are disabled when the Global Setting node is selected.	The Gateway Administrat or opens. Database Setup panel appears in right hand pane.

Step	User Input/Action	Expected Results
	If you already have databases set up in Gateway Administrator, then you can expand the	
	Global Setting node and then click on a database listed under this node to activate the database setup panel. The Data Path tab is enabled first. You must set up the data path information on the Data Path tab to activate the Database tab. Once the Database tab is enabled you must select the type of database, setup the database connection information, and test the connection on this tab. The Authentication tab remains inactive until the necessary information is entered on the Data Path and the Database tabs. Only after the Gateway Administrator is able to establish a connection to the defined database does the Authentication tab become active. From the Authentication tab you can select how you wish to authenticate users when they log into LABWORKS.	
4	From the Gateway Administrator click File>New. A pop-up window appears prompting you to enter a new name for the database:	LABWORKS Gateway Administrat or message appears prompting you to enter a new name for the database.
5	Enter a new name for the database you wish to set up and click 'OK'. The name you create for the database is the database name that users will see on the LABWORKS Login screen. The name can NOT contain spaces, semicolons (;), commas (,), plus sign (+), and the percent sign (%). The new database is added to the Global Setting node in the Gateway Administrator window and the database is selected by default. Information pertaining to the new database appears on the right-hand portion of the screen.	A new name is entered for the database.
6	Click next to the Data Files Path field. The Data Path Selection window appears:	The Data Path

Step	User Input/Action	Expected Results
	Browse for Folder × Data Path Selection	Selection window appears.
	C:\LABWORKS\LWDATA	Data Files path is specified.
7	Click in next to the License Pathfield.	The Client Program Path Selection window appears. The path to the License file is specified.
8	If you have the Northwest Analytical Quality Analyst software package, a third-party software package used for SQC charting, then select an SQC Path.	If applicable, SQC Path is specified.
9	Select the Default Language from the corresponding drop-down menu. For example, if you select English as the default language, then this will be the language LABWORKS runs in unless you specify a different default language for a specific Workstation or User. If you do not want to see language choices at log in, you must click on the Users node and check the Hide language selection at runtime check box.	Default language is specified. OR, if applicable,

Step	User Input/Action	Expected Results
		'Hidden language selection at runtime' option is enabled.
	Clicknext to the User Path field. The Client User Path Selection window appears:	
	Browse for Folder X	
10	Data Path Selection	
10	C: \LABWORKS \LWUSER	The Client User Path Selection window appears.
	Select the location for the User Path.	
	The location of Server and User temporary files can affect application performance. Some parts of the application use temporary files to pass information between the middle tier and the user interface. Both programs execute on the client workstation. It is important that the temporary file read/write performance be as fast as possible. <b>The</b> <b>recommended option is to use the Windows defaults.</b>	
11	If required, specific files for these folders can be configured, and if you wish to append a unique path for each user or workstation, then check the Unique user path for each user box. When this option is checked you can then select the unique user path based on Domain ID, LABWORKS ID, or Workstation ID by clicking on the corresponding radio button. Based on your selection LABWORKS will create a folder sub folder based on the selection.	The location for the User Path is selected.
	Use Windows User Setting Folder (Default)     User Path:     L'\LWUSER     C Unique user path for each user     C Workstation ID	
	For example, if you select L:\LWUSER and Unique user path for each user DomainID, then the user temp path becomes L:\LWUSER\ <domainid></domainid>	

Step	User Input/Action	Expected Results
12	Click in next to the Server Temp Path field. The Server Temp Path Selection window appears:	The Server Temp Path Selection window appears. The Server Temp path is specified.

## Step 4: Configure ApplicationSpec.XML, ClientApp.config, LWServiceConfig.xml

The Server installation creates the files 'ApplicationSpec.xml' and 'ClientApp.config'. The files are used to configure the path to the license file and services from the clients.

During the upcoming client installation step, this file is copied to the client workstation. By configuring it before doing the client installation, the client installation configuration is already correctly configured.

Step	User Input/Action	Expected Results
1	Open the file 'ApplicationSpec.xml' using notepad.	The ApplicationS pec.xml is opened.

User Input/Action						Expec Result
				_		
☐   🛃 🚽 =   C:\LABWOF			_			
File Home Share	View			~ 🕐	-	
$\leftarrow \rightarrow \checkmark \uparrow$ $\square \rightarrow$ This	PC > Local Disk (C:) > LABWORKS > LWE	EXE	✓ Ö Search LWE	XE ,o		
A Quick access	Name	Date modified	Туре	Size		
Desktop *	Server	5/10/2017 12:15 PM	File folder			
Downloads *	syscfg	5/10/2017 12:15 PM	File folder			
Documents *	Updates	5/10/2017 12:15 PM	File folder			
Pictures *	WebHelp ApplicationSpec.xml	5/10/2017 12:15 PM 5/10/2017 12:17 PM	File folder XML Document	1 KB		
Sources 🖈	ClientApp.config	5/10/2017 12:17 PM	XML Configuratio	4 KB		
6.7	👸 ClientSetup.msi	5/9/2017 7:48 AM	Windows Installer	97,885 KB		
LABWORKS66	🔂 CrystalXIRDC.msi	5/9/2017 7:58 AM	Windows Installer	69,814 KB		
LWEXE	Labworks.ini	7/12/2016 11:24 PM	Configuration sett	40 KB		
QuestionPapers	LE512512.CTL	4/21/2017 6:11 PM	Visual Basic User	8 KB		
	LWI18NRES.MDB	3/30/2016 8:22 PM 3/20/2017 7:54 AM	MDB File XML Document	8,132 KB 8 KB		
This PC	LWITBINKES.xml 옭 LWReporting.xsd	3/20/2017 7:54 AM 3/30/2016 8:22 PM	XML Document XML Schema File	8 KB 19 KB		
Desktop	mcinstr6.lst	5/9/2017 6:57 AM	MASM Listing	3 KB		
Documents	□ ■ scinstr6.lst	5/9/2017 6:57 AM	MASM Listing	4 KB		
Downloads	Upgrade LABWORKS Client.bat	5/4/2017 4:36 AM	Windows Batch File	1 KB		
Music	₩ vcredist_x86.exe	5/9/2017 8:22 AM	Application	2,682 KB		
	30 bytes State: 🎎 Shared					
In this example, th drive to that share	<b>ORKS-TEST01</b> as shown in the server shared the folde e. The path can be a mapped the set of the path can be a mapped to be a	r c:\labworks, a	v).	mapped th	he L:	
In this example, th drive to that share ApplicationSpec.xn	ORKS-TEST01 as shown in the server shared the folde e. The path can be a mapp nl - Notepad	n example belov r c:\labworks, a	v).		he L:	
In this example, th drive to that share	ORKS-TEST01 as shown in the server shared the folde e. The path can be a mapp nl - Notepad	n example belov r c:\labworks, a	v).	mapped th	he L:	
In this example, th drive to that share ApplicationSpec.xn <u>File Edit Format</u> <appsettings> <licens <appcon <lsessi <platfo <login_< td=""><td>ORKS-TEST01 as shown in the server shared the folde e. The path can be a mapp nl - Notepad</td><td>n example below r c:\labworks, a ped drive letter PATH="C:\LABWOR 10"/&gt; ABWORK5-TEST01 </td><td>v). nd the client RKS\LWEXE\"/</td><td>mapped th</td><td>he L:</td><td>Path enter</td></login_<></platfo </lsessi </appcon </licens </appsettings>	ORKS-TEST01 as shown in the server shared the folde e. The path can be a mapp nl - Notepad	n example below r c:\labworks, a ped drive letter PATH="C:\LABWOR 10"/> ABWORK5-TEST01	v). nd the client RKS\LWEXE\"/	mapped th	he L:	Path enter
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User Input/Action		Expec Resul	
For using SQL Server database with LA Microsoft SQLOLEDB is the default con	BWORKS: nect string for Database Type SQL Server		
()			
Data Paths Database Authentication			
Database type			
SQL Server - Database connect string	O Oracle - Database connect string		
TLS Support MSOLEDBSQL			
Note : For TLS 1.2 Support :			
3) In LWSYSCFG, check "TLS Supp	ort MSOLEDBSQL"		
Data Paths Database Authentication			
Database type			
	C. Oracle, Database association		
	Oracle - Database connect string		
V TLS Support MSOLEDBSQL			
<ol> <li>Install following drivers on the iii) MSOLEDBSQL (Used by .ne</li> </ol>			
, . ,	osoft.com/en-us/download/details.aspx?id=	=56730	
	by legacy applications) (Install based on O		
bitness)	6 ( () () () () ()		
a. <u>https://www.micro</u> For using Oracle OLEDB Driver with LA	osoft.com/en-us/download/details.aspx?id: BW/ORKS:	<u>=56567</u>	
Prerequisite : Oracle Client 32 Bit, Mus			
Configuration			
Using LWSysconfig select Oracle OleDB	ORA.Oracle Connect String		
Data Paths Database Authentication			
Database type	1		
SQL Server - Database connect string	Oracle - Database connect string		
	Microsoft MSDADRA		
	Oracle OleDBORA.Oracle		

### LABWORKS LIMS v7.2 Installation Guide

User Input/Action			Expected			
			Results			
In ApplicationSpec.xml, add OracleHome						
ApplicationSpec.xml - Notepad						
File Edit Format View Help						
<appsettings></appsettings>						
<license_server licens<="" td=""><td>E_FILE_PATH="C:\L4</td><td>ABWORKS\LWEXE67</td><td>\"/&gt;</td></license_server>	E_FILE_PATH="C:\L4	ABWORKS\LWEXE67	\"/>			
<pre><appconfig refresh="TR&lt;/pre&gt;&lt;/td&gt;&lt;td&gt;UE"></appconfig></pre>						
<pre><lsession6 launch_dela<="" pre=""></lsession6></pre>	YTIME="40"/>					
<platform_server_path< td=""><td>PATH="PAF-DEV04"/&gt;</td><td>&gt;</td><td></td></platform_server_path<>	PATH="PAF-DEV04"/>	>				
<oracle_home home="Ora&lt;/td&gt;&lt;td colspan=6&gt;&lt;pre&gt;&lt;ORACLE_HOME HOME=" in="" oracle="" oraclient12home1_32bit"=""></oracle_home>						
<login_page flavor="Process"></login_page>						
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Step	User Input/Action	Expected Results
	ApplicationSpec.xml - Notepad	
	<u>File E</u> dit F <u>o</u> rmat <u>V</u> iew <u>H</u> elp	
	<pre><appsettings></appsettings></pre>	
	Also, open 'ApplicationSpec.xml'located at \Program Files	Changes
3	(x86)\Labworks\LWLicenseServices (where the LWLicense Service is installed) and perform the same changes as above.	applied.
4	Also, open 'ApplicationSpec.xml'located at \Program Files (x86)\Labworks\LWDataServices (where the LWDataServices is installed) and perform the same changes as above.	Changes applied.
	22 items 1 item selected 215 bytes	
5	Copy 'ClientApp.config'from <lwexe> to \Program Files (x86)\Labworks\LWDataServices (where the LWDataServices is installed) and perform the same changes as above.</lwexe>	File Copied
	Configure LWServiceConfig.xml:	
6	<ol> <li>Launch 'LWServiceControllers.exe' application located at 'LABWORKS\LWEXE\Server '.</li> </ol>	
	<ol><li>Go to menu Configuration -&gt; Service Connection Configuration:</li></ol>	

#### 

### LABWORKS LIMS v7.2 Installation Guide

p User Inp	ut/Action		Expected Results			
🕲 LABV	VORKS Service Controller	_	□ ×			
Configu	ration Help					
Se	ervice Connection Configuration on Service Controller					
PS	S Service					
	Service status					
	Service and Controllers database mismatched.					
Service	connection information					
User name	e: Analyst First User Data	oase: LABWOR	(S_68_TEST			
4 2 7 0	<ul> <li>On Service Connection Configuration screen, enter valid LABWORKS username, password.</li> <li>Select desired database for connection and enter workstation name where platform service is running.</li> <li>Click Generate config file button.</li> <li>LABWORKS Service Connection Configuration – </li> </ul>					
	LABWORKS user name					
	LABWORKS password					
	LABWORKS database CUSTOMER_NUTRA $\sim$					
	Platform Server path					
	Generate config file					



### **Step 5: Configure the Database**

Once you have set up the Data Path information, the Database tab activates. On the Database tab page, you configure the database by defining the type of database, type of connection to database, the server name, the database name, the user name, and the password.
👳 LABWORKS Gateway Administr	ator
<u>File</u> Edit Tools	
🎯 🔳 🗙 🐰 🖻 🖺 🖄	
PRODUCTION	
Folder Items X Global Setting PRODUCTION Users Users	Data Paths       Database         Authentication         Database type         Image: Server - Database connect string         Image: TLS Support MSOLEDBSQL         Server Name (Service Name)         MyServer         Database Name         MyDatabase         Database user name         sa         Database password         Image:

To configure the database, enter the Data Path information, and click on the Database tab.

For Oracle databases:

- Enter the name of the server where the database is located in the Server name (Service Name) field.
- Enter the Database user name and Database password. If needed, ask your DBA for your database username and password.
- Click the 'Test Connection' button.

For SQL Server databases:

- Enter the name of the server where the database is located in the Server name (Service Name) field.
- Enter the name used to identify the LABWORKS database in the Database Name field.
- Enter the Database user name and Database password.
- Click the 'Test Connection' button.

The Test Connection function uses the database information and the data path information (if necessary) to establish a connection to the database. If the connection is successful, a message appears stating that the connection was a success. If the connection is not successful, a message appears that provides a description of why the connection failed.

#### **Step 6: Configure Database Authentication**

You can configure LABWORKS to validate a user's ID and Password by using one of the following methods:

- Authenticate against LABWORKS using the standard LABWORKS logon
- Authenticate against a domain with re-entry of domain user name and password to enter LABWORKS
- Authenticate against a domain with no password required to enter LABWORKS.

💂 LABWORKS Gateway Adm	inistrator	
<u>F</u> ile Edit Tools <u>H</u> elp		
🞯 🔒 🗙 🐰 🖻 🖺 🖻		
PRODUCTION		
Folder Items     X       E	Data Paths Database Authentication  Authentication Type:  C LABWORKS  C Domain Authentication	
	Coman Authentication     Workstation Authentication     Single Sign-on     Group Name	
		Update user list

### Standard LABWORKS Authentication

To authenticate against LABWORKS using the standard LABWORKS logon, skip the following sections and simply click the LABWORKS radio button on the Authentication tab of the Gateway Administrator.

When you select LABWORKS for the Authentication Type, it associates password with the selected database. When a user logs into a LABWORKS database for the first time, the Users node of the Gateway Administrator is populated with that users Domain ID. Once a User Domain ID is listed in the Users node, the administrator can select that user from the Users node and customize which databases are visible to the user as well as enable or disable the user from changing the language used by LABWORKS.

#### **Domain Authentication**

To use Domain Authentication, you must perform the following Windows Administrative steps:

- Create a LABWORKS group on the domain
- Assign users to the LABWORKS group
- Define new authentication options in the Gateway Administrator
- Import users from domain into the LABWORKS application's list of users

The following section shows you how to perform the steps listed above.

Step	User Input/Action	Expected Results
1	Create a group called LABWORKS on the Domain.	A group called LABWORKS is created.
	Assign the users whom you wish to have access to the LABWORKS application to the LABWORKS group you just created.	Users are assigned to the
2	The users you assign to the LABWORKS group are the users who will be able to log into LABWORKS.	LABWORKS group.
	For example, below is a screen shot of an Active Directory Group on the Server.	



Step	User Input/Action	Expected Results
		Domain Authenticatio n radio button selected.
3	Check the Single Sign-on check box to have the LABWORKS Login screen show the user id and password automatically filled in with the current Windows User ID and Password at login. The screen below shows the LABWORKS User Login screen if Single Sign-On is enabled: Even when Single Sign-On is enabled, the user must re-enter his/her password when the FORCECHECKIN or SYSTEMTIMEOUT System Manager keys prompt for user password verification. Moreover, if only one database is configured and single sign on is enabled, the user logon dialog is not displayed. - <b>OR-</b>	Single Sign- on check box enabled or disabled, depending on environment.
	Uncheck the Single Sign-on check box to have the user enter his/her user name and password at logon. Click Update User List to synchronize the group defined in the Group Name field with the	
	LABWORKS user list. The new users' Domain IDs are added to the User Setting node of the Gateway Administrator for the database you just configured. In addition, these users inherit the global default databases available for viewing. The global default databases available for viewing can be set by clicking on the Users node of the Gateway Administrator and then by checking the databases you wish to have visible to all users and then clicking on the Set as global default button.	The new users' Domain IDs are added to the User
4	If there are previously defined LABWORKS users that are not assigned to the group defined in Gateway Administrator, then the following screen appears and gives you the option to add the user to the group defined in the Gateway Administrator or to delete the user from the list.	Setting node of the Gateway Administrato r for the
	<ul> <li>Even if domain authentication is used, the LABWORKS user list is still required for privilege management.</li> <li>User's passwords are now encrypted, so you cannot change passwords from the System Manager.</li> <li>If users wish to change their passwords, they must do so through their Operating System's password utility.</li> </ul>	database you just configured.

# Step 7: Configure Global Database Availability

Note: Client Install Prerequisite: Microsoft Visual C++ 2005 redistributable (vcredist\_x86.exe) for following versions:

This file can be found in the \LWEXE folder

When the Users node is selected, the right-hand pane of the Gateway Administrator displays the global default databases that can be seen by all users as well as a check box that enables or disables language selection at runtime for all users of LABWORKS.

💂 LABWORKS Gateway Admin	strator
<u>F</u> ile Edit Tools <u>H</u> elp	
🞯 🖨 X X 🖻 🖨 🖉	
Users	
Folder Items × Global Setting DEMO DEMO PRODUCTION PRODUCTION FieldsPA	Set default database(s) - selectable by user at Logon          DEM0         PRODUCTION
	Hide language selection at runtime     Set as Default

Clicking on the Users node will allow you to select the databases that can be seen for all users. By selecting one or more of these databases, you are configuring the Gateway Administrator to add everyone to the selected databases' User Setting node for all selected databases. In addition, all users would see only those checked databases on the LABWORKS login window. The Hide language selection at runtime check box can also be selected to hide available languages option.

The Users node also lists all the Users that have logged into a LABWORKS database. All the User Domain IDs that have logged into LABWORKS are listed here so that the system manager can set properties for users that are different than the global settings. Therefore, when a specific User Domain ID is selected on the tree, the administrator can change the databases that can be seen by the selected user. By selecting one or many of the databases, the system manager is telling Gateway Administrator to list this individual on the User Setting node for just the checked databases. In addition, the user would only see those checked databases on the LABWORKS Login window.

#### To configure global default database availability:

To allow all users on the system databases, check the databases you wish to set as the default databases available to all users at login and click the Set as Default button. When databases are checked the Gateway, Administrator lists all the users under the User Setting node for each checked database in Gateway Administrator.

The screen shows that the database named DEMO is available for viewing by all users, while no users can see the database named PRODUCTION, because the only database selected on the Users node is DEMO, and there are no exceptions set up for individual users who are listed under the Users node.

You are now ready to run the ClientSetup.msi program on each workstation that will use LABWORKS. After you run the Client Installation on each workstation you can access the Gateway Administrator tool again to customize individual user and workstation settings.

# Step 8: Running the LWMigrationUtility

**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.         IVMigrationUtility         Database Type*         SQL         Database schema owner user name*         dbo         Database schema owner password*         ***         LABWORKS Data Path*         c: Vabworks Vwdata         c: Vabworks Vwdata         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.	Connection to the database is established.

Step	User Input/Action	Expected Results
		Results
	🕲 LWMigrationUtility — 🗆 🗙	
	Database Type*	
	SQL 🗸	
	Database schema owner user name*	
	dbo	
	Database schema owner password*	
	***	
	LABWORKS User Name*	
	usr	
	LABWORKS Data Path*	
	c: ↓abworks ↓wdata	
	Disconnect Next	
	Then the program gives the option of running the Update Tool.	
	🔇 LABWORKS Migration Utility — 🗆 🗙	
	Run update tool	
		The option to
		run the
		Update Tool
		is presented.
3	Next Close	
5	The Update Tool should have previously been run, but if not, it can be run at this time.	
		If applicable,
	Select Description Status Last updated on From To  MAILLIST data transfer Complete 16/10/2013 08:30:12	the Update
	COMMENTS data transfer Complete 16/10/2013 08:30:12	Tool is run.
	LABOBJECTS data transfer Complete 16/10/2013 08:30:12	
	UserHead data transfer Complete 16/10/2013 08:30:12	
	RESULT data transfer         Complete         16/10/2013 08:30:12           AUDITTRAIL checksum data update         Complete         16/10/2013 08:30:12	
	VIOLREORDER data transfer     Complete     14/12/2018 17:51:57	
	Chemical Inventory data transfer Pending	
	FIPS Compliance UserHead data transfer Pending	
	FIPS Compliance RESULT data transfer     Pending       FIPS Compliance AUDITTRAIL data transfer     Pending	
	Previous Run Close	

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.

LABWORK	S Migration Utility 23
0	Data migrated successfully. Log file created at [C:\labworks\lwexe68.Server\LWMigration_20100712210948.log] Do you want to view log file?
	<u>Y</u> es <u>N</u> o

The log file can be helpful if there are errors in migrating data to the new format.

# Step 9: Running NGMigrationTool

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	Authenticatio n 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
	LABWORKS - User Login  Login User Password OK Cancel  Available Databases LABWORKS MOBILE Select Language English French Chinese Spanish Japanese German Italian Chinese traditional Russian	
3	Select "Persisted group to log batch" tile.	The migration wizard runs.
4	Read Welcome screen information. Click Next.	Auto-merge screen is open.

Step	User Input/Action		Expected Results
	<ul> <li>Persisted Group to Log Batch migration steps</li> <li>Welcome to migration tool for persisted group</li> <li>Welcome</li> <li>Auto-merge</li> <li>Conflict type#1: Group and log batch mismatch</li> <li>Conflict type#2: Empty log batch</li> <li>Review changes</li> <li>Migrating</li> </ul>	I could be the provided of	
5	Auto-merge     Conflict type#1: Group and log batch mismatch     Conflict type#2: Empty log batch	and click Next to continue.         ×         repersited groups and log batches below have the same set of samples and can be migrated automatically.         reace find more details about database updates expanding a record in the list.         roup       Samples       Log Batch         B_2019-08-23-011       AE01007       2019-12-27-006	Manual merge screen is open.
6	Resolve conflicts following the in	nstructions in the tool. Click Next to continue.	Report screen is open.

User Input/Action					Expecte Results
				- 0 ×	
← € Persisted Group to Log Batch migration steps					
Set only one log batch for persisted group					
<ul> <li>✓ Welcome</li> <li>✓ Auto-merge</li> </ul>	persisted group can cont	tain samples from differe	nt log batches and a log ba	f samples inside. In other words, a tch can contain samples from	
<ul> <li>Conflict type#1: Group and log batch mismatch</li> </ul>				ect a log batch for each persisted amples inside persited groups. But	
Conflict type#2: Empty log batch	you also can specify a cu	istom log batch.	-	Log Batch Members	
Review changes	Group	Samples	Log Batch		
<ul> <li>Migrating</li> </ul>	···· 2019-12-27-002	AE00773, AE01032	2017-08-09-001	2017-08-09-001 (AE00773)	
	■ LB_2019-08-23-005	AE01001	2019-12-27-004	2019-12-27-004 (AE01001,	
	. LB_2019-08-23-007	AE01003	2019-12-27-004	2019-12-27-004 (AE01001,	
				Next Cancel	
				– 🗆 ×	
<ul> <li>From Persisted Group to Log Batch migration steps</li> </ul>					
<ul> <li>Rersisted Group to Log Batch migration steps</li> <li>Set log batch Id for persisted group samples v</li> </ul>	with empty log batch				
Set log batch ld for persisted group samples v					
Set log batch Id for persisted group samples v	Below is a list of samples	s that are included in pers ociate these samples to a	isted groups but do not ha suggested log batch. The s	ve a log batch. Not to lose persisted uggested log batch is the log batch	
<ul> <li>✓ Welcome</li> <li>✓ Auto-merge</li> </ul>	Below is a list of samples group data, you can asso associated with the persi	ociate these samples to a isted group on the previo	suggested log batch. The s us step. You also can assoc	uggested log batch is the log batch iate a sample with a custom log	
Set log batch ld for persisted group samples v Velcome Auto-merge Conflict type#1: Group and log batch mismatch	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re	ociate these samples to a isted group on the previo emove a persisted group a	suggested log batch. The s us step. You also can assoc at all if it has only one samp	uggested log batch is the log batch	
Set log batch Id for persisted group samples v  V Welcome Auto-merge Conflict type#1: Group and log batch mismatch Conflict type#2: Empty log batch	Below is a list of samples group data, you can ass associated with the persi batch (even empty) or re a suggested log batch, it	ociate these samples to a isted group on the previo emove a persisted group t means that all samples i	suggested log batch. The s us step. You also can assoc at all if it has only one samp	uggested log batch is the log batch iate a sample with a custom log ple inside. If a sample does not have loes not have log batches and the	
Set log batch ld for persisted group samples v Velcome Auto-merge Conflict type#1: Group and log batch mismatch	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v  V Welcome Auto-merge Conflict type#1: Group and log batch mismatch Conflict type#2: Empty log batch Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict	uggested log batch is the log batch iate a sample with a custom log ple inside. If a sample does not have loes not have log batches and the resolution steps before.	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v  V Welcome Auto-merge Conflict type#1: Group and log batch mismatch Conflict type#2: Empty log batch Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v  V Welcome Auto-merge Conflict type#1: Group and log batch mismatch Conflict type#2: Empty log batch Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
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Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v  Velcome Auto-merge Conflict type#1: Group and log batch mismatch Conflict type#2: Empty log batch Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v  V Welcome Auto-merge Conflict type#1: Group and log batch mismatch Conflict type#2: Empty log batch Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v  V Welcome Auto-merge Conflict type#1: Group and log batch mismatch Conflict type#2: Empty log batch Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before. Log Batch Members 	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iate a sample with a custom log ole inside. If a sample does not have loes not have log batches and the resolution steps before. Log Batch Members	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before. Log Batch Members 	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before. Log Batch Members 	
Set log batch Id for persisted group samples v ✓ Welcome ✓ Auto-merge ✓ Conflict type#1: Group and log batch mismatch ▶ Conflict type#2: Empty log batch ▶ Review changes	Below is a list of samples group data, you can asso associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ociate these samples to a isted group on the previo emove a persisted group i t means that all samples i auto migrated and was n Group	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d ot included in the conflict Log Batch	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before. Log Batch Members 	
Set log batch ld for persisted group samples v • Welcome • Auto-merge • Conflict type#1: Group and log batch mismatch • Conflict type#2: Empty log batch • Review changes • Migrating	Below is a list of sample group data, you can ass associated with the persi batch (even empty) or re- a suggested log batch, it persisted group was not Sample (	ociate these samples to a site of one of the previous tied group on the previous tied group on the previous that all samples is auto migrated and was migrated and was migrated and the site of the si	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d of included in the conflict Log Batch IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before.	
Set log batch ld for persisted group samples v • Welcome • Auto-merge • Conflict type#1: Group and log batch mismatch • Conflict type#2: Empty log batch • Review changes • Migrating	Below is a list of sample group data, you can ass associated with the persi batch (even empty) or re- a suggested log batch, it persisted group was not Sample (	ociate these samples to a site of one of the previous tied group on the previous tied group on the previous that all samples is auto migrated and was migrated and was migrated and the site of the si	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d of included in the conflict Log Batch IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before.	Progres
Set log batch ld for persisted group samples v      Welcome     Auto-merge     Conflict type#1: Group and log batch mismatch     Conflict type#2: Empty log batch     Review changes     Migrating	Below is a list of sample group data, you can asso associated with the persi batch (even empty) or r a suggested log batch, it persisted group was not Sample	criate these samples to a strain of the previous of the previs	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d of included in the conflict Log Batch IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before.	-
Set log batch ld for persisted group samples v      Welcome     Auto-merge     Conflict type#1: Group and log batch mismatch     Conflict type#2: Empty log batch     Review changes     Migrating	Below is a list of sample group data, you can asso associated with the persi batch (even empty) or r a suggested log batch, it persisted group was not Sample	criate these samples to a strain of the previous strain of the previ	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d of included in the conflict Log Batch IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before.	-
Set log batch ld for persisted group samples v      Velcome     Auto-merge     Conflict type#1: Group and log batch mismatch     Conflict type#1: Empty log batch     Review changes     Migrating	Below is a list of sample group data, you can ass associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ciate these samples to a state group on the previous test of group on the previous auto migrated and was n auto migrated and was n in a state of the	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d of included in the conflict Log Batch IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before.	screen i
<ul> <li>Set log batch ld for persisted group samples v</li> <li>Welcome</li> <li>Auto-merge</li> <li>Conflict type#1: Group and log batch mismatch</li> <li>Conflict type#2: Empty log batch</li> <li>Review changes</li> </ul>	Below is a list of sample group data, you can ass associated with the persi batch (even empty) or re a suggested log batch, it persisted group was not Sample	ciate these samples to a state group on the previous test of group on the previous auto migrated and was n auto migrated and was n in a state of the	suggested log batch. The s us step. You also can assoc at all if it has only one samp nside the persisted group d of included in the conflict Log Batch IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	uggested log batch is the log batch iste a sample does not have loes not have log batches and the resolution steps before.	Progress screen is open.

Step	User Input/Action			Expected
Step	Oser input/Action			Results
			- 🗆 X	
	← € Persisted Group to Log Batch migration steps			
	Please check and confirm following changes			
	✓ Welcome	Please check the changes that will be applied to the database and	run the process clicking the Start migration	
	<ul> <li>Auto-merge</li> <li>Conflict type#1: Group and log batch mismatch</li> </ul>	Changes in persisted group IDs	Print report	
	<ul> <li>Conflict type#2: Empty log batch</li> </ul>	Persisted group Type of migration	Log batch	
	Review changes     Migrating	LB_2019-08-23-004 Auto 2019-12-27-002 Manual	2019-12-27-003 2017-08-09-001	
		LB_2019-08-23-005 Manual	2019-12-27-004	
		LB_2019-08-23-007 Manual	2020-04-29-001	
		Changes in samples		
		Sample Previous persisted group d Current persisted gr	oup d Previous log bat Current log bat	
		, ,		
			Next Cancel	
	After the migration completes	, the information dialog will be sl	own Drint ronort if it is	
	needed.	, the information dialog will be si		
	needed.			
	Click Finish to finish the migra	tion.		
			- 🗆 ×	
	← 🕞 Persisted Group to Log Batch migration steps			
	Data migration process			
		1		
	<ul> <li>✓ Welcome</li> <li>✓ Auto-merge</li> </ul>	Updating		
	<ul> <li>Conflict type#1: Group and log batch mismatch</li> </ul>	PersistedGroup: 2019-12-27-002	100%	The wizard
8	<ul> <li>Conflict type#2: Empty log batch</li> <li>Review changes</li> </ul>		100%	will be
0	Migrating	\DASHBOARDWIDGETS.RPLIB100%	100%	
	Ishwark	minution	100%	closed.
	Labwork		100%	
	1	The migration process completed successfully. For more information about the changes, print the report.	100%	
			100%	
			100%	
			100%	
		SpecInfo: QCINFO : STANDARDS_PREP_DATE_001	100%	
		SpecInfo: QCINFO : STANDARDS_SOURCE_001 SpecInfo: QCINFO : SPIKE SOLUTION A 001	100%	
		SpecInfo: QCINFO : SPIKE_SOLUTION_B_CA_MG_001 . Commit changes	100%	
			♥ Print report	
		1		
			Finish	

## 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	Authenticatio n window is open.
2	Select a database. Provide your login and password to access the database.	NGMigration Tool window is open.
3	Select "PSSchedule to Sample" tile.	The migration wizard runs.

Step	User Input/Action	Expected Results			
	🕲 Migration Tool – 🗆 X				
	Persisted group to log batch         PSSchedule to Sample         Scheduled events to eLIMS				
	Introduced in 6.10     Introduced in 7.0				
	Project management     QAQC Template     Introduced in 7.1     QAQC Template				
	ULABWORKS 7.x Database Migration Utility				
	Before this date all data will be set to INACTIVE       Image: Second set of the set to INACTIVE       Image: Second set of the set to INACTIVE       Image: Second set of the s				
	Status				
4	Migration Results				
	Process Scheduler Samples to be made INACTIVE in Sample Table         Samples Process Scheduler Validation Queue         Samples Process Scheduler Report Queue         Samples Process Scheduler Invoice Queue				
	Samples with ambiguous status: NA				
5	<ul> <li>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.</li> <li>In Migration Results section, count of Process Scheduler samples which have statuses like Validation, Report and Invoice queue will be displayed.</li> </ul>				

Step	User Input/Action		Expected Results
	Select the required checkboxes corresponding to Validation, R status and click the button "Set selected statuses to Inactive", INACTIVE for the corresponding samples. Count of samples with current state as NULL would be display ambiguous status". If count of samples with ambiguous status is greater than 0 the "Correct Data" will be visible at extreme right bottom of the 7 Utility window.	to set the status to ed as "Samples with en an button with text	
	Samples with ambiguous status: 5	Correct Data	
Clicking the button "Correct Data" will fix the sample status discrepancy.		screpancy.	

### **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 L	Run NGMigrationTool from LABWORKS\LWEXE\Server\NGMigrationTool.exe		
2	Select a database. Provide yo	Available Databases	to access the database.	NGMigrationToo I window is open.

3			The migration wizard runs.
	Read Welcome screen information. Click Next.		
4	<ul> <li>For Project management migration steps</li> <li>Welcome to migration tool for project management</li> <li>Welcome</li> <li>Location project</li> <li>Sample project</li> <li>Prelogin group project</li> <li>Project analyte reporting group project</li> <li>Review changes</li> <li>Migrating</li> </ul>	avoid losing existing projects data, you can , Follow these steps to migrate the data, e migration process will begin.	Location project
5	Check Location project updates and click Next to continue.		Sample project screen is open.

	$ \Box$ $\times$ $\overleftarrow{\epsilon_7}$ Project management migration steps	
	Check location project migration         Velcome         Location project         Sample project         Prelogin group project         Project analyte reporting group project         Review changes         Migrating	
	Next Cancel	
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.

	Location project     Sample project     Prelogin group project	PreLogin Groups with old format of Project field in the xml data.         PreLogin Group Name       Current xml data         Q       Q         ProjectPreLogGrp <simc cur<="" td="" version="1.0.0.0"></simc>	
		Next Cancel	
8	<ul> <li>← E Project management migration steps</li> <li>Check project analyte reporting group migration</li> <li>✓ Welcome</li> <li>✓ Location project</li> <li>✓ Sample project</li> <li>✓ Prelogin group project</li> </ul>	group project updates and click Next to continue.	Report screen is open.
9	After configuring the migration, N changes before the migration. Pr Check changes and click Next to s		Progress screen is open.
			l

	Γ				
				- 🗆 ×	
	Fe Project management migration steps				
	Please check and confirm following changes				
		Diazza chack the ck	nanges that will be applied to the database and run the process clicking	a the Start migration	
	<ul> <li>✓ Welcome</li> <li>✓ Location project</li> </ul>	Flease check the ci	anges that will be applied to the database and full the process clicking	g the start migration	
	<ul> <li>Sample project</li> </ul>	Changes during the	project migration	Print report	
	<ul> <li>Prelogin group project</li> </ul>	Name	Description	Туре	
	<ul> <li>Project analyte reporting group project</li> </ul>	POND	New project 'POND' will be created	Project	
	<ul> <li>Review changes</li> </ul>	WT	New project 'WT' will be created	Project	
	Migrating	LAB1	1 location(s) will be updated with project 'LAB1'	Location	
	5 5	WT	10 sample(s) will be updated with project 'WT'	Sample	
		POND	Project analyte reporting group 'POND' will be updated with projec	PAM Group	
		ProjectPreLogGrp	PreLogin group 'ProjectPreLogGrp' xml data will be updated	PreLoginGroup	
			1		
				Next Cancel	
				Next Cancel	
	After the migration completes, is needed. Click Finish to finish the migrat		nation dialog will be shown. Prin	it report if it	
	r				
				– 🗆 ×	
	← € Project management migration steps				
	Data migration process				
	✓ Welcome	Updating			
	✓ Location project				
	✓ Sample project				
	<ul> <li>Prelogin group project</li> </ul>	Create new pro	jects	A	The wizard will
10	<ul> <li>Project analyte reporting group project</li> </ul>				
	<ul> <li>Review changes</li> </ul>				be closed.
	Migrating				
				•	
				Print report	
				Finish	

← 듅 Project management migration steps		- • ×	
Data migration process			
<ul> <li>Welcome</li> <li>Location project</li> <li>Sample project</li> <li>Prelogin group project</li> <li>Project analyte reporting group project</li> <li>Review changes</li> <li>Migrating</li> </ul>	Updating Create new projects Update Jocations projects Update samples projects Update project analyte reporting groups projects Commit changes Labworks migration X  The migration process completed successfully. For more information about the changes, print the report. OK	100% 100% 100%	
		Print report Finish	

# 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.	NGMigrationToo I window is open.

	LABWORKS - User Login	
	Login       Available Databases       Select Language         User       LABWORKS       French         Password       OK       Cancel	
	Select "QAQC Template" tile.	
	🔕 Migration Tool – 🗆 X	
3	Persisted group to log batch	The migration wizard runs.
	Project management QAQC Template	
	Introduced in 7.1	
4	Read Welcome screen information. Click Next to start the migration.	Progress screen
4		is open.

				- 🗆 ×	
	← € Migration QAQC Template steps				
	e e inigration QAQC remplate steps				
	Welcome to migration tool to	migrate QAQC Template 'Special QA sample' in	nto the list of 'Special QA :	Samples available to the batch'	
		migrate QAQC Starting with version 7.1, users can spec	cify all the special QA sample in a s Special QA Sample" and "Special Q	single list in QAQC Template builder. The A Sample available for batch" as separate	
	Migrating QAQC Template	fields. Going forward these fields will be	e merged into a single list of "Spec	ial QA Sample available for batch". User	
	<ul> <li>Migration report</li> </ul>			nple" combined list. At the end, the report	
		will display the migration status: Succes	ss or Failure.		
		Click "Start" to migrate QAQC Template	es or "Close" to close the migratio	n wizard.	
				Start Cancel	
	After the migration co is needed. Click Close	ompletes, the information d	ialog will be sho	own. Print report if it	
				- 🗆 ×	
	← € Migration QAQC Template steps				
	et et ingration QAQC template steps				
	Migration report				
	<ul> <li>Welcome to migration tool to mi</li> </ul>	igrate QAQC Te Please check the migrated events list.		Print report	
	<ul> <li>Migrating QAQC Template</li> </ul>	QAQC Template Name	Status	Details	
	Migration report	OM_TEMPLATE	Error	There are no special QA Sample	
		QAQCBATCHTEMPLATE	Error	There are no special QA Sample	
		TEMPALTE_FOR_ME	Error	There are no special QA Sample	
-					The wizard will
5		Labworks migration	×	QAQC Template successfully mi	he closed
					be closed.
		QAQC Template: The migration process completed	d la		
		successfully.			
		For more information about the changes, print th	ne reports.		
			ок		
		4			
		[			
				Close	
	1				

## **Step 10: Client Installation**

**Note:** You must log in as the Administrator, or have administrative rights, to run the Client Install.

After you have run the Server Installation and setup and configured workstation settings using the Gateway Administrator tool you must now run the Client Installation, located at <LWEXE>ClientSetup.msi on each

workstation that is to use LABWORKS. Since LABWORKS is installed on a server, it is critical that every user access the ClientSetup.msi program that is located on the server in the same manner.

Step	User Input/Action		Expected Results
		ou wish to run LABWORKS access the server who ben the LABWORKS application folder and select	ere you
	🛃 LABWORKS Client - InstallShie	ld Wizard X	
	<b>Q LABWORKS</b>	Welcome to the InstallShield Wizard for LABWORKS Client	The
1		The InstallShield(R) Wizard will install LABWORKS Client on your computer. To continue, dick Next.	Welcome to the InstallShield for LABWORKS Client is displayed.
		< Back Next > Cancel	
	Click 'Next'.		
	🛃 LABWORKS Client - InstallShi	eld Wizard X	
	Customer Information	4	
	Please enter your information.	$\mathbf{C}$	
	<u>U</u> ser Name:		
	MyName		Customer Information
	Organization: MyCompany		dialog is
2	Investigation		displayed.
2			User Name and Company name is entered.
	InstallShield	A Back Novi > Consul	
		< <u>B</u> ack <u>N</u> ext > Cancel	
	Enter your Name and Comp	bany Name.	

Step	User Input/Action	Expected Results
	Click 'Next'to continue.	
3	Image: Click 'Change' if the location of the client software is to other than the default location. Once specified, click 'Next' to proceed.	Destination Folder dialog is displayed. Destination folder is changed if required.

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Step	User Input/Action	Expected Results
4	Image: Contract Program       Image: Contract Program         The wizard is ready to begin installation.       Image: Contract Program         Click Install to begin the installation.       If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.         InstallShield       Image: Contract Program         InstallShield       Image: Contract Program         Click 'Install' to begin the Installation.       Cancel	The Ready to Install the Program dialog is displayed. The installation proceeds.
	Depending on the Operating system and the configuration of UAC (User Account Control) you may get the error messages as below.	

Step	User Input/Action		Expected Results
	🛃 LABWORKS Client - InstallShie	eld Wizard X	
		InstallShield Wizard Completed	
5		The InstallShield Wizard has successfully installed LABWORKS Client. Click Finish to exit the wizard.	The InstallShield Wizard Completed dialog is displayed. The installation is complete.
		< <u>B</u> ack <b>Finish</b> Cancel	
	When the installation is co	mplete, click 'Finish' to exit.	

At this point your installation is complete. There is a new Program Group for LABWORKS and a LW Desktop application shortcut on your Desktop. By double clicking the new LW Desktop Icon, users are prompted to login:

LABWORKS - User Login
Login
User
usr
Password
•
<u>Q</u> K <u>C</u> ancel

The default credentials for a new database installation are as follows:

User: USR

Password: 1

s 🕰 🔲 🚉 📈 🕄 🖳			
a Items 🔟 🦷 👎	Notifications		¥
<u>Q</u>	You have 2 new unread message(s).	*	
File	SMTP server configuration saved		
Login	SMTP server configuration saved		
Results	SMTP server configuration saved		
QA/QC			
Search			
Maintenance			
Utilities			
Options	-		
Reports	Message from second user to first user		
Help			
ww			

**Note:** When upgrading an existing database (version 5.8) it may be necessary to run Lwwsystem6.exe from the C:\Labworks\Client folder because there are new applications-based privileges associated with the new Desktop.

# LABWORKS Webtop Installation

# **Before You Start**

LABWORKS Webtop is the latest in a succession of versions of LABWORKS LIMS. It provides new WEB functionally and is built using the latest in software development tools. As a WEB application its installation is different from any previous version of LABWORKS.

Even if you are a long time LABWORKS user, it is recommended you read the complete installation guide before starting your LABWORKS Webtop installation.

Installing LABWORKS Webtop is a multi-step process that involves performing a server installation, running the update database tool, modifying configuration files, running the gateway administrator tool configures LABWORKS databases.

LABWORKS installation involves the following steps:

- Step 1: Run LWWebtop.exe.
- Step 2: Modify ApplicationSpec.XML
- Step 3: Configure folder security
- Step 4: Run the Microsoft/Oracle scripts, Update Tool, and Migration Utility.
- Step 5: Configure Web Applications
- Step 6: Run the Gateway Administrator Tool.
  - Configure the Database.
- Step 7: Update web.config (lwwebtop and lwsampleloginservice)
- Step 8: Start LWLicenseServices/LWDataServices if not running
- Step 9: Login

Before you start your LABWORKS Webtop installation you will need the following:

- LABWORKS Webtop Installation Disk
- LABWORKS License/Control File (\*.CTL)
- Internet Server, IIS 7.0 or above

As this is an update to your existing LABWORKS LIMS program, back up your LABWORKS data files and database before beginning installation. LABWORKS is not responsible for any data loss or downtime caused by not creating backup files. Installation from the new LABWORKS CD should only begin after creation of a full backup of all existing files in your LABWORKS program path and data path and the actual database itself to tape, CD ROM, or other method.

It is recommended that you install any LABWORKS update on a test computer using a backup data path and database to test the program prior to installation on networks, servers, or multiple workstations. Even though LABWORKS thoroughly tests the LABWORKS LIMS program in-house, there may be variables associated with your network, servers, workstations, environment, etc., that may present unforeseeable problems.

## **Web Server Installation Footprint**

LABWORKS Webtop installs on the WEB Application Server

\Inetpub\wwwroot\LWWebtop:This folder contains the LABWORKS Webtop software

\inetpub\wwwroot\LWSampleLoginService: This folder contains the web service for reading and writing LABWORKS Sample related data.

\Program Files (x86)\Labworks\LWLicenseServices:	This folder contains the LABWORKS License Service application. This service is used to authenticate users and provide database configuration information. With latest LABWORKS version both Webtop and Desktop will use this service. This service can be loaded both on the Desktop server, for use by Desktop, and on the Webtop server.
\Program Files (x86)\Labworks\LWDataServices:	This folder contains the LABWORKS DataService application. This service provides data to the application. With latest LABWORKS version both Webtop and Desktop will use this service. This service can be loaded both on the Desktop server, for use by Desktop, and on the Webtop server.
C:\Labworks\\LWEXE:	This folder contains utilities for updating the LABWORKS Database Schema to Webtop Format, Conversion utilities for Specifications and Calculations.
C:\Labworks\\LWEXE\SYSCFG:	This folder contains the client configuration utility LWSyscfg6.exe and the file syscfg.dat where LABWORKS client configuration preferences are stored.
C:\Labworks\\LWDATA:	The LWDATA is a blank for LWSYSCFG6.EXE to point to on the WEB Server.
License File:	The license file is supplied by LABWORKS on a separate CD. It enables the LABWORKS features your organization has purchased.
Database Server:	The database server, SQL or Oracle requires a database instance be created. The instructions for creating the LABWORKS database are available in a separate document.



The Server Installation procedure is used to copy the LABWORKS files to the web server. The Webtop server must have the IIS 7.0 or greater loaded and running. The LABWORKS setup program is launched when the installation CD is inserted in your CD ROM drive.

**Note:** If the program does not launch automatically when you insert the installation CD into your CD ROM drive, use windows explorer to view the contents of the CD and double click on LWWebtop.exe, which is located on the root node of the CD.

Step	User Input/Action	Expected Results
1	Insert the LABWORKS installation CD in your CD ROM drive. The setup program automatically launches, and the welcome screen appears with brief instructions.	Windows installer initiates the installation from the Setup program.

	LABWORKS WebTop - InstallShiel	d Wizard X		
		Welcome to the InstallShield Wizard for LABWORKS WebTop The InstallShield Wizard will install LABWORKS WebTop on your computer. To continue, click Next.		
	Click 'Next'	< <u>B</u> ack <u>Next &gt;</u> Cancel		
	LABWORKS WebTop - InstallSh <b>Customer Information</b> Please enter your information <u>U</u> ser Name:		×	
2	MyName Company Name: MyCompany			Customer Information dialog is displayed.
		ne who uses this computer (all users) for <u>m</u> e (MyName)		User Name and Company name is entered.
	Enter User Name and Cor	< <u>B</u> ack <u>N</u> ext > Cancel		
	Click 'Next'.			

	LABWORKS WebTop - InstallShield Wizard X	
	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.)	
3	Cu <u>s</u> tom Select which program features you want installed. Recommended for advanced users.	Setup Type dialog is displayed. Setup Type is
	InstallShield	specified.
	< <u>B</u> ack <u>N</u> ext > Cancel	
	Select the Setup Type:	
	<ul> <li>Complete: Web Install, System Admin Tools</li> <li>Custom: Each piece can be selected separately.</li> <li>Click 'Next'.</li> </ul>	
	LABWORKS recommends copying the license file from the CD to a folder on your network for easy access.	License file copied from CD to folder on
4	Click 'Next' to proceed.	network.
		Installation of LABWORKS
5		Services dialog is displayed.
		LABWORKS services to install specified.

	ORKS WebTop - InstallShield Wizard ×	
	elect the setup type that best suits your needs.	
	elect the features you want to install, and deselect the features you do not want to stall. Click Next to continue.	
	ABWORKS License Service	
	LABWORKS Data Service	
InstallS	Shield	
	< Back Next > Cancel	
Servic optior	stallation of LWLicense Service on same machine check the option 'LWLicense ce'. If you want to install the LWLicenseServices on different machine uncheck the n. In most configurations, the LWLicenseServices install done during the Desktop r install will satisfy the requirement for one instance of the LWLicenseServices	
Servic optior Server runnir For in: Servic optior Server runnir	te'. If you want to install the LWLicenseServices on different machine uncheck the n. In most configurations, the LWLicenseServices install done during the Desktop r install will satisfy the requirement for one instance of the LWLicenseServices ing on the network. stallation of LW Data Service on same machine check the option 'LW Data ce'. If you want to install the LWDataServices on different machine uncheck the n. In most configurations, the LWDataServices install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices ng on the network.	
Servic optior Server runnir For in: Servic optior Server runnir	te'. If you want to install the LWLicenseServices on different machine uncheck the n. In most configurations, the LWLicenseServices install done during the Desktop r install will satisfy the requirement for one instance of the LWLicenseServices ng on the network. stallation of LW Data Service on same machine check the option 'LW Data te'. If you want to install the LWDataServices on different machine uncheck the n. In most configurations, the LWDataServices install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices	
Servic option Server runnin For in: Servic option Server runnin Click ' <b>Note:</b> L	<ul> <li>See'. If you want to install the LWLicenseServices on different machine uncheck the n. In most configurations, the LWLicenseServices install done during the Desktop r install will satisfy the requirement for one instance of the LWLicenseServices and on the network.</li> <li>stallation of LW Data Service on same machine check the option 'LW Data see'. If you want to install the LWDataServices on different machine uncheck the n. In most configurations, the LWDataServices install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices install will satisfy the requirement for one instance of the LWDataServices in the network.</li> <li>WNext'to continue.</li> <li>WDataService Configuration settings that needs to be configured while ming Excel calculations using Scan Daemon Stop the LWDataService Navigate to this path:</li> </ul>	
Servic optior Server runnir For in: Servic optior Server runnir Click ' <b>Jote:</b> L berform 1.	te'. If you want to install the LWLicenseServices on different machine uncheck the n. In most configurations, the LWLicenseServices install done during the Desktop r install will satisfy the requirement for one instance of the LWLicenseServices ing on the network. stallation of LW Data Service on same machine check the option 'LW Data te'. If you want to install the LWDataServices on different machine uncheck the n. In most configurations, the LWDataServices install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices ing on the network. 'Next'to continue. 'WDataService Configuration settings that needs to be configured while ming Excel calculations using Scan Daemon Stop the LWDataService	
Servic optior Server runnir For in: Servic optior Server runnir Click ' Note: L berform 1.	<ul> <li>be'. If you want to install the LWLicenseServices on different machine uncheck the n. In most configurations, the LWLicenseServices install done during the Desktop r install will satisfy the requirement for one instance of the LWLicenseServices and on the network.</li> <li>stallation of LW Data Service on same machine check the option 'LW Data see'. If you want to install the LWDataServices on different machine uncheck the n. In most configurations, the LWDataServices install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices and on the network.</li> <li>WData Service Configurations, the LWData Services install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices and on the network.</li> <li>WData Service Configuration settings that needs to be configured while ming Excel calculations using Scan Daemon Stop the LWDataService Navigate to this path:     <ul> <li>(for an x64 based Operating System)</li> <li><i>WINDIR%</i>(SysWow64\Config\SystemProfile (for x86 based Operating System)</li> </ul> </li> </ul>	
Servic option Server For in: Servic option Server runnin Click ' <b>Note:</b> L perform 1. 2.	<ul> <li>te'. If you want to install the LWLicenseServices on different machine uncheck the n. In most configurations, the LWLicenseServices install done during the Desktop r install will satisfy the requirement for one instance of the LWLicenseServices ing on the network.</li> <li>stallation of LW Data Service on same machine check the option 'LW Data te'. If you want to install the LWDataServices on different machine uncheck the n. In most configurations, the LWDataServices install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices in g on the network.</li> <li>Next'to continue.</li> <li>WDataService Configuration settings that needs to be configured while ming Excel calculations using Scan Daemon Stop the LWDataService Navigate to this path: (for an x64 based Operating System) %WINDIR%\System32\Config\SystemProfile (for x86 based Operating System) %WINDIR%\System32\Config\SystemProfile</li> </ul>	
Servic option Server For in: Servic option Server runnin Click ' <b>Note:</b> L perform 1. 2.	<ul> <li>ke'. If you want to install the LWLicenseServices on different machine uncheck the n. In most configurations, the LWLicenseServices install done during the Desktop r install will satisfy the requirement for one instance of the LWLicenseServices and on the network.</li> <li>stallation of LW Data Service on same machine check the option 'LW Data see'. If you want to install the LWDataServices on different machine uncheck the n. In most configurations, the LWDataServices install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices and on the network.</li> <li>WDataService Configurations, the LWDataServices install done during the Desktop r install will satisfy the requirement for one instance of the LWDataServices and on the network.</li> <li>WDataService Configuration settings that needs to be configured while ming Excel calculations using Scan Daemon Stop the LWDataService Navigate to this path:     <ul> <li>(for an x64 based Operating System)</li> <li>%WINDIR%\System32\Config\SystemProfile</li> <li>(for x86 based Operating System)</li> <li>%WINDIR%\System32\Config\SystemProfile</li> <li>Create new folder named "Desktop" in SystemProfile folder</li> </ul> </li> </ul>	



	<u> </u>
LABWORKS License Services - InstallShield Wizard	
Welcome to the InstallShield Wizard for LBWORKS License Services   The InstallShield Wizard will install LABWORKS License Services on your computer. To continue, dick Next.	
< Back Next > Cancel	
Click 'Next' to continue	
LABWORKS License Services - InstallShield Wizard       ×         Customer Information       V         Please enter your information.       V	
User Name:	
MyName	The Customer
Company Name:	Information dialog is
7 MyCompany	displayed.
Install this application for:	User Name and
Anyone who uses this computer (all users)	Company Name
Only for me (MyName)	is specified.
InstallShield	
< Back Next > Cancel	
Enter your User Name and Company Name.	
Click 'Next' to continue.	

8       Ready to Install the Program The wizard is ready to begin installation.         Click Install to begin the installation.         If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.		
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard. The Ready to Install the Program dialo is displayed		
the wizard. The Ready to Install the Program dialo		
The Ready to Install the Program dialo		
Program dialo		
8 Is displayed.	3	
The installatio	n	
proceeds.		
InstallShield		
< Back Install Cancel		
Click 'Install' to begin the installation.		
LABWORKS License Services - InstallShield Wizard		
<b>Q LABWORKS</b> InstallShield Wizard Complete When the		
The InstallShield Wizard has successfully installed LABWORKS License Services. Click Finish to exit the wizard.		
The InstallShie	ld	
9 Wizard is displayed.	og	
The installatio	n	
is complete.		
< <u>B</u> ack <b>Finish</b> Cancel		
installation is complete, click 'Finish' to exit.		
For installation of the LWLicenseServices on different machine run If applicable, t		
10       LWLicenseServices.exe from the CD on desired machine.       LWLicenseServices.exe is run of the cD on desired machine.		
		a different machine.
--------	---	--
Instal	lation of LW Data Service	
11	The Server setup launches separate LWDataServices setup program, and the welcome screen appears with brief instructions.         LABWORKSDataServices - InstallShield Wizard         Welcome to the InstallShield Wizard for LABWORKSDataServices         The InstallShield Wizard will install LABWORKSDataServices on your computer. To continue, click Next.         Image: Comparison of the InstallShield Wizard for LABWORKSDataServices on your computer. To continue, click Next.         Image: Comparison of the InstallShield Wizard for LABWORKSDataServices on your computer. To continue, click Next.         Image: Comparison of the InstallShield Wizard for LABWORKSDataServices on your computer. To continue, click Next.         Image: Comparison of the InstallShield Wizard for LABWORKSDataServices on your computer. To continue, click Next.         Image: Comparison of the InstallShield Wizard for LABWORKSDataServices on your computer. To continue, click Next.         Image: Comparison of the InstallShield Wizard for LABWORKSDataServices on your computer. To continue, click Next Next Next Next Next Next Next Next	The Welcome to the InstallShield Wizard for LABWORKS Data Service dialog opens.
12	LABWORKSDataServices - InstallShield Wizard       X         Customer Information       Please enter your information.         User Name:       MyName         Company Name:       MyCompanyl         Install this application for:       Install this application for:         Install this application for:       Install this application for:         Only for me (MyName)       Cancel	The Customer Information dialog is displayed. User Name and Company Name is specified.

	Enter your User Name and C	Company Name.	
	Click 'Next'to continue		
	LABWORKSDataServices - InstallSh	nield Wizard X	
	Ready to Install the Program	and a second sec	
	The wizard is ready to begin insta	llation.	
	Click Install to begin the installatio	n.	
		ny of your installation settings, click Back. Click Cancel to exit	
	the wizard.		The Ready to
			Install the Program dialog
13			is displayed.
10			
			The installation
			proceeds.
	InstallShield		
		< Back Install Cancel	
	Click 'Install' to begin the ins	tallation	
	LABWORKSDataServices - InstallSh	ield Wizard	
		InstallShield Wizard Complete	
	· · · · · · · · ·		
		The InstallShield Wizard has successfully installed LABWORKSDataServices. Click Finish to exit the wizard.	
			The InstallShield Wizard
			Complete dialog
14			is displayed.
			The installation
			is complete.
		< Back <b>Finish</b> Cancel	

	When the installation is complete, click 'Finish' to exit.	
15	For installation of the LWDataServices on different machine run LWDataServices.exe from the CD on desired machine.	If applicable, the LWDataServices. exe is run on a different machine.
	LABWORKS Webtop program resumes and is ready to install.	
	LABWORKS WebTop - InstallShield Wizard X	
	Ready to Install the Program	
	The wizard is ready to begin installation.	
	Click Install to begin the installation.	
16	If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.	The Ready to Install the Program dialog is displayed.
		The installation proceeds.
	InstallShield	
	< <u>B</u> ack <u>Install</u> Cancel	
	Click 'Install' to begin the installation.	

	LABWORKS WebTop - InstallShield	Wizard	
	<b>Q LABWORKS</b>	InstallShield Wizard Complete	
		The InstallShield Wizard has successfully installed LABWORKS WebTop. Click Finish to exit the wizard.	
17			The InstallShield Wizard Complete dialog is displayed. The installation is complete.
		< <u>B</u> ack <b>Finish</b> Cancel	
	When the installation is comp	pleted, click 'Finish' to exit.	

# Step 2: Modify ApplicationSpec.XML

The Webtop installation created the file 'ApplicationSpec.xml'. This file is used to configure the path to the license file.

Step	User Input,	Action		Expected Results
1	Image: State       File       Home       Share       ←       →       ↓       <		onSpec.xml' using notepad.	The ApplicationSpec. xml is opened.
2	name of the In this exan ApplicationSpec.xml File Edit Format Vi KAPPSETTINGSS <license< th=""><th>the path the e server e.g. nple, the We -Notepad ew Help _SERVER LICENSE_FI</th><th>Webtop will use to access the license file and enter machine LABWORKS-TEST01 as shown in screen shot below.  btop Server folder is c:\LABWORKS\LWEXE\  -</th><th>Path is entered.</th></license<>	the path the e server e.g. nple, the We -Notepad ew Help _SERVER LICENSE_FI	Webtop will use to access the license file and enter machine LABWORKS-TEST01 as shown in screen shot below.  btop Server folder is c:\LABWORKS\LWEXE\  -	Path is entered.
3	<pre></pre>	Age Flavor="Proces	E="1"/> "LABWORKS-TEST01"/> s"/> Spec.xml' located at \Program Files enseServices (where the LWLicense Service is installed) and do	Changes are completed.
4	(x86)\Labw	• •	Spec.xml' located at \Program Files aServices (where the LWData Service is installed) and do the 	Changes are completed.
5	(x86)\Labw		from <lwexe> to \Program Files aServices (where the LWDataServices is installed) and perform pove.</lwexe>	File Copied

## **Step 3: Database Scripts and Updatetool.exe**

Preparing the Existing Database

The LABWORKS Webtop and Desktop use the same database schema. The upgrades done in Step 4 of the Desktop are the same ones required to run the Webtop. No additional database changes are required.

# **Step 4: Configuring Folder Security**

After LABWORKS Webtop is installed on the server, there is configuration information that needs to be updated. There is a utility to do this. This utility requires folder permissions be configured so the necessary files can be updated.

Step	User Input/Action	Expected Results
1	For the folders, \inetpub\wwwroot\LWWebtop and \inetpub\wwwroot\LWSampleLoginService add the group "Authenticated Users"	The group 'Authenticated Users' is added.
2	Under Permissions for Authenticated Users, allow "Modify"         Permissions for LWSampleLoginService         Security         Object name:         C:\netpub\wwwood\LWSampleLoginService         Group or user names:         Authenticated Users         CREATOR OWNER         CREATOR OWNER         Users (pelw-pafvis01\Administrators)         Users (pelw-pafvis01\Administrators)         Users (pelw-pafvis01\Users)         Full control         Modify         Read & execute         User devecute         User devecute         OK         Cancel	'Modify' is granted as Permissions for Authenticated Users.

1. Enable 32-bit Application in IIS.

Internet Information Services (II	5) Manager					_ 0	×			
🕥 💿 🚺 👌 LW-ALL1 🕨 Appl	ication Pools		_			। 🖸 🖂 🔯	) -			
File View Help										
						_				
Connections	Application	Pools			Actions					
😪 - 🗔 🖄 😽	τφρπατιοι		Adv	anced Settings		? ×				
📲 Start Page	This name lets you view and	d manage the list of appl	E	(Ceneral)		<b></b>				
C UV-ALL1 (W-ALL1\Administrato     Application Pools     General)     Application Pools     General     Application Pools     General     Application Pools     Application Pools     Application Pools										
E Sites	different applications.			Enable 32-Bit Applications	True	-				
🗄 🌍 Default Web Site	Filter:	🝷 🔐 Go 👒 🕁 Sh		Managed Pipeline Mode	Integrated	-				
	Name 🔺 S	itatus .NET Frame.		Name	DefaultAppPool					
	-	itarted v4.0		Queue Length	1000					
		Started v4.0		Start Automatically	True					
	ASP.NET v4.0 De S		Ε	CPU						
	· · · · · · · · · · · · · · · · · · ·	itarted v2.0		Limit	0					
	· · · · ·	itarted v4.0		Limit Action	NoAction					
				Limit Interval (minutes)	5					
				Processor Affinity Enabled	False	-				
				Processor Affinity Mask	4294967295					
			Ξ	Process Model						
				Identity	ApplicationPoolIdentity		_			
				Idle Time-out (minutes)	20					
				Load User Profile	False					
				Maximum Worker Processes	1					
				Ping Enabled	True					
				Ping Maximum Response Time (second						
				Ping Period (seconds)	30					
				Shutdown Time Limit (seconds)	90					
				Startup Time Limit (seconds)	90					
			[• s	inable 32-Bit Applications enable32BitAppOnWin64] If set to true system, the worker process(es) serving ( Windows on Windows64) mode. Process	the application pool will be in W	OW64				
	•					111				
•	Features View 📑 Cont	ent View								
Ready						•	1.:			

# **Step 5: Configure Web Applications**

The folders installed into the \inetpub\wwwroot\LWWebtop and \inetpub\wwwroot\LWSampleLoginServiceneeds to be converted to web applications.

Step U	Jser Input/Actior	Expected Results				
1	pplications.	tool, "Internet is     befault Web Site      LWWebTop Home     but WebTop Home     but WebTop Home     but Grouping     configure Abath     configure Housi     but Grouping     configure Housi     but Grouping     configure Housi     configure Housi	Actions Act		o configure the web	Internet Information Services Manager is opened.

#### 

Step	User Input/Action	Expected Results
2	Select LWWebtop and then right click to Convert the folder to an application.	LWWebtop is selected. Convert to Application is selected.
3	Add Application         Site name:       Default Web Site         Path:       /         Alias:       Application pool:         LWWebTop       DefaultAppPool         Example:       select         Example:       select         Physical path:          C:\inetpub\wwwroot\LWWebTop          Pass-through authentication          Connect as       Test Settings         OK       Cancel	The Add Application dialog is displayed. The LWWebtop folder is converted to an application.
4	Repeat the same procedure for LWSampleLoginService         Add Application         Site name:       Default Web Site         Path:       /         Alias:       Application pool:         IWSampleLoginService:       DefaultAppPool         Sglect       Example: sales         Physical path:          C<\inetpub/wwwroot\LWSampleLoginService          Pass-through authentication          Connect as       Test Settings         OK       Cancel	The Add Application dialog is displayed. The LWSampleLoginService folder is converted to an application.

# Step 6: Gateway Administrator Setup

For steps 6 - 8 of the Webtop Instillation please refer to steps 5 - 14 of the Desktop Instillation.

#### **Step 7: Configure the Database**

#### **Step 8: Start the LWLicenseServices/LWDataServices**

#### Step 9: Logon

Http://localhost/lwwebtop/login.aspx

#### **Customer Logo:**

The logo in the top-left of the application can be replaced.

Replace the file: \inetpub\wwwroot\LWWebtop\images\customerlogo.jpg with an image of your choice. The image size is 200X54, but the program will also stretch/shrink to fit in the allowed space.

see S	tart		🕴 🤤 TFSPRJLWKS001 Tea	ım Final 🛛 🗰 New tab		🗖 Web Exp	lorer >	< +			-	٥	$\times$
$\leftarrow$	$\rightarrow$ D	lo	calhost/lwwebtop/WEBEXPLC	DRER/LWEXPMAIN.ASPX					□ ☆	=	1	٩	
	LABWOR	кs	1 E area									-	
			First User				LABWORKS66						ك
1	Login	+	Browse Data										Help
	Explorer	-	Billing Rate	<ul> <li>From Date</li> </ul>	3/29/2017	To Date	4/28/2017		✓ Report			S R	efresh
	rowse Data	-		Drag a column header her	- 4 6 46							<u> </u>	
	Results Entry	ŧ		Drag a column neader ner	e to group by tha	t column							
0	Help	+											
													_

# **Third Party Software**

If your LABWORKS Application includes Third Party Applications such as BarTender or Northwest Analytical Quality Analyst (NWA), then instructions for instillations for those products are provided with their respective products.

### **Appendices**

### **Appendix A – Planning and Definition Worksheet**

#### **Desktop Server**

Computer Name			Domain Name		Ping By Name		Ping ByIPAddress
IP Address			· .	Ping from Client	Yes / N	lo	Yes / No
Server Reverse Lo	okup			Use Ping –a <ipado< td=""><td>dr&gt;</td><td></td><td></td></ipado<>	dr>		
IP Client							
Client Reverse Loc	okup			Use Ping –a <ipado< td=""><td>dr&gt;</td><td></td><td></td></ipado<>	dr>		
LABWORKS Server	<sup>r</sup> Locat	ion (Loc1)					
Server Files UNC							
Server Files Local I	Path						
Base Files						User	Folder
User Files						Selec	tion
SQC Files						] [	<ul> <li>Domain ID</li> <li>LABWORKS ID</li> </ul>
Temporary Files						Workstation ID	
LABWORKS LWPlatformService Folde			er (Loc2)			[	□ None
						-	

#### **Desktop Client**

Computer Name				Don	nain			Ping By	Ping	
				Nar	ne			Name	ByIPAddress	
IP Address							Ping from Server	Yes / No	Yes / No	
Client Reverse Loc	okup						Use Ping –a <ipaddr></ipaddr>			
IP Server					•					
Server Reverse Lo	verse Lookup Use Ping –a <ipaddr></ipaddr>									
LABWORKS Client	on (Loc3)									

# Webtop Server

Computer Name			Domai Name	n		Ping By Name	Ping ByIPAddress
IP Address		•		Ping	g from Client	Yes / No	Yes / No
Reverse Lookup				Use	Ping –a <ipaddr></ipaddr>		

### Share and Permission

Permission function	Permission Name
Manager	
Advanced User	
User	
Special Requirements:	

# Appendix B – Server and Client Installation Check List

- □ Running LWServer.exe as the administrator to install required folder, server software, and client installation.
- □ Installation of LWLicenseServices
  - Install as part of the LWServer installation the LWLicenseServices.
- □ Installation of LWDataServices
  - Install as part of the LWServer installation the LWDataServices.
- CopyApplicationSpec.xmlfrom the server folder into the LWLicenseServices/LWDataServices folder License Path should be local drive to LWEXE folder.
- □ CopyClientApp.config the server folder into the LWDataServices folder.
- □ Edit the LABWORKS Server ApplicationSpec.xml to use UNC name for LICENSE\_SERVER LICENSE\_FILE\_PATH.
- □ Create Share and set share permission on the server folder.
- □ Set folder permission as required.
- □ Perform migration of the database to the current version as outlined in appendix D.
  - 6.1/6.2/6.3/6.4/6.5/6.6/6.7/6.8/6.8.5/6.9/6.10/7.0/7.1/7.2
    - Run the Microsoft/Oracle Script
    - Run the Update Tool
    - Run the Microsoft/Oracle Inventory Script If Required.
    - Run LWMigrationTool for Inventory If Required.
    - Run NGMigrationTool If Required.

If Your Current Version is: Then Run These Migrations	AuditTrail	CalcDefs	DMR * Optional	RltSpecs	Location Specs	Analysis Specs	Sample Specs	SIForm	Location Special Info	Analysis Special Info	Sample Special Info	MailList	Comments	LabObjects	Userhead	Result	AuditTrail Checksum	Violation Reorder	Chemical Inventory	LWCtrlChartMDLStudy
6.0	Х	х	х	х	х	х	х	х	х	х	х	х	х	х	х	х	х			
6.1			х	х	х	х	х	х	х	х	х	х	х	х	х	х	х			
6.2												х	х	х	х	х	х			
6.3												х	х	х	х	х	х			
6.4, 6.5,6.6,6.7, 6.8, 6.8.5, 6.9, 6.10,7.0,7.1, 7.2																		x	x	x

- Run the Gateway Administrator Tool.
- Configure folders required for LABWORKS.
- Configure the Database.

- Configure Database Authentication.
- Configure Global Database Availability.
- □ Start LWLicenseServices
- □ Start LWDataServices
- □ Run the ClientSetup.msi on each workstation that is to use LABWORKS

#### **Appendix C – Webtop Check List**

- □ Run LWWebtop.exe.
- □ If database updates performed by Desktop Installation the database is current, else run the Update Tool.
- □ Configure folder security
- □ Configure Web Applications
- □ Configure Webtop Applicationspec.xml using the local drive notation.
- □ Run the Gateway Administrator Tool.
  - Set the folders for the Webtop
  - o Set the database connection
- □ Start LWLicenseServices
- □ Start LWDataServices

# Appendix D – LABWORKS database migration 6.0/6.1/6.2/6.3/6.4/6.5/6.6/6.7/6.8/6.8.5/6.9/6.10/7.0/7.1/7.2

- 1. Use the Database tools to run SQL script either, LWScripts-SQLServer.sql or LWScripts-Oracle.sql, depending on your database system.
- 2. Run all versions of the LWXXRelease.xsp that have not previously been run.
- 3. If upgrading from 6.0 to 6.6 then run the Updatetool.exe for Service Pack LW67Release.xsp. (Refer Appendix E)
- 4. If upgrading from 6.0 to 6.7 then run the Updatetool.exe for Service Pack LW68Release.xsp. (Refer Appendix E)
- 5. If upgrading from 6.0 to 6.8 then run the Updatetool.exe for Service Pack LW69Release.xsp. (Refer Appendix E)
- 6. If upgrading from 6.0 to 6.9 then run the Updatetool.exe for Service Pack LW610Release.xsp. (Refer Appendix E)
- 7. If upgrading from 6.0 to 6.10 then run the Updatetool.exe for Service Pack LW70Release.xsp. (Refer Appendix E)
- 8. If upgrading from 6.0 to 7.1 then run the Updatetool.exe for Service Pack LW71Release.xsp. (Refer Appendix E)
- 9. If upgrading from 6.0 to 7.2 then run the Updatetool.exe for Service Pack LW72Release.xsp. (Refer Appendix E)
- 10. LWMigrationTool.exe may need to be run.
- 11. NGMigrationTool.exe may need to be run.

## Appendix E – LABWORKS Update Tool

#### **Running the Update Tool**

Step	User Input/Action	Expected Results
1	Select your database type, SQL or Oracle.	Results Database is selected.

Step	User Input/Action	Expected Results
	🔕 LABWORKS Update Tool — 🗆 🗙	
	Database   Oracle   Database Owner Username   LABWORKS   Database Password   ****   LABWORKS User ID   LABWORKS   Service Pack   LW71Release.xsp   Connect   Analyze   Close	
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.
4	Enter the database connection User ID.	Database connection User ID entered.
	Select the Service pack. All LWXXRelease.xsp files not previously applied are required. They should be run in release order, 6.7, 6.8, 6.9, 6.10,7.0,7.1,7.2.	
5	LW62DMRRelease.xsp, I18NTables.xsp, LWOPC.xsp are service packs for optional software. Update the database to latest LABWORKS Desktop format. The service pack I18NTables .xsp is used to add addition languages strings to the LABWORKS database and is used only if needed for multi-language sites.	Service pack selected and run.
	Press the Connect button to create a connection to the database.	Connection
6	• 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.	to the database is established.

Step	User Input/Action	Expected Results
	Data Link Properties     Provider Connection Advanced All     Select the data you want to connect to:     OLE DB Provider(s)     Microsoft Jet 3.51 OLE DB Provider     Microsoft Jet 4.0 OLE DB Provider     Microsoft Office 12.0 Access Database Engine OLE DB Prov     Microsoft OLE DB Provider for Analysis Services 9.0     Microsoft OLE DB Provider For Data Mining Services	
	Microsoft OLE DB Provider for DTS Packages         Microsoft OLE DB Provider for Indexing Service         Microsoft OLE DB Provider for ODBC Drivers         Microsoft OLE DB Provider for OLAP Services 8.0         Microsoft OLE DB Provider for Oracle         Microsoft OLE DB Provider for Search         Microsoft OLE DB Provider for Sol Service         Microsoft OLE DB Provider for Search         Microsoft OLE DB Provider for Sol Service	
	Provider Connection Advanced All Specify the following to connect to Oracle data: 1. Enter a server name: MYServiceName 2. Enter information to log on to the database: User game: [abworks Password] # Allow gaving password	
	<ul> <li>For SQL Server databases, select the Microsoft OLEDB Provider for SQL Server provider and click 'Next'.</li> <li>Total Link Properties         Provider Connection Advanced All         Select the data you want to connect to:         OLE DB Provider(s)         Microsoft Jet 3.51 OLE DB Provider         Microsoft OLE DB Provider for Analysis Services 9.0         Microsoft OLE DB Provider for Data Mining Services         Microsoft OLE DB Provider for ODBC Drivers         Microsoft OLE DB Provider for Search         Microsoft OLE DB Provid</li></ul>	

Step	User Input/Action	Expected Results
	Enter your SQL Server name, database connection username and password, and the database name. Press 'Test Connection' to confirm the connection.	
	Data Link Properties     Provider     Connection     Advanced     All     Specify the following to connect to SQL Server data:     1. Select or enter a server name:     mysqlserver     Refresh     2. Enter information to log on to the server:     C   Use Windows NT Integrated security              • Windows NT Integrated security             • Use rame:   abworks   Password:            • Blank password     Allow gaving password     3. • Select the database on the server:	
7	After the database connection is tested, press 'Analyze' to have the program identify the database modifications required.	Database modifications are identified. Changes are applied.

Step	User Input/Action	Expected Results
	If an error is encountered, the step that was unsuccessful appears in red. Clicking on the error message displays details about the error. The errors must be corrected prior to continuing.	