
Labworks eLIMS v.7.0

Installation Guide

REVISION HISTORY

DATE	REVISION #	COMMENTS
03/14/2018	6.8.0.8.1	Initial revision
04/27/2018	6.8.0.8.2	The section "8.5 Unknown issues" was supplemented with the instruction how to turn on the most detailed level of logging.
05/03/2018	6.8.0.8.3	Minor changes in wordings of the section "5. Common steps after installation".
07/31/2018	6.8.0.8.4	<p>The section "5. Common steps after installation" was renamed to "Labworks eLIMS configuration". The "General configuration" and "Web application configuration" sections have been added to the "Labworks eLIMS configuration" chapter. The "Database collations" and "Reports" items have been moved to the "General configuration" section.</p> <p>The "Role Management", "User Roles", "Group roles", "Sessions" items have been added to the "Web application configuration" section.</p> <p>A new prerequisite has been added to the Getting Started section: Installed Crystal Report Application Server.</p>
08/01/2018	6.8.0.8.5	All references to the 6.8.8 release version have been changed to 6.8.0.8 due to an errata in the version name.
08/10/2018	6.8.0.8.6	Recommended database version has been added to the Labworks eLIMS installation requirements.
08/11/2018	6.8.5.0.1	The "Service Diagnostics" item has been added to the "Web application configuration" section.
09/20/2018	6.8.5.0.2	<p>The "Recommended web and mobile browsers" item has been added to the "Software requirements" section.</p> <p>One more path to error logs (C:\ProgramData\Labworks LLC\LWeLIMSReporting\Logs\) has been added to the Unknown issues subsection of the Troubleshooting section.</p> <p>The "Recommended database version" section has been updated.</p>
09/24/2018	6.8.5.0.3	The prerequisite item "Installed Crystal Report Application Server" has been replaced with a new section "Crystal Report Runtime Library".
12/19/2018	6.8.5.5.0	Added the minimal required build version of Labworks eLIMS services to prerequisites.
12/20/2018	6.8.5.5.1	The previous product version was changed from 6.8.5.5 to 6.8.5.0.
01/24/2019	6.8.5.5.2	Added the "Automatic sample validation" item to the "General configuration" section.

01/25/2019	6.8.5.5.3	Added the "Military time format" item to the "General configuration" section.
03/28/2019	6.8.5.2.0	Updated the installation paths.
04/24/2019	6.8.5.4.0	Removed Crystal Report installation section.
06/28/2019	6.8.5.5.0	Added Mobile Application Configuration section.
09/05/2019	6.8.5.8.0	Added "Maximum of reported samples", "Checksum violations", and "Calculations" sections. Updated Troubleshooting section.
09/30/2019	6.8.5.8.1	Added "Dashboard Refresh Interval" section.
03/10/2020	6.9.1.1.1	Added more configuration and upgrade information
04/08/2020	6.9.1.2.1	Added "System Manager settings" section.
05/15/2020	6.10.1.1.1	Added Setup permissions step to the section Open LABWORKS eLIMS in a browser.
07/25/2020	6.10.1.13.1	Added FIPS Compliant Installation step to the Labworks eLIMS Installation section. Troubleshooting section was updated.
12/14/2020	7.0.0.102.1	Recommended web and mobile browsers were updated. Calculations configuration steps were enhanced. SQL scripts installation step was updated by a note about removing some existed dashboards and Explorer custom views created before 7.0 eLIMS version. Troubleshooting section was updated.
04/21/2021	7.0.0.191.1	Added the "Labworks eLIMS Remote Installation" section.
04/21/2021	7.0.0.191.1	Added the "Create samples" subsection to the "Labworks eLIMS configuration -> Mobile application configuration -> Collection Views" section.

CONTENTS

REVISION HISTORY	2
CONTENTS.....	4
1 OVERVIEW	6
1.1 Document Purpose.....	6
2 GETTING STARTED	7
3 PREREQUISITES CHECK	9
3.1 LABWORKS services availability	9
3.2 IIS and .NET availability	9
3.3 Database permissions	15
3.4 Upgrade order	15
4 LABWORKS ELIMS INSTALLATION	16
4.1 LABWORKS Update Tool	16
4.2 SQL scripts	21
4.3 Labworks eLIMS files	22
4.4 "URL Rewrite" IIS extension	24
4.5 Gateway Administrator (Oracle only)	24
4.6 Labworks eLIMS configuration	25
4.7 Set up SSL	26
4.8 Open Labworks eLIMS in a browser	34
5 LABWORKS ELIMS REMOTE INSTALLATION	40
5.1 Open ports in the firewall application	40
5.2 Configure MS SQL server for remote connections.....	43
5.3 Share LWDATA, LWEXE directories	44
5.4 Configure group policy	46
5.5 Configure Data File and License Paths in Labworks Gateway Administrator	48
5.6 Configure eLIMS Data Service	49
5.7 Configure the ApplicationSpec.xml file	50
5.8 Configure the Web.config file	51
6 LABWORKS ELIMS CONFIGURATION	53
6.1 General configuration	53
6.1.1 <i>Displayed samples period</i>	53
6.1.2 <i>Time zone settings</i>	54
6.1.3 <i>Military time format</i>	54
6.1.4 <i>Maximum of reported samples</i>	55
6.1.5 <i>Checksum violations</i>	56
6.1.6 <i>Dashboard refresh interval</i>	57
6.1.7 <i>Restart IIS after adding new database</i>	58
6.1.8 <i>Database collations</i>	59
6.1.9 <i>Database migrations</i>	59
6.1.10 <i>System Manager settings</i>	60

6.1.11	Reports	61
6.1.12	Calculations	61
6.1.13	FIPS Compliant Installation	66
6.2	Web application configuration.....	68
6.2.1	Role Management.....	68
6.2.2	User Roles.....	69
6.2.3	Group Roles	70
6.2.4	Sessions	71
6.2.5	Service Diagnostics.....	72
6.3	Mobile application configuration.....	73
6.3.1	Collection Views	73
7	CONTROL FILE	80
8	KNOWN ISSUES	81
9	TROUBLESHOOTING.....	82
9.1	You received an error message during installation.....	82
9.2	You received an error message while applying the service pack or sql scripts.	82
9.3	The license updates are not applied	82
9.4	You cannot log in as the super admin	82
9.5	Slow performance issues	82
9.6	Internet Explorer issues.....	83
9.7	No seats available issue.....	83
9.8	BarTender labels issue	84
9.9	Unknown issues.....	85
10	LABWORKS ELIMS INSTALLATION CHECKLIST	87

1 OVERVIEW

Labworks eLIMS (Labworks eLIMS) is an extension of Labworks eLIMS software, intended to improve existing and provide additional functionality. It is a browser-based client application, that uses server-side services for user authentication and communication with LABWORKS database.

1.1 DOCUMENT PURPOSE

The purpose of this document is to provide instructions for Labworks eLIMS software installation.

2 GETTING STARTED

Labworks eLIMS installation requirements:

1. Minimum hardware requirements

- Memory (RAM) - 8 GB;
- Processor – 4 x 3.0 GHz or higher quad core processor

2. Recommended hardware requirements

- Memory (RAM) - 16 GB;
- Processor – 4 x 3.0 GHz or higher quad core processor
- SSD storage for the database

3. Software requirements

- **Operation system**
 - Windows Server 2016 STD/ENT
 - Windows Server 2019 STD/ENT
- **Installed Labworks desktop services, version 7.0.0.39 or above**
 - The minimal required build version of Labworks desktop services is **7.0.0.39**.
 - Please follow the desktop *LABWORKS 7.0 Installation Guide* documentation instructions to correctly install the desktop services.
- **Installed Labworks eLIMS services, version 7.0.0.191**
 - Please make sure that Labworks eLIMS services are installed before starting Labworks eLIMS installation.
 - Please follow the *Labworks eLIMS v7.0.0.191 Installation Guide* instructions below to correctly install the services.
- **Installed Internet Information Services (IIS), version 10.0 or above**
 - Please follow the *Labworks eLIMS v7.0.0.191 Installation Guide* instructions below to correctly install the services.
 - Labworks eLIMS files will be installed into the following directory:
C:\inetpub\wwwroot\LabworksWeb.
 - Please note the path to IIS's wwwroot (by default, "C:\inetpub\wwwroot") is automatically determined from the registry and "\LabworksWeb\" is appended to the end of that path. If IIS was installed then the installer gets the correct path from the registry and adds "\LabworksWeb\" to the end of the path. The installation location cannot be changed.
- **Installed .Net Framework, version 4.5 or above.**
 - Application Pool Enable 32 bit applications.
 - Please follow the *Labworks eLIMS v7.0.0.191 Installation Guide* instructions below to correctly install the framework.
- **Network**
 - Net service connectivity to the Oracle/SQL database from the Webserver.

- Clients must be able to connect to the Webserver. All clients must be able to resolve the same name to browse to the Webserver.
- **Oracle Client**
 - Oracle 12c. Only the full Oracle client is qualified.
- 4. Recommended database version**
 - There is a performance benefit into using the Enterprise Edition version of MSSQL and Oracle databases.

Moreover, there are performance limitations with using Labworks eLIMS with SQL Express Edition and SQL Standard Edition.
 - It is not recommended to use SQL Express Edition if more than 1000 samples are stored in the database.
 - It is not recommended to use SQL Standard Edition if more than 100 000 samples are stored in the database.
- 5. Recommended web and mobile browsers**
 - Safari 12x (IOS 12x) - release date September 2018 or later
 - Chrome 86 (Android Chrome 86 + Android 9 OS) - release date October 2020 or later

The Labworks eLIMS installation package includes:

1. Labworks eLIMS web-site files

The *LABWORKS-Enterprise_LIMS-7.0.0.191.msi* file that extracts the all web-site and server files.

2. Labworks eLIMS SQL scripts for LABWORKS database

You have to choose one of the two files during the installation process, depending on your database and run the scripts using your database client:

- LWEnterpriseSQLScripts-SQLServer-7.0.0.191.sql
- LWEnterpriseSQLScripts-Oracle-7.0.0.191.sql

3. Extension for IIS

The *urlrewrite2.exe* file is used to set additional properties to IIS.

4. Labworks eLIMS Service Pack

A file required for the LABWORKS Update Tool: *LWEnterpriseRelease-7.0.0.191.xsp*

Note: We recommend you print the last page of this guide containing an installation checklist as that will help you verify all installation steps as you follow them.

3 PREREQUISITES CHECK

3.1 LABWORKS SERVICES AVAILABILITY

In order to verify whether the LABWORKS services are available in the network, a connection test must be performed. The connection should be tested between the client computer and the desktop server from both ends. The 'ping -a <IP address>' command should output the full computer name at the first line. If the computer name does not contain the domain name or the client and the server have different domain names, they may experience permission-related communication issues.

An example of the ping command output:

```
C:\>Ping -a 192.168.0.1

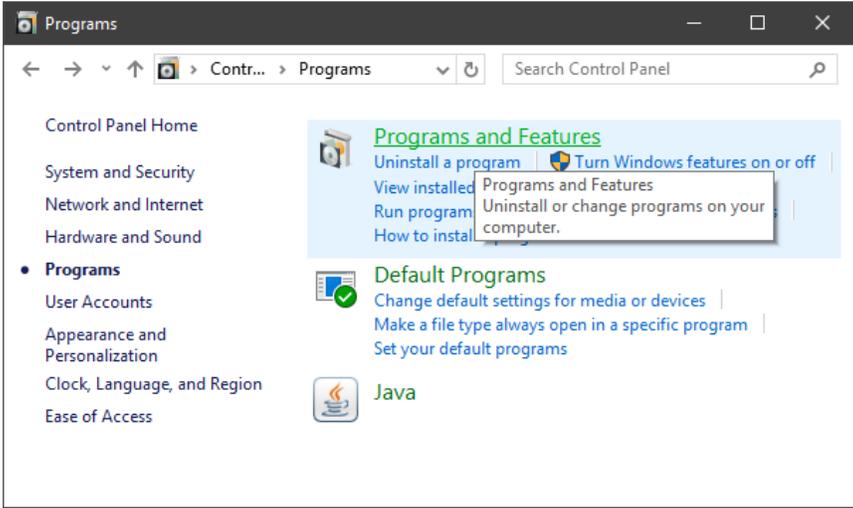
Pinging Computer01.Company.com [192.168.0.35] with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=2ms TTL=63
Reply from 192.168.0.1: bytes=32 time<1ms TTL=63
Reply from 192.168.0.1: bytes=32 time=1ms TTL=63
Reply from 192.168.0.1: bytes=32 time<1ms TTL=63

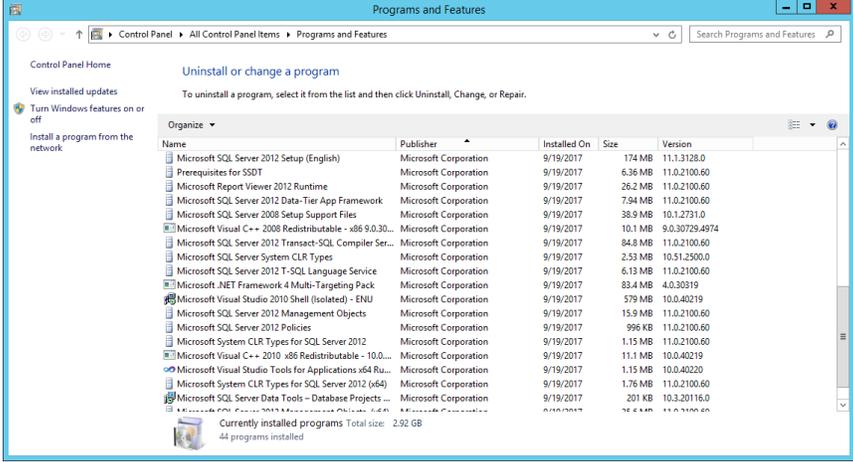
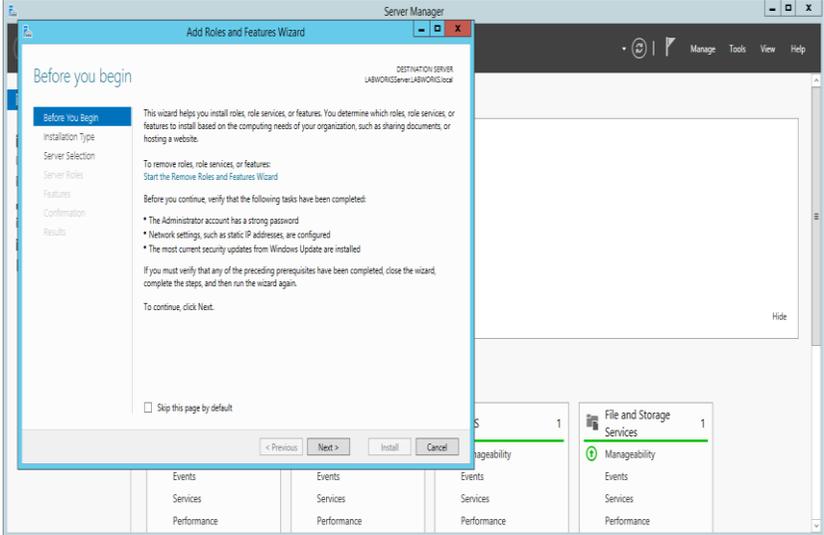
Ping statistics for 192.168.0.1:
    Packets: Sent 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

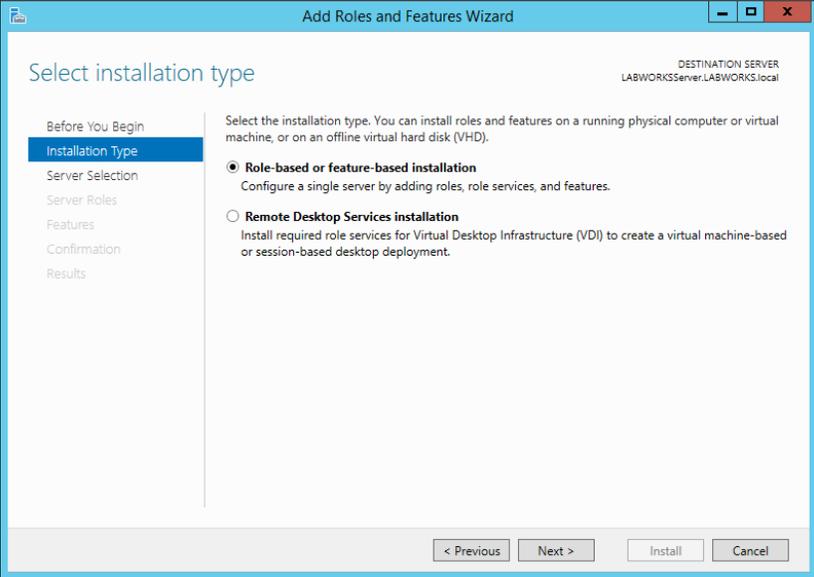
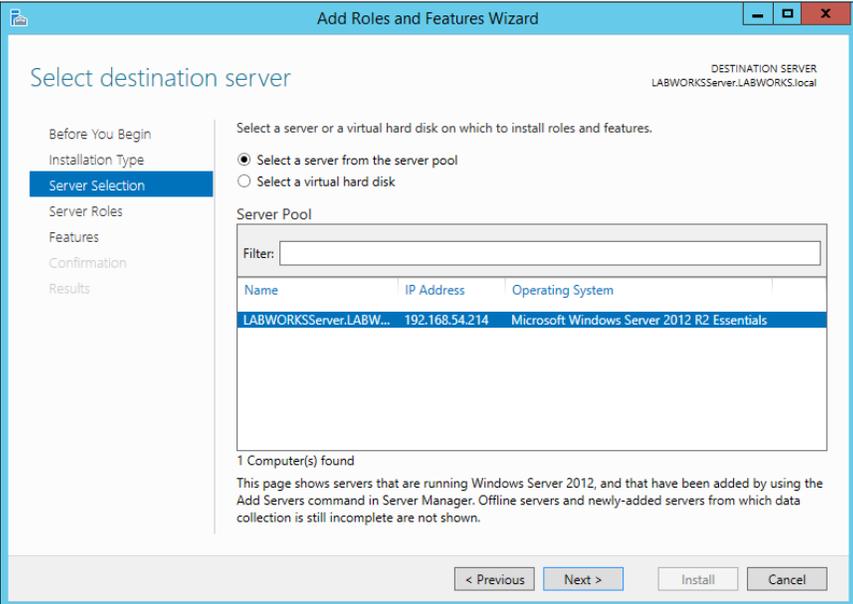
C:\>
```

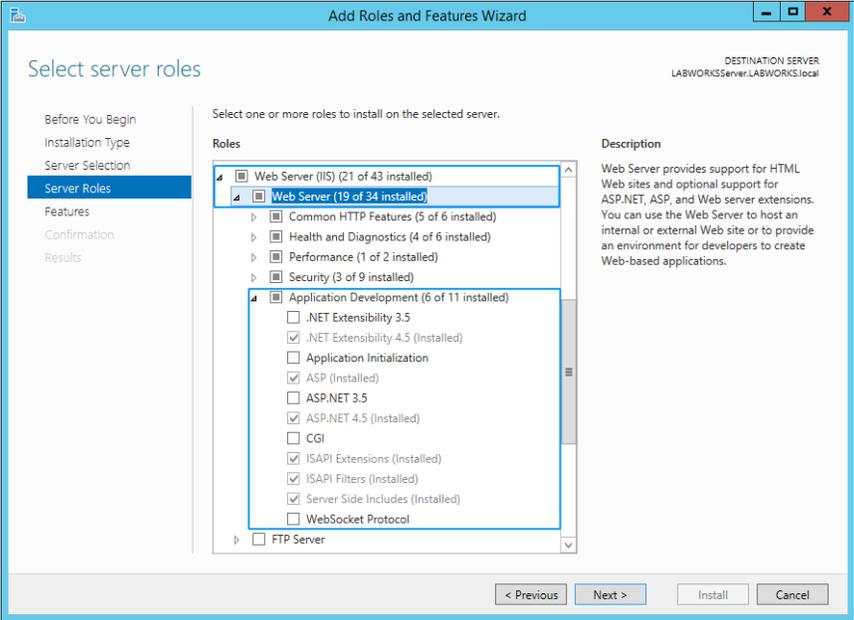
3.2 IIS AND .NET AVAILABILITY

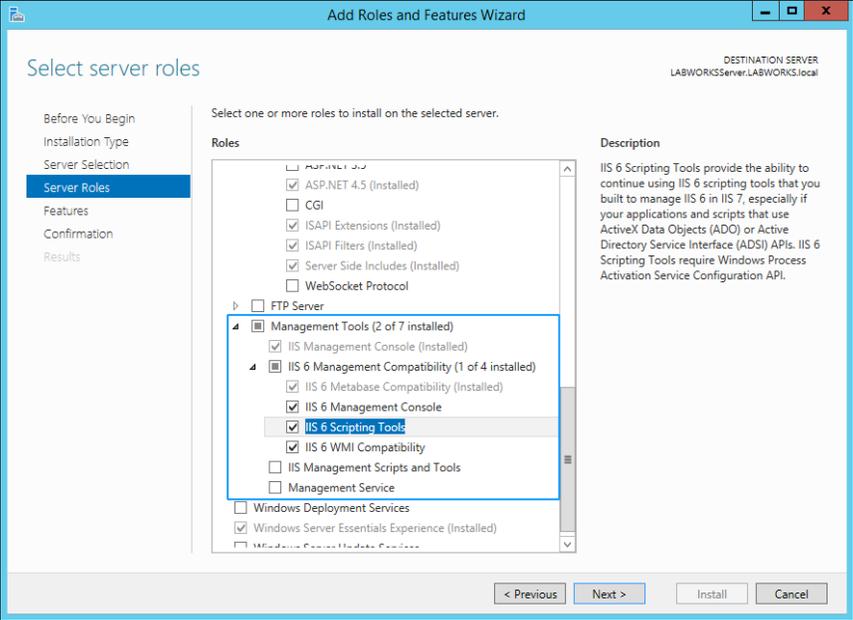
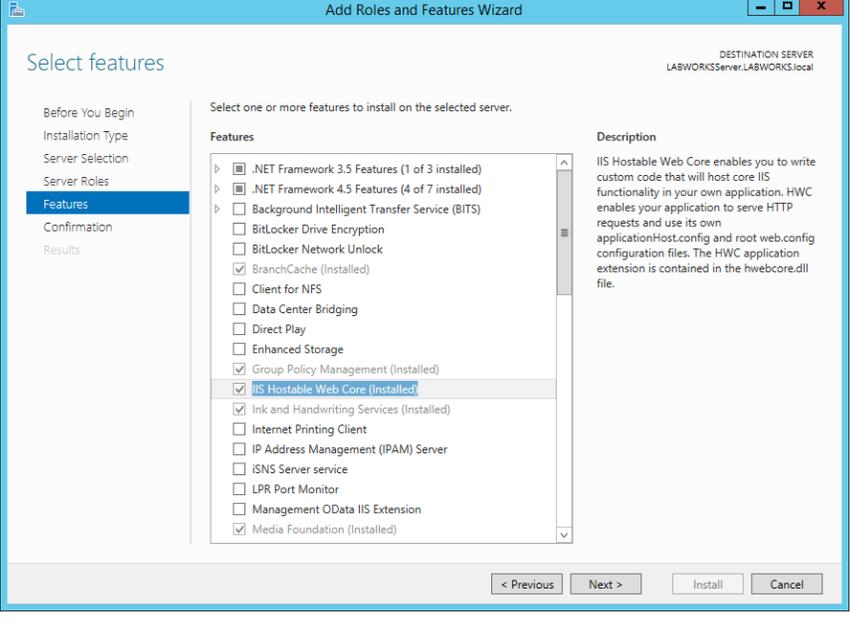
Please follow these steps to verify whether Internet Information Services and .NET framework are installed:

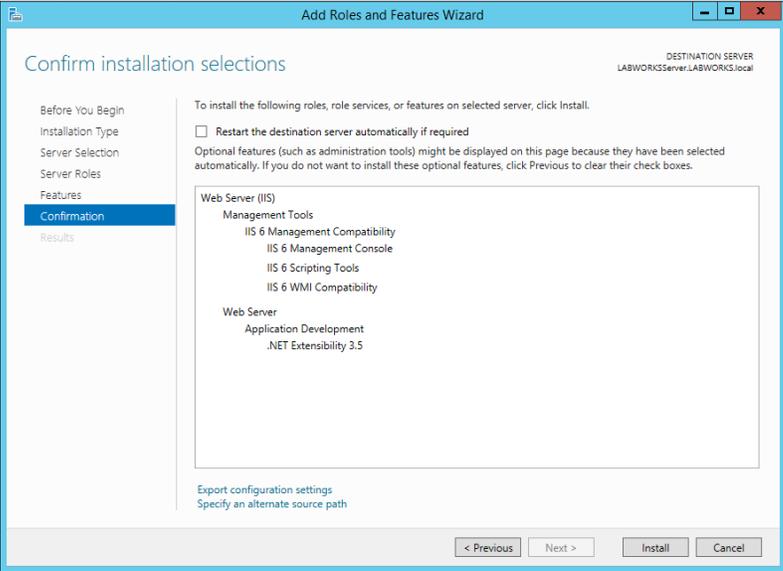
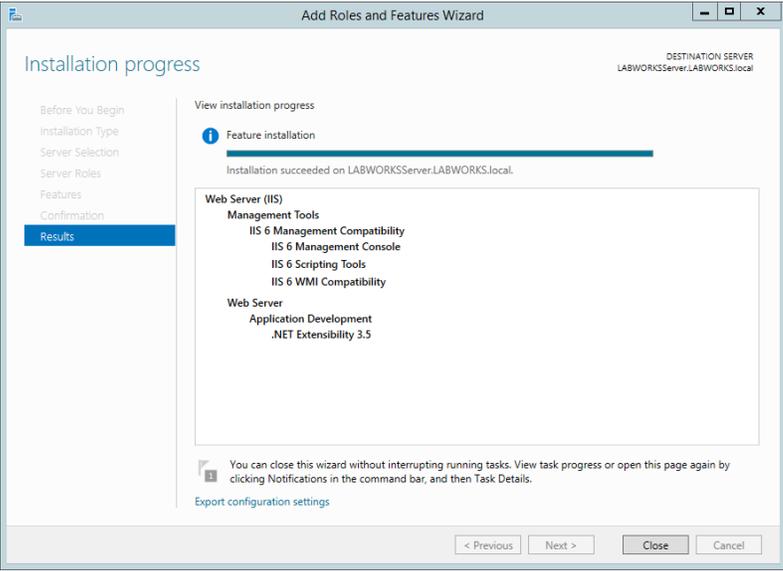
Step	User Input / Action	Expected Results
1	<p>Navigate to the Windows Control Panel “Programs and Features” window using the Start menu.</p>  <p>The screenshot shows the Windows Control Panel window titled 'Programs'. The 'Programs' category is selected in the left-hand navigation pane. The main content area displays 'Programs and Features' with options to 'Uninstall a program' and 'Turn Windows features on or off'. Below this, 'Default Programs' and 'Java' are also visible.</p>	<p>“Programs and Features” window displayed.</p>

Step	User Input / Action	Expected Results
2	<p>Click the “Turn Windows features on or off” link on the left-hand side of the window.</p> 	<p>The “Server Manager” and “Add Roles and Features Wizard” windows displayed.</p>
3	<p>Click the “Next” button in the Add Roles and Features Wizard.</p> 	<p>“Installation Type” page displayed.</p>

Step	User Input / Action	Expected Results
4	<p>Click the “Next” button.</p>  <p>The screenshot shows the 'Add Roles and Features Wizard' window. The title bar reads 'Add Roles and Features Wizard'. The main heading is 'Select installation type'. On the left, a navigation pane lists 'Before You Begin', 'Installation Type' (highlighted), 'Server Selection', 'Server Roles', 'Features', 'Confirmation', and 'Results'. The main content area contains the text: 'Select the installation type. You can install roles and features on a running physical computer or virtual machine, or on an offline virtual hard disk (VHD)'. There are two radio button options: 'Role-based or feature-based installation' (which is selected) and 'Remote Desktop Services installation'. Below the options are buttons for '< Previous', 'Next >', 'Install', and 'Cancel'.</p>	<p>“Select destination server” page displayed.</p>
5	<p>Click the “Next” button.</p>  <p>The screenshot shows the 'Add Roles and Features Wizard' window. The title bar reads 'Add Roles and Features Wizard'. The main heading is 'Select destination server'. On the left, a navigation pane lists 'Before You Begin', 'Installation Type', 'Server Selection' (highlighted), 'Server Roles', 'Features', 'Confirmation', and 'Results'. The main content area contains the text: 'Select a server or a virtual hard disk on which to install roles and features.' There are two radio button options: 'Select a server from the server pool' (which is selected) and 'Select a virtual hard disk'. Below the options is a 'Server Pool' section with a 'Filter:' input field and a table. The table has columns for 'Name', 'IP Address', and 'Operating System'. One row is highlighted: 'LABWORKSServer.LABW...', '192.168.54.214', and 'Microsoft Windows Server 2012 R2 Essentials'. Below the table, it says '1 Computer(s) found'. A note at the bottom states: 'This page shows servers that are running Windows Server 2012, and that have been added by using the Add Servers command in Server Manager. Offline servers and newly-added servers from which data collection is still incomplete are not shown.' At the bottom are buttons for '< Previous', 'Next >', 'Install', and 'Cancel'.</p>	<p>“Select server roles” page displayed.</p>

Step	User Input / Action	Expected Results
6	<p>Expand the “Web Server (IIS) > Web Server > Application Development” node and make sure that following options are checked:</p> <ul style="list-style-type: none"> • .NET Extensibility (4.5 or above) • ASP • ASP .NET (4.5 or above) • ISAPI Extensions • ISAPI Filters • Server Side Includes 	<p>All listed options checked.</p>

Step	User Input / Action	Expected Results
7	<p>Scroll down and expand the “Management Tools > IIS 6 Management Compatibility” node and make sure that following options are checked:</p> <ul style="list-style-type: none"> • IIS 6 Metabase Compatibility • IIS 6 Management Console • IIS 6 Scripting Tools • IIS 6 WMI Compatibility <p>And click the “Next” button.</p> 	<p>“Select features” page displayed.</p>
8	<p>Check the option “IIS Hostable Web Core” and click the “Next” button.</p> 	<p>“Confirm installation selections” page displayed.</p>

Step	User Input / Action	Expected Results
9	<p>If any of the options were unchecked, click 'Install'.</p> 	<p>“Installation progress” page displayed.</p>
10	<p>Click “Close” to exit, once the installation process has finished.</p> 	<p>Window closed.</p>
11	<p>Verify whether IIS has been installed:</p> <ul style="list-style-type: none"> • Use “Windows + R” button combination to open the “Run” window. • Type “inetmgr” in the field and press “Enter”. 	<p>If IIS is installed then IIS Manager will be launched. Otherwise, an error message will be displayed.</p>
12	<p>Please reboot the computer after the installation of missing components.</p>	

3.3 DATABASE PERMISSIONS

Please, make sure that the database user that is used in the LABWORKS application is owner for DB schemas or, otherwise, meets following requirements:

- Oracle
 - The database user has “ALTER ANY SEQUENCE” system privilege.
- MS SQL
 - The database user is a member one of the following roles:
 - “sysadmin fixed server” role
 - “db_owner fixed database” role
 - “db_ddladmin fixed database” role.

3.4 UPGRADE ORDER

Please make sure to upgrade LABWORKS desktop before upgrading the Labworks eLIMS to make sure that the database schema is up-to-date.

You can find the current version of Labworks eLIMS by navigating to the following URL:

“<Web application domain>/version”

4 LABWORKS ELIMS INSTALLATION

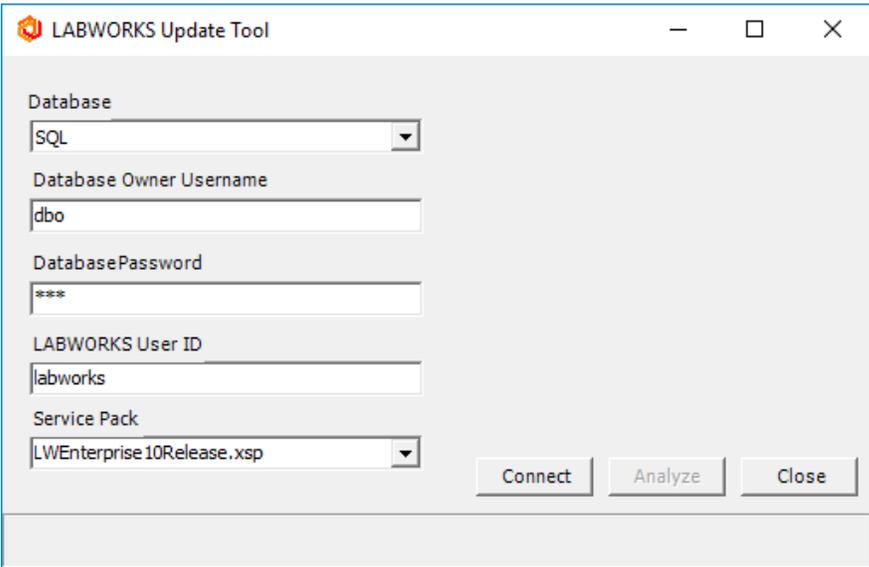
4.1 LABWORKS UPDATE TOOL

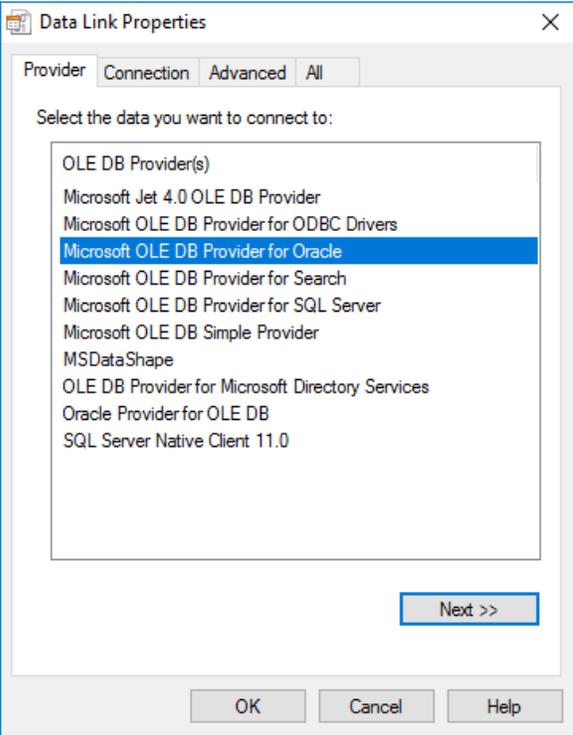
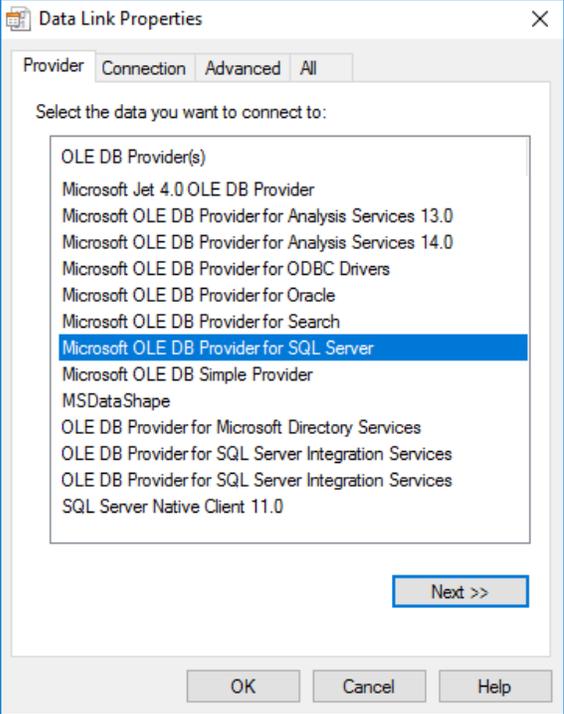
The LABWORKS Update Tool will apply modifications to your database required for Labworks eLIMS work. It will not affect any of your existing data.

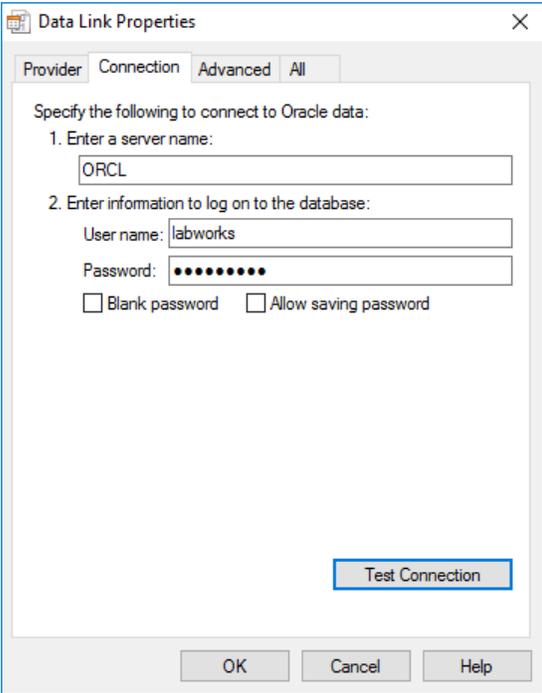
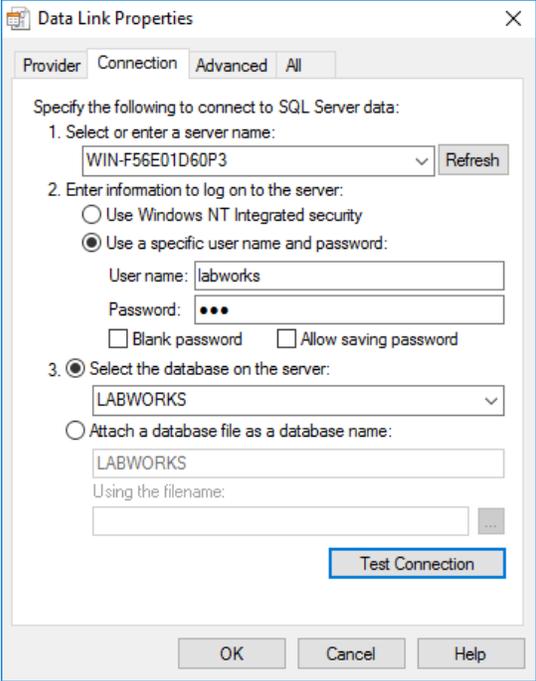
After that you should apply SQL scripts.

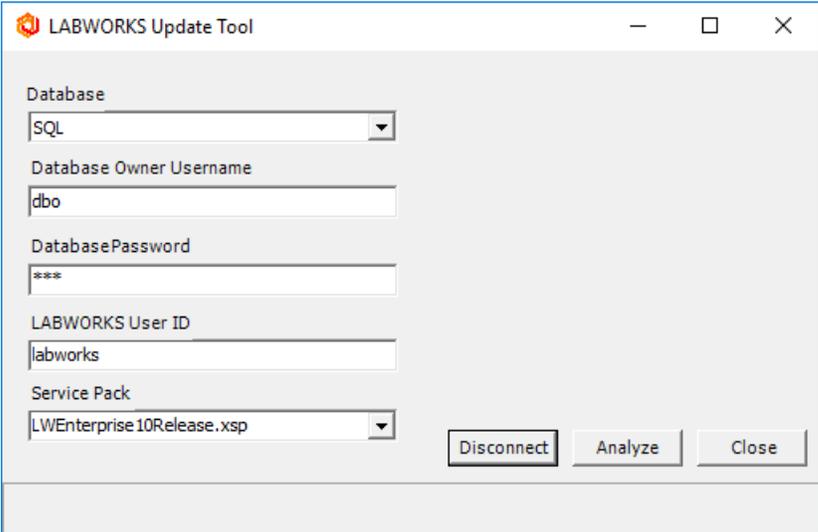
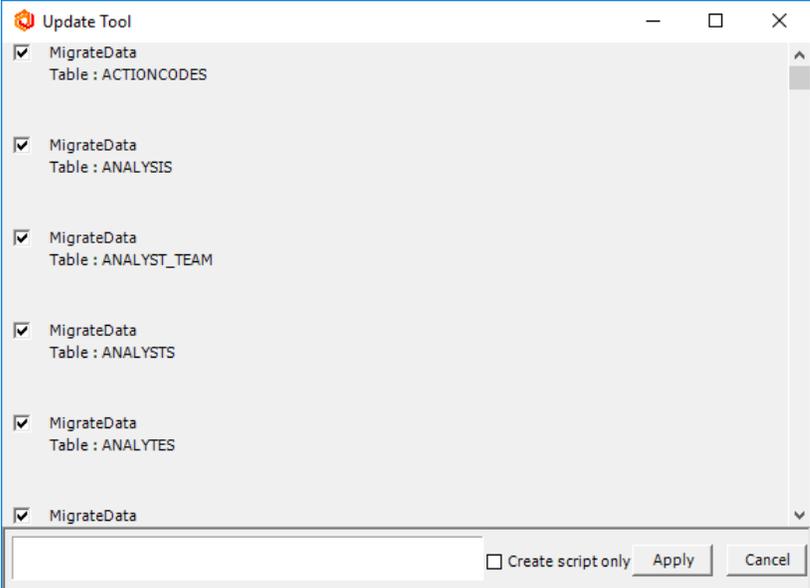
WARNING: this order is different from the order you use to upgrade LABWORKS desktop, in which you are supposed to run the script first and then apply the service pack.

Step	User Input / Action	Expected Results
1	Stop the LWeLIMSLicense and LWeLIMSData services if the Labworks eLIMS application is already installed. <ul style="list-style-type: none"> • Use “Windows + R” button combination to open the “Run” window. • Type “services.msc” in the field and press “Enter”. • Find LWeLIMSLicense and LWeLIMSData services and stop them. 	<i>Services are stopped.</i>
2	Copy the Labworks eLIMS Service Pack (<i>LWEnterpriseRelease-7.0.0.191.xsp</i>) from the Labworks eLIMS installation package to the location of LABWORKS Update Tool EXE file (usually <i>C:\LABWORKS\LWEXE\Server</i>)	<i>LWEnterpriseRelease-7.0.0.191.xsp</i> copied to the folder.

<p>3</p>	<p>Launch the UpdateTool.exe in the same folder with administrator permissions, and fill out the form:</p> <ul style="list-style-type: none"> • Database – the type of your database. • Database Owner Username – the owner of the tables to be created. • Database connection password. • LABWORKS User ID. • Service Pack – select the <i>LWEnterpriseRelease-7.0.0.191.xsp</i> option <p>Once the form is filled, click the “Connect” button.</p> 	<p>“Data Link Properties” window displayed.</p>
----------	---	---

<p>4.1</p>	<p>If your database type is Oracle, select “Microsoft OLEDB Provider for Oracle” option and click the “Next” button.</p> 	<p>“Connection” tab displayed.</p>
<p>4.2</p>	<p>If your database type is SQL, select “Microsoft OLEDB Provider for SQL Server” option and click the “Next” button.</p> 	<p>“Connection” tab displayed.</p>

<p>5.1</p>	<p><u>If your database type is Oracle</u>, enter your Oracle service name in the server name field, along with database user name and password. Click the “Test Connection” button.</p> 	<p>Test Connection performed.</p>
<p>5.2</p>	<p><u>If your database type is SQL</u>, enter your SQL server name, database user name, password and select the database. Click the “Test Connection” button.</p> 	<p>Test Connection performed.</p>

<p>6</p>	<p>Click the “Analyze” button to initialize required database modifications.</p> 	<p>Database modifications list displayed.</p>
<p>7</p>	<p>Click the “Apply” button to apply the modifications.</p> 	<p>Database modification process started.</p>

8	<p>Once the process is complete, click the “OK” button in the appeared window, then click the “Cancel” button, and close the window.</p>	Database modifications applied.

4.2 SQL SCRIPTS

Now that all required database tables are created, they must be populated with data.

Please choose one of the two SQL files from the Labworks eLIMS Installation Package, depending on your database type and run the scripts using your database client:

- For SQL – *LWEnterpriseSQLScripts-SQLServer-7.0.0.191.sql*
- For Oracle – *LWEnterpriseSQLScripts-Oracle-7.0.0.191.sql*

Please do not forget about the “Commit” operation if your database type is Oracle.

Note: *The 7.0 and later eLIMS script versions remove the following entities created before 7.0:*

- *Dashboards containing at least one of the following tiles:*
 - *Samples By Sample Status*
 - *Samples By Process Scheduler Status*
 - *Samples By Workflow Status*
- *Explorer custom views*

Note: *Some Bartender label templates created before 7.0 need to be recreated. It is caused by database changes made in 7.0. See the Troubleshooting “Bartender labels issue” section for more details.*

4.3 LABWORKS ELIMS FILES

The installation procedure will extract the Labworks eLIMS files to the web server.

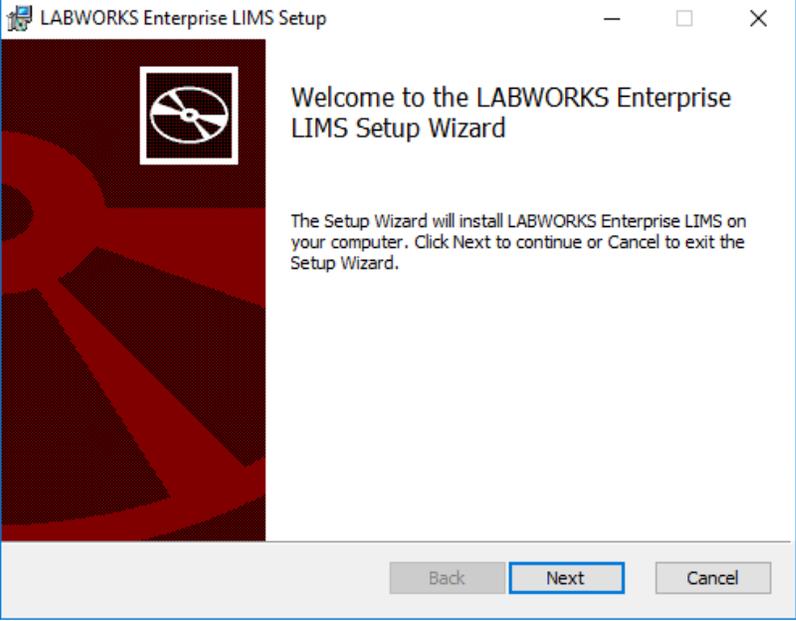
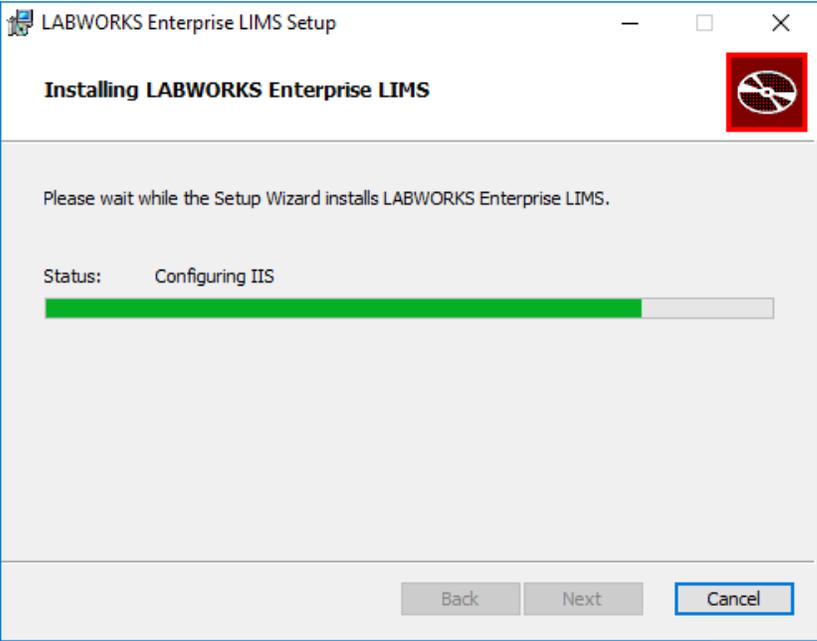
The web server must be run by Internet Information Services (IIS) of version 10.0 or above.

Labworks eLIMS files will be installed into the following directory: *C:\inetpub\wwwroot\LabworksWeb*. The installation location cannot be changed.

Labworks eLIMS services will be installed into the following directories:

- C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSData\
- C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSLicense\

Step	User Input / Action	Expected Results
1	Before installation, make sure that: <ol style="list-style-type: none"> 1. LWDataServices and LWLicenseServices services are running. 2. there is a license for the product. If not, first run LWDataServices, wait 5 seconds, and then start LWLicenseServices.	LWDataServices and LWLicenseServices services are running. There is a license for the product.

Step	User Input / Action	Expected Results
2	<p>Launch the LABWORKS-Enterprise_LIMS-7.0.0.191.msi file from the Labworks eLIMS Installation Package.</p> <p>Click the “Next” button in the appeared window.</p> <p>Click the “Install” button to begin installation.</p> 	Installation started.
3	<p>Wait until the installation is complete and click the “Finish” button.</p> 	Installation completed.

4.4 “URL REWRITE” IIS EXTENSION

Please install the “URL Rewrite” IIS extension. The executable file *urlrewrite2.exe* is included in the installation package.

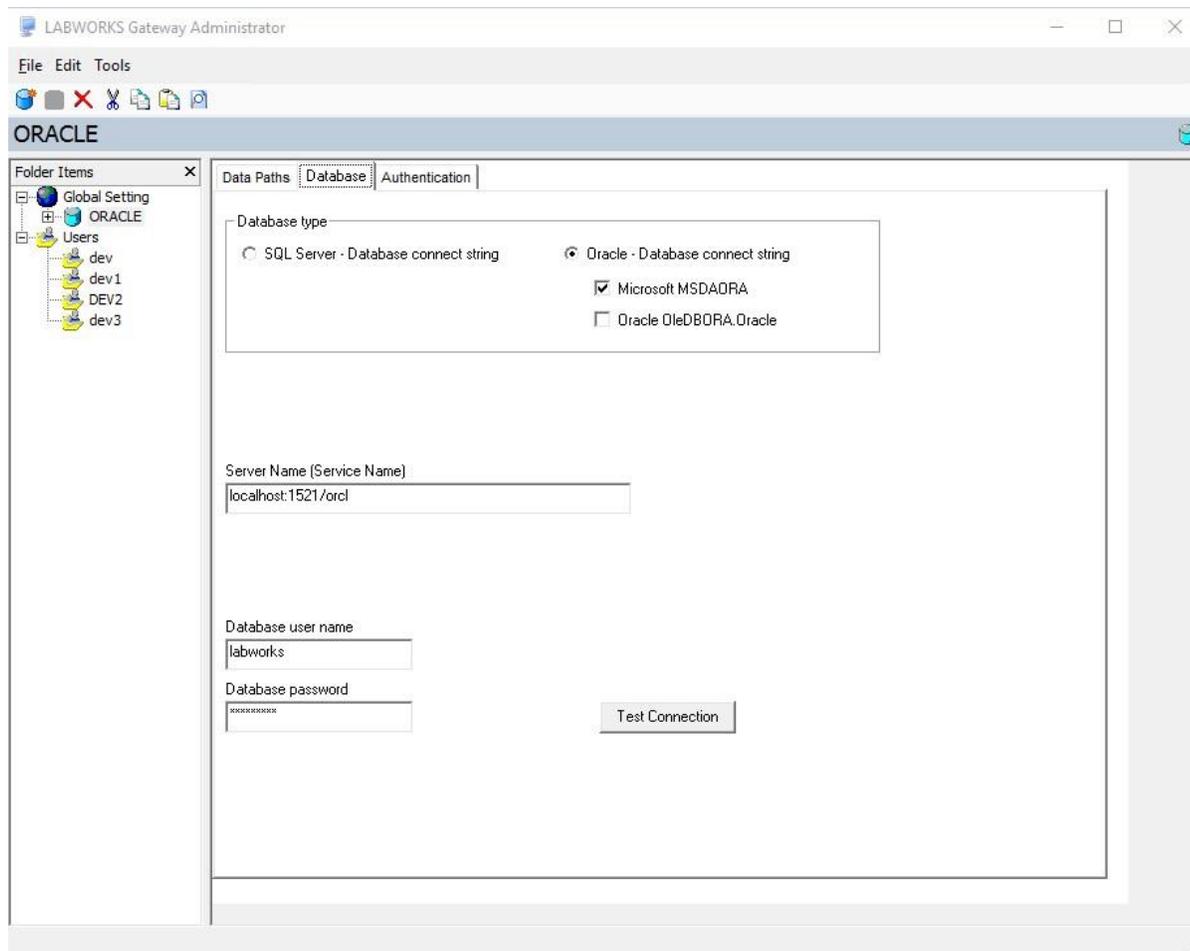
Also, you can download the URL Rewrite extension from the official Microsoft website:

<https://www.iis.net/downloads/microsoft/url-rewrite>

4.5 GATEWAY ADMINISTRATOR (ORACLE ONLY)

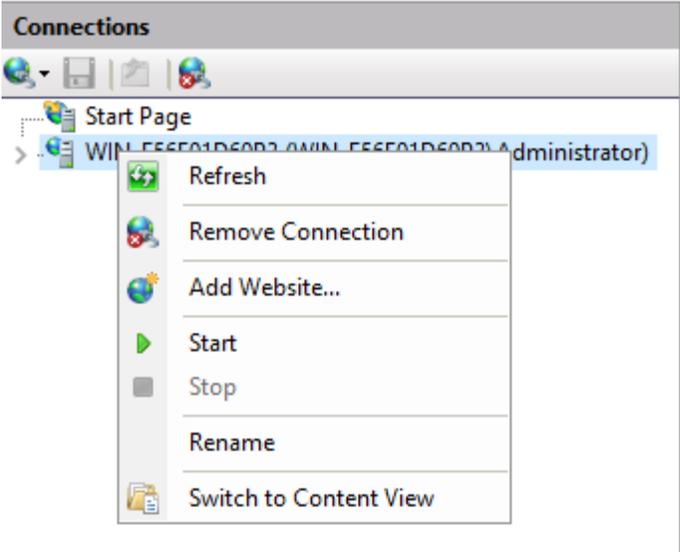
If you use Oracle database, please check the server name in the Gateway Administrator application:

1. Navigate to the *C:\LABWORKS\LWEXE\syscfg* folder
2. Launch the *LWSysCfg6.exe* file
3. Open the *Database* tab
4. Ensure that the server name matches following pattern:
 - <Host Name or IP Address>:<Port>/<Your Oracle SID or Service Name>
 - Example: *192.168.1.1:1521/myOracleSID*
5. If you have changed the Database configuration please restart LABWORKS services.



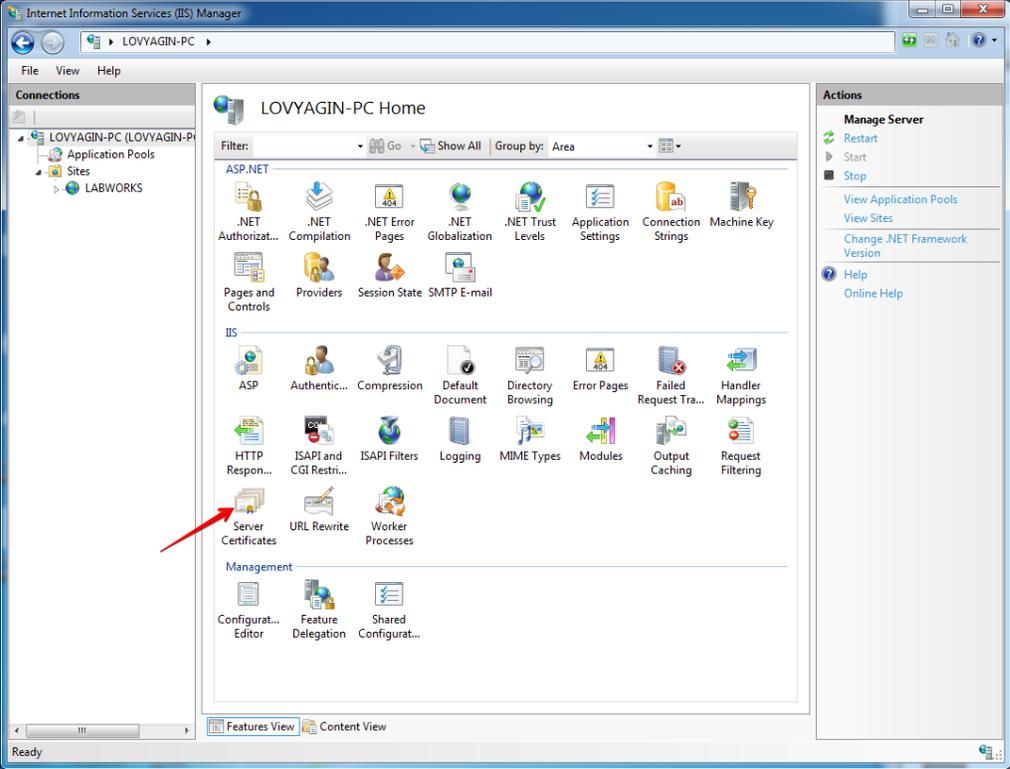
4.6 LABWORKS ELIMS CONFIGURATION

The Labworks eLIMS uses Labworks eLIMS license data, so it requires the Labworks eLIMS configuration file.

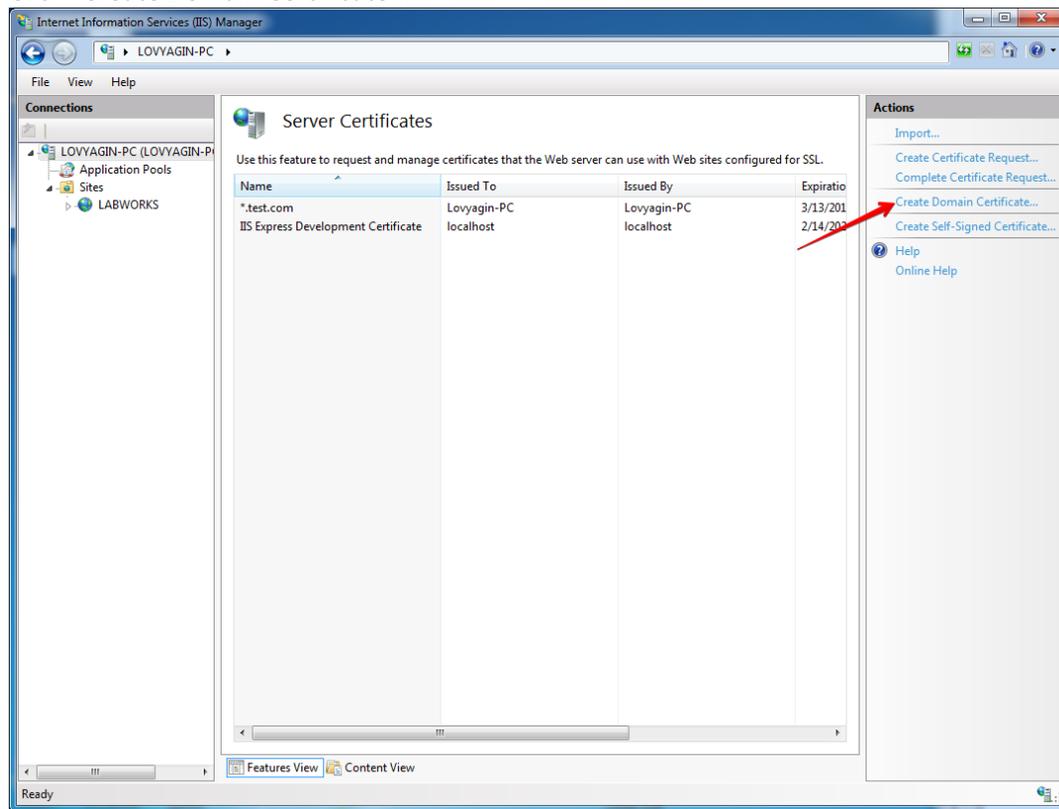
Step	User Input / Action	Expected Results
1	Copy the <i>ApplicationSpec.xml</i> file from the LABWORKS Server folder (usually <i>C:\LABWORKS\LWEXE\Server</i>) into the location: <ul style="list-style-type: none"> • <i>C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSLicense\</i> 	<i>ApplicationSpec.xml</i> is copied to the LWeLIMSLicense installation folder.
2	Restart IIS: <ul style="list-style-type: none"> • Use “Windows + R” button combination to open the “Run” window. • Type “inetmgr” in the field and press “Enter”. • Find the root IIS folder on the left-hand side of the IIS Manager Application window and open the context menu by the right click. • Click the “Stop” context menu item. • Click the “Start” context menu item. 	IIS restarted.

4.7 SET UP SSL

In order to enable SSL/HTTPS requests you should do the following steps:

Step	User Input / Action	Expected Results
1	Contact your verified CA provider and get valid SSL certificate for your domain name (assuming ww.test.com domain as example here) and necessary instructions to install CA on your machine	
2	Go to the IIS Manager window: <ul style="list-style-type: none"> • Use “Windows + R” button combination to open the “Run” window. • Type “inetmgr” in the field and press “Enter”. 	
3	Go to "Server Certificates page" 	

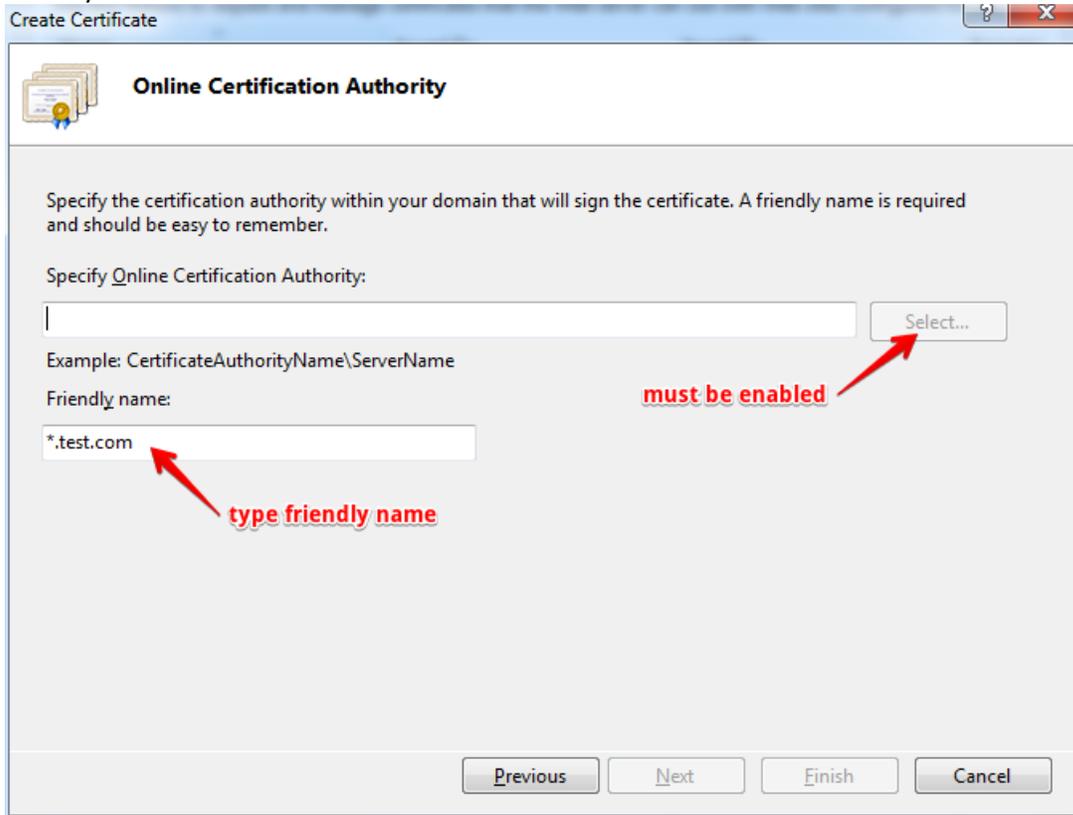
4 Click "Create Domain Certificate..."



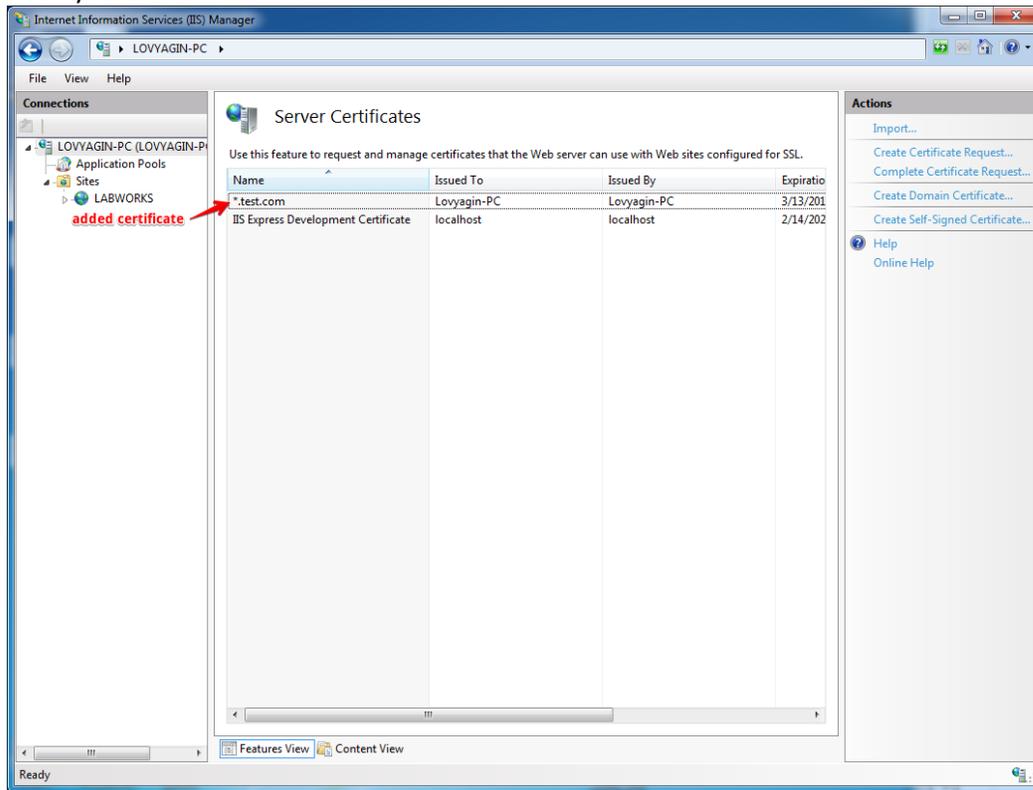
5 Fill in necessary information

The screenshot shows a 'Create Certificate' dialog box with a 'Distinguished Name Properties' section. The section contains a text box with instructions: 'Specify the required information for the certificate. State/province and City/locality must be specified as official names and they cannot contain abbreviations.' Below this are six input fields, each with the text 'test' entered: 'Common name', 'Organization', 'Organizational unit', 'City/locality', and 'State/province'. The 'Country/region' field is a dropdown menu with 'US' selected. At the bottom of the dialog are four buttons: 'Previous', 'Next', 'Finish', and 'Cancel'.

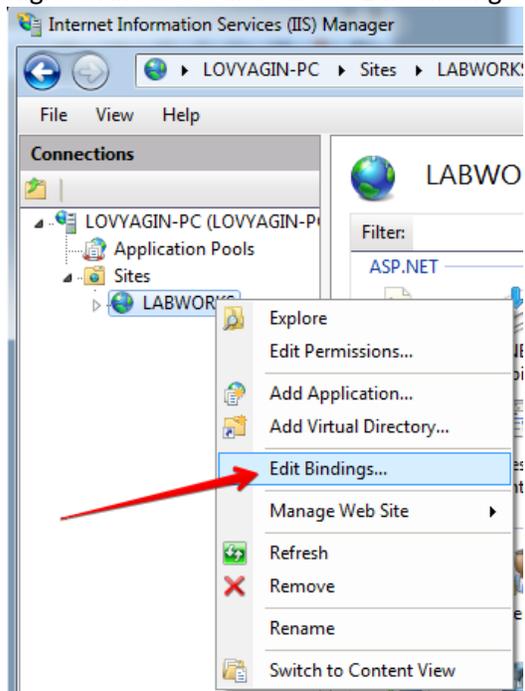
- 6 Select your CA (if you have installed CA on your machine, "Select" button must be enabled, otherwise contact your CA provider and ask for additional instructions), enter friendly name and click "Finish"

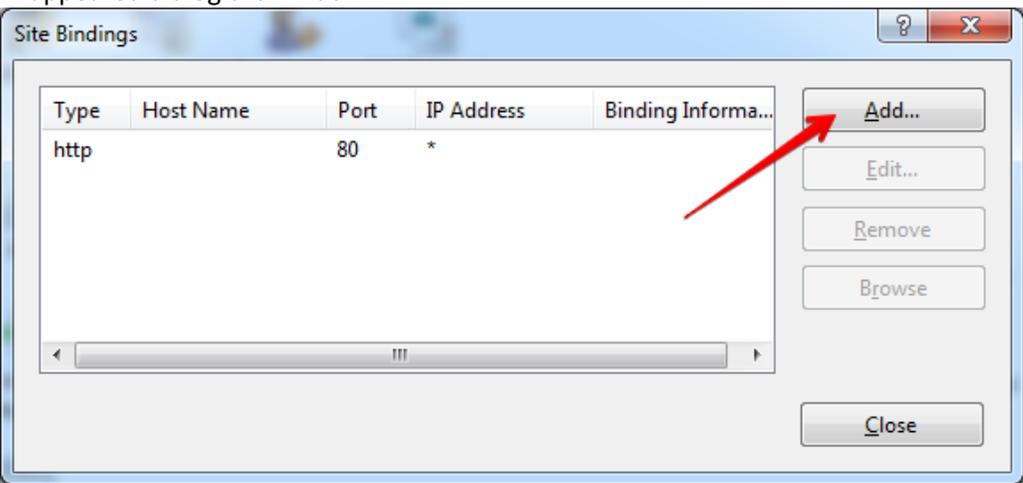
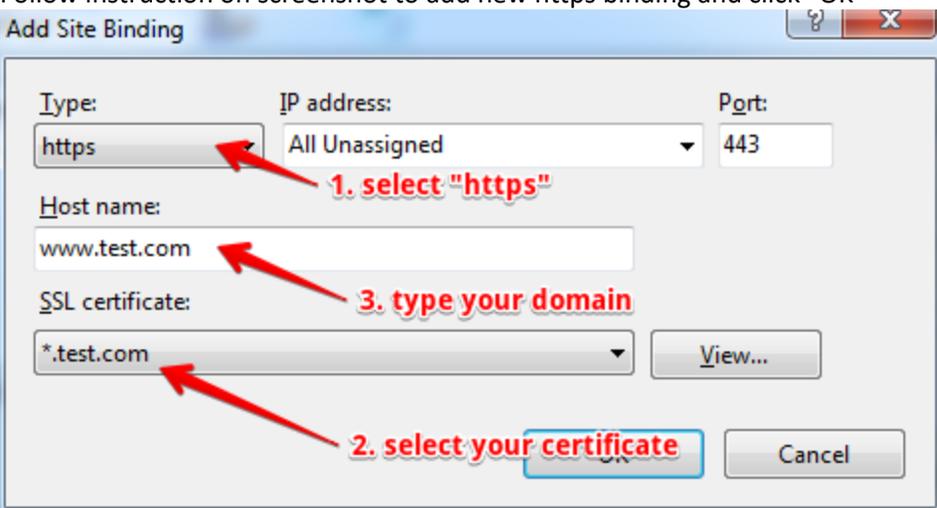


7 Then you can see new certificate in cert-list



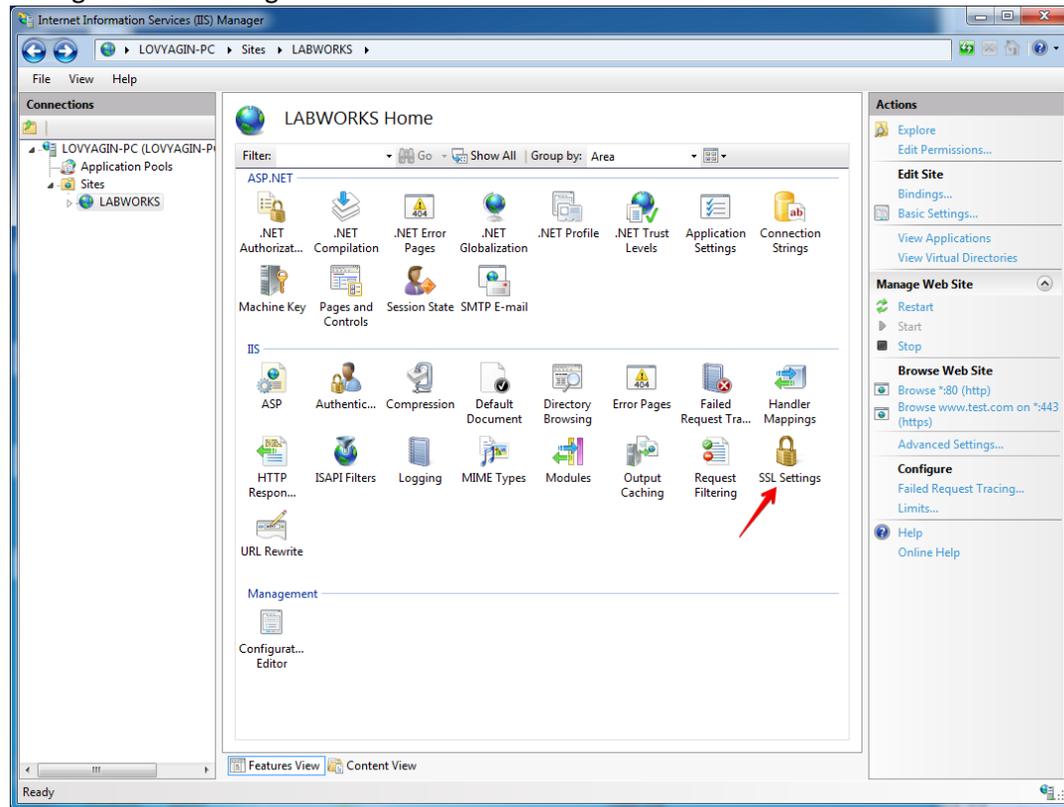
8 Right-click on site and select "Edit bindings"



<p>9</p>	<p>In appeared dialog click “Add...”</p> 	
<p>10</p>	<p>Follow instruction on screenshot to add new https binding and click “OK”</p> 	

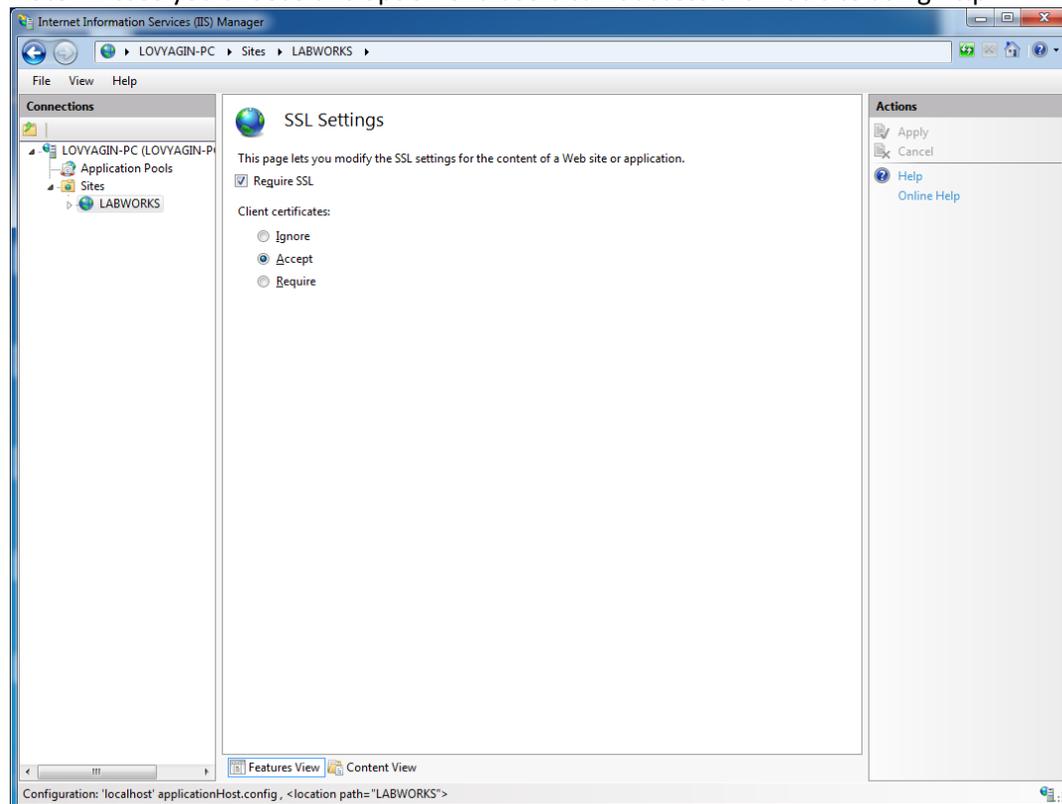
11

Now go to “SSL settings”

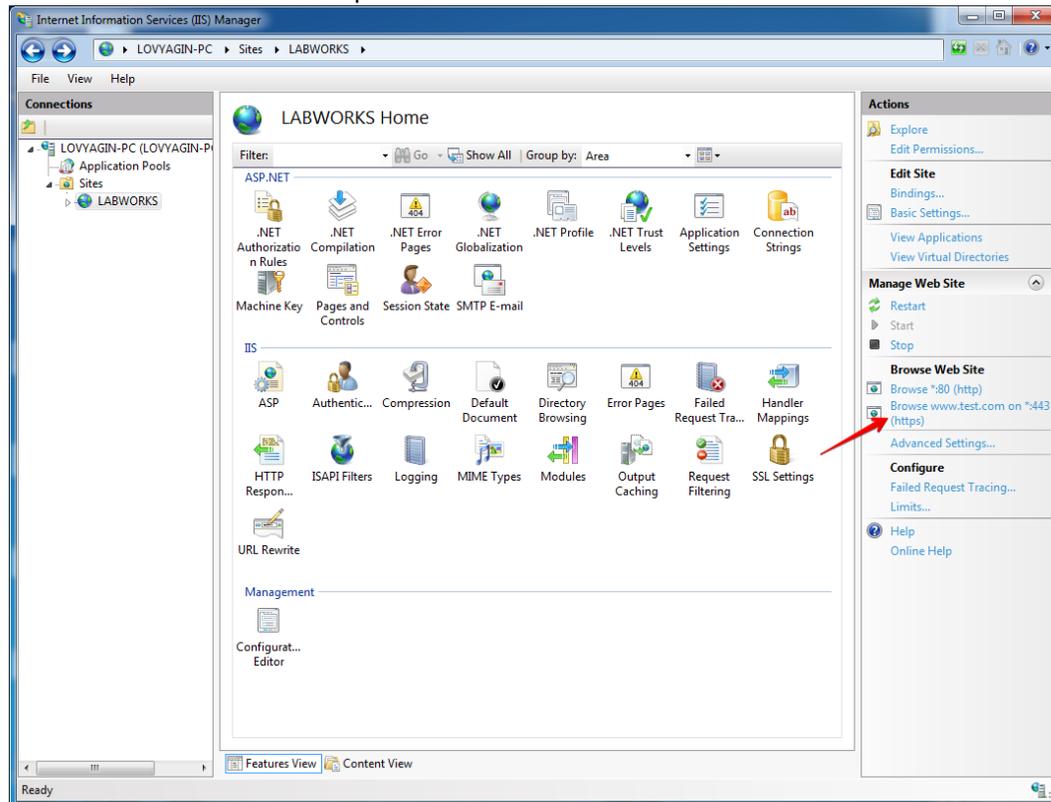


12

Here you can make SSL requests as required (https only).
Note: In case you choose this option end users can't access the web site using http.



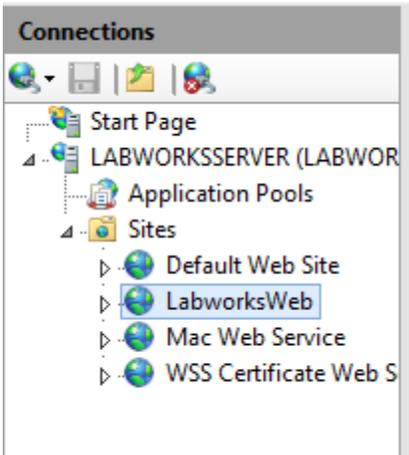
13 Now you should see two options for browsing your site from IIS, click on “https” binding to make sure that SSL is set up



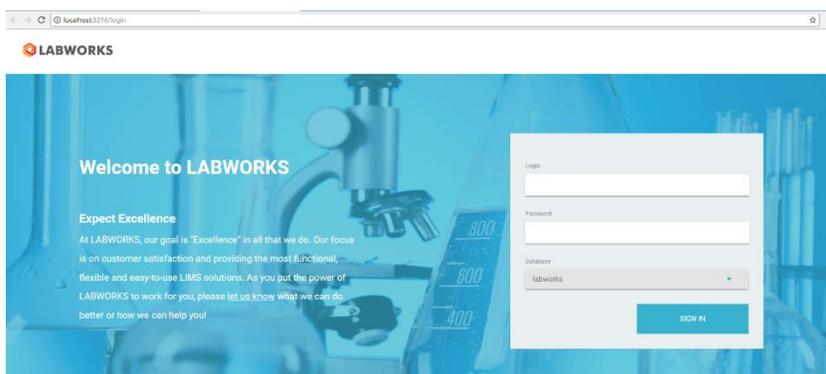
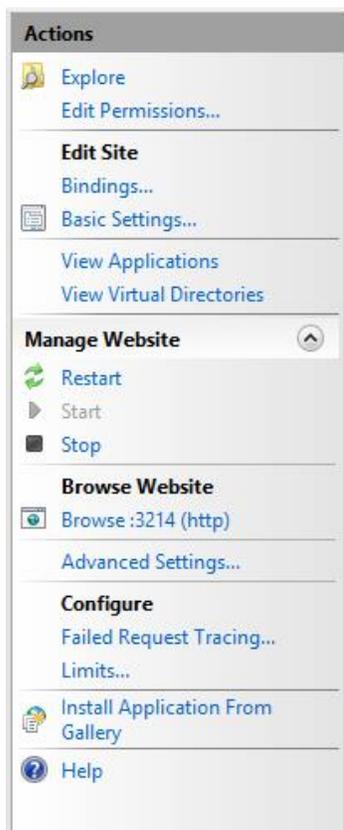
4.8 OPEN LABWORKS ELIMS IN A BROWSER

Now that Labworks eLIMS installed and configured, please verify that the installation has been successful.

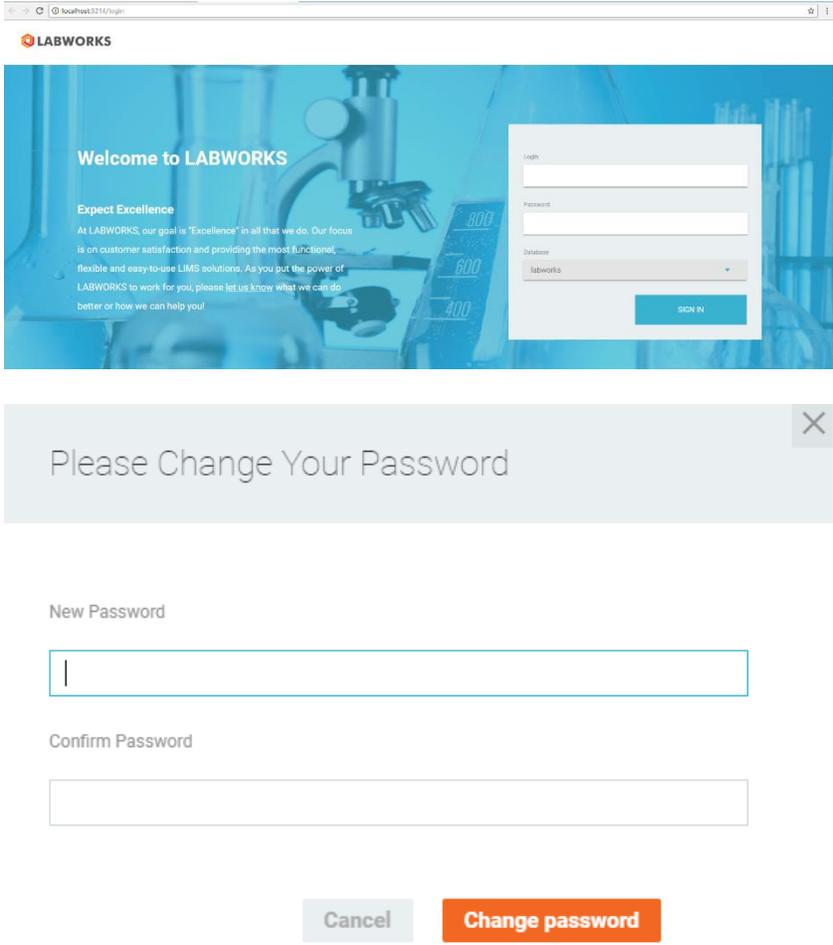
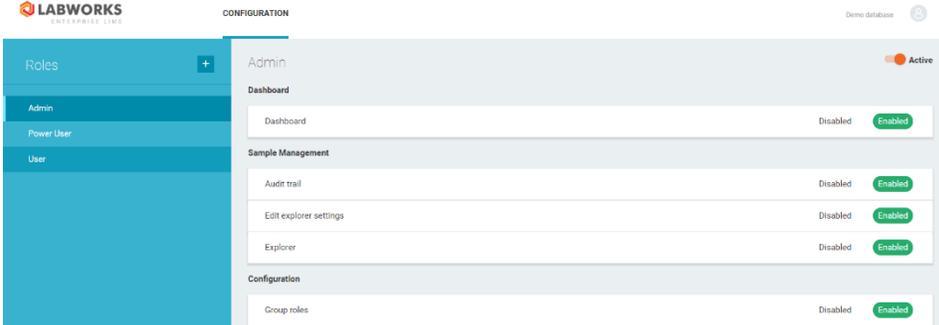
Step	User Input / Action	Expected Results
1	Follow the instructions provided in section 3.1 of this document to ensure that LABWORKS services can be accessed once you start working with Labworks eLIMS.	LABWORKS services available
2	<ul style="list-style-type: none"> • Use “Windows + R” button combination, to open the “Run” window. • Type “inetmgr” in the field and press “Enter”. 	“Internet Information Services (IIS) Manager” window displayed.

<p>3</p>	<p>Find and select the <i>LabworksWeb</i> application under <i>LABWORKSSERVER > Sites</i> folder in the “Connections” panel on the left-hand side of the “Internet Information Services (IIS) Manager” window</p> 	<p>“Actions” panel appeared on the right-hand side of the window.</p>
----------	--	---

4 Click the “Browse:3214 (http)” button in the Actions panel.



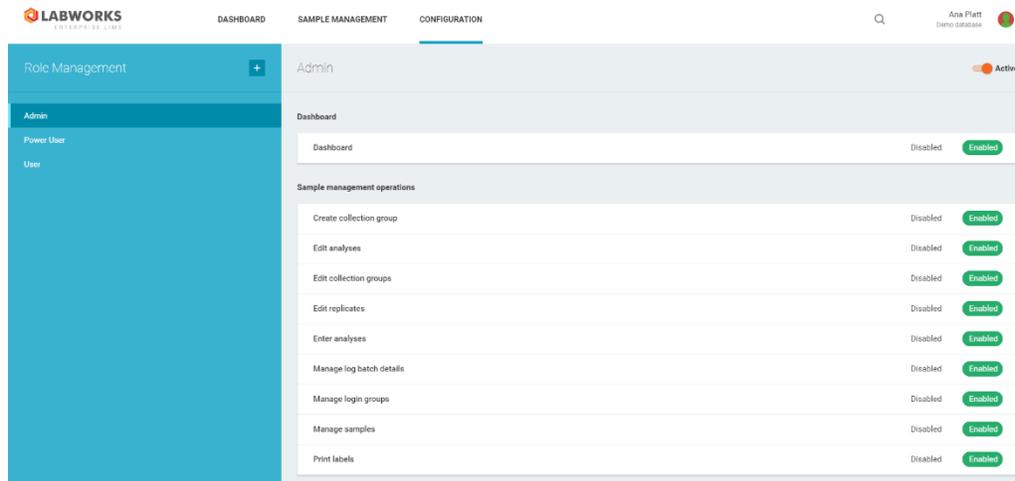
Labworks eLIMS application landing page is open in the web browser.

<p>5</p>	<p>Use “labworks-admin” login and “MASTER” password to log in.</p> 	<p>Change Password dialog is open in the screen.</p>
<p>6</p>	<p>Change your password and click the <i>Change password</i> button.</p> 	<p>Configuration page is open.</p>

7 The last configuration step is to setup user permissions so eLIMS knows the level of access required by each user.

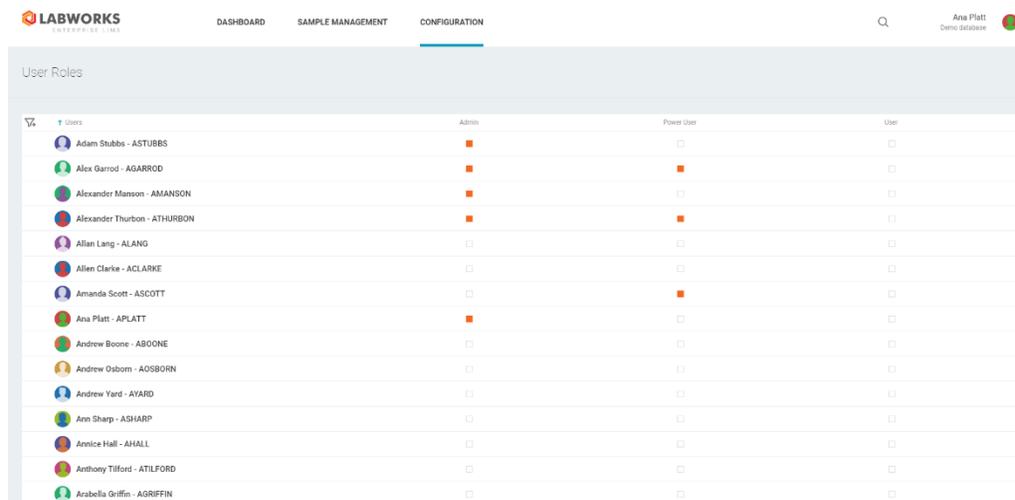
In order to do so, individual users or groups must be assigned a particular role which will define the list of pages the user has access to.

Role permissions can be configured by administrators from the “Configuration \ Role Management” page.



Out of the box, eLIMS ships with 3 roles: Admin, Power User and User but administrators can either tweak these or create new ones to tweak the individual user’s experience.

After being setup, roles can be assigned to individual users from the “Configuration \ User Roles” or “Configuration \ Group Roles” pages.



	More detailed information on role management can be found below on section Web application configuration.	
--	---	--

5 LABWORKS ELIMS REMOTE INSTALLATION

You can deploy and run eLIMS on a separate server from the LWDataService and LWLicenseService services.

Prerequisites:

- Installed Labworks desktop services (LWDataService, LWLicenseService) on **machine#1**.
 - It is supposed that the database is also installed on machine#1.
 - Please follow the *Labworks eLIMS v7.0.0.191 Installation Guide* instructions to correctly install the desktop services.
- Installed Labworks eLIMS, version 7.0.0.191 on **machine#2**.
 - Please follow the *Labworks eLIMS v7.0.0.191 Installation Guide* instructions above to correctly install eLIMS.
 - Check prerequisites (Prerequisites Check section) and perform the installation steps (Labworks eLIMS Installation section).
 - Instructions from the **Labworks Update Tool** and **SQL Scripts** sections should be applied to the database installed on machine#1.
- Installed Crystal Report application.
 - The *CR13SP28MSI32_0-10010309.msi* file from the desktop delivery package must be installed at WEB API server (machine#2) for report service proper work.

The extra steps to set up machine#1 are the following:

- Open ports in the firewall application
- Configure MS SQL server for remote connections
- Share LWDATA, LWEXE directories
- Configure group policy
- Configure Data File and License paths in Labworks Gateway Administrator

The extra steps to set up machine#2 are the following:

- Configure eLIMS Data Service
- Configure the ApplicationSpec.xml file
- Configure the Web.config file

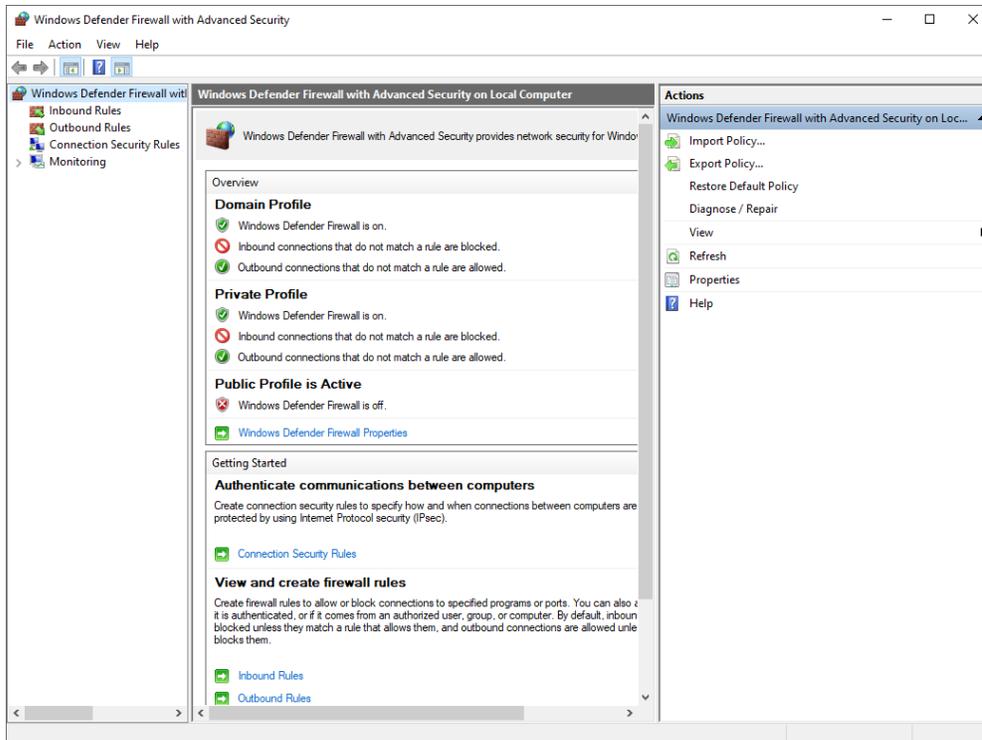
5.1 OPEN PORTS IN THE FIREWALL APPLICATION

These actions should be applied to the machine where the database and the desktop services LWDataService, LWLicenseService are installed.

Step	User Input / Action	Expected Results
------	---------------------	------------------

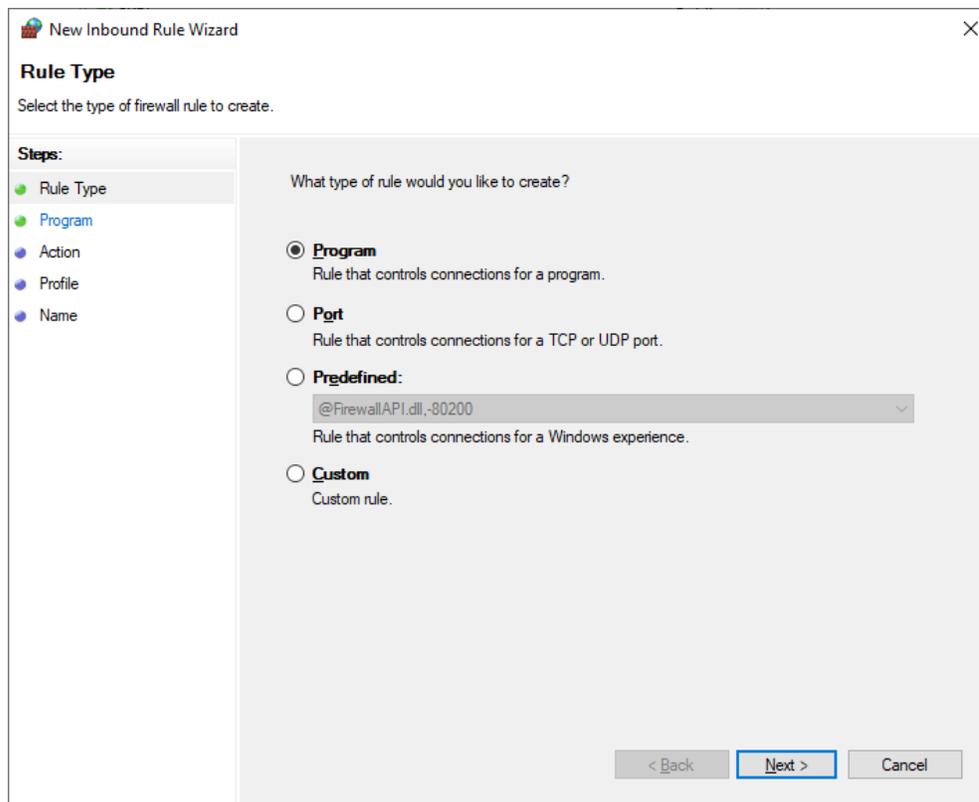
- 1 Navigate to Windows Defender Firewall with Advanced Security screen. Below are instructions for the Windows 10 OS.
1. Right-click on the Window icon and select the Settings menu item.
 2. Chose the Network & Internet settings.
 3. Click on Windows Firewall link to open the Windows Security screen.
 4. Click on Advanced Settings to open the Windows Defender Firewall with Advanced Security screen.

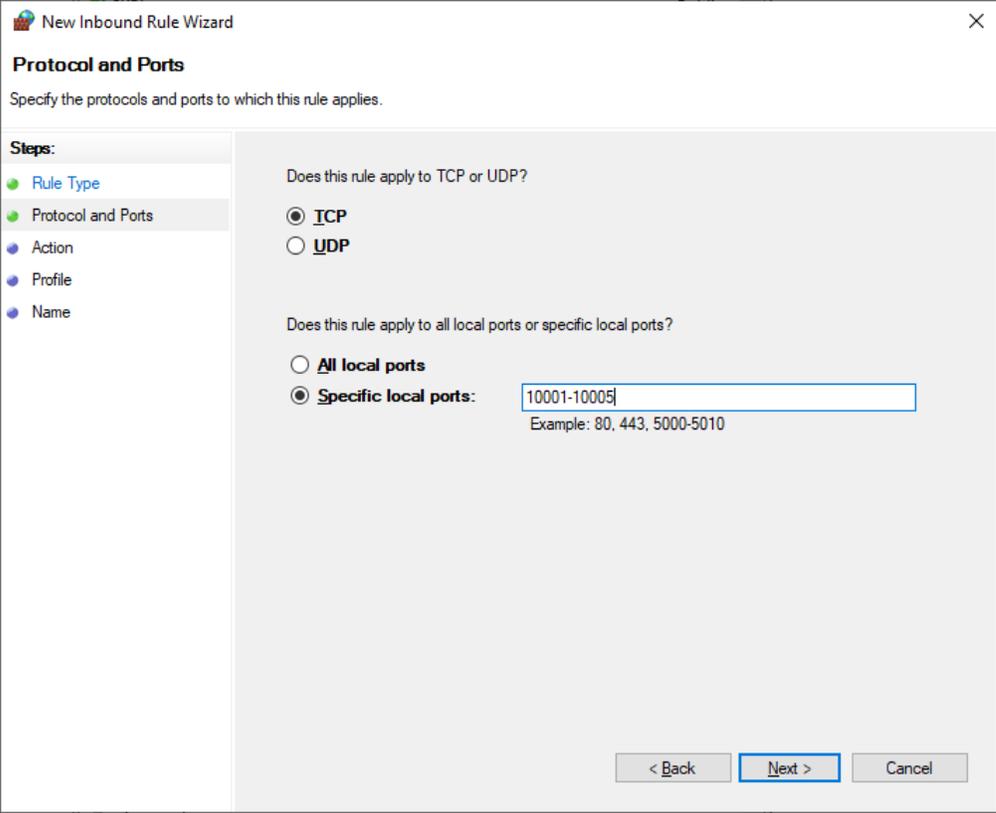
Windows Defender Firewall with Advanced Security screen is shown.



- 2
- Navigate to the *New Inbound Rule Wizard* screen.
1. Navigate to the *Inbound Rules* section.
 2. Click on the *New Rule* action.

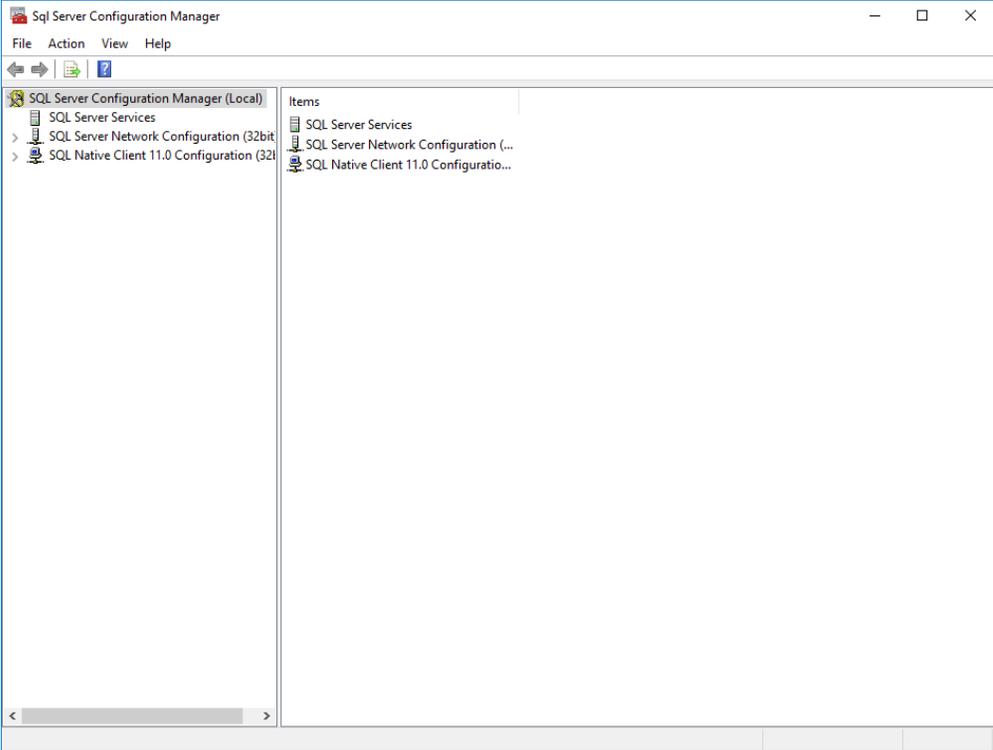
New Inbound Rule Wizard is shown.



<p>3</p>	<p>Create a new rule for the desktop services.</p> <ol style="list-style-type: none"> 1. Select the <i>Port</i> type. Click on Next. 2. Select the <i>TCP</i> rule and specify local ports as 10001-10005.  <ol style="list-style-type: none"> 3. Select the <i>Allow the connection</i> option. Click on Next. 4. Make sure that all networks are checked. Click on Next. 5. Specify the rule name. For example, Desktop services. Click on Finish. 	<p>The new rule is created.</p>
<p>4</p>	<p>Repeat the previous step to create a new rule for MS SQL server. Differences:</p> <ul style="list-style-type: none"> • Local ports should be specified as 1433, 1434, 80, 433. • The rule name should be different, for example, mssql server. 	<p>The new rule is created.</p>

5.2 CONFIGURE MS SQL SERVER FOR REMOTE CONNECTIONS

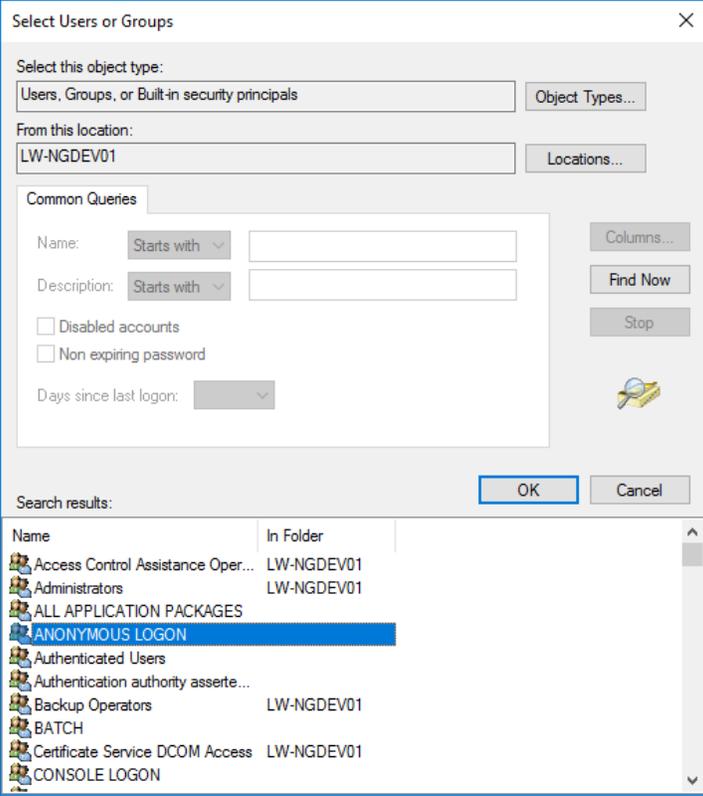
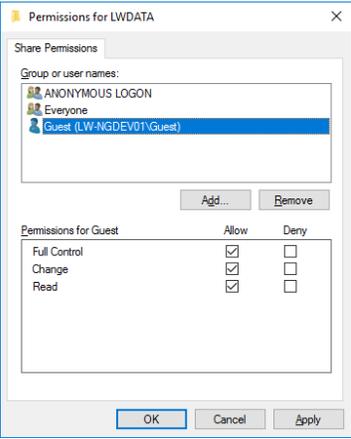
These actions should be applied to the machine where the database and the desktop services LWDDataService, LWLicenseService are installed.

Step	User Input / Action	Expected Results
1	<p>Left-click on the Window icon and find the <i>Microsoft SQL Server</i> menu item. Click on <i>Microsoft SQL Server -> SQL Server Configuration</i> item to open the <i>Sql Server Configuration Manager</i> screen.</p> 	<p><i>Sql Server Configuration Manager</i> screen is shown.</p>
2	<p>Navigate to <i>Sql server Network configuration -> Protocols for <MS SQL server name></i>. Enable the <i>TCP/IP</i> protocol.</p>	<p>You will be asked for MSSQL Server reloading.</p>
3	<p>Reload the MSSQL Server.</p>	<p>MS SQL Server is configured for remote connections.</p>

5.3 SHARE LWDATA, LWEXE DIRECTORIES

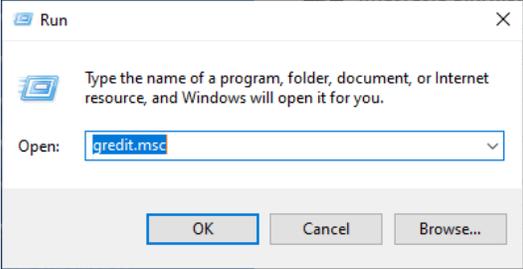
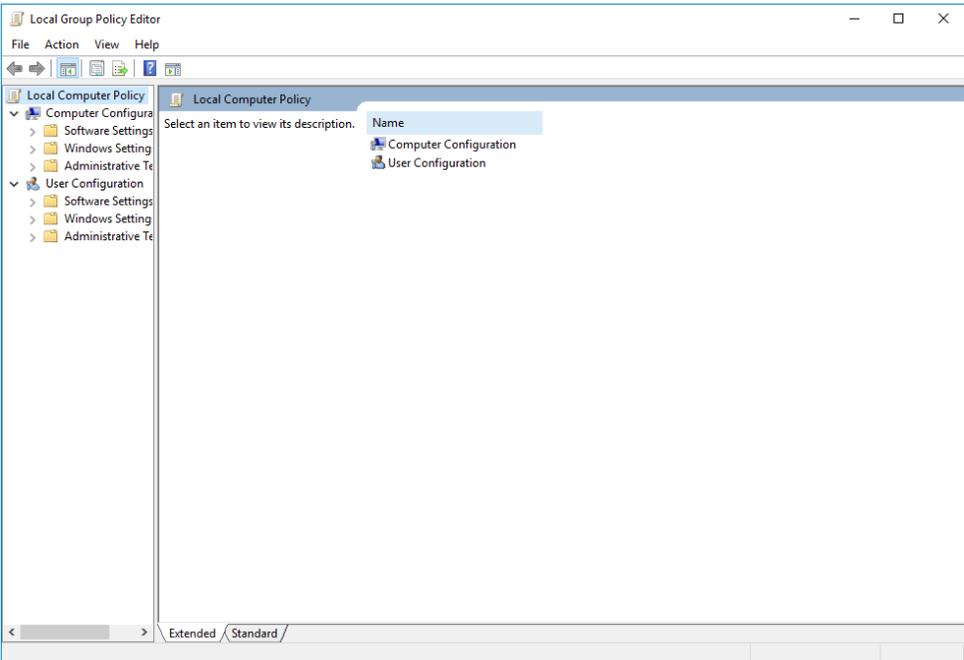
These actions should be applied to the machine where the database and the desktop services LWDataService, LWLicenseService are installed.

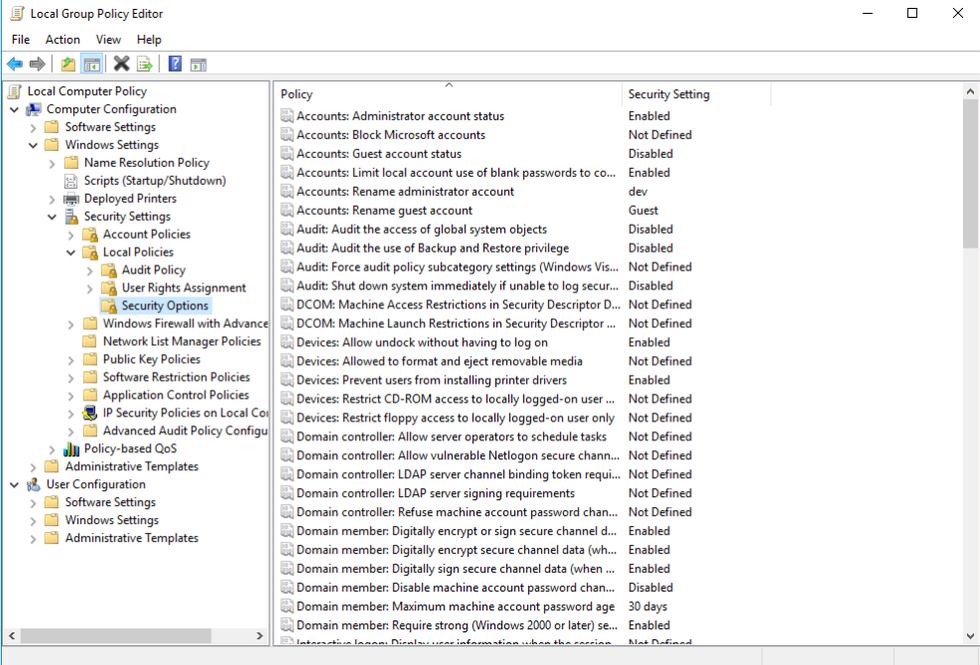
Step	User Input / Action	Expected Results
1	<p>Right-click on <i>C:\LABWORKS\LWDATA</i>. Navigate to <i>Properties (Sharing tab) -> Advanced sharing</i>. Check the <i>Share this folder</i> option and click on OK.</p>	<p>Extra settings are available to edit.</p>

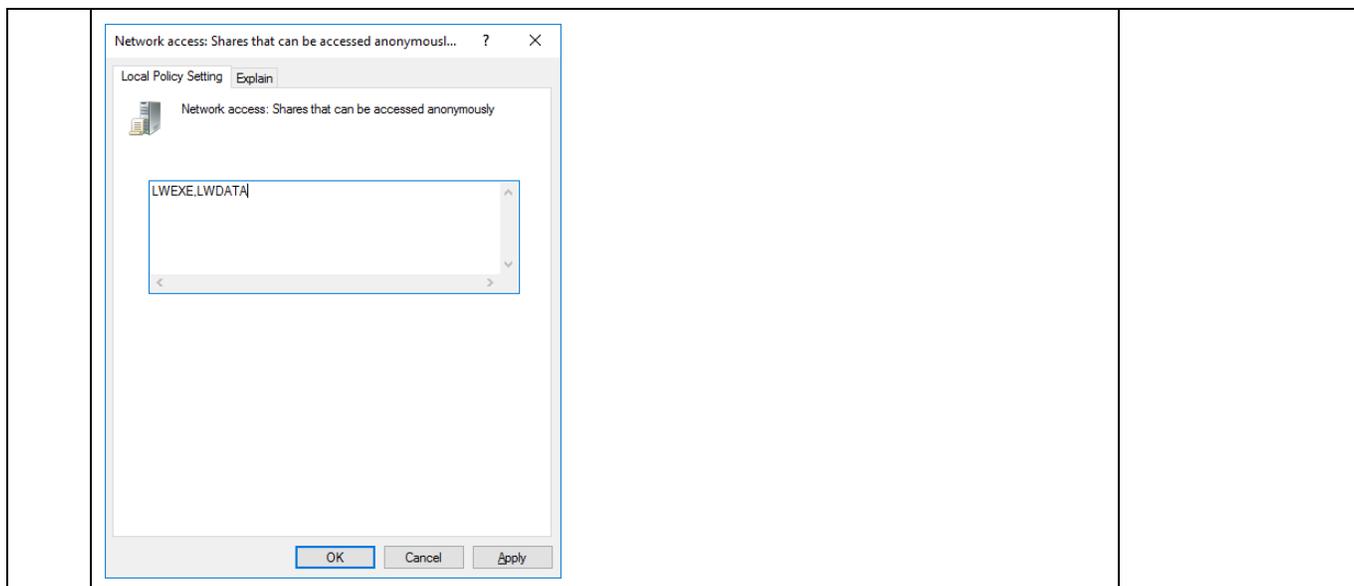
<p>2</p>	<p>Add <i>Everyone</i>, <i>Guest</i>, <i>ANONYMOUS LOGON</i> users to the permissions of the share.</p> <ol style="list-style-type: none"> 1. Click on Permissions button -> Add button -> Advanced button -> Find now button. 2. Select <i>Everyone</i>, <i>Guest</i>, <i>ANONYMOUS LOGON</i> users from the list and click OK -> OK.  <table border="1" data-bbox="251 961 954 1241"> <thead> <tr> <th>Name</th> <th>In Folder</th> </tr> </thead> <tbody> <tr> <td>Access Control Assistance Oper...</td> <td>LW-NGDEV01</td> </tr> <tr> <td>Administrators</td> <td>LW-NGDEV01</td> </tr> <tr> <td>ALL APPLICATION PACKAGES</td> <td></td> </tr> <tr> <td>ANONYMOUS LOGON</td> <td></td> </tr> <tr> <td>Authenticated Users</td> <td></td> </tr> <tr> <td>Authentication authority asserte...</td> <td></td> </tr> <tr> <td>Backup Operators</td> <td>LW-NGDEV01</td> </tr> <tr> <td>BATCH</td> <td></td> </tr> <tr> <td>Certificate Service DCOM Access</td> <td>LW-NGDEV01</td> </tr> <tr> <td>CONSOLE LOGON</td> <td></td> </tr> </tbody> </table> <ol style="list-style-type: none"> 3. Make sure that <i>Full Control</i> is allowed for all three users. Click on Apply.  <table border="1" data-bbox="251 1306 602 1745"> <thead> <tr> <th>Permissions for Guest</th> <th>Allow</th> <th>Deny</th> </tr> </thead> <tbody> <tr> <td>Full Control</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Change</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Read</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table>	Name	In Folder	Access Control Assistance Oper...	LW-NGDEV01	Administrators	LW-NGDEV01	ALL APPLICATION PACKAGES		ANONYMOUS LOGON		Authenticated Users		Authentication authority asserte...		Backup Operators	LW-NGDEV01	BATCH		Certificate Service DCOM Access	LW-NGDEV01	CONSOLE LOGON		Permissions for Guest	Allow	Deny	Full Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Change	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Read	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Permissions are configured for the LWDATA folder.</p>
Name	In Folder																																			
Access Control Assistance Oper...	LW-NGDEV01																																			
Administrators	LW-NGDEV01																																			
ALL APPLICATION PACKAGES																																				
ANONYMOUS LOGON																																				
Authenticated Users																																				
Authentication authority asserte...																																				
Backup Operators	LW-NGDEV01																																			
BATCH																																				
Certificate Service DCOM Access	LW-NGDEV01																																			
CONSOLE LOGON																																				
Permissions for Guest	Allow	Deny																																		
Full Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																		
Change	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																		
Read	<input checked="" type="checkbox"/>	<input type="checkbox"/>																																		
<p>3</p>	<p>Repeat step#2 for the LWEXE folder.</p>	<p>Permissions are configured for the LWEXE folder.</p>																																		

5.4 CONFIGURE GROUP POLICY

These actions should be applied to the machine where the database and the desktop services LWDataService, LWLicenseService are installed.

Step	User Input / Action	Expected Results
1	<p>Navigate to the <i>Local Group Policy Editor</i> screen.</p> <ol style="list-style-type: none"> 1. Use “Windows + R” button combination to open the “Run” window. 2. Type “gpedit.msc” in the field and press “Enter”.  	<p><i>Local Group Policy Editor</i> screen is shown.</p>

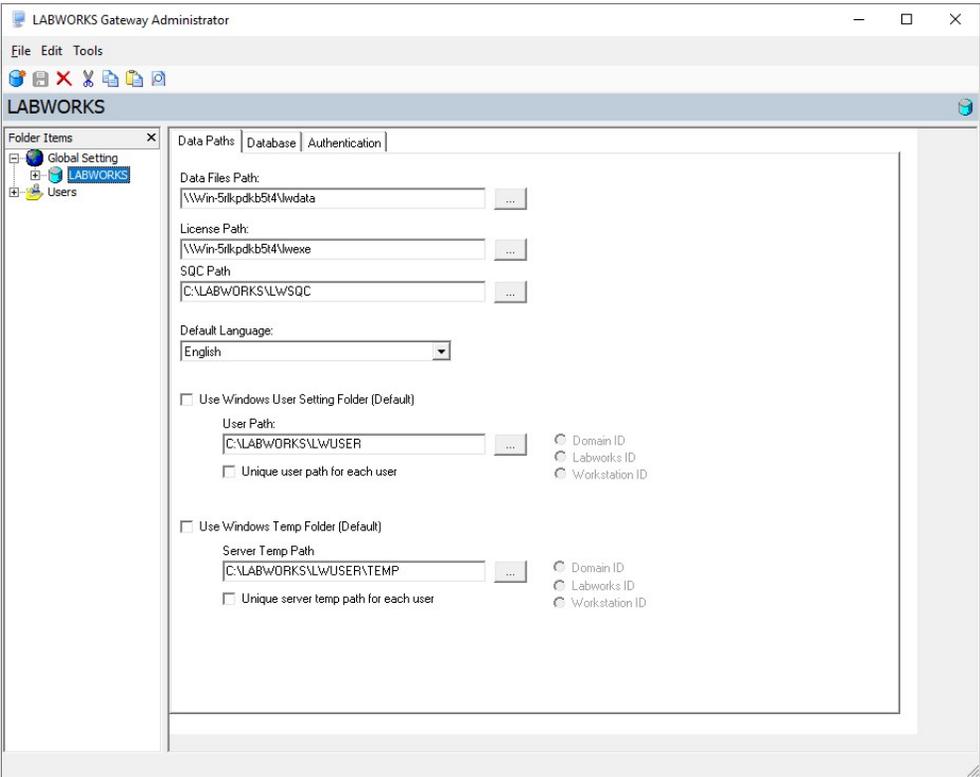
2	<p>Configure group policy.</p> <p>1. Navigate to <i>Computer Configuration -> Windows Settings -> Security Settings -> Local Policies -> Security Options.</i></p> <div style="border: 1px solid gray; padding: 5px; margin: 10px 0;">  </div> <p>2. Set Policies as follows:</p> <ol style="list-style-type: none"> a. Accounts: Guest account status: Enabled b. Network access: Let Everyone permissions apply to anonymous users: Enabled c. Network access: Restrict anonymous access to Named Pipes and Shares: Disabled d. Network access: Shares that can be accessed anonymously: LWEXE,LWDATA 	<p>Group policy is configured.</p>
----------	---	------------------------------------



5.5 CONFIGURE DATA FILE AND LICENSE PATHS IN LABWORKS GATEWAY ADMINISTRATOR

These actions should be applied to the machine where the database and the desktop services LWDDataService, LWLicenseService are installed.

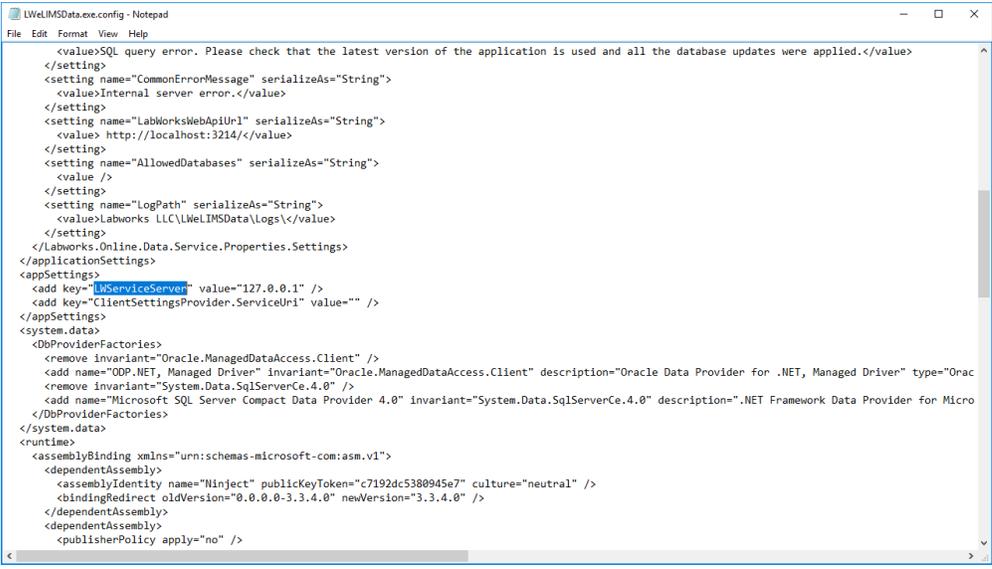
Step	User Input / Action	Expected Results
1	Navigate to <i>C:\LABWORKS\LWEXE\syscfg</i> . Run the <i>LWSysCfg6.exe</i> application.	The Labworks Gateway Administrator screen is shown.

<p>2</p>	<p>Specify <i>Data Files Path</i> and <i>License Path</i> as network addresses.</p> <ul style="list-style-type: none"> • Data Files Path: “\\MACHINENAME\lwdata” • License Path: “\\MACHINENAME\lwexe” <p>MACHINENAME is the name of the machine where desktop services are installed.</p> <ul style="list-style-type: none"> • Save configuration. 	<p>Data File and License paths are configured.</p>
<p>3</p>	<p>Restart LWDDataServices and LWLicenseServices services. Run LWDDataServices first, wait 5 seconds, and then run LWLicenseServices.</p>	<p>LABWORKS Desktop server is configured.</p>

5.6 CONFIGURE ELIMS DATA SERVICE

These actions should be applied to the machine where eLIMS is installed.

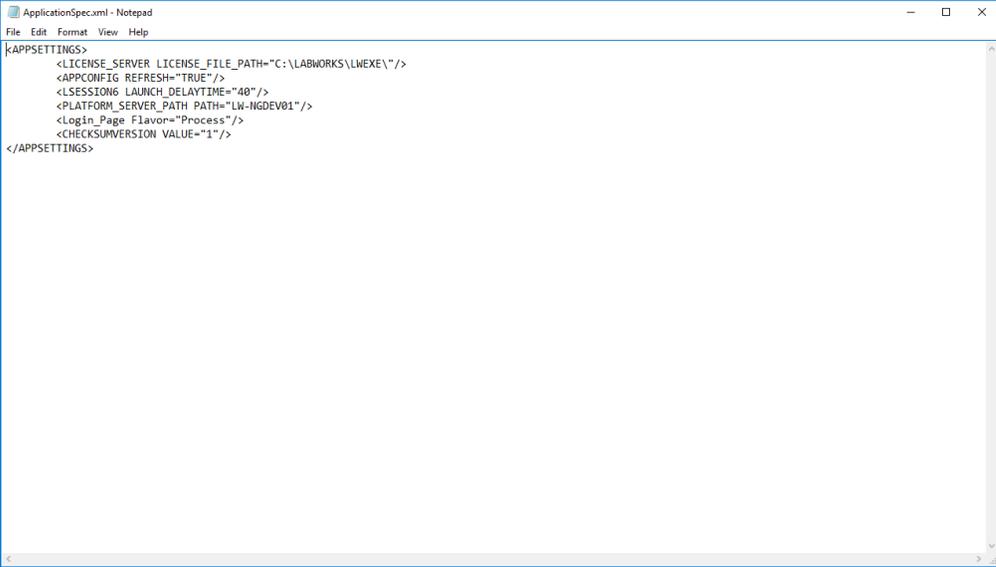
Step	User Input / Action	Expected Results
<p>1</p>	<p>Open the <i>LWeLIMSData.exe.config</i> file located under <i>C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSData</i> directory with a text editor.</p>	<p>The <i>LWeLIMSData.exe.config</i> file will be open.</p>

2	<p>Find the <i>LWServiceServer</i> setting and replace a provided IP address with the IP address of the server containing DB and desktop services. Save the file.</p> 	<p>eLIMS data service is configured.</p>
---	--	--

5.7 CONFIGURE THE APPLICATIONSPEC.XML FILE

These actions should be applied to the machine where eLIMS is installed.

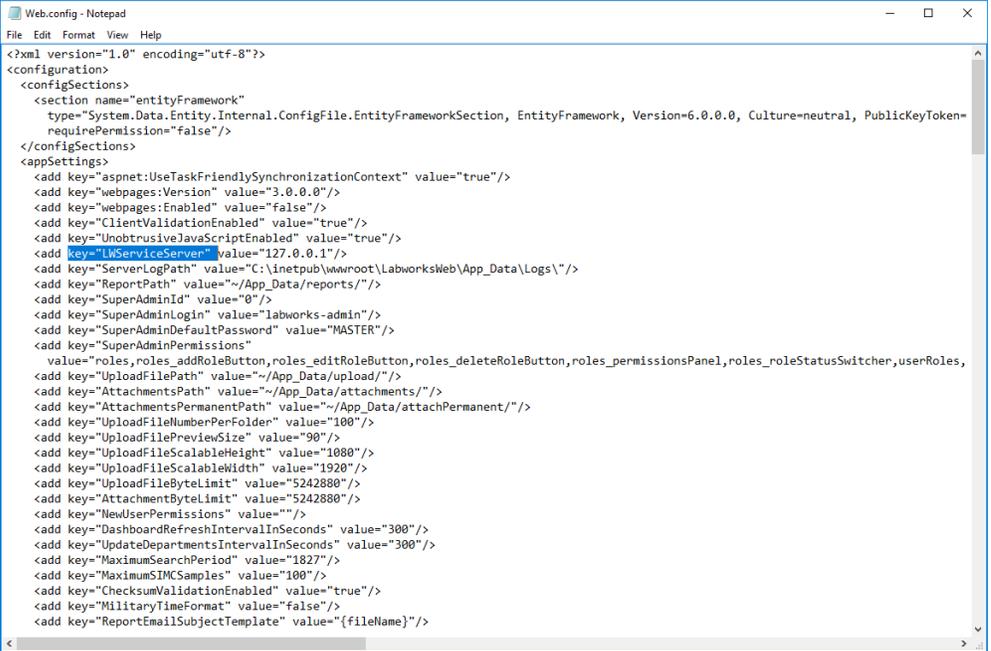
Step	User Input / Action	Expected Results
1	Put the certificate file "*.CTL" into the <i>C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSLicense\</i> directory.	

<p>2</p>	<p>Open the <i>ApplicationSpec.xml</i> file located under <i>C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSLicense\</i> directory with a text editor.</p> 	<p>The <i>ApplicationSpec.xml</i> file will be open.</p>
<p>3</p>	<p>Set parameters as follows:</p> <ul style="list-style-type: none"> • LICENSE_SERVER LICENSE_FILE_PATH=" C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSLicense\" <ul style="list-style-type: none"> ○ In general, you should specify here a path to the directory where the "*.CTL" file is located. • PLATFORM_SERVER_PATH PATH="MACHINENAME" <ul style="list-style-type: none"> ○ MACHINENAME is the name of the machine where desktop services are installed. <p>Save the file.</p>	<p>The <i>ApplicationSpec.xml</i> file is configured.</p>

5.8 CONFIGURE THE WEB.CONFIG FILE

These actions should be applied to the machine where eLIMS is installed.

Step	User Input / Action	Expected Results
------	---------------------	------------------

<p>1</p>	<p>Open the <i>Web.config</i> file located under <i>C:\inetpub\wwwroot\LabworksWeb</i> directory with a text editor.</p> 	<p>The Web.config file will be open.</p>
<p>2</p>	<ul style="list-style-type: none"> • Find the row containing “key=“LWServiceServer”” • Specify the new value as the IP address of the server containing DB and desktop services. • Save the file. 	<p>The Web.config file is configured.</p>
<p>3</p>	<p>Restart LWeLIMSData, LWeLIMSLicense, LWeLIMSReporting services.</p>	<p>WEB API server is configured.</p>

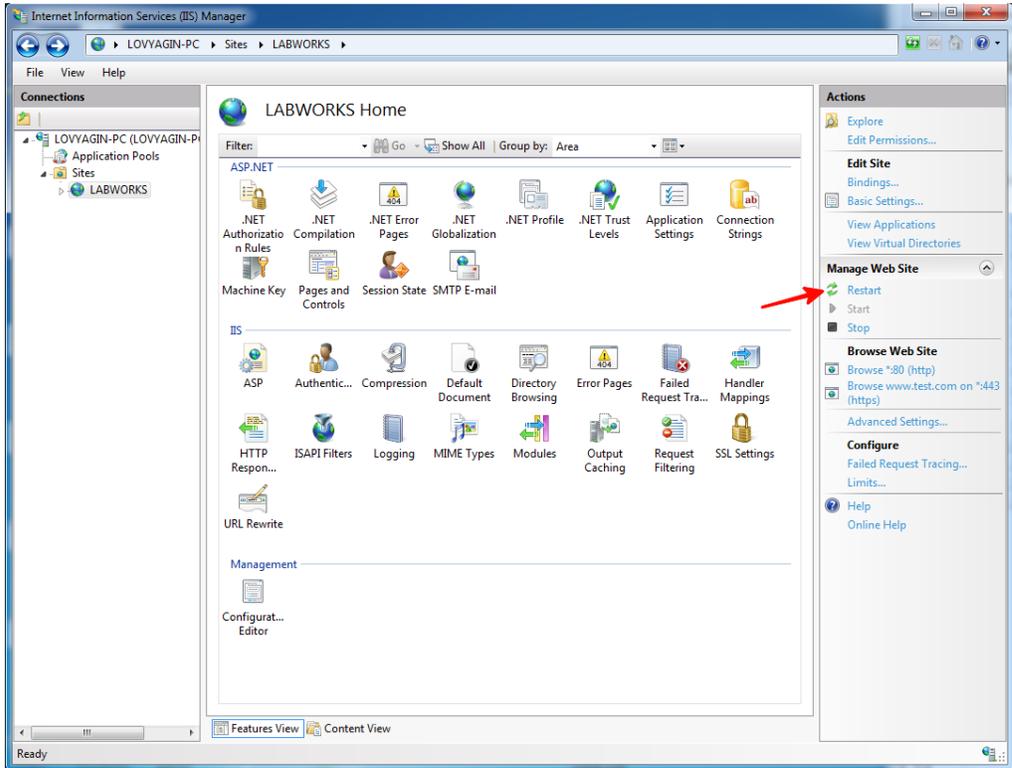
6 LABWORKS ELIMS CONFIGURATION

6.1 GENERAL CONFIGURATION

6.1.1 Displayed samples period

By default, only the samples logged within the last 366 days are affected by the search algorithm. You may extend this period by following these steps:

1	<ul style="list-style-type: none"> Open the <i>Web.config</i> file located under <i>C:\inetpub\wwwroot\LabworksWeb</i> directory with a text editor 	The Web.config file will be open.
2	<ul style="list-style-type: none"> Find the row containing “<add key=“MaximumSearchPeriod” value=“366” />” Specify the new value as a whole number of days. Save the file. 	The new value will be saved.
3	<p>Restart the web portal in the IIS:</p> <ul style="list-style-type: none"> Select the Labworks eLIMS web site. Click the Restart button to restart the web site. 	The web site will be restarted.



6.1.2 Time zone settings

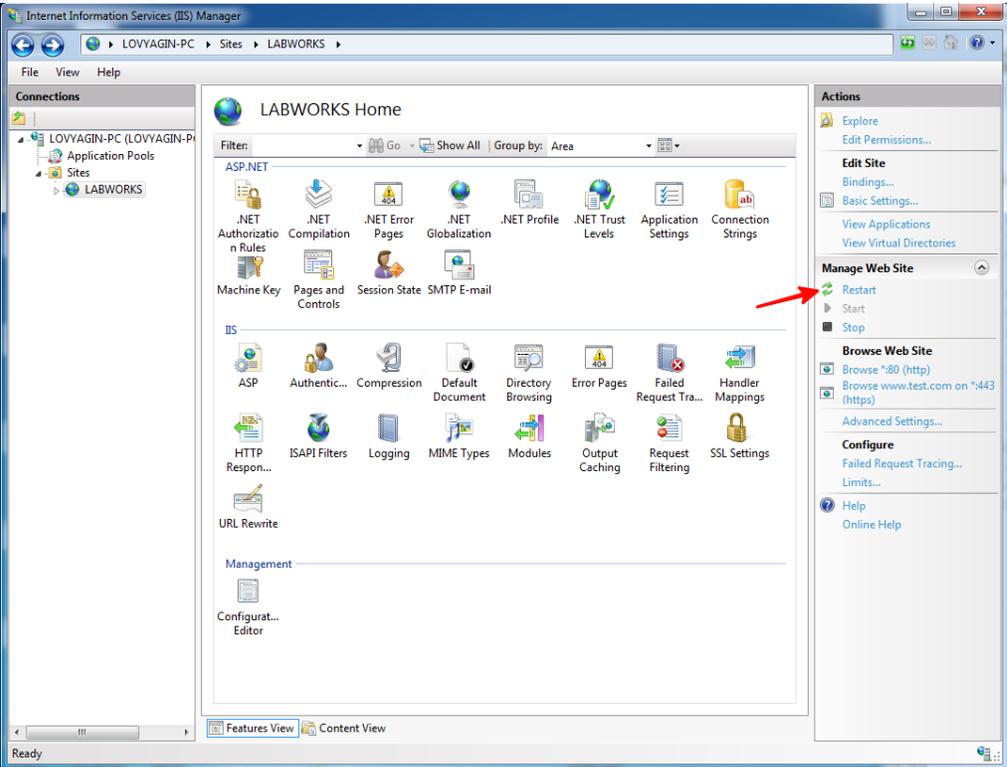
The desktop application saves dates in the time zone of the client, but the web application saves them in the local time zone of the server by default. To make sure that the dates are consistent across all applications, set server time zone to the time zone of the client desktop applications. You can do this by specifying the time zone in the *APPLICATION_TIME_ZONE* variable via sysmgr. Please find more details about this variable specification in the *APPLICTAION_TIME_ZONE* item of the *System Manager settings* section below.

You have to restart both ISS and LW services to apply the updated time zone. Please note that already stored dates remain in the previous time zone, and therefore may contain an error depending on the time zone difference (up to 23 hours).

6.1.3 Military time format

By default, the 12-hours time format is used on the web application. For example, 12 PM. You may switch it to the military format.

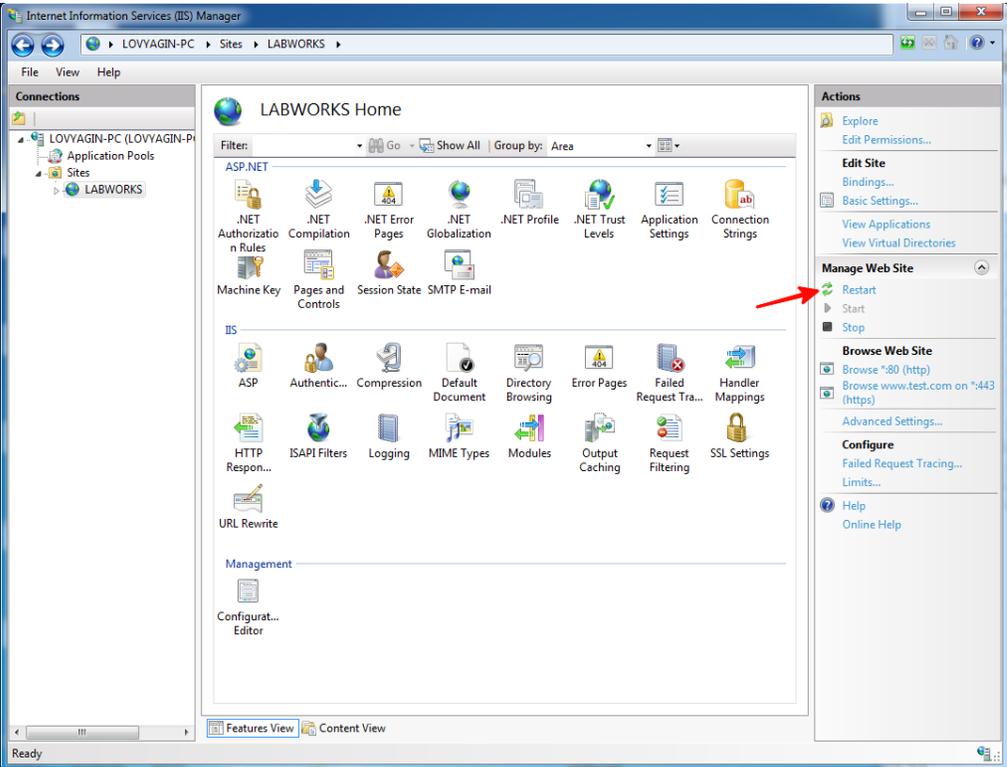
1	<ul style="list-style-type: none"> Open the <i>Web.config</i> file located under <i>C:\inetpub\wwwroot\LabworksWeb</i> directory with a text editor 	The Web.config file will be open.
2	<ul style="list-style-type: none"> Find the row containing "<code><add key="MilitaryTimeFormat" value="false" /></code>" Set the value to true. Save the file. 	The new value will be saved. Times will be displayed in the military time format. For example, 12:00.

<p>3</p>	<p>Restart the web portal in the IIS:</p> <ul style="list-style-type: none"> • Select the Labworks eLIMS web site. • Click the Restart button to restart the web site. 	<p>The web site will be restarted.</p>
----------	--	--

6.1.4 Maximum of reported samples

By default, report can be generated for up to 25 samples. You may change this number by following these steps:

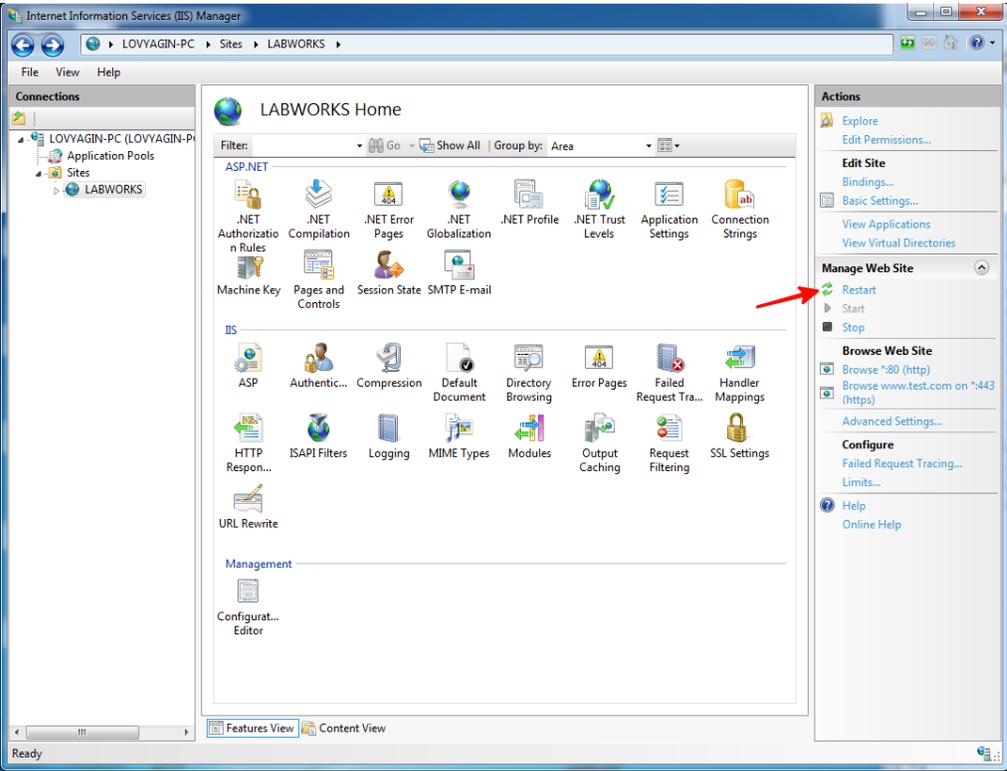
<p>1</p>	<ul style="list-style-type: none"> • Open the <i>Web.config</i> file located under <i>C:\inetpub\wwwroot\LabworksWeb</i> directory with a text editor 	<p>The Web.config file will be open.</p>
<p>2</p>	<ul style="list-style-type: none"> • Find the row containing “<add key="MaximumSIMCSamples" value="25" />” • Specify the new value as a whole number of samples. • Save the file. 	<p>The new value will be saved.</p>

<p>3</p>	<p>Restart the web portal in the IIS:</p> <ul style="list-style-type: none"> • Select the Labworks eLIMS web site. • Click the Restart button to restart the web site. 	<p>The web site will be restarted.</p>
----------	--	--

6.1.5 Checksum violations

By default, checksum violation detection module is turned. The user is able to see a warning message when any modifications to corresponding data have occurred from outside the system. You may turn off the module by following these steps

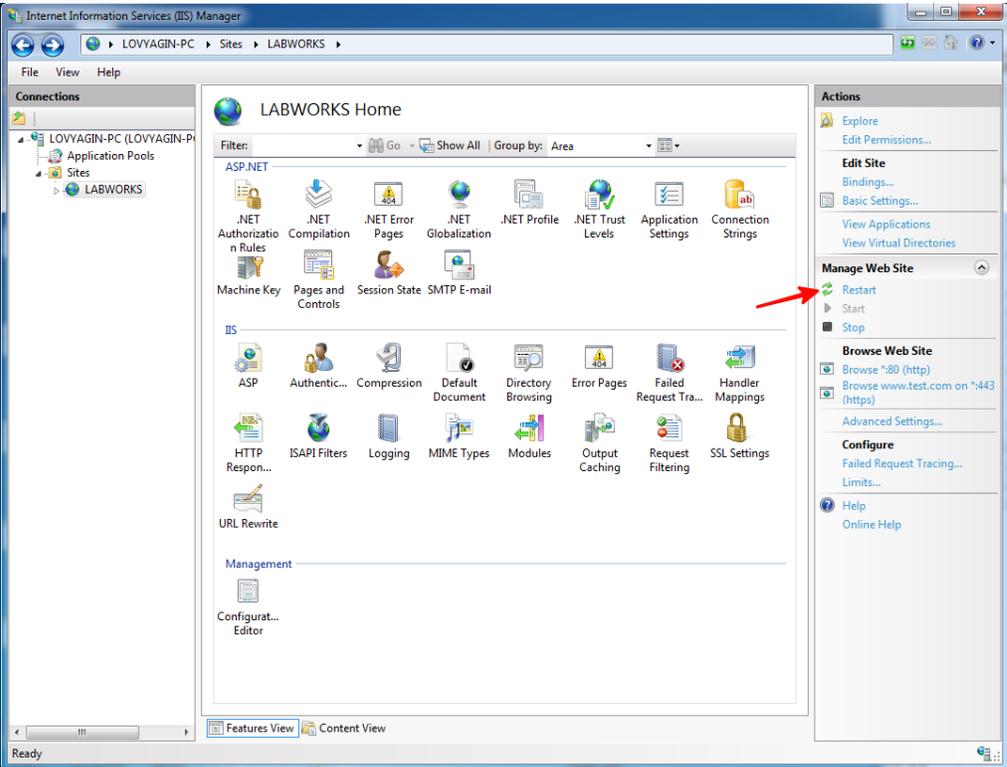
<p>1</p>	<ul style="list-style-type: none"> • Open the <i>Web.config</i> file located under <i>C:\inetpub\wwwroot\LabworksWeb</i> directory with a text editor 	<p>The Web.config file will be open.</p>
<p>2</p>	<ul style="list-style-type: none"> • Find the row containing "<add key="ChecksumValidationEnabled" value="true" />" • Set the value to "false". • Save the file. 	<p>The new value will be saved.</p>

<p>3</p>	<p>Restart the web portal in the IIS:</p> <ul style="list-style-type: none"> • Select the Labworks eLIMS web site. • Click the Restart button to restart the web site. 	<p>The web site will be restarted.</p>
----------	--	--

6.1.6 Dashboard refresh interval

By default, the Dashboard screen automatically refreshes every 5 minutes. You may change this period by following these steps:

<p>1</p>	<ul style="list-style-type: none"> • Open the <i>Web.config</i> file located under <i>C:\inetpub\wwwroot\LabworksWeb</i> directory with a text editor. 	<p>The Web.config file will be open.</p>
<p>2</p>	<ul style="list-style-type: none"> • Find the row containing "<add key="DashboardRefreshIntervalInSeconds" value="300" />" • Specify the new period value in seconds. • Save the file. 	<p>The new value will be saved.</p>

<p>3</p>	<p>Restart the web portal in the IIS:</p> <ul style="list-style-type: none"> • Select the Labworks eLIMS web site. • Click the Restart button to restart the web site. 	<p>The web site will be restarted.</p>
----------	--	--

6.1.7 Restart IIS after adding new database

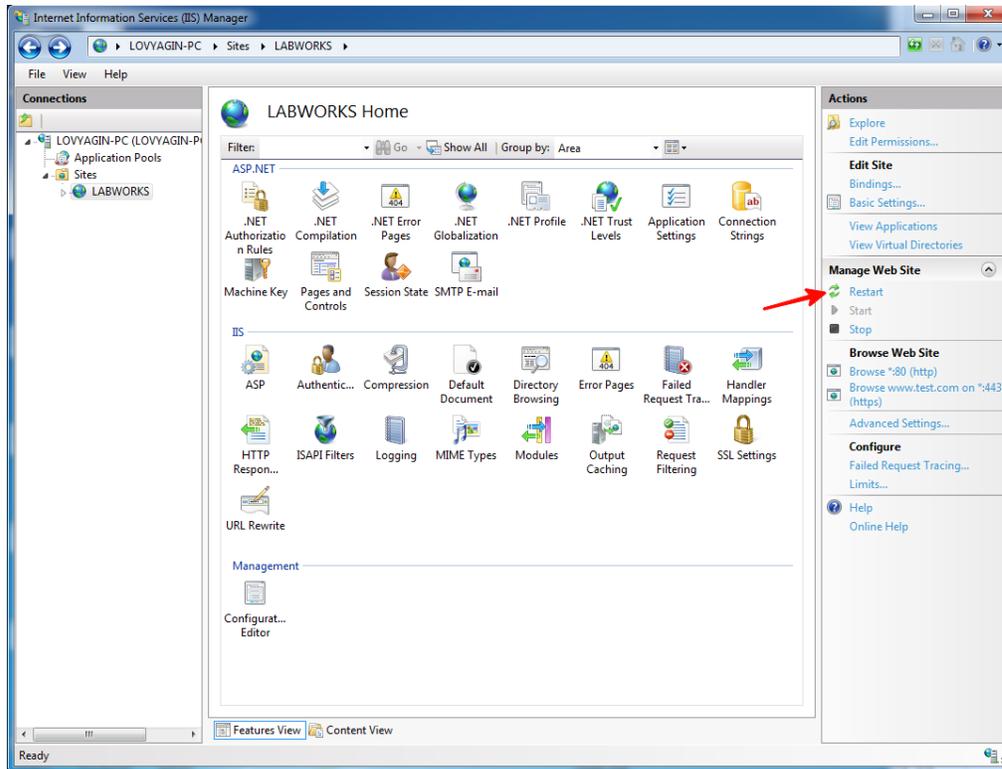
When a new database is deployed and connected to the LW services, it is required to restart IIS.

<p>1</p>	<p>Open IIS Manager:</p> <ul style="list-style-type: none"> • Use “Windows + R” button combination to open the “Run” window. • Type “inetmgr” in the field and press “Enter”. 	<p>“Internet Information Services (IIS) Manager” window displayed.</p>
----------	---	--

2 Restart the web portal in the IIS:

- Select the Labworks eLIMS web site.
- Click the Restart button to restart the web site.

The web site will be restarted.



6.1.8 Database collations

Different databases can be configured with different collations. It causes a different sort order in the web application. It is recommended that all databases are configured to use the same collations.

6.1.9 Database migrations

The recent versions of the system have an additional column "Email_Address" in the "LABOBJMAILLIST" table. In case if you have the e-mail addresses stored in a different column, please perform the migration by executing the following command:

```
UPDATE LABOBJMAILLIST SET Email_Address = <The name of the previous column for email addresses>
```

Make sure that the previous column is no longer in use and remove it from the table with the following command:

```
ALTER TABLE LABOBJMAILLIST DROP COLUMN <Previous column name>;
```

6.1.10 System Manager settings

A number of global settings that affect eLIMS application is available in the System Manager. To change them, you have to launch the “System Manager Mode” service of the Labworks Desktop Application and open the “System Control” tab. You will find following settings in the “Database Key” column of the table:

6.1.10.1 AUTO_VALIDATE_RULE

The samples are not validated automatically in the new versions of LABWORKS Enterprise LIMS. If you wish to enable the automatic sample validation, change the value from “NONE” to either:

- **ALL_ANALYSES_VAL** - to enable the automatic sample validation when all analyses of the sample are validated
- **NO_VIOLATIONS** - to enable the automatic sample validation when no analyses of the sample have violations

6.1.10.2 APPLICATION_TIME_ZONE

Server time zone. By default, set to:

- **Mountain Standard Time** on MS SQL
- **US/Mountain** on Oracle

Use following queries to get the names of other time zones:

- ORACLE: `SELECT distinct TZ_OFFSET(tzname), tzname FROM V$TIMEZONE_NAMES order by TZ_OFFSET(tzname)`
- MS SQL: `SELECT t.* FROM sys.time_zone_info t`

Please note that MS SQL databases prior to version 16 do not have system tables. Please refer to the LABWORKS Admin Guide for the list of exact time zone names.

6.1.10.3 GOOGLE_MAPS_API_KEY

API key for the Google Maps services in the desktop and web applications

6.1.10.4 GOOGLE_MAPS_ANDROID_API_KEY

API key for the Google Maps services in the Collection Application on Android platform

6.1.10.5 GOOGLE_MAPS_IOS_API_KEY

API key for the Google Maps services in the Collection Application on iOS platform

6.1.10.6 GOOGLE_MAPS_UWP_API_KEY

API key for the Google Maps services in the Collection Application on UWP platform

6.1.10.7 COORDINATE_DISTANCE_LIMIT_YARDS

Maximum allowed distance between the expected and actual sample collection coordinates in yards

6.1.10.8 USE_ELECTRONIC_SIGNATURE

Require electronic signature during login in the web application

6.1.10.9 ATTACHMENT_MAX_SIZE

Maximum allowed attachment size

6.1.10.10 SL_ACODE_LIMITIMG

Forbidden analysis codes on sample login (list of codes, comma separated)

6.1.10.11 LOGBATCHIDFORMAT

Log Batch ID naming template (please refer to LABWORKS Admin Guide for details)

6.1.10.12 ADD_TO_PROCESS_SCHEDULER

Add samples to the Process Scheduler upon login.

6.1.11 Reports

The web application supports only reports generated based on the SIMC.xsd data schema. This schema, as well as all report templates, is located in the *C:\inetpub\wwwroot\LabworksWeb\App_Data\reports* folder. To enable users to create reports, you need to place the templates generated for these reports in this folder. The templates can be generated with Crystal Report application that comes with Labworks Desktop installation by default. The templates must have “.rpt” extension. Files with other extensions will be ignored by the web application.

6.1.12 Calculations

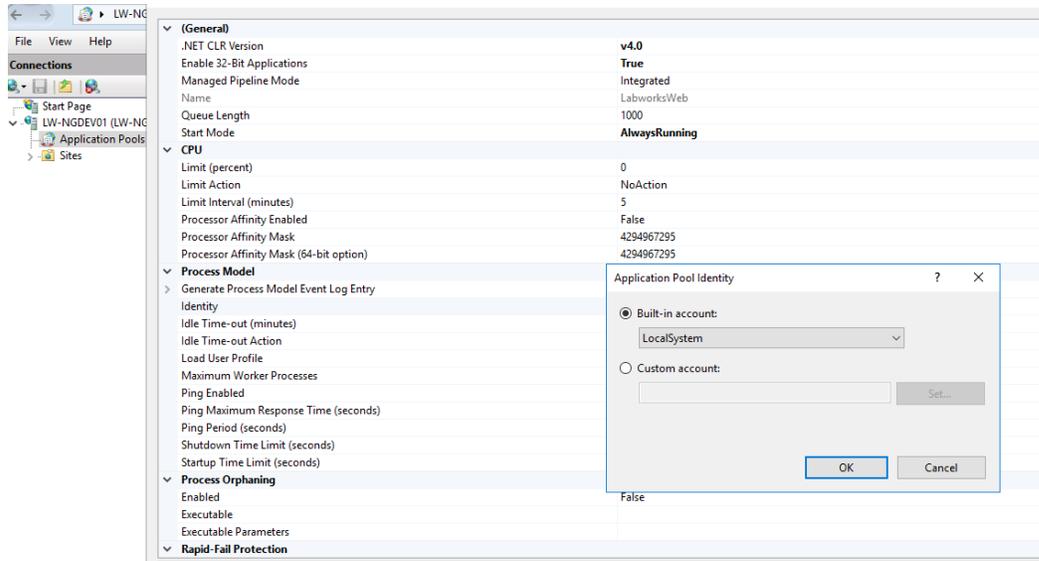
The web application supports only built-in and excel calculations based on the SIMC.xsd data schema. The user can specify the formula in the Labworks Desktop application and it will be used in the analysis result calculation process. For the feature to work correctly, please follow these steps:

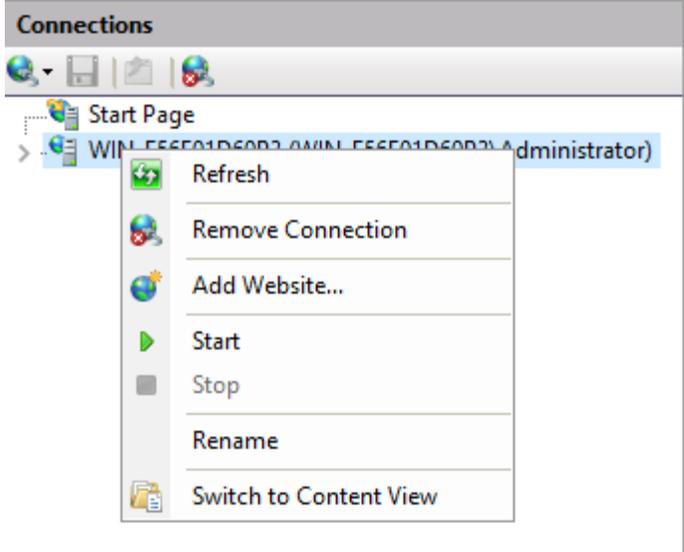
1	<p>Open IIS Manager:</p> <ul style="list-style-type: none"> • Use “Windows + R” button combination to open the “Run” window. • Type “inetmgr” in the field and press “Enter”. 	<p>“Internet Information Services (IIS) Manager” window displayed.</p>
---	---	--

2 Change the pool Identify parameter value:

- Select the Application Pool.
- Find the “LabworksWeb” pool.
- Open the Advanced settings.
- Change the “Identify” parameter value in the “Process Model” section to “LocalSystem”

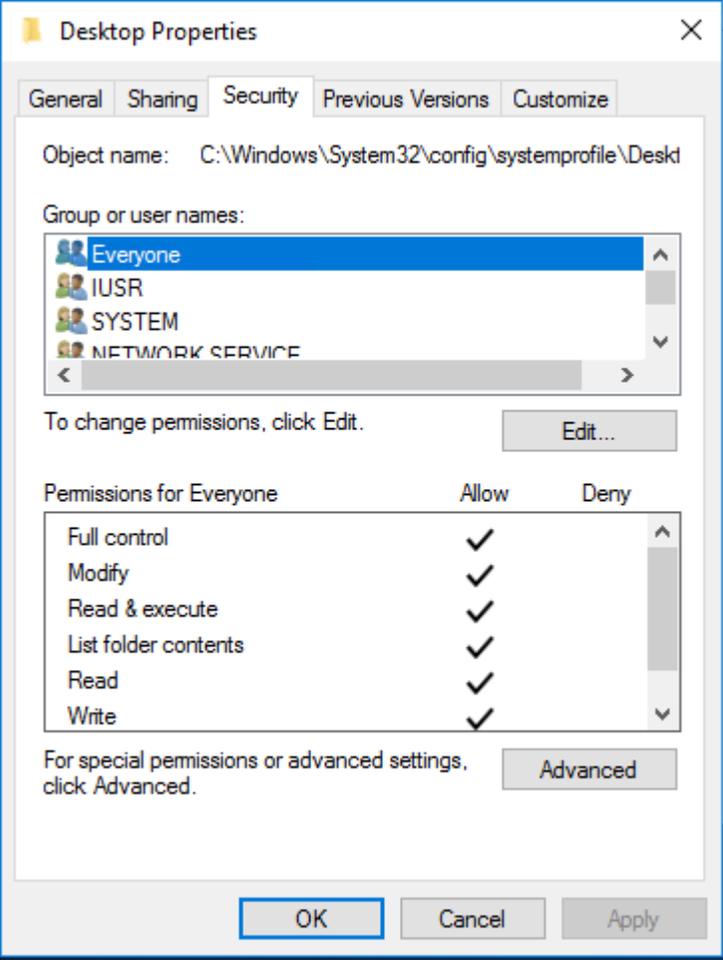
The parameter is updated.



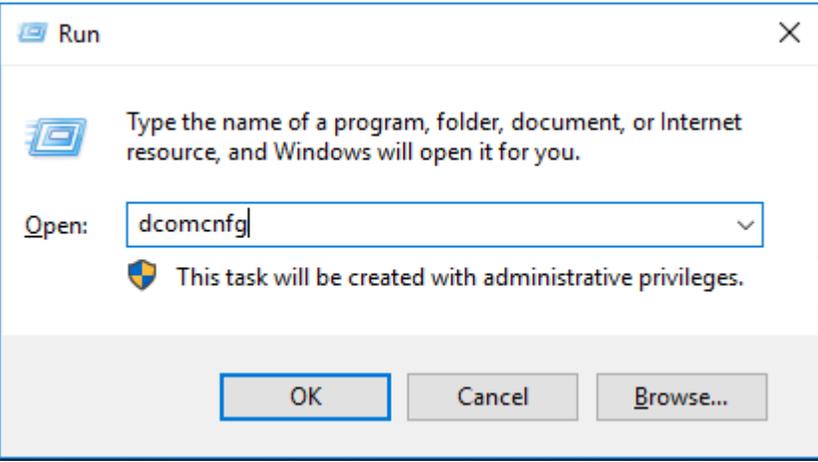
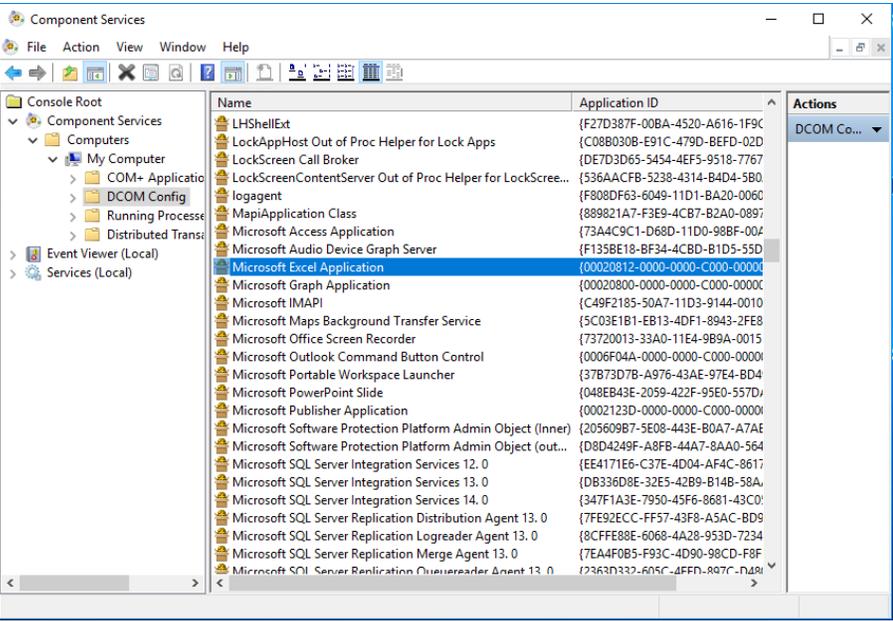
<p>3</p>	<p>Restart IIS:</p> <ul style="list-style-type: none"> • Find the root IIS folder on the left-hand side of the IIS Manager Application window and open the context menu by the right click. • Click the “Stop” context menu item. • Click the “Start” context menu item. 	
<p>4</p>	<p>Restart Labworks services:</p> <ul style="list-style-type: none"> • Stop LWDataService, LWLicenseService, LWeLIMSData, and LWeLIMSLicense services. • Start LWDataService. • Wait 5 seconds. • Start LWLicenseService. • Start LWeLIMSData. • Start LWeLIMSLicense. 	<p>Services are restarted and calculation works correctly.</p>

For Excel calculation feature to work correctly, please follow the steps below.

1. Windows filesystem configuration steps are:

<p>1</p>	<p>Create profile directory.</p> <ul style="list-style-type: none"> • for 64 bit Windows <ul style="list-style-type: none"> ○ "C:\Windows\SysWOW64\config\systemprofile\Desktop" • for 32 bit Windows <ul style="list-style-type: none"> ○ "C:\Windows\System32\config\systemprofile\Desktop" 																						
<p>2</p>	<p>Add Full Control access rights permission for "Everyone" user to the profile directory.</p>  <p>The screenshot shows the 'Desktop Properties' dialog box with the 'Security' tab selected. The object name is 'C:\Windows\System32\config\systemprofile\Desktop'. The 'Group or user names' list includes 'Everyone', 'IUSR', 'SYSTEM', and 'NETWORK SERVICE'. The 'Permissions for Everyone' table is as follows:</p> <table border="1"> <thead> <tr> <th>Permissions for Everyone</th> <th>Allow</th> <th>Deny</th> </tr> </thead> <tbody> <tr> <td>Full control</td> <td>✓</td> <td></td> </tr> <tr> <td>Modify</td> <td>✓</td> <td></td> </tr> <tr> <td>Read & execute</td> <td>✓</td> <td></td> </tr> <tr> <td>List folder contents</td> <td>✓</td> <td></td> </tr> <tr> <td>Read</td> <td>✓</td> <td></td> </tr> <tr> <td>Write</td> <td>✓</td> <td></td> </tr> </tbody> </table>	Permissions for Everyone	Allow	Deny	Full control	✓		Modify	✓		Read & execute	✓		List folder contents	✓		Read	✓		Write	✓		
Permissions for Everyone	Allow	Deny																					
Full control	✓																						
Modify	✓																						
Read & execute	✓																						
List folder contents	✓																						
Read	✓																						
Write	✓																						

2. DCOM configuration steps are:

<p>1</p>	<p>In the Windows Run menu, type dcomcnfg and press Enter.</p> 	<p>The Component Services window will be open</p>
<p>2</p>	<ul style="list-style-type: none"> • Open Component Services -> Computers -> DCOM Config • Find the item Microsoft Excel Application 	

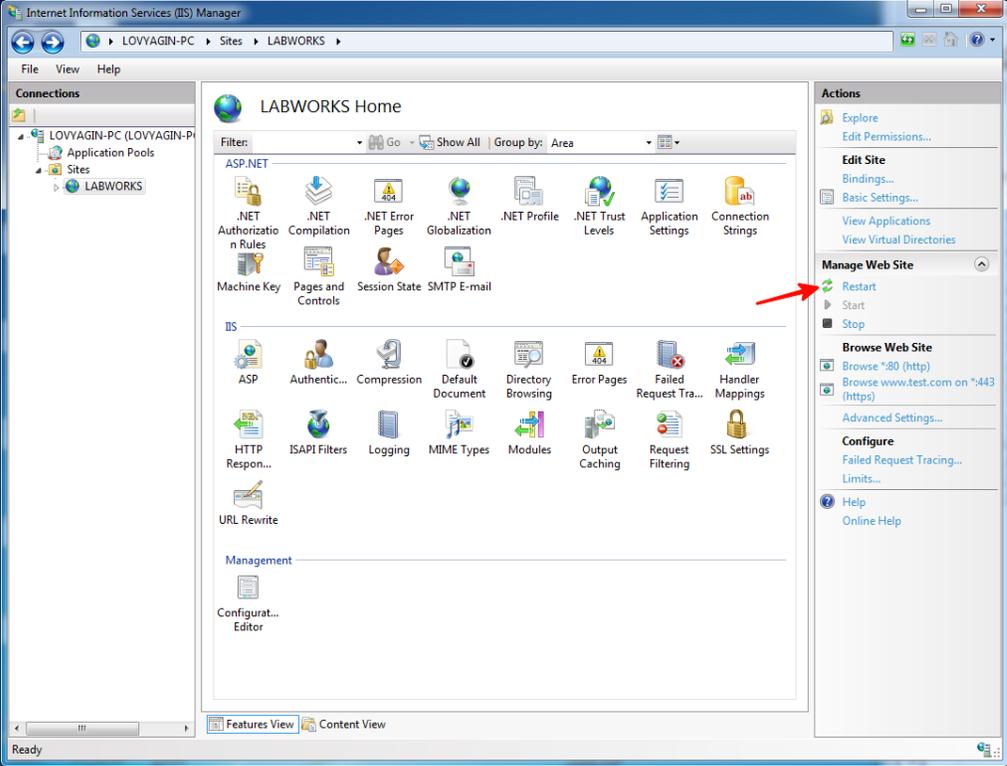
3	<ul style="list-style-type: none"> • Right click on the “Microsoft Excel Application“ item and select Properties menu item • Select the “Security” tab • In all three groups (“Launch and Activation Permissions”, “Access Permissions”, “Configuration Permissions”) select Customize • For each security section (“Launch and Activation Permissions”, “Access Permissions”, “Configuration Permissions”) click the Edit button and in the popup window check allow all the permissions for Everyone user. 	
---	--	--

3. Copy the spreadsheets used for Excel calculations to the c:\inetpub\wwwroot\LabworksWeb\App_Data\data\excel\ directory.

6.1.13 FIPS Compliant Installation

Following steps need to be executed for achieving FIPS Compliance:

1	<ul style="list-style-type: none"> • Make sure that FIPS Compliance feature has been configured for the desktop services and the migration utility has been run ("Migrate to FIPS Compliance" option) so that all encrypted fields are converted to FIPS Compliant encryption. Please find more details about the desktop configuring and the migration utility in the LABWORKS LIMS v6.10 Installation Guide. 	
---	---	--

<p>2</p>	<ul style="list-style-type: none"> • Open the <i>Web.config</i> file located under <i>C:\inetpub\wwwroot\LabworksWeb</i> directory with a text editor 	<p>The Web.config file will be open.</p>
<p>3</p>	<ul style="list-style-type: none"> • Find the row containing “<add key="ChecksumVersion" value="1"/>” • Change it to “<add key="ChecksumVersion" value="2"/>”. • Save the file. 	<p>The new value will be saved.</p>
<p>4</p>	<p>Restart the web portal in the IIS:</p> <ul style="list-style-type: none"> • Select the Labworks eLIMS web site. • Click the Restart button to restart the web site. 	<p>The web site will be restarted.</p>

6.2 WEB APPLICATION CONFIGURATION

There are several configuration options available to the users authorized in the web application with a certain level of access. The users authorized to perform configuration will see the “Configuration” drop-down menu in the web application header. All changes made to the configuration are saved automatically in real time.

6.2.1 Role Management

Labworks eLIMS implements role-based access control, where the roles consist of privileges to perform particular actions.

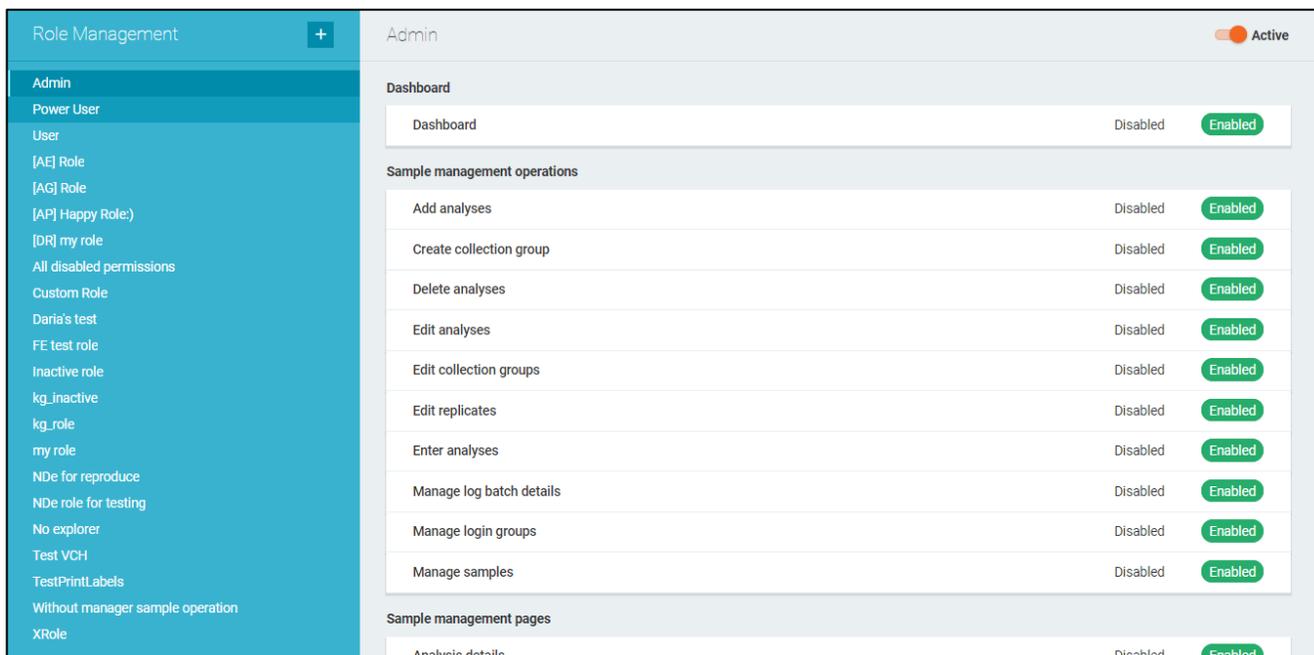
The roles are listed on the **Role Management** screen under the **Configuration** drop-down menu.

There are three default roles with predefined privileges, which cannot be deleted. The custom roles, on the other hand, can be deleted by clicking the **recycle bin** icon in the top-right corner of the screen.

The role can be deactivated to prevent it from being assigned to a user or a group by toggling the switch in the top-right corner of the screen.

To create a custom role, click the **plus icon** in the sidebar and specify a name for the new role.

The privileges are displayed in a list grouped by application screens where corresponding actions can be performed. You can toggle the privilege by clicking the buttons to the right, and view nested privileges by clicking the list element itself.



6.2.2 User Roles

A single user may have multiple roles at once. In this case, the access to perform an action granted when at least one of his roles has corresponding privilege enabled. The roles can be assigned to the user on the **User Roles** screen under the **Configuration** drop-down menu.

The users are displayed in a list with options to sort and filter elements by the user name or the role assignment status.

The role is assigned or revoked by toggling corresponding checkboxes in the list element.

User Roles																
Users	Admin	Power User	User	[AE] Role	[AG] Role	[AP] Happy RoL...	[DR] my role	All disabled per...	Custom Role	Daria's test	FE test role	Inactive role	kg_inactive	kg_role	r	
Will Sei...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Wayne ...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Viache...	<input checked="" type="checkbox"/>	<input type="checkbox"/>														
Veroni...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

By clicking the element, you can view the groups in which the user participates.

Will Sei...	<input type="checkbox"/>															
LAB_ALL																

6.2.3 Group Roles

A group of users may have roles assigned to it, giving the users all privileges of these roles. The roles can be assigned to the group on the **Group Roles** screen under the **Configuration** drop-down menu.

The groups are displayed in a list with options to sort and filter elements by the group name or the role assignment status.

The role is assigned or revoked by toggling corresponding checkboxes in the list element.

Group Roles															
Groups	Admin	Power User	User	[AE] Role	[AG] Role	[AP] Happy Rol...	[DR] my role	All disabled per...	Custom Role	Daria's test	FE test role	Inactive role	kg_inactive	kg_role	r
AUTO	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GR_OWNER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>							
group-QAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LAB_ALL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
QA_GROUP...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
QA_GROUP...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
QA_GROUP...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
QA_GROUP...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

By clicking the element, you can view the users of the group.

Lab #1 Employees	<input checked="" type="checkbox"/>	<input type="checkbox"/>						
Lab Employee #1 - LE1 John Smith - JS								

Extended group management options are available in the Labworks Desktop Application.

6.2.4 Sessions

You can browse active sessions on the **Sessions** screen under the **Configuration** drop-down menu.

The name of the current license with a limit of active sessions for that license are available in the top-right corner of the screen.

The active sessions are displayed in a list with sorting and filtering options. The list can be refreshed by clicking the refresh button above the list.

You can stop a particular session by clicking the **exit icon** on the rightmost side of the corresponding list element. This action will force the user to log out of the system.

The users won't be able to log in when the limit of active sessions is reached.

The screenshot shows the 'Active Sessions' interface. At the top right, it indicates 'Last refresh: 04/16/2021 01:54:36 PM' and 'Web dashboard 10 / 100'. Below this is a table with the following columns: User, Database, Client, IP address, Entry time, Recent activity, and License name. The table contains three rows of active sessions for the user 'Labworks Fuser - APHAM'. The first two rows are for the 'DEMO' database, and the third is for 'IRWD_N'. Each row includes an 'exit icon' on the far right. At the bottom left, there is a filter for 'User' set to 'APHAM' and a status indicator '1-3 of 3 sessions'.

User	Database	Client	IP address	Entry time	Recent activity	License name
Labworks Fuser - APHAM	DEMO	Chrome	5.3.164.61	04/16/2021 09:56 AM	04/16/2021 01:28 PM	Web dashboard
Labworks Fuser - APHAM	DEMO	Chrome	93.88.136.68	04/16/2021 01:34 PM	04/16/2021 01:54 PM	Web dashboard
Labworks Fuser - APHAM	IRWD_N	Chrome	93.88.136.68	04/15/2021 10:07 AM	04/16/2021 01:53 PM	Web dashboard

6.2.5 Service Diagnostics

Service jobs are the processes that perform data aggregation. The aggregation is needed to reduce the load on the database by caching the results of default queries. Jobs launch automatically after the system starts and constantly repeat after a certain timeout.

There is a total of three events that trigger the jobs:

1. Restart of the Labworks eLIMS;
2. Job restart timeout defined in the configuration is reached;
3. The job is manually started by the web application user on the Service Diagnostics screen.

The status of the jobs is displayed on the Service Diagnostics screen available to the users with corresponding privilege.

Supporting Service Diagnostics								Last refresh: 04/16/2021 01:55:18 PM
Service job	Status	Database	Start time	End time	Duration	Description		
Location Codes Aggregation	Success	DEMO	04/16/2021 01:51:48 PM	04/16/2021 01:51:49 PM	less than a second	Collects unique location codes.	⊙	
User Groups Aggregation	Success	DEMO	04/16/2021 01:51:44 PM	04/16/2021 01:51:44 PM	less than a second	Collects relationships between simple and t...	⊙	
Top Viewed Objects Aggregation	Success	DEMO	04/16/2021 01:51:48 PM	04/16/2021 01:51:48 PM	less than a second	Collects ownerships for Top Viewed objects.	⊙	
Last Viewed Objects Aggregation	Success	DEMO	04/16/2021 01:51:41 PM	04/16/2021 01:51:41 PM	less than a second	Collects ownerships for Last Viewed objects.	⊙	
Analyses Codes Aggregation	Success	DEMO	04/16/2021 01:51:43 PM	04/16/2021 01:51:43 PM	less than a second	Collects fill list of analysis codes.	⊙	
Explorer Data Aggregation	Success	DEMO	04/16/2021 01:51:43 PM	04/16/2021 01:51:48 PM	5 seconds	Collects Explorer data based on last modifi...	⊙	
Location Codes Aggregation	Success	IRWD_N	04/16/2021 01:51:41 PM	04/16/2021 01:51:42 PM	less than a second	Collects unique location codes.	⊙	
User Groups Aggregation	Success	IRWD_N	04/16/2021 01:51:48 PM	04/16/2021 01:51:48 PM	less than a second	Collects relationships between simple and t...	⊙	
Top Viewed Objects Aggregation	Success	IRWD_N	04/16/2021 01:51:43 PM	04/16/2021 01:51:43 PM	less than a second	Collects ownerships for Top Viewed objects.	⊙	
Last Viewed Objects Aggregation	Success	IRWD_N	04/16/2021 01:51:41 PM	04/16/2021 01:51:41 PM	less than a second	Collects ownerships for Last Viewed objects.	⊙	
Analyses Codes Aggregation	Success	IRWD_N	04/16/2021 01:51:41 PM	04/16/2021 01:51:42 PM	less than a second	Collects fill list of analysis codes.	⊙	
Explorer Data Aggregation	Success	IRWD_N	04/16/2021 01:51:41 PM	04/16/2021 01:51:47 PM	5 seconds	Collects Explorer data based on last modifi...	⊙	
Location Codes Aggregation	Success	ORACLE	04/16/2021 01:51:48 PM	04/16/2021 01:51:50 PM	2 seconds	Collects unique location codes.	⊙	
User Groups Aggregation	Success	ORACLE	04/16/2021 01:51:43 PM	04/16/2021 01:51:43 PM	less than a second	Collects relationships between simple and t...	⊙	
Top Viewed Objects Aggregation	Success	ORACLE	04/16/2021 01:51:49 PM	04/16/2021 01:51:49 PM	less than a second	Collects ownerships for Top Viewed objects.	⊙	
Last Viewed Objects Aggregation	Success	ORACLE	04/16/2021 01:51:48 PM	04/16/2021 01:51:48 PM	less than a second	Collects ownerships for Last Viewed objects.	⊙	
Analyses Codes Aggregation	Success	ORACLE	04/16/2021 01:51:43 PM	04/16/2021 01:51:43 PM	less than a second	Collects fill list of analysis codes.	⊙	
Explorer Data Aggregation	Success	ORACLE	04/16/2021 01:51:43 PM	04/16/2021 01:51:47 PM	4 seconds	Collects Explorer data based on last modifi...	⊙	
Location Codes Aggregation	Success	WATER	04/16/2021 01:51:44 PM	04/16/2021 01:51:44 PM	less than a second	Collects unique location codes.	⊙	
User Groups Aggregation	Success	WATER	04/16/2021 01:51:44 PM	04/16/2021 01:51:44 PM	less than a second	Collects relationships between simple and t...	⊙	
Top Viewed Objects Aggregation	Success	WATER	04/16/2021 01:51:41 PM	04/16/2021 01:51:41 PM	less than a second	Collects ownerships for Top Viewed objects.	⊙	
Last Viewed Objects Aggregation	Success	WATER	04/16/2021 01:51:43 PM	04/16/2021 01:51:43 PM	less than a second	Collects ownerships for Last Viewed objects.	⊙	
Analyses Codes Aggregation	Success	WATER	04/16/2021 01:51:41 PM	04/16/2021 01:51:41 PM	less than a second	Collects fill list of analysis codes.	⊙	
Explorer Data Aggregation	Success	WATER	04/16/2021 01:51:41 PM	04/16/2021 01:51:42 PM	1 second	Collects Explorer data based on last modifi...	⊙	

Items per page: 25 | 1-24 of 24 service jobs

The “Error” status indicates that the data aggregation process failed and some of the data may not be updated in time.

To start the job manually, click the button on the rightmost side of the corresponding list element.

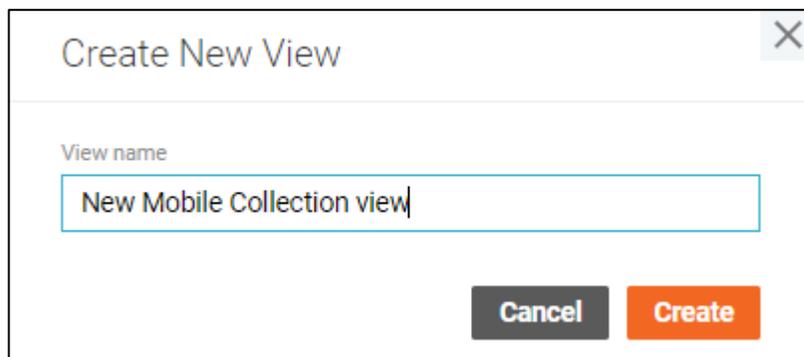
Please contact the [LABWORKS support](#) if any of the jobs constantly end with “Error” status.

6.3 MOBILE APPLICATION CONFIGURATION

6.3.1 Collection Views

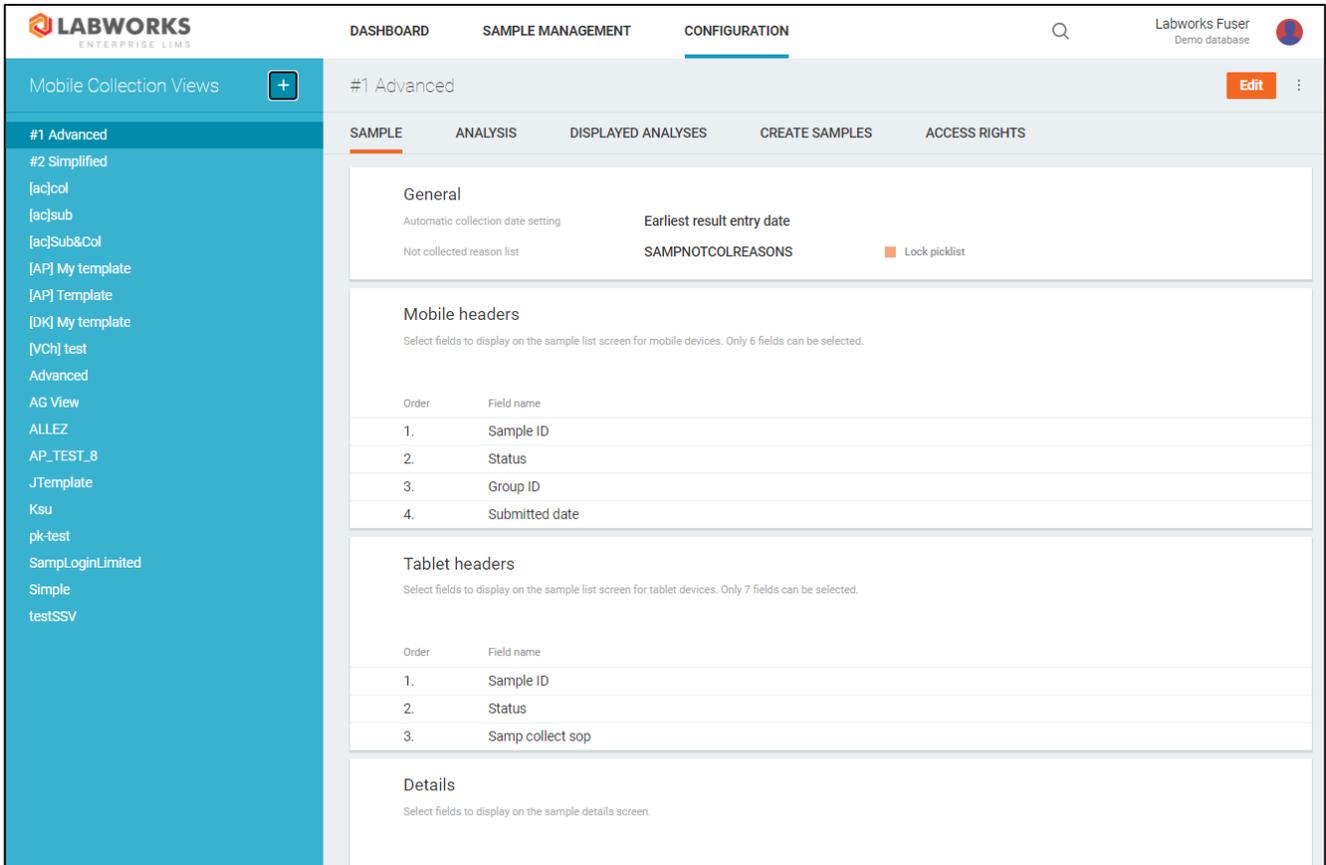
Mobile Collection View is a configuration preset that determines how the data is displayed and managed on mobile application. You can create multiple presets, assigning different access rights to control the amount of displayed data for every user group.

To create a preset, navigate to **Configuration > Mobile Collections Views** and click the **Plus** button in the sidebar.



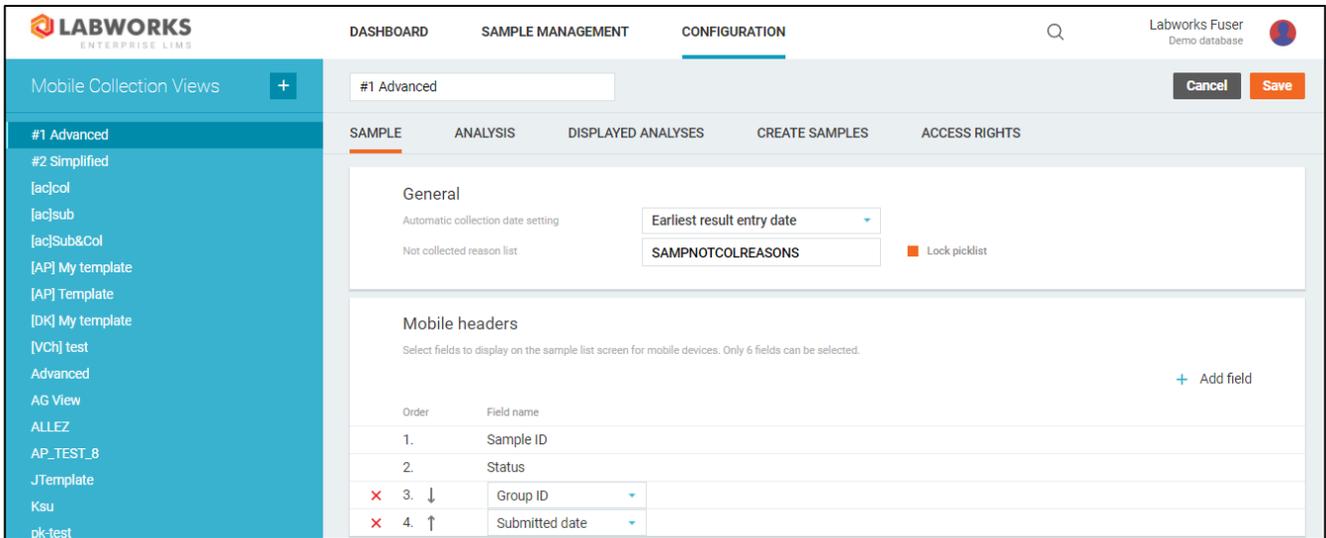
The screenshot shows a modal dialog box titled "Create New View". Inside the dialog, there is a label "View name" followed by a text input field containing the text "New Mobile Collection view". At the bottom of the dialog, there are two buttons: "Cancel" and "Create".

After typing the name for the preset, it will be created with default settings: minimal set of fields for samples and analysis & no limitations to user access.



You can copy a preset or delete it by clicking the corresponding button under the menu drop down in top-right corner of the screen.

You can modify the preset by clicking the **Edit** button, and saving it afterwards.



The settings of a preset are split in following groups:

6.3.1.1 Sample Fields

General

Automatic collection date setting: Earliest result entry date

Not collected reason list: SAMPNOTCOLREASONS ■ Lock picklist

Mobile headers

Select fields to display on the sample list screen for mobile devices. Only 6 fields can be selected. + Add field

Order	Field name	
1.	Sample ID	
2.	Status	
✗ 3. ↓	Group ID	▼
✗ 4. ↑	Submitted date	▼

Tablet headers

Select fields to display on the sample list screen for tablet devices. Only 7 fields can be selected. + Add field

Order	Field name	
1.	Sample ID	
2.	Status	
✗ 3.	Samp collect sop	▼

Details

Select fields to display on the sample details screen. + Add field

Order	Field name	Read only	Is required	Picklist	Lock picklist
1.	Sample ID	■	-	-	-
2.	Status	■	-	-	-
3.	Collection group	□	■	QUALORGANIC	-
4.	Collection owner	■	-	REC WATERS	-
5.	WQ ID	■	-	REPORTTYPE	-
6.	Login user	■	-	RLTCODES	-
✗ 7. ↓	Submitted date	□	□	SAMPCOL	-
✗ 8. ↑	Samp collect sop	□	■	SAMPNOTCOLREASONS	-
				Start typing	

Sample fields group responsible for:

- Sample collection general settings:
 - How the collection date is set.
 - The picklist of reasons why the sample was not collected.
 - Whether the value can be entered manually or has to be selected from the hard picklist (Locking).
- What fields are displayed in the list of samples in the mobile application on phone.
- What fields are displayed in the list of samples in the mobile application on tablet.
- What fields are displayed on the Sample Details screen.
 - Whether a particular field can be edited or not.
 - Whether a particular field is required or not.
 - The picklist of values for the field.

- Whether the value can be entered manually or has to be selected from the hard picklist (Locking).
- In what order the fields are displayed in the mobile application.

You can add or remove any of the fields except the default ones.

6.3.1.2 Analysis Fields

Mobile headers	Order	Field name					+ Add field
Select fields to display on the analysis list screen for mobile devices. Only 6 fields can be selected.	1.	Analysis code					
	2.	Analysis status					
	3.	Result					
	X 4.	Analysis end date					
Tablet headers	Order	Field name					+ Add field
Select fields to display on the analysis list screen for tablet devices. Only 7 fields can be selected.	1.	Analysis code					
	2.	Analysis status					
	3.	Result					
Details	General						+ Add field
Select fields to display on the analyses details screen.	Order	Field name	Read only	Is required	Picklist	Lock picklist	
	1.	Analysis code	<input checked="" type="checkbox"/>	-	-	-	
	2.	Analysis status	<input checked="" type="checkbox"/>	-	-	-	
	3.	Validation state	<input checked="" type="checkbox"/>	-	-	-	
	Single-component analysis results						+ Add field
	Order	Field name	Read only	Is required	Use default picklist	Picklist	Lock picklist
	1.	Result	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PSDEPT	<input type="checkbox"/>
	Multi-component analysis results						+ Add field
	Order	Field name	Read only	Is required	Use default picklist	Picklist	Lock picklist
	1.	Result	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PSDEPT	<input type="checkbox"/>
	Bottle analysis results						+ Add field
	Order	Field name	Read only	Is required	Use default picklist	Picklist	Lock picklist
	1.	Result	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	PSDEPT	<input type="checkbox"/>
	Narrative analysis results						+ Add field
Order	Field name	Read only	Is required	Use default picklist	Picklist	Lock picklist	
1.	Narrative text	<input type="checkbox"/>	<input type="checkbox"/>	-	-	-	

Analysis fields group responsible for:

- What fields are displayed in the list of analyses in the mobile application on phone.
- What fields are displayed in the list of analyses in the mobile application on tablet.
- What fields are displayed on the Analysis Details screen.
 - Whether a particular field can be edited or not.
 - Whether a particular field is required or not.
 - Whether the field uses the default picklist from analysis specification for a field or a custom one.
 - The custom picklist of values for the field.
 - Whether the value can be entered manually or has to be selected from the hard picklist (Locking).
 - What additional fields are displayed for every type of analysis.
- In what order the fields are displayed in the mobile application.

You can add or remove any of the fields except the default ones.

6.3.1.3 Create samples

Allow sample creation		<input checked="" type="checkbox"/>																								
Only create from specific location codes		<input checked="" type="checkbox"/>																								
Location sample owners Select sample owners to add all locations from these groups.	Sample owners X QA_GROUP_29	+ Add sample owner																								
Individual location codes Select individual location codes to create samples.	Locations X @R	+ Add location code																								
Allow changing default analyses list		<input checked="" type="checkbox"/>																								
Allow custom analyses codes		<input type="checkbox"/>																								
Details Select fields to display to user on sample create screen.	<table border="1"> <thead> <tr> <th>Order</th> <th>Field name</th> <th>Read only</th> <th>Is required</th> <th>Picklist</th> <th>Lock picklist</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Collected date</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>—</td> <td>—</td> </tr> <tr> <td>2.</td> <td>Submitted date</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>—</td> <td>—</td> </tr> <tr> <td>3.</td> <td>Sample department</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>PSDEPT</td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	Order	Field name	Read only	Is required	Picklist	Lock picklist	1.	Collected date	<input type="checkbox"/>	<input checked="" type="checkbox"/>	—	—	2.	Submitted date	<input type="checkbox"/>	<input checked="" type="checkbox"/>	—	—	3.	Sample department	<input type="checkbox"/>	<input checked="" type="checkbox"/>	PSDEPT	<input checked="" type="checkbox"/>	+ Add field
Order	Field name	Read only	Is required	Picklist	Lock picklist																					
1.	Collected date	<input type="checkbox"/>	<input checked="" type="checkbox"/>	—	—																					
2.	Submitted date	<input type="checkbox"/>	<input checked="" type="checkbox"/>	—	—																					
3.	Sample department	<input type="checkbox"/>	<input checked="" type="checkbox"/>	PSDEPT	<input checked="" type="checkbox"/>																					

Create samples group is responsible for:

- Whether the sample creation option is available in the mobile application.
- Whether the set of location codes is limited.
 - If this flag is true:
 - Location codes of which owners should be available at the sample creation time.
 - What extra location codes, besides the location codes of selected owners, should be available in the mobile application.
- Whether changing default analysis list is available at the sample creation time.
 - If this flag is true:
 - Whether adding custom analysis codes is available at the sample creation time.
 - If this flag is true:
 - Analyses of which departments should be available at the sample creation time.
 - What extra analyses, besides the analyses of selected departments, should be available at the sample creation time.
- What fields are displayed on the Create Samples screen.
 - Whether a particular field can be edited or not.
 - Whether a particular field is required or not.
 - The picklist of values for the field.
 - Whether the value can be entered manually or has to be selected from the hard picklist (Locking).
- In what order the details are displayed in the Create Samples screen.

You can add or remove any of the fields except the default ones.

6.3.1.4 Displayed Analyses

All analyses in the sample ☐

Departments
 Select departments to add all analyses from these departments.

[+ Add department](#)

Department

✖	FIELD
✖	QFIELD

Individual analyses codes
 Select individual analyses codes to appear on the sample analyses list.

[+ Add analysis code](#)

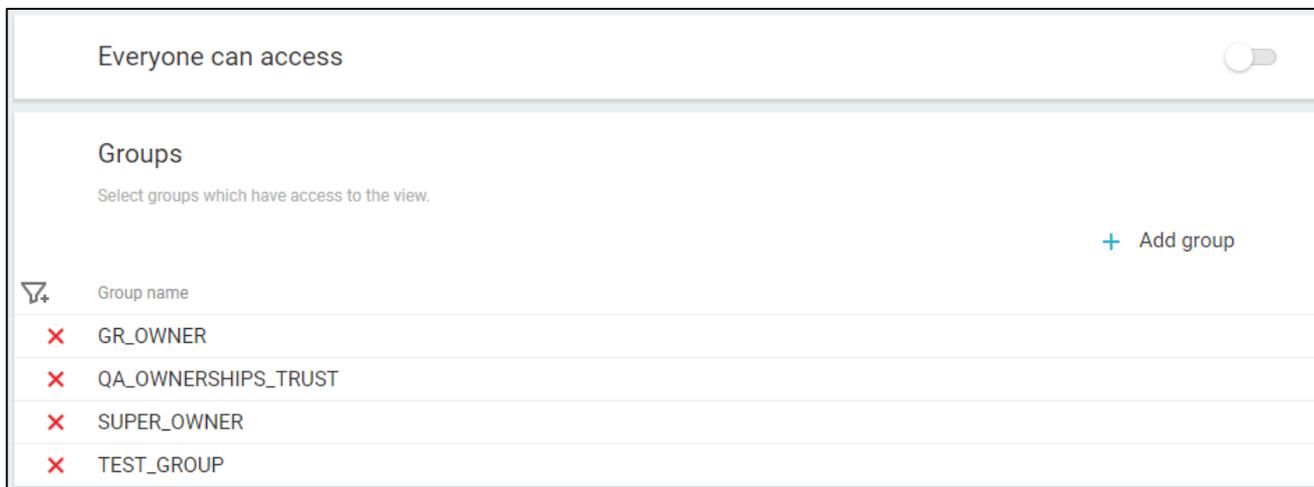
	Order		Analysis code
✖	1.	↓	\$625
✖	2.	↑ ↓	\$624
✖	3.	↑ ↓	\$A_5242THM
✖	4.	↑ ↓	\$5242THM
✖	5.	↑	\$A_5242

Displayed analyses group is responsible for:

- Whether all analyses or only the selected ones should be available in the mobile application.
 - If the flag is false:
 - Analyses of which departments should be available in the mobile application.
 - What extra analyses, besides the analyses of selected departments, should be available in the mobile application.
- In what order the extra analyses are displayed in the analysis list in the mobile application.

You can add or remove any of the departments or extra analyses.

6.3.1.5 Access Rights



Access rights group is responsible for:

- Whether anyone can use the preset by selecting it in the mobile application settings.
 - If the flag is false:
 - What groups of users have access to the preset in the mobile application settings.

7 CONTROL FILE

Please contact [LABWORKS support](#) in order to obtain an updated control file that is necessary to enable the product.

8 KNOWN ISSUES

9 TROUBLESHOOTING

9.1 YOU RECEIVED AN ERROR MESSAGE DURING INSTALLATION

- ***“Labworks eLIMS Setup Wizard ended prematurely”.***
This may indicate that IIS has not been installed yet. Please install IIS or wait until the IIS installation is complete and start the Labworks eLIMS installation again.
- ***“Service ‘LWeLIMSData’ (LWeLIMSData) failed to start. Verify that you have sufficient privileges to start system services.”***
This may indicate that the .NET version does not satisfy the requirements. Please check prerequisites in the Getting Started section.

9.2 YOU RECEIVED AN ERROR MESSAGE WHILE APPLYING THE SERVICE PACK OR SQL SCRIPTS.

This may indicate that the Service Pack and SQL scripts were applied in the incorrect order. Just re-apply the changes to the database in the correct order: first apply the Service pack and then SQL script.

9.3 THE LICENSE UPDATES ARE NOT APPLIED

Please make sure to restart all services after any license modifications.

9.4 YOU CANNOT LOG IN AS THE SUPER ADMIN

If you cannot log in as the super admin using standard credentials (login: Labworks-admin, password: MASTER), it is possible that someone has already changed the password. You can reset the password directly in the database.

To reset the password, follow these steps:

- Go to the database and find the CIM_SARecord table there.
- Just remove the record from it.
- Log in to the web application using the initial credentials “Labworks-admin/MASTER”.

9.5 SLOW PERFORMANCE ISSUES

If you faced with slow performance, you can try to rebuild table indexes directly in the database you use.

If you use MSSQL database, please apply the following script:

```
ALTER INDEX ALL ON ANALYSIS REBUILD;  
ALTER INDEX ALL ON RESULT REBUILD;  
ALTER INDEX ALL ON SAMPLE REBUILD;  
ALTER INDEX ALL ON PSSCHEDULE REBUILD;  
ALTER INDEX ALL ON CIM_SampleLog REBUILD;  
ALTER INDEX ALL ON CIM_LocationCodeGroups REBUILD;  
ALTER INDEX ALL ON CIM_LocationCodes REBUILD;
```

If you use Oracle 12.2 or above database, please apply the following script:

```
BEGIN
```

```

FOR index_entry IN (select INDEX_NAME, PARTITION_NAME from user_ind_partitions where
PARTITION_NAME LIKE 'P_2%')
LOOP
    dbms_output.put_line('ALTER INDEX ' || index_entry.INDEX_NAME || ' REBUILD
PARTITION ' || index_entry.PARTITION_NAME);
EXECUTE IMMEDIATE 'ALTER INDEX ' || index_entry.INDEX_NAME || ' REBUILD
PARTITION ' || index_entry.PARTITION_NAME;
END LOOP;
END;
/
BEGIN
FOR index_entry IN (select INDEX_NAME from user_indexes where table_name IN
('CIM_LOCATIONCODEGROUPS','CIM_LOCATIONCODES') and index_type='NORMAL')
LOOP
    dbms_output.put_line('ALTER INDEX ' || index_entry.INDEX_NAME || ' REBUILD');
EXECUTE IMMEDIATE 'ALTER INDEX ' || index_entry.INDEX_NAME || ' REBUILD';
END LOOP;
END;
/

```

The application may work slowly if you use old version of Oracle database, because version older than 12.2 do not support partitions.

9.6 INTERNET EXPLORER ISSUES

Since eLIMS does not support any version of Internet Explorer browsers, using them can lead to unexpected errors. Check out the browser version recommendations in the Getting Started section.

9.7 NO SEATS AVAILABLE ISSUE

No seats available issue may occur not only when you run out of licenses. Sometimes it occurs when the data service works incorrectly. It may be caused by any kind of database inconsistencies. You can check this and, if so, contact the support team to figure out the issue.

To check the data service is working correctly, follow the steps:

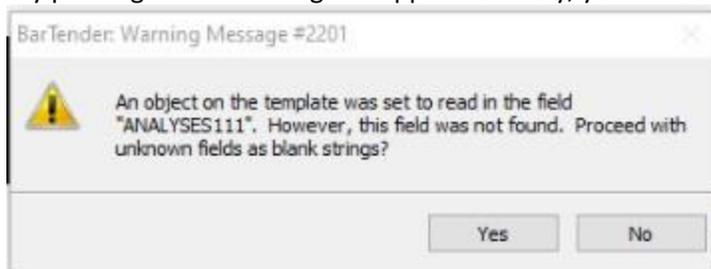
- Log in as the Super Admin
- Select the Configuration -> Service Diagnostics main menu item. The Supporting Service Diagnostics page will be open.
- Look through the services in the list.
 - Check that all service jobs have been run successfully. The End date value should be no more than the setting specified in the config (by default, it is 5 minutes).
 - If all service jobs statuses are Success and the dates are updated, the data service is working correctly.
 - If at least one item is failed or its End time is not updated, restart the job.
 - If errors are still displayed on the page or the dates are not updated, please contact support with this issue.

9.8 BARTENDER LABELS ISSUE

eLIMS 7.0 provides database changes related to merging SAMPLE and PSSCHEDULE tables. Most of the sample properties have been migrated from PSSCHEDULE to SAMPLE and their names have been changed. But the rest have been removed. If at least one such property is included in a BarTender label template, printing labels will not work correctly. Users will only see the sample ID and barcode on these labels.

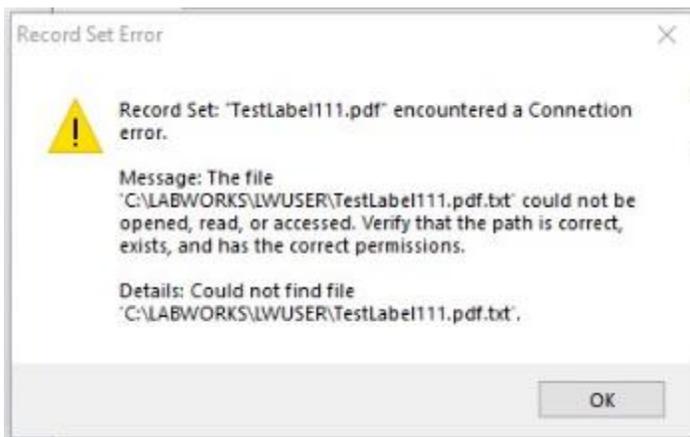
To restore printing labels, the administrator should follow these steps:

- Go to the BarTender template storage. Usually, it is `C:\LABWORKS\LWDATA\labels`.
- Using the BarTender Designer app, open a label template that has an issue when printing.
- Try printing the label using this app. Most likely, you will see something like this:



- Change any properties that caused this kind of issue or just remove them from the template.
- Once you can print the label from BarTender Designer, the problem can be considered fixed. Just save the template and try to print your label via eLIMS.

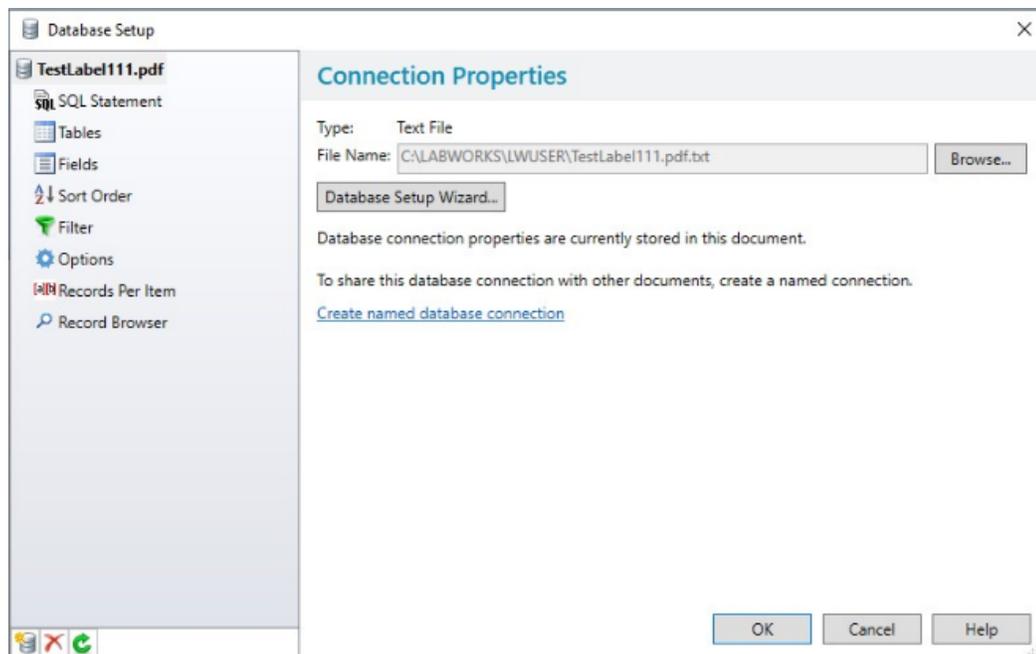
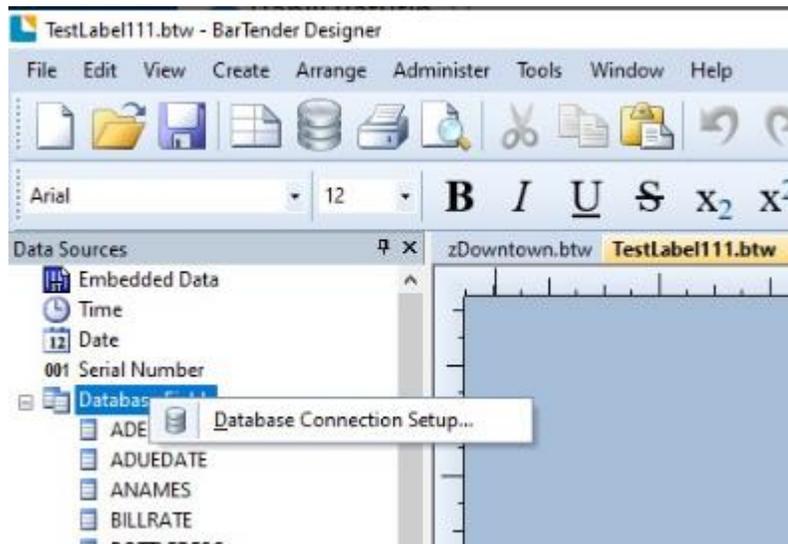
However, in some cases, BarTender Designer may throw a connection error when connecting to a source file to display the available properties.



You can ignore this issue and just change properties if you know exact property names or remove them. But if you need the set of available properties, you can use the following workaround:

- Go to `C:\inetpub\wwwroot\LabworksWeb\App_Data\upload\temp` and find the last text document (name starts with "TestLabel.btw-").
- Copy this file to `C:\LABWORKS\LWUSER`.
- Go to the BarTender template storage. Usually, it is `C:\LABWORKS\LWDATA\labels`.
- Using the BarTender Designer app, open a label template that has an issue when printing.

- Open the “Database Setup” window (move to Data Sources tab-> right-click on Database Fields - > click DatabaseConnection Setup).



- Click Browse and choose the .txt file from the step above.
- Database Fields will be reloaded.

9.9 UNKNOWN ISSUES

Any unknown issues will most likely be fixed by restarting the core supporting services. Try to restart all LW services in the correct order. Follow the steps:

- Start LWDDataService
- Wait 5 seconds

- Start LWLicenseService
- Start LWeLIMSData
- Start LWeLIMSLicense
- Start LWeLIMSReporting

Also, please check your license file. It should not be expired. If so, replace it with a new one and restart all services.

If this did not help you resolve the issue, please follow the steps:

- Turn on a more detailed level for logging.
 - Open the file C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSLicense\LWeLIMSLicense.exe.config
 - Find the string in the file `<setting name="LogLevel" serializeAs="String">`
`<value>2</value> </setting>`
 - Change it to `<setting name="LogLevel" serializeAs="String"> <value>0</value>`
`</setting>`
- Restart the core supporting services as described above.
- Reproduce the issue.
- Contact the Labworks Support Team and provide it with log files from the following directories:
 - C:\inetpub\wwwroot\LabworksWeb\App_Data\Logs\
 - C:\ProgramData\Labworks LLC\LWeLIMSLicense\Logs\
 - C:\ProgramData\Labworks LLC\LWeLIMSData\Logs\
 - C:\ProgramData\Labworks LLC\LWeLIMSReporting\Logs\

10 LABWORKS eLIMS INSTALLATION CHECKLIST

- Check the availability of the LABWORKS services in the network
- Verify that IIS and .NET are installed
- Run the LABWORKS Update Tool
- Run the SQL scripts
- Install the Labworks eLIMS files
- Install “URL Rewrite” IIS extension.
- Copy ApplicationSpec.xml file into C:\Program Files (x86)\LABWORKS eLIMS\LWeLIMSLicense\
- Restart IIS
- Set up SSL
- Configure the automatic sample validation
- Open the Labworks eLIMS web application in the browser using IIS Manager
- Configure Labworks eLIMS web application