
Labworks eLIMS v.6.10

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.
04/21/2021	6.10.1.13.2	Added “Some temporary tables in the database are still populated after eLIMS uninstalling” to the “Troubleshooting” 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	21
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 CONFIGURATION	39
5.1 General configuration	39
5.1.1 <i>Displayed samples period</i>	39
5.1.2 <i>Time zone settings</i>	40
5.1.3 <i>Military time format</i>	40
5.1.4 <i>Maximum of reported samples</i>	41
5.1.5 <i>Checksum violations</i>	42
5.1.6 <i>Dashboard refresh interval</i>	43
5.1.7 <i>Restart IIS after adding new database</i>	44
5.1.8 <i>Database collations</i>	45
5.1.9 <i>Database migrations</i>	45
5.1.10 <i>System Manager settings</i>	46
5.1.11 <i>Reports</i>	47
5.1.12 <i>Calculations</i>	47
5.1.13 <i>FIPS Compliant Installation</i>	49
5.2 Web application configuration.....	51
5.2.1 <i>Role Management</i>	51
5.2.2 <i>User Roles</i>	52
5.2.3 <i>Group Roles</i>	53
5.2.4 <i>Sessions</i>	54
5.2.5 <i>Service Diagnostics</i>	55
5.3 Mobile application configuration.....	56

5.3.1	Collection Views	56
6	CONTROL FILE	60
7	KNOWN ISSUES	61
8	TROUBLESHOOTING.....	62
8.1	You received an error message during installation.....	62
8.2	You received an error message while applying the service pack or sql scripts.	62
8.3	The license updates are not applied	62
8.4	You cannot log in as the super admin	62
8.5	Slow performance issues	62
8.6	Internet Explorer issues.....	63
8.7	Some temporary tables in the database are still populated after eLIMS uninstalling	63
8.8	Unknown issues.....	65
9	LABWORKS ELIMS INSTALLATION CHECKLIST.....	66

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 2012 STD/ENT
 - Windows Server 2016 STD/ENT
- **Installed Labworks eLIMS services, version 6.10.1.13**
 - Please make sure that Labworks eLIMS services are installed according to the *Labworks eLIMS v6.10.1.13 Installation Guide* before starting Labworks eLIMS installation.
- **Installed Labworks desktop services, version 6.10.0.59 or above**
 - The minimal required build version of Labworks desktop services is 6.10.0.59.
- **Installed Internet Information Services (IIS), version 10.0 or above**
 - 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 4.7.2 or above.**
 - Application Pool Enable 32 bit applications.
- **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

- Edge 44 (Edge Mobile) - release date 2019 or later
- Firefox 72 - release date January 2020 or later
- Safari 11x (IOS 11x) - release date September 2017 or later
- Chrome 80 (Android Chrome 79) - release date January 2020 or later

The Labworks eLIMS installation package includes:

1. Labworks eLIMS web-site files

The *LABWORKS-Enterprise_LIMS-6.10.1.13.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-6.10.1.13.sql
- LWEnterpriseSQLScripts-Oracle-6.10.1.13.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-6.10.1.13.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

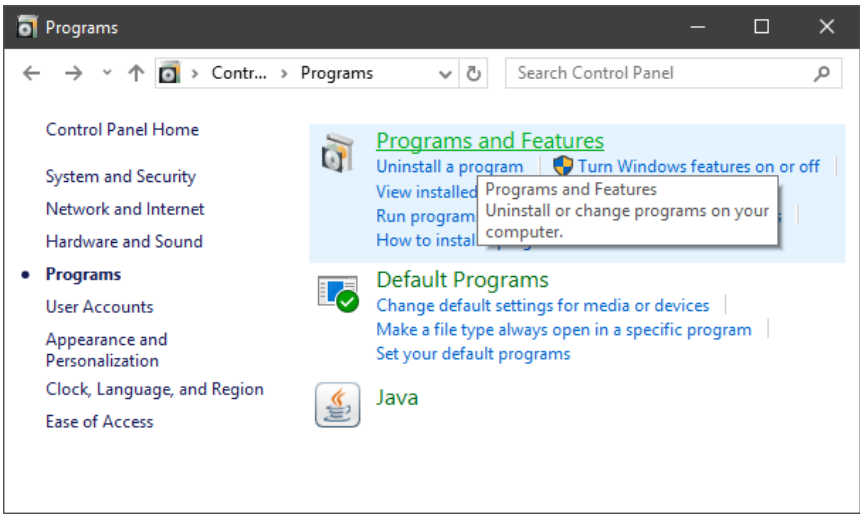
Pinging Computer01.Company.com [192.168.0.35] with 32 bytes of data:
Reply from 192.168.0.1: bytes=32 time=2ms TTL=63
Reply from 192.168.0.1: bytes=32 time<1ms TTL=63
Reply from 192.168.0.1: bytes=32 time=1ms TTL=63
Reply from 192.168.0.1: bytes=32 time<1ms TTL=63

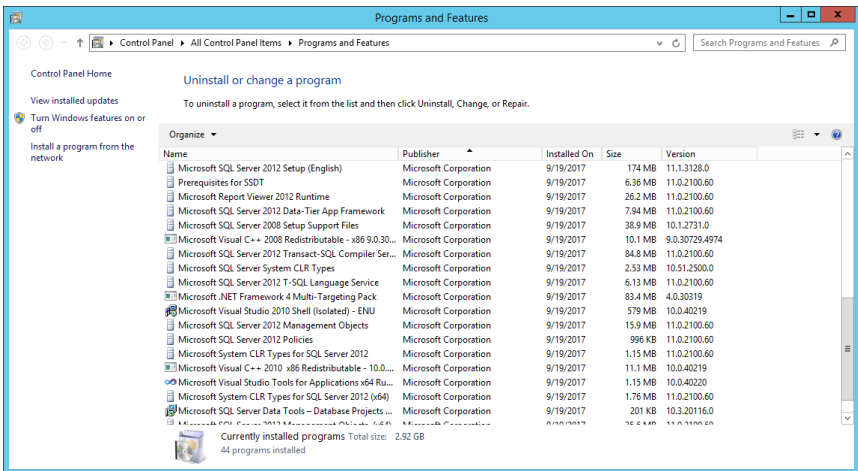
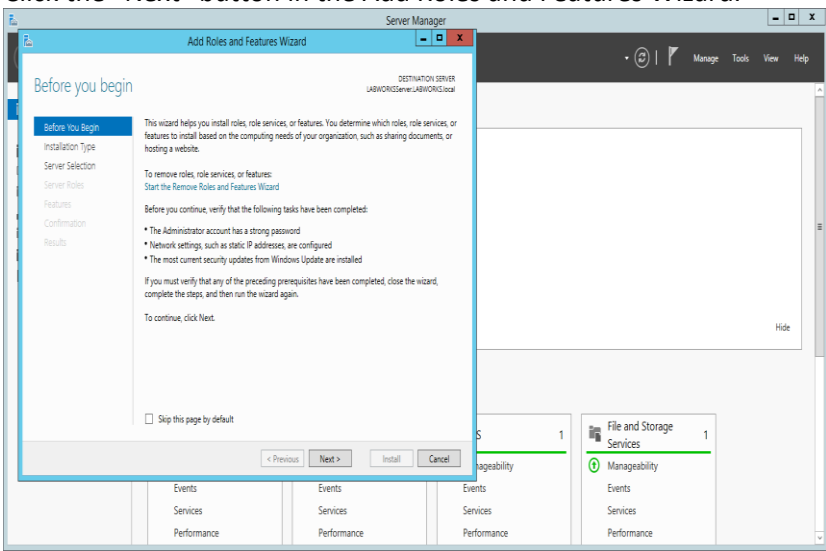
Ping statistics for 192.168.0.1:
    Packets: Sent 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

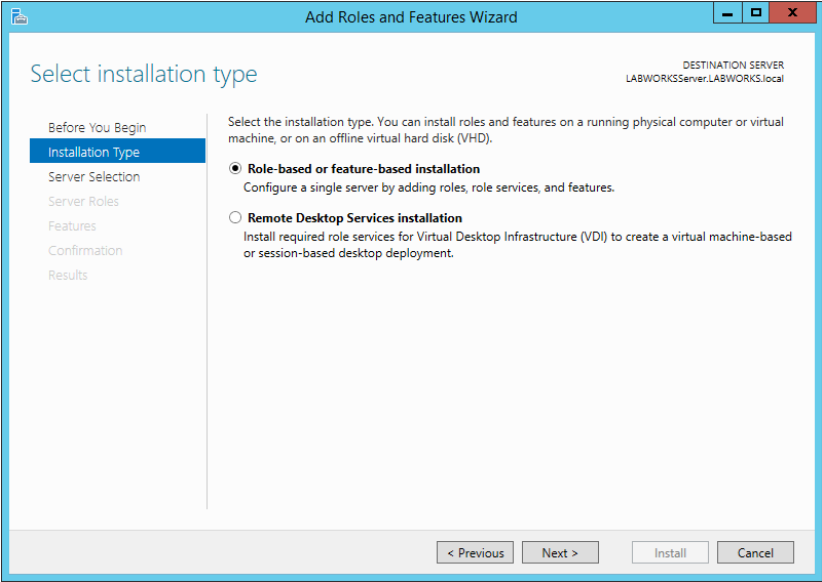
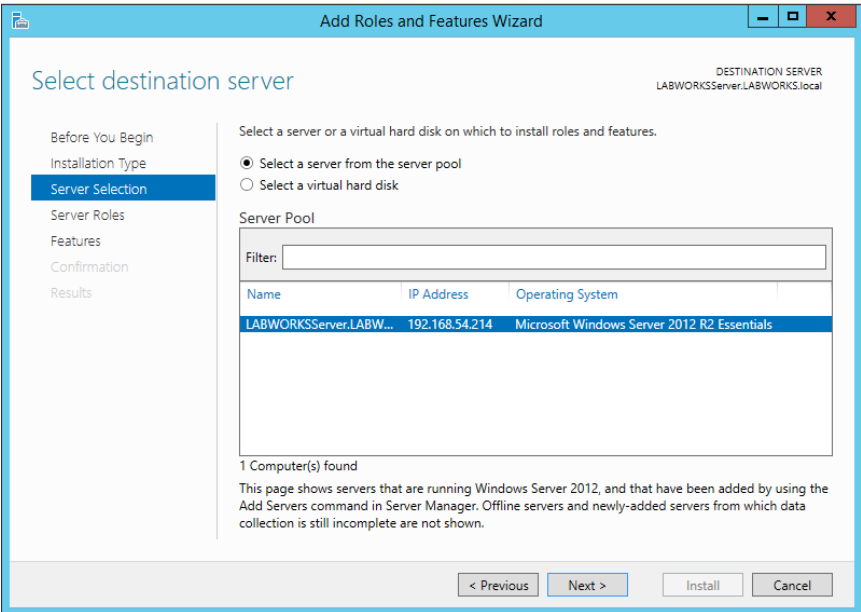
C:\>
```

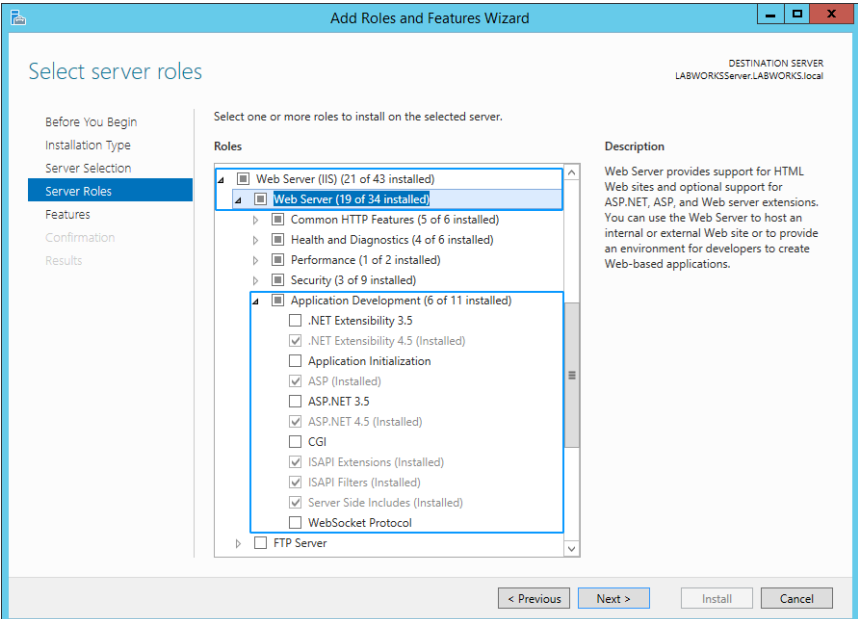
3.2 IIS AND .NET AVAILABILITY

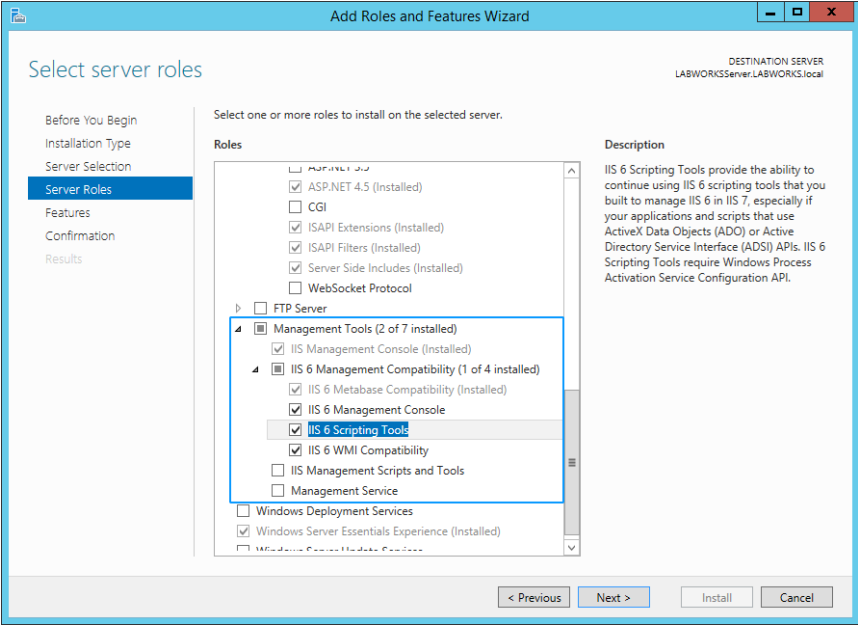
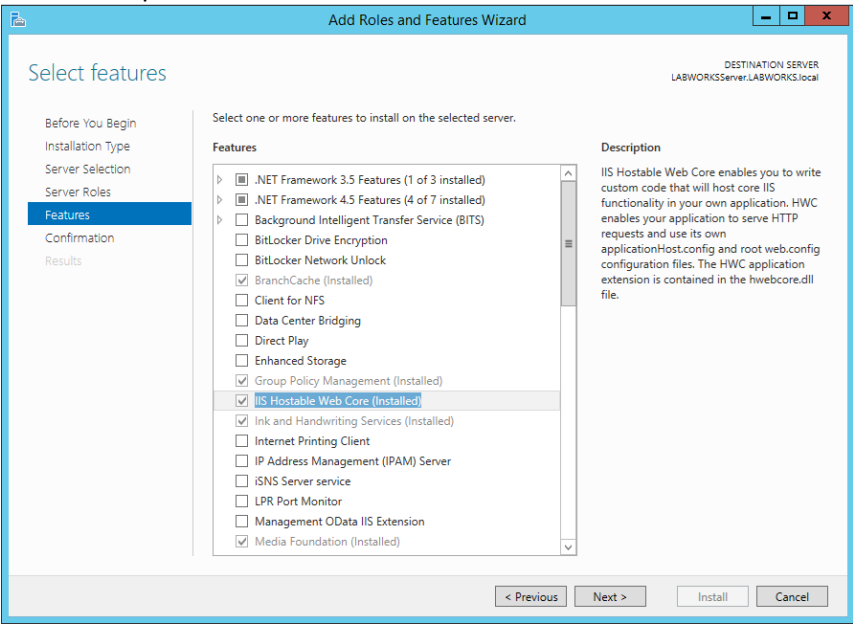
Please follow these steps to verify whether Internet Information Services and .NET framework are installed:

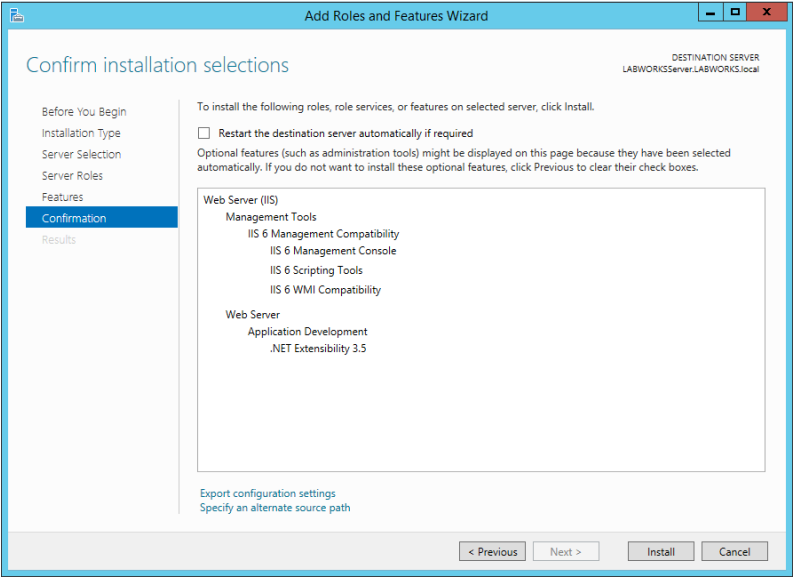
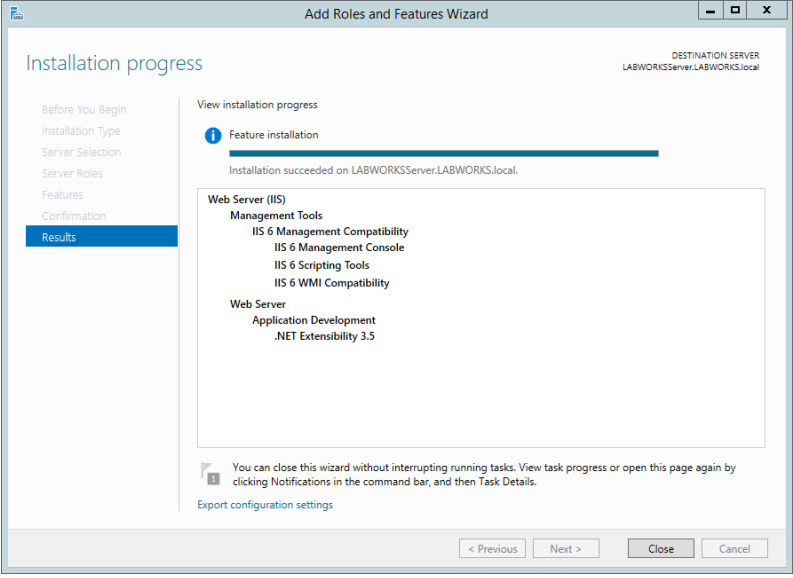
Step	User Input / Action	Expected Results
1	<p>Navigate to the Windows Control Panel "Programs and Features" window using the Start menu.</p> 	"Programs and Features" window displayed.

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	<div>Click the “Next” button.</div> <div></div>	“Select destination server” page displayed.
5	<div>Click the “Next” button.</div> <div></div>	“Select server roles” page displayed.

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 	All listed options checked.

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

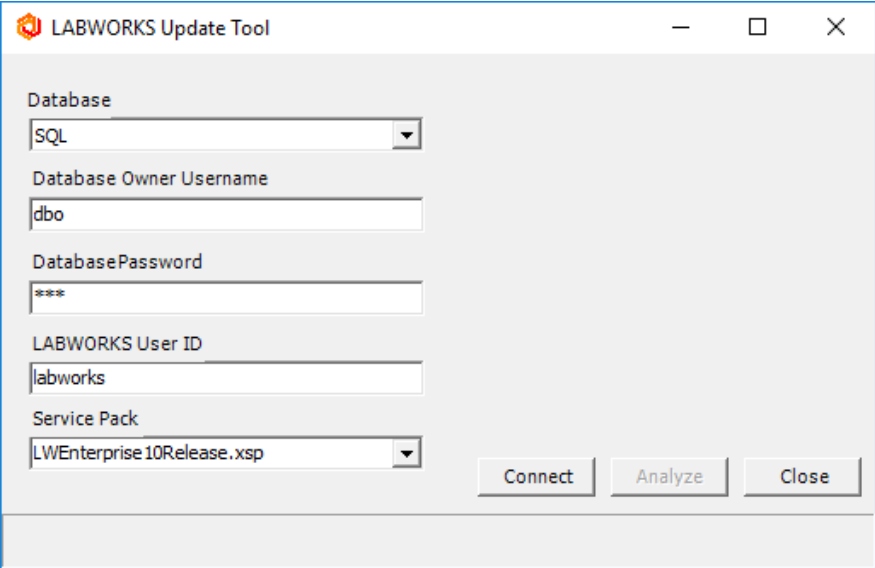
4.1 LABWORKS UPDATE TOOL

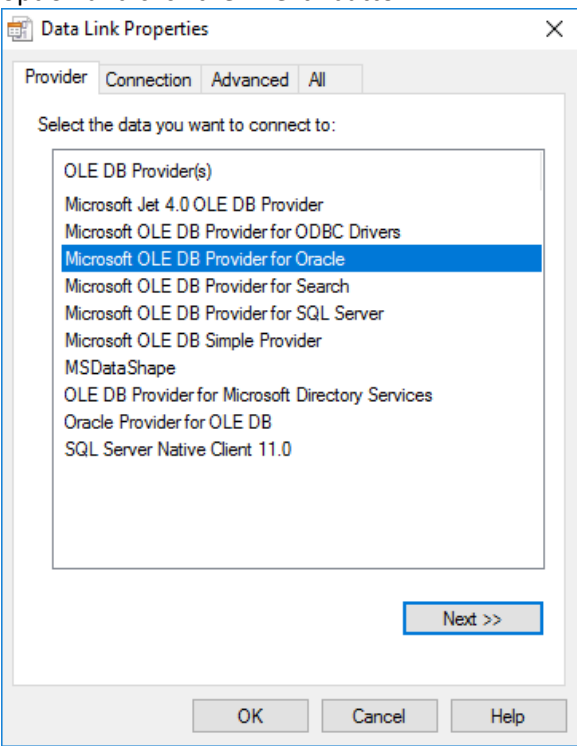
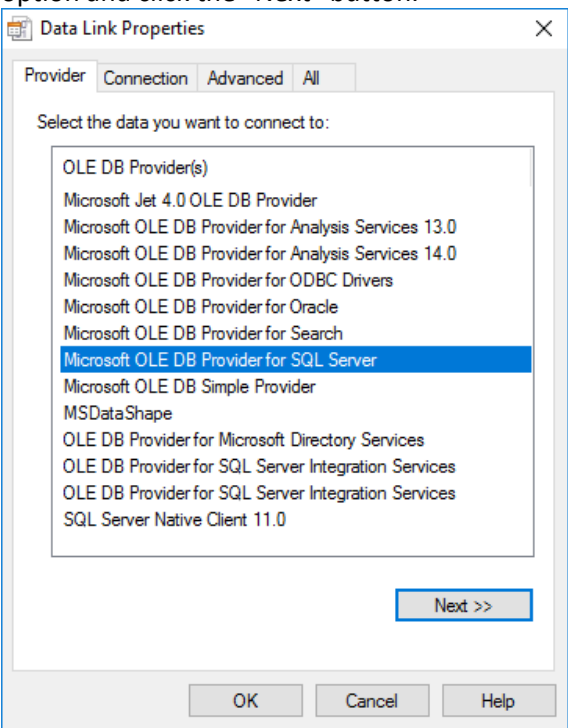
The LABWORKS Update Tool will apply modifications to your database required for Labworks eLIMS work. It will not affect any of your existing data.

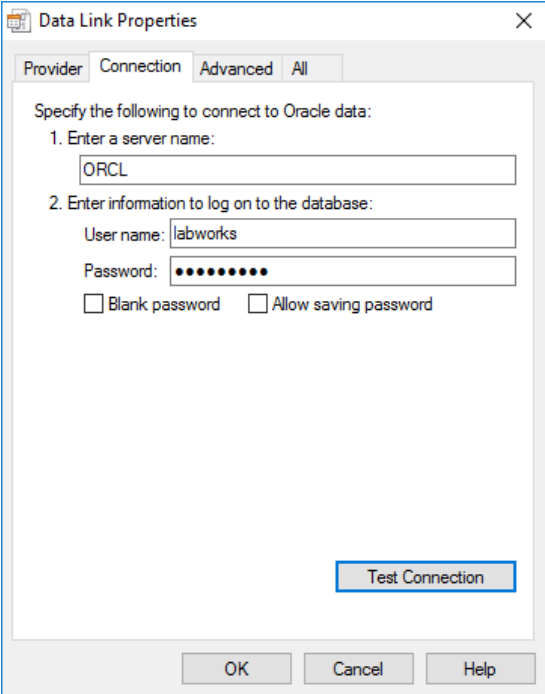
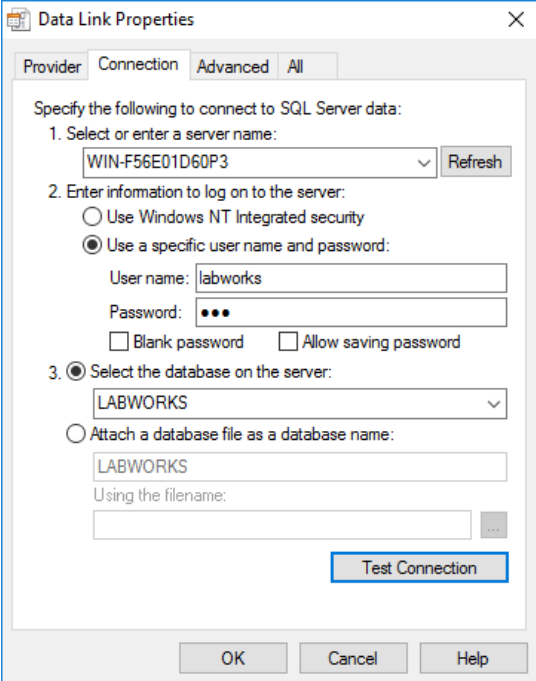
After that you should apply SQL scripts.

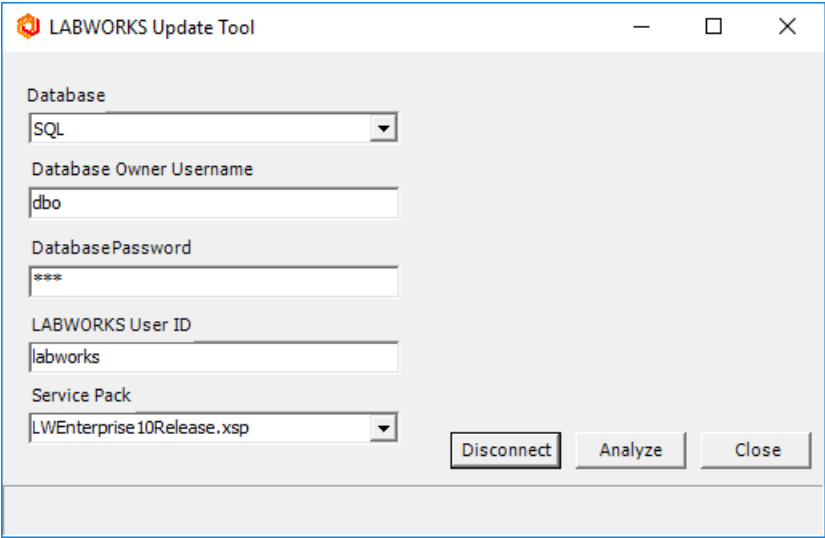
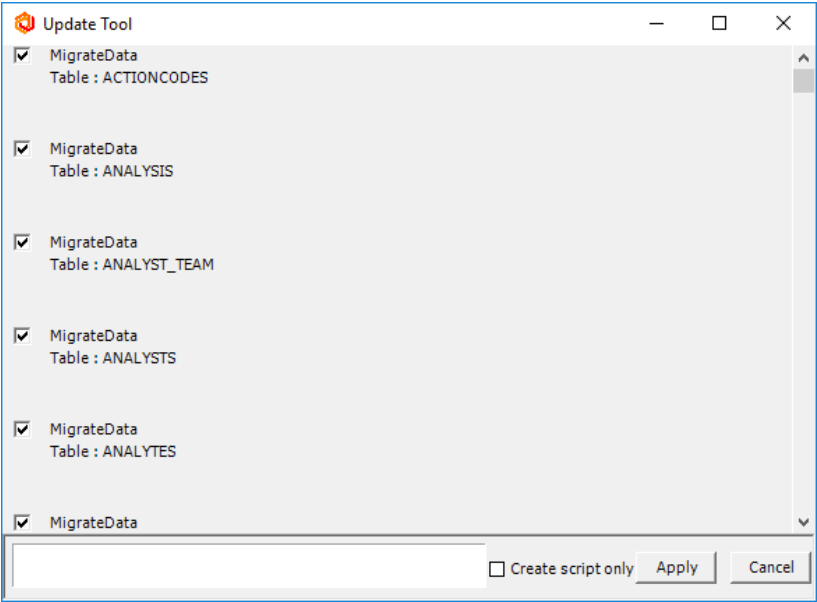
WARNING: this order is different from the order you use to upgrade LABWORKS desktop, in which you are supposed to run the script first and then apply the service pack.

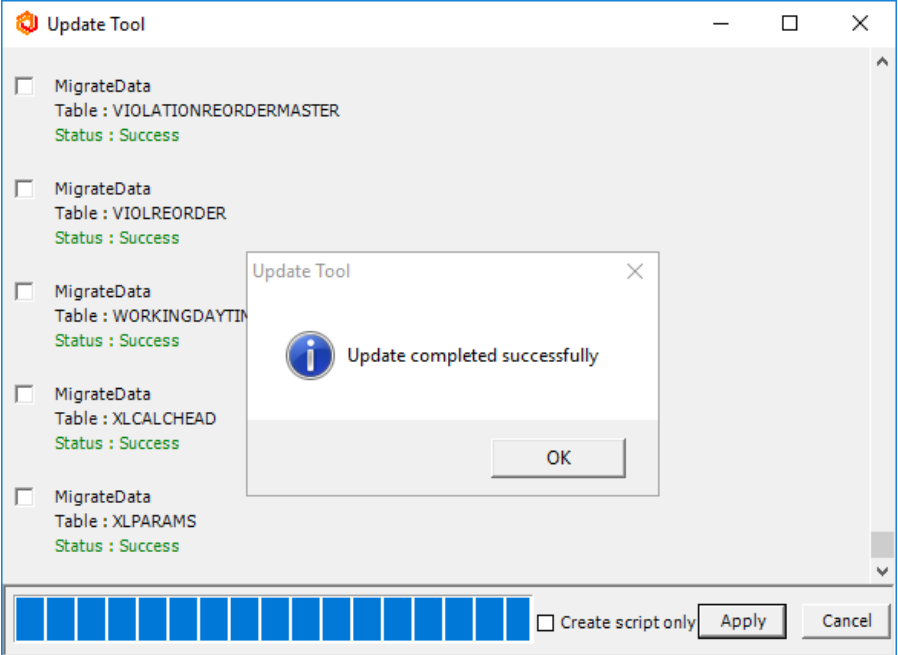
Step	User Input / Action	Expected Results
1	Stop the LWeLIMSLicense and LWeLIMSData services if the Labworks eLIMS application is already installed. <ul style="list-style-type: none"> • Use “Windows + R” button combination to open the “Run” window. • Type “services.msc” in the field and press “Enter”. • Find LWeLIMSLicense and LWeLIMSData services and stop them. 	<i>Services are stopped.</i>
2	Copy the Labworks eLIMS Service Pack (<i>LWEnterpriseRelease-6.10.1.13.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-6.10.1.13.xsp</i> copied to the folder.

3	<p>Launch the UpdateTool.exe in the same folder with administrator permissions, and fill up 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-6.10.1.13.xsp</i> option <p>Once the form is filled, click the “Connect” button.</p> 	“Data Link Properties” window displayed.
---	--	--

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

5.1	<p>If <u>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>The screenshot shows the 'Data Link Properties' dialog box with the 'Connection' tab selected. It prompts the user to specify information to connect to Oracle data. Step 1 is 'Enter a server name:' with the text 'ORCL' entered. Step 2 is 'Enter information to log on to the database:' with 'User name:' set to 'labworks' and 'Password:' masked with dots. There are checkboxes for 'Blank password' and 'Allow saving password', both of which are unchecked. A 'Test Connection' button is highlighted at the bottom right of the dialog.</p>	Test Connection performed.
5.2	<p>If <u>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>The screenshot shows the 'Data Link Properties' dialog box with the 'Connection' tab selected. It prompts the user to specify information to connect to SQL Server data. Step 1 is 'Select or enter a server name:' with a dropdown menu showing 'WIN-F56E01D60P3' and a 'Refresh' button. Step 2 is 'Enter information to log on to the server:' with radio buttons for 'Use Windows NT Integrated security' (unchecked) and 'Use a specific user name and password:' (checked). Under the checked option, 'User name:' is 'labworks' and 'Password:' is masked with dots. There are checkboxes for 'Blank password' and 'Allow saving password', both of which are unchecked. Step 3 is 'Select the database on the server:' with a radio button selected and a dropdown menu showing 'LABWORKS'. There is also an option to 'Attach a database file as a database name:' which is not selected. A 'Test Connection' button is highlighted at the bottom right of the dialog.</p>	Test Connection performed.

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

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-6.10.1.13.sql*
- For Oracle – *LWEnterpriseSQLScripts-Oracle-6.10.1.13.sql*

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

4.3 LABWORKS ELIMS FILES

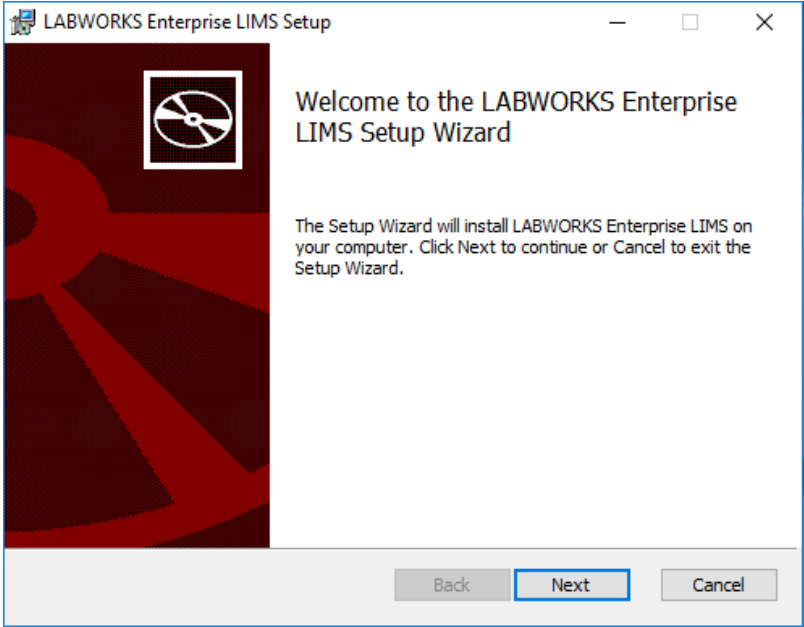
The installation procedure will extract the Labworks eLIMS files to the web server.

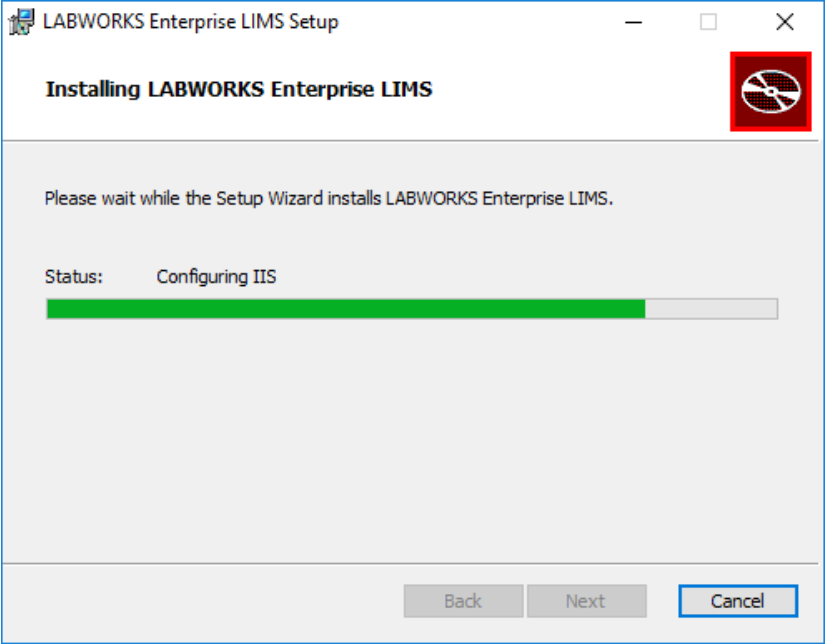
The web server must be run by Internet Information Services (IIS) of version 10.0 or above.

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	<p>Before installation, make sure that:</p> <ol style="list-style-type: none"> 1. LWDataServices and LWLicenseServices services are running. 2. there is a license for the product. <p>If not, first run LWDataServices, wait 5 seconds, and then start LWLicenseServices.</p>	LWDataServices and LWLicenseServices services are running. There is a license for the product.
2	<p>Launch the LABWORKS-Enterprise_LIMS-6.10.1.13.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.

Step	User Input / Action	Expected Results
3	<div>Wait until the installation is complete and click the “Finish” button.</div> <div></div>	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.

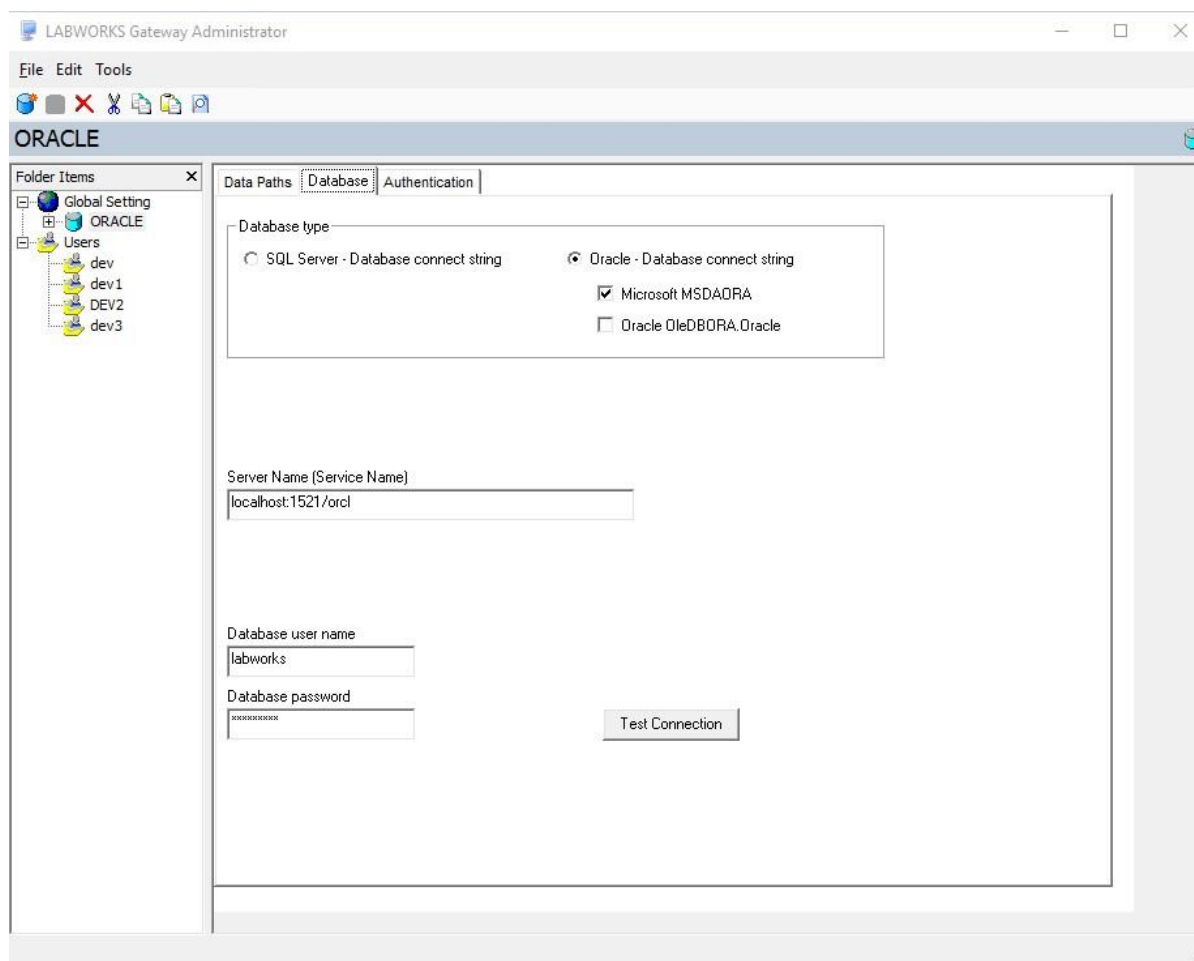
Also, you can download the URL Rewrite extension from the official Microsoft website:

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

4.5 GATEWAY ADMINISTRATOR (ORACLE ONLY)

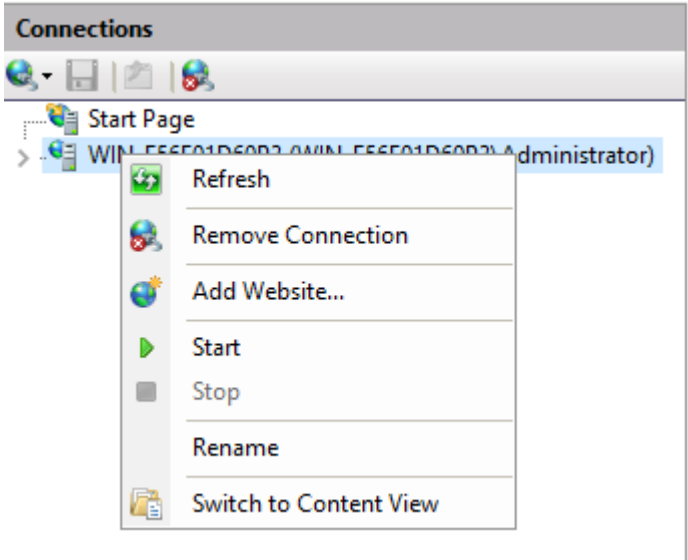
If you use Oracle database, please check the server name in the Gateway Administrator application:

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.



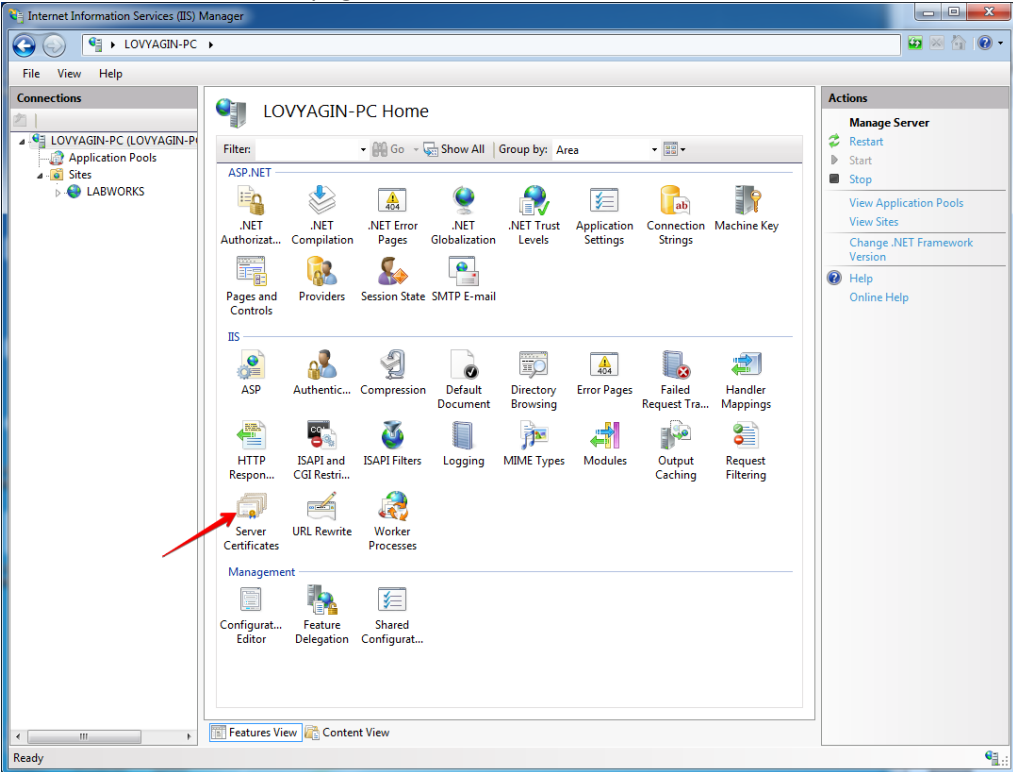
4.6 LABWORKS eLIMS CONFIGURATION

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.

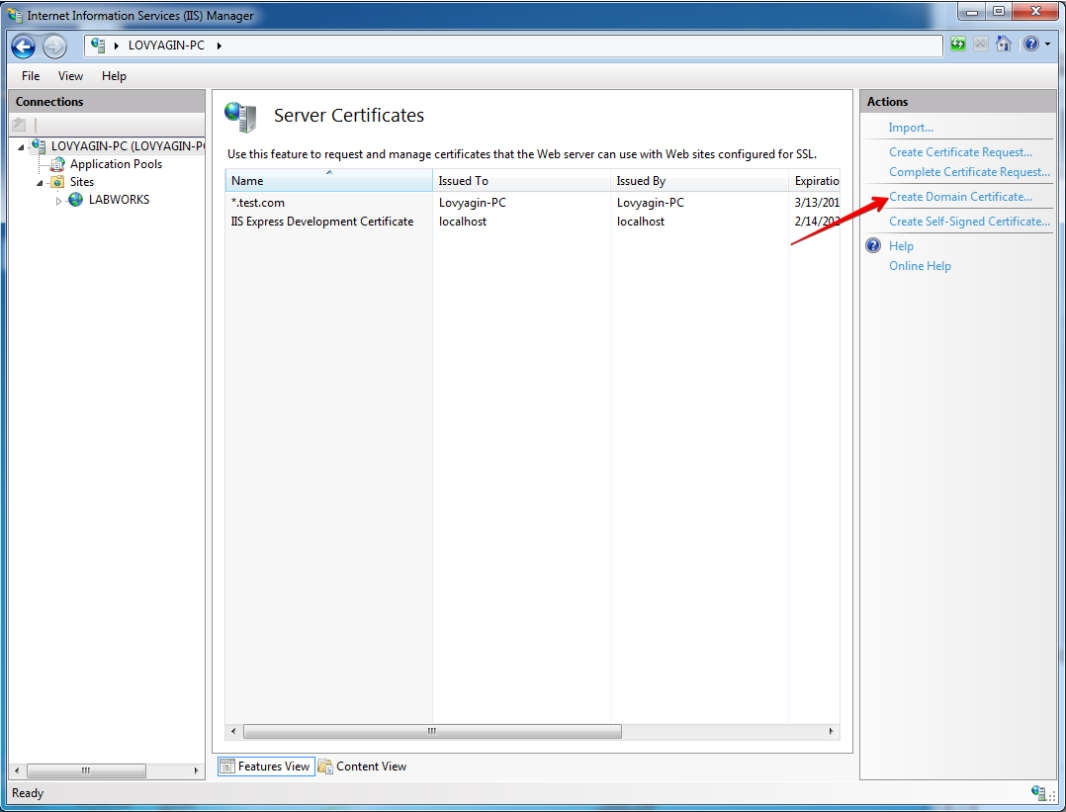
4.7 SET UP SSL

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

Create Certificate



Distinguished Name Properties

Specify the required information for the certificate. State/province and City/locality must be specified as official names and they cannot contain abbreviations.

Common name:

test

Organization:

test

Organizational unit:

test

City/locality

test

State/province:

test

Country/region:

US

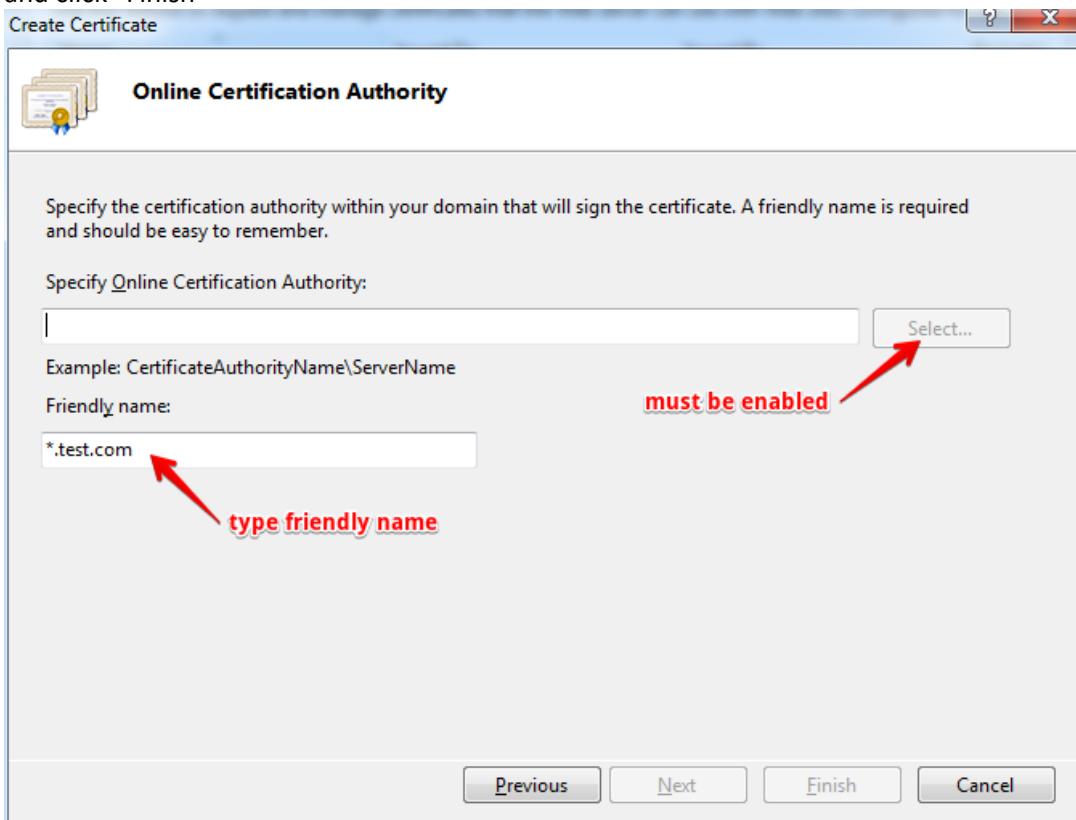
Previous

Next

Finish

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"



Create Certificate

Online Certification Authority

Specify the certification authority within your domain that will sign the certificate. A friendly name is required and should be easy to remember.

Specify Online Certification Authority:

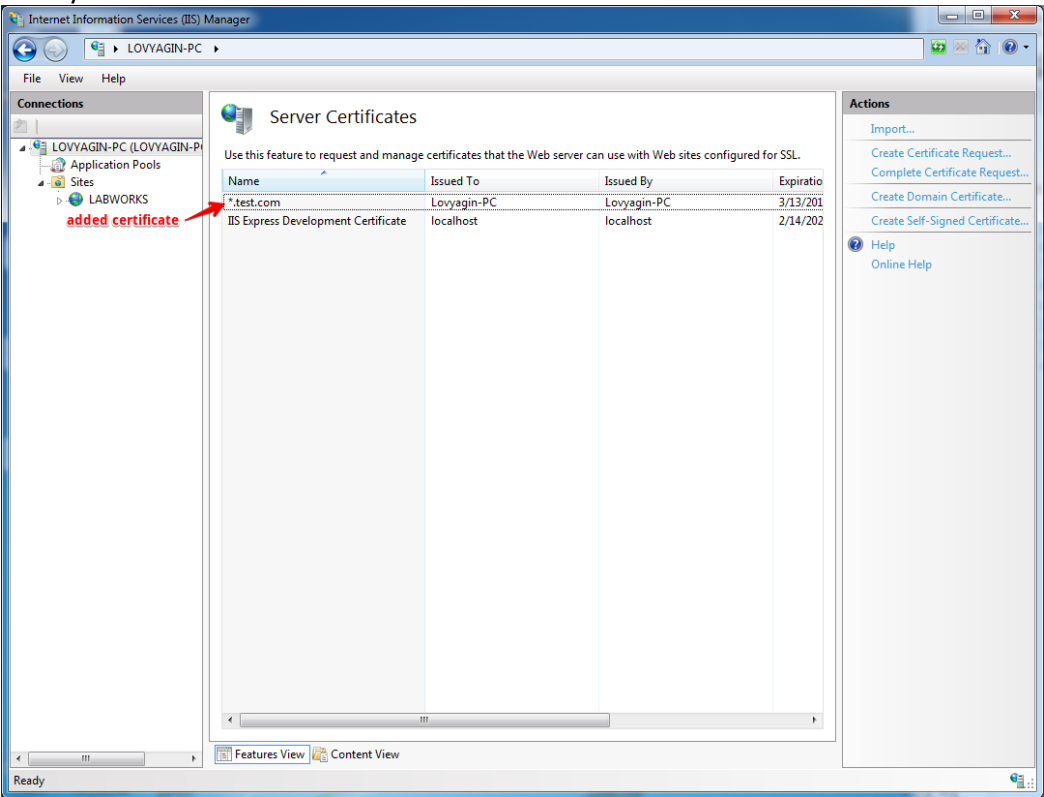
Example: CertificateAuthorityName\ServerName

Friendly name:

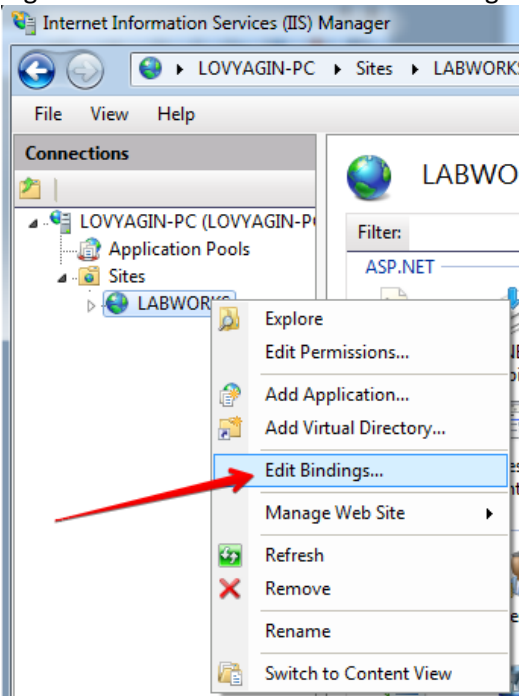
type friendly name

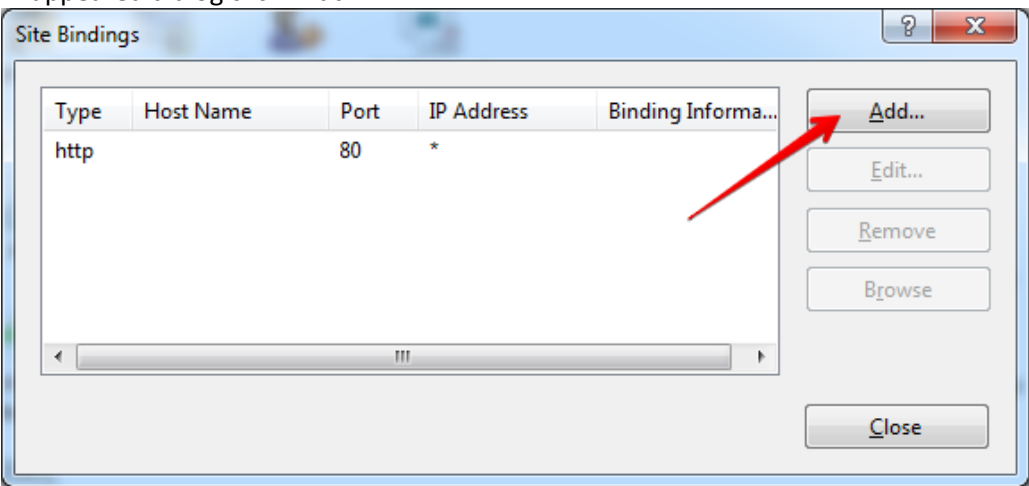
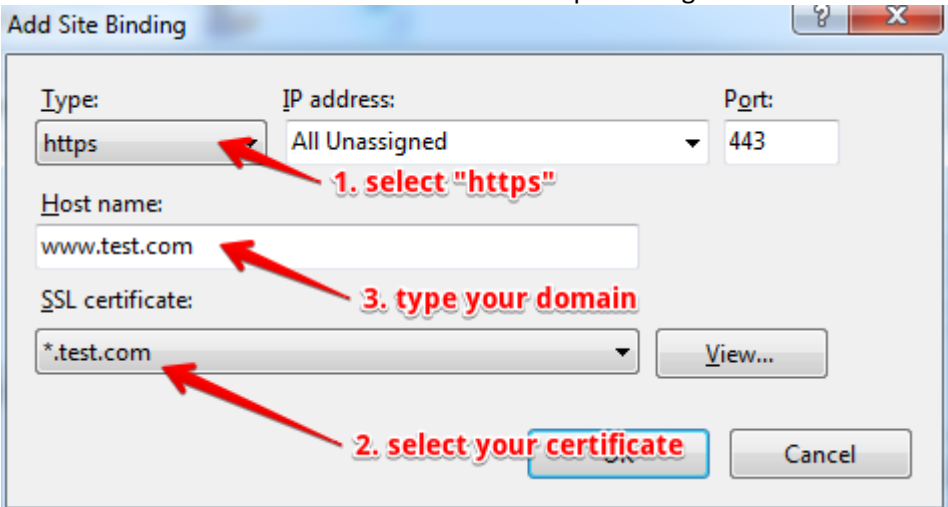
must be enabled →

7 Then you can see new certificate in cert-list



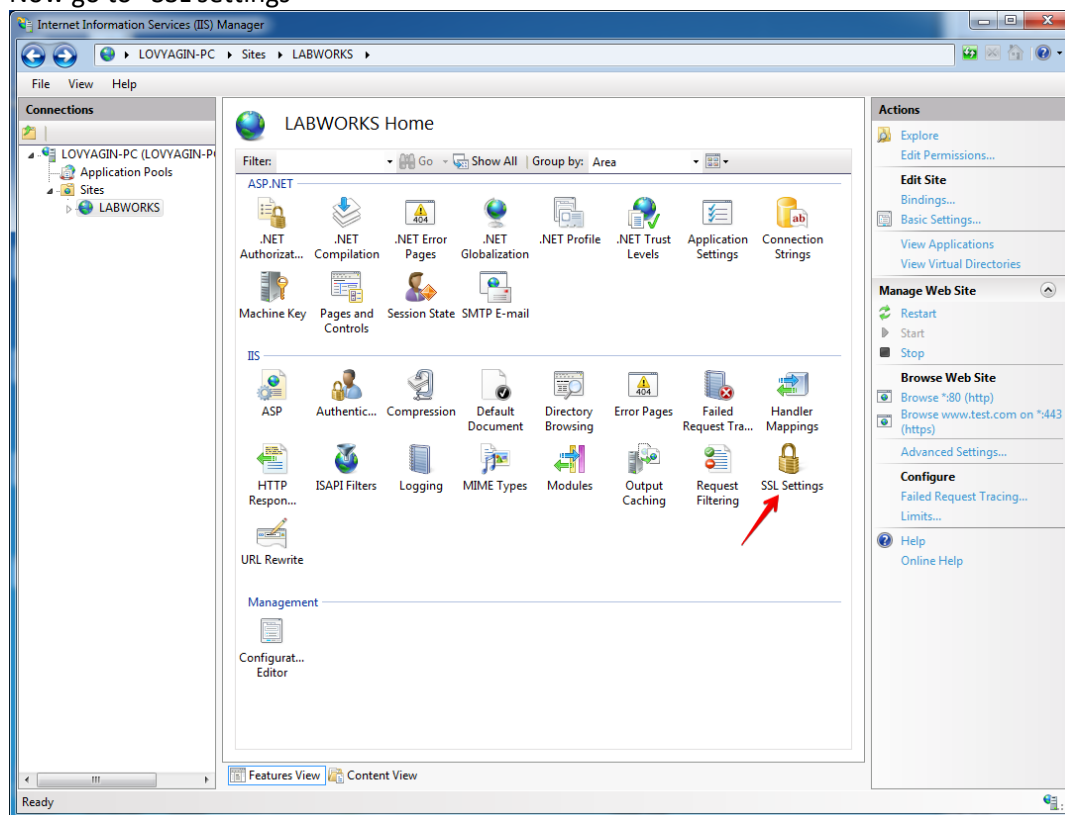
8 Right-click on site and select “Edit bindings”



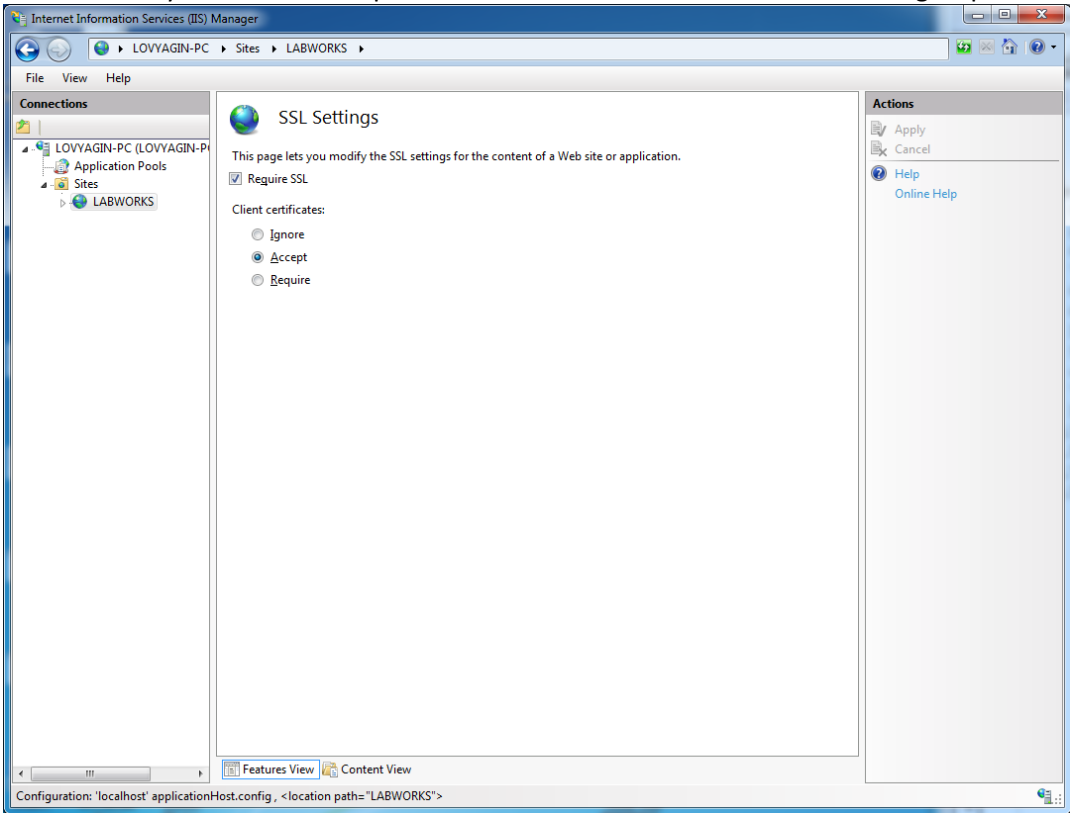
- 9 In appeared dialog click “Add...”
- 
- 10 Follow instruction on screenshot to add new https binding and click “OK”
- 

11

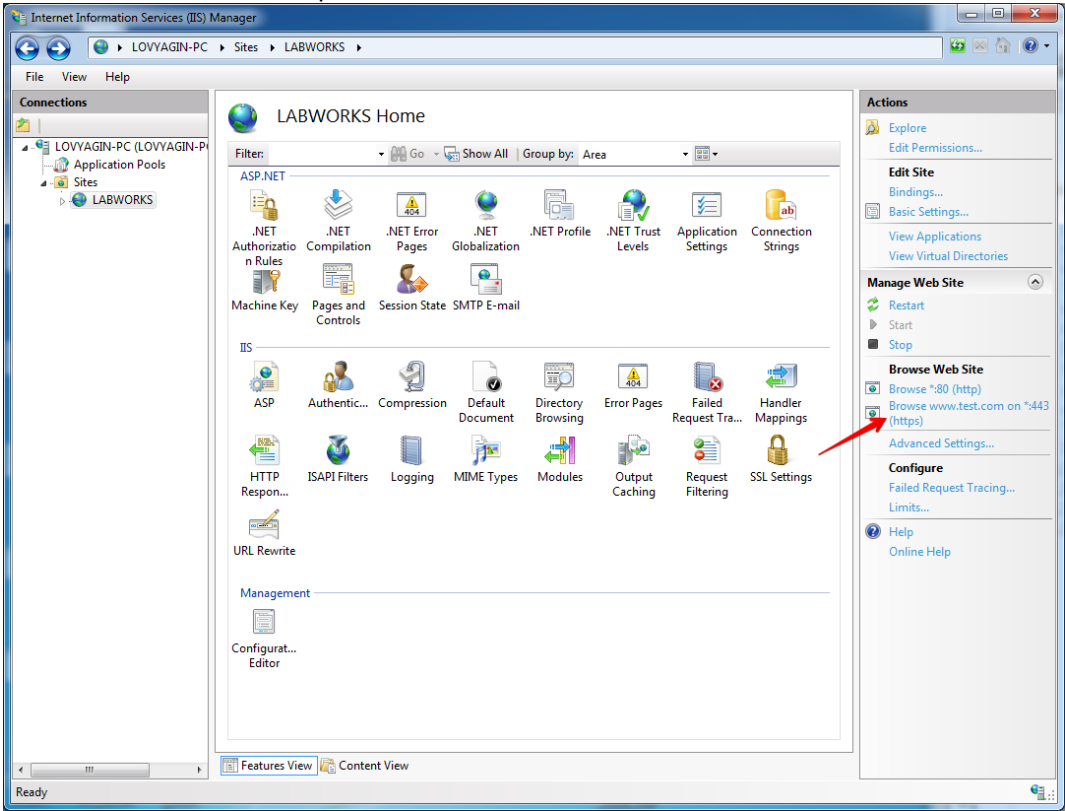
Now go to “SSL settings”



- 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.



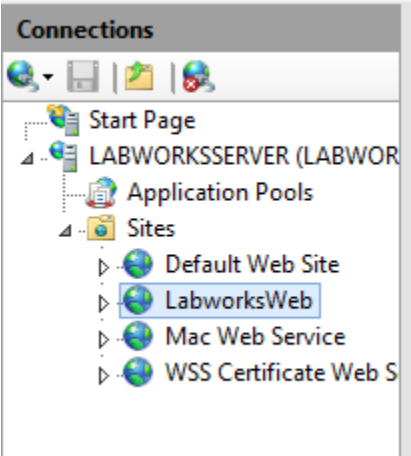
13 Now you should see two options for browsing your site from IIS, click on “https” binding to make sure that SSL is set up



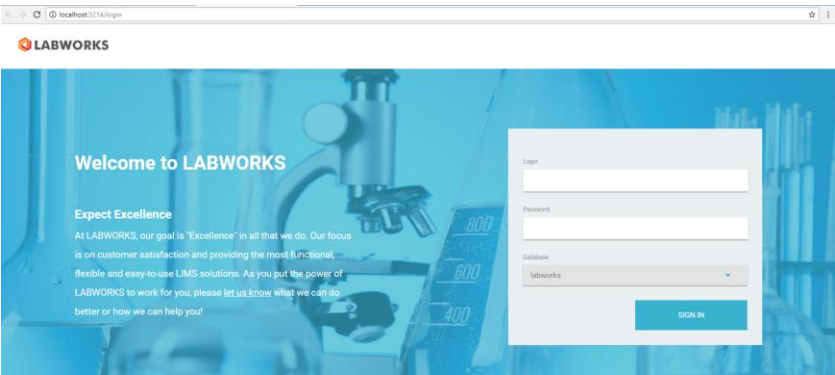
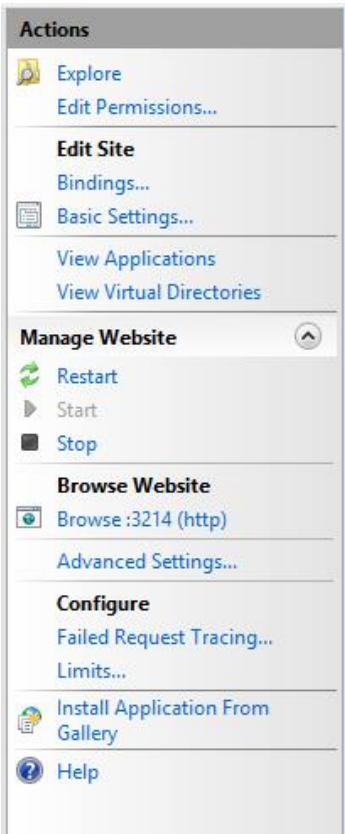
4.8 OPEN LABWORKS ELIMS IN A BROWSER

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.

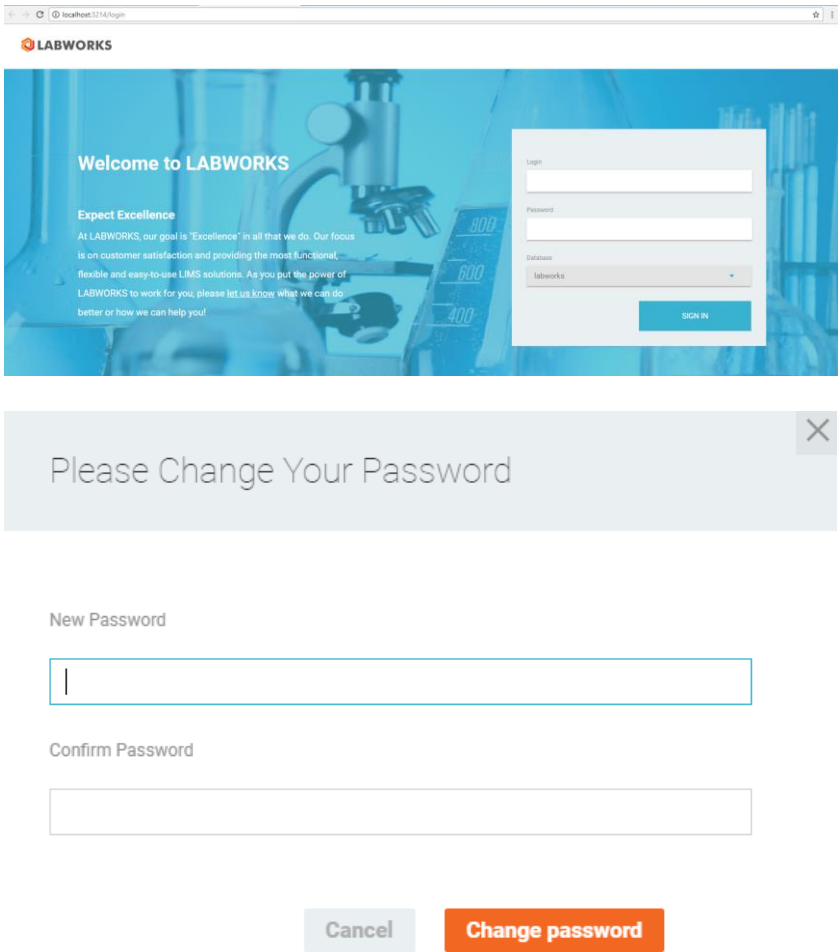
3	<p>Find and select the <i>LabworksWeb</i> application under <i>LABWORKSSERVER > Sites</i> folder in the “Connections” panel on the left-hand side of the “Internet Information Services (IIS) Manager” window</p> 	<p>“Actions” panel appeared on the right-hand side of the window.</p>
---	--	---

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



Labworks eLIMS application landing page opened in the web browser.

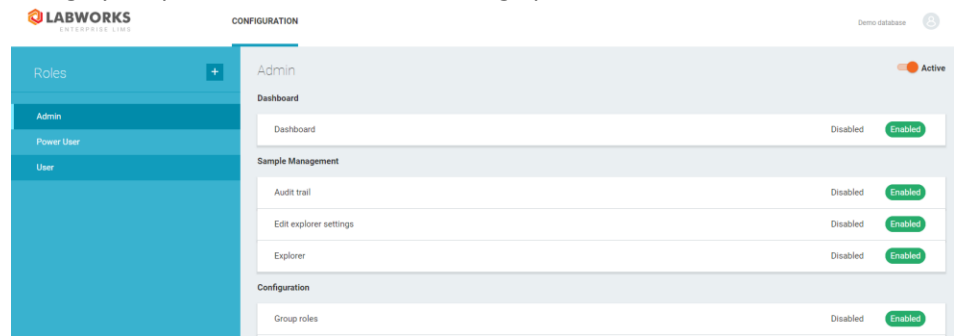
5 Use “labworks-admin” login and “MASTER” password to log in.



The screenshot shows the Labworks login interface. At the top, there's a "Welcome to LABWORKS" message with a sub-header "Expect Excellence" and a paragraph about the company's focus on customer satisfaction. Below this is a login form with fields for "Login", "Password", and "Database" (set to "labworks"). A "SIGN IN" button is at the bottom right of the form. Below the login form, a modal dialog titled "Please Change Your Password" is open. It contains two input fields: "New Password" and "Confirm Password". At the bottom of the dialog are two buttons: "Cancel" and "Change password".

Change Password dialog opened in the screen.

6 Change your password and click the *Change password* button.



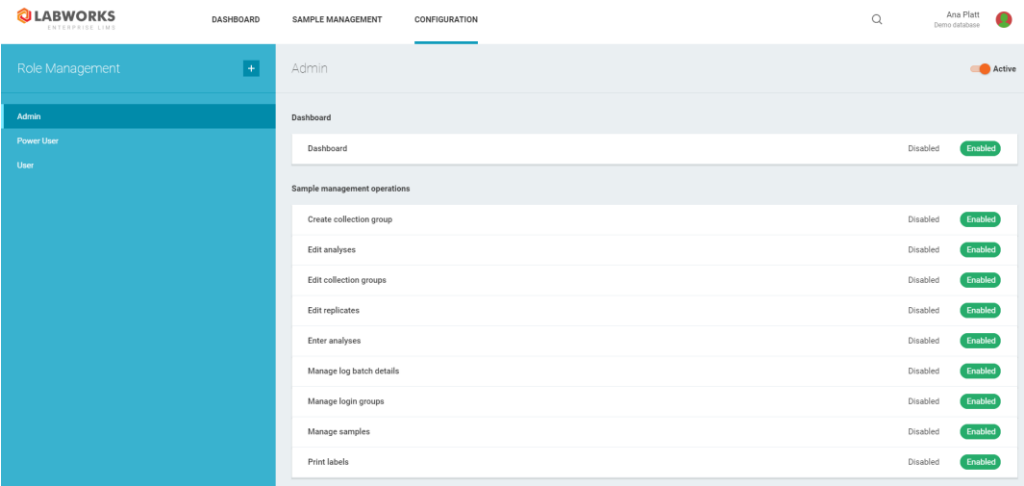
The screenshot shows the Labworks Configuration page. On the left is a sidebar with a "Roles" section containing "Admin", "Power User", and "User". The main content area is titled "CONFIGURATION" and shows a list of settings for the "Admin" role. The settings are grouped into "Dashboard", "Sample Management", and "Configuration". Each setting has a "Disabled" status and an "Enabled" button. The settings listed are: Dashboard, Audit trail, Edit explorer settings, Explorer, and Group roles.

Configuration page opened.

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

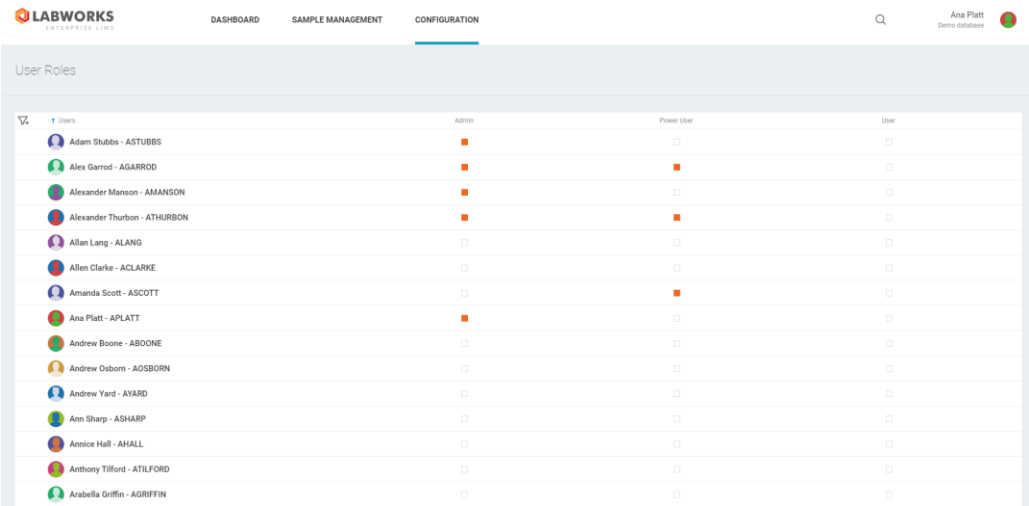
In order to do so, individual users or groups must be assigned a particular role which will define the list of pages the user has access to.

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.

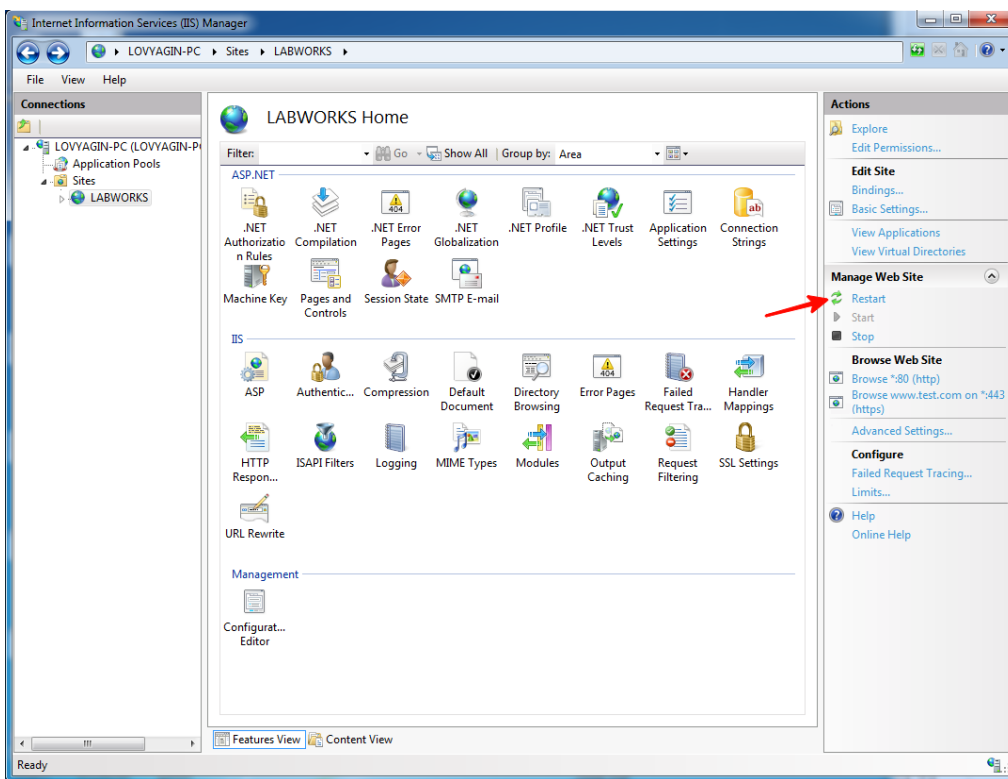
5 LABWORKS eLIMS CONFIGURATION

5.1 GENERAL CONFIGURATION

5.1.1 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 opened.
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.



5.1.2 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.

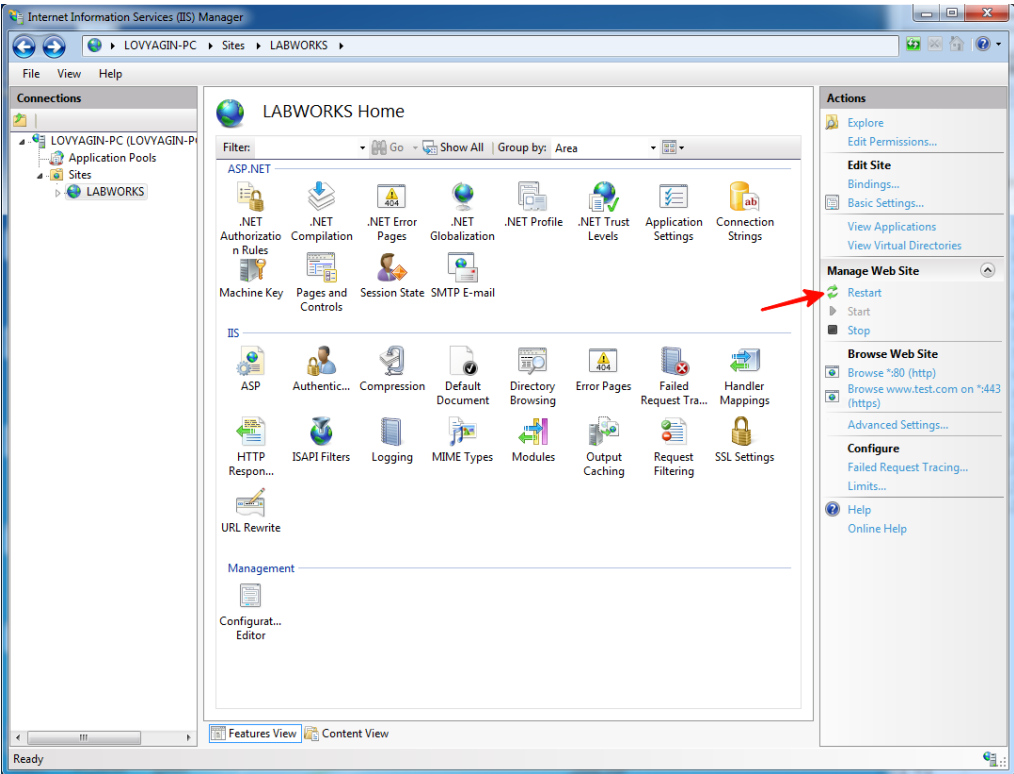
You have to restart both ISS and LW services to apply the updated time zone. Please note that already stored dates remain in the previous time zone, and therefore may contain an error depending on the time zone difference (up to 23 hours).

5.1.3 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 opened.
2	<ul style="list-style-type: none">Find the row containing “<add key="MilitaryTimeFormat" value="false" />”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.

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.
---	---	---------------------------------



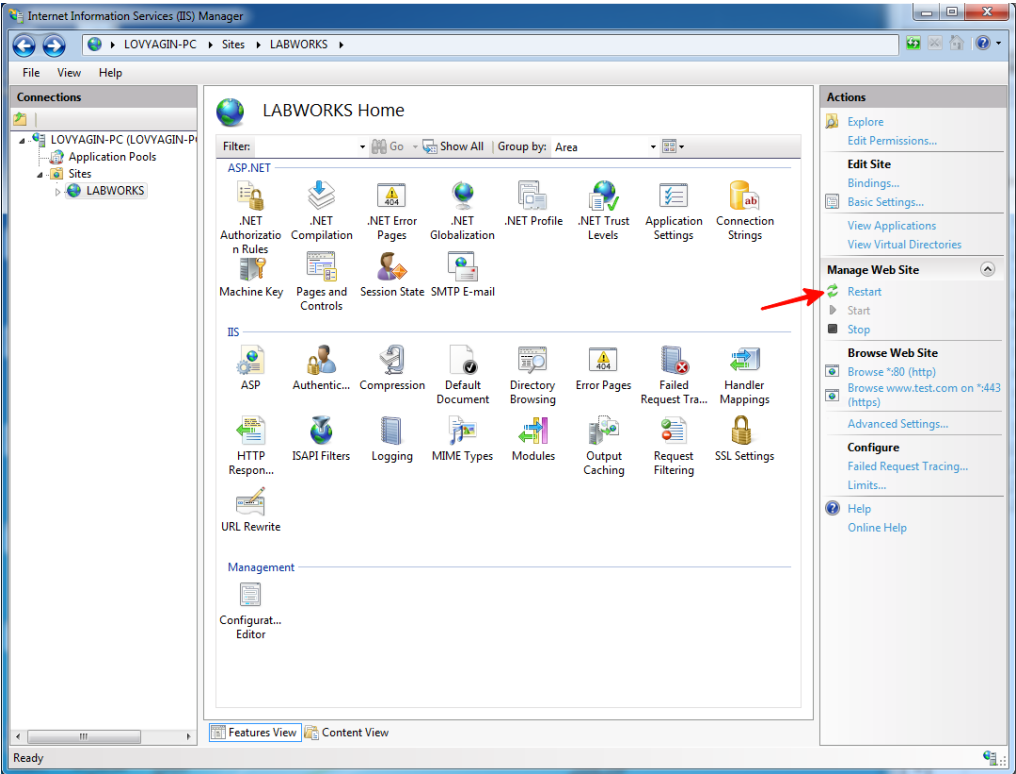
5.1.4 Maximum of reported samples

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

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 opened.
2	<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.	The new value will be saved.

- 3
- 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.



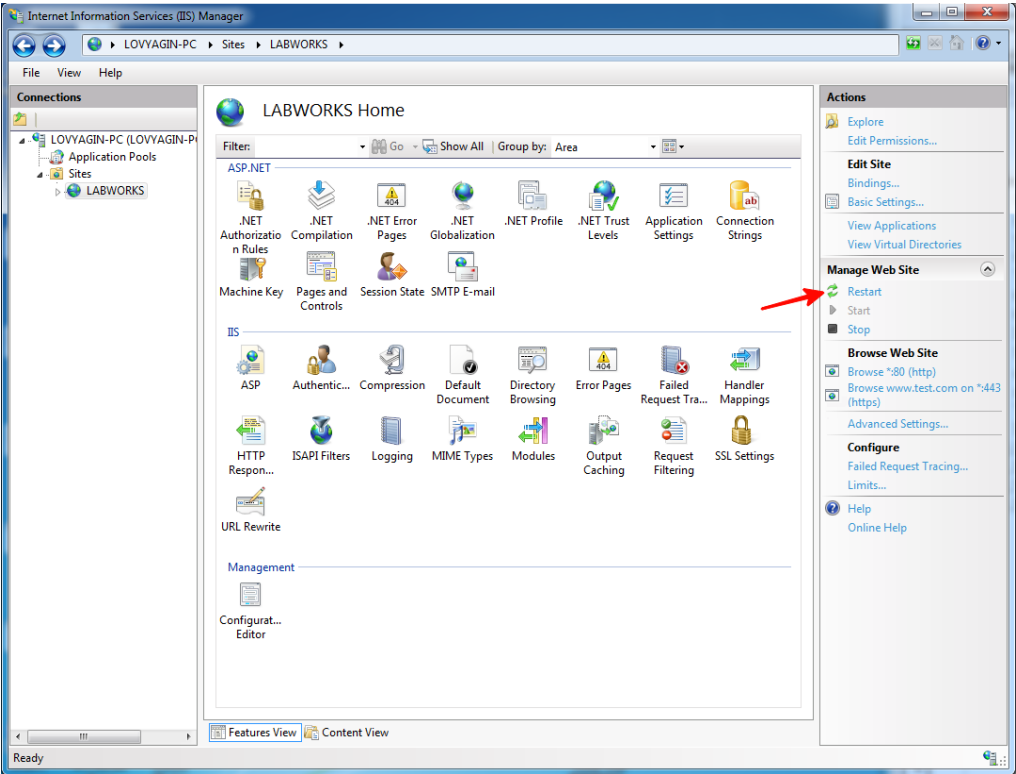
5.1.5 Checksum violations

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

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 opened.
2	<ul style="list-style-type: none">• Find the row containing “<add key=“ChecksumValidationEnabled” value=“true” />”• Set the value to “false”.• Save the file.	The new value will be saved.

- 3
- Restart the web portal in the IIS:
- Select the Labworks eLIMS web site.
 - Click the Restart button to restart the web site.

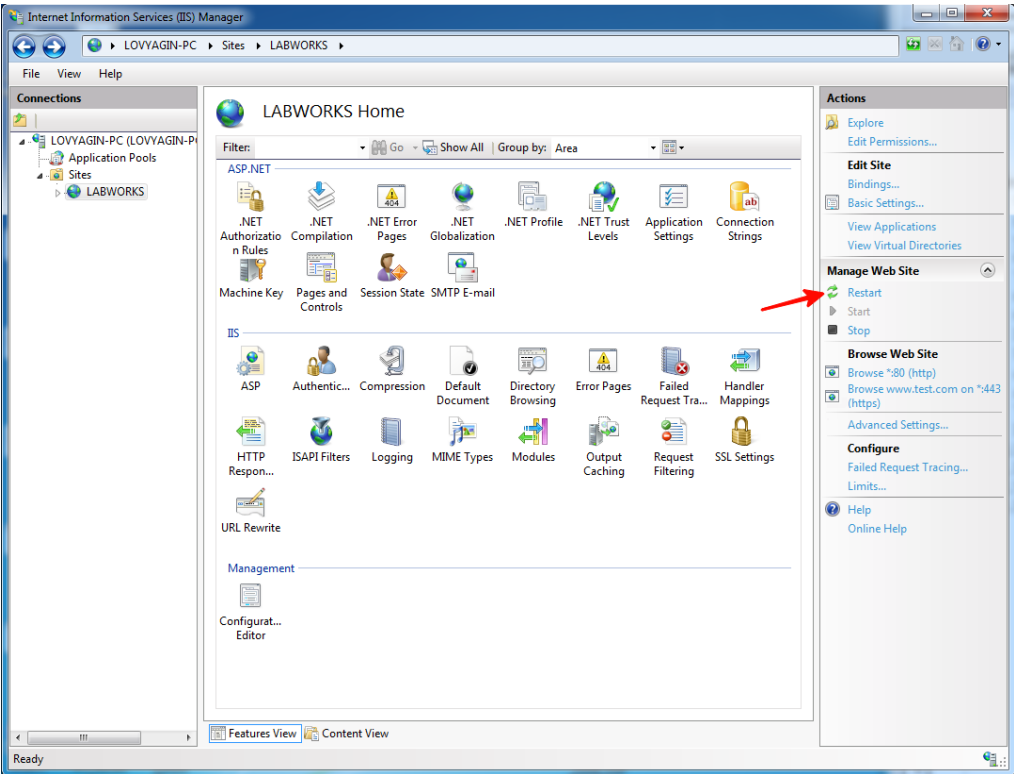
The web site will be restarted.



5.1.6 Dashboard refresh interval

By default, the Dashboard screen automatically refreshes every 5 minutes. You may change 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 opened.
2	<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.	The new value will be saved.

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

5.1.7 Restart IIS after adding new database

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

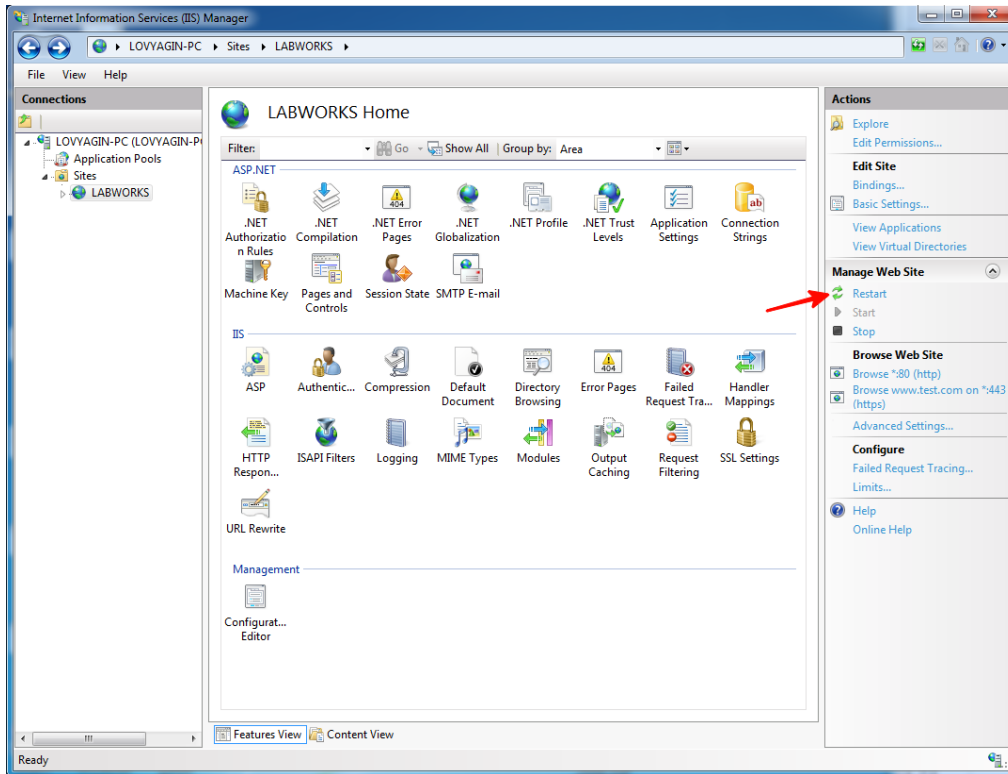
1	<div>Open IIS Manager:<ul style="list-style-type: none">Use “Windows + R” button combination to open the “Run” window.Type “inetmgr” in the field and press “Enter”.</div>	“Internet Information Services (IIS) Manager” window displayed.
---	---	---

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.



5.1.8 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.

5.1.9 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>;
```

5.1.10 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:

5.1.10.1 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

5.1.10.2 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.

5.1.10.3 GOOGLE_MAPS_API_KEY

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

5.1.10.4 GOOGLE_MAPS_ANDROID_API_KEY

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

5.1.10.5 GOOGLE_MAPS_IOS_API_KEY

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

5.1.10.6 GOOGLE_MAPS_UWP_API_KEY

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

5.1.10.7 COORDINATE_DISTANCE_LIMIT_YARDS

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

5.1.10.8 USE_ELECTRONIC_SIGNATURE

Require electronic signature during login in the web application

5.1.10.9 ATTACHMENT_MAX_SIZE

Maximum allowed attachment size

5.1.10.10 SL_ACODE_LIMITING

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

5.1.10.11 LOGBATCHIDFORMAT

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

5.1.10.12 ADD_TO_PROCESS_SCHEDULER

Add samples to the Process Scheduler upon login.

5.1.11 Reports

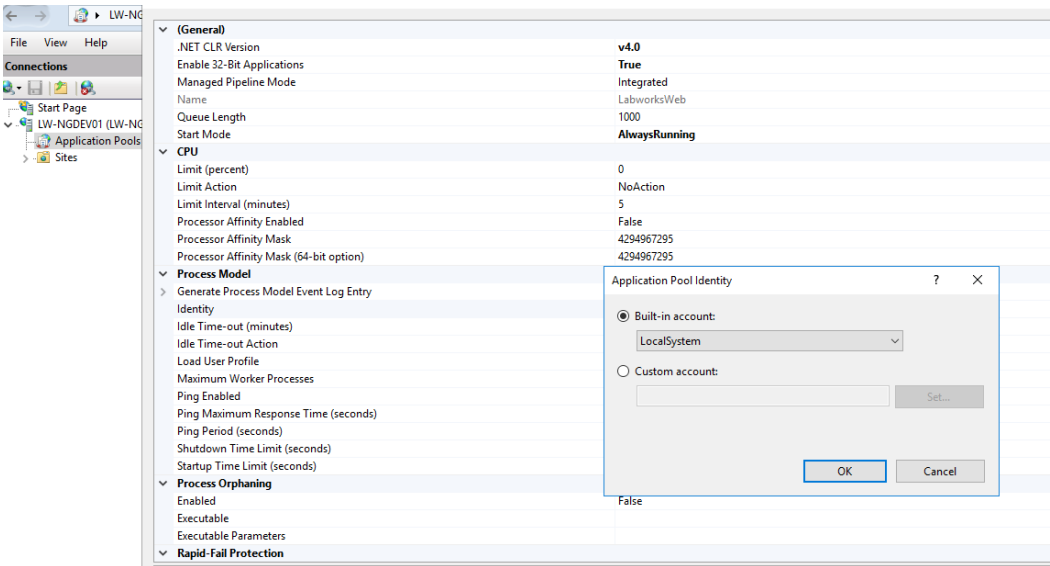
The web application supports only reports generated based on the SIMC.xsd data schema. This schema, as well as all report templates, is located in the *C:\inetpub\wwwroot\LabworksWeb\App_Data\reports* folder. To enable users to create reports, you need to place the templates generated for these reports 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.

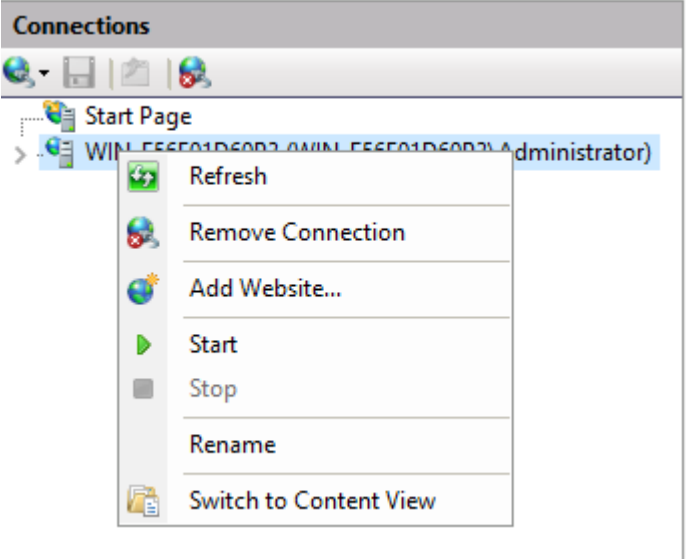
5.1.12 Calculations

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	Open IIS Manager: <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.
---	---	---

- 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.

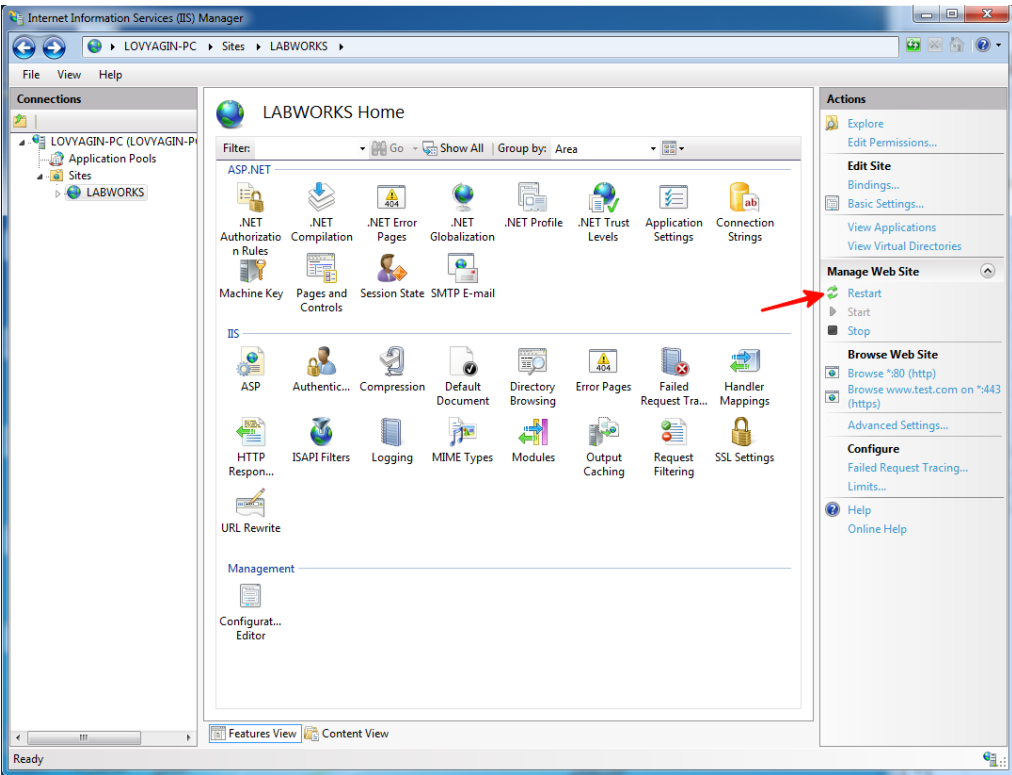


3	<p>Restart IIS:</p> <ul style="list-style-type: none"> Find the root IIS folder on the left-hand side of the IIS Manager Application window and open the context menu by the right click. Click the “Stop” context menu item. Click the “Start” context menu item. 	
4	<p>Restart Labworks services:</p> <ul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

5.1.13 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. 	
---	---	--

2	<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 opened.
3	<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. 	The new value will be saved.
4	<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.

5.2 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.

5.2.1 Role Management

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

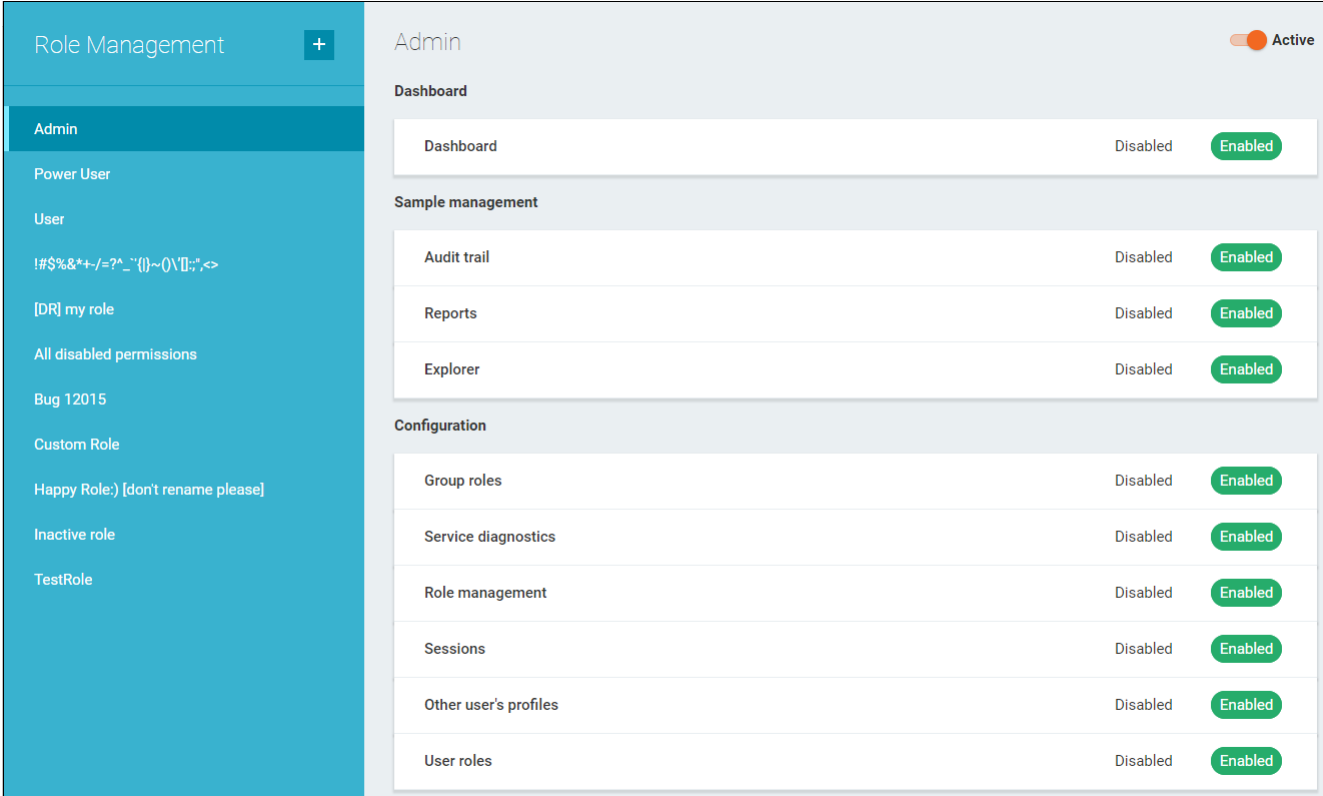
The roles are listed on the **Role Management** screen under the **Configuration** drop-down menu.

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.



The screenshot displays the 'Role Management' interface. On the left is a sidebar with a list of roles: Admin, Power User, User, and several custom roles. The main area shows the configuration for the 'Admin' role, which is currently 'Active' (indicated by a toggle switch). The configuration is organized into three sections: Dashboard, Sample management, and Configuration. Each section contains a list of privileges, each with a 'Disabled' status and an 'Enabled' button.

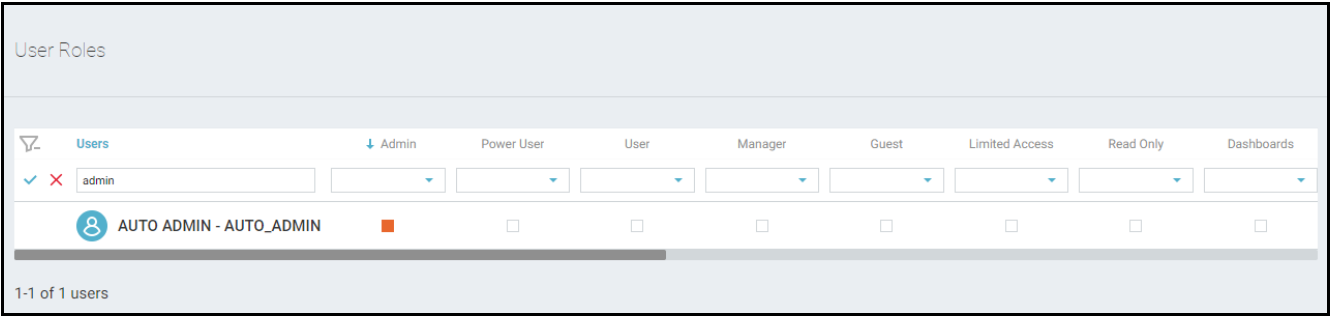
Section	Privilege	Status	Action
Dashboard	Dashboard	Disabled	Enabled
Sample management	Audit trail	Disabled	Enabled
	Reports	Disabled	Enabled
	Explorer	Disabled	Enabled
Configuration	Group roles	Disabled	Enabled
	Service diagnostics	Disabled	Enabled
	Role management	Disabled	Enabled
	Sessions	Disabled	Enabled
	Other user's profiles	Disabled	Enabled
	User roles	Disabled	Enabled

5.2.2 User Roles

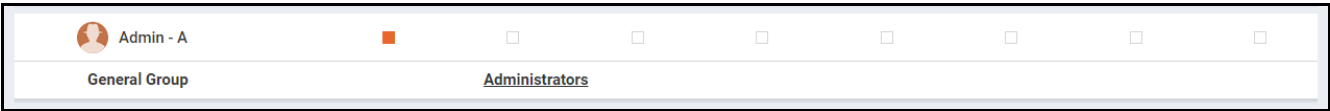
A single user may have multiple roles at once. In this case, the access to perform an action granted when at least one of his roles has corresponding privilege enabled. The roles can be assigned to the user on the **User Roles** screen under the **Configuration** drop-down menu.

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.



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



5.2.3 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

	Admin	Power User	User	Manager	Guest	Limited Access	Read Only	Dashboards
new								
Lab #1 Employees	<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"/>
Lab #2 Employees	<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 #3 Employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General 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"/>

1-4 of 4 groups

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

Lab #1 Employees	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div></div>Lab Employee #1 - LE1</div>	<div><div></div>John Smith - JS</div>

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

5.2.4 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.

Active Sessions

 Last refresh: 08/09/2018 11:52:34
 [Web dashboard](#)
5 / 20

	↑ User	Database	Browser	IP address	Entry time	Recent activity	License name	
	Lab Employee #1 - LE1	IRWD_N	Chrome	93.88.136.68	08/09/2018 10:47	08/09/2018 11:35	Web dashboard	
	Lab Employee #2 - LE2	IRWD_N	Chrome	93.88.136.69	08/09/2018 11:32	08/09/2018 11:38	Web dashboard	
	Lab Employee #3 - LE3	IRWD_N	Yandex Brow...	93.88.136.67	08/09/2018 11:43	08/09/2018 11:54	Web dashboard	
	Admin - A	IRWD_N	Chrome	93.88.136.70	08/09/2018 10:15	08/09/2018 11:50	Web dashboard	
	John Smith - JS	IRWD_N	Chrome	93.88.136.69	08/09/2018 10:41	08/09/2018 11:53	Web dashboard	

1-5 of 5 sessions

5.2.5 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.

Service job	Status	Database	Start time	End time	Duration	Description
Analyses Codes Aggregation	Success	IRWD_N	09/21/2018 17:04:56	09/21/2018 17:04:57	less than a second	Collects fill list of analysis codes.
Analyses Codes Aggregation	Success	ORACLE	09/21/2018 17:04:56	09/21/2018 17:04:57	less than a second	Collects fill list of analysis codes.
Explorer Data Aggregation	Success	IRWD_N	09/21/2018 17:04:56	09/21/2018 17:05:11	14 seconds	Collects Explorer data based on last ...
Explorer Data Aggregation	Success	ORACLE	09/21/2018 17:04:57	09/21/2018 17:05:37	40 seconds	Collects Explorer data based on last ...
Last Viewed Objects Aggrega...	Success	IRWD_N	09/21/2018 17:04:56	09/21/2018 17:05:02	5 seconds	Collects ownerships for Last Viewed ...
Last Viewed Objects Aggrega...	Success	ORACLE	09/21/2018 17:04:56	09/21/2018 17:04:56	less than a second	Collects ownerships for Last Viewed ...
Location Codes Aggregation	Success	IRWD_N	09/21/2018 17:04:56	09/21/2018 17:04:58	1 second	Collects unique location codes.
Location Codes Aggregation	Success	ORACLE	09/21/2018 17:04:57	09/21/2018 17:05:00	2 seconds	Collects unique location codes.
Top Viewed Objects Aggrega...	Success	IRWD_N	09/21/2018 17:04:56	09/21/2018 17:04:56	less than a second	Collects ownerships for Top Viewed ...
Top Viewed Objects Aggrega...	Success	ORACLE	09/21/2018 17:04:57	09/21/2018 17:04:57	less than a second	Collects ownerships for Top Viewed ...
User Groups Aggregation	Success	IRWD_N	09/21/2018 17:04:56	09/21/2018 17:04:56	less than a second	Collects relationships between simpl...
User Groups Aggregation	Success	ORACLE	09/21/2018 17:04:57	09/21/2018 17:04:58	less than a second	Collects relationships between simpl...

1-12 of 12 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.

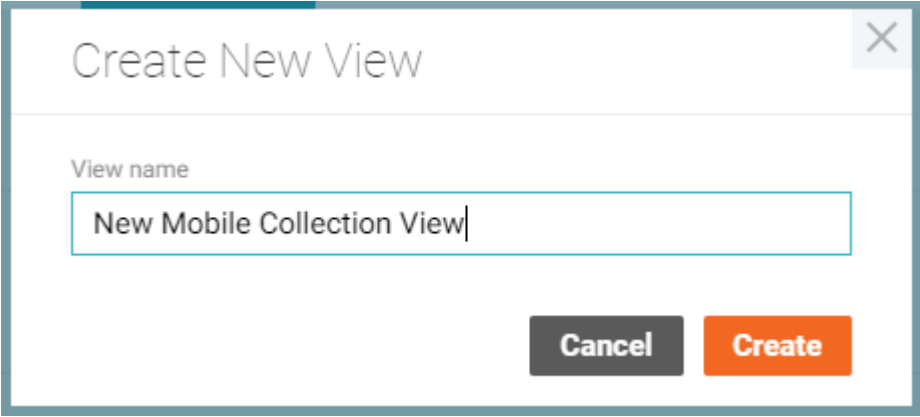
Please contact the [LABWORKS support](#) if any of the jobs constantly end with “Error” status.

5.3 MOBILE APPLICATION CONFIGURATION

5.3.1 Collection Views

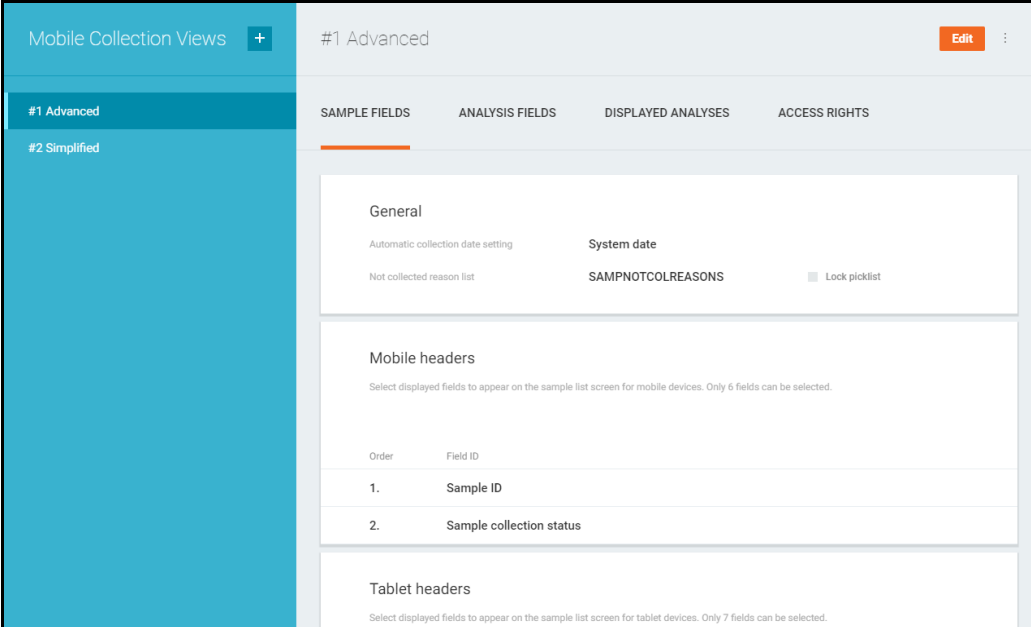
Mobile Collection View is a configuration preset that determines how the data is displayed and managed on mobile application. You can create multiple presets, assigning different access rights to control the amount of displayed data for every user group.

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



The image shows a 'Create New View' dialog box. It has a title bar with a close button (X). Below the title, there is a label 'View name' and a text input field containing 'New Mobile Collection View'. At the bottom right, there are two buttons: 'Cancel' (grey) and 'Create' (orange).

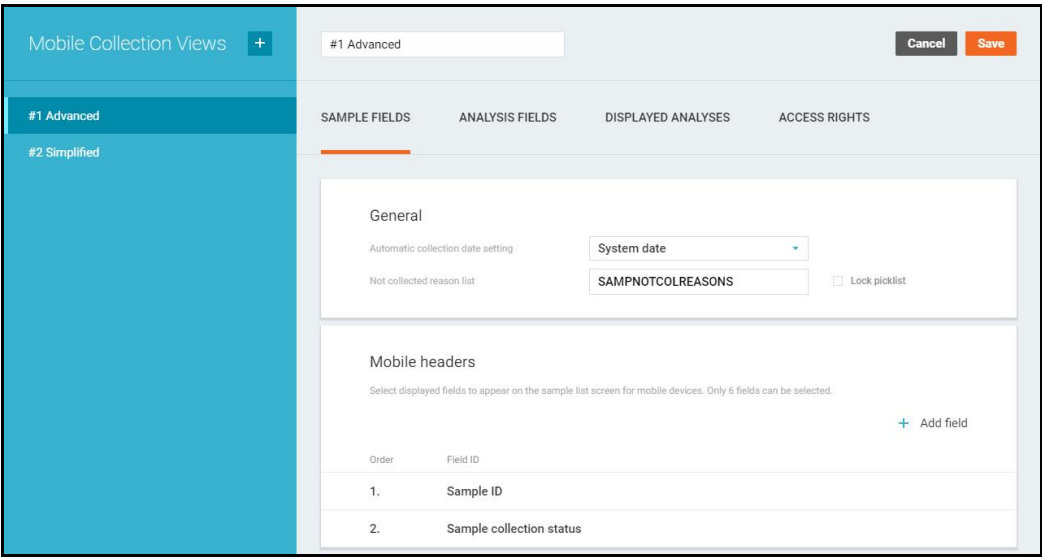
After typing the name for the preset, it will be created with default settings: minimal set of fields for samples and analysis & no limitations to user access.



The image shows the 'Mobile Collection Views' configuration screen. On the left is a sidebar with a blue header 'Mobile Collection Views' and a plus button. Below it are two items: '#1 Advanced' (selected) and '#2 Simplified'. The main area has a top bar with '#1 Advanced' and an 'Edit' button. Below this are four tabs: 'SAMPLE FIELDS', 'ANALYSIS FIELDS', 'DISPLAYED ANALYSES', and 'ACCESS RIGHTS'. The 'SAMPLE FIELDS' tab is active. It contains three sections: 'General' with 'Automatic collection date setting' and 'System date' (with a 'SAMPNOTCOLREASONS' link and a 'Lock picklist' checkbox), 'Mobile headers' with a description and a table of selected fields, and 'Tablet headers' with a description. The 'Mobile headers' table has two columns: 'Order' and 'Field ID'. It lists two items: '1. Sample ID' and '2. Sample collection status'.

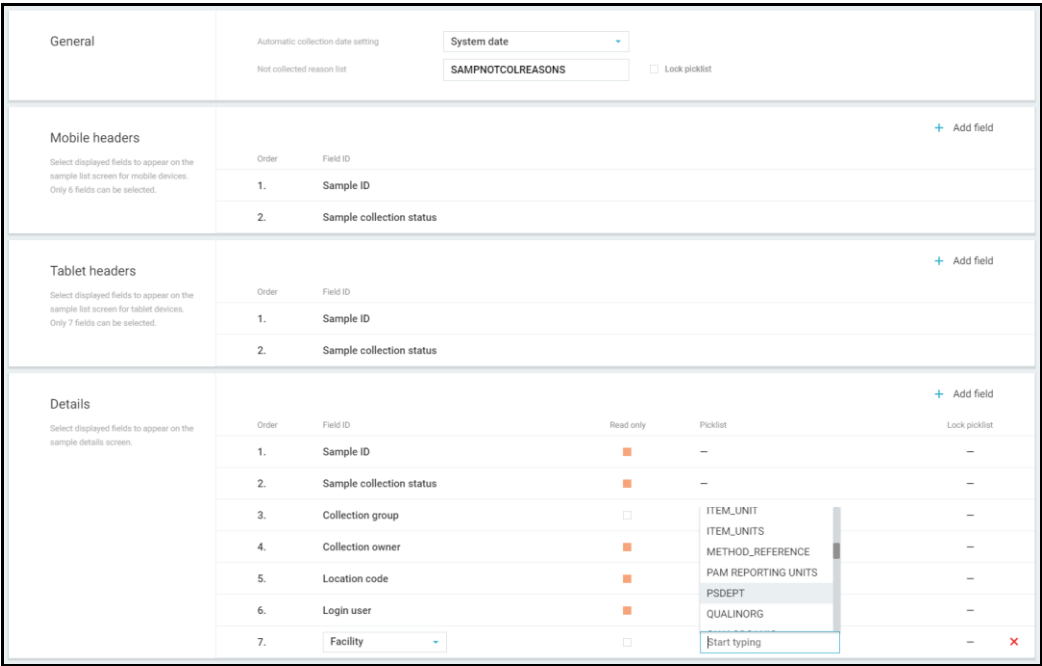
You can copy a preset or delete it by clicking the corresponding button under the menu drop down in top-right corner of the screen.

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



The settings of a preset are split in following groups:

5.3.1.1 Sample Fields



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.
 - 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.

5.3.1.2 Analysis Fields

Mobile headers <small>Select displayed fields to appear on the sample list screen for mobile devices. Only 6 fields can be selected.</small>	Order	Field ID					+ Add field	
	1.	Analysis code						
	2.	Analysis status						
Tablet headers <small>Select displayed fields to appear on the sample list screen for tablet devices. Only 7 fields can be selected.</small>	Order	Field ID					+ Add field	
	1.	Analysis code						
	2.	Analysis status						
Details <small>Select displayed fields to appear on the analysis details screen.</small>	General							+ Add field
	Order	Field ID	Read only	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 ID	Read only	Use default picklist	Picklist	Lock picklist		
	1.	Result	<input type="checkbox"/>	<input type="checkbox"/>	Start typing	—		
	2.	PQL	<input type="checkbox"/>	—	Start typing	— ×		
	Multi-component analysis results							+ Add field
	Order	Field ID	Read only	Use default picklist	Picklist	Lock picklist		
	1.	Result	<input type="checkbox"/>	<input type="checkbox"/>	Start typing	—		

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 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.

5.3.1.3 Displayed Analyses

All analyses in the sample

Departments

Select departments to add all analyses from these departments.

Department

MICROBIOLOGY	×
ORGANICS	×
QMICROBIOLOGY	×
QORGANICS	×

Extra analyses

Select extra analyses to appear on the sample analyses list.

Order

Analysis code

1. ↓	IALGAL	×
2. ↑ ↓	IBACTI	×
3. ↑ ↓	IFILAMNT	×
4. ↑ ↓	IMICROPS	×
5. ↑	IMISC	×

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.

5.3.1.4 Access Rights

Everyone can access

Groups

Select groups which have access to the view.

Group name

AUTO	×
LAB_ALL	×
TEST_GROUP	×

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.

6 CONTROL FILE

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

7 KNOWN ISSUES

8 TROUBLESHOOTING

8.1 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.

8.2 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.

8.3 THE LICENSE UPDATES ARE NOT APPLIED

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

8.4 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”.

8.5 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.

8.6 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.

8.7 SOME TEMPORARY TABLES IN THE DATABASE ARE STILL POPULATED AFTER ELIMS UNINSTALLING

After LABWORKS eLIMS uninstalling, the database is still kept some temporary tables and triggers are still fired to populate them.

To stop them populating and truncate them instead of the deleted LABWORKS eLIMS Data service, we need to run the scripts below.

MSSQL database

```

IF OBJECT_ID ('[dbo].[TR_PSSCHEDULE_STATUS_DELETE_LOG]') IS NOT NULL
    ALTER TABLE PSSCHEDULE DISABLE TRIGGER TR_PSSCHEDULE_STATUS_DELETE_LOG
GO
IF OBJECT_ID ('[dbo].[TR_SAMPLE_DELETE]') IS NOT NULL
    ALTER TABLE SAMPLE DISABLE TRIGGER TR_SAMPLE_DELETE
GO
IF OBJECT_ID ('[dbo].[TR_ANALYSIS_DELETE_UPDATE]') IS NOT NULL
    ALTER TABLE ANALYSIS DISABLE TRIGGER TR_ANALYSIS_DELETE_UPDATE
GO
IF OBJECT_ID ('[dbo].[TR_BATSAMPS_DELETE_UPDATE]') IS NOT NULL
    ALTER TABLE BATSAMPS DISABLE TRIGGER TR_BATSAMPS_DELETE_UPDATE

```

```
GO
IF OBJECT_ID ('[dbo].[TR_RESULT_DELETE_UPDATE_INSERT]') IS NOT NULL
    ALTER TABLE RESULT DISABLE TRIGGER TR_RESULT_DELETE_UPDATE_INSERT
GO
IF OBJECT_ID ('[dbo].[TR_SUSERFLDS_DELETE_UP_INS]') IS NOT NULL
    ALTER TABLE SUSERFLDS DISABLE TRIGGER TR_SUSERFLDS_DELETE_UP_INS
GO
TRUNCATE TABLE CIM_RemovedSamples;
TRUNCATE TABLE CIM_SuspiciousSamples;
```

Oracle database

Oracle scripts must be executed in 2 steps:

1. Triggers disabling

```
DECLARE TRIGGER_COUNT INTEGER;
BEGIN
    SELECT COUNT(*) INTO TRIGGER_COUNT FROM USER_TRIGGERS WHERE TRIGGER_NAME
    = 'TR_PSSCHEDULE_STATUS_DEL_LOG';
    IF TRIGGER_COUNT > 0 THEN EXECUTE IMMEDIATE 'alter trigger
    TR_PSSCHEDULE_STATUS_DEL_LOG disable'; END IF;

    SELECT COUNT(*) INTO TRIGGER_COUNT FROM USER_TRIGGERS WHERE TRIGGER_NAME
    = 'TR_SAMPLE_DELETE';
    IF TRIGGER_COUNT > 0 THEN EXECUTE IMMEDIATE 'alter trigger
    TR_SAMPLE_DELETE disable'; END IF;

    SELECT COUNT(*) INTO TRIGGER_COUNT FROM USER_TRIGGERS WHERE TRIGGER_NAME
    = 'TR_ANALYSIS_DELETE_UPDATE';
    IF TRIGGER_COUNT > 0 THEN EXECUTE IMMEDIATE 'alter trigger
    TR_ANALYSIS_DELETE_UPDATE disable'; END IF;

    SELECT COUNT(*) INTO TRIGGER_COUNT FROM USER_TRIGGERS WHERE TRIGGER_NAME
    = 'TR_BATSAMPS_DELETE_UPDATE';
    IF TRIGGER_COUNT > 0 THEN EXECUTE IMMEDIATE 'alter trigger
    TR_BATSAMPS_DELETE_UPDATE disable'; END IF;

    SELECT COUNT(*) INTO TRIGGER_COUNT FROM USER_TRIGGERS WHERE TRIGGER_NAME
    = 'TR_RESULT_DELETE_UPDATE_INSERT';
    IF TRIGGER_COUNT > 0 THEN EXECUTE IMMEDIATE 'alter trigger
    TR_RESULT_DELETE_UPDATE_INSERT disable'; END IF;

    SELECT COUNT(*) INTO TRIGGER_COUNT FROM USER_TRIGGERS WHERE TRIGGER_NAME
    = 'TR_SUSERFLDS_DELETE_UP_INS';
    IF TRIGGER_COUNT > 0 THEN EXECUTE IMMEDIATE 'alter trigger
    TR_SUSERFLDS_DELETE_UP_INS disable'; END IF;
END;
```

2. Tables truncating

```
TRUNCATE TABLE CIM_RemovedSamples;
```



```
TRUNCATE TABLE CIM_SuspiciousSamples;
```

8.8 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 LWDataService
- 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\

9 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