Labworldsoft Server Setup and User Guide

Version 1.0

26 March 2024

This document is valid for Labworldsoft Server 2.0.1.1 and later

Contents

1. Installing Microsoft SQL Server database

In this document we use a hypothetical user, ***John Doe****.*

Suppose a user ***John Doe*** *is logged in to the PC and he has administrative rights.*

Labworldsoft Server uses database for storing various data such as User information, User Logs, Configurations and Measurements. At present, Labworldsoft Server supports **Microsoft SQL Server** database only. Future versions will support more databases such as **Oracle**, **Db2** and **MySQL**.

Major SQL Server editions are **Enterprise**, **Developer** and **Express** editions. Customers may choose any SQL Server edition as per their requirement. Enterprise edition provides premium offerings with fast performance, but it is not free of cost. On the other hand, Express edition is the entry-level, free database, suitable for small data management uses and free of cost.

This section describes how to download and install **Microsoft SQL Server 2019 Express Edition** in a Windows 10 64-bit PC as an example.

1.1. Download SQL Server Express Edition

This section describes how to download **SQL Server Express Edition**.

a. Go to SQL Server download page

b. Select ***Express*** edition and click ***Download now***.

Figure 1.1

c. Web installer will be downloaded.

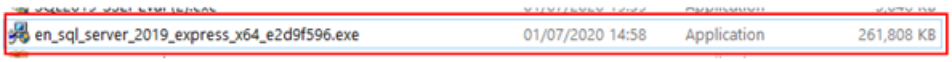


Figure 1.2

d. Run web installer. A window will be opened to **Select an installation type**. Select **Download Media** option.

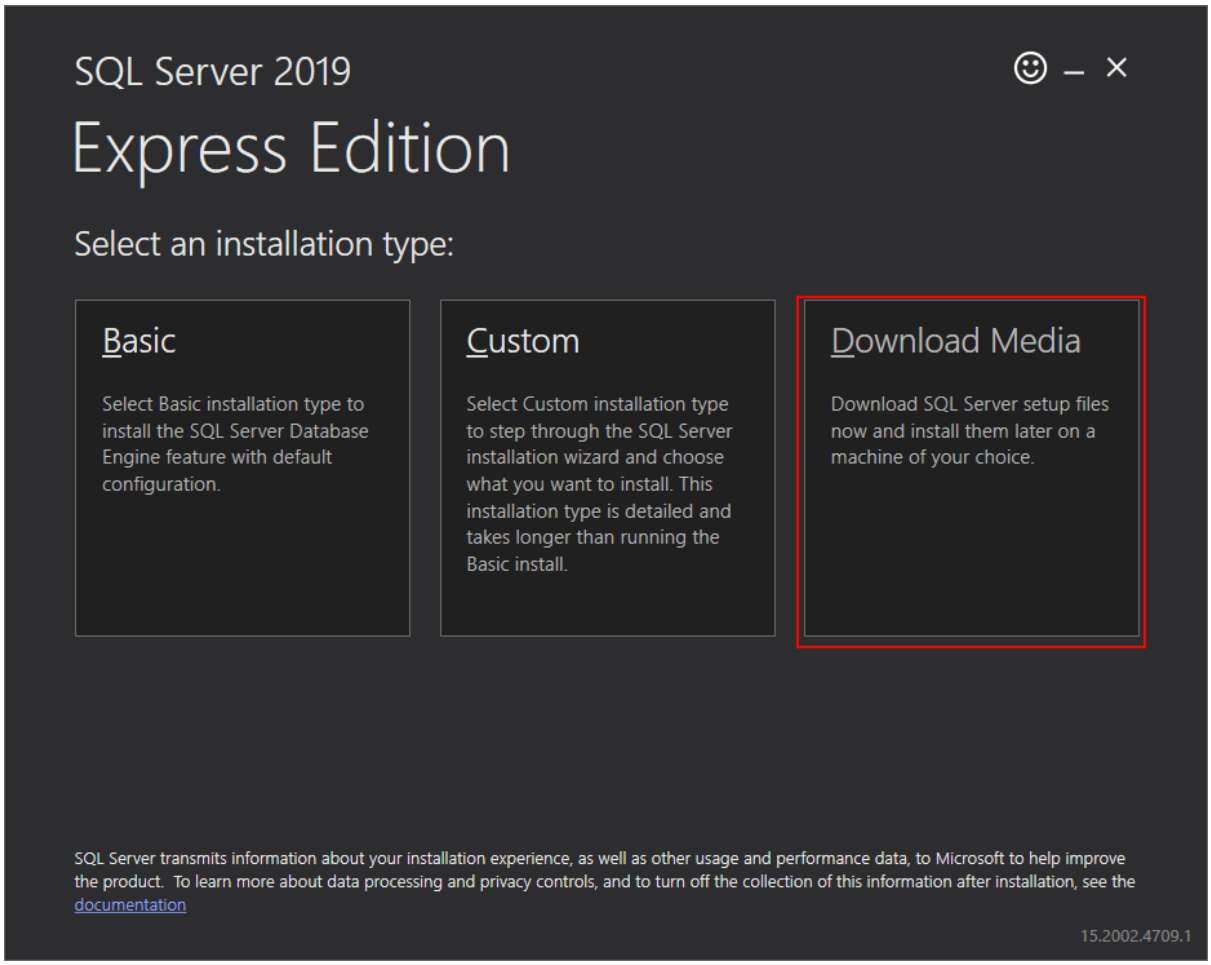


Figure 1.3

e. A window will be opened to **Specify SQL Server installer download**. Select **Express Core** option. In the **SELECT DOWNLOAD LOCATION** text box, provide a location to download the web installer.

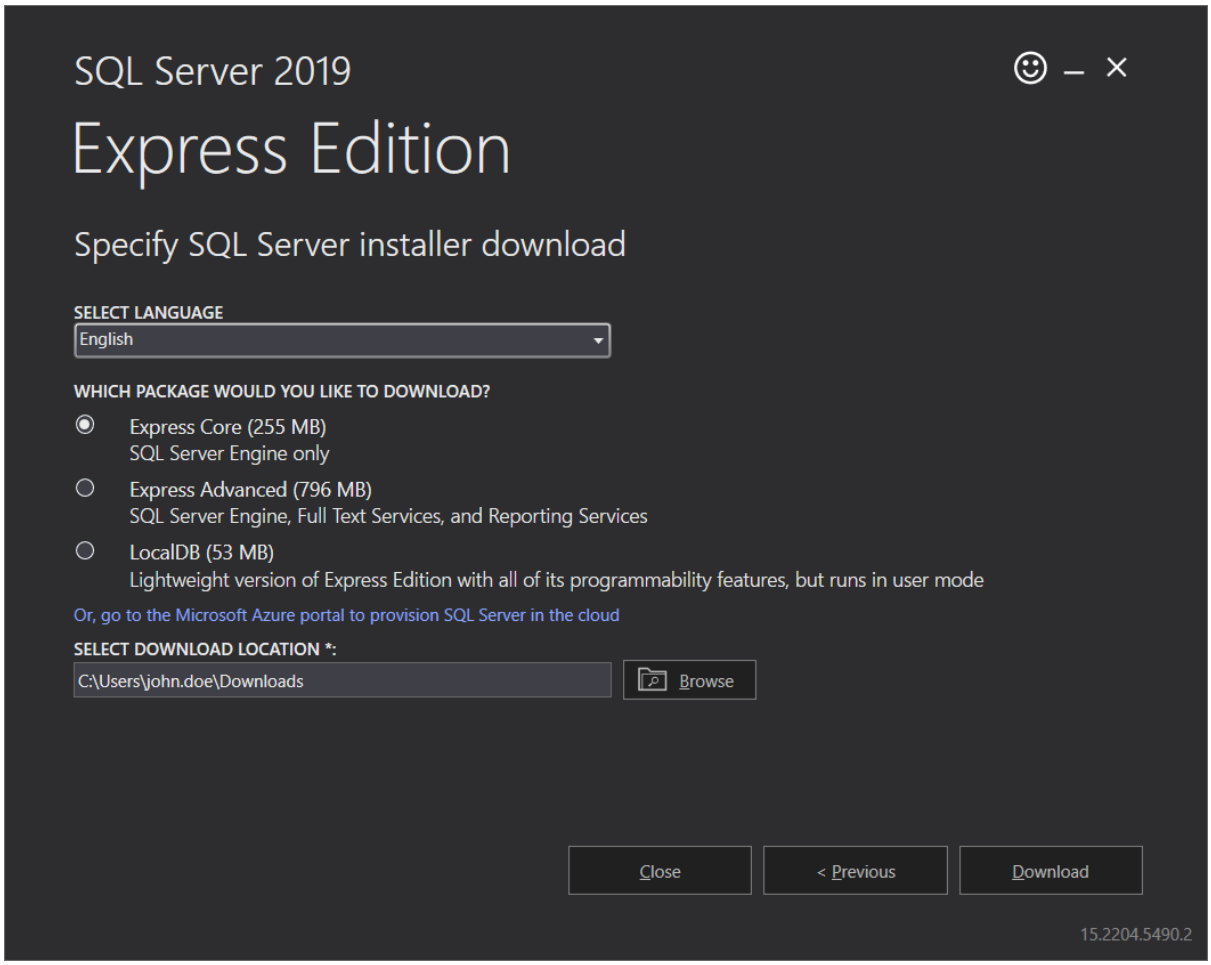


Figure 1.4

f. SQL Server installer will be downloaded.

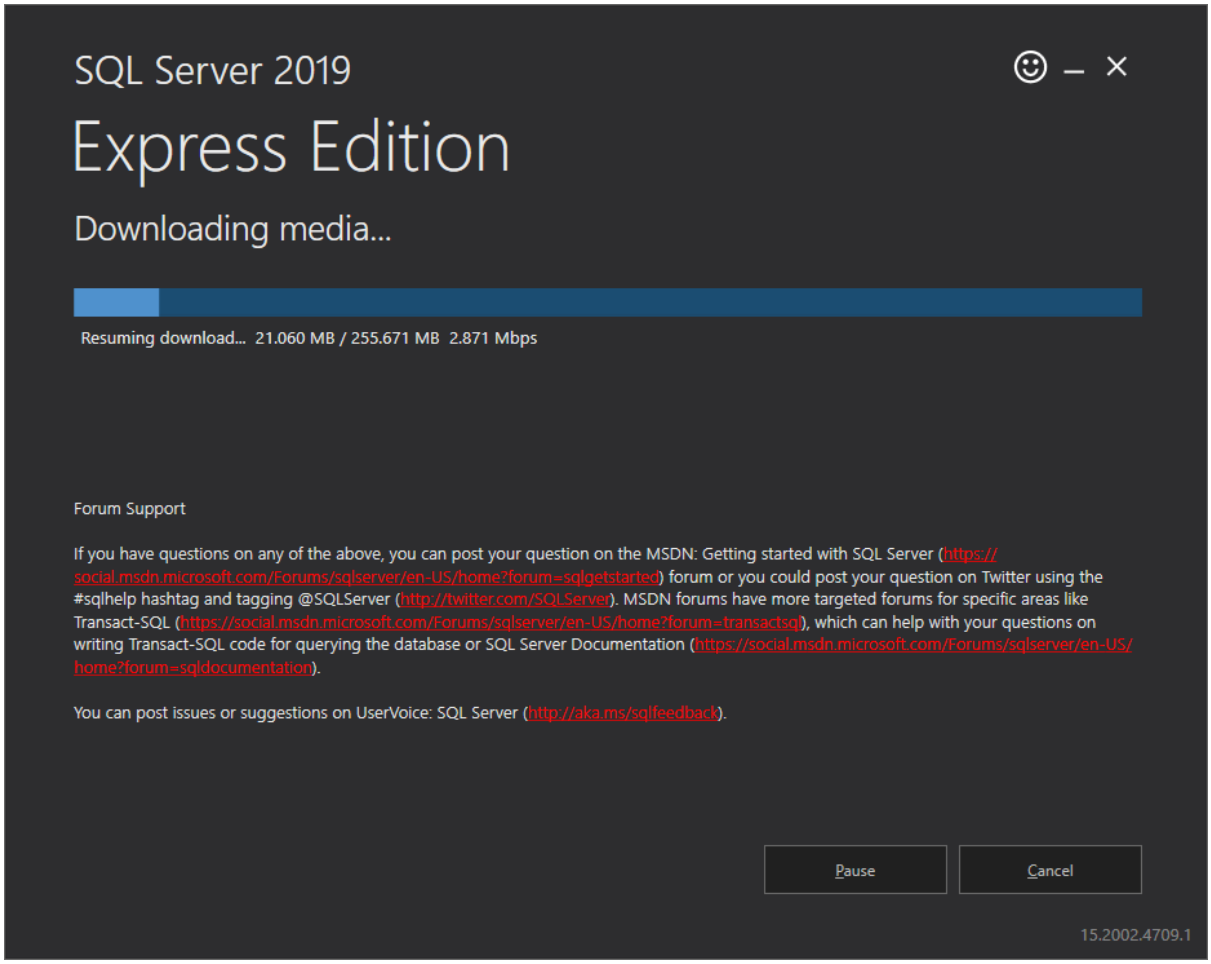


Figure 1.5

g. When download is completed, installation file can be accessed from the specified location in step e:

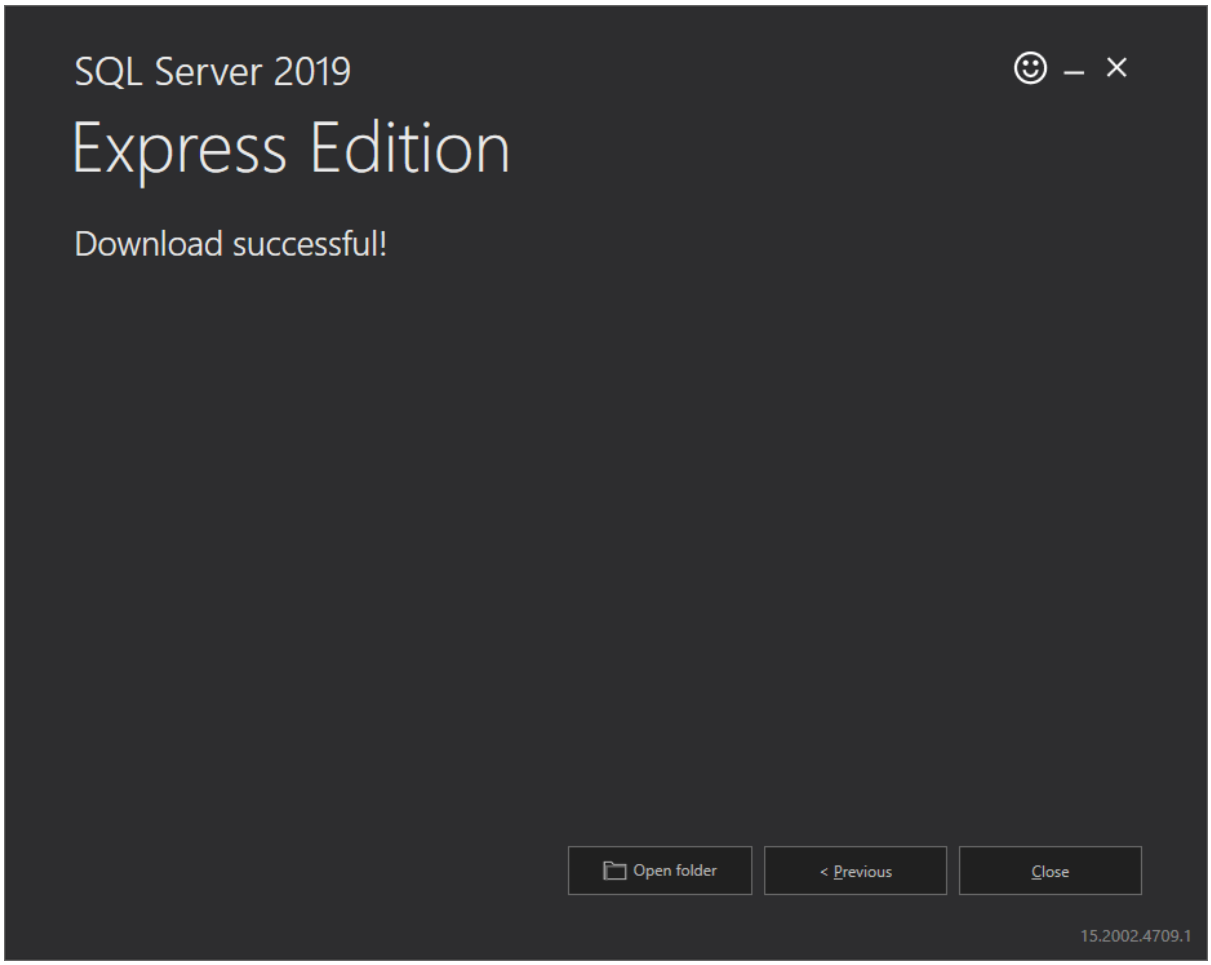


Figure 1.6

1.2. Install SQL Server 2019 Express Edition

This section describes how to install **SQL Server 2019**.

During the installation, **SQL Server 2019** instance name chosen will be **LABWORLDSOFTDS** and authentication mode selected will be **Windows Authentication**.

a. Start web installer by double clicking the previously downloaded installer file.

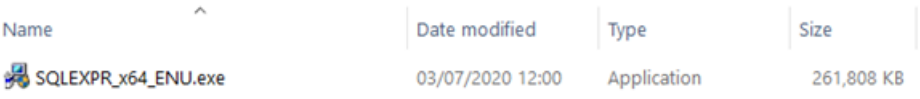


Figure 1.7

b. A window **Choose Directory For Extracted Files** will be popped-up. Provide a directory path for extracting files and click **Ok** button.

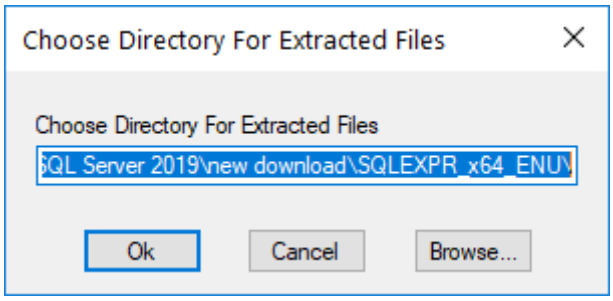


Figure 1.8

c. In **SQL Server Installation Center** window, select the option **New SQL Server stand-alone installation or add features to an existing installation**.

Figure 1.9

d. Accept the necessary license agreements and click **Next >** button.

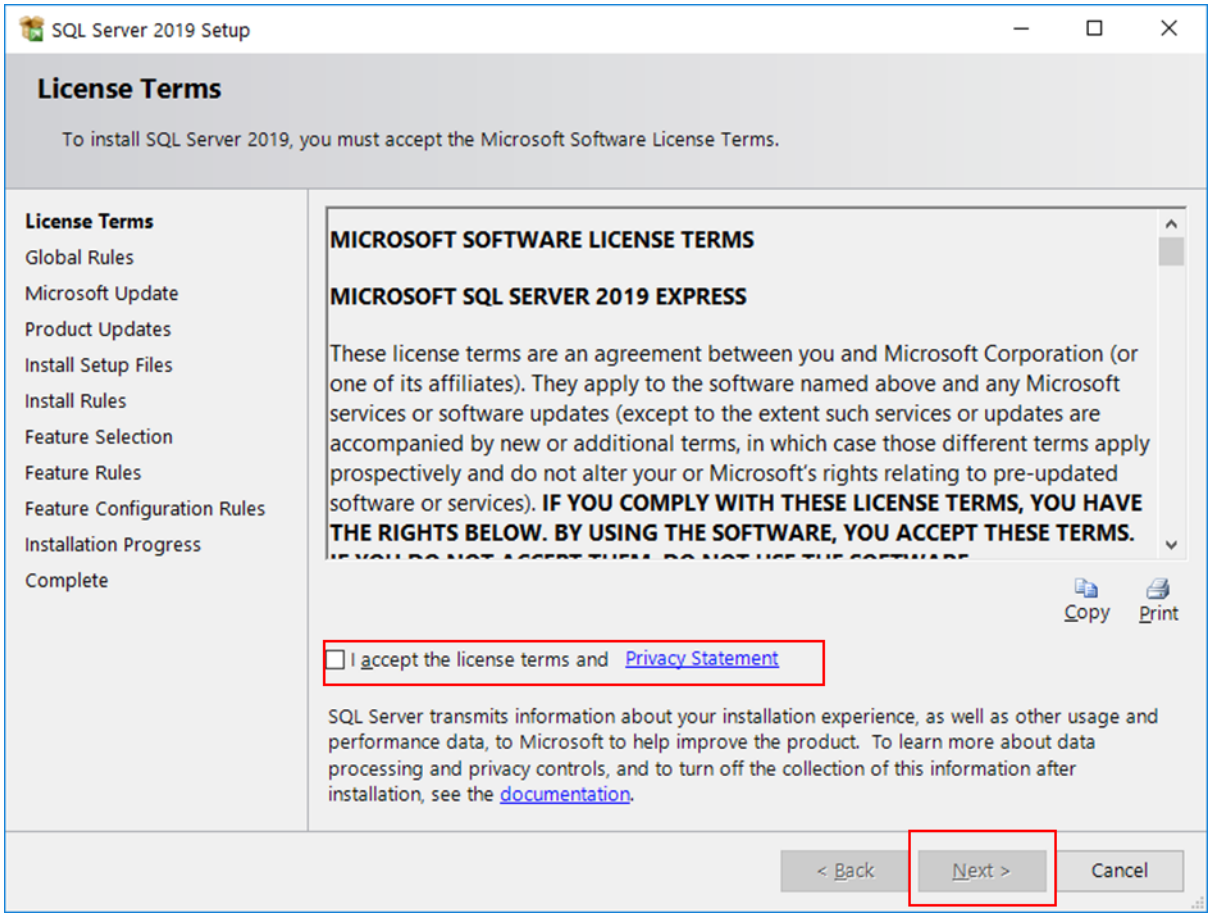


Figure 1.10

e. Click **Next >** button.

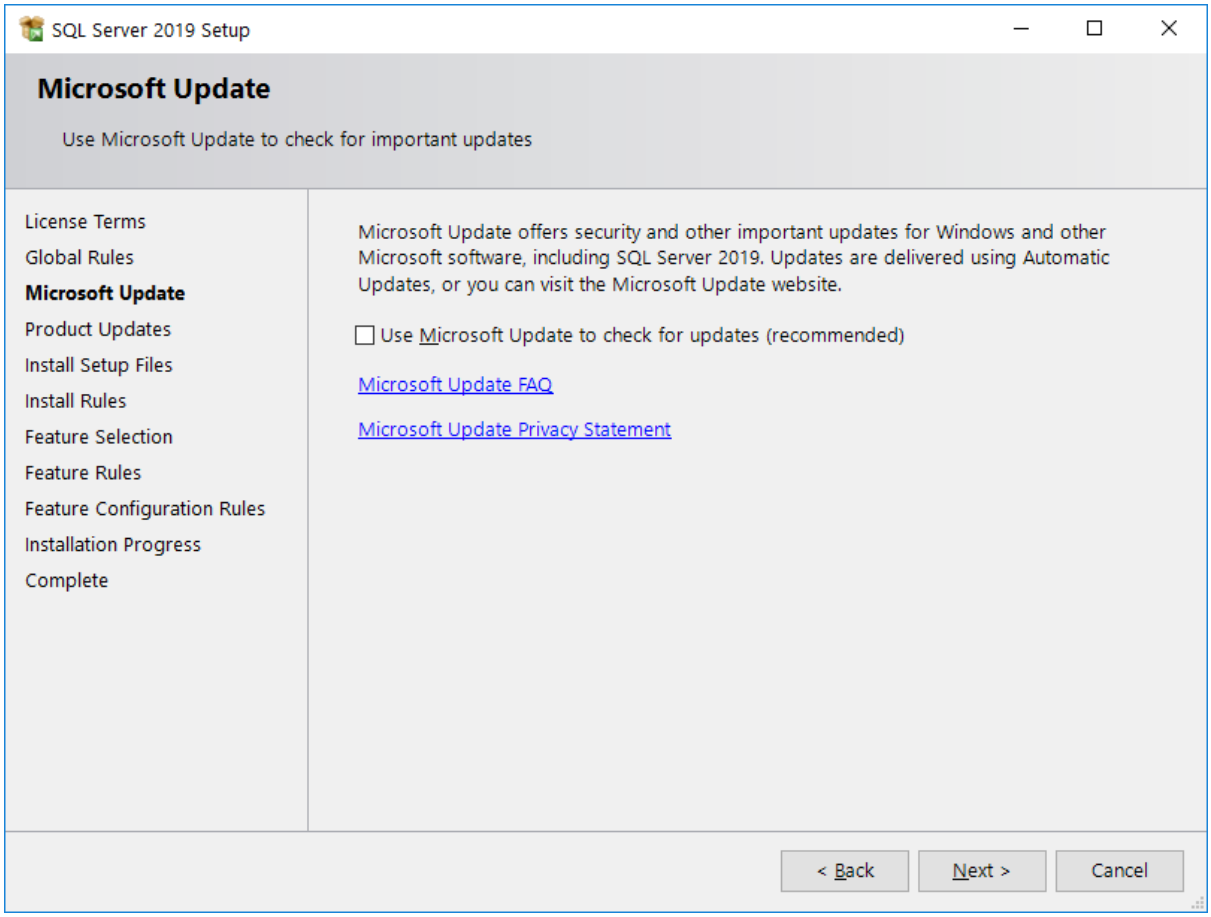


Figure 1.11

f. Click **Next >** button.

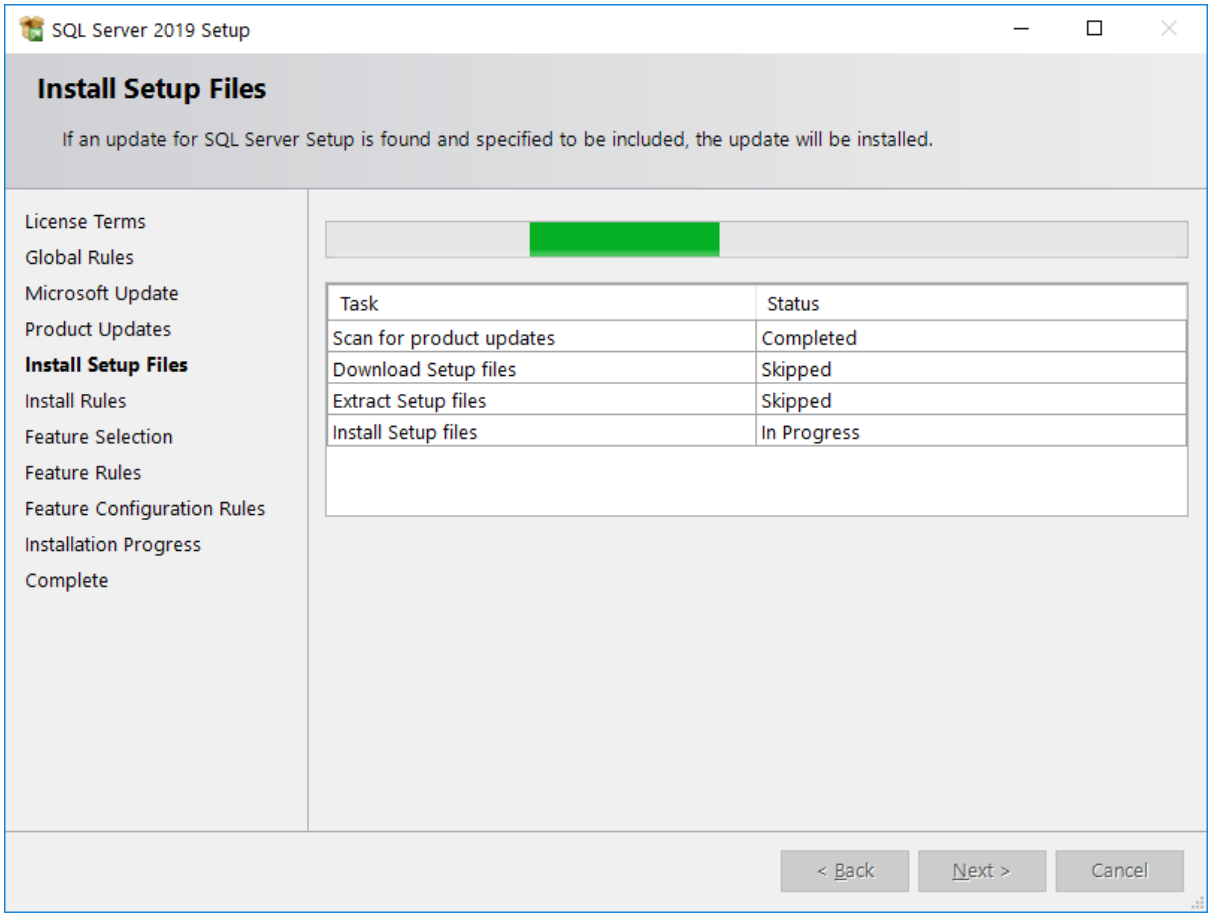


Figure 1.12

g. Check for any errors and then click **Next >** button. Please contact the IT Administrator if warning reported on Windows Firewall. Windows Firewall should not block SQL Server.

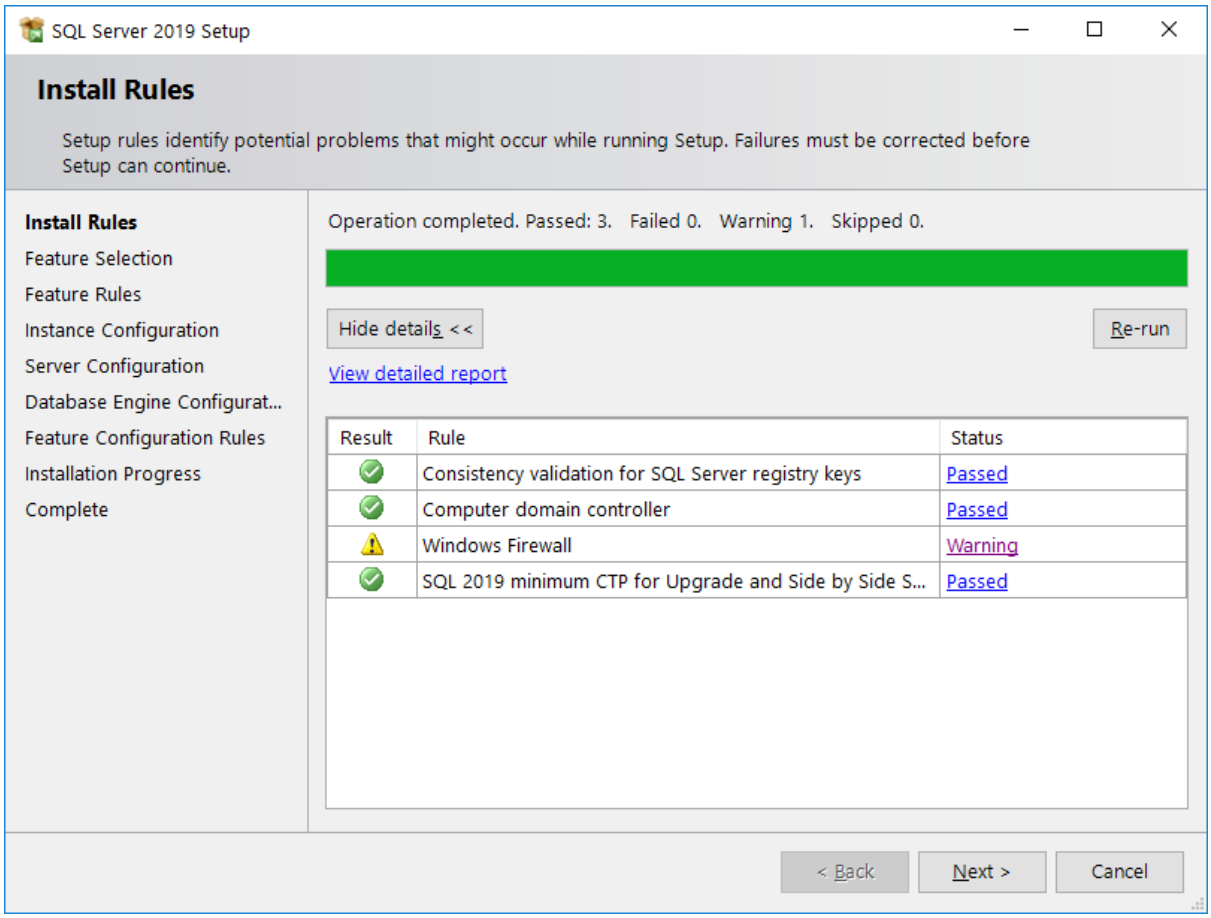


Figure 1.13

h. Select instance features as shown below. Click **Next >** button.

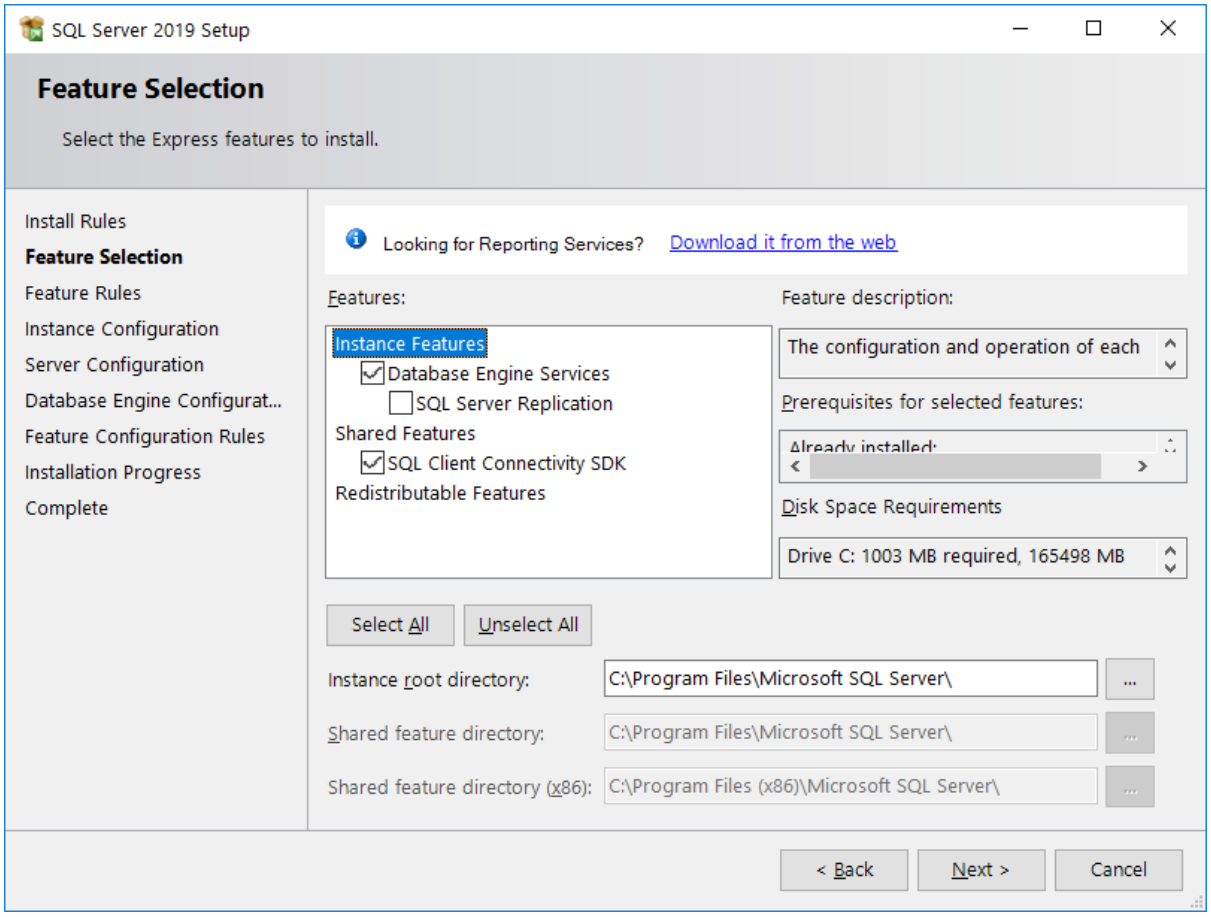


Figure 1.14

i. In Instance Configuration window, select **Named Instance:** option and provide the instance name as **LABWORLDSOFTDS**. **LABWORLDSOFTDS** is the acronym for **Labworldsoft Data Source**. Click **Next >** button.

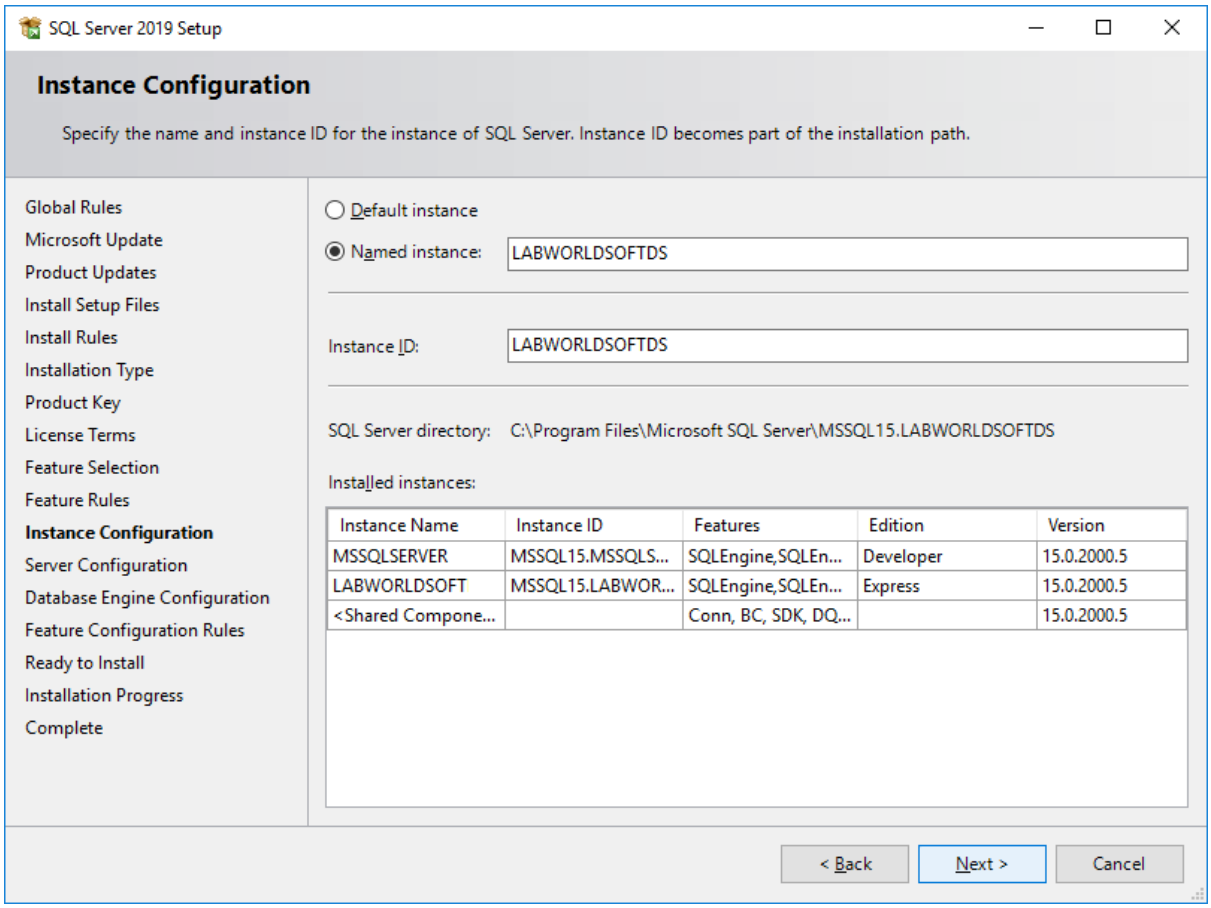


Figure 1.15

j. Click **Next >** button.

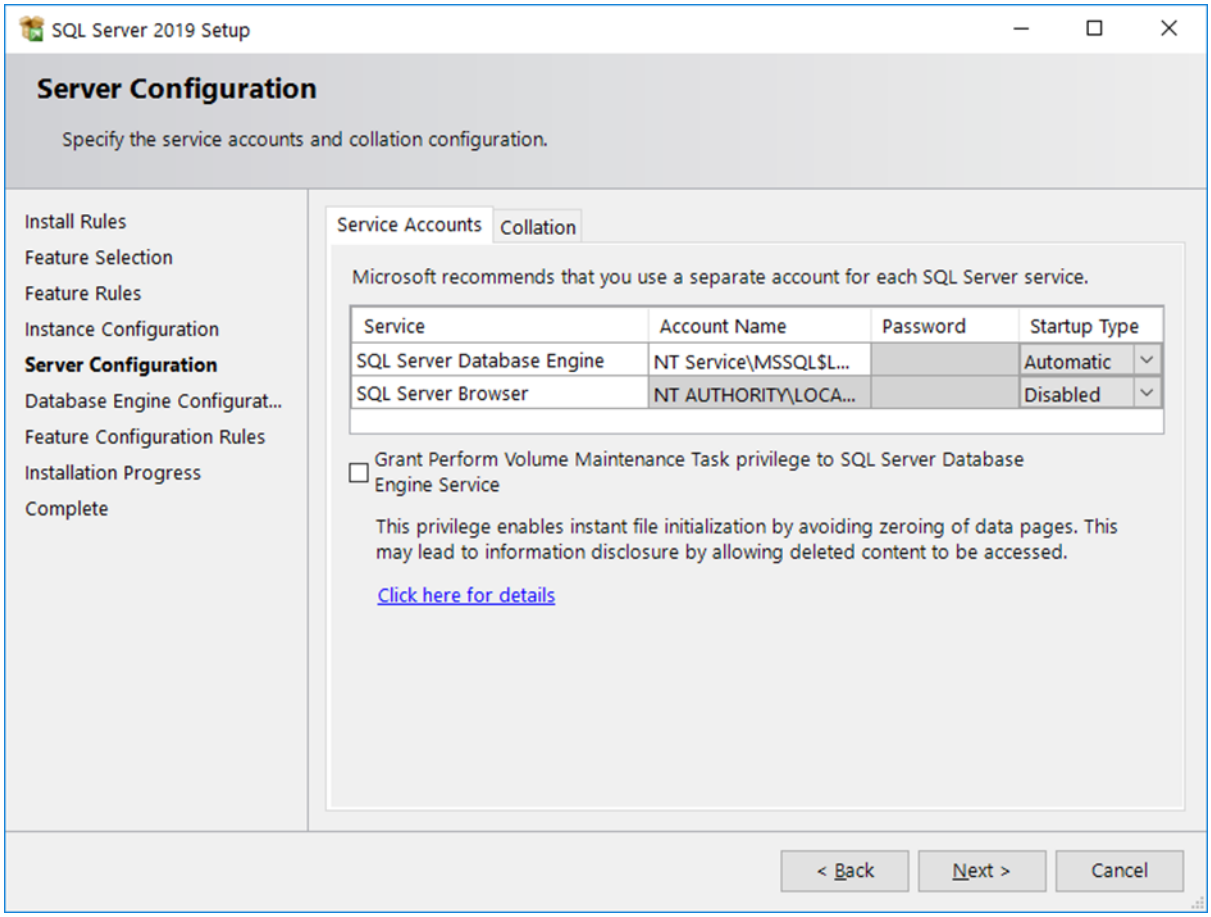


Figure 1.16

k. Select the **Windows authentication** mode. Make sure that the current user is added in **SQL Server administrator** list. If the current user is not added in **SQL Server administrator** list, the user can be added by clicking on **Add Current User** button. Click **Next >** button.

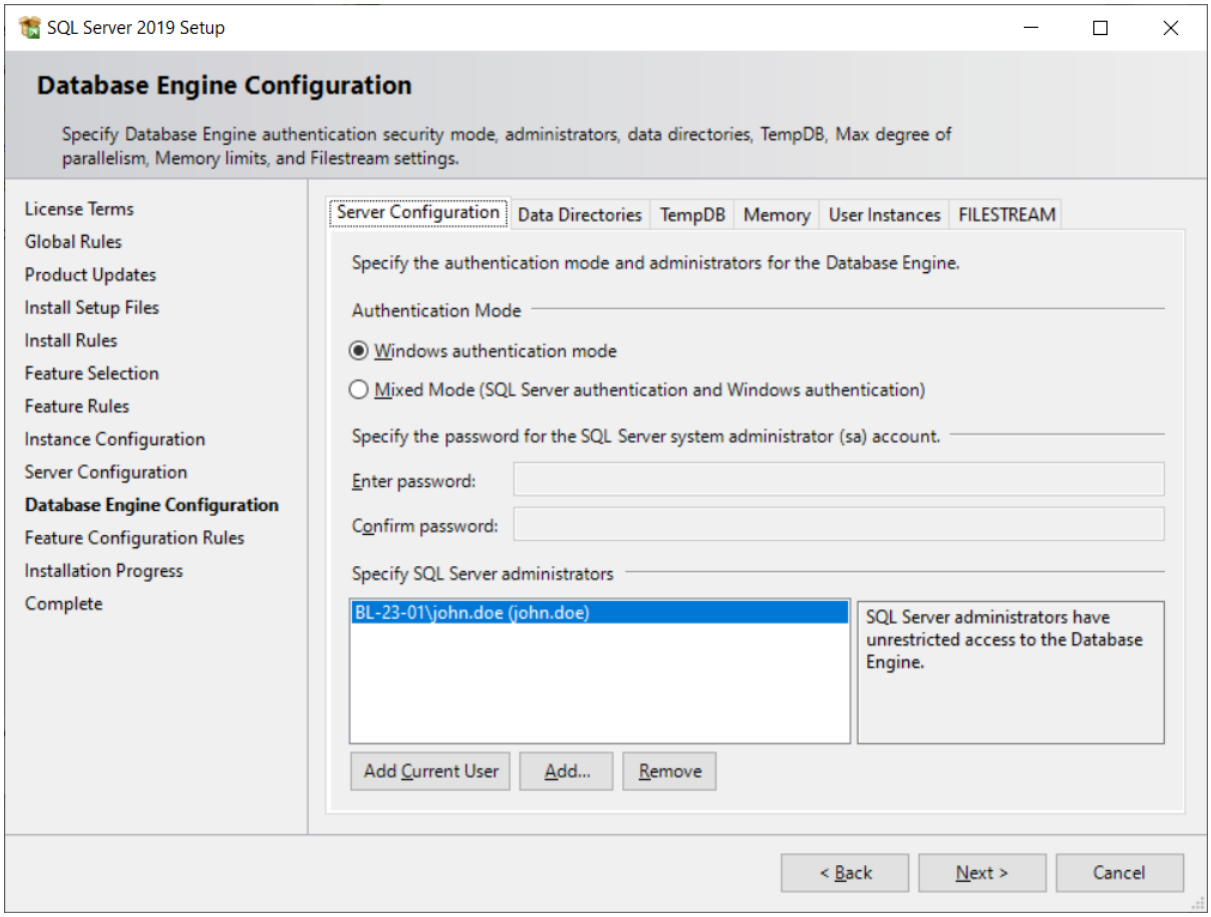


Figure 1.17

I. Click **Next >** button.

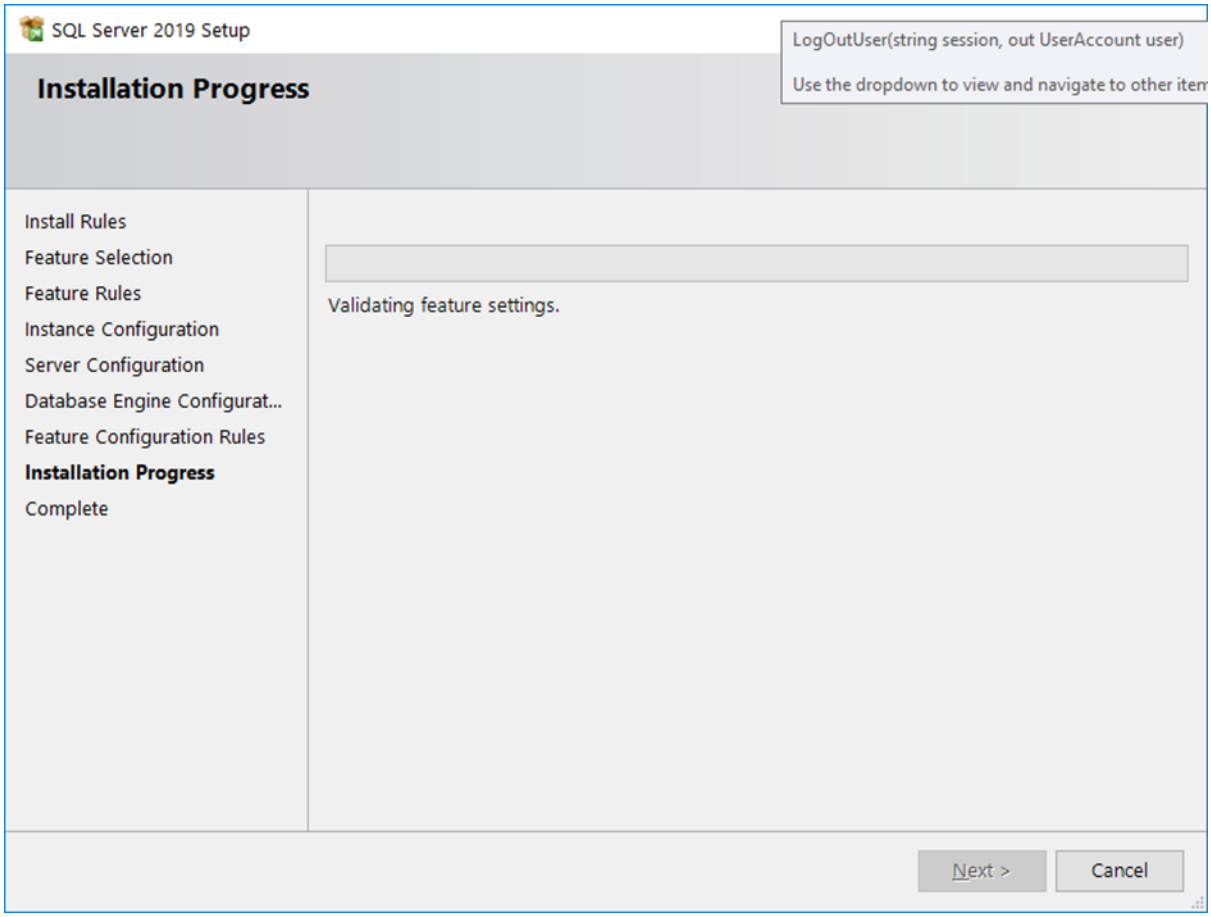


Figure 1.18

m. Click **Next >** button.

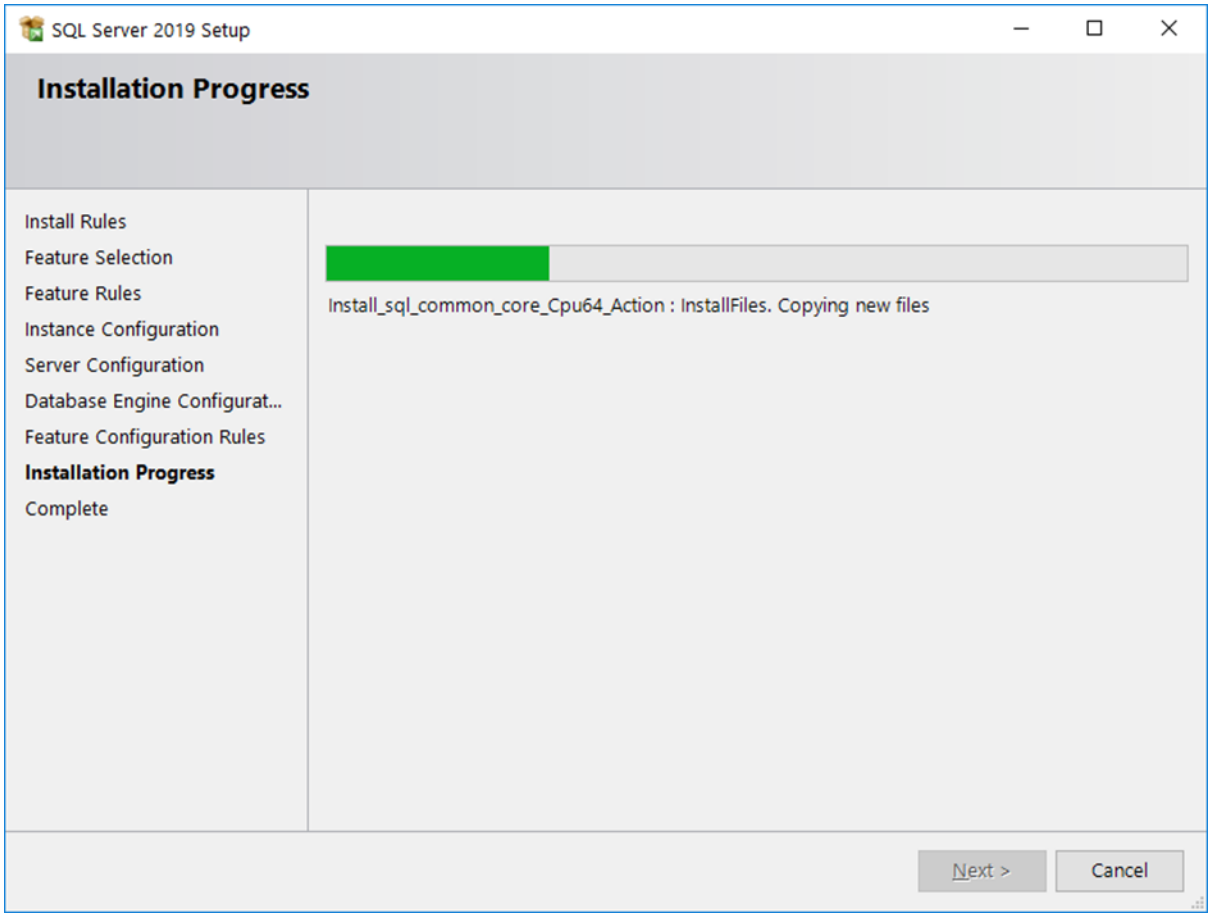


Figure 1.19

n. Click **Next >** button.

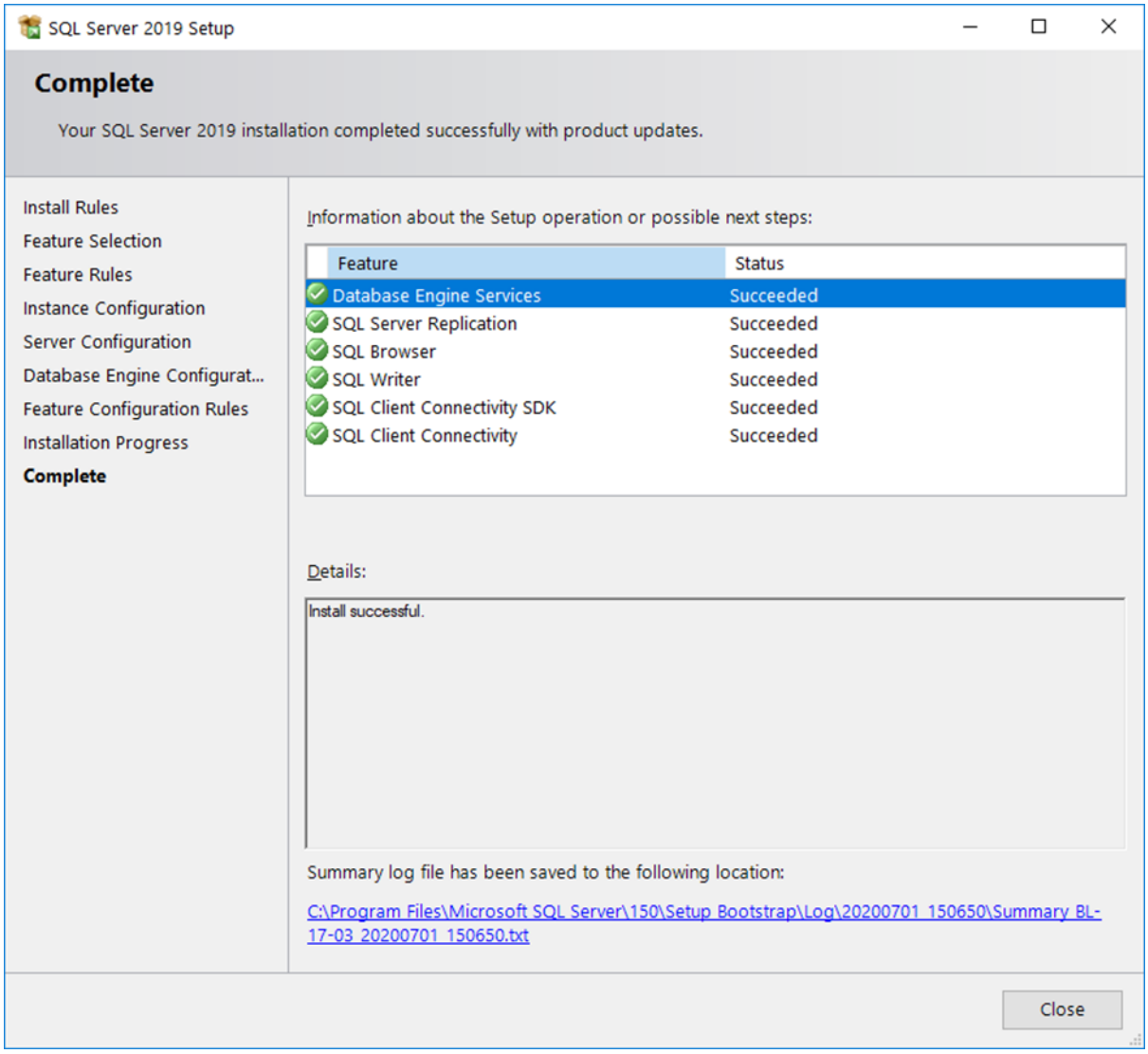


Figure 1.20

o. Check for any errors. Installation is completed. Click **Close** button.

1.3. Verify SQL Server installation with SQL Server Configuration Manager

After the installation, make sure that the SQL Server instance **LABWORLDSOFTDS** is up and running, and all the communication protocols are enabled. The following steps describe the verification process.

a. Start **SQL Server Configuration Manager** from Windows **Start** menu.

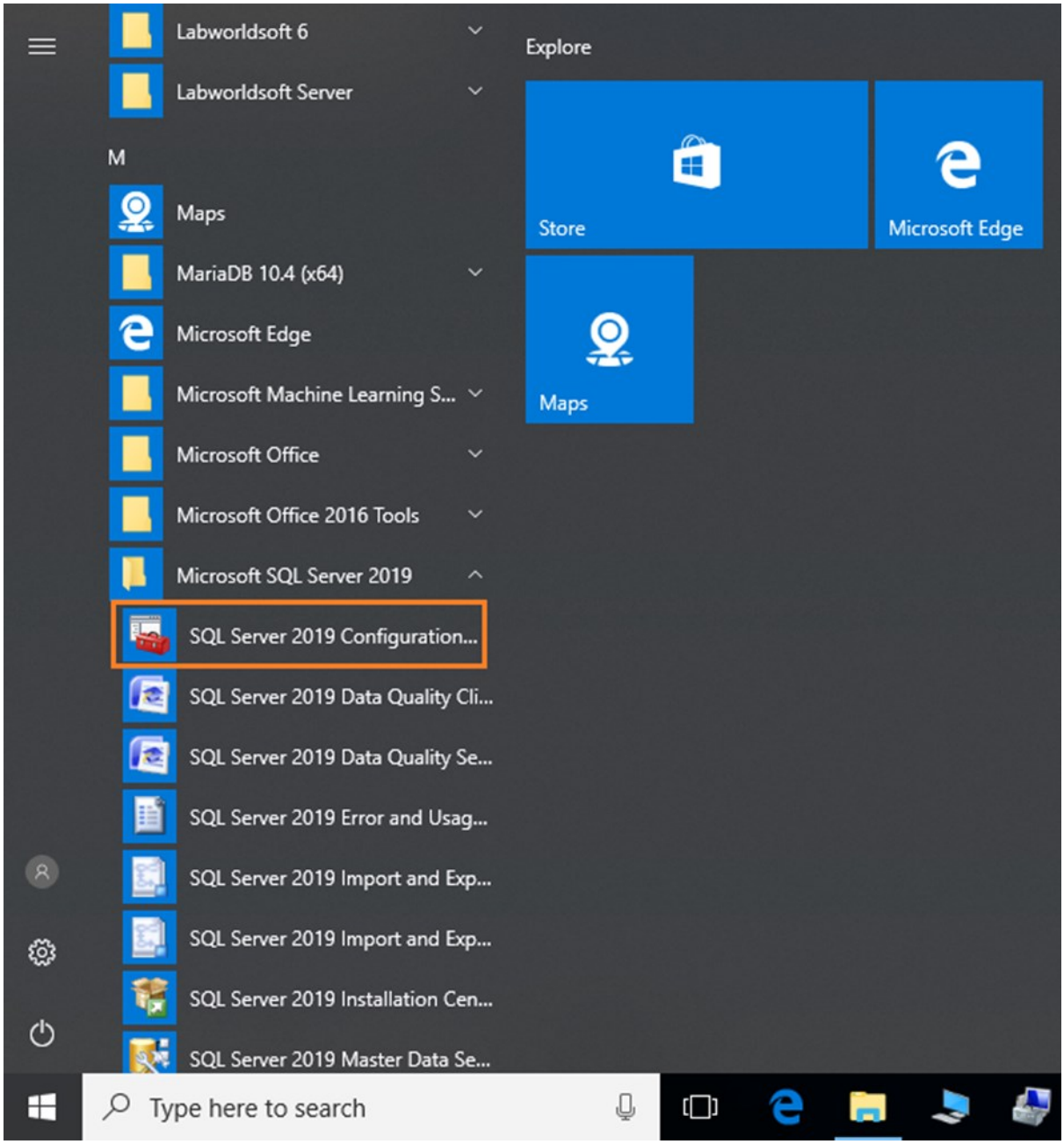


Figure 1.21

b. Select the node **SQL Server Services** and select the service **SQL Server (LABWORLDSOFTDS)**. Make sure that **SQL Server (LABWORLDSOFTDS)** service is running.

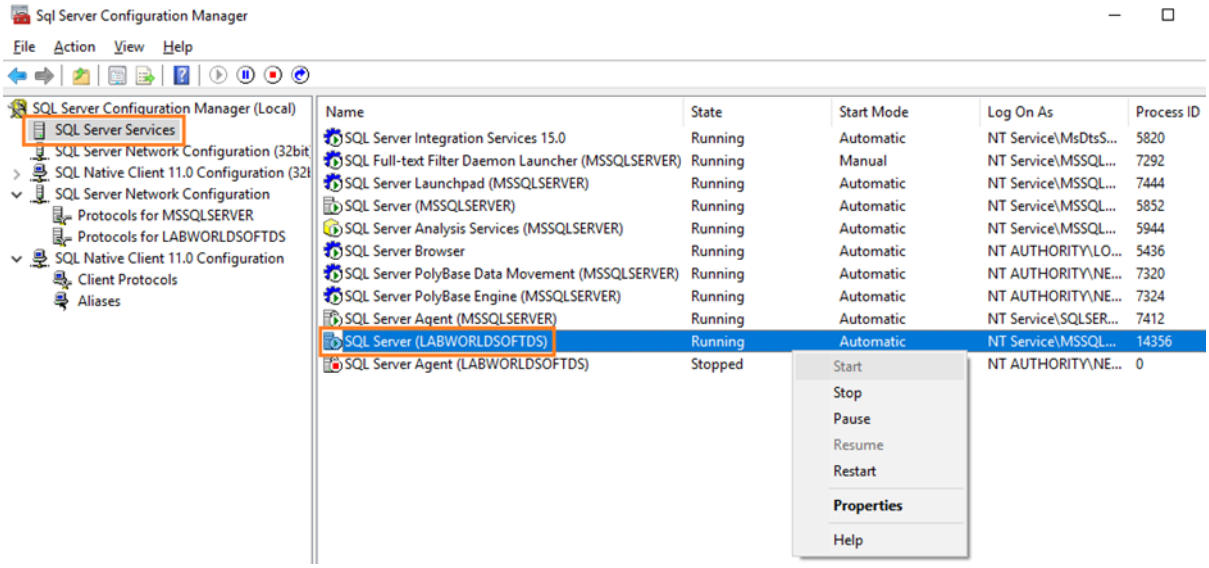


Figure 1.22

c. Select the node **Protocols for LABWORLDSOFTDS**.

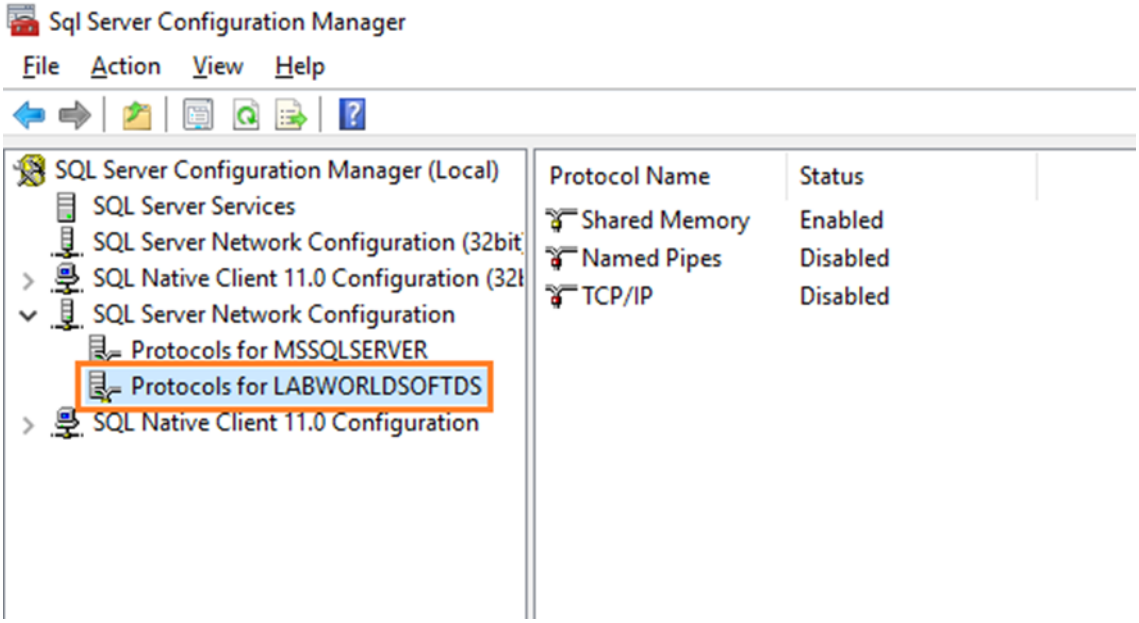


Figure 1.23

d. Enable the protocols **Shared Memory**, **Named Pipes** and **TCP/IP** if not.

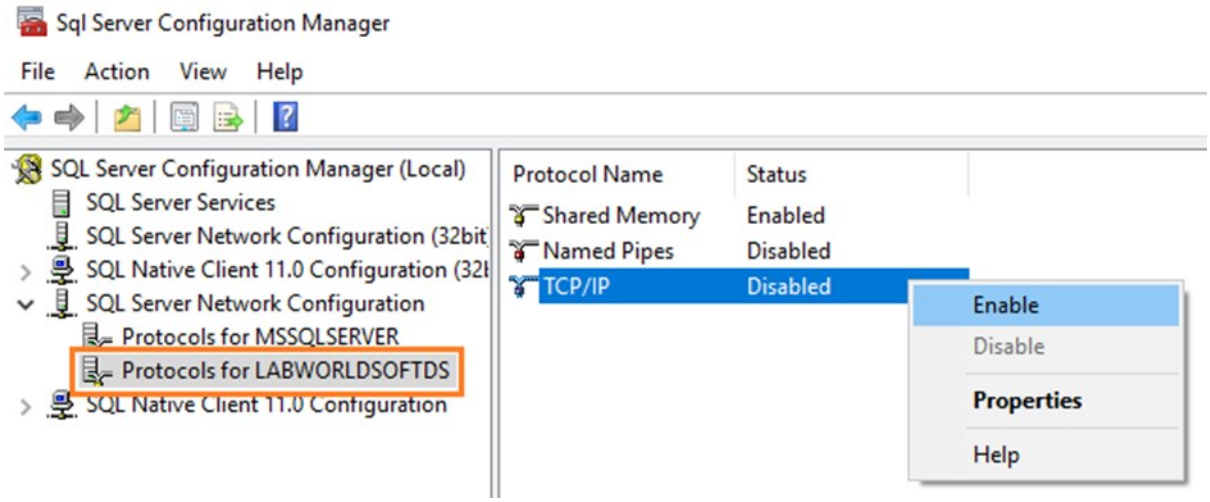


Figure 1.24

e. Select the node **SQL Native Client 11.0 Configuration → Client Protocols** and enable the protocols **Shared Memory**, **Named Pipes** and **TCP/IP** as in **step d**.

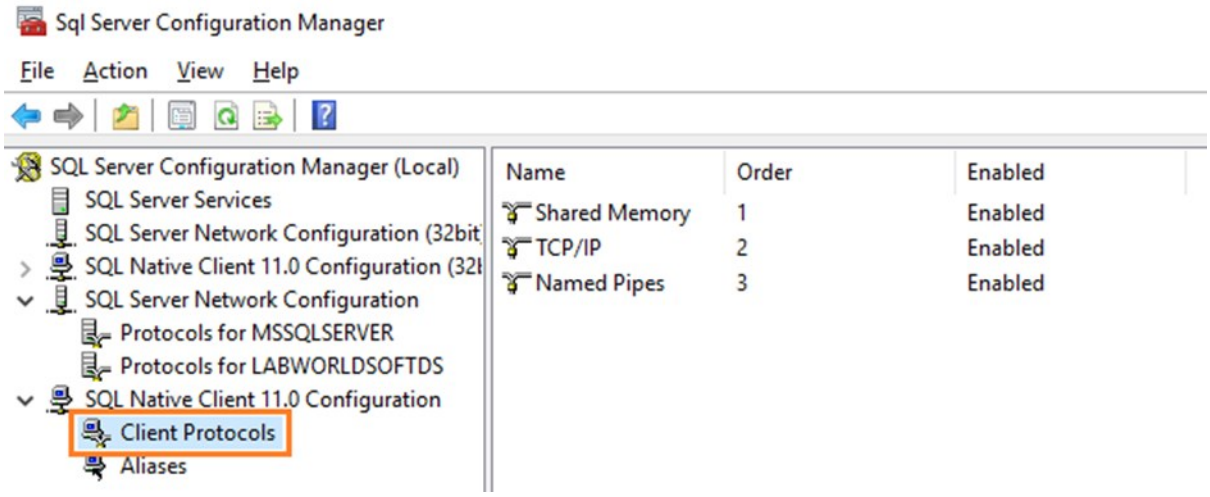


Figure 1.25

f. After enabling the protocols, restart the service **SQL Server (LABWORLDSOFTDS)** once again as mentioned in **step b** to make these changes in effect.

1.4. Install SQL Server Management Studio (SSMS)

SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure. SSMS provides tools to configure, monitor, and administer instances of SQL Server and databases.

Verifying whether the **needed server** roles are selected for the **SQL Server** user with **SQL Server Management Studio** is optional. However, it is highly recommended to check whether the needed **Server Roles** are selected for the **SQL Server** user. **SQL Server Management Studio** will be useful in future as well for managing database and adding additional **SQL Server** users.

1.4.1. Download and Install SSMS

You may download **SSMS** from https://aka.ms/ssmsfullsetup and install the software. This download link might change in future, so please visit Microsoft website for the correct URL.

1.4.2. Selecting Server Roles

a. Start **SSMS**. **Connect to Server** dialog will be popped-up. Provide the server name as **.\LABWORLDSOFTDS** and click **Connect** button.

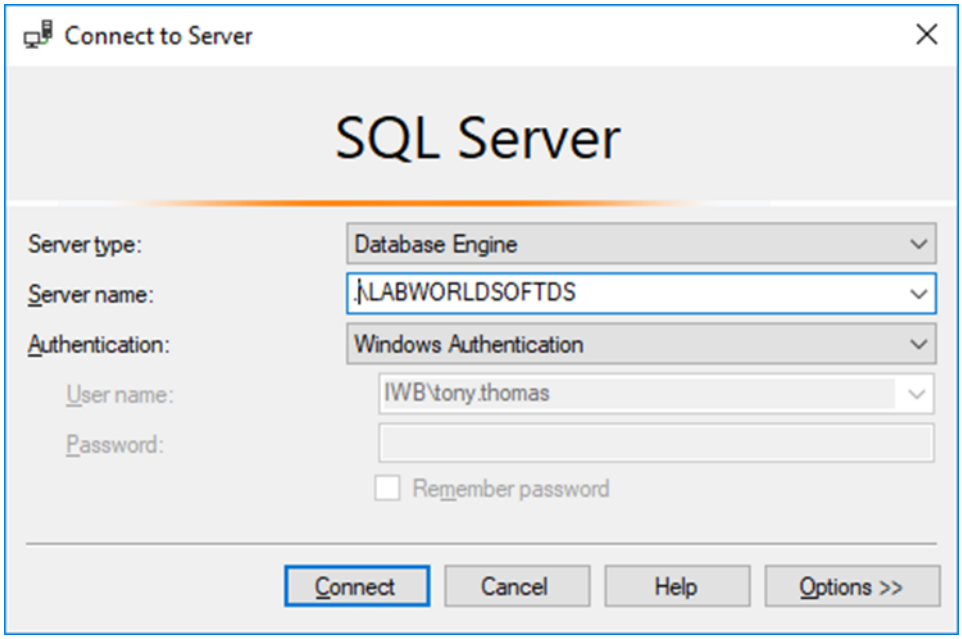


Figure 1.26

b. After connecting successfully, **Object Explorer** for **LABWORLDSOFTDS** server instance will be displayed. If **Object Explorer** is not visible, open it by clicking the menu **View → Object Explorer**.

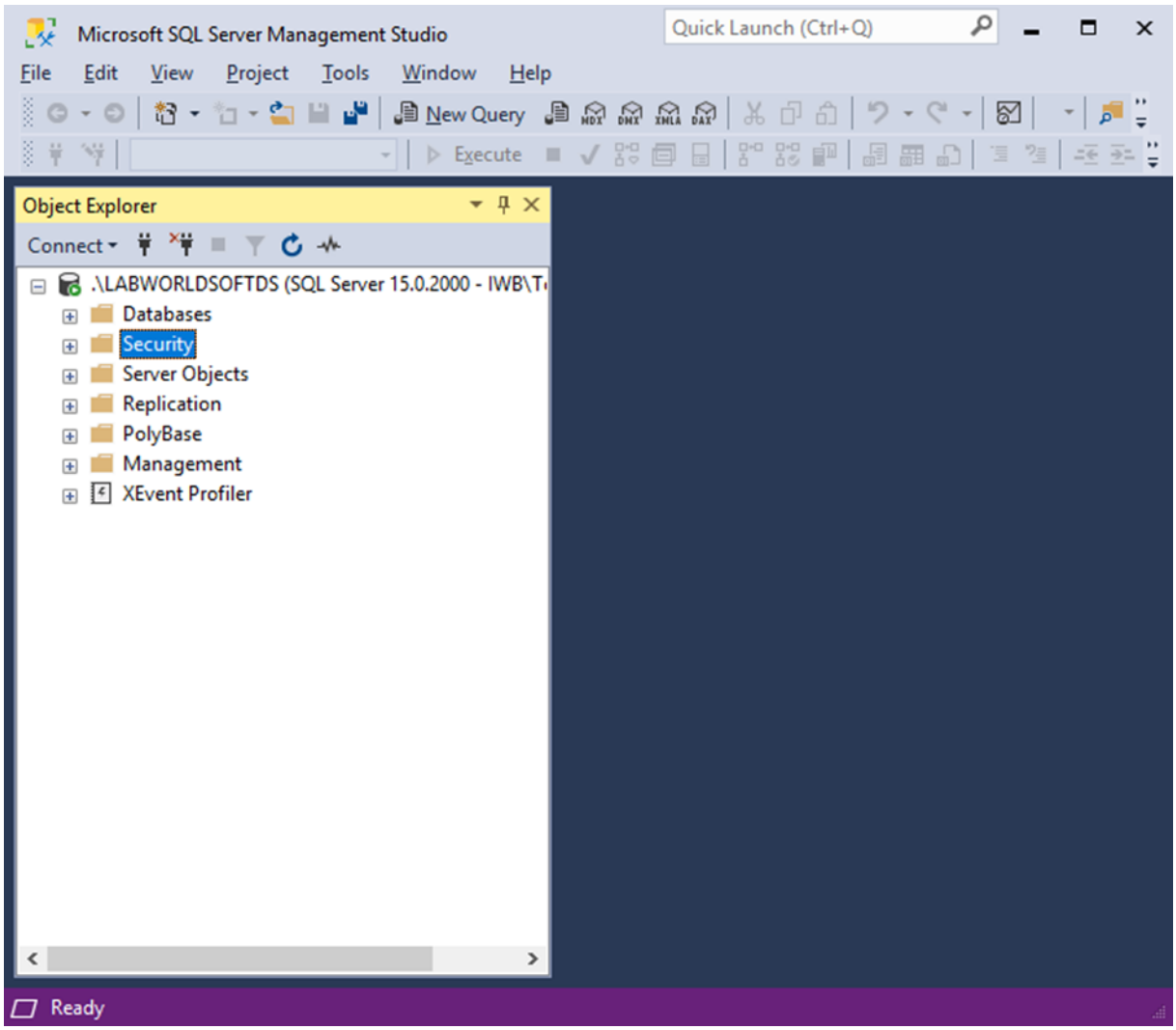


Figure 1.27

c. Suppose the added user to the SQL Server Administrator list during the **SQL Server** installation **section 1.2.k** is **BL-23-01\john.doe**. Right click the node **BL-23-01\john.doe** from **.\LABWORLDSOFTDS / Security / Logins** and select **Properties**.

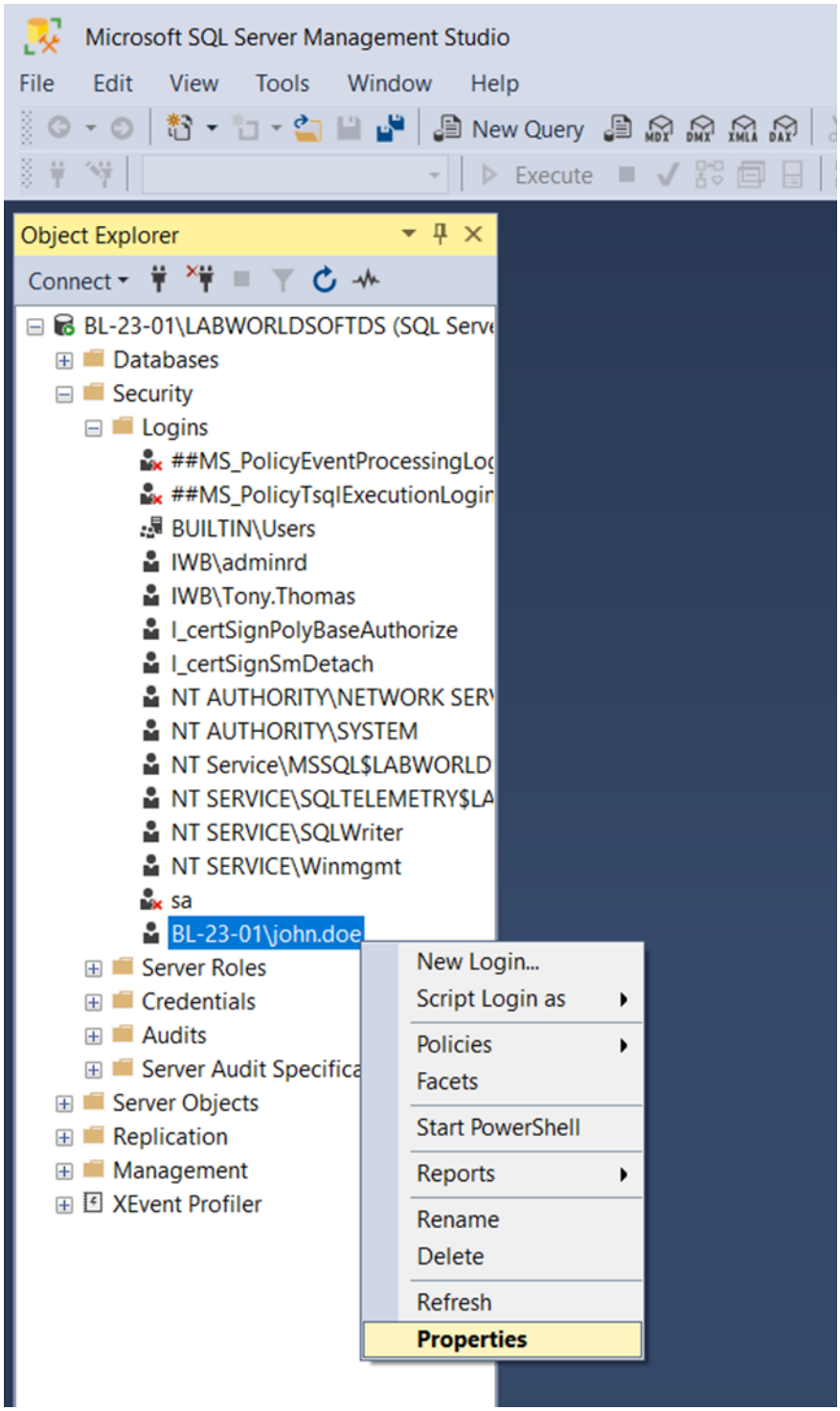


Figure 1.28

d. When clicking **Properties** menu, **Login Properties** window will be popped-up. Select **Server Roles**. Select all the **Server Roles** and click **OK** button.

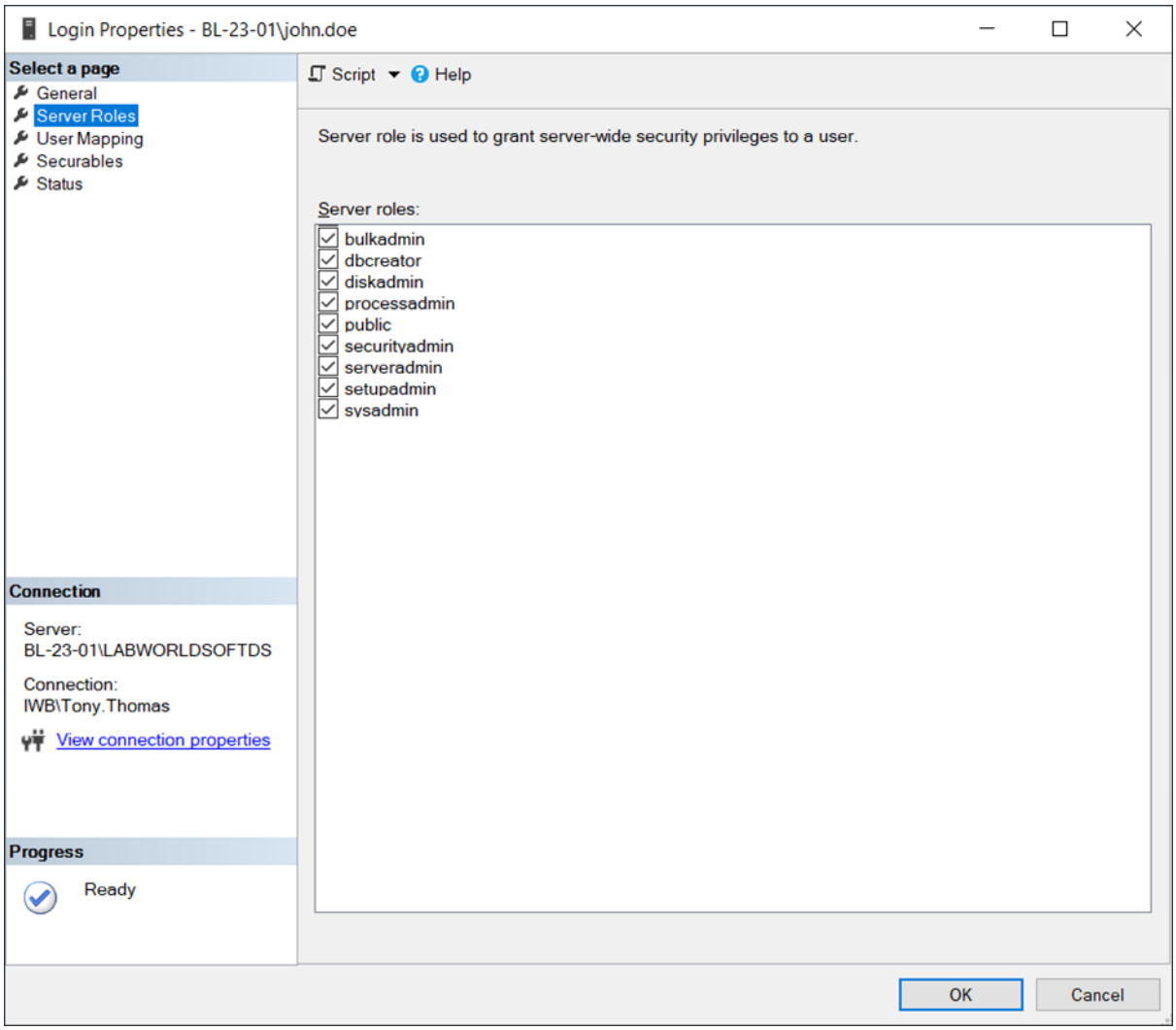


Figure 1.29

2. Installing Labworldsoft Server

2.1. Introduction

Labworldsoft Server is a server software working together with **Labworldsoft 6** for the support of **FDA 21 CFR Part 11**, where **Labworldsoft 6** works as a client software.

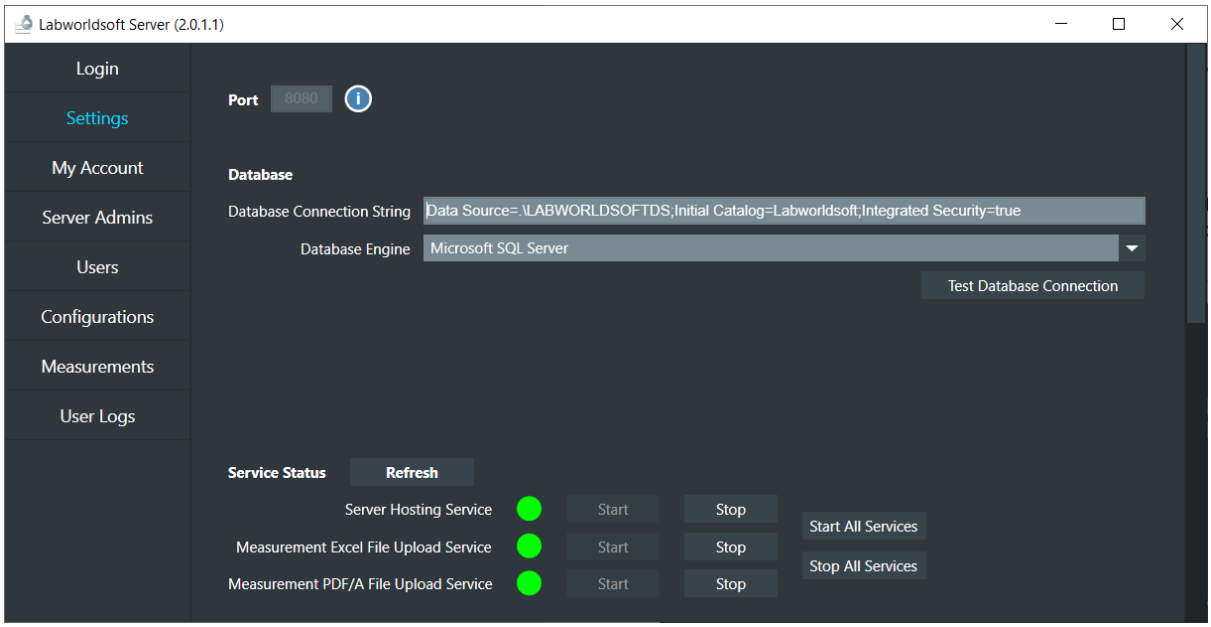


Figure 2.1

Labworldsoft Server supports User management, Configuration management, Measurement file uploading/downloading, Logging of user activities etc. **Labworldsoft 6** implements **FDA 21 CFR Part 11** with the support of **Labworldsoft Server**.

Labworldsoft Server and **Labworldsoft 6** can be deployed in 2 different ways.

Deployment Type	Details
Local	Both **Labworldsoft Server** and **Labworldsoft 6** are installed in the same PC. In this configuration, **Labworldsoft 6** can use any of **Local** or **Intranet** protocols for connecting to **Labworldsoft Server**. More details are present in section 5.1.
Intranet or Inside Firewall	**Labworldsoft Server** and **Labworldsoft 6** are installed in 2 different PCs, but both PCs are installed in the same Intranet and inside the same firewall. In this configuration, **Labworldsoft 6** have to use Intranet protocol for connecting to **Labworldsoft Server**. More details are present in section 5.1.

Table 2.1

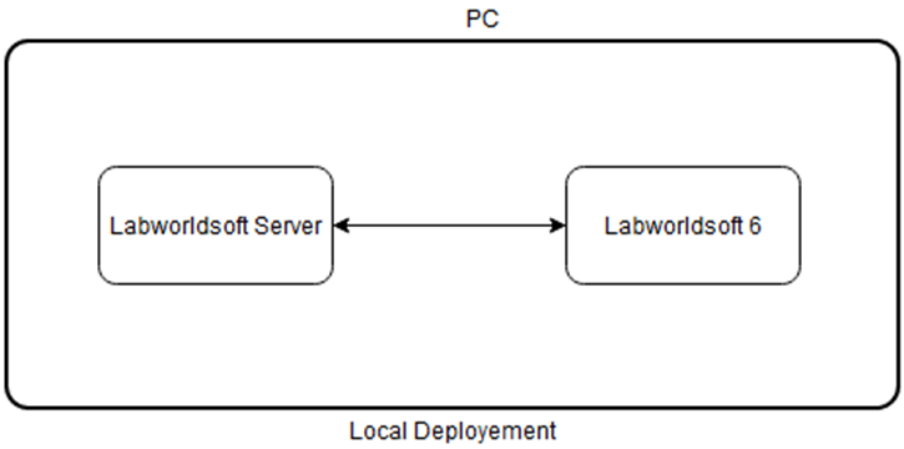


Figure 2.2

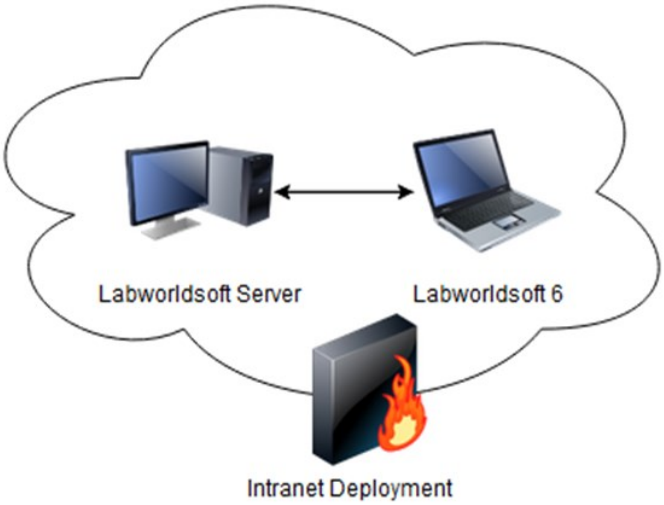


Figure 2.3

The term **Server PC** is used for denoting the PC where Labworldsoft Server is installed and the term **Client PC** is used for denoting the PC where Labworldsoft 6 is installed, throughout the document.

Server PC	PC where **Labworldsoft Server** is installed and run
Client PC	PC where **Labworldsoft 6** is installed and run.

Table 2.2

2.2. Install Labworldsoft Server

a. System Requirements (Minimum/Suggested):

- Processor: Intel Core i5 Processor (Suggested Intel Core i7 Processor) frequency not less than 2.6 GHz, not less than 2 Cores
- Operating System: Windows 10 May 2019 Update (version 1903) / Windows 11
- .Net Framework: .Net Framework 4.8
- RAM: Not less than 8 GB // Suggested 16 GB
- Storage: At least 10 GB free hard disk
- Graphic Card: No special requirements
- Optical Drive: CD/DVD-drive not necessary
- USB: Not necessary
- LAN: Yes (1 port is enough)

b. Download **Labworldsoft Server** from Downloads - Labworldsoft® 6 Pro (ika.com)

c. Run setup.exe.

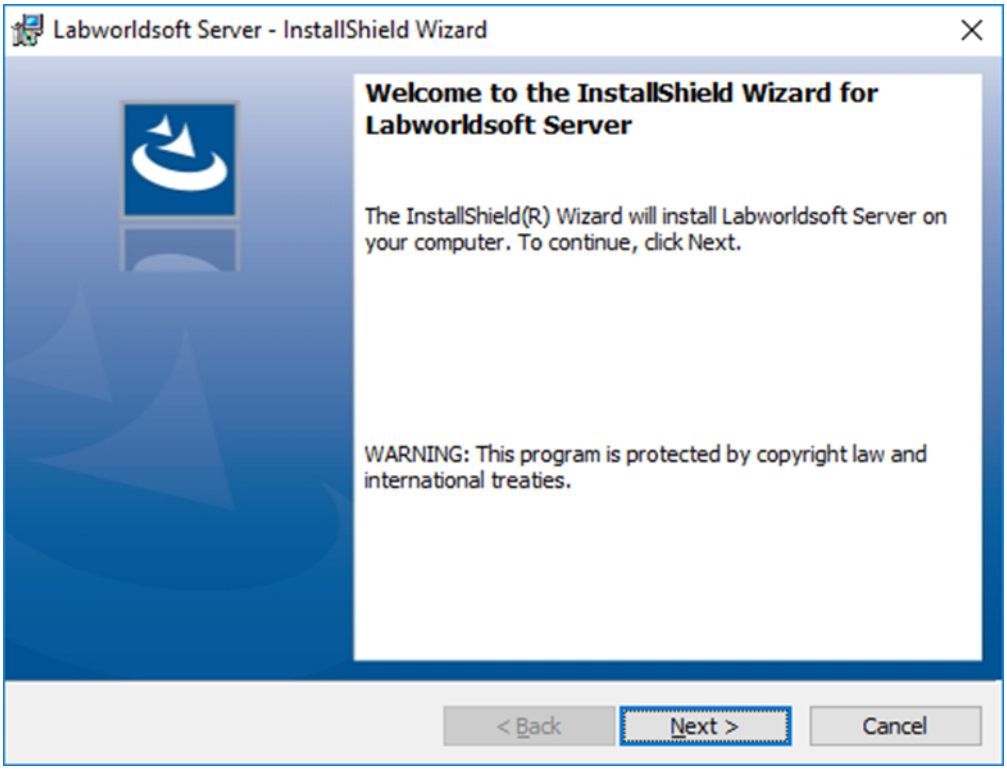


Figure 2.4

d. Click **Next >**. Warning dialog for uninstalling old ***Labworldsoft Server 1.0.1*** manually. After uninstalling Labworldsoft Server 1.0.1 manually if it exits, select the check-box ***Labworldsoft Server 1.0.1 uninstalled successfully or it does not exist anymore***.

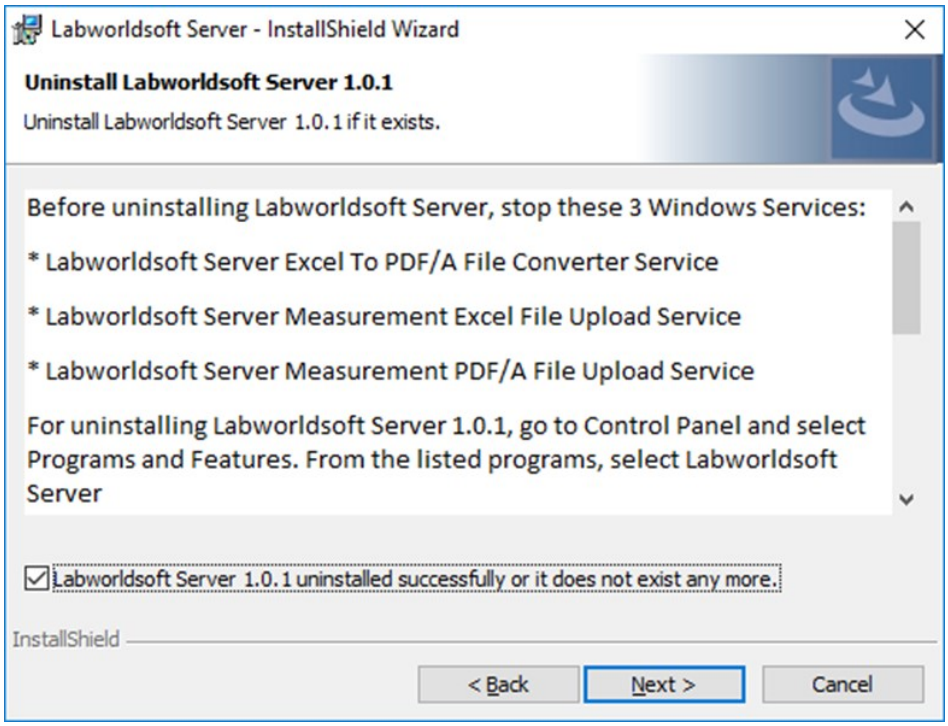


Figure 2.5

e. Click ***Next >***. Accept license agreement.

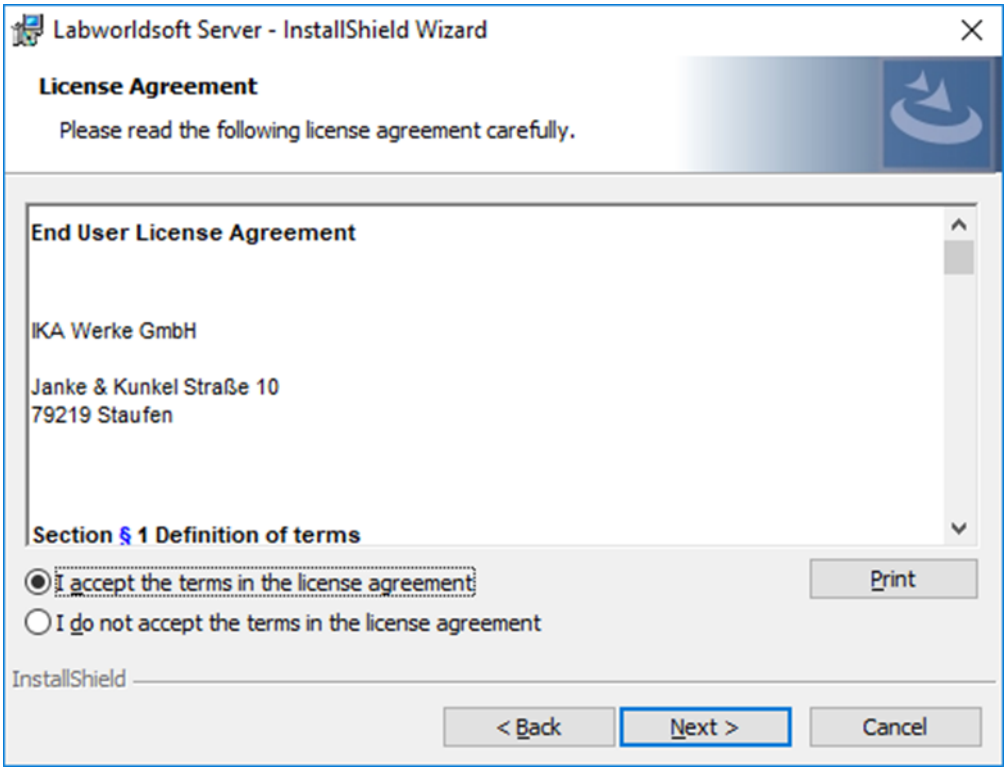


Figure 2.6

f. Click ***Next >***. Specify the installation folder. It is recommended to use the default installation folder.

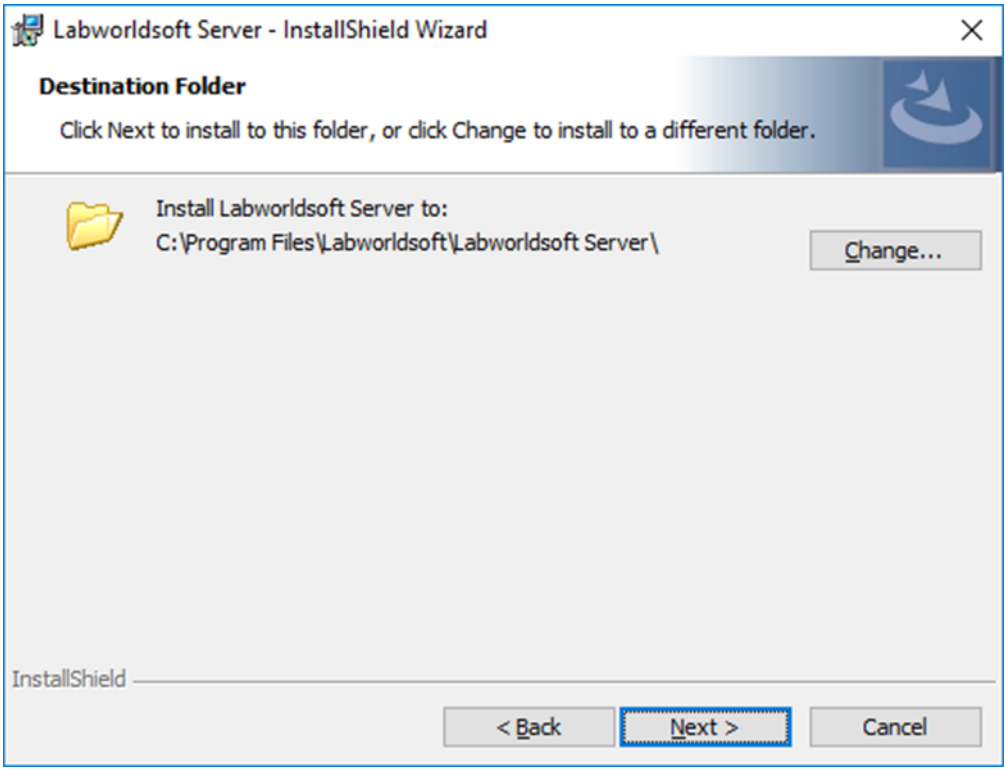


Figure 2.7

g. Click **Next >** and then click **Install**.

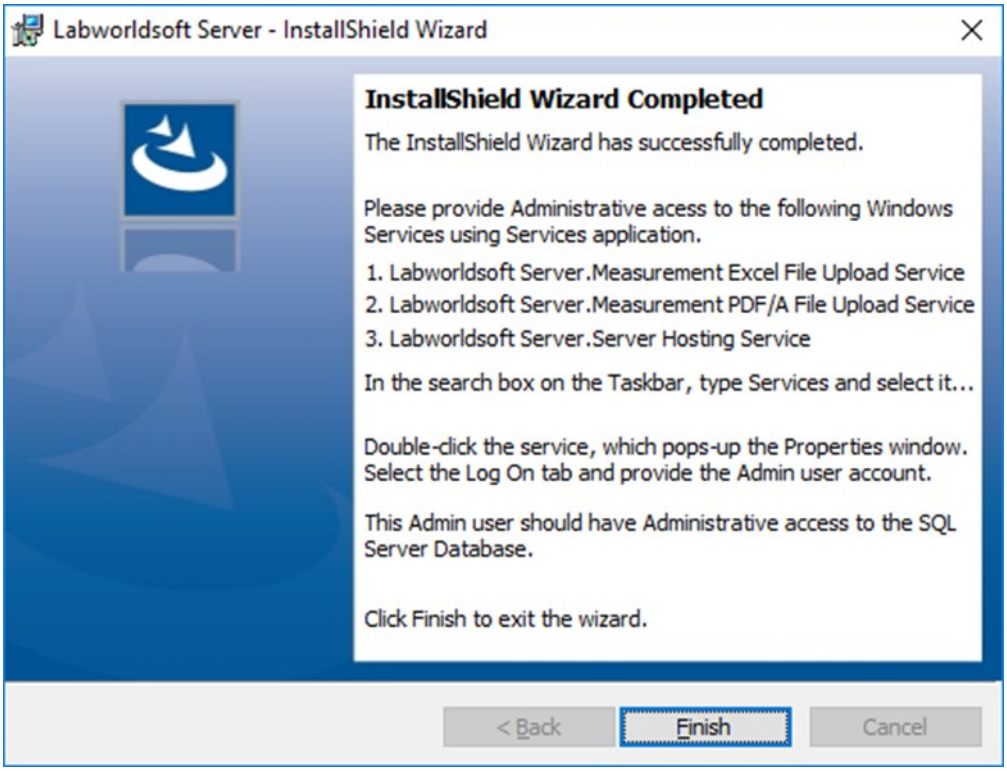


Figure 2.8

h. After the installation completes, a dialog box will be displayed explaining how to provide Administrative access to the Windows Service components.

i. Provide Administrative access to the following services. You may start **Services and Controller app** by typing the text ***Services*** in the search box on the Taskbar.

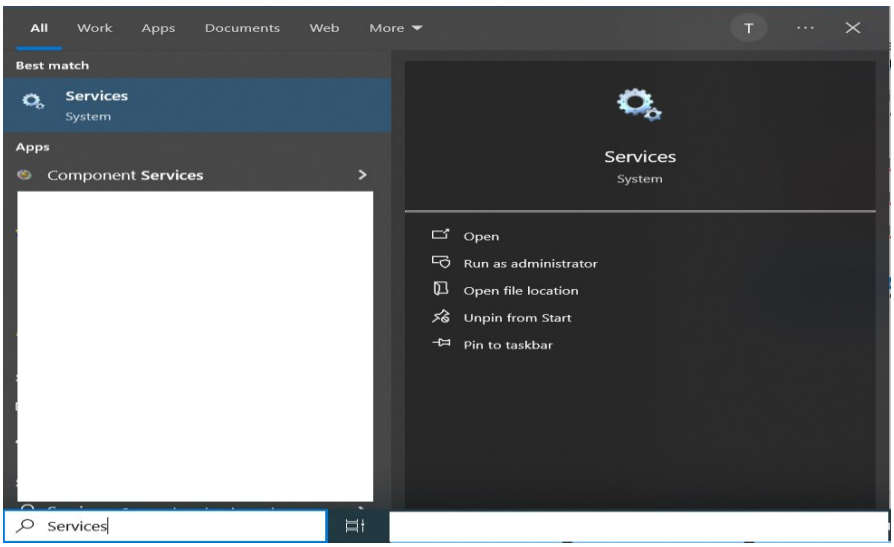


Figure 2.9

- **Labworldsoft Server.Measurement Excel File Upload Service**
- **Labworldsoft Server.Measurement PDF/A File Upload Service**
- **Labworldsoft Server.Server Hosting Service**

Figure 2.10

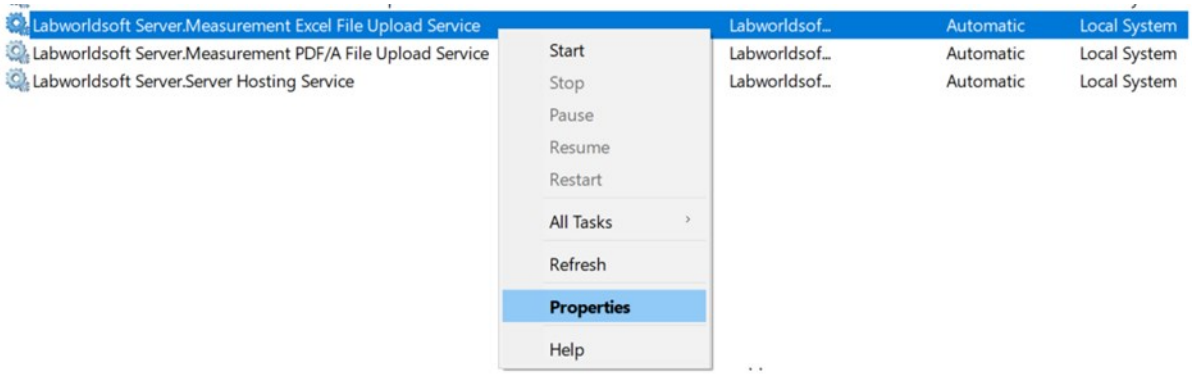


Figure 2.11

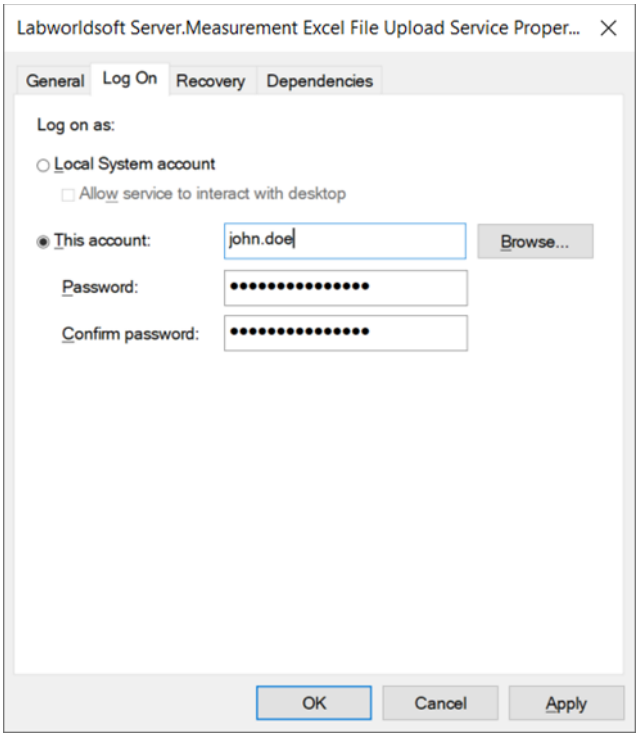


Figure 2.12

j. Specify **Start Type** as **Automatic** for all the Services mentioned in **section 2.2.i**

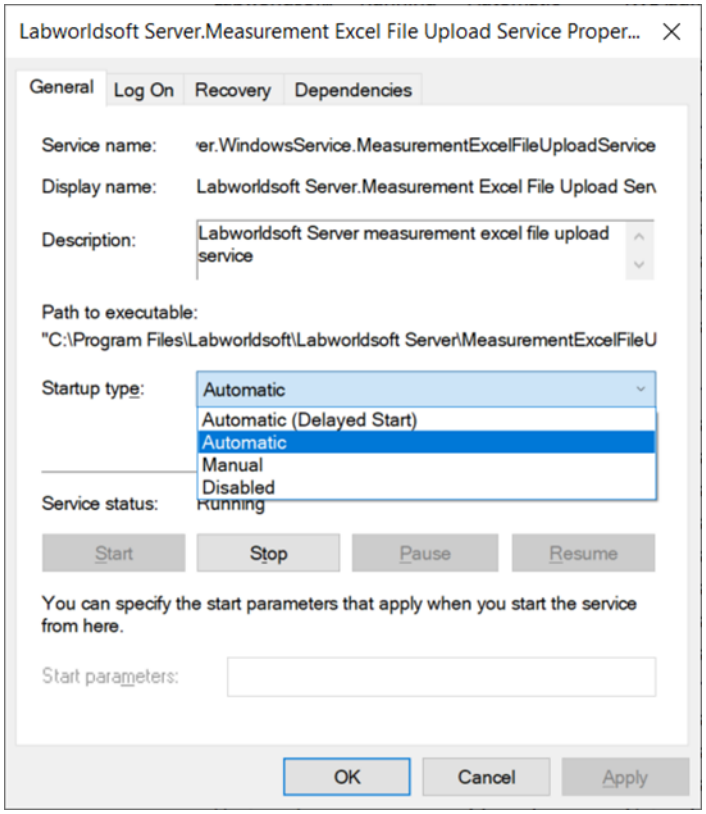


Figure 2.13

k. Do not start the services at present. We will start these 3 services in **section 2.4.7** after configuring **Labworldsoft Server** by providing the correct **Database Connection String**.

2.3. Deployed Package Details

If the default installation location is selected, **Labworldsoft Server** will be installed in **C:\Program Files\Labworldsoft\Labworldsoft Server**.

Labworldsoft Server application comprises mainly of 4 components. They are,

- **Labworldsoft Server** Desktop application
- **Labworldsoft Server.Measurement Excel File Upload Service** windows service
- **Labworldsoft Server.Measurement PDF/A File Upload Service** windows service
- **Labworldsoft Server.Server Hosting Service** windows service

Labworldsoft Server	
Program Component	Labworldsoft Server application
Application Type	Desktop Application
Installation Path	C:\Program Files\Labworldsoft\Labworldsoft Server\LabworldsoftServer\LabworldsoftServer.exe

Program Component	Labworldsoft Server.Measurement Excel File Upload Service
Application Type	Windows Service
Installation Path	C:\Program Files\Labworldsoft\Labworldsoft Server\MeasurementExcelFileUploadService\MeasurementExcelFileUploadService.exe

Program Component	Labworldsoft Server.Measurement PDF/A File Upload Service
Application Type	Windows Service
Installation Path	C:\Program Files\Labworldsoft\Labworldsoft Server\MeasurementPdfAFileUploadService\MeasurementPdfAFileUploadService.exe

Program Component	Labworldsoft Server.Server Hosting Service
Application Type	Windows Service
Installation Path	C:\Program Files\Labworldsoft\Labworldsoft Server\ServerHostingService\ServerHostingService.exe

Table 2.3

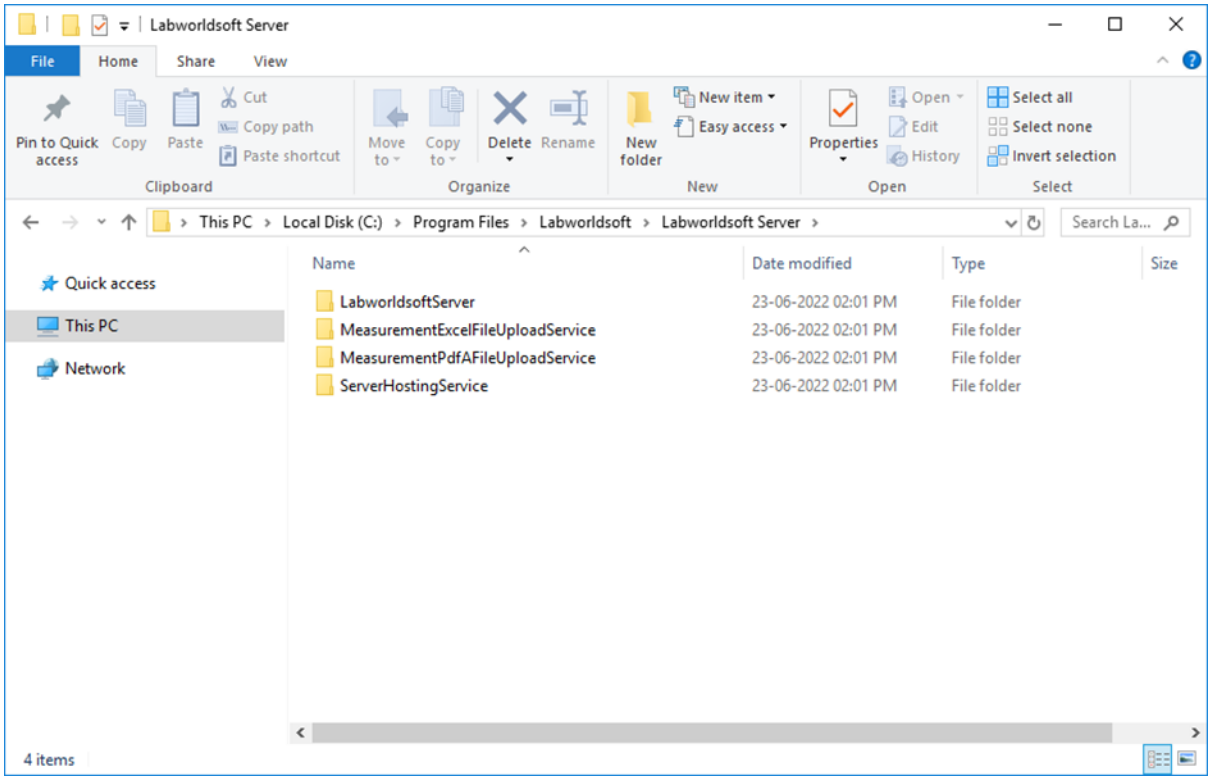


Figure 2.14

2.4. Configure Labworldsoft Server

This section explains how to login to Labworldsoft Server, how to specify Database Connection String and how to start the 3 Windows Services mentioned in **section 2.2.i**.

2.4.1. Login

Start **Labworldsoft Server** with Administrative privilege. The Login screen will be displayed. Users can use the default User ID **serveradmin** and Password **password@1** for logging.

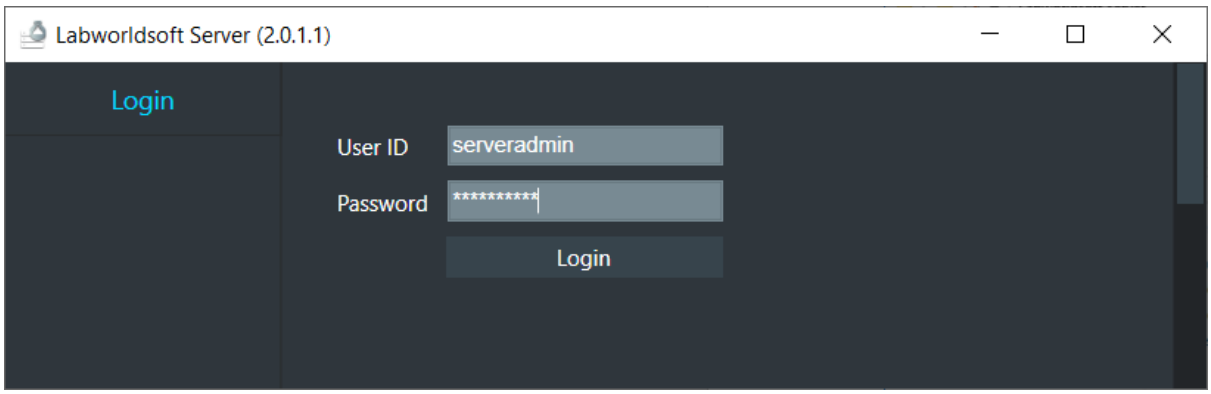


Figure 2.15

Default User ID: **serveradmin**
Default Password: **Password@1**

Please refer section 3.3 for creating additional **Server Administrators**.

2.4.2. Server Settings

Provide the default User ID and Password and click the Login button. After successful login, the Settings tab is selected by default. Select the Settings tab if not selected.

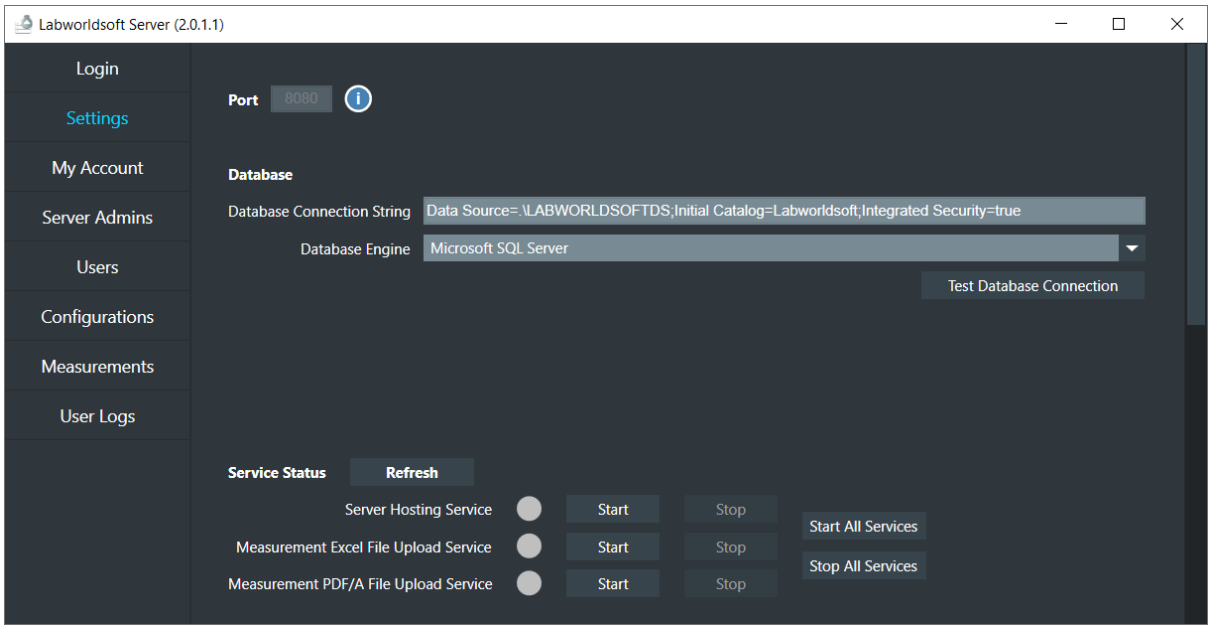


Figure 2.16

2.4.3. Port

Labworldsoft Server is listening to more than one TCP Ports ranging from **8080** to **8093** for incoming requests from Labworldsoft 6.

At present, Labworldsoft Server port numbers are not configurable. Therefore, if any software is already listening on TCP ports from 8080 to 8093, you have to stop that software.

By using netstat command, we can find port numbers used by all the applications.

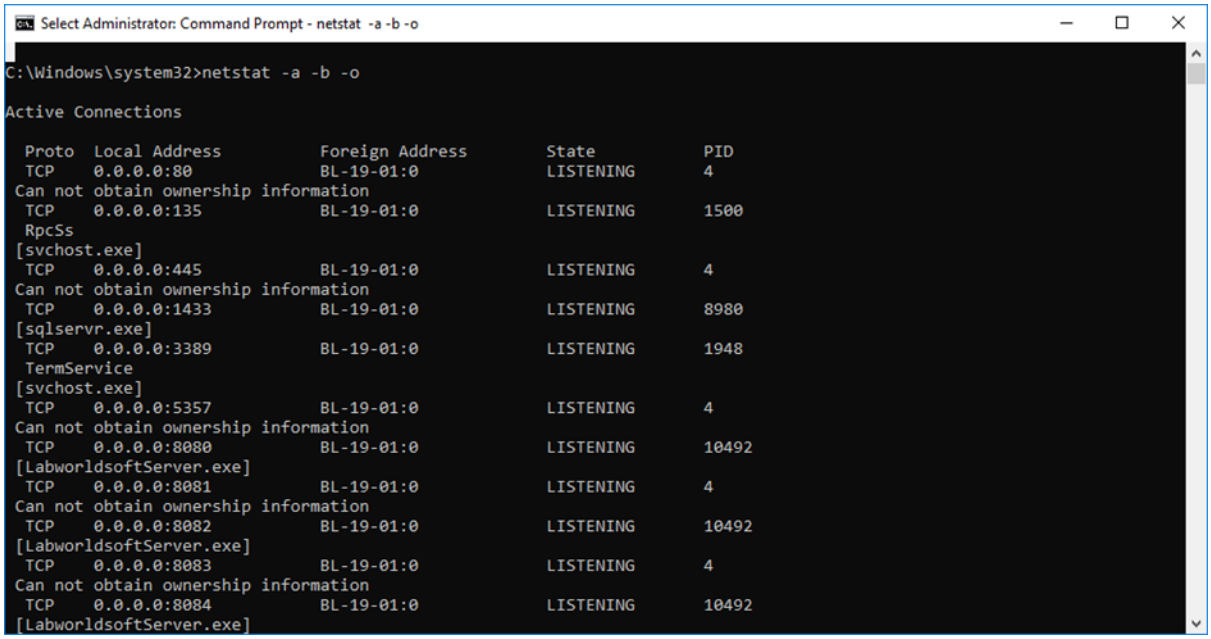


Figure 2.17

Modules	TCP Ports used
Connection module	8080, 8081
User Management module	8082, 8083
Configuration Management module	8084, 8085
Configuration File Transfer module	8086, 8087
User Log module	8088, 8089
Measurement module	8090, 8091
Measurement File Transfer module	8092, 8093

Table 2.4

2.4.4. Database Engine

At present, **Labworldsoft Server** supports only **Microsoft SQL Server** database, which is selected by default. In future, it can support multiple databases such as **Oracle** and **MySQL**.

2.4.5. Database Connection String

Labworldsoft Server uses **Entity Framework 6** (**EF6**) **Object-Relational Mapping** (**ORM**) framework for accessing database.

User has to provide the EF6 Connection String in the Database Connection String textbox to connect to the database.

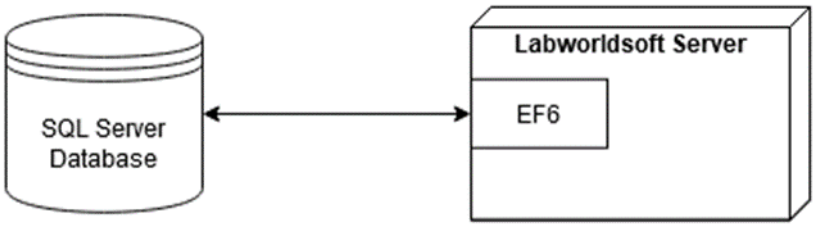


Figure 2.18

A simple **SQL Server** database **Connection String** using **Entity Framework 6** has 3 parts; **Data Source**, **Database Name** and **Authentication Mode**. Each part is delimited with semi-colon (;).

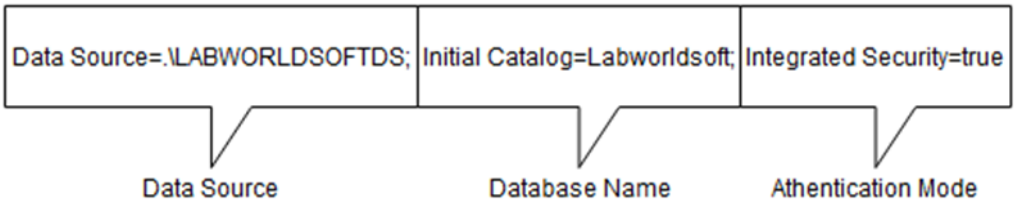


Figure 2.19

Data Source is the **SQL Server Instance Name** chosen while installing SQL Server database in **section 1.2.i**.

Initial Catalog specifies the database name. Suppose the Data Source name is **LABWORLDSOFTDS** and database name is **Labworldsoft**. When clicking **Test Database Connection** button, **Labworldsoft Server** checks whether a database with name **Labworldsoft** exists in the Data Source **LABWORLDSOFTDS**. If it does not exist, **Labworldsoft Server** will send **SQL scripts** using **EF6** for creating a database named **Labworldsoft** with all the required tables automatically.

A **Database Connection String** should be a valid **Entity Framework 6** (**EF6**) Connection String for **SQL Server Database**. Therefore, any valid **EF6 Connection String** can be provided in the **Database Connection String** text box. If the Database Administrator used a different name for Data Source while installing SQL Server, he has to specify that new name in **Data Source** section of the **Connection**

String. If the Administrator thinks to choose a different name for database, he has to specify that new name in the **Initial Catalog** part of the **Connection String**. If the Database Administrator chose **Mixed mode authentication** instead of **Windows authentication** while installing SQL Server, do appropriate changes in the **Authentication Mode** section of the **Connection String**.

A Database Administrator may refer **Microsoft** website or **Google search** for finding more advanced Database Connection Strings to satisfy their requirements.

If the Administrator chose the default Data Source name **LABWORLDSOFTDS**, choosing the default database name **Labworldsoft** and chose the default authentication mode **Windows Authentication**, he can use the default **Database Connection String** shown below:

```
Data Source=.\LABWORLDSOFTDS;Initial Catalog=Labworldsoft;Integrated Security=true
```

2.4.6. Test Database Connection

After providing a valid **Database Connection String** and selected the **Database Engine**, Administrator can check the database communication status by clicking **Test Database Connection** button. When clicking **Test Database Connection** button, **Labworldsoft Server** will try to connect to the Data Source specified, using the authentication mode specified, and checks whether the database name specified exists. If the database does not exist in the data source, it will be created automatically with all the required tables. After that, the database will be opened and closed immediately as a test to find the status. The following message will be displayed if the communication is successful.

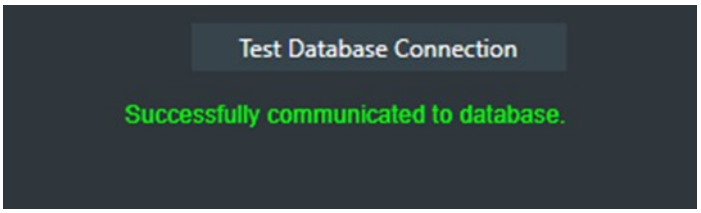


Figure 2.20

If communication fails, an appropriate error message will be displayed.

2.4.7. Starting Server Services

a. When starting Labworldsoft Server at first time, the Service Status indicators are in grey colour as shown in figure 2.16. You can start the Labworldsoft Server services in 2 ways.

b. In the first approach, click the **Start All Services** button. All the 3 services will be started one by one and the status indicator colour will be changed to green.

c. In the second approach, Start the **Services and Controller** app as mentioned in the section 2.2.i. Start all the 3 services mentioned in section 2.2.i**.**

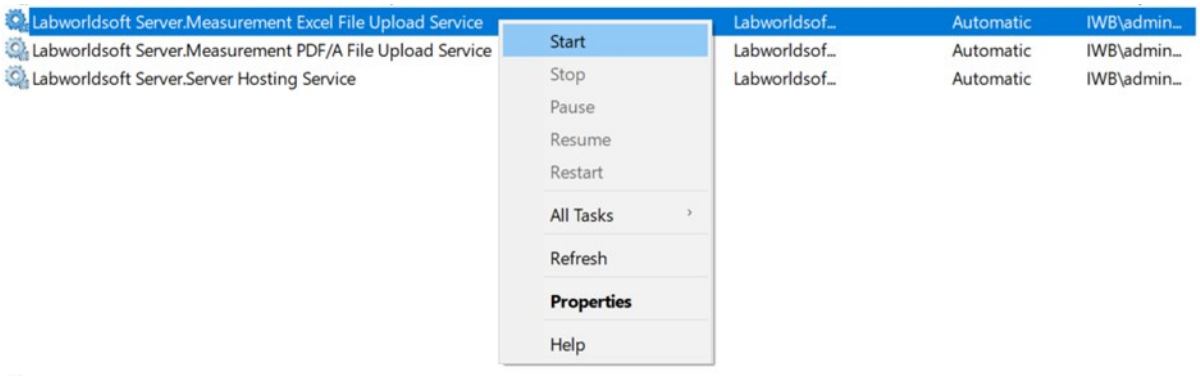


Figure 2.21

d. Make sure that all the 3 Services mentioned in section 2.2.i are running.

Figure 2.22

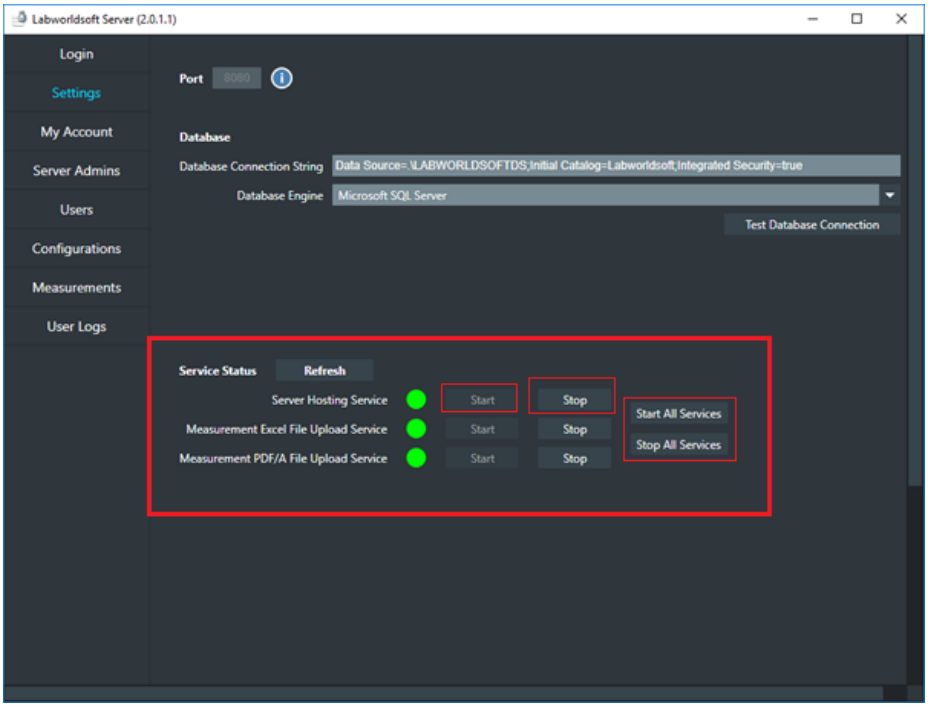


Figure 2.23

e. Similarly, you can stop the services by clicking the **Stop All Services** button or from the **Services and Controller** app. You can also **start/stop** the services individually by clicking the **Start/Stop** individual buttons as well.

2.4.8. Read/Write Privilege to C:\ProgramData\Labworldsoft folder

When Windows user with Administrative privilege starts Labworldsoft Server, **C:\ProgramData\Labworldsoft** settings folder is created. All the Windows users who want to access Labworldsoft Server should have **read/write** permission to **C:\ProgramData\Labworldsoft** folder and sub folders.

2.5. Server Admin Users and Labworldsoft 6 Users

Labworldsoft Server manages 2 types of users, **Server Admin Users** and **Labworldsoft 6 Users**. **Server Admin Users** are simply called **Server Admins** and **Labworldsoft 6 Users** are simply called **Users**. **Server Admins screen** manages Server Admin users and **Users screen** manages Labworldsoft 6 users.

2.5.1. Server Admin Users

Server Admins are managed in **Server Admins screen**. You can open the Server Admins screen by selecting the **Server Admins tab**. **Server Admins** are used for logging into **Labworldsoft Server** desktop application directly.

The default Server Admin User ID and Password are **serveradmin** and **Password@1**

User ID: **serveradmin**

Password: **Password@1**

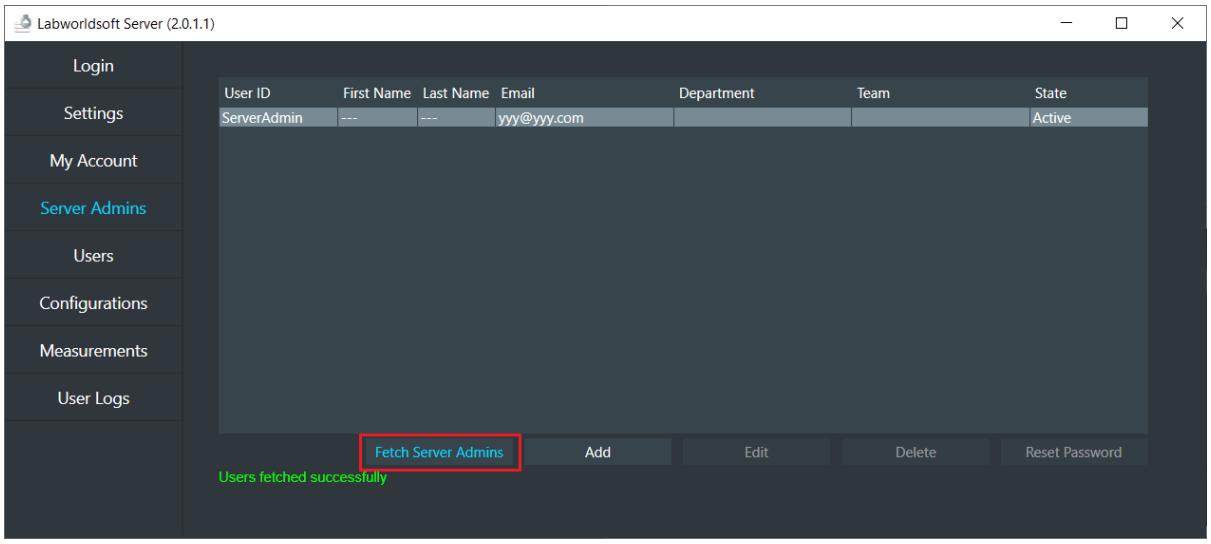


Figure 2.24

Server Admins are stored in a separate local **Microsoft SQL Server Compact** database. When Labworldsoft Server is accessed first time, a local Microsoft SQL Server Compact database **LabworldsoftServerAdminUsers_1_0_0_0.sdf** is created and stored in **C:\ProgramData\Labworldsoft\LabworldsoftServer\LocalDatabaseFiles** folder in the Server PC. In addition, the default user credential **serveradmin** and **Password@1** are inserted into this database automatically. All Server Admins are stored in this database.

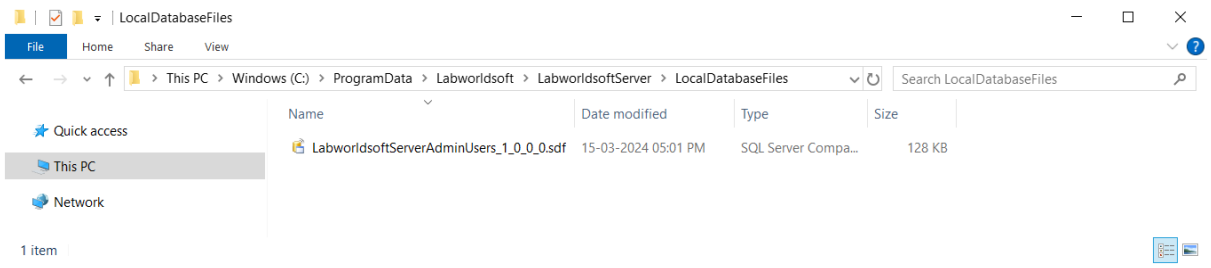


Figure 2.25

If you forgot your **Server Admin credential**, close **Labworldsoft Server** application and delete **LabworldsoftServerAdminUsers_1_0_0_0.sdf** database file. Start **Labworldsoft Server** again and the database will be created again automatically with the default credential. Now you may use the default credential **serveradmin** and **Password@1** for log-in.

2.5.2. Labworldsoft 6 Users

Labworldsoft 6 Users are used for logging into Labworldsoft Server from Labworldsoft 6 application. Labworldsoft 6 Users are stored in Microsoft SQL Server database that you have created in **section 1**. You can locate the database from the Database Connection String explained in the **section 2.4.5**.

Users screen is used for managing **Labworldsoft 6 Users**. You can open the **Users screen** by selecting the **Users tab**.

a. Select the **Users tab** and click the **Add** button.

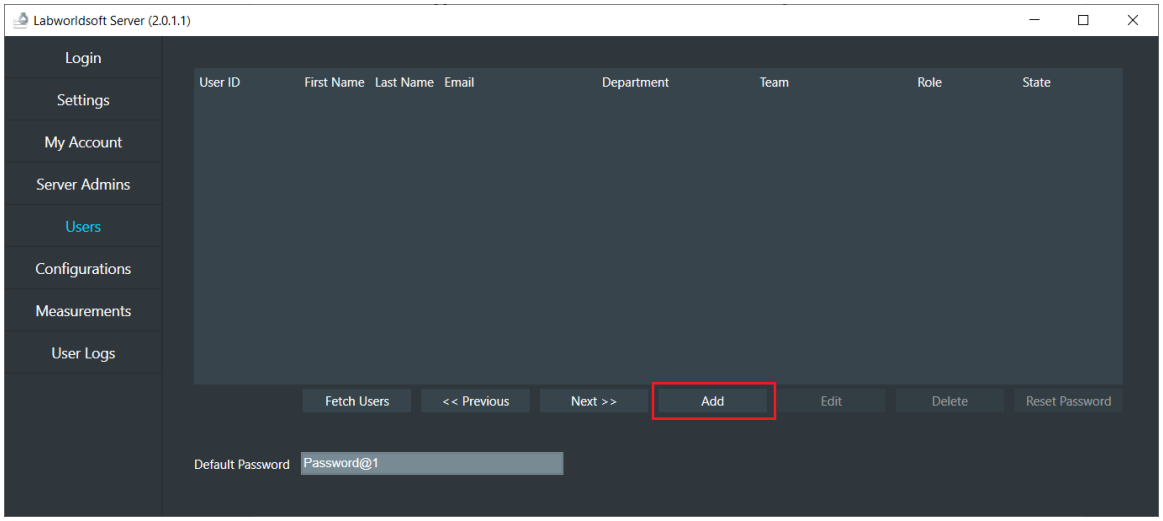


Figure 2.26

b. Enter the details in the **Add User** dialog.

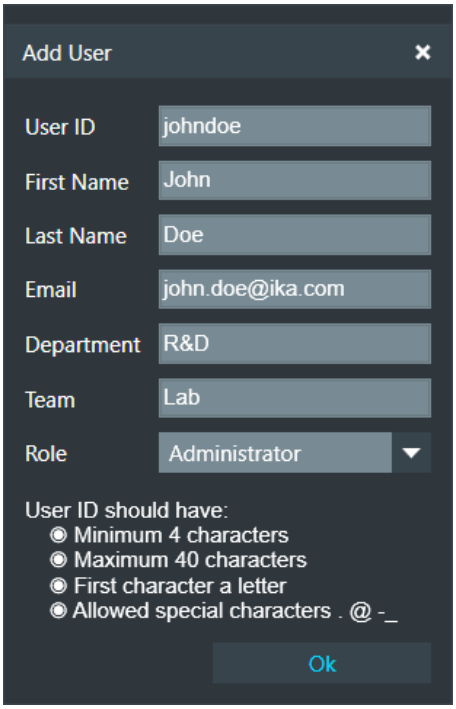


Figure 2.27

c. Click the **OK** button.

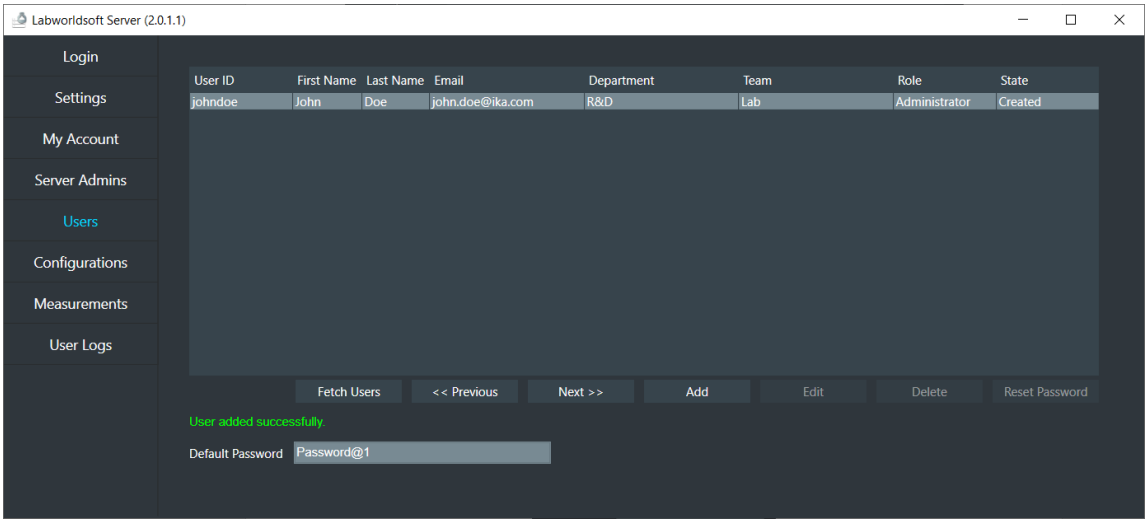


Figure 2.28

d. You can use this credential **johndoe** and **Password@1** to log-in to **Labworldsoft Server** from **Labworldsoft 6**.

2.6. Labworldsoft Server Database Internals

We assume the Data Source name is **LABWORLDSOFTDS** and Database name is **Labworldsoft**.

Data Source: **LABWORLDSOFTDS**

Database name: **Labworldsoft**

Each time when clicking **Test Database Connection** button or **Start All Services** button in the **Settings** screen, **Labworldsoft Server** checks whether **Labworldsoft** database exists in **LABWORLDSOFTDS** data source. If **Labworldsoft** database does not exist, **Labworldsoft Server** will create a new database with name **Labworldsoft** in **LABWORLDSOFTDS** data source.

A user can view the database and tables created using **SQL Server Management Studio** (**SSMS**). For viewing the created database tables, access **SSMS** as follows:

a. Start **SSMS**. **Connect to Server** window is popped-up.

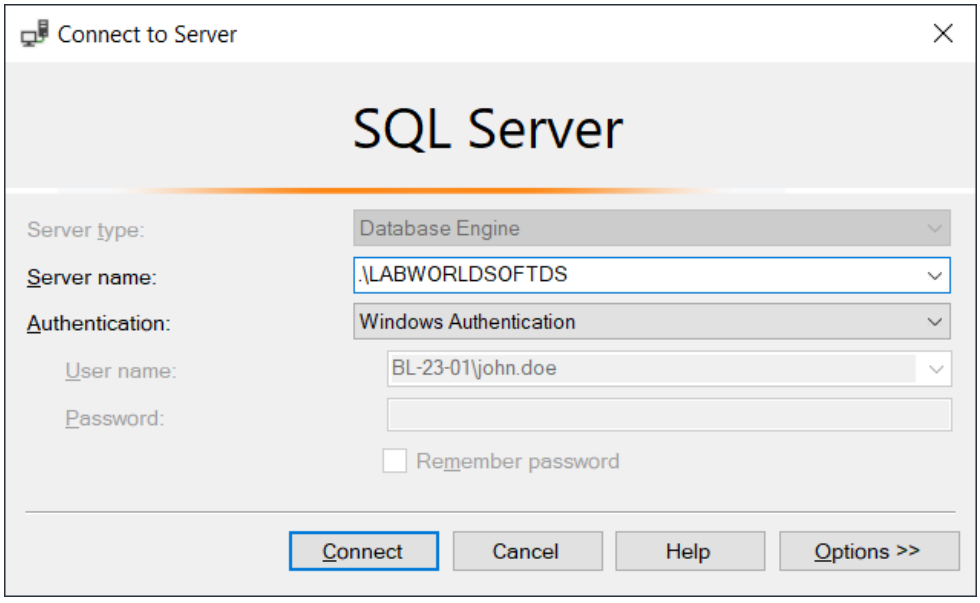


Figure 2.29

b. Click the **Connect** button.

c. In the **Object Explorer** window, you can see all the tables created in the **Labworldsoft** database.

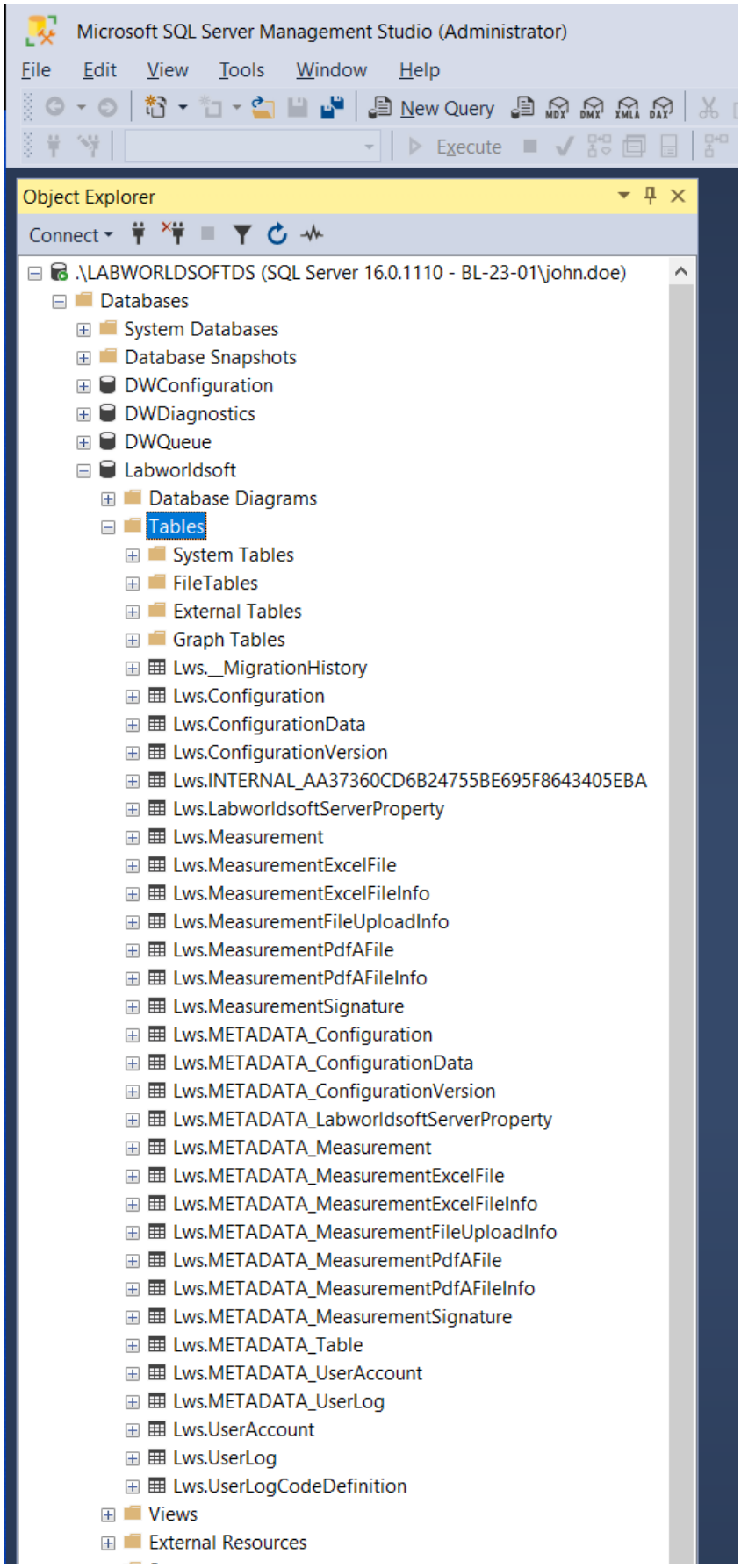

Microsoft SQL Server Management Studio (Administrator)
File
Edit
View
Tools
Window
Help
New Query
Execute
Object Explorer
Connect
.\LABWORLDSOFTDS (SQL Server 16.0.1110 - BL-23-01\john.doe)
Databases
System Databases
Database Snapshots
DWConfiguration
DWDiagnostics
DWQueue
Labworldsoft
Database Diagrams
Tables
System Tables
FileTables
External Tables
Graph Tables
Lws.__MigrationHistory
Lws.Configuration
Lws.ConfigurationData
Lws.ConfigurationVersion
Lws.INTERNAL_AA37360CD6B24755BE695F8643405EBA
Lws.LabworldsoftServerProperty
Lws.Measurement
Lws.MeasurementExcelFile
Lws.MeasurementExcelFileInfo
Lws.MeasurementFileUploadInfo
Lws.MeasurementPdfAFile
Lws.MeasurementPdfAFileInfo
Lws.MeasurementSignature
Lws.METADATA_Configuration
Lws.METADATA_ConfigurationData
Lws.METADATA_ConfigurationVersion
Lws.METADATA_LabworldsoftServerProperty
Lws.METADATA_Measurement
Lws.METADATA_MeasurementExcelFile
Lws.METADATA_MeasurementExcelFileInfo
Lws.METADATA_MeasurementFileUploadInfo
Lws.METADATA_MeasurementPdfAFile
Lws.METADATA_MeasurementPdfAFileInfo
Lws.METADATA_MeasurementSignature
Lws.METADATA_Table
Lws.METADATA_UserAccount
Lws.METADATA_UserLog
Lws.UserAccount
Lws.UserLog
Lws.UserLogCodeDefinition
Views
External Resources

Figure 2.30

All the tables are appended with the namespace Lws. For example, Lws.UserAccount table stores information on Labworldsoft Users.

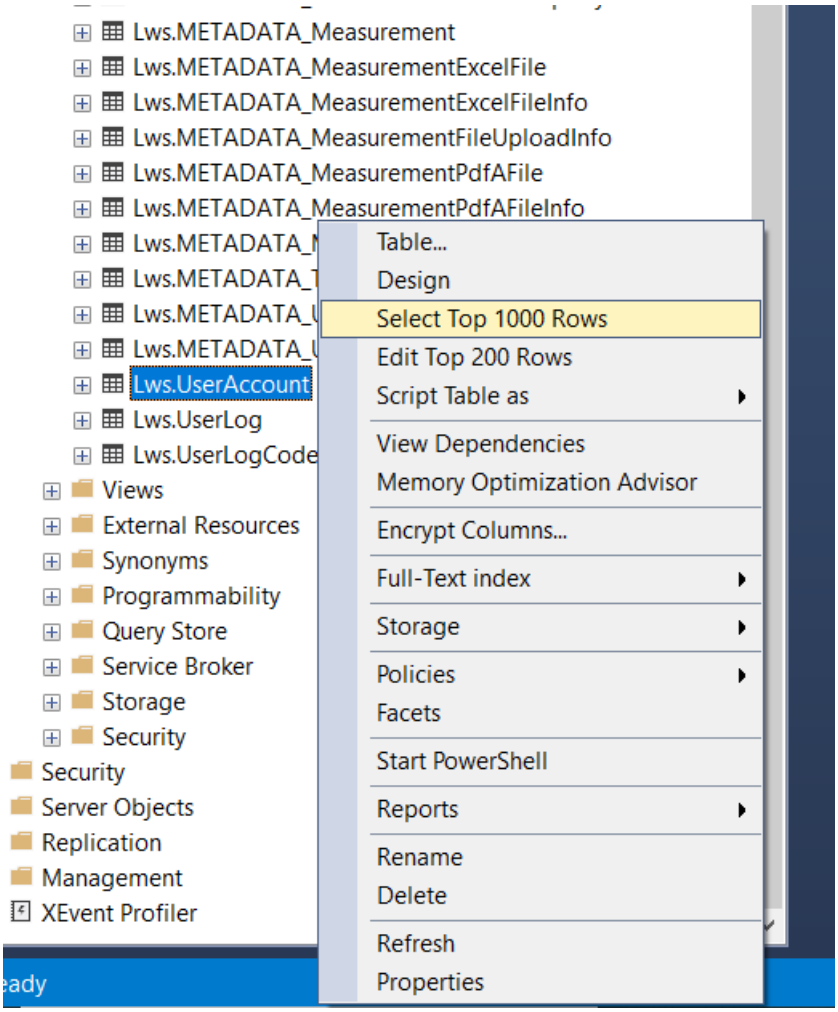


Figure 2.31

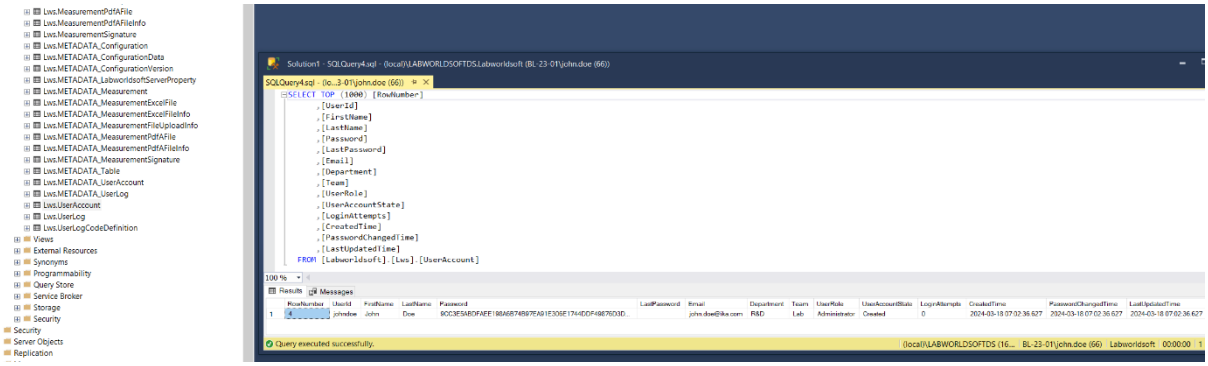


Figure 2.32

Some table names contain text **METADATA**. For example, table **Lws.METADATA_UserAccount** stores information about **Lws.UserAccount** table.

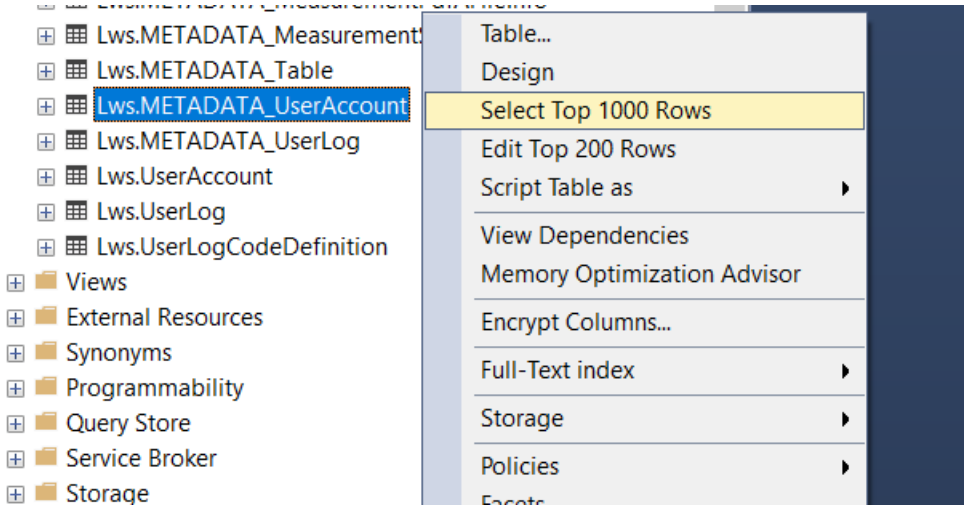


Figure 2.33

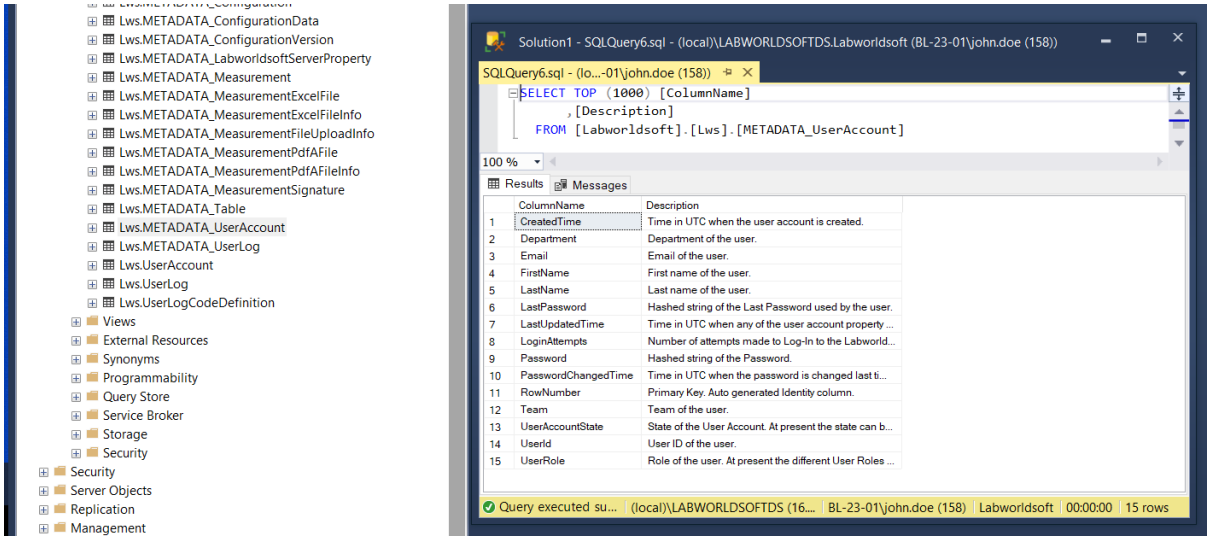


Figure 2.34

3. Using Labworldsoft Server

After the successful log-in to **Labwoldsoft Server**, **Settings**, **My Account**, **Server Admins**, **Users**, **Configurations**, **Measurements** and **User Logs** tabs are visible. By selecting each tab, we can open the corresponding screens.

3.1. Settings Screen

Settings screen can be opened by selecting the **Settings tab**. Configuration parameters such as Database Connection String can be specified in Settings screen. This screen is used to start the Labworldsoft Server Services. For more details refer the **section 2.4.2**.

3.2. My Account Screen

The logged-in Server Admin User's details are shown in My Account screen. A user can log-out and change password from this screen.

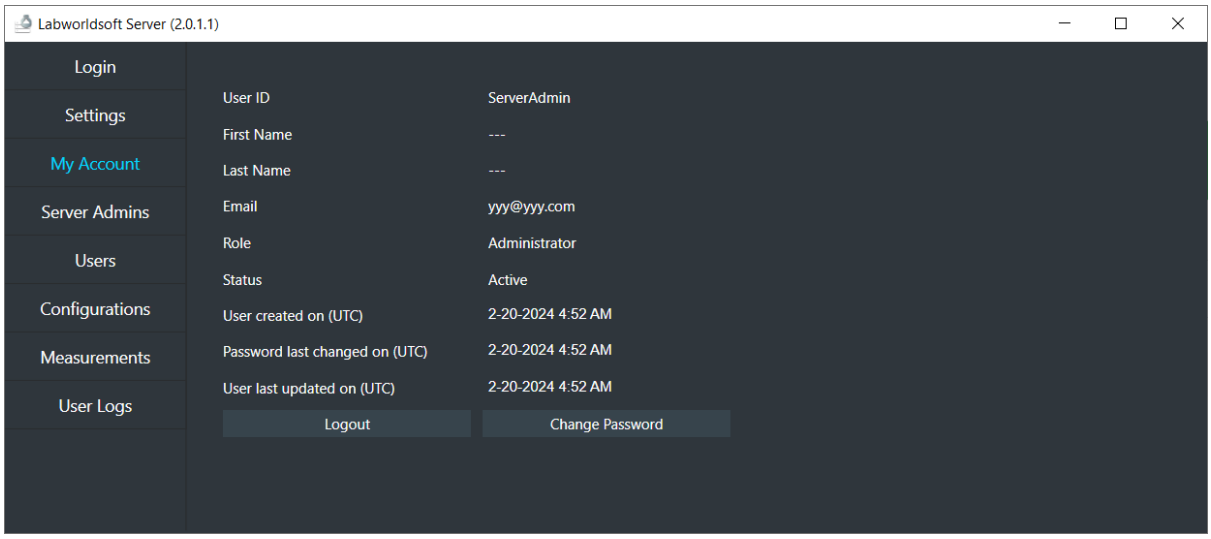


Figure 3.1

3.3. Server Admins Screen

Server Admin Users are managed from this screen.

a. A user can fetch all the Server Admin Users by clicking the **Fetch Server Admins** button.

b. A new Server Admin user can be added by clicking the **Add** button. The criteria for User ID is shown in the **Add User** dialog.

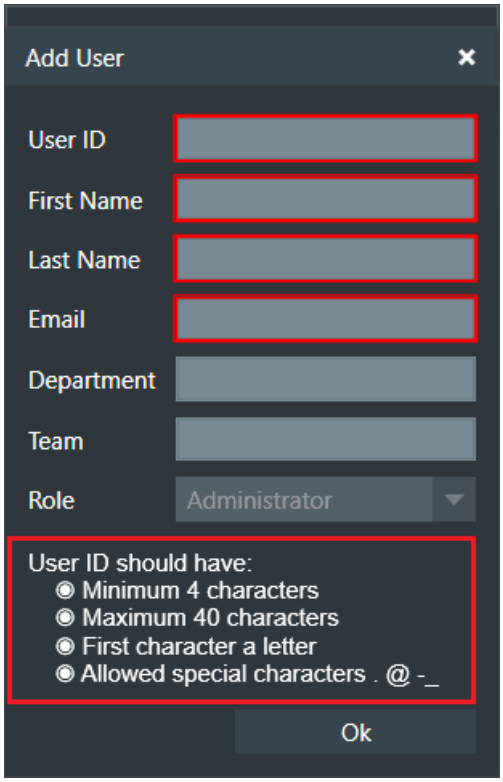


Figure 3.2

c. User details can be edited by clicking the **Edit** button.

d. A Server Admin user can be deleted by clicking the **Delete** button.

e. A Server Admin user password can be reset to the default password **Password@1** by clicking the **Reset Password** button.

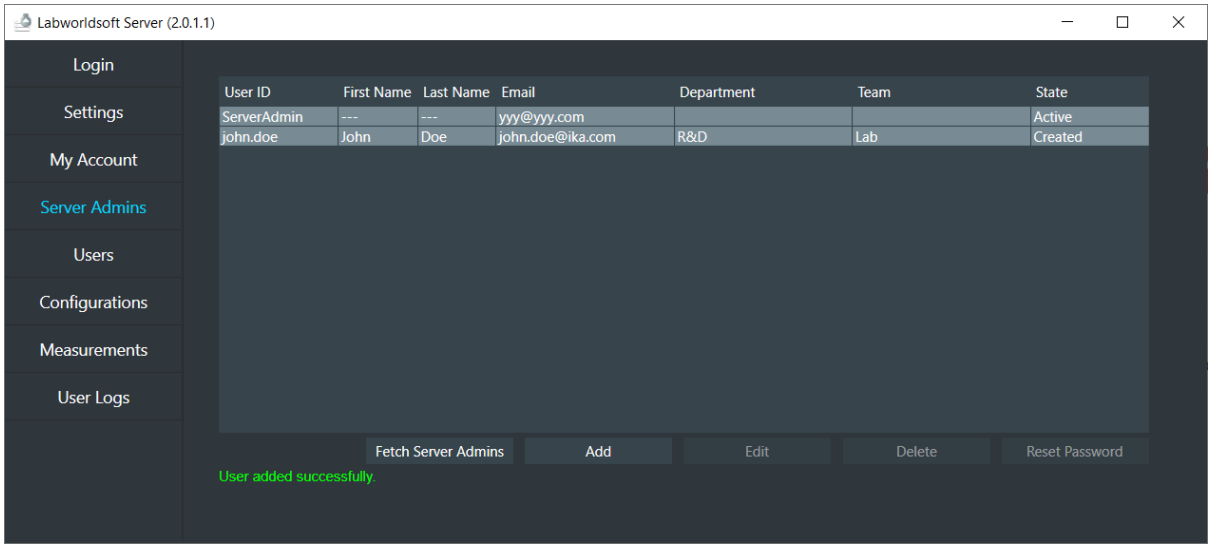


Figure 3.3

f. When a user is added, it is in **Created** state. It should be in **Active** state before it can be used for login.

g. Try to login with the new user which is in **Created** sate. A **Change Password** dialog is popped-up.

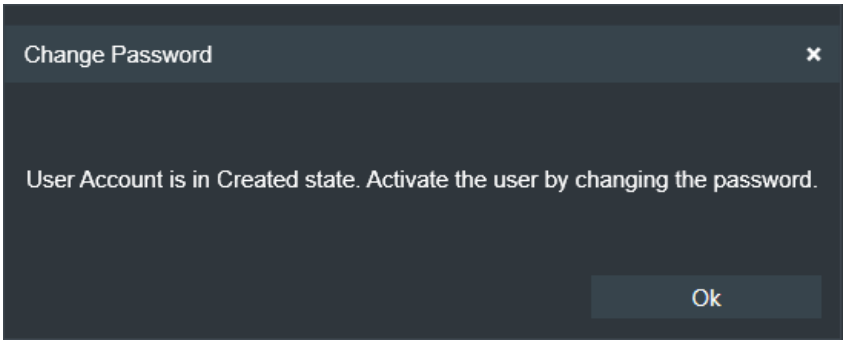


Figure 3.4

After changing the password, the state will be changed to **Active**.

h. You can change the **State** using **Edit User** dialog as well. Click the **Edit** button to pop-up **Edit User** dialog. You may change the **State** by selecting the **Status** list appropriately.

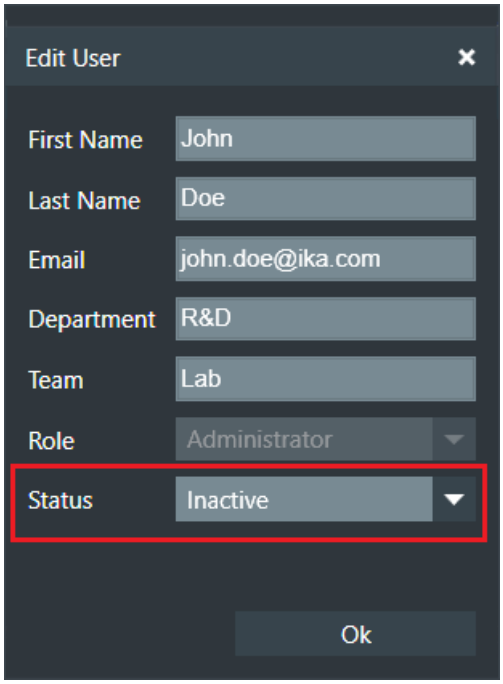


Figure 3.5

i. You can delete a user only if the user is in **Inactive** state. You can change an **Active** user to **Inactive** state using the **Edit User** dialog.

3.4. Users Screen

Users screen is used for managing **Labworldsoft 6 Users**. You can **fetch** all the users. You can **add**, **edit** or **delete** a user. When a user is added, it is in **Created** State. A user should be in **Active** state before it can be used for login. You may refer the **section 2.5.2** for more details.

A user's password can be reset to the default **Password@1** by clicking the **Reset Password** button.

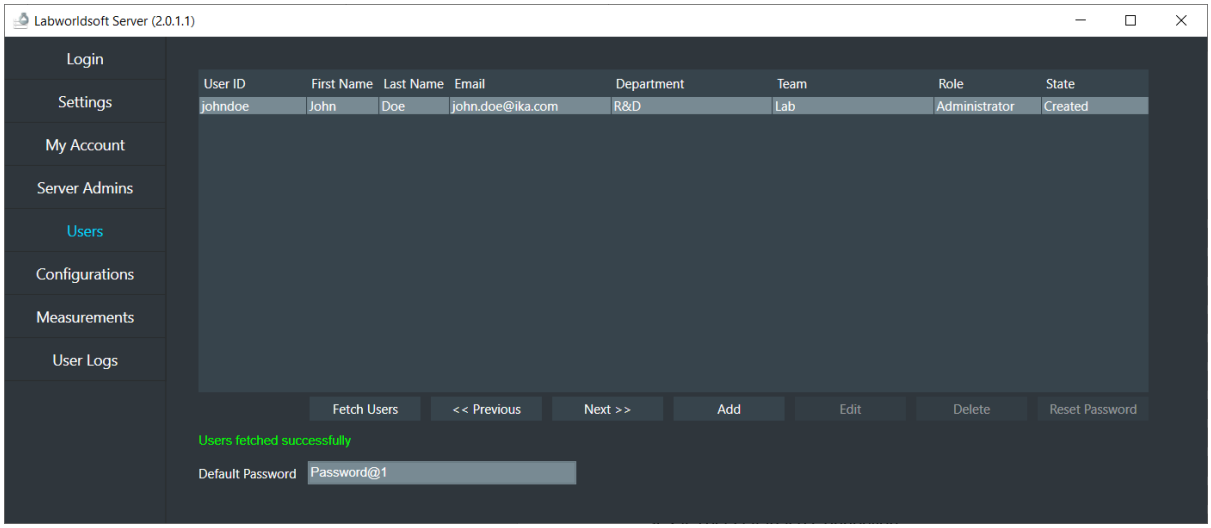


Figure 3.6

3.4.1. User Roles

There are 3 different types of **Roles** for **Labworldsoft 6 Users** based on their access rights and privileges.

User	Read-only permissions and Least privileges. *We will call this user **Normal User** occasionally to avoid confusion*.
Super User	Read and limited write permissions. They have all User role privileges and some of the Administrator privileges.
Administrator	Full access rights. They have the highest level of privileges

Table 3.1

3.5. Configurations Screen

Configurations screen is used for managing **Labworldsoft 6 Configuration** files.

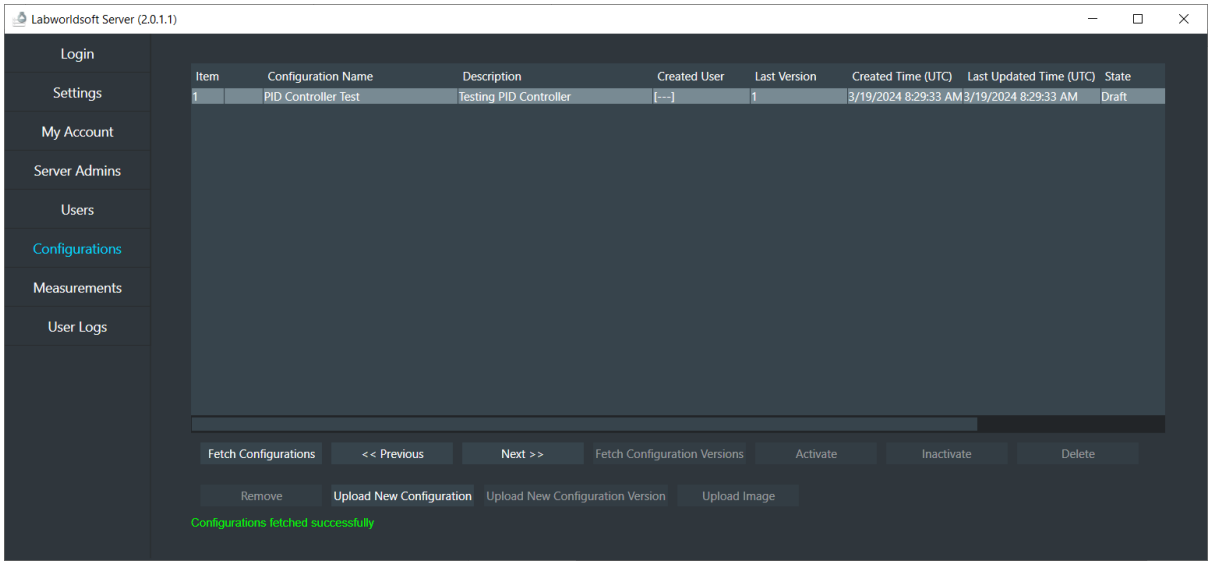


Figure 3.7

You may refer **section 5.5** for more details.

3.6. Measurements Screen

Measurements screen is used for managing **Labworldsoft 6 measurements**. You may refer **section 5.6** for more details.

3.7. User Logs

User Logs screen is used for managing **Audit Trail**. All the user activities are logged in **Labworldsoft Server** and they are visible in **User Logs** screen. For more details refer **section 5.8**.

4. Configuring Labworldsoft 6

4.1. Labworldsoft Server Client Measurement File Upload Service

Labworldsoft 6 achieves **FDA 21 CFR Part 11** with the support of **Labworldsoft Server**.

a. Download and install latest Labworldsoft 6 from [Downloads - Labworldsoft® 6 Pro (ika.com)]. For System Requirements please refer the ***Activation Guide*** in the above URL.

b. Open Windows **Services and Controller** app with Administrative rights.

c. Provide Administrative User ID and Password for the following Service.

Labworldsoft Server Client Measurement File Upload Service

Figure 4.1

d.

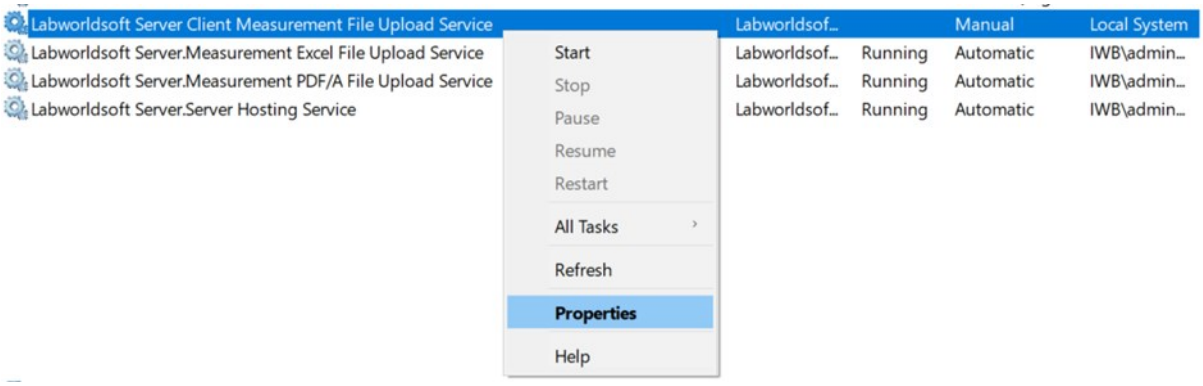


Figure 4.2

e.

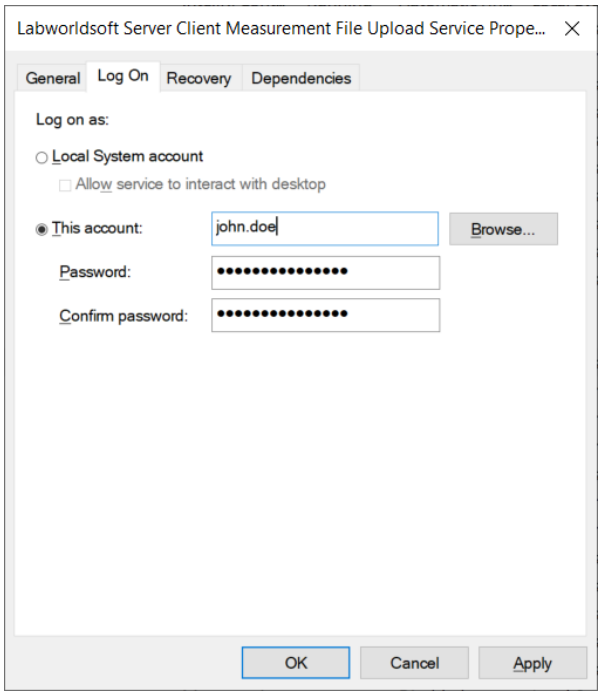


Figure 4.3

f. Specify Startup Type as **Automatic** if you need to connect to Labworldsoft Server frequently.

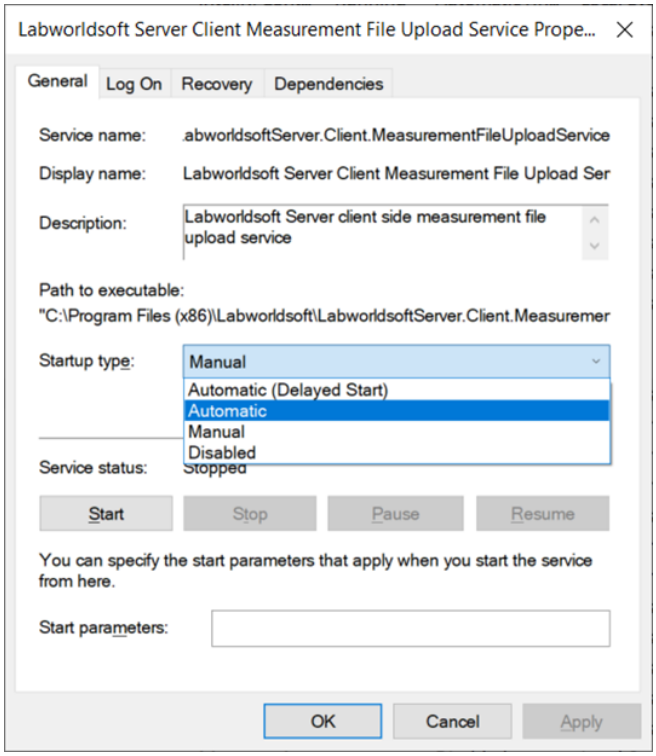


Figure 4.4

g. **Start** the service.

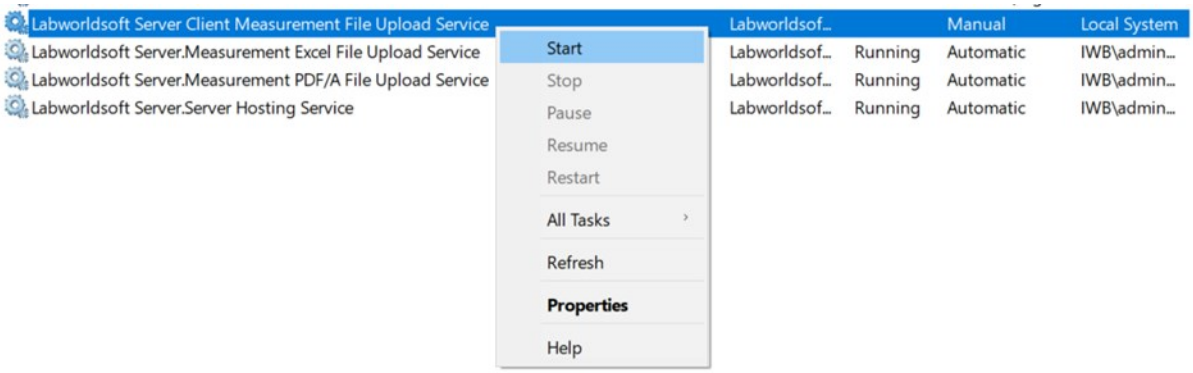


Figure 4.5

h. Make sure that the Service is **running**.

Figure 4.6

i. The service **Labworldsoft Server Client Measurement File Upload Service** is used for pushing Labworldsoft 6 **measurement files** to Labworldsoft Server in the background. Even if Labworldsoft 6 is closed, pushing of the measurement files to Labworldsoft server continues as long as this service is running.

4.2. Read/Write permission to C:\ProgramData\Labworldsoft folder

When Windows user with Administrative privilege starts Labworldsoft 6, **C:\ProgramData\Labworldsoft** settings folder is created. All the Windows users who want to access Labworldsoft 6 should have **read/write** permission to **C:\ProgramData\Labworldsoft** folder and sub folders.

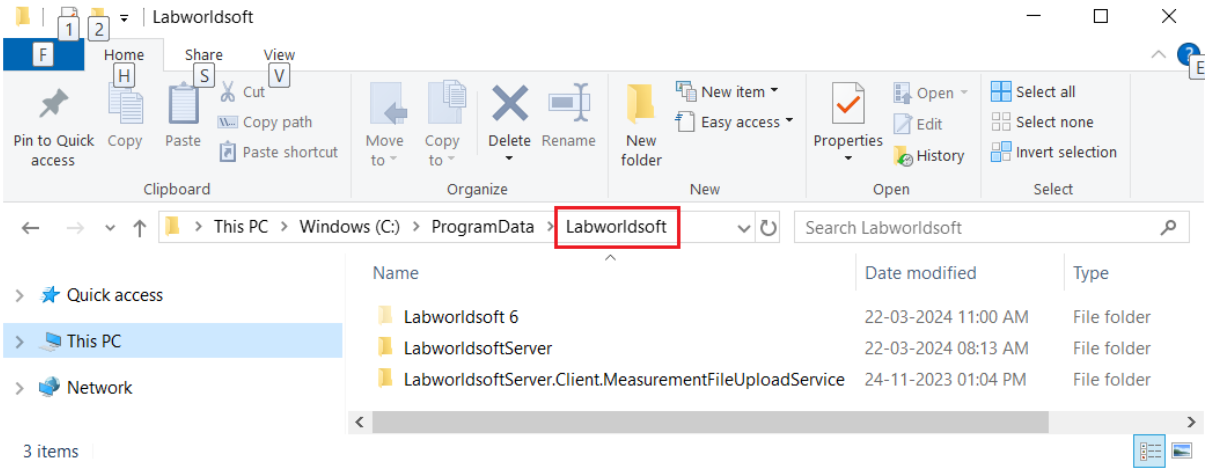


Figure 4.7

5. Accessing Labworldsoft Server from Labworldsoft 6

a. Start Labworldsoft 6

b. Select menu **View → Server**

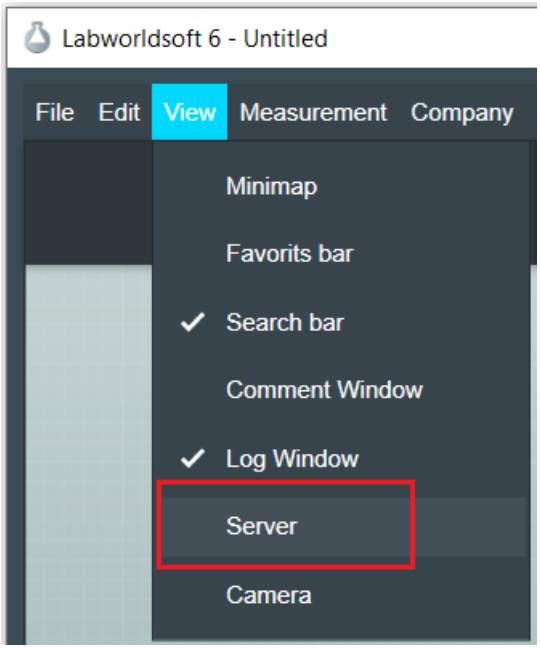


Figure 5.1

c. The **Server tab** is visible and opened.

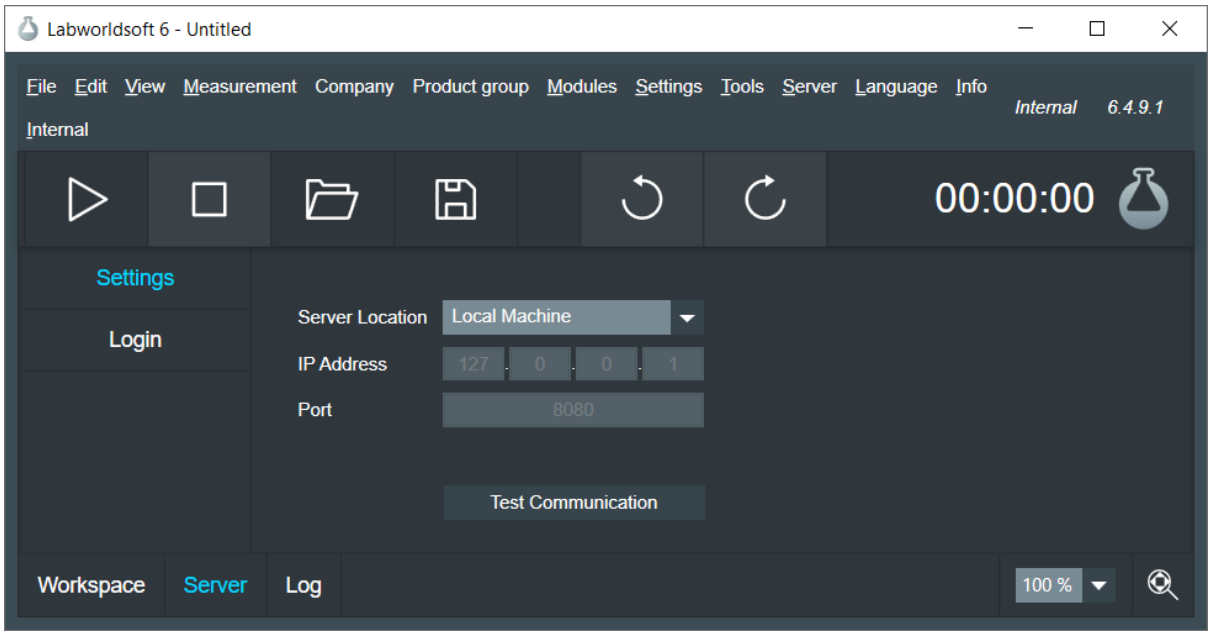


Figure 5.2

d. Alternatively, by clicking on the menu **Server → Settings**, we can open the Server tab.

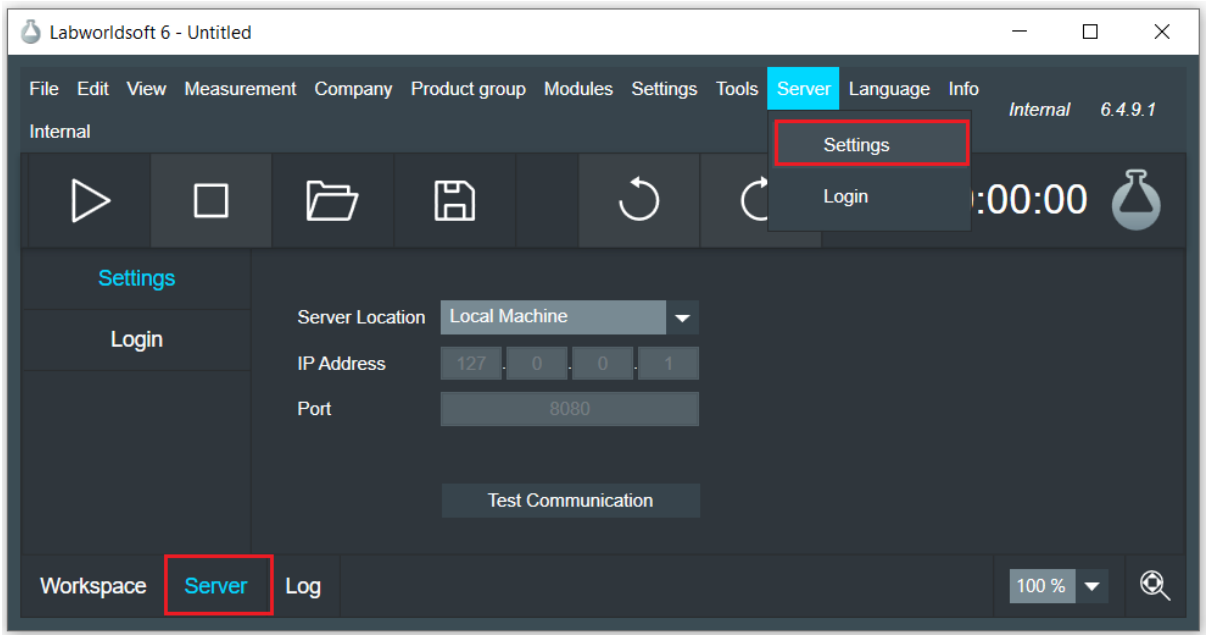


Figure 5.3

5.1. Settings screen

Settings screen can be opened by selecting the **Settings tab**.

5.1.1. Server Location

Select the Labworldsoft Server location.

Server Location	Description
Local Machine	If Labworldsoft Server is running on the same PC as Labworldsoft 6, you have to select **Local Machine** option
Intranet (Inside firewall)	If Labworldsoft 6 and Labworldsoft Server are running on 2 different PCs, you have to select this option.

Table 5.1

5.1.2. IP Address

If **Intranet (Inside firewall)** option is selected for **Server Location**, **IP Address** block is enabled and you have to provide the **IP Address** of the PC where Labworldsoft Server is running.

5.1.3. Port

Provide the same **Port** number used in the **Settings** screen of **Labworldsoft Server**. At present, the Port number used in Labworldsoft Server is **8080** and which is not configurable. Therefore, provide the same Port number **8080** in Labworldsoft 6 as well. We will make Port number configurable in future. Refer **section 2.4.3** for more details.

Port	8080

Table 5.2

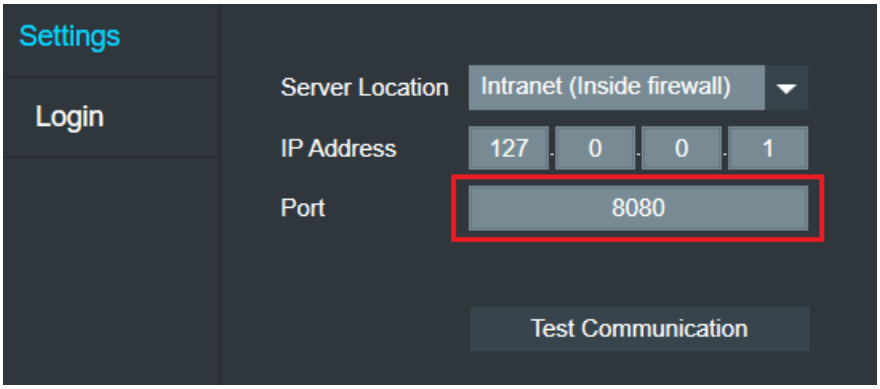


Figure 5.4

5.1.4. Test Communication

Click Test Communication button to test whether Labworldsoft 6 can connect to Labworldsoft Server successfully.

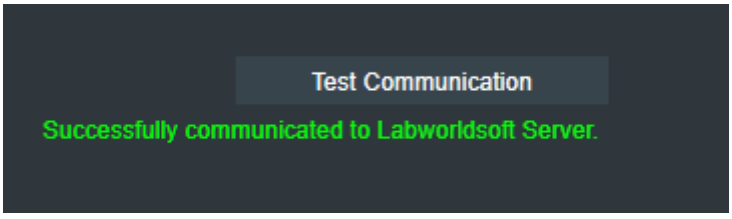


Figure 5.5

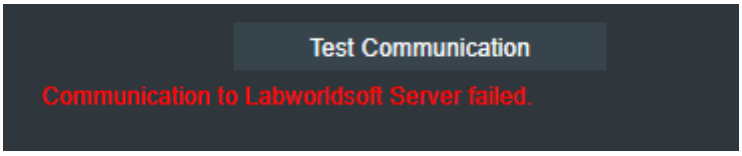


Figure 5.6

5.2. Login screen

a. Open Login screen by selecting the Login tab.

b. Alternatively, you may click the menu **Server** → **Login** to open the Login screen.

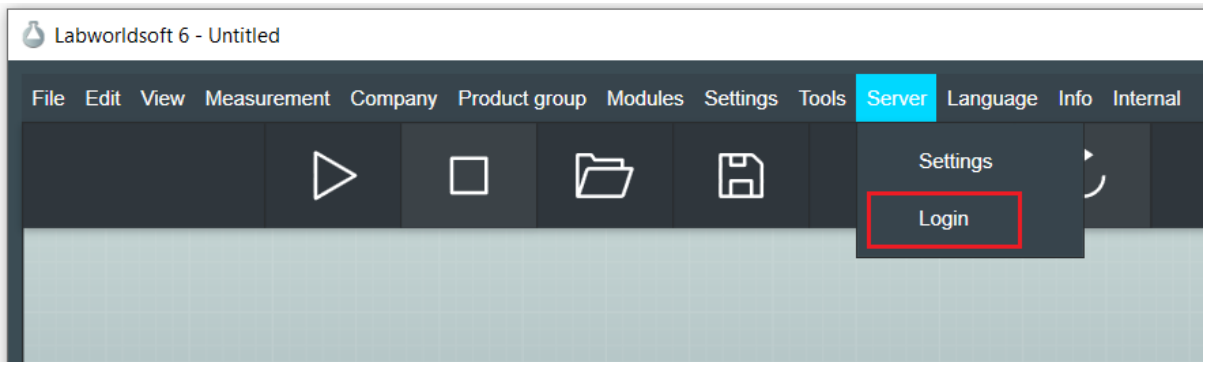


Figure 5.7

c. Provide the **User ID** and **Password** of the **Labworldsoft 6 User** that we created in Labworldsoft Server.

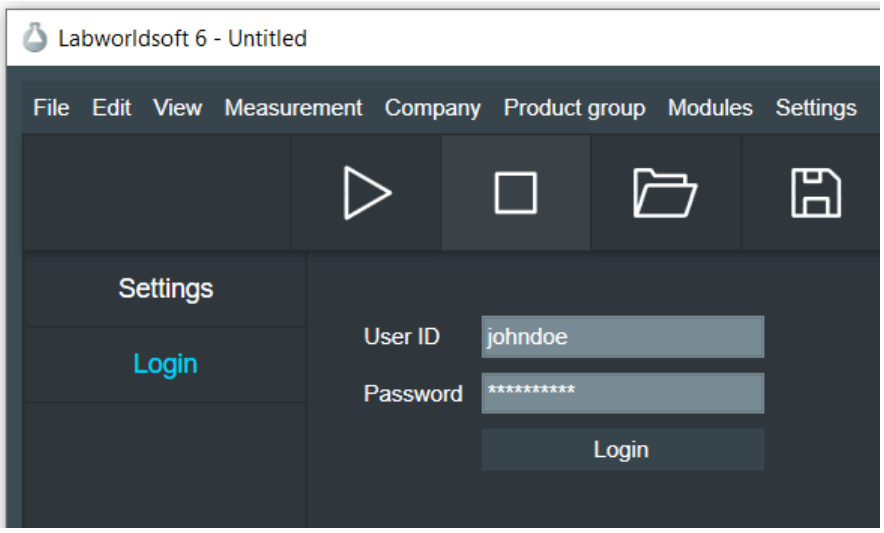


Figure 5.8

d. When a new user is logging-in first time, Change Password dialog box will be shown as below:

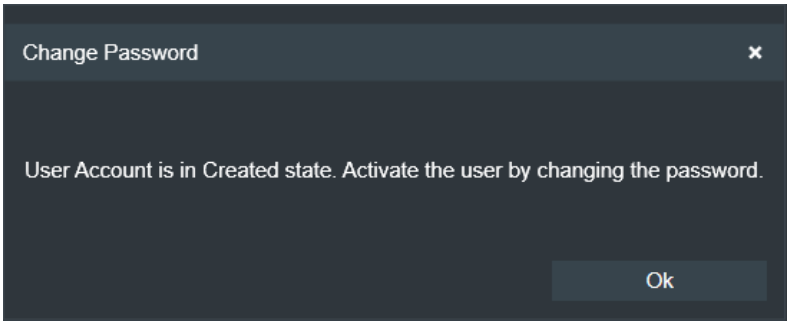


Figure 5.9

e. When clicking OK, a dialog box is popped-up to set the new password.

Figure 5.10

f. Set the new password. Last 2 passwords should not match. Click Ok. If password has changed successfully, a dialog box is displayed as below:

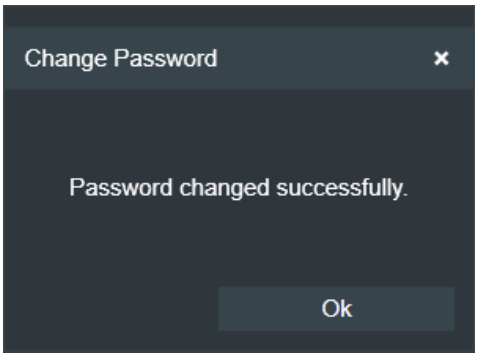


Figure 5.11

g. Password will expire after **90** days.

h. When login to Labworldsoft Server from Labworldsoft 6 first time during each starting of Labworldsoft 6, a window is popped-up as below:

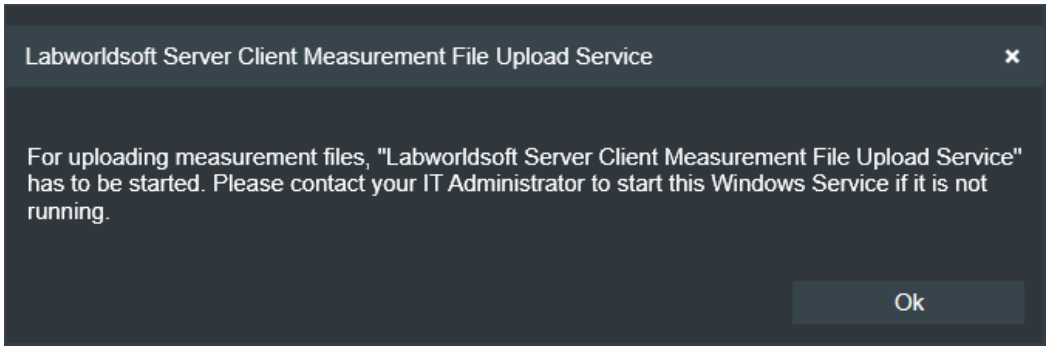


Figure 5.12

Labworldsoft 6 setup installs a Windows Service **Labworldsoft Server Client Measurement File Upload Service**. For more details refer the **section 4**. Labworldsoft 6 setup will not start this service by default. If you need to upload the measurement files to Labworldsoft Server, you have to start this service to change the status to **Running**.

5.3. Advanced Server settings

After successfully login to Labworldsoft Server, select Settings screen again. Advanced Server Settings options are visible.

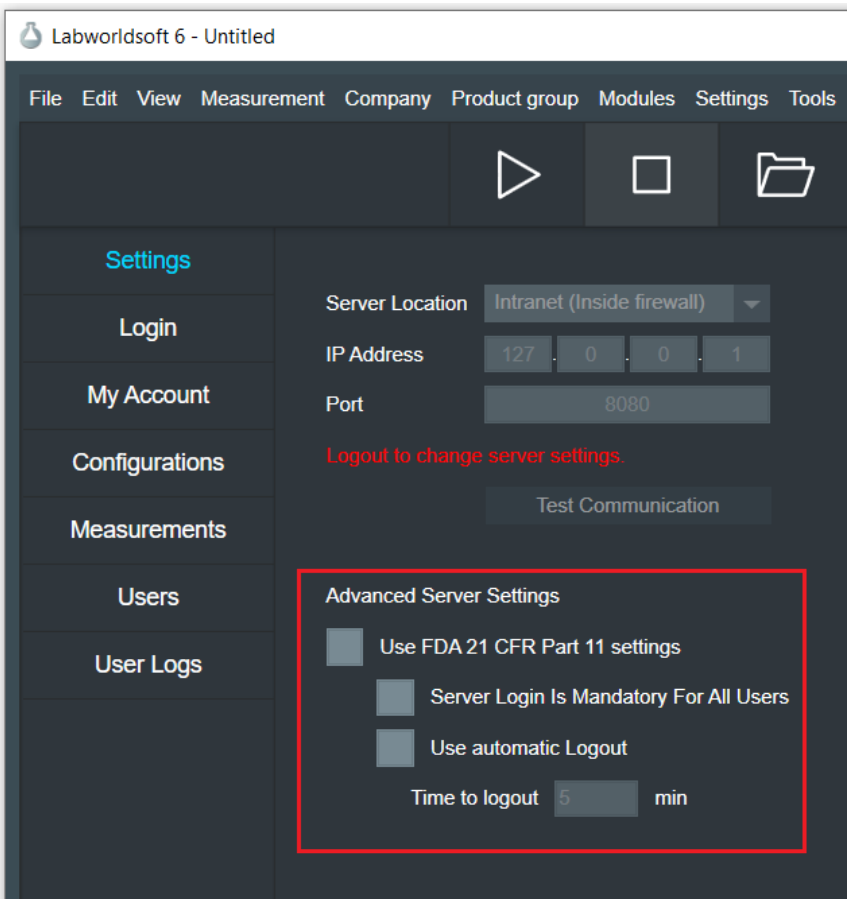


Figure 5.13

5.3.1. Use FDA 21 CFR Part 11 settings

Use this option to make compliance with **FDA 21 CFR Part 11**. If we enable this option, all the sub options will be selected automatically. If this option is selected it is not possible to work with **Labworldsoft 6** any more without logging to **Labworldsoft Server**.

5.3.2. Server Login is Mandatory for all users

Select this option to force login to Labworldsoft Server to work with Labworldsoft 6. If this option is selected, when starting Labworldsoft 6 next time, a login window will be displayed and user has to login to Labworldsoft Server successfully to get access to Labworldsoft 6.

5.3.3. Use automatic Logout

Select this option to set timeout for automatic logout from Labworldsoft Server if PC is inactive for the specified time in **Time to logout**.

5.3.4. Time to logout

Timeout value for automatic logout from Labworldsoft Server.

5.4. My Account screen

After successful login, **My Account tab** is visible and selected by default. This screen displays all the information about the logged-in user.

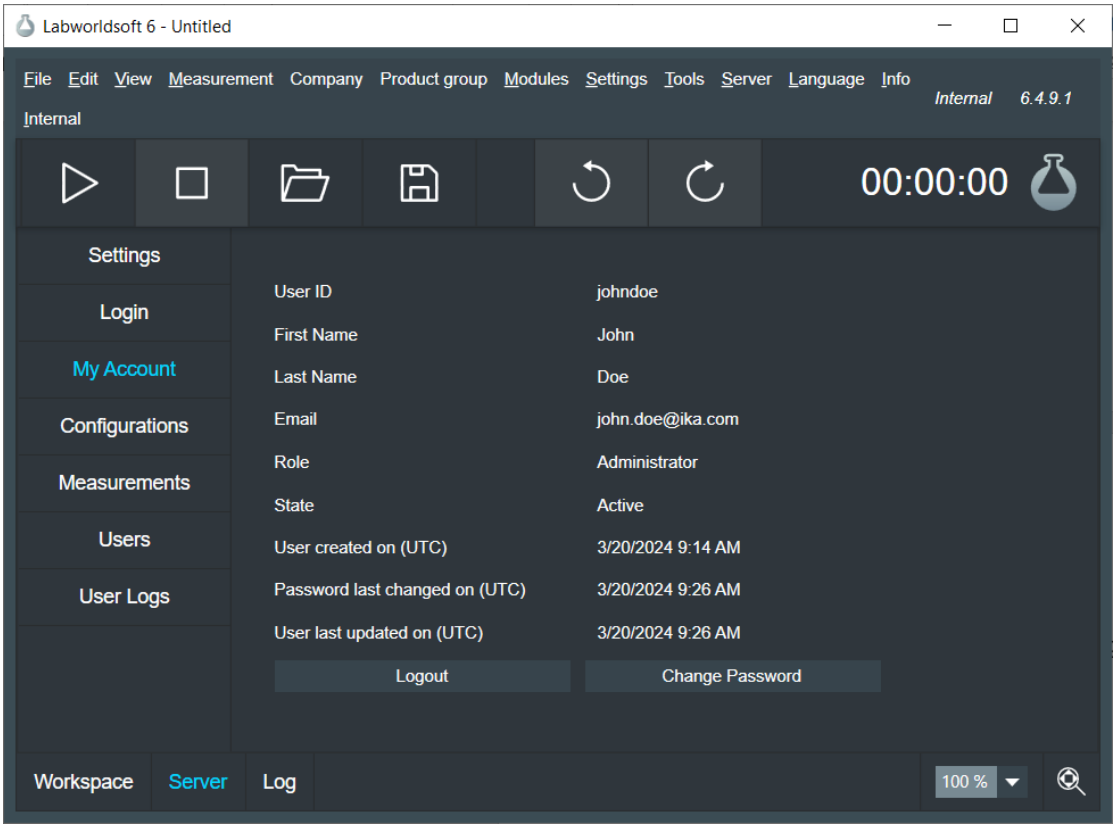


Figure 5.14

User can Logout by clicking the **Logout** button. User can change password by clicking the **Change Password** button.

5.5. Configurations screen

Configurations screen is used to manage Labworldsoft 6 **configuration files** (**.LWS6**).

5.5.1. Fetch Configurations

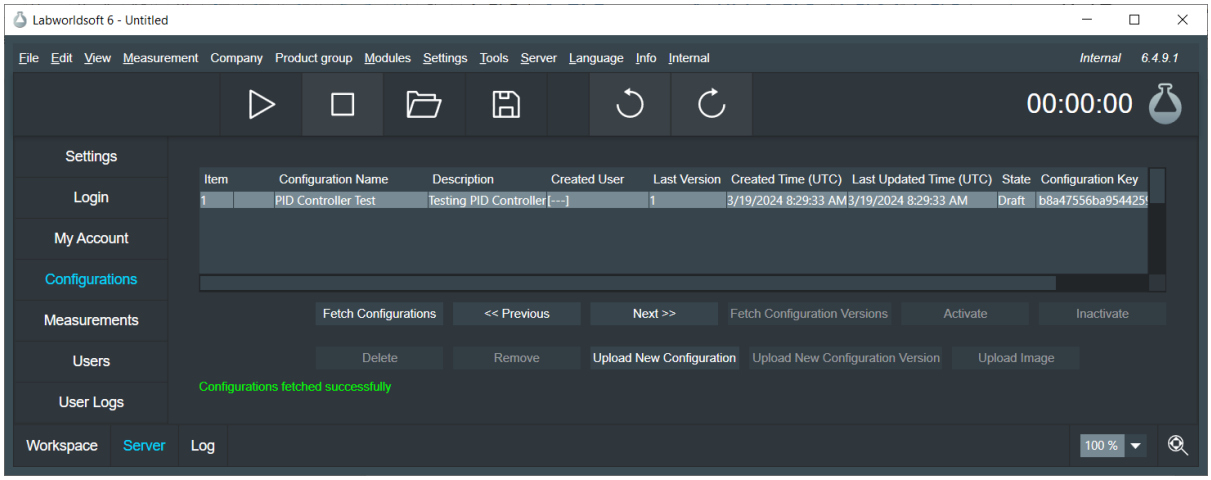


Figure 5.15

User can fetch configurations by clicking **Fetch Configurations** button. When the configurations list is huge, they are displayed in multiple pages. User can navigate to forward and backward by clicking the **Next>>** and **<<Previous** buttons.

In the Figure 5.15, **Created User** is mentioned as **[---]**. This is because this file is uploaded from Labworldsoft Server side.

5.5.2. Upload New Configuration

New configuration file can be uploaded by clicking the Upload New Configuration button.

a. Click Upload New Configuration button.

b. Enter the details

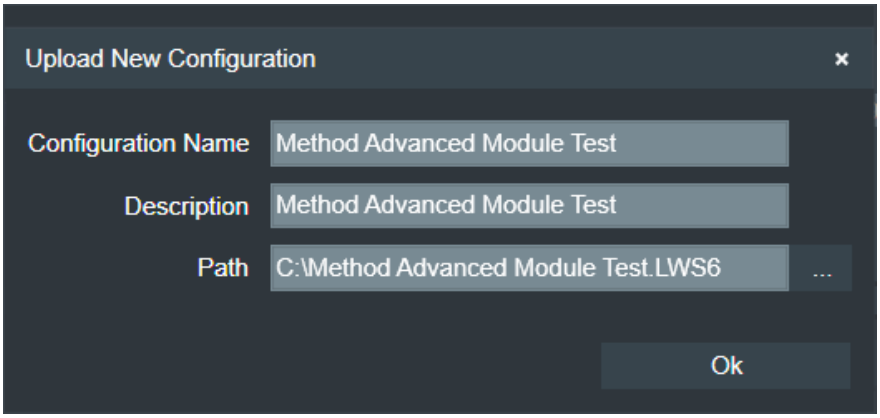


Figure 5.16

c. The new configuration file is uploaded.

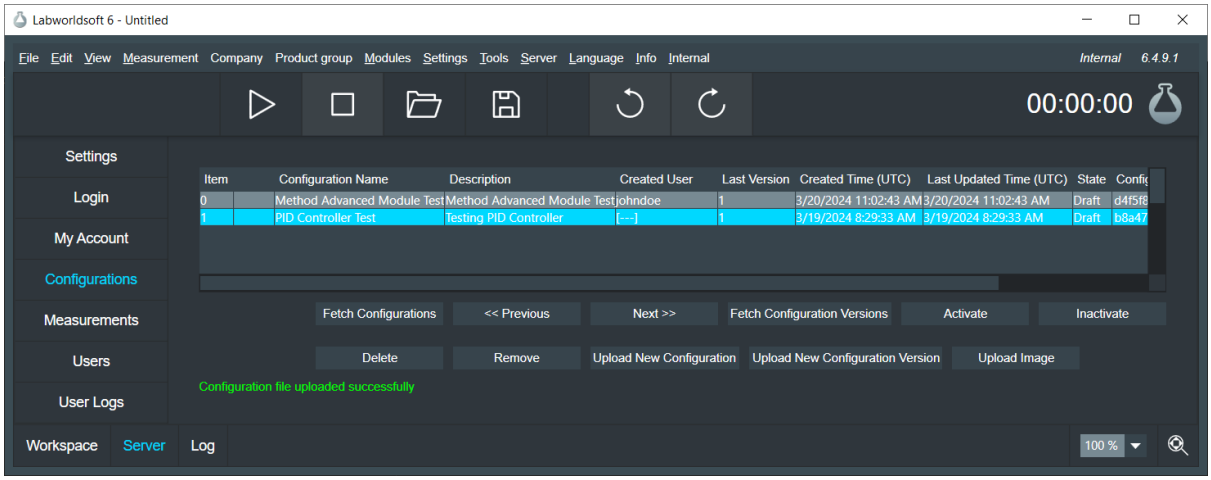


Figure 5.17

d. Click **Fetch Configurations**. The State of the configuration is **Draft**.

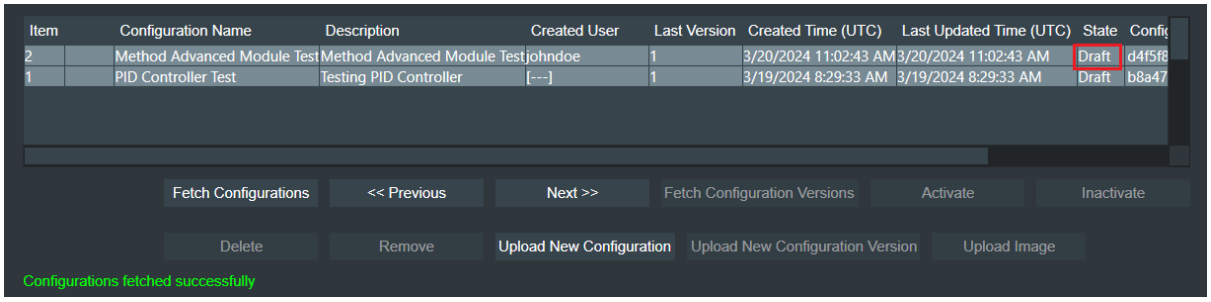


Figure 5.18

5.5.3. Upload New Configuration Version

When a user makes corrections or modifications in the newly uploaded configuration file, the modified file can be uploaded as a new version by selecting the configuration file and then clicking the **Upload New Configuration Version** button. You can upload any number of versions.

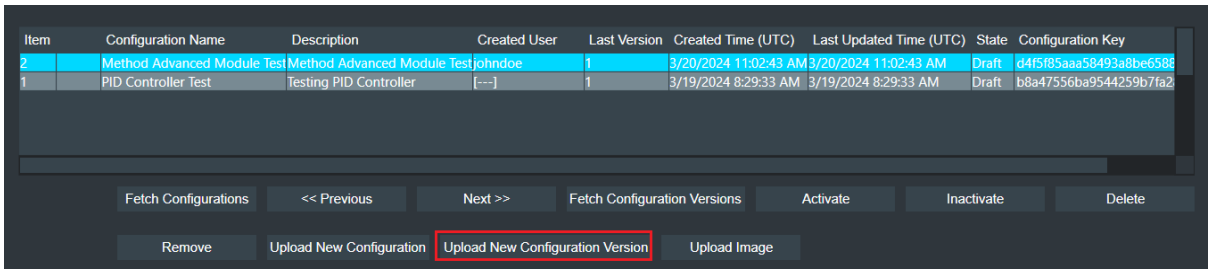


Figure 5.19

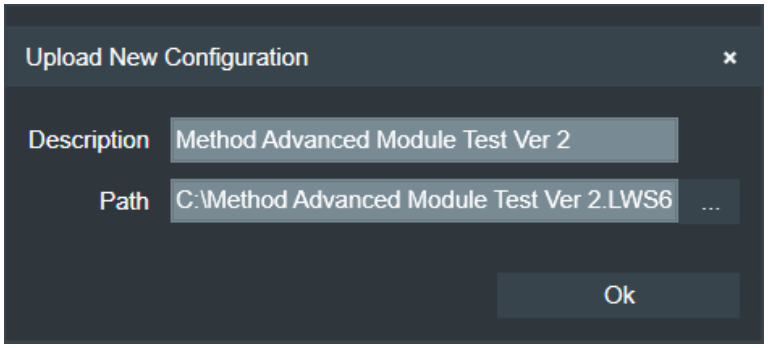


Figure 5.20

To fetch all the configuration versions, select the configuration and click the **Fetch Configuration Versions** button.

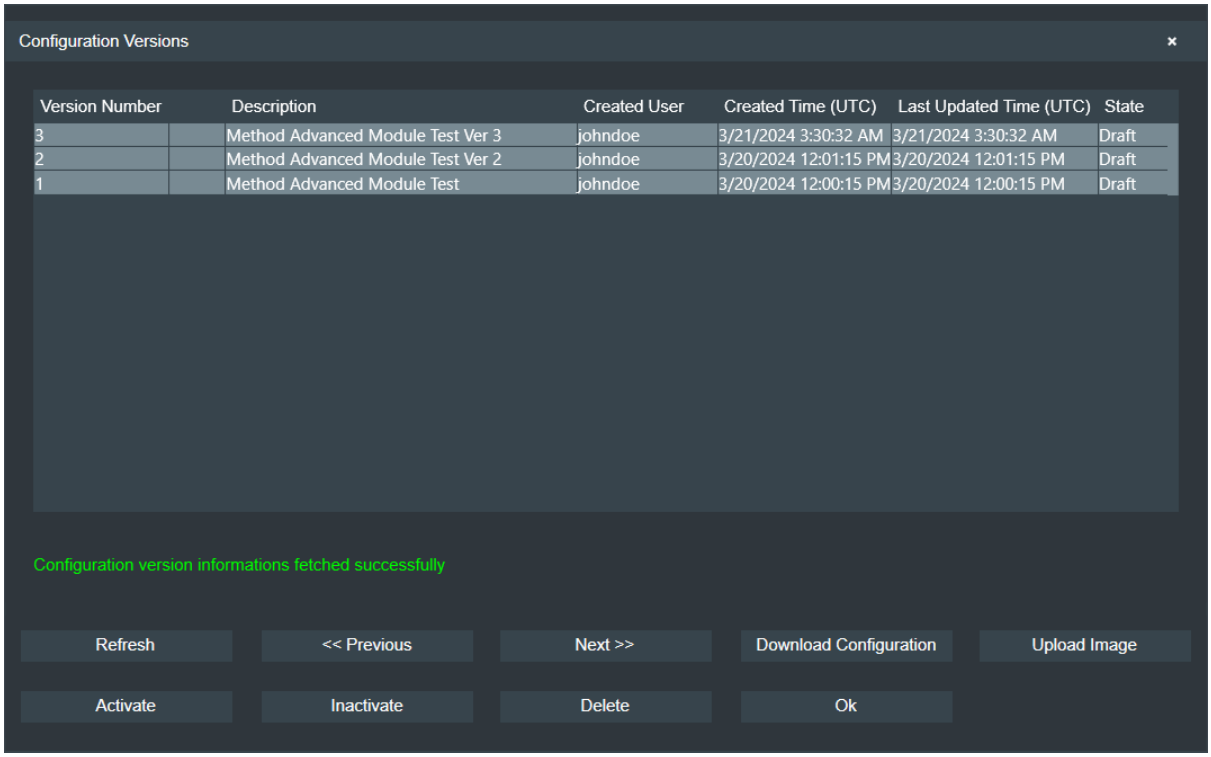


Figure 5.21

5.5.4. Upload Image to Configurations

Configurations can upload image by selecting the configuration and clicking the **Upload Image** button. Image should be in PNG format and in 40 x 40 pixel size.

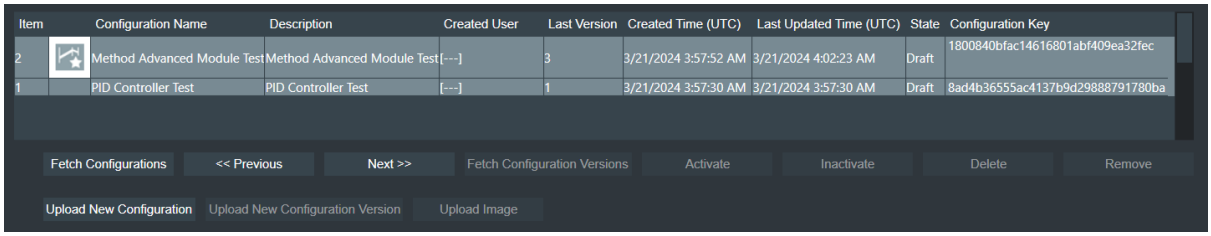


Figure 5.22

5.5.5. Upload Image to Configuration Version

Select the configuration and click the Fetch Configuration Versions button. Each configuration versions can upload image. Click **Upload Image** button in **Configuration Versions** dialog box.

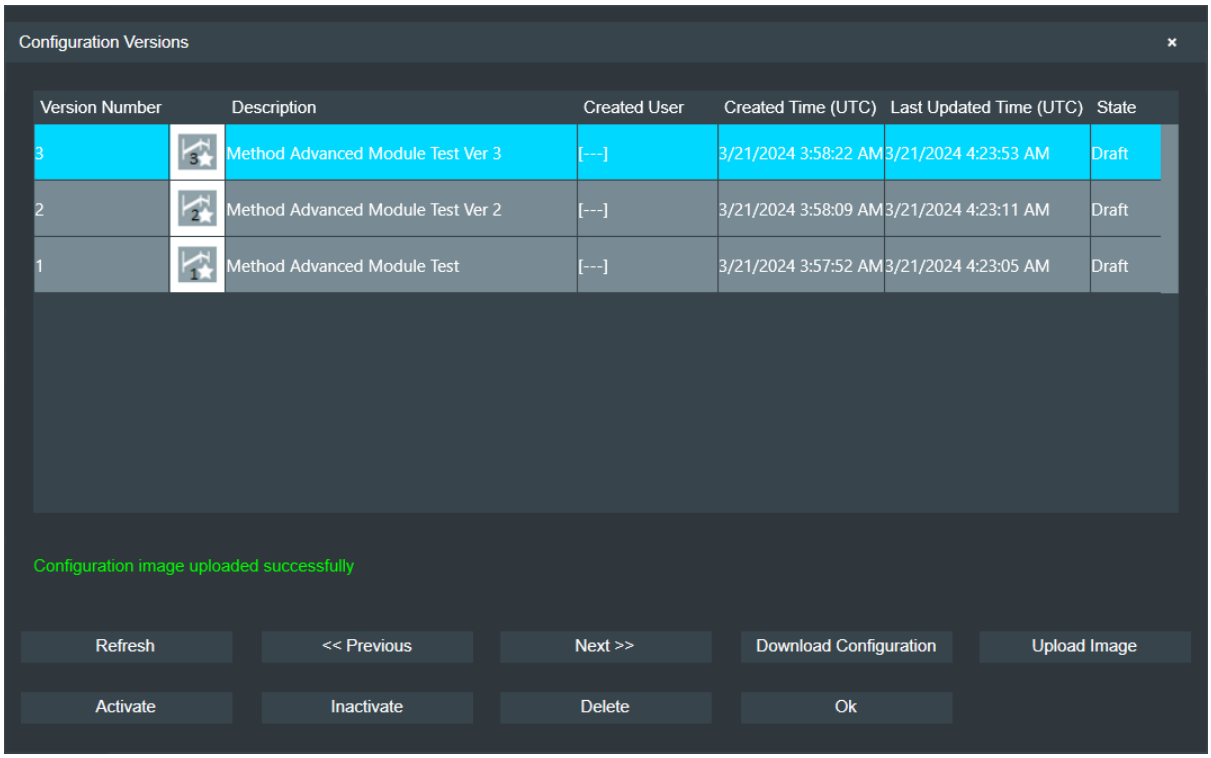


Figure 5.23

5.5.6. Download Configuration Version

Select the configuration and click the **Fetch Configuration Version** button. On the **Configuration Versions** dialog box select the configuration version and click the **Download Configuration** button. Choose the location and file name on the **Save As** dialog box to download the version.

5.5.7. States of Configuration and Configuration Versions

There are 4 states for a configuration and its configuration versions.

State	Description
Draft	When a **Configuration** or **Configuration Version** is uploaded, this newly uploaded Configuration or Configuration Version is in **Draft** state. Configurations or Configuration Versions in Draft state is not visible to a **Normal User**.
Inactive	We can place a Configuration or Configuration Version in **Inactive state** by clicking the **Inactivate** button. Configurations or Configuration Versions in Inactive state is not visible to a Normal User.
Active	We can place a Configuration or Configuration Version in **Active state** by clicking the **Activate** button.
Delete	We can place a Configuration or Configuration Version in **Deleted state** by clicking the **Delete** button. Configurations or Configuration Versions in Deleted state are not visible to **Super User** and **Normal User**.

Table 5.3

A Configuration or Configuration Version state can be changed to Inactive, Active or Deleted state from any state by clicking the corresponding Inactivate, Activate or Delete buttons.

A Configuration or Configuration Version can be permanently removed from the database by clicking the **Remove** button.

5.6. Measurements screen

Labworldsoft 6 Measurements are managed in **Measurements** screen. For uploading measurements, the Windows Service **Labworldsoft Server Client Measurement File Upload Service** should be in Running State. Refer the **section 4** for more details.

Measurement files are locally saved in **C:\ProgramData\Labworldsoft\LabworldsoftServer.Client.MeasurementFileUploadService\MeasurementFiles** folder.

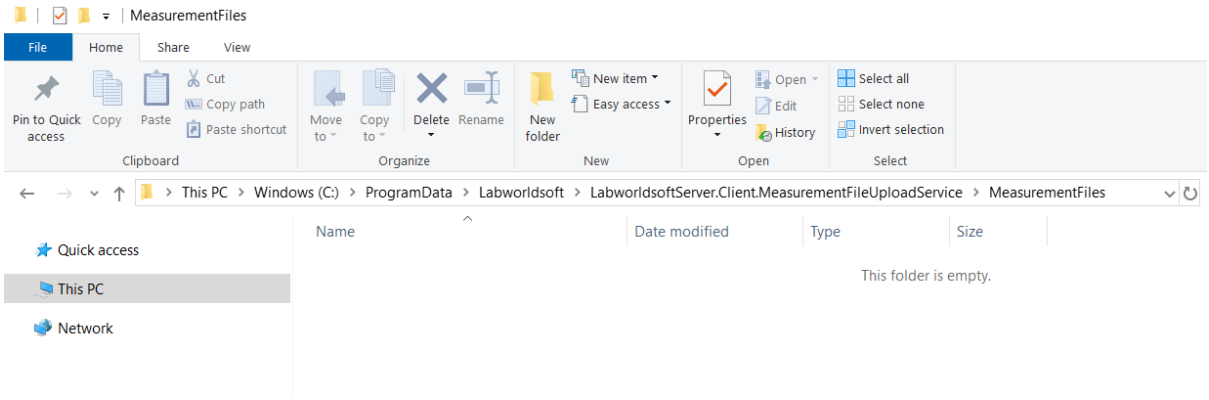


Figure 5.24

The Windows Service **Labworldsoft Server Client Measurement File Upload Service** uploads the measurement files to Labworldsoft Server in the background. As long as **Labworldsoft Server Client Measurement File Upload Service** is running, this upload process continues even if Labworldsoft 6 is closed.

5.6.1. Uploading a Measurement

a. Create/open a configuration in Labworldsoft 6. A simple configuration is created with Method Advanced module and **Save** module as an example.

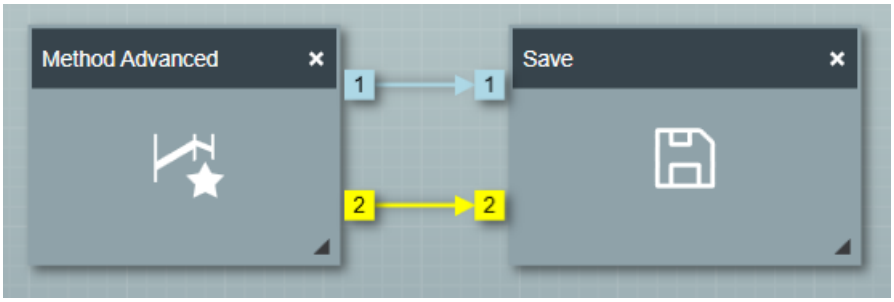


Figure 5.25

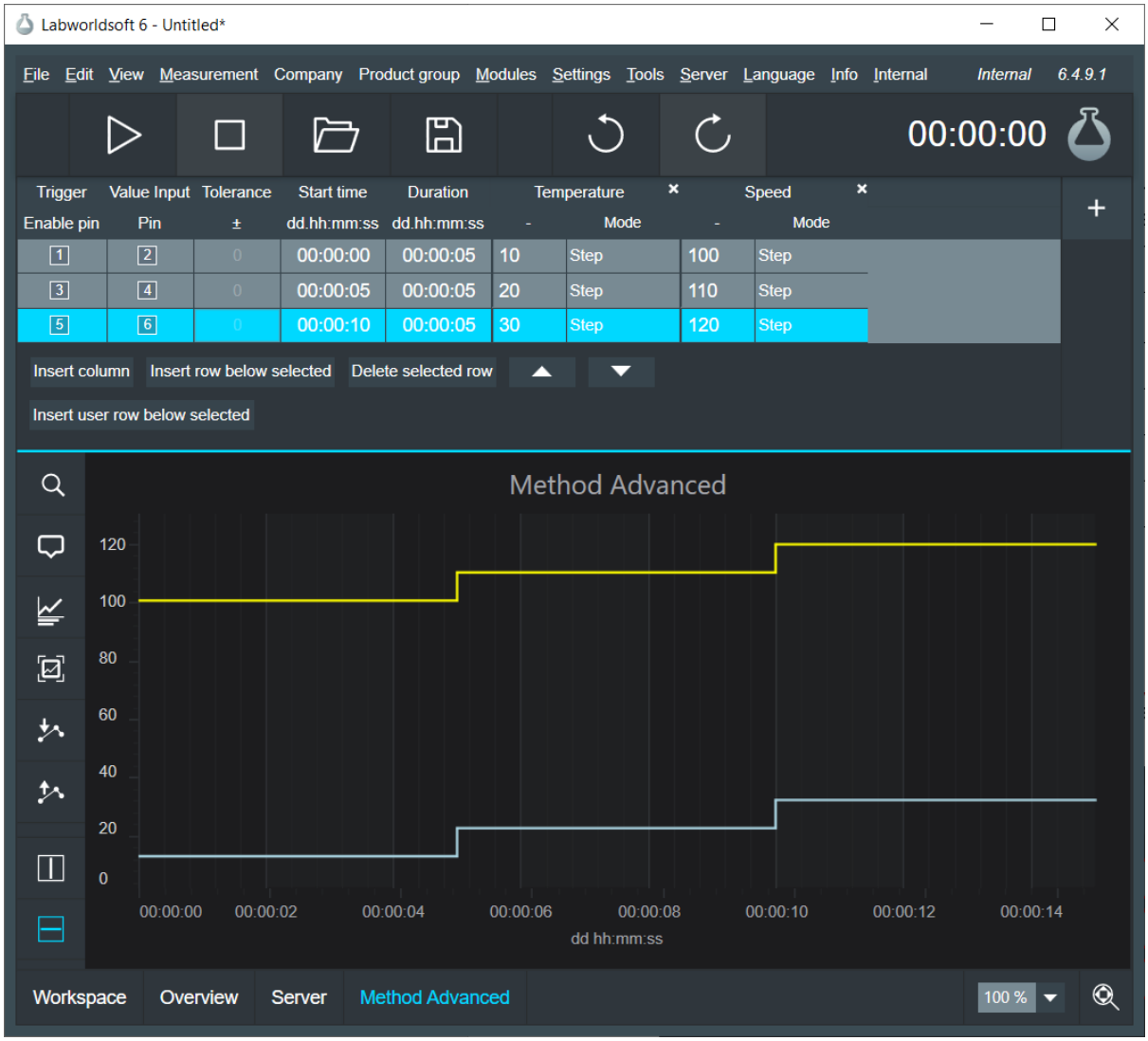


Figure 5.26

b. Double-click on **Save** module and open the Configuration dialog.

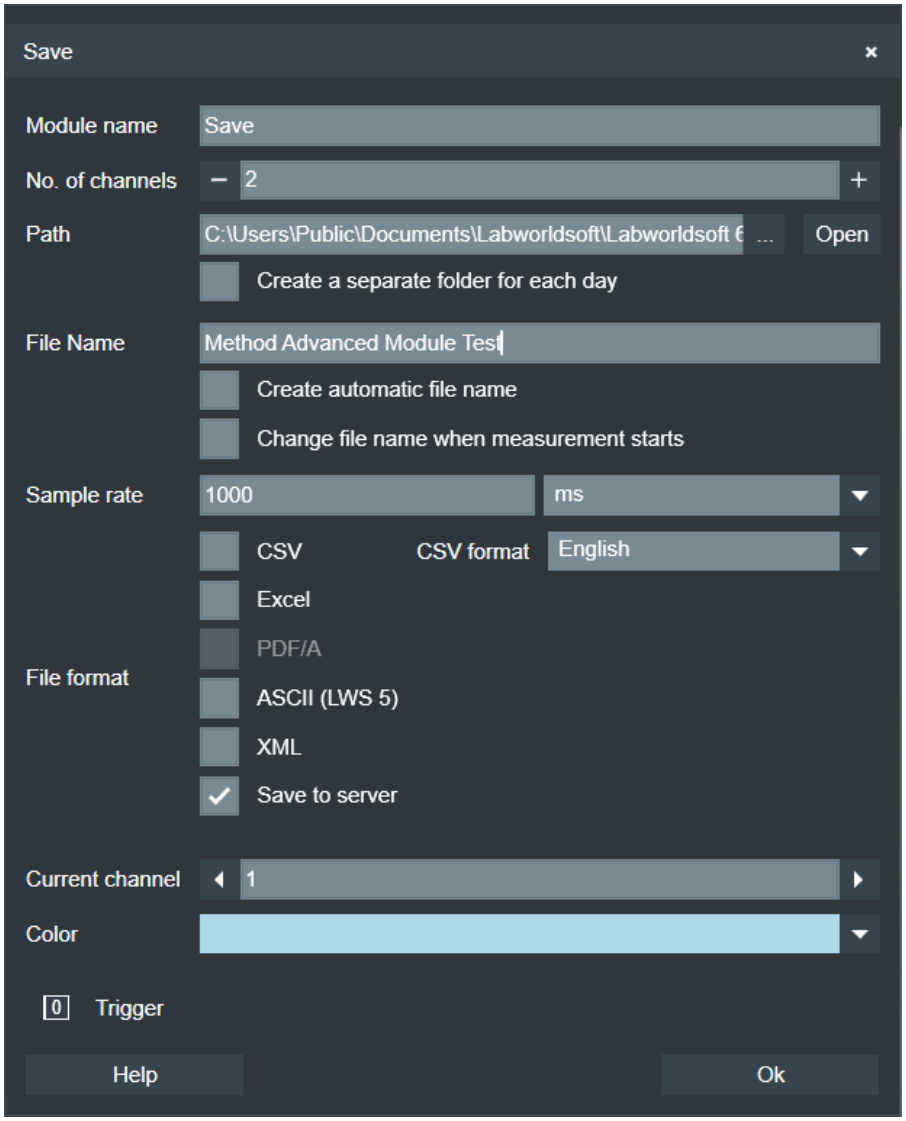


Figure 5.27

c. Select the option **Save to server**. By selecting this option, we can save the measurements to Labworldsoft Server.

d. When starting the measurement, the measurement information is added in Labworldsoft Server. Measurement information can be fetched by clicking the **Fetch Measurements** button.

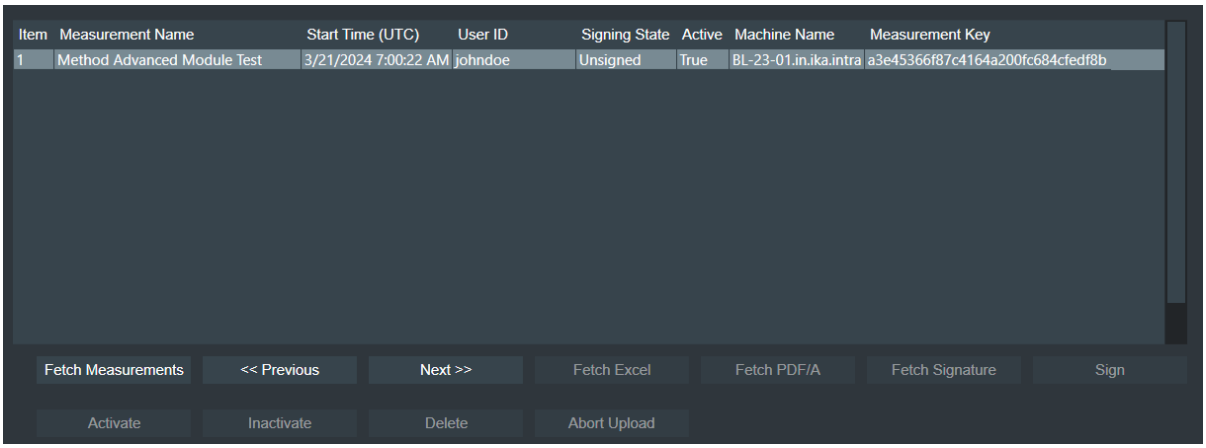


Figure 5.28

e. Alternatively, click the menu **Measurement** → **Record**. The dialog box **Record Measurement** pops-up.

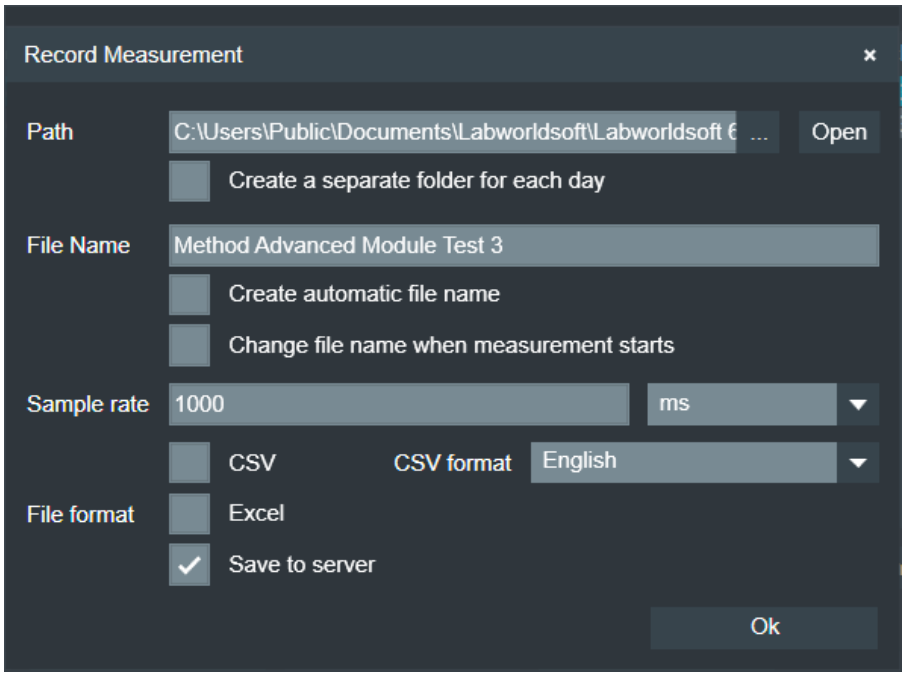


Figure 5.29

By selecting the **Save to server** option you can upload the measurements.

5.6.2. Download measurements as Excel and PDF/A files

a. In the above example, we have not stopped the measurement. Click the **Fetch Excel** button.

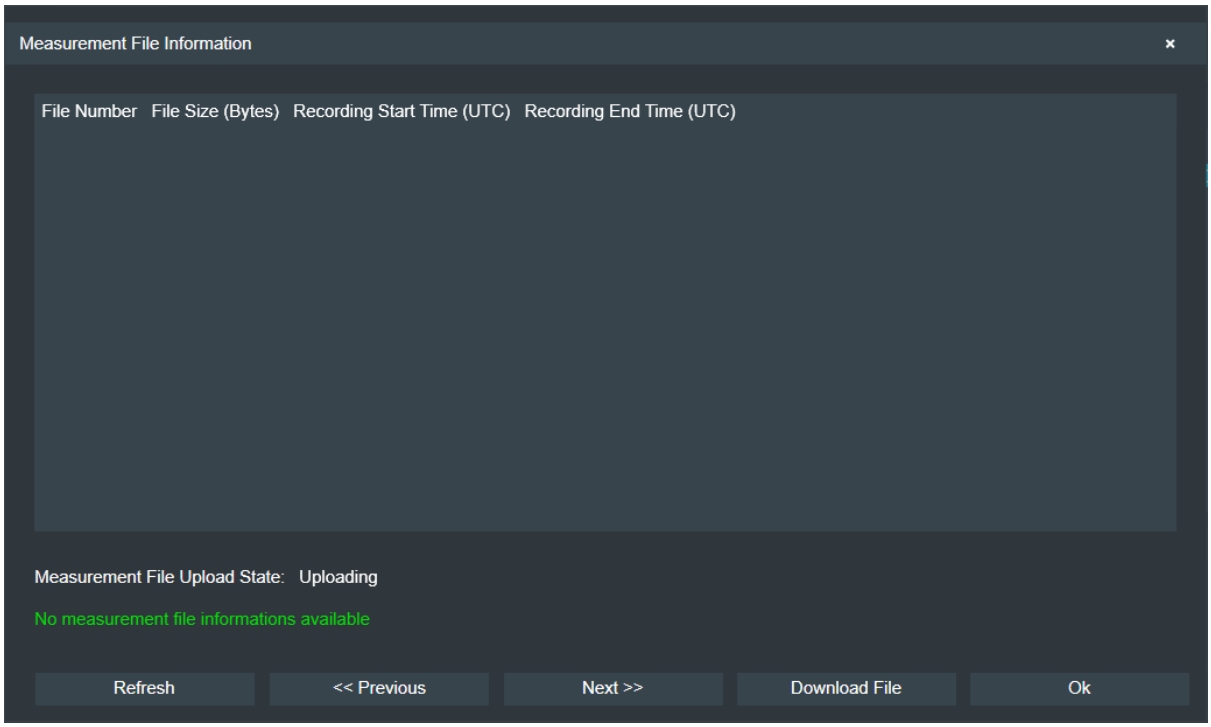


Figure 5.30

b. Click the **Fetch PDF/A** button.

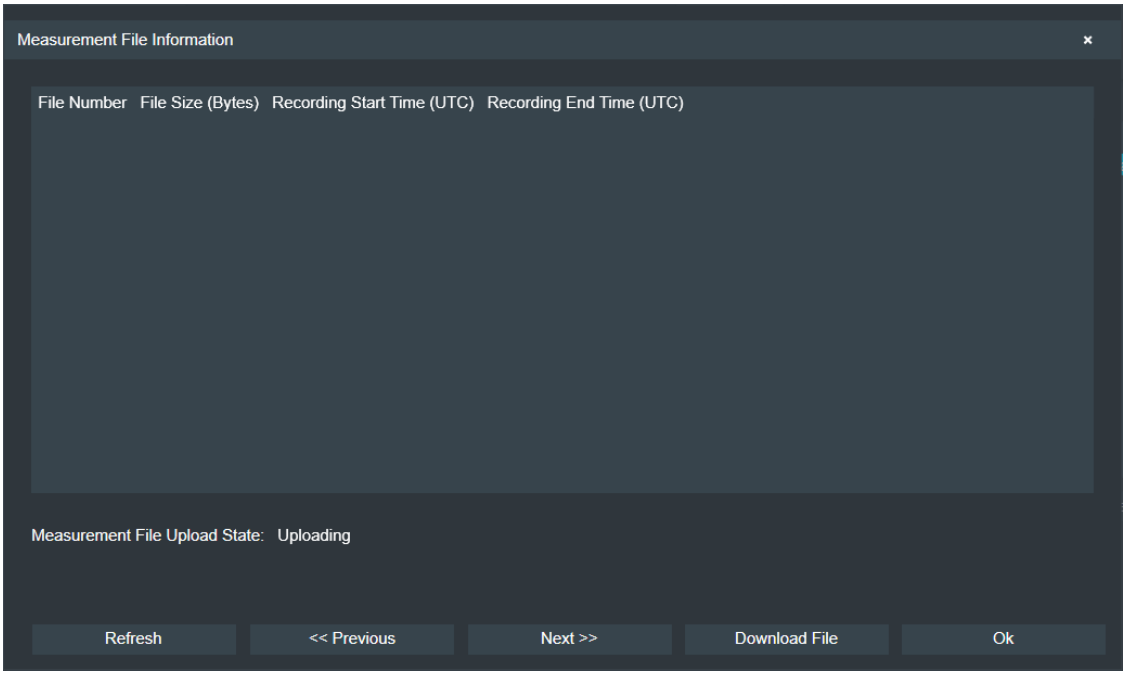


Figure 5.31

c. The uploading operation is in **Uploading** state. This is because, the measurement file is not yet generated. The measurement files are generated when the file size becomes a certain size (≈2MB) or the measurement is stopped. The measurement files are stored locally in Microsoft Excel (xlsx) format. The Windows Service **Labworldsoft Server Client Measurement File Upload Service** uploads the locally saved Excel file to Labworldsoft Server. From Labworldsoft Server this Excel file is converted to PDF/A format. Both Excel and PDF/A files are uploaded to the database. It will take some time to complete the Upload operation. So you may not see the files immediately after stopping the measurement.

d. Stop the measurement. After a while click **Fetch Excel** button. **Measurement File Information** dialog is popped-up. If the **Measurement File Upload State** is still **Uploading**, you may click the **Refresh** button to update the state.

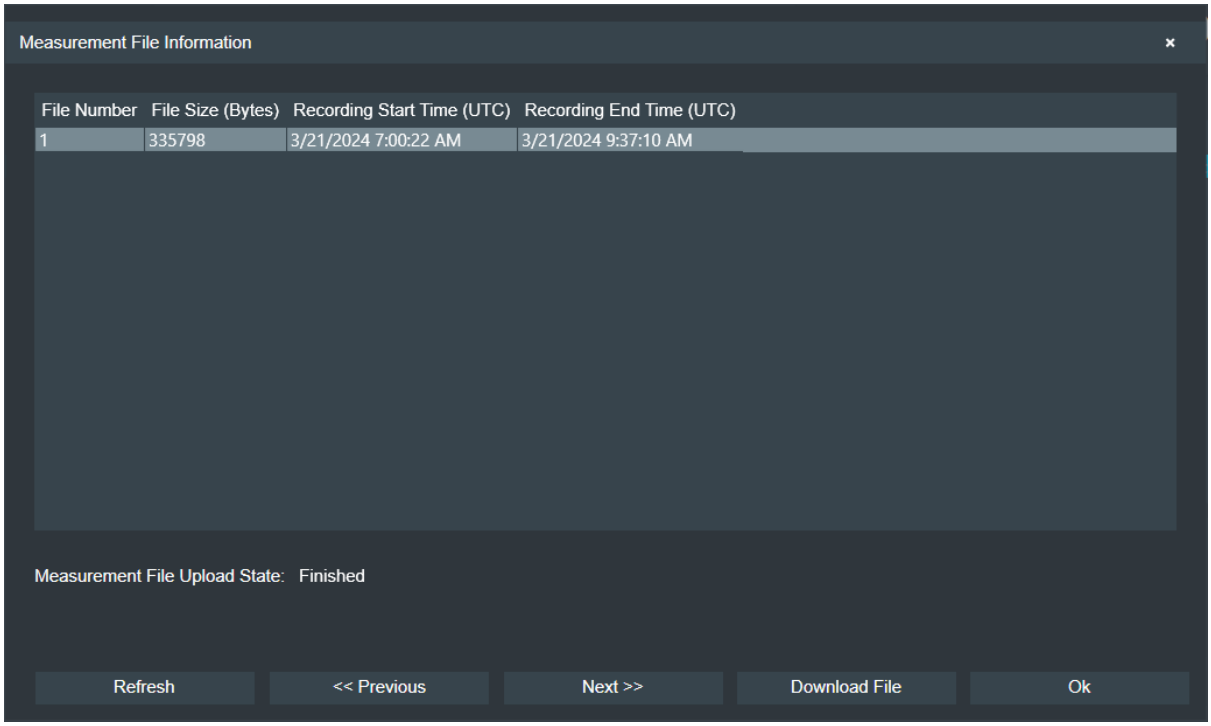


Figure 5.32

e. Select the row and click **Download File** button to download the file.

f. Similarly, you can download the PDF/A file as well.

5.6.3. Inactivate and Activate Measurements

A measurement can be inactivated and activated by clicking the **Inactivate** and **Activate** buttons. Only Active measurements are visible to both Super Users and

Normal Users. Normal User can only view Active measurements created by that user.

5.6.4. Deleting a measurement

Only inactive measurements are allowed to delete. Select a measurement and click the **Delete** button to delete the measurement. A delete operation will permanently remove the measurement information from the database.

5.6.5. Abort Upload

Upload operation can be aborted by clicking the **Abort Upload** button. After the measurement is aborted, no more subsequent files are uploaded. Click the **Fetch Excel** or **Fetch PDF/A** button. The **Measurement File Information** dialog box shows the **Measurement File Upload State** as **Aborted**.

5.6.6. Sign a measurement

a. Select a measurement and click the **Sign** button.

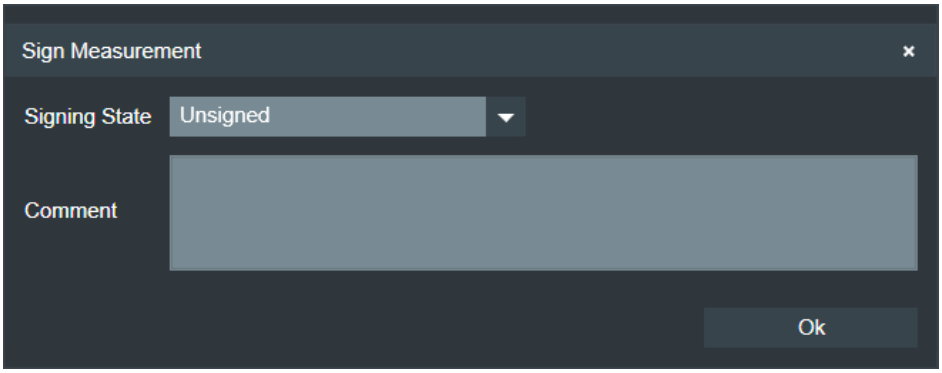


Figure 5.33

b. Select the appropriate **Signing State** and enter the **Comment**. Click the **Ok** button.

c. Different Signing State and its meaning is as follows:

Unsigned	Initial state of signing.
Reviewed	Measurement is in reviewed state.
Authorship	Measurement is in authorized state.

Approved	Measurement is in approved state.
Responsibility	Assigning the responsibility.

Table 5.4

d. The signature information can be fetched by clicking the **Fetch Signature** button.

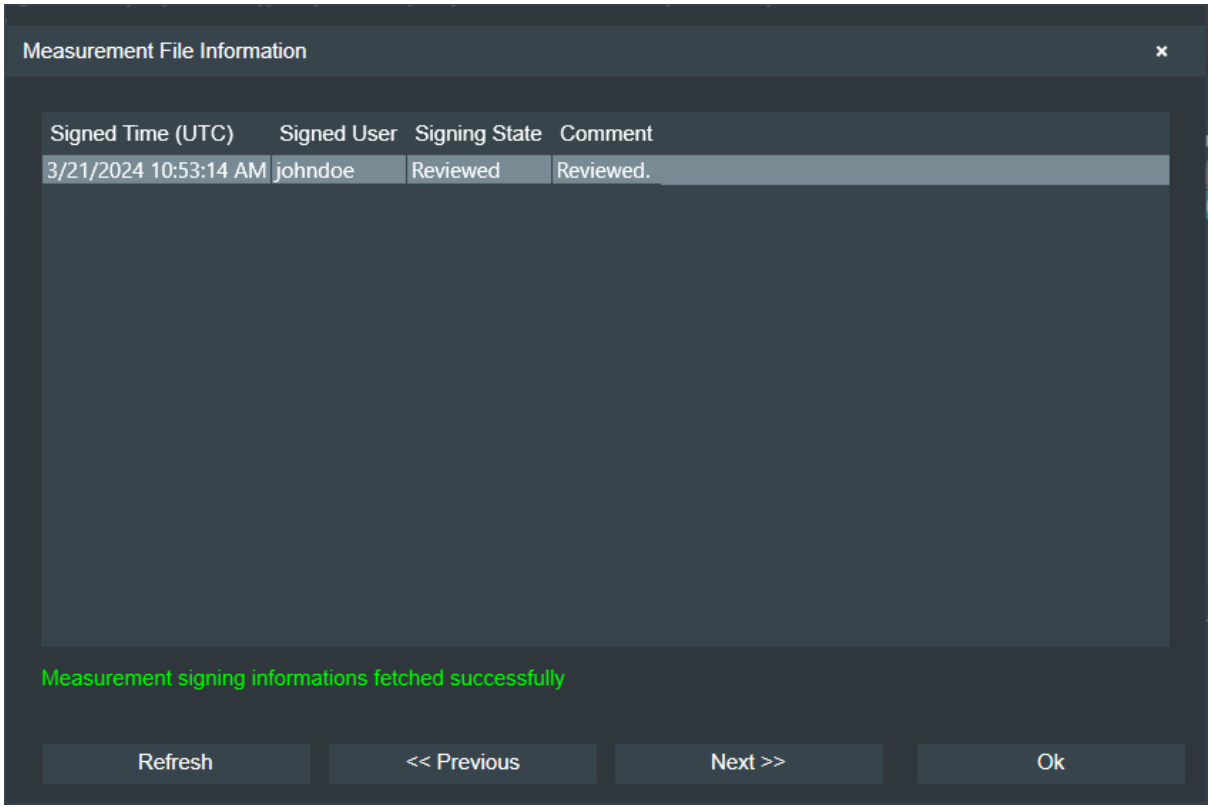


Figure 5.34

5.7. Users screen

Users screen is used to manage **Labworldsoft 6 Users**.

a. Click the **Fetch Users** button to fetch all the **Labworldsoft 6 Users**.

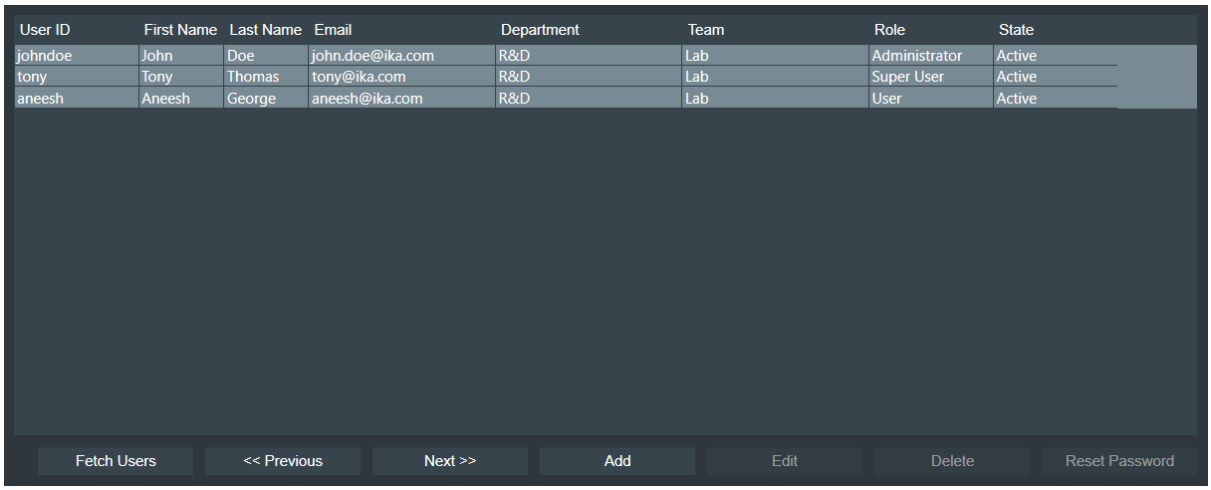


Figure 5.35

b. Click the **Add** button to add a new User. The criteria for User ID is shown on the **Add User** dialog box.

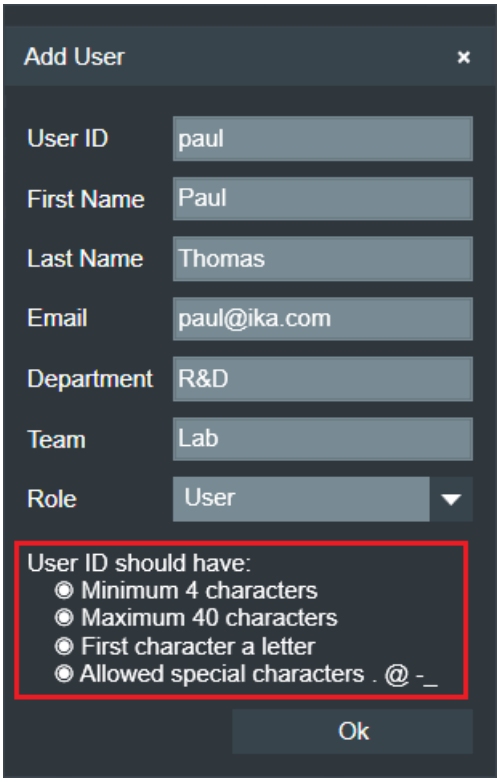


Figure 5.36

c. Select the appropriate User Role. There are 3 different types of **Roles** for **Labworldsoft 6 Users** based on their access rights and privileges.

User	Read-only permissions and Least privileges. *We called this user **Normal User** occasionally to avoid confusion, in this document*.
Super User	Read and limited write permissions. They have all User role privileges and some of the Administrator privileges.
Administrator	Full access rights. They have the highest level of privileges

Table 5.5

d. Only inactive user is allowed to be deleted. A user can be inactivated by clicking the **Edit** button and selecting the **Inactive** option for **Status** in **Edit User** dialog box.

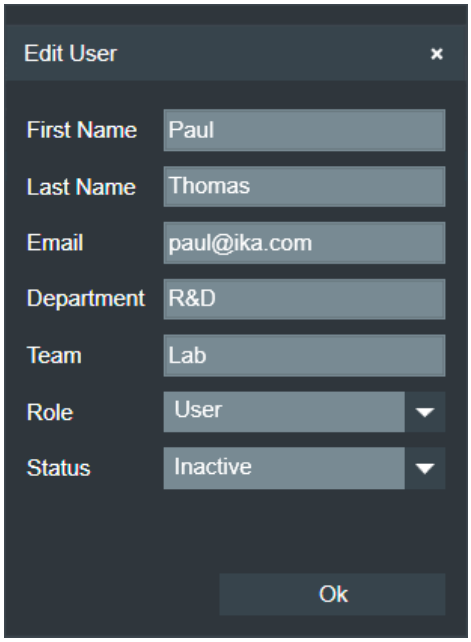


Figure 5.37

e. Password can be reset to the default **Password@1** by clicking the **Reset Password** button.

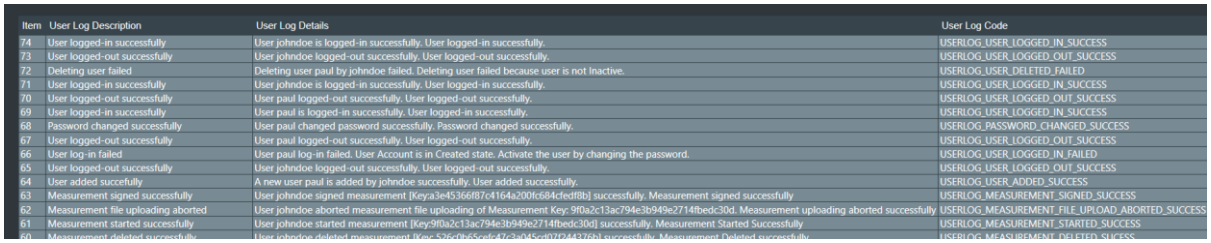
5.8. User Logs screen

User Logs screen manages Audit Trail. All the Labworldsoft Server activities are logged in User Logs.

Item	User Log Description	User Log Details	User Log Code	Logged Time (UTC)	User ID	First Name	Last Name
74	User logged-in successfully	User johndoe is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/22/2024 2:49:03 AM	johndoe	John	Doe
73	User logged-out successfully	User johndoe logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 11:44:10 AM	johndoe	John	Doe
72	Deleting user failed	Deleting user paul by johndoe failed. Deleting user failed because user is not Inactive.	USERLOG_USER_DELETED_FAILED	3/21/2024 11:24:07 AM	johndoe	John	Doe
71	User logged-in successfully	User johndoe is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 11:24:01 AM	johndoe	John	Doe
70	User logged-out successfully	User paul logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 11:23:52 AM	paul	Paul	Thomas
69	User logged-in successfully	User paul is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 11:23:48 AM	paul	Paul	Thomas
68	Password changed successfully	User paul changed password successfully. Password changed successfully.	USERLOG_PASSWORD_CHANGED_SUCCESS	3/21/2024 11:23:43 AM	paul	Paul	Thomas
67	User logged-out successfully	User paul logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 11:23:32 AM	paul		
66	User log-in failed	User paul log-in failed. User Account is in Created state. Activate the user by changing the password.	USERLOG_USER_LOGGED_IN_FAILED	3/21/2024 11:23:32 AM	paul	Paul	Thomas
65	User logged-out successfully	User johndoe logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 11:23:26 AM	johndoe	John	Doe
64	User added succefully	A new user paul is added by johndoe successfully. User added successfully.	USERLOG_USER_ADDED_SUCCESS	3/21/2024 11:23:14 AM	johndoe	John	Doe
63	Measurement signed successfully	User johndoe signed measurement [Key:a3e45366f87c4164a200fc684cfedf8b] successfully. Measurement signed successfully	USERLOG_MEASUREMENT_SIGNED_SUCCESS	3/21/2024 10:53:14 AM	johndoe	John	Doe
62	Measurement file uploading aborted	User johndoe aborted measurement file uploading of Measurement Key: 9f0a2c13ac794e3b949e2714fbedc30d. Measurement uploading aborted successfully	USERLOG_MEASUREMENT_FILE_UPLOAD_ABORTED_SUCCESS	3/21/2024 10:07:10 AM	johndoe	John	Doe
61	Measurement started successfully	User johndoe started measurement [Key:9f0a2c13ac794e3b949e2714fbedc30d] successfully. Measurement Started Successfully	USERLOG_MEASUREMENT_STARTED_SUCCESS	3/21/2024 10:06:06 AM	johndoe	John	Doe
60	Measurement deleted successfully	User johndoe deleted measurement [Key: 526c0b65cefc47c3a945cd07f244376b] successfully. Measurement Deleted successfully	USERLOG_MEASUREMENT_DELETED_SUCESS	3/21/2024 10:05:44 AM	johndoe	John	Doe
59	Measurement inactivated successfully	User johndoe inactivated measurement [Key:526c0b65cefc47c3a945cd07f244376b] successfully. Measurement Inactivated successfully	USERLOG_MEASUREMENT_INACTIVATED_SUCCESS	3/21/2024 10:02:26 AM	johndoe	John	Doe
58	User logged-in successfully	User johndoe is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 9:50:22 AM	johndoe	John	Doe
57	User logged-out successfully	User aneesh logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 9:46:51 AM	aneesh	Aneesh	George
56	Measurement file PDF/A uploaded successfully	Measurement file PDF/A [Measurement Key: 526c0b65cefc47c3a945cd07f244376b / File Number: 1] uploaded to database successfully	USERLOG_MEASUREMENT_FILE_PDFA_UPLOADED	3/21/2024 9:46:44 AM	[---]	[---]	
55	Measurement file Excel uploaded successfully	Measurement file Excel [Measurement Key: 526c0b65cefc47c3a945cd07f244376b / File Number: 1] uploaded to database successfully	USERLOG_MEASUREMENT_FILE_EXCEL_UPLOADED	3/21/2024 9:46:44 AM	[---]	[---]	
54	Measurement started successfully	User aneesh started measurement [Key:526c0b65cefc47c3a945cd07f244376b] successfully. Measurement Started Successfully	USERLOG_MEASUREMENT_STARTED_SUCCESS	3/21/2024 9:46:14 AM	aneesh	Aneesh	George
53	User logged-in successfully	User aneesh is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 9:45:52 AM	aneesh	Aneesh	George
52	User logged-out successfully	User tony logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 9:45:45 AM	tony	Tony	Thomas
51	User logged-in successfully	User tony is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 9:45:34 AM	tony	Tony	Thomas
50	User logged-out successfully	User johndoe logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 9:45:29 AM	johndoe	John	Doe
49	Measurement activated successfully	User johndoe activated measurement [Key:a3e45366f87c4164a200fc684cfedf8b] successfully. Measurement activated successfully	USERLOG_MEASUREMENT_ACTIVATED_SUCCESS	3/21/2024 9:45:26 AM	johndoe	John	Doe
48	User logged-in successfully	User johndoe is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 9:45:19 AM	johndoe	John	Doe
47	User logged-out successfully	User tony logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 9:45:11 AM	tony	Tony	Thomas
46	User logged-in successfully	User tony is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 9:44:41 AM	tony	Tony	Thomas
45	User logged-out successfully	User johndoe logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 9:44:37 AM	johndoe	John	Doe
44	Measurement inactivated successfully	User johndoe inactivated measurement [Key:a3e45366f87c4164a200fc684cfedf8b] successfully. Measurement Inactivated successfully	USERLOG_MEASUREMENT_INACTIVATED_SUCCESS	3/21/2024 9:44:29 AM	johndoe	John	Doe
43	Measurement activated successfully	User johndoe activated measurement [Key:a3e45366f87c4164a200fc684cfedf8b] successfully. Measurement activated successfully	USERLOG_MEASUREMENT_ACTIVATED_SUCCESS	3/21/2024 9:43:10 AM	johndoe	John	Doe
42	Measurement inactivated successfully	User johndoe inactivated measurement [Key:a3e45366f87c4164a200fc684cfedf8b] successfully. Measurement inactivated successfully	USERLOG_MEASUREMENT_INACTIVATED_SUCCESS	3/21/2024 9:43:03 AM	johndoe	John	Doe
41	Measurement file PDF/A uploaded successfully	Measurement file PDF/A [Measurement Key: a3e45366f87c4164a200fc684cfedf8b / File Number: 1] uploaded to database successfully	USERLOG_MEASUREMENT_FILE_PDFA_UPLOADED	3/21/2024 9:39:16 AM	[---]	[---]	
40	Measurement file Excel uploaded successfully	Measurement file Excel [Measurement Key: a3e45366f87c4164a200fc684cfedf8b / File Number: 1] uploaded to database successfully	USERLOG_MEASUREMENT_FILE_EXCEL_UPLOADED	3/21/2024 9:39:09 AM	[---]	[---]	
39	Measurement started successfully	User johndoe started measurement [Key:a3e45366f87c4164a200fc684cfedf8b] successfully. Measurement Started Successfully	USERLOG_MEASUREMENT_STARTED_SUCCESS	3/21/2024 7:00:22 AM	johndoe	John	Doe
38	Configuration deleted successfully	User johndoe deleted Configuration [Key: 8ad4b36555ac4137b9d298887917180a] successfully. Configuration deleted successfully	USERLOG_CONFIGURATION_DELETED_SUCCESS	3/21/2024 6:06:42 AM	johndoe	John	Doe
37	Configuration activated successfully	User johndoe activated Configuration [Key: 8ad4b36555ac4137b9d298887917180a] successfully. Configuration activated successfully	USERLOG_CONFIGURATION_ACTIVATED_SUCCESS	3/21/2024 6:05:21 AM	johndoe	John	Doe
36	User logged-in successfully	User johndoe is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 6:04:27 AM	johndoe	John	Doe
35	User logged-out successfully	User tony logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 6:04:19 AM	tony	Tony	Thomas
34	User logged-in successfully	User tony is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 5:53:39 AM	tony	Tony	Thomas
33	User logged-out successfully	User johndoe logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 5:53:31 AM	johndoe	John	Doe
32	Configuration deleted successfully	User johndoe deleted Configuration [Key: 8ad4b36555ac4137b9d298887917180a] successfully. Configuration deleted successfully	USERLOG_CONFIGURATION_DELETED_SUCCESS	3/21/2024 5:53:21 AM	johndoe	John	Doe
31	User logged-in successfully	User johndoe is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 5:52:38 AM	johndoe	John	Doe
30	User logged-out successfully	User aneesh logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS	3/21/2024 5:52:30 AM	aneesh	Aneesh	George
29	User logged-in successfully	User aneesh is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS	3/21/2024 5:47:03 AM	aneesh	Aneesh	George

Fetch User Logs | << Previous | Next >>

Figure 5.38



Item	User Log Description	User Log Details	User Log Code
74	User logged-in successfully	User johndoe is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS
73	User logged-out successfully	User johndoe logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS
72	Deleting user failed	Deleting user paul by johndoe failed. Deleting user failed because user is not Inactive.	USERLOG_USER_DELETED_FAILED
71	User logged-in successfully	User johndoe is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS
70	User logged-out successfully	User paul logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS
69	User logged-in successfully	User paul is logged-in successfully. User logged-in successfully.	USERLOG_USER_LOGGED_IN_SUCCESS
68	Password changed successfully	User paul changed password successfully. Password changed successfully.	USERLOG_PASSWORD_CHANGED_SUCCESS
67	User logged-out successfully	User paul logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS
66	User log-in failed	User paul log-in failed. User Account is in Created state. Activate the user by changing the password.	USERLOG_USER_LOGGED_IN_FAILED
65	User logged-out successfully	User johndoe logged-out successfully. User logged-out successfully.	USERLOG_USER_LOGGED_OUT_SUCCESS
64	User added succefully	A new user paul is added by johndoe successfully. User added successfully.	USERLOG_USER_ADDED_SUCCESS
63	Measurement signed successfully	User johndoe signed measurement [Key:a3e45366f87c4164a200fc684cfedf8b] successfully. Measurement signed successfully	USERLOG_MEASUREMENT_SIGNED_SUCCESS
62	Measurement file uploading aborted	User johndoe aborted measurement file uploading of Measurement Key: 9f0a2c13ac794e3b949e2714fbedc30d. Measurement uploading aborted successfully	USERLOG_MEASUREMENT_FILE_UPLOAD_ABORTED_SUCCESS
61	Measurement started successfully	User johndoe started measurement [Key:9f0a2c13ac794e3b949e2714fbedc30d] successfully. Measurement Started Successfully	USERLOG_MEASUREMENT_STARTED_SUCCESS

Figure 5.39

Each User Log entry is identified with a User Log Code. The User Log Codes and their definitions are given in the below table.

USERLOG_USER_ADDED_SUCCESS	User added successfully.
USERLOG_USER_ADDED_FAILED	Adding a user failed.
USERLOG_USER_DELETED_SUCCESS	User deleted successfully.
USERLOG_USER_DELETED_FAILED	Deleting a user failed.
USERLOG_USER_MODIFIED_SUCCESS	User modified successfully.
USERLOG_USER_MODIFIED_FAILED	Modifying user failed.
USERLOG_PASSWORD_RESETTED_SUCCESS	Password reset successfully.

USERLOG_PASSWORD_RESETTED_FAILED	Resetting password failed.
USERLOG_USER_LOGGED_IN_SUCCESS	User logged in successfully.
USERLOG_USER_LOGGED_IN_FAILED	User login failed.
USERLOG_USER_LOGGED_OUT_SUCCESS	User logged out successfully.
USERLOG_USER_LOGGED_OUT_FAILED	User logout failed.
USERLOG_PASSWORD_CHANGED_SUCCESS	Password changed successfully.
USERLOG_PASSWORD_CHANGED_FAILED	Password changing failed.
USERLOG_MEASUREMENT_STARTED_SUCCESS	Measurement started successfully.
USERLOG_MEASUREMENT_STARTED_FAILED	Measurement starting failed.
USERLOG_MEASUREMENT_SIGNED_SUCCESS	Measurement signed successfully.
USERLOG_MEASUREMENT_SIGNED_FAILED	Measurement signing failed.
USERLOG_MEASUREMENT_ACTIVATED_SUCCESS	Measurement activated successfully.
USERLOG_MEASUREMENT_ACTIVATED_FAILED	Measurement activation failed.
USERLOG_MEASUREMENT_INACTIVATED_SUCCESS	Measurement inactivated successfully.
USERLOG_MEASUREMENT_INACTIVATED_FAILED	Measurement inactivation failed.
USERLOG_MEASUREMENT_DELETED_SUCESS	Measurement deleted successfully.
USERLOG_MEASUREMENT_DELETED_FAILED	Measurement deletion failed.
USERLOG_MEASUREMENT_FILE_EXCEL_DOWNLOADED_SUCCESS	Measurement file excel downloaded successfully.
USERLOG_MEASUREMENT_FILE_EXCEL_DOWNLOADED_FAILED	Measurement file excel downloading failed.
USERLOG_MEASUREMENT_FILE_PDFA_DOWNLOADED_SUCCESS	Measurement file PDF/A downloaded successfully.
USERLOG_MEASUREMENT_FILE_PDFA_DOWNLOADED_FAILED	Measurement file PDF/A downloading failed.
USERLOG_MEASUREMENT_FILE_EXCEL_UPLOADED	Measurement file excel uploaded successfully.
USERLOG_MEASUREMENT_FILE_PDFA_UPLOADED	Measurement file PDF/A uploading successfully.
USERLOG_MEASUREMENT_FILE_UPLOAD_ABORTED_SUCCESS	Measurement file upload aborted successfully.
USERLOG_MEASUREMENT_FILE_UPLOAD_ABORTED_FAILED	Measurement file upload aborting failed.
USERLOG_CONFIGURATION_MODIFIED_SUCCESS	Configuration modified successfully
USERLOG_CONFIGURATION_MODIFIED_FAILED	Modifying configuration failed.
USERLOG_CONFIGURATION_VERSION_MODIFIED_SUCCESS	Modified configuration version successfully.
USERLOG_CONFIGURATION_VERSION_MODIFIED_FAILED	Modifying configuration version failed.
USERLOG_CONFIGURATION_ACTIVATED_SUCCESS	Configuration activated successfully.
USERLOG_CONFIGURATION_ACTIVATED_FAILED	Activating configuration failed.
USERLOG_CONFIGURATION_VERSION_ACTIVATED_SUCCESS	Configuration version activated successfully.
USERLOG_CONFIGURATION_VERSION_ACTIVATED_FAILED	Activating configuration version failed.
USERLOG_CONFIGURATION_INACTIVATED_SUCCESS	Configuration inactivated successfully.
USERLOG_CONFIGURATION_INACTIVATED_FAILED	Inactivating configuration failed.
USERLOG_CONFIGURATION_VERSION_INACTIVATED_SUCCESS	Configuration version inactivated successfully.
USERLOG_CONFIGURATION_VERSION_INACTIVATED_FAILED	Inactivating configuration version failed.
USERLOG_CONFIGURATION_DELETED_SUCCESS	Configuration deleted successfully.

USERLOG_CONFIGURATION_DELETED_FAILED	Deleting configuration failed.
USERLOG_CONFIGURATION_VERSION_DELETED_SUCCESS	Configuration version deleted successfully.
USERLOG_CONFIGURATION_VERSION_DELETED_FAILED	Deleting configuration version failed.
USERLOG_CONFIGURATION_REMOVED_SUCCESS	Configuration removed successfully.
USERLOG_CONFIGURATION_REMOVED_FAILED	Removing configuration failed.
USERLOG_CONFIGURATION_UPLOADED_SUCCESS	Configuration uploaded successfully.
USERLOG_CONFIGURATION_UPLOADED_FAILED	Uploading configuration failed.
USERLOG_CONFIGURATION_DOWNLOADED_SUCCESS	Configuration downloaded successfully.
USERLOG_CONFIGURATION_DOWNLOADED_FAILED	Downloading configuration failed.
USERLOG_CONFIGURATION_IMAGE_UPLOADED_SUCCESS	Configuration image uploaded successfully.
USERLOG_CONFIGURATION_IMAGE_UPLOADED_FAILED	Configuration image uploading failed.

Table 5.6

6 Access Privileges based on User Roles

3 User Roles are defined in Labworldsoft Server. According to the User Role the access privileges change.

User	Read-only permissions and Least privileges. *We called this user **Normal User** occasionally to avoid confusion, in this document*.
Super User	Read and limited write permissions. They have all User role privileges and some of the Administrator privileges.
Administrator	Full access rights. They have the highest level of privileges

Table 6.1

6.1 User Management Privileges

Function	Administrator	Super User	User
View own user details present in server in **My Account** section	Yes	Yes	Yes
Create a new user of normal user role	Yes	Yes	No
View all normal user's user details present in server	Yes	Yes	No
Change other users details of normal user role	Yes	Yes	No
Reset other user's Password of normal user role	Yes	Yes	No
Change other user's user state (Active / Inactive) of normal user role	Yes	Yes	No
Create a new user of 'Super User' user role	Yes	No	No
Create a new user of 'User' user role	Yes	No	No
Delete a user	Yes	No	No
View all users user details present in server	Yes	No	No
Reset other user's Password of any user role	Yes	No	No
Change other user's user state (Active / Inactive) of any user role	Yes	No	No
Change other users details of any user role	Yes	No	No
Change other users role	Yes	No	No

Table 6.2

6.2 Measurement Privileges

Function	Administrator	Super User	User
Save a measurement to server	Yes	Yes	Yes
Download a measurement in excel	Yes	Yes	Yes
Download a measurement in PDF/A	Yes	Yes	Yes
Change status of a measurement from Active to Inactive	Yes	Yes	No
Change status of a measurement from Inactive to Active	Yes	No	No
Signing a measurement	Yes	Yes	No
Delete a measurement permanently	Yes	No	No

Table 6.3

6.3 Configuration Privileges

Function	Administrator	Super User	User
Open an existing Labworldsoft 6 configuration from server	Yes	Yes	Yes
Create a new Labworldsoft 6 configuration	Yes	Yes	No
Change an existing Labworldsoft 6 configuration	Yes	Yes	No
Upload a Labworldsoft 6 configuration to server	Yes	Yes	No

Table 6.4

6.4 User Logs Privileges

Function	Administrator	Super User	User
Automatically saving the User Logs to server	Yes	Yes	Yes
Viewing the User Logs	Yes	Yes	No

Table 6.5

7 Trouble shooting and FAQs

7.1 Question 1

I had only one Server Admin user. I have forgotten the password. How can I access Labworldsoft Server?

Answer 1.

Server Admin user is stored in local **SQL Server Compact** database **C:\ProgramData\Labworldsoft\LabworldsoftServer\LocalDatabaseFiles\ LabworldsoftServerAdminUsers_1_0_0_0.sdf** file. Do the following steps:

a. Close **Labworldsoft Server**

b. Go to the folder **C:\ProgramData\Labworldsoft\LabworldsoftServer\LocalDatabaseFiles**

c. Delete the database file **LabworldsoftServerAdminUsers_1_0_0_0.sdf**

d. Start **Labworldsoft Server** again.

e. Log in to **Labworldsoft Server** again using the default Server Admin user **serveradmin** and password **Password@1**.

When **Labworldsoft Server** is started each time, it will check whether the database file **LabworldsoftServerAdminUsers_1_0_0_0.sdf** exists or not. If it does not exist, it will create a new database file and add the default credential **serveradmin** and **Password@1**.

7.2 Question 2

I have installed Labworldsoft Server. I have setup Labworldsoft Server as mentioned in the document. When starting Labworldsoft Server by clicking **Start Server** button, I get **Starting Labworldsoft Server failed** error. I got the following error information from log file:

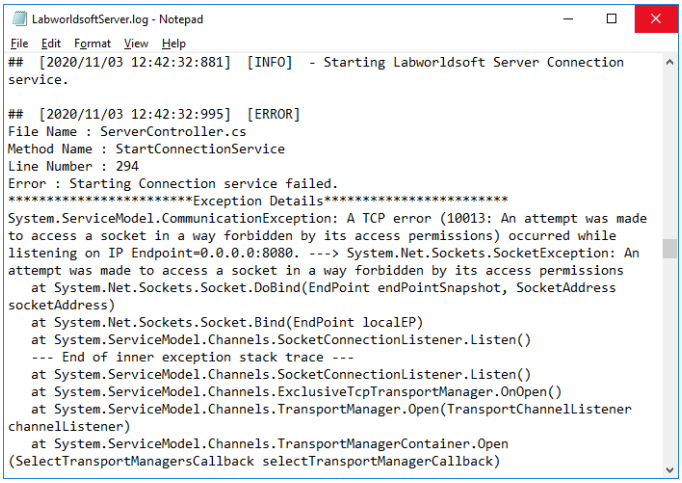


Figure 7.1

Answer 2.

There are mainly 3 reasons for this problem. At present, **Labworldsoft Server** is using 14 ports from port number **8080** to **8093**.

1. The ports 8080 - 8093 are being used by another application.

   C:\>**netstat –o**

   By executing **netstat –o** command, we can find the port numbers used by all the applications. If the port 8080 - 8093 is being used by another app, please stop that app and start **Labworldsoft Server** again. In future we will make this port configurable.

2. The port is blocked by Windows firewall.

   We have to add **Labworldsoft Server** into **Windows Firewall**. The steps are as follows:

   a. Go to Control Panel. Click **Windows Defender Firewall**.

   b. Click Allow an app or feature through **Windows Defender Firewall**.

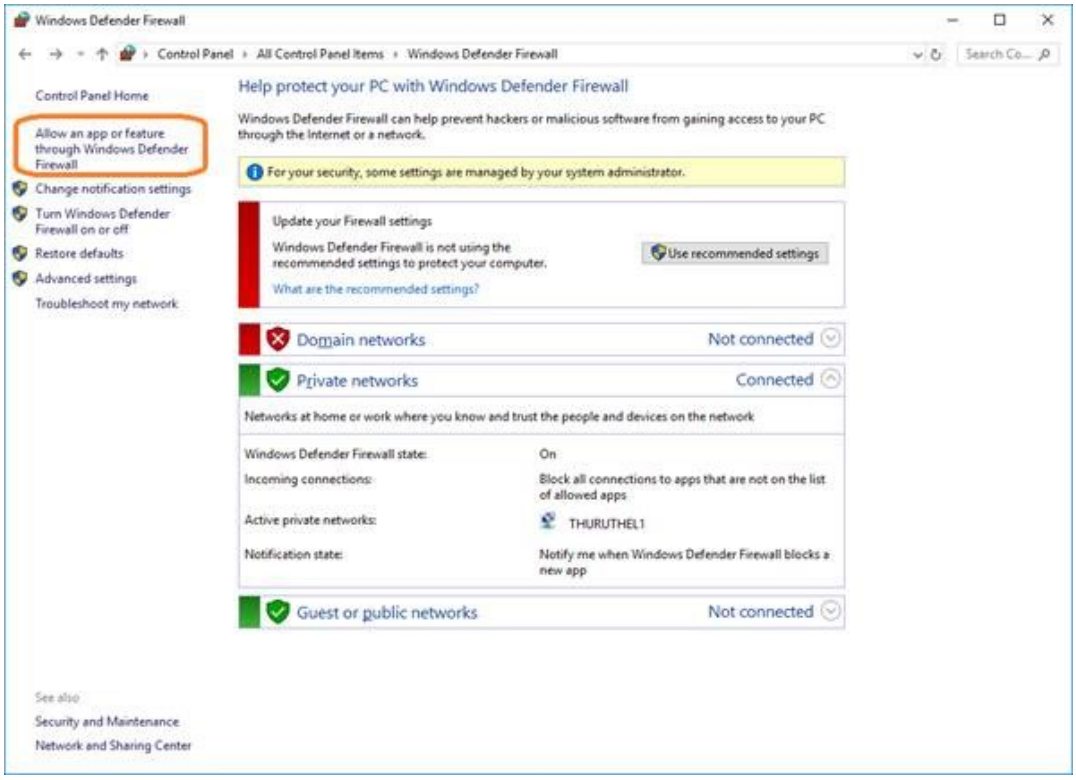


Figure 7.2

c. Click **Change Settings** button.

d. Check whether **Labworldsoft Server** is listed in **Allowed apps and feature** list box. If it is listed, select the row and click the **Details…** button and make sure that the path is the installation path. If path is correct, click **Network types…** button and select all the network types **Domain**, **Private** and **Public**.

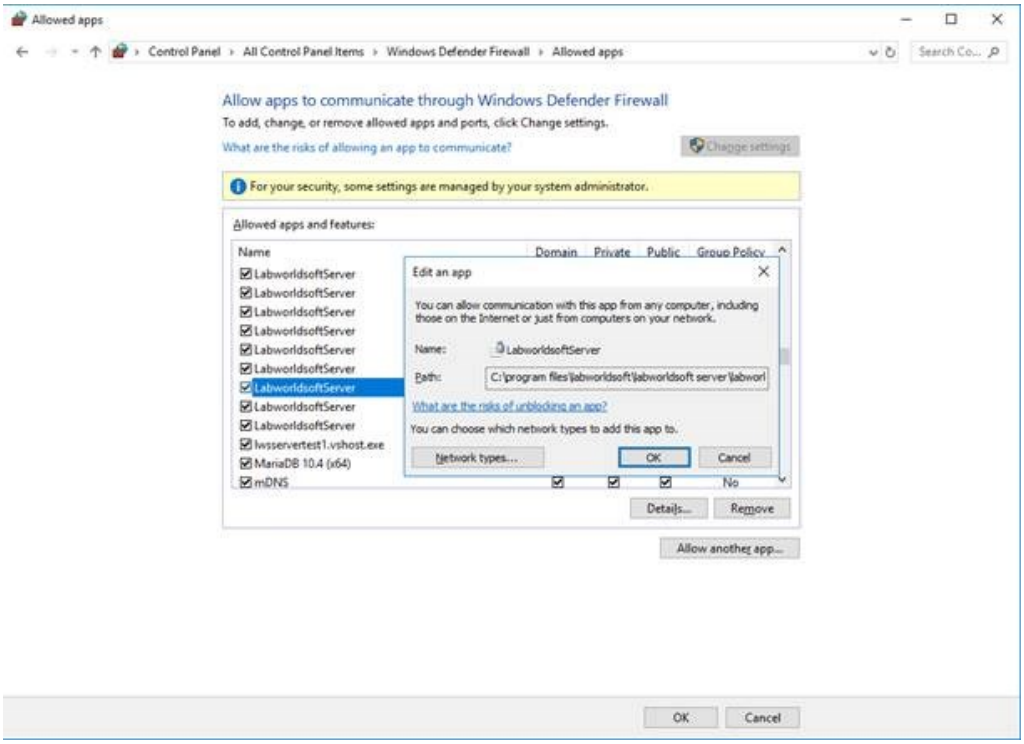


Figure 7.3

e. If Labworldsoft Server is not listed, click ***Allow another app…*** button and add the app ***C:\Program Files\Labworldsoft\Labworldsoft Server\LabworldsoftServer\LabworldsoftServer.exe*** (if you installed Labworldsoft Server in the default path) to the list and select all the network types as mentioned in d.

3. Organization's firewall is blocking the port.

   Please talk to your IT Administrator and enable access to this port in company firewall.

7.3 Question 3.

I installed and setup ***Labworldsoft Server***. I used the default ***Database Connection String*** as mentioned in this document. When clicking ***Test Database Connection*** button, I got ***Connecting to database failed. Please refer the log files for more details*** error.

When I refer the log file, I got the following error:

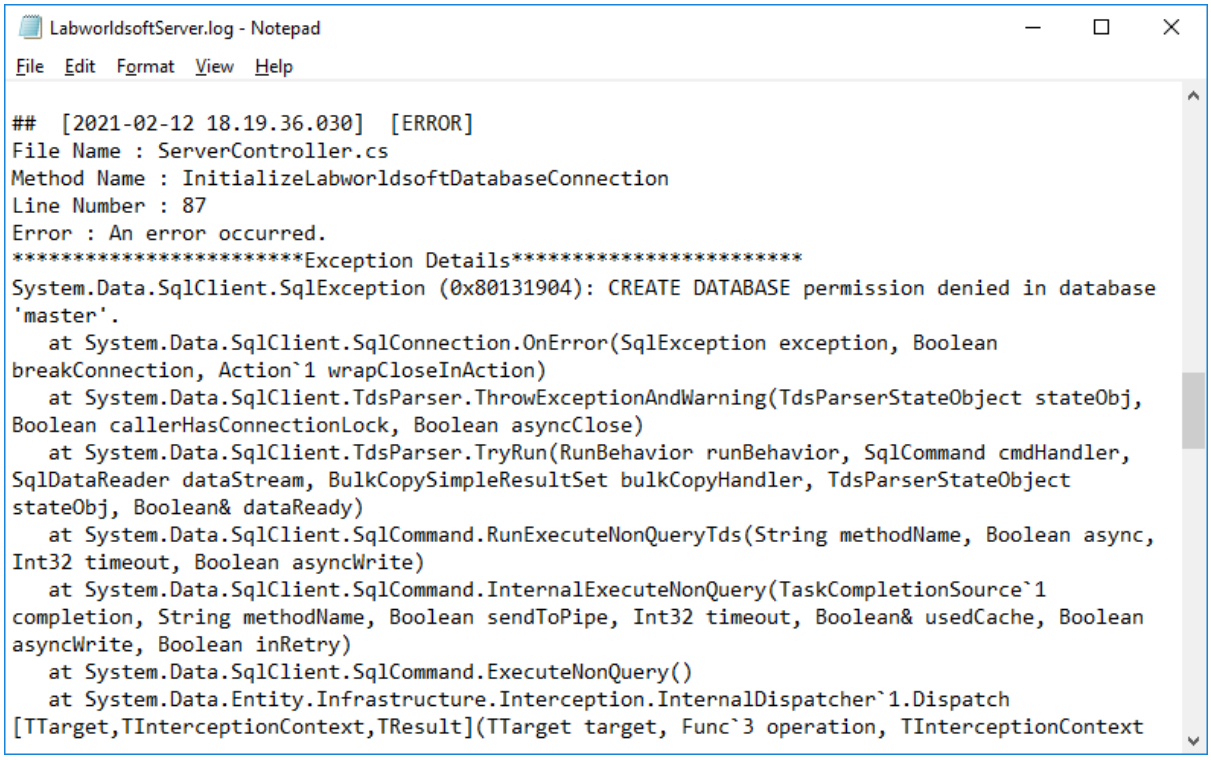


Figure 7.4

Answer 3.

Suppose the logged in Windows user is ***IWB\Tony.Thomas***. Since ***Windows Authentication*** is used in ***Database Connection String***, Labworldsoft Server uses ***IWB\Tony.Thomas*** as the SQL Server user as well. Please check ***Server Roles*** of the user ***IWB\Tony.Thomas*** using ***SQL Server Management Studio*** (***SSMS***) as shown below:

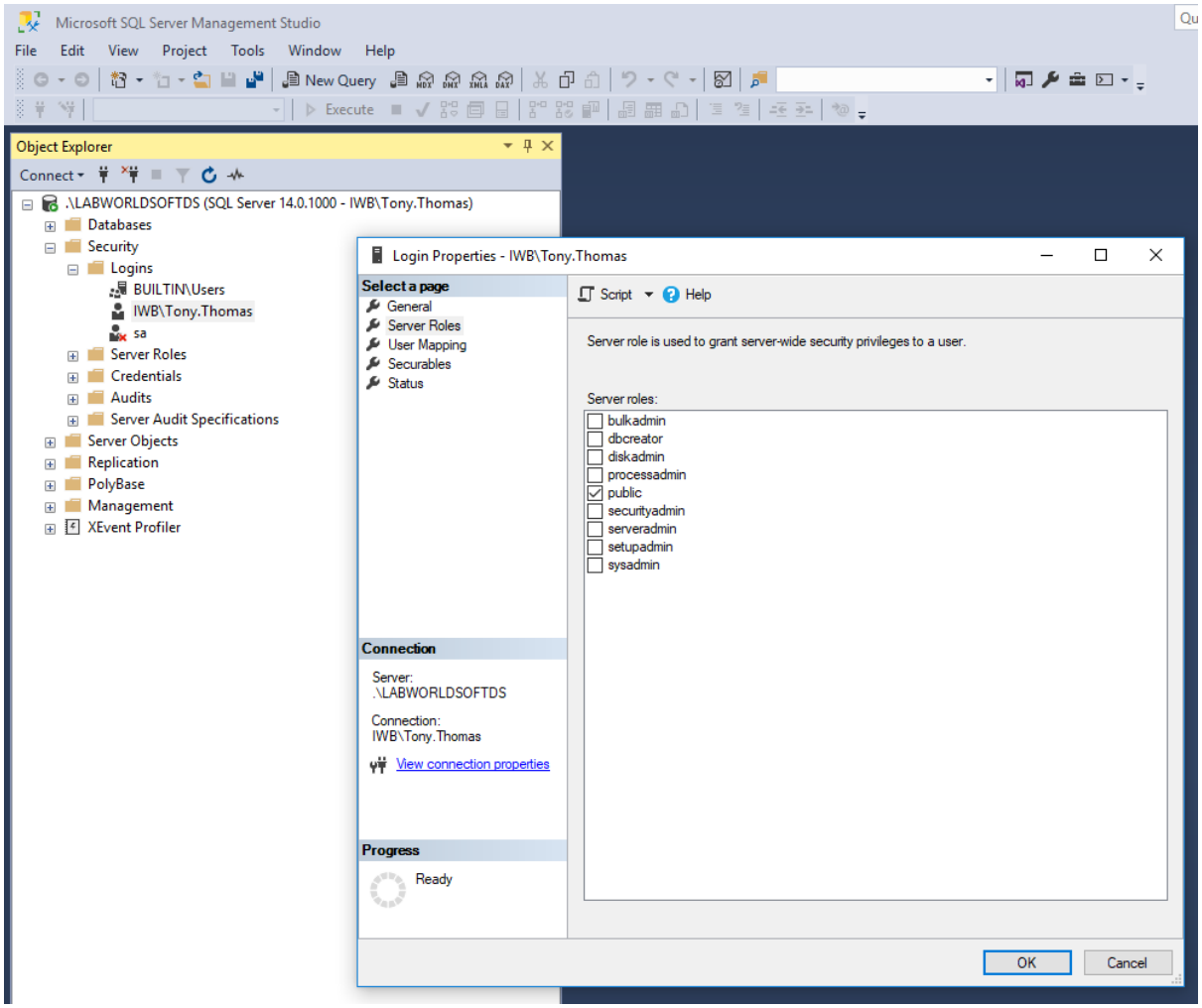


Figure 7.5

Please talk to your ***Database Administrator*** and select all the ***Server Roles***.

7.4 Question 4.

I have added a new Windows user to my PC. He logged in to Labworldsoft Server, but when clicking Test Database Connection button, database connection is failing.

Answer 4.

You have to add this new Windows user to your SQL Server Data Source using SQL Server Management Studio (SSMS) and select all the Server Roles as mentioned in the Answer 3.

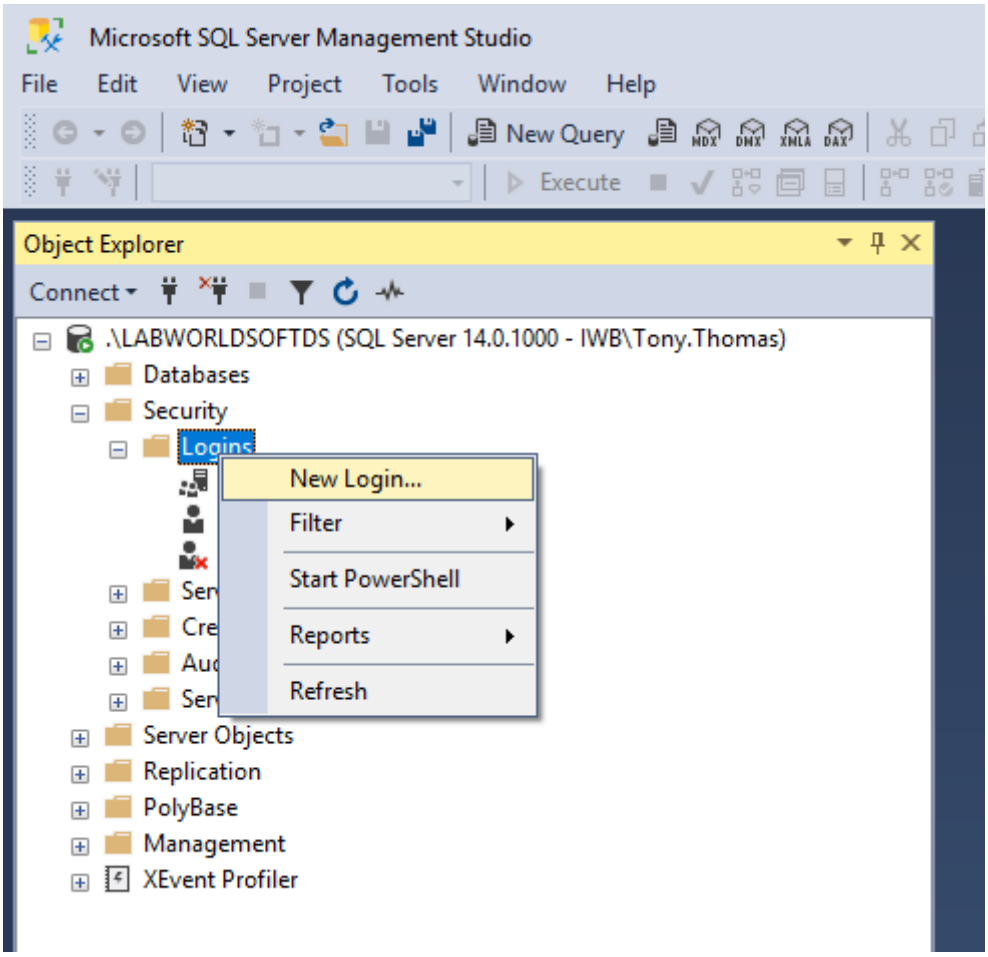

Microsoft SQL Server Management Studio
File
Edit
View
Project
Tools
Window
Help
New Query
Execute
Object Explorer
Connect
.\LABWORLDSOFTDS (SQL Server 14.0.1000 - IWB\Tony.Thomas)
Databases
Security
Logins
New Login...
Filter
Start PowerShell
Reports
Refresh
Server Objects
Replication
PolyBase
Management
XEvent Profiler

Figure 7.6