



# INSTALLATION GUIDE

Version 6.7.1



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# 1 Preface

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This guide provides instructions about installing and configuring Logilab ELN. This preface contains these topics:

- [Audience](#)
- [Prerequisites](#)
- [Documentation Accessibility](#)
- [Conventions](#)

## 1.1 Audience

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Logilab ELN Installation Guide is intended for administrators or anyone installing Logilab ELN on a computer.

## 1.2 Prerequisites

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- A supported Microsoft Windows operating system installed and tested on your computer system
- Apache Tomcat Manager 8.0 or above installed with memory pool up to 4GB maximum. Click here for more information on [how to set maximum memory in Tomcat server](#).
- Make sure that the Client Protocols are enabled in SQL Server Configuration Manager. Click here for more information on [how to ensure client protocols are enabled in SQL Server Configuration Manager](#).
- Administrative privileges on the computer where you installed SQL Database software
- Knowledge about the following concepts:
  - Firewalls
  - Public and private networks
  - Connected applications

## 1.3 Documentation Accessibility

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Logilab ELN documentation set consists of the following:

1. Logilab ELN Installation Guide v 6.7.1-SQL Server
2. Logilab ELN Installation Guide v 6.7.1-PostgreSQL
3. Logilab ELN User Manual v6.7.1

## 1.4 Conventions

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The following text conventions are used in this document:

### 1.4.1 Keyboard

---

Keys are referred to throughout the guide in the following way:

[ENTER] – denotes the return or enter key, [DELETE] – denotes the Delete key and so on.

Where a command requires two keys to be pressed, the manual displays this as follows:

[CTRL][P] – this means press the letter “p” while holding down the Control key.

### 1.4.2 Callout

---

Callouts are used to denote an action or describe something in the interface.

A red callout bubble with a tail pointing to the right, containing the text 'Click here'.

Click here

## 2 System requirements

### 2.1 Hardware Requirements

Computer	Component	Minimum requirement
Client	Processor	Pentium IV More than 700 MHz
	RAM	16 GB or higher
	Hard disk	20 GB of free space
	Network Access	100 Mbps speed or higher
Server	Processor	Xeon Class 3GHz
	RAM	16 GB or higher
	Hard disk	40 GB of free space for installation of database and App server. Minimum RAID I for data protection

## 2.2 Software Requirements

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Computer	Minimum requirement
Client	Windows 8 or Windows 10 (normal version) or higher  Latest version of Google Chrome
Server	Microsoft® Windows® 2016 server or higher.  Up to MS SQL Server 2019  Apache Tomcat Manager 8.0 or above installed with memory pool up to 4GB maximum.  MongoDB 5.0.17

## 3 Installation

To Install Logilab ELN, you must create archive database, and then install ELN.

Logilab ELN installation process consists of the following steps:

Step 1: [Creating Archive Database for ELN](#)

Step 2: [Installing Logilab ELN](#)

### 3.1 Creating Archive Database for ELN

To create archive database for ELN, follow these steps:

1. Open **Microsoft SQL Management Studio (Administrator)**.
2. Right-click **Database** and then click **New Database** as shown in the figure:

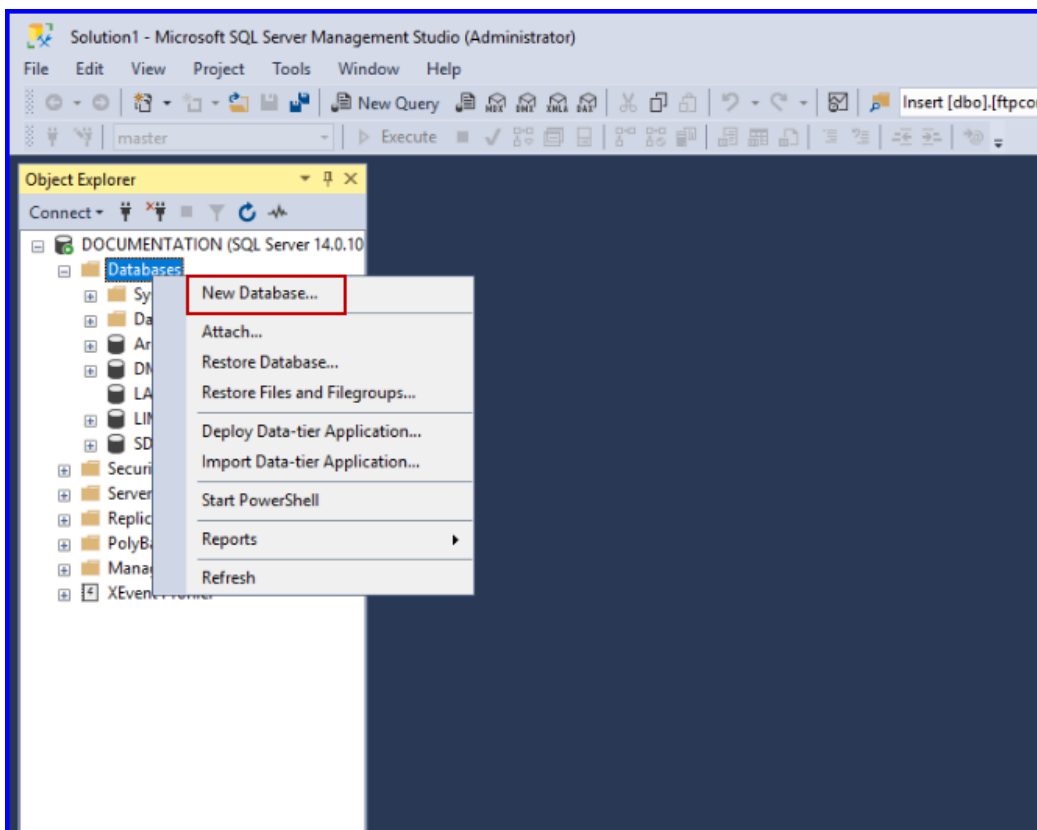


FIGURE: Creating Archive DB for ELN

The **New Database** dialog appears as shown in the figure:



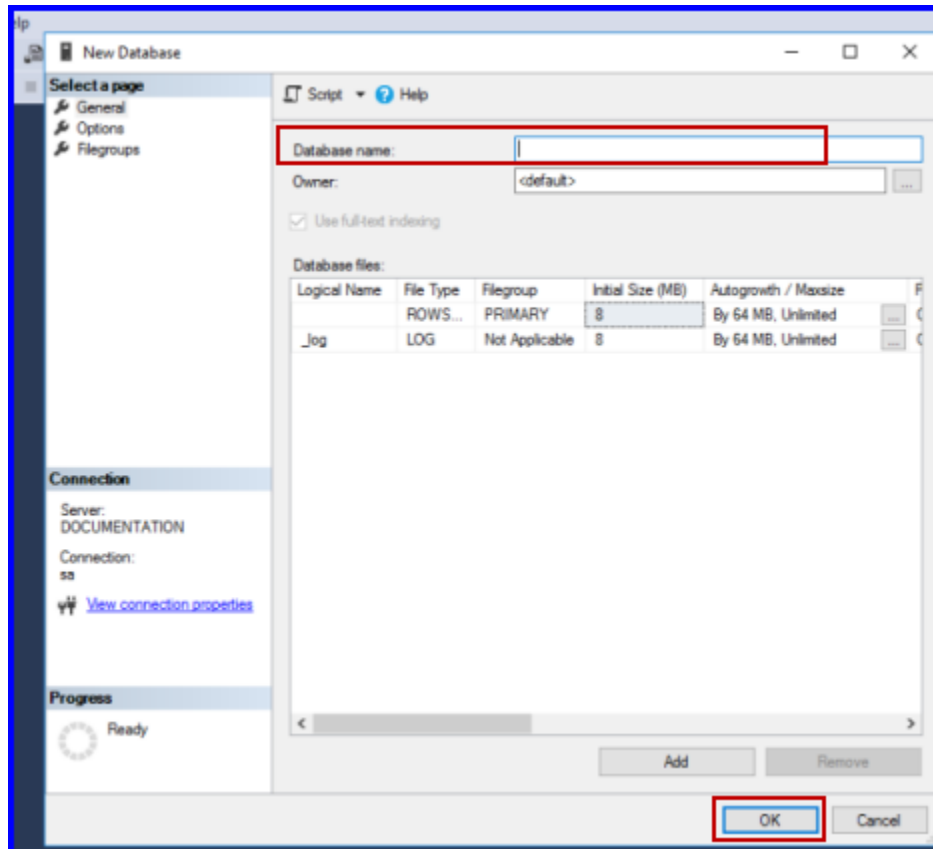


FIGURE: New Database Dialog

3. In the **New Database** dialog, in the **Database name** field, type a name for the archive database you want to create.
4. Click **Ok**. You can see the new archive database created and appears as shown in the figure:

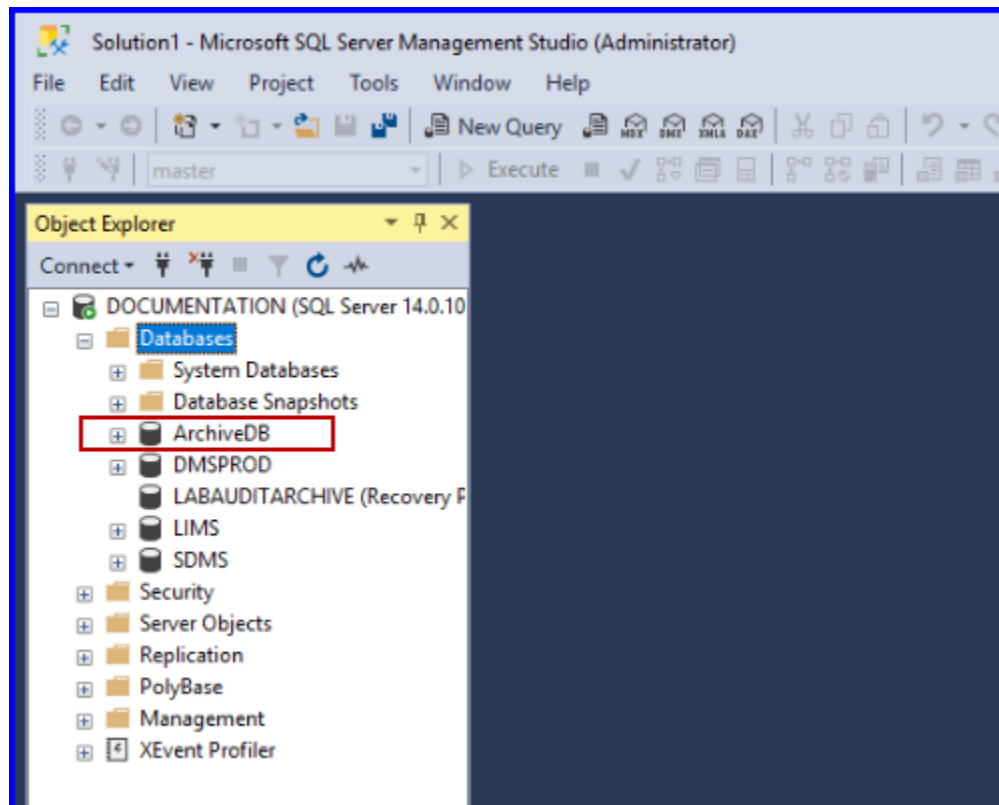


FIGURE: New Archive DB Created

## 3.2 Creating Database in MongoDB

1. In the MongoDB **New Connection** screen, click **Fill in connection fields individually**, as shown in the figure:

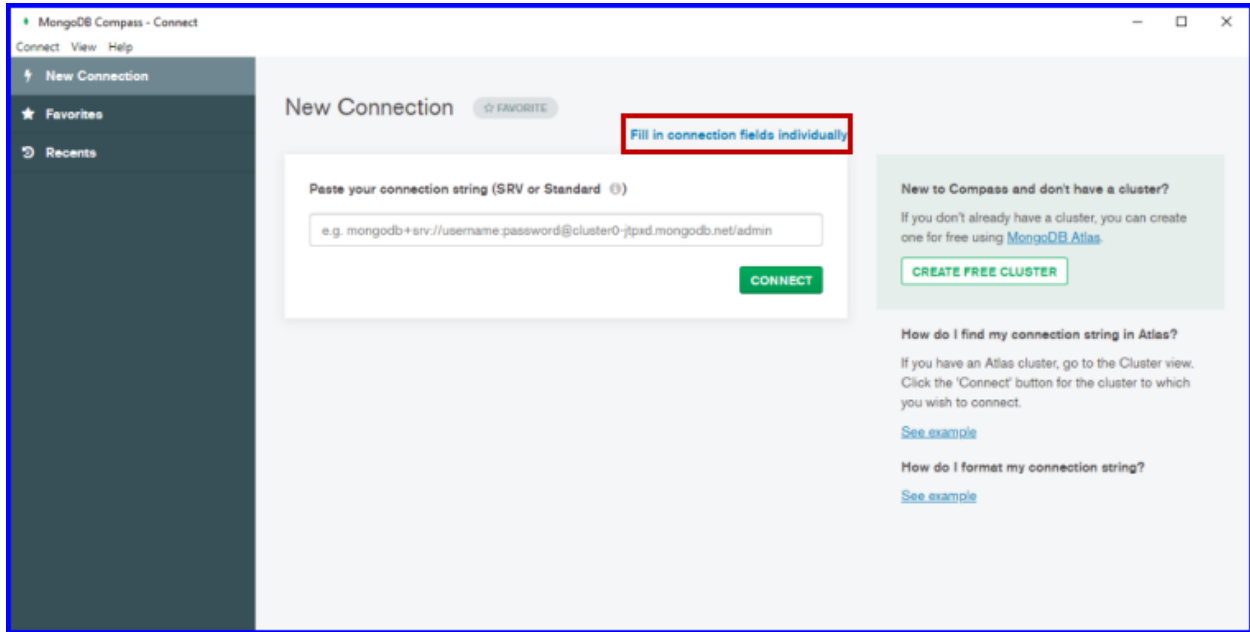


FIGURE: New Connection Screen

The screen appears as shown in the figure:

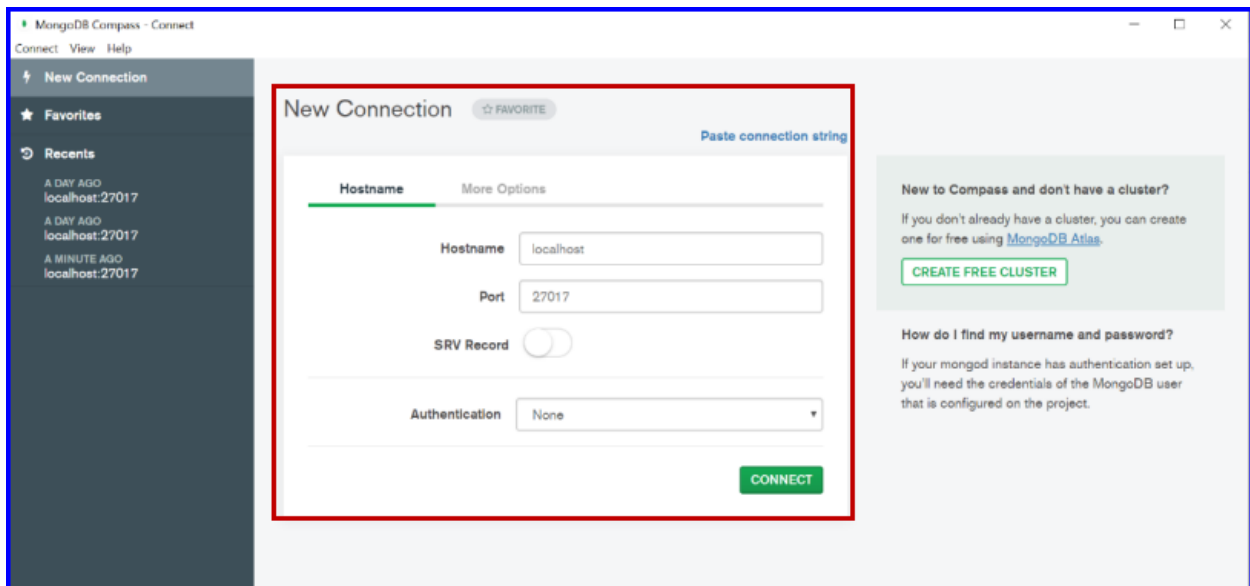


FIGURE: New Connection Screen

2. Under **Hostname**, in the **Hostname** and **Port** fields, ensure that the default host name and port number of MongoDB is filled and then click **CONNECT**. The screen appears as shown in the figure:

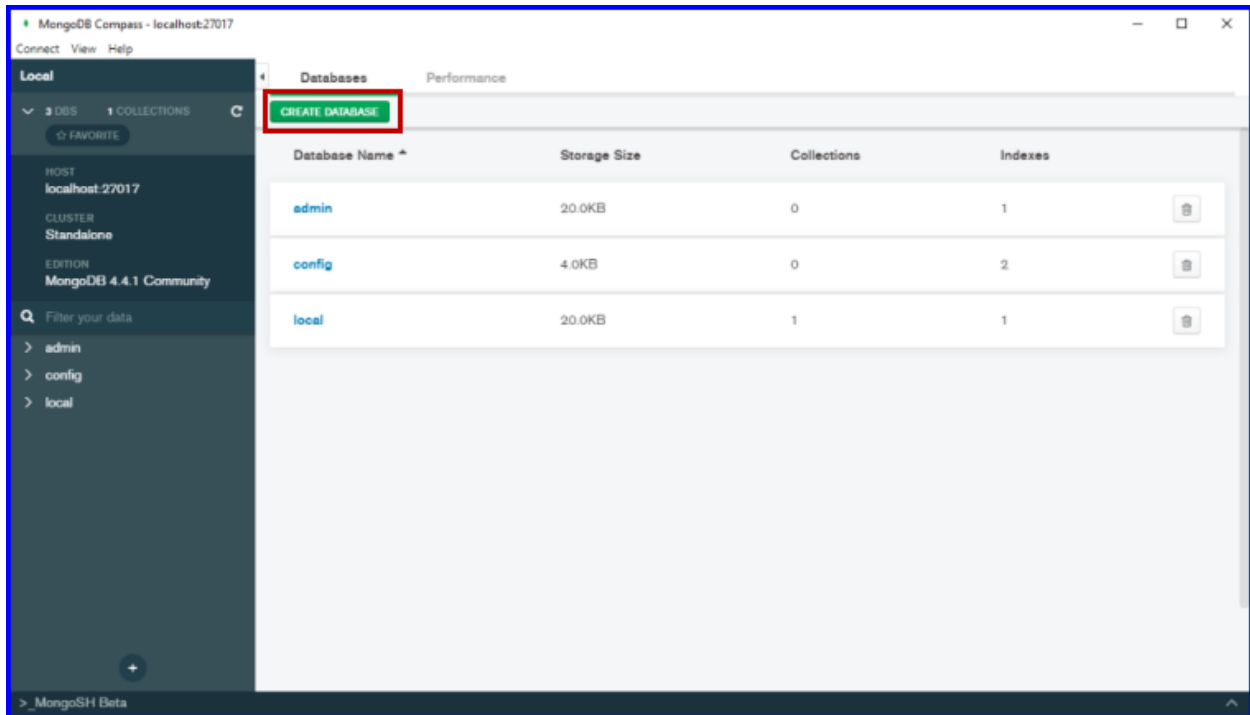


FIGURE: Database Screen

3. Click **CREATE DATABASE**. The **Create Database** dialog appears as shown in the figure:



FIGURE: Create Database Dialog

4. In the **Database Name** field, type the database name. Example: ELN
5. In the **Collection Name** field, type collection name. Example: ELN

6. Click **CREATE DATABASE**. The database is created and appears as shown in the figure:

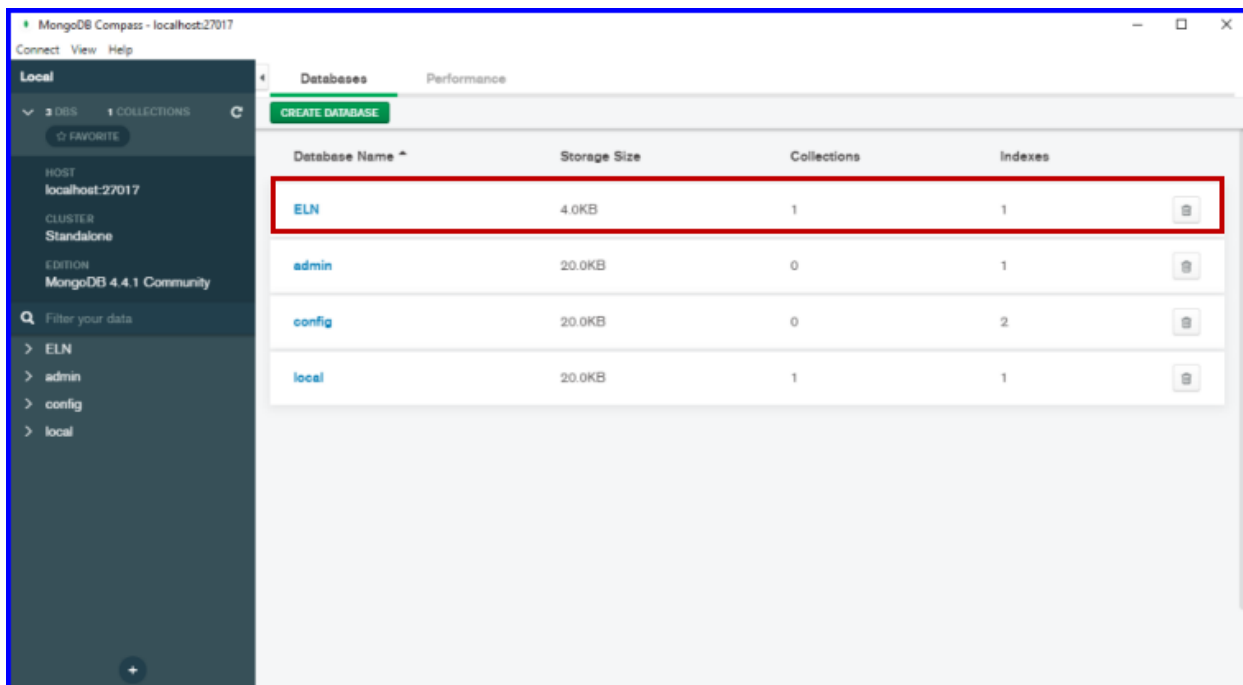


FIGURE: Database Created

At runtime, you see the orders, sheets etc created stored in MongoDB appears as shown in the figure

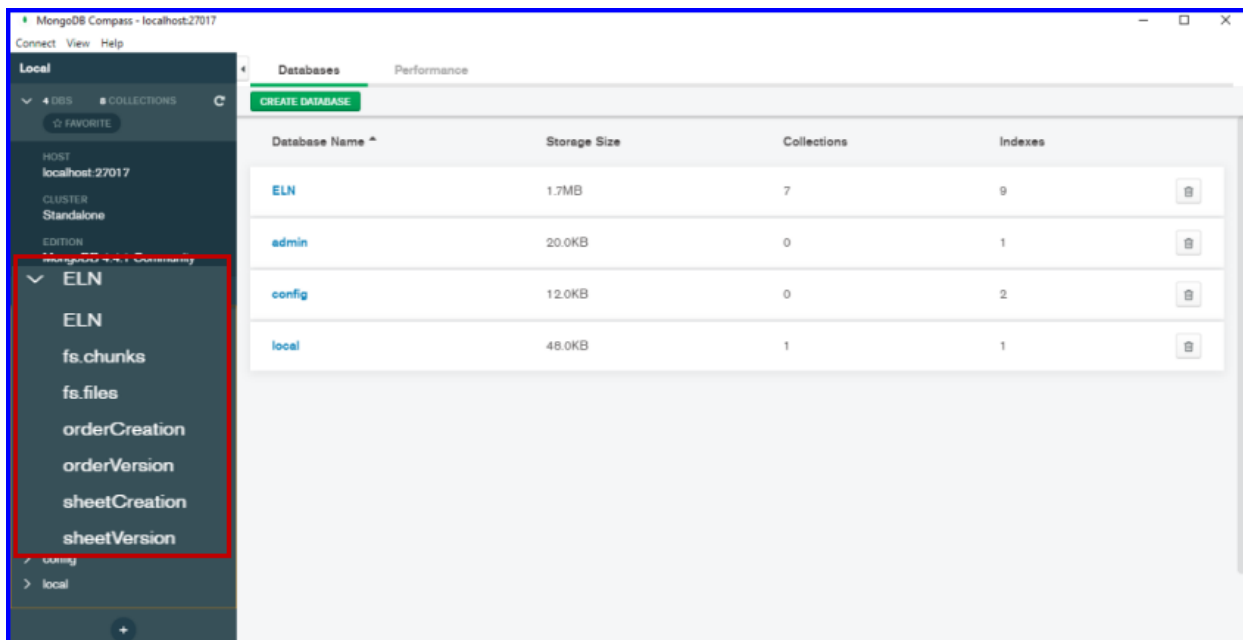


FIGURE: MongoDB Showing Stored ELN Sheets and Orders

### 3.3 Installing Logilab ELN

To Install Logilab ELN, follow these steps:

1. Open the folder that contains ELN installation files as shown in the figure:

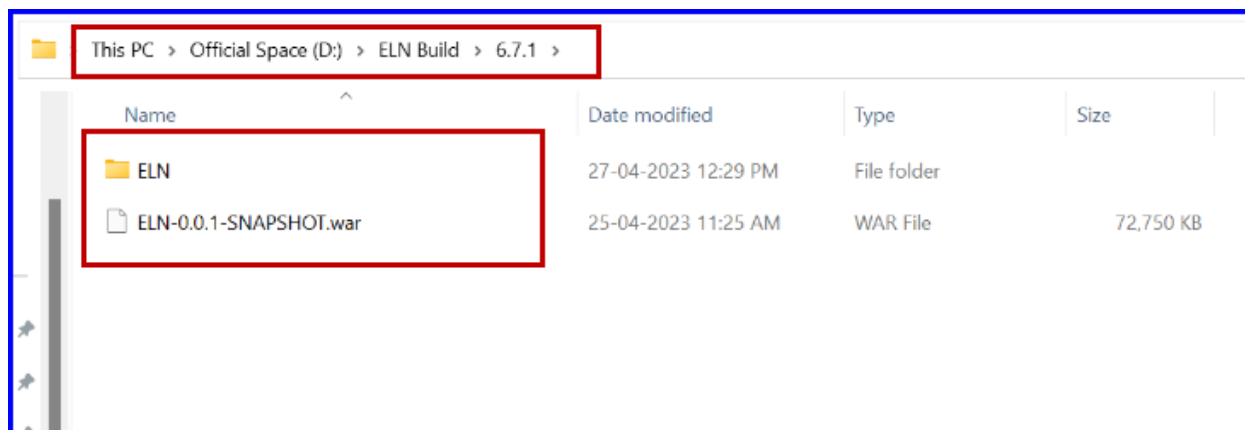


FIGURE: ELN Installation Folders

2. Copy the **ELN** folder and **ELN-0.0.1-SNAPSHOT.war** to the **webapps** folder in the Tomcat server as shown in the figure:

**Note:** If *LIMS LabSheet\_Service* is involved, then you must copy the **LIMSLabSheet\_Service-1.0.1.war** file along with other files to the **webapps** folder.

Ensure that the Tomcat server is stopped when you copy these folders into the **webapps** folder.

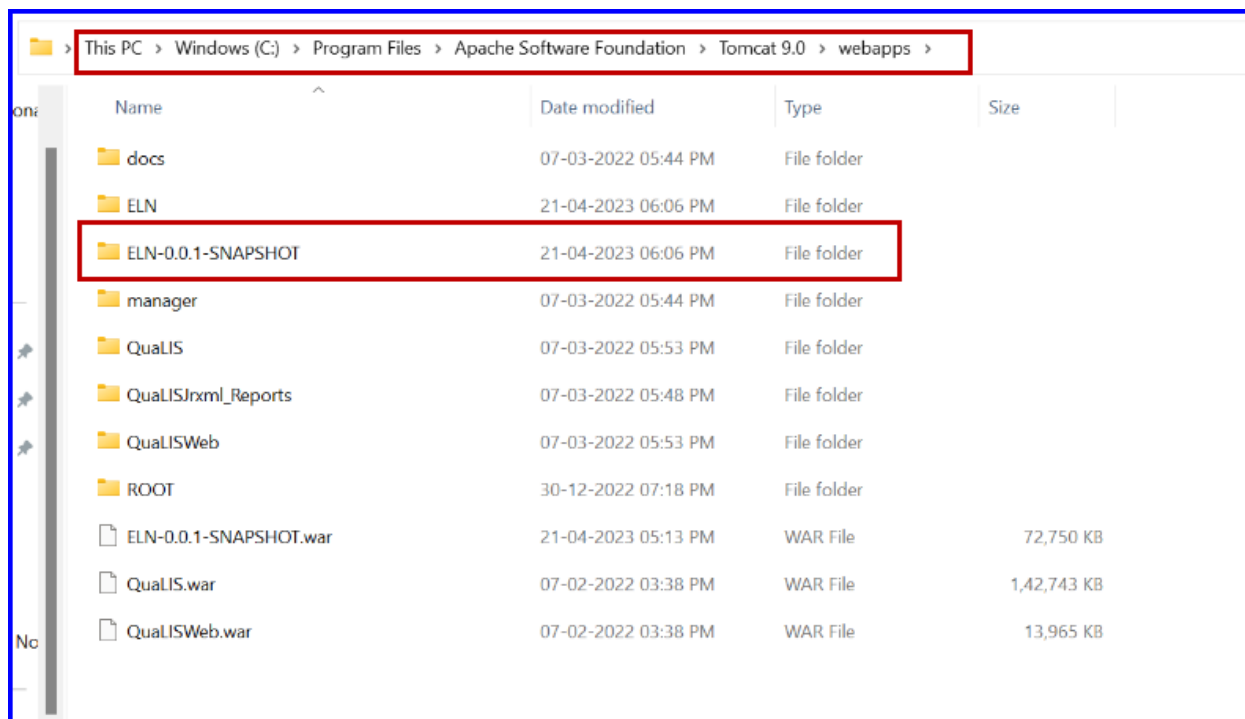


FIGURE: Copying ELN Installation Folder to Tomcat webapps Folder

3. Start Tomcat service in services.msc. The **ELN-0.0.1-SNAPSHOT** and **LIMSLabSheet\_Service-1.0.1** folders are generated inside the **webapps** folder as shown in the figure:

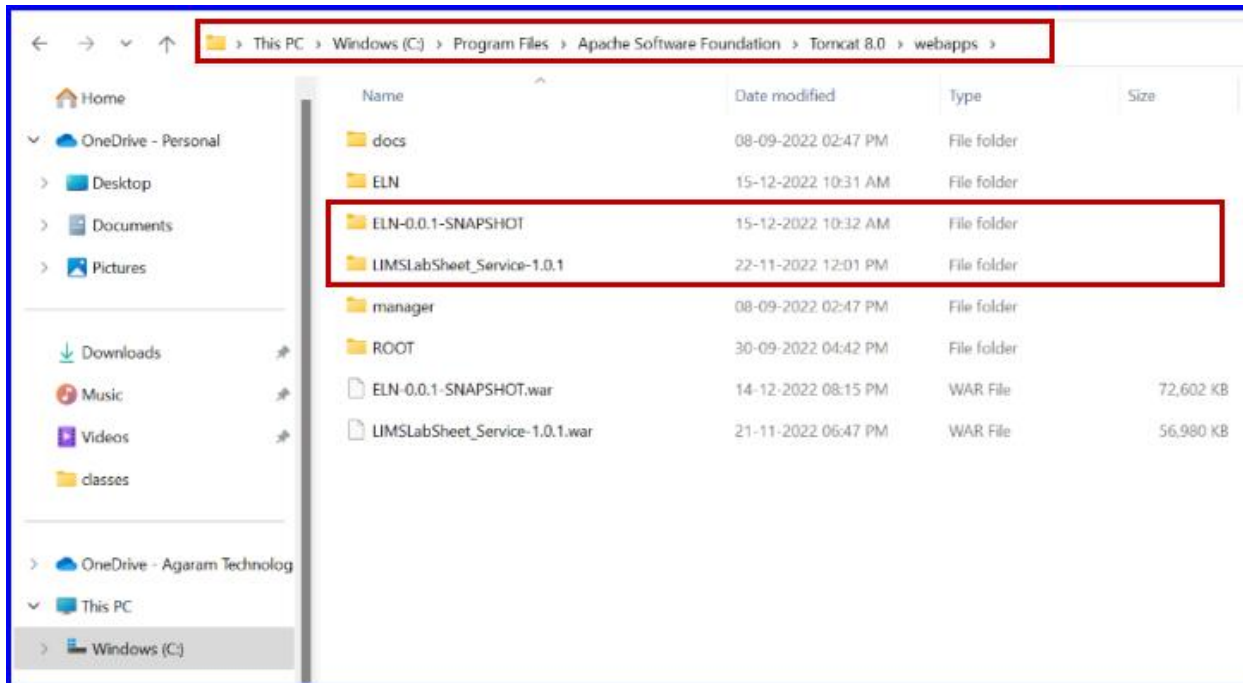


FIGURE: ELN-0.0.1-SNAPSHOT and LIMSLabSheet\_Service-1.0.1 Folders

4. Stop Tomcat service in services.msc.

### 3.3.1 Edit application.properties file in LIMSLabSheet\_Service-1.0.1\WEB-INF\classes Folder

**Note:** If LIMS LabSheet\_Service is involved, then complete this flow.

1. Inside Tomcat **webapps** folder, open **LIMSLabSheet\_Service-1.0.1\WEB-INF\classes** folder.
2. Locate **application.properties** file, right-click and then click **Edit with Notepad++** as shown in the figure:

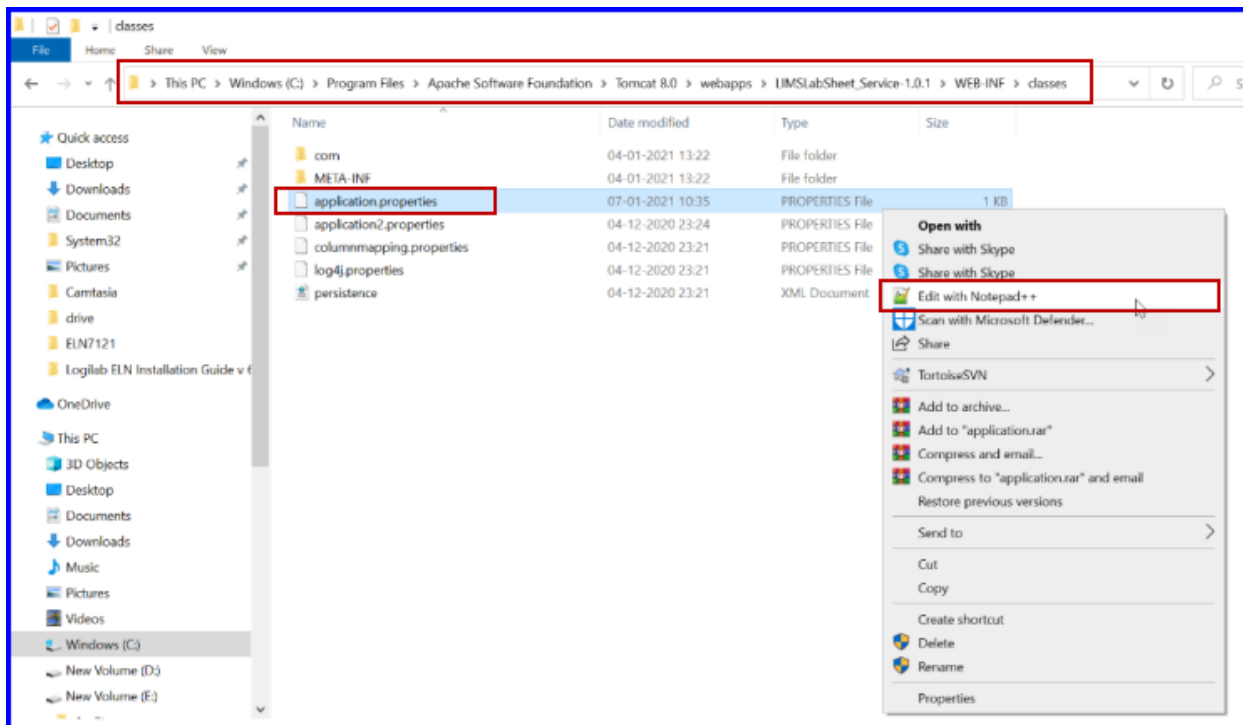


FIGURE: Opening application.properties File

- Update the **SQL server** name, **Database** name, **username** and **password** as shown in the figure.

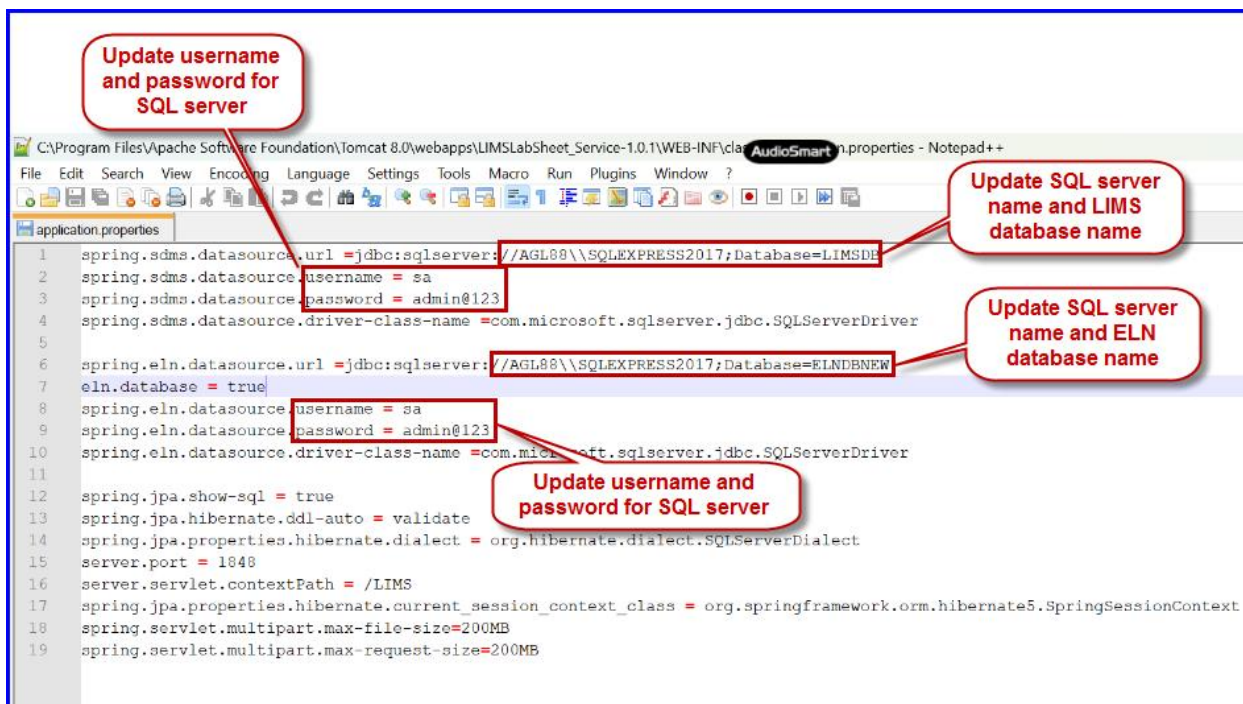


FIGURE: Editing Script in LIMSLabSheet\_Service-1.0.1 File



4. Save the file.

### 3.3.2 Edit application.properties file in ELN-0.0.1-SNAPSHOT\WEB-INF\classes Folder

1. Inside the Tomcat **webapps** folder, open **ELN-0.0.1-SNAPSHOT\WEB-INF\classes** folder.
2. Locate **application.properties** file, right-click and then click **Edit with Notepad++** as shown in the figure:

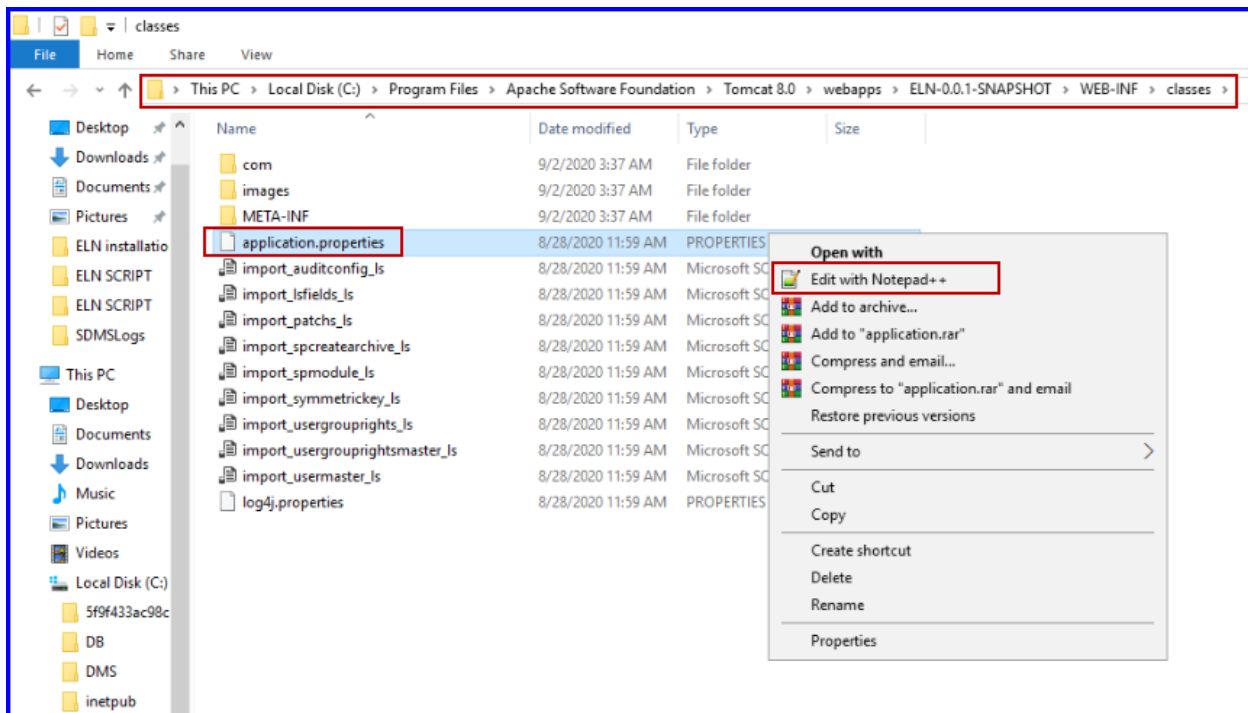


FIGURE: Opening application.properties File

3. Update the **sqlserver** name, **Database** name, **username** and **password**, **Archive DB** name as shown in the figure:

```

application (8).properties
1  spring.servlet.multipart.enabled=true
2  spring.servlet.multipart.max-file-size=512MB
3  spring.servlet.multipart.max-request-size=512MB
4
5  spring.http.multipart.max-file-size=512MB
6  spring.http.multipart.max-request-size=512MB
7
8  app.datasource.eln.url=jdbc:sqlserver://AGL88\SQLEXPRESS2019;databaseName=ELN1
9  app.datasource.eln.username=sa
10 app.datasource.eln.password=admin@123
11 app.datasource.eln.driverClassName=com.microsoft.sqlserver.jdbc.SQLServerDriver
12 app.datasource.eln.initialize=false
13 #spring.jpa.hibernate.ddl-auto=create
14
15 app.datasource.archive.url=jdbc:sqlserver://AGL88\SQLEXPRESS2019;databaseName=ArchiveDB
16 app.datasource.archive.username=sa
17 app.datasource.archive.password=admin@123
18 app.datasource.archive.driverClassName=com.microsoft.sqlserver.jdbc.SQLServerDriver
19
20 spring.jpa.show-sql=true
21 spring.jpa.hibernate.dialect=org.hibernate.dialect.SQLServer2012Dialect
22 spring.jpa.database-platform=org.hibernate.dialect.SQLServer2008Dialect
23 spring.jpa.generate-ddl=true
24 spring.data.mongodb.uri=mongodb://localhost:27017/ELNMongo
25
26 spring.jpa.hibernate.naming.physical-strategy=org.hibernate.boot.model.naming.PhysicalNamingStrategyStandardImpl
27
28 limsbaseservice.url=http://AGL88:8085/QualIS/
29 webparserservice.url=http://AGD59:8090/methodSetup/
30 sdms.template.service.url=http://AGL88:8085/SDMS_WebService/
31 # true = direct call on lims service, false = call from limslabsheetservice
32 limsbaseservice.serviceapi=true
33
34 DocxApi=http://AGL88/web-apps/
35 DocxUrl=http://AGL88:8090/ELNdocuments
36 #Comment next line in case of deployment
37 DocsPath=C:/Program Files/Apache Software Foundation/Tomcat 9.0/webapps/ROOT/ELNdocuments/
38 #fileReceiver = http://11elnonlyofficedev.centralus.cloudapp.azure.com:9080/ELNFileReceiver-0.0.1-SNAPSHOT/fileservice/
39
40 server.port = 8095
41
42 jwt.secret=agaram
43
44 ## File Storage Properties
45 file.upload-dir=./uploads
46
47 spring.mail.host=smtp.gmail.com
48 spring.mail.port=587
49 spring.mail.username=saas@agaramtech.com
50 spring.mail.password=mnndkxiwfoljicup
51 spring.mail.properties.mail.smtp.auth=true
52 spring.mail.properties.mail.smtp.starttls.enable=true
53
54 # Enable response compression
    
```

1. This code is to update existing database.  
2. To create new database, set "app.datasource.eln.initialize=true" and then uncomment "spring.jpa.hibernate.ddl-auto=create"

Update the LIMS build folder name here

Update the Host name and Tomcat Port no for SDMS that are used for templates and tags

Set limsbaseservice.serviceapi=true

Script for mail configuration

FIGURE: Editing Script in application.properties file

Edit the script as mentioned below for color boxes



Update SQL server name or IP Address and port number of SQL Server



Update Database name used for ELN



**Updating Existing Database:**

Set `app.datasource.eln.initialize=false` and comment `spring.jpa.hibernate.ddl-auto=create` to update existing database.

### Creating New Database:

Set `app.datasource.eln.initialize=true` and ensure that the `spring.jpa.hibernate.ddl-auto=create` is not commented if you want to create a new database.

**Warning:** If you use this code when you update an existing database, the database is flushed, hence you will experience data loss.

After creating a new database, you must change `app.datasource.eln.initialize=false`, and comment the `spring.jpa.hibernate.ddl-auto=create` line and then restart Tomcat service to run the application service.

Update ELN archive Database name

Update user name and password you use to connect SQL server

Mongo database is created and the same is updated line as shown in the above figure.

Update Hostname and Tomcat Port no of SDMS that are used for template and tags.

Script for mail configuration

## 3.3.3 Connecting LIMS

### 3.3.3.1 Method 1: Connect using LIMS lab sheet service

To connect using LIMS lab sheet service, follow these steps:

- Set `limsbaseservice.serviceapi=false`.
- And then, update the LIMS lab sheet service folder name (***LIMS LabSheet\_Service-1.0.1***) as shown in the figure:

```

29 limsbaseservice.url=http://AGL88:8085/LIMS LabSheet_Service-1.0.1/
30 webparserservice.url=http://AGL88:8090/methodSetup/
31 sdms.template.service.url=http://AGL88:8085/SDMS_WebService/
32 # true = direct call on lims service, false = call from limslabsheetservice
33 limsbaseservice.serviceapi=false
34
    
```

FIGURE: Connect LIMS Using LIMS LabSheetService

### 3.3.3.2 Method 2: Connect Directly

To connect LIMS directly, follow these steps:

- a. Set `limsbaseservice.serviceapi=true`.
- b. And then, update the LIMS build folder name (**QualIS**) as shown in the figure.

```

28 limsbaseservice.url=http://AGL88:8085/QualIS
29 webparserservice.url=http://AGD59:8090/methodSetup/
30 sdms.template.service.url=http://AGL88:8085/SDMS_WebService/
31 # true = direct call on lims service, false = call from limslabsheetservice
32 limsbaseservice.serviceapi=true
    
```

FIGURE: Connect LIMS Directly

### 3.3.3.3 Connecting SDMS

If database for SDMS is maintained separately, then configure SDMS DB details in the `index.html` file.

To do so, follow these steps:

4. Inside the Tomcat **webapps** folder, open **ELN** folder. The screen appears as shown in the figure:

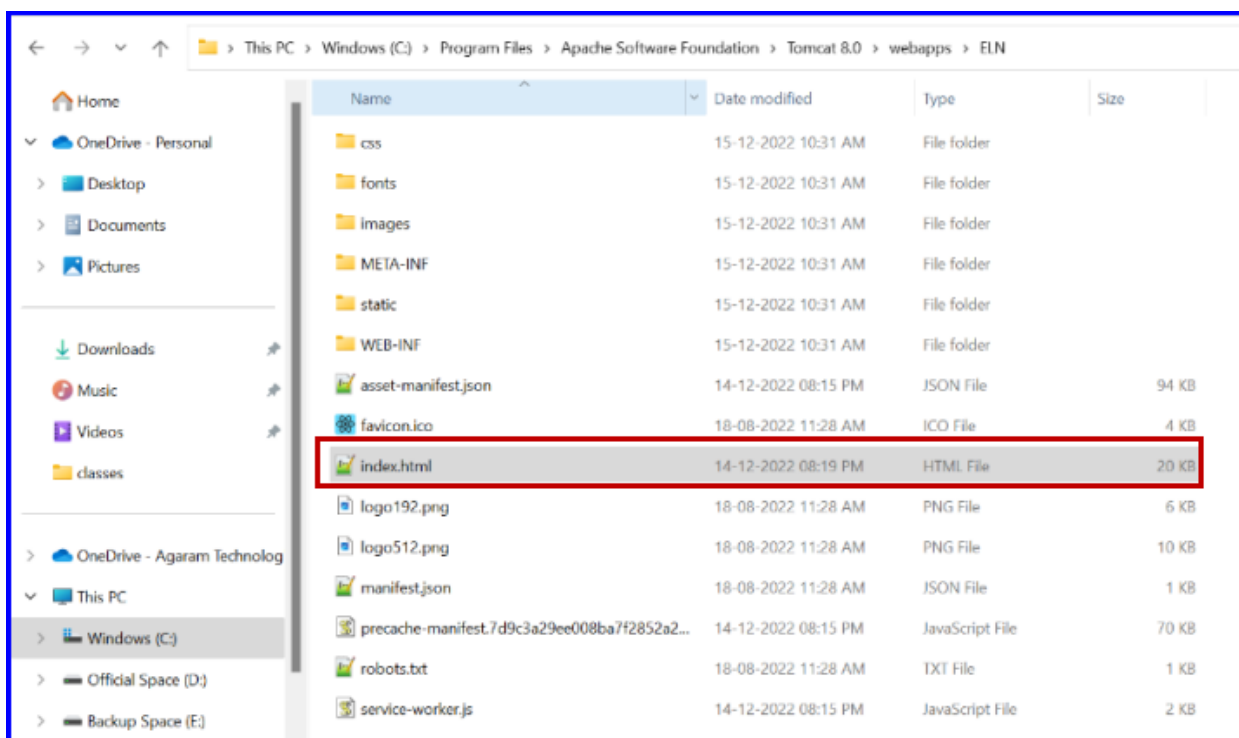


FIGURE: Editing index.html File

5. Locate **index.html** file, right-click and then click **Edit with Notepad++**.
6. Update the server name and Tomcat Port number of SDMS DB as shown in the figure:

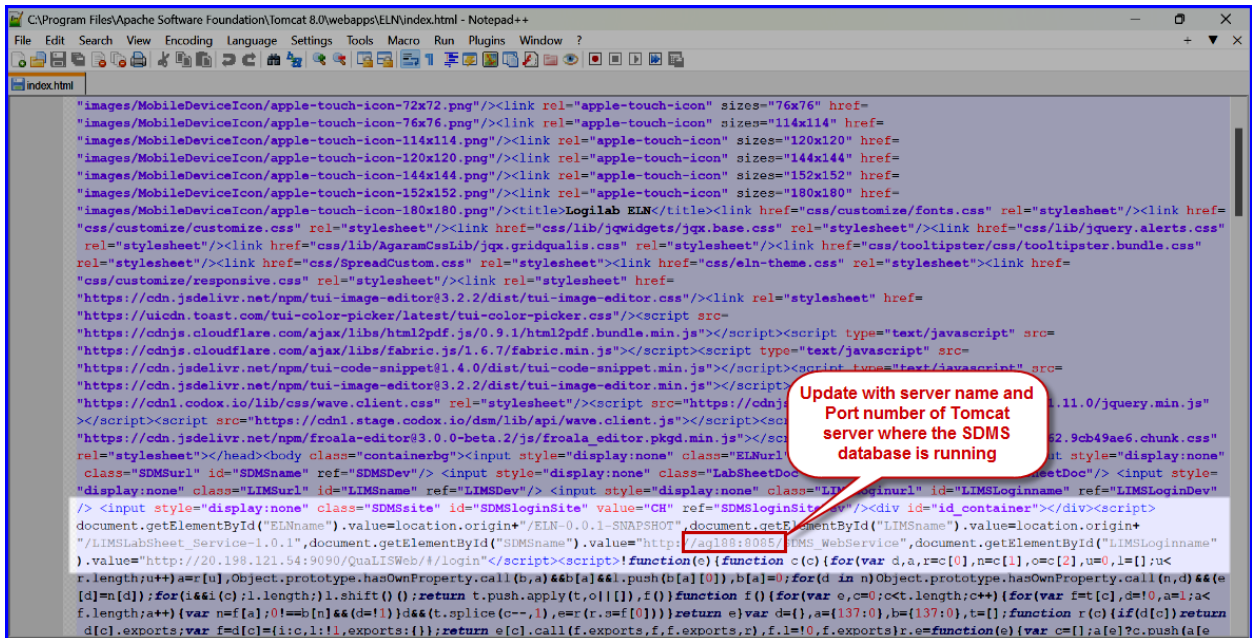
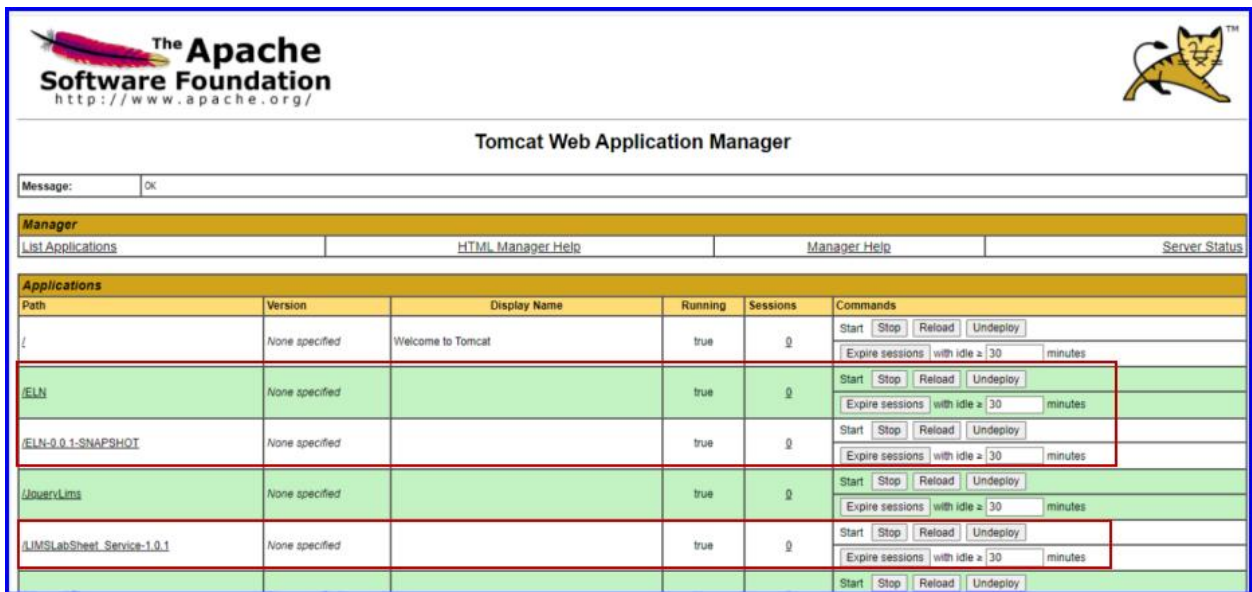


FIGURE: Updating Server name and Port No of SDMS DB

7. Restart Tomcat server.
8. In the Tomcat Application status screen, you can check the status as running for the **ELN**, **/ELN-0.0.1-SNAPSHOT** and **/LIMS LabSheet\_Service-1.0.1** as shown in the figure:



Path	Version	Display Name	Running	Sessions	Commands
/	None specified	Welcome to Tomcat	true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/ELN	None specified		true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/ELN-0.0.1-SNAPSHOT	None specified		true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/library/lms	None specified		true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes
/LIMS LabSheet_Service-1.0.1	None specified		true	0	Start Stop Reload Undeploy Expire sessions with idle ≥ 30 minutes

FIGURE: Checking Service Status

9. In the Tomcat **Applications** status screen click **ELN** application to start Logilab ELN application in a browser. Alternatively, you can use the link that you received from your administrator to open Logilab ELN in a browser. The Logilab ELN login screen appears as shown in the figure:

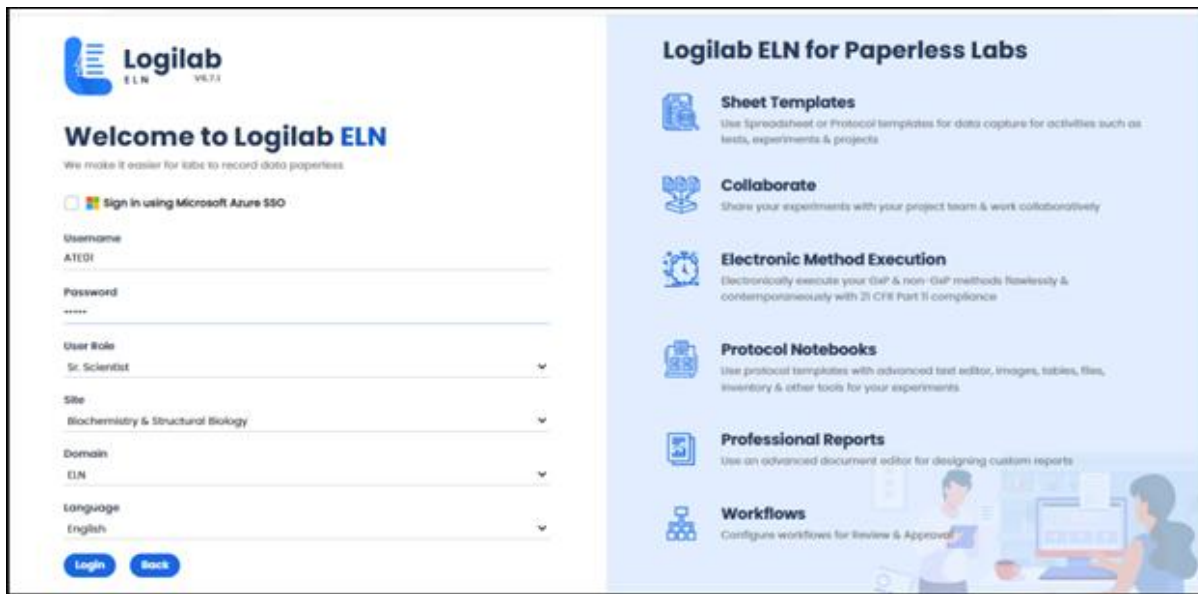
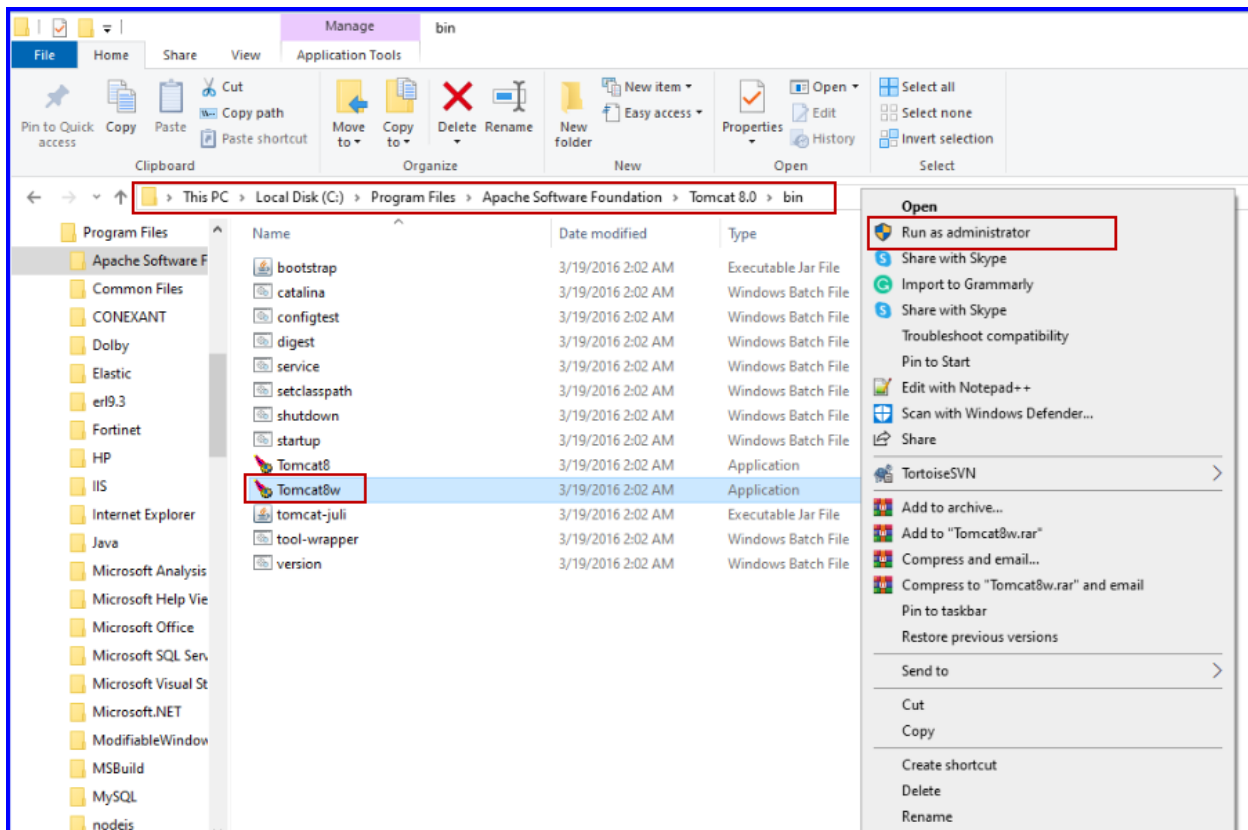


FIGURE: Logilab ELN Login Screen

## 4 Annexure

### 4.1 Tomcat Maximum Memory Setting

1. Open the **bin** folder inside Tomcat server as shown in the figure:



2. Right-click **Tomcat8w** application file and then click **Run as administrator**. The **Apache Tomcat Properties** dialog appears.
3. Go to the **Java** tab. In the **Initial Memory Pool** and in the **Maximum Memory Pool** fields type **4000** as shown in the figure:

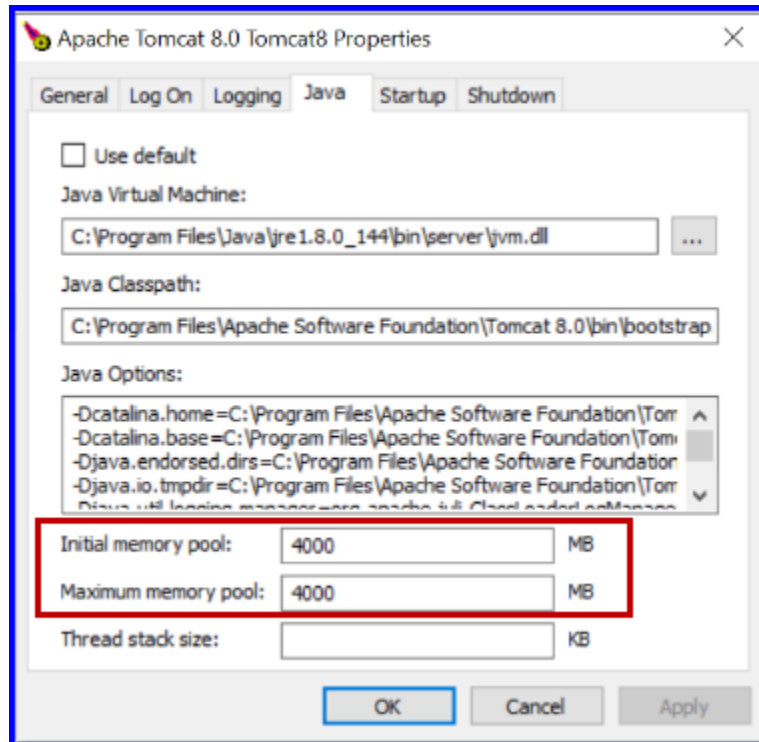


FIGURE: Apache Tomcat Properties – Java Tab

4. Click **Apply**.
5. Click **OK**.
6. Restart Tomcat server.

## 4.2 Ensure Client Protocols are Enabled

1. Open SQL Server Configuration Manager.
2. Ensure that the **Shared Memory**, **TCP/IP** and **Named Pipes** protocols are enabled as shown in the figure:



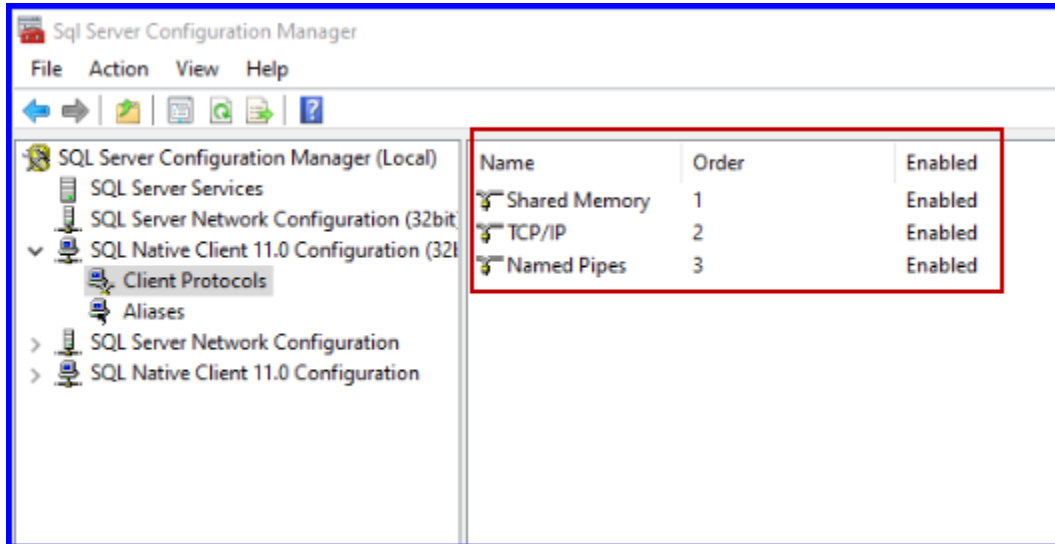


FIGURE: SQL Server Configuration Manager – Client Protocols

3. After enabling all, restart SQL Server.