INSTALLATION GUIDE FOR POSTGRESQL

Version 6.7.1

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1 Preface

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

1.1 Audience

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

1.2 Prerequisites

- 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.
- PostgreSQL 9.6 installed and tested on your computer.
- Knowledge about the following concepts:
    - Firewalls
    - Public and private networks
    - Connected applications

1.3 Documentation Accessibility

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

The following text conventions are used in this document:

1.4.1 Keyboard

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

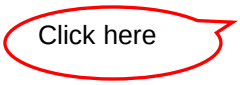
[ENTER] – denotes the return or enter key, [DELETE] – denotes the Delete key and so on.

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.



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

Computer	Minimum requirement
Client	Microsoft® Windows® 2000 or Windows® XP or Windows Vista or higher(needs special version of client) Windows 8 or Windows 10 (normal version) or higher Latest version of Google Chrome
Server	Microsoft® Windows® 2016 server or higher. Apache Tomcat Manager 8.0 or above installed with memory pool up to 4GB maximum. Up to PostgreSQL 14.0 installed Upto PgAdmin 4 Version 7.0 installed Up to MongoDB 5.0.17 installed

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 Database and Archive Database for ELN

Step 2: Creating Database in MongoDB

Step 3: Installing Logilab ELN

3.1 Creating Database and Archive Database for ELN

To create archive database for ELN, follow these steps:

1. Open ***pgAdmin.*** The login screen appears as shown in the figure:

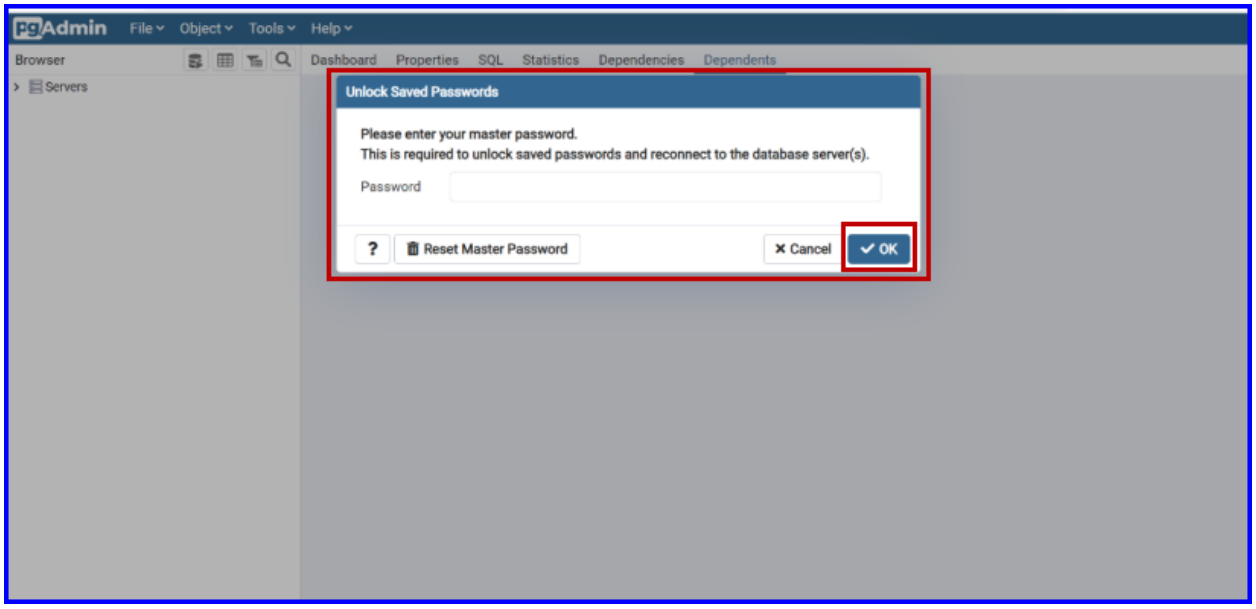


FIGURE: Postgre SQL Login Screen

2. In the ***Password*** field, type valid password and then click ***OK***. The PostgreSQL admin screen appears as shown in the figure:

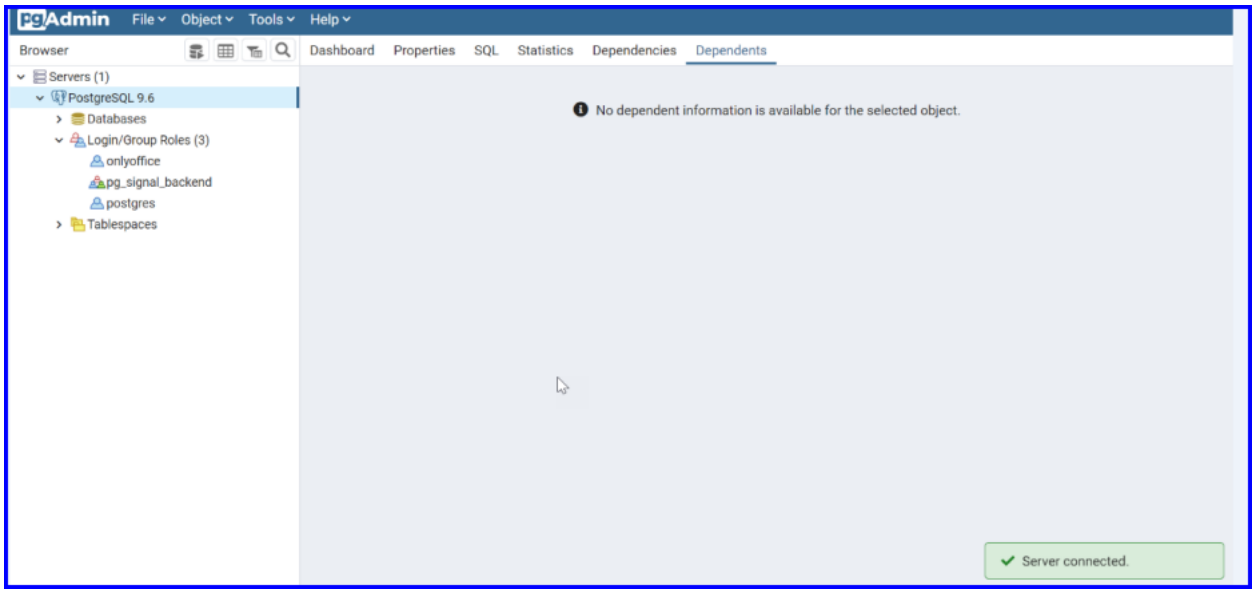


FIGURE: PostgreSQL Admin Screen

3. Right-click ***Databases***, click ***Create*** and then click ***Database*** as shown in the figure:

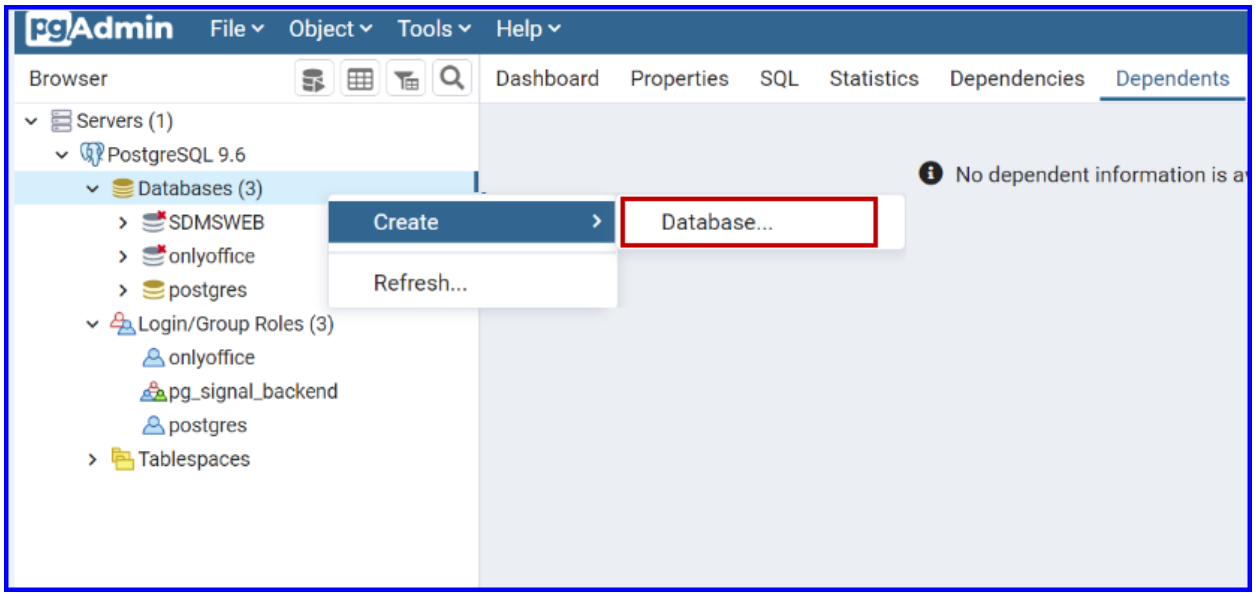


FIGURE: Creating Database for ELN

The ***Create - Database*** dialog appears as shown in the figure:

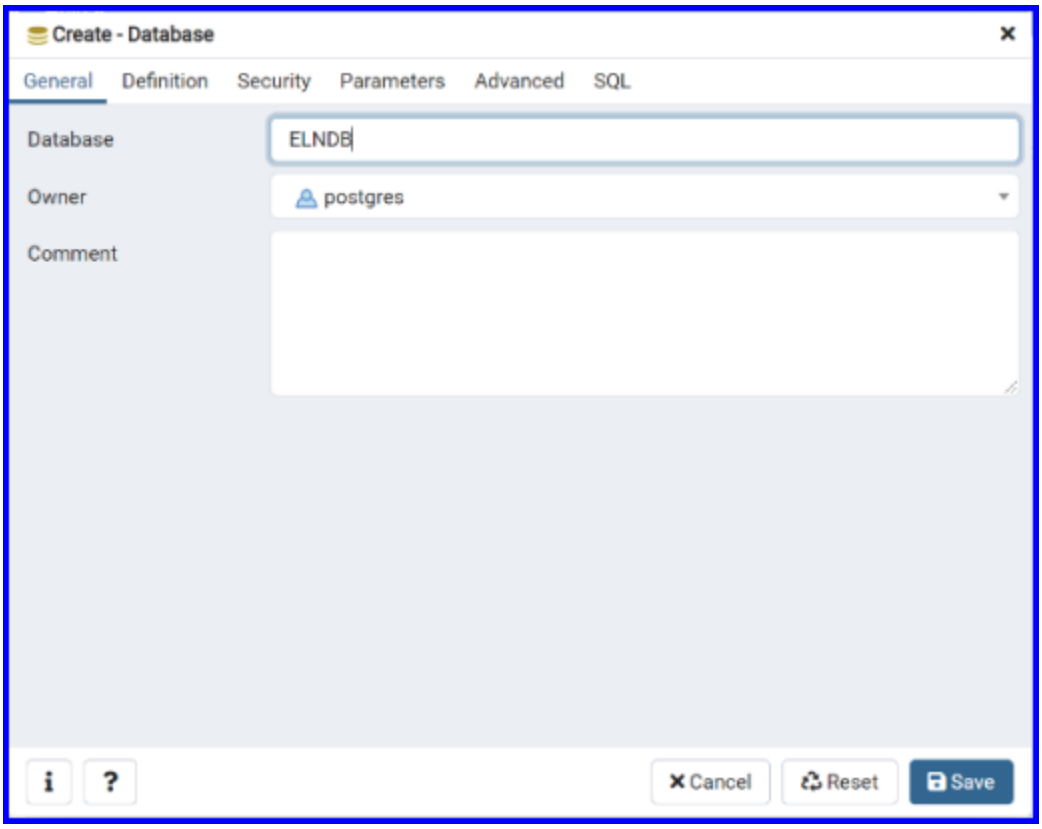


FIGURE: Create Database Dialog

4. In the ***Create Database*** dialog, in the ***Database*** field, type a name for the database you want to create. For example: ELNDB

5. Click ***Save***. You can see the new database created and appears as shown in the figure:

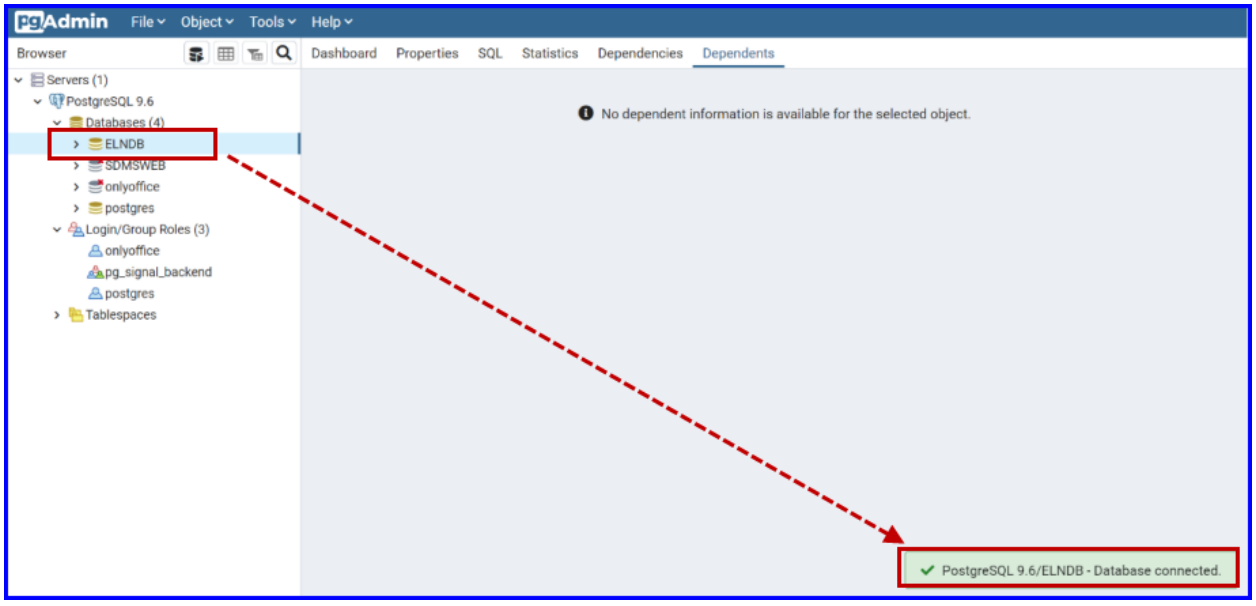


FIGURE: New Database Created

6. Click on the database you created. You can see a message saying "***PostgreSQL 9.6/ELNDB – Database Connected***".

7. Follow step 2 to step 4 to create an archive database. For example: ArchiveDB, as shown in the figure:

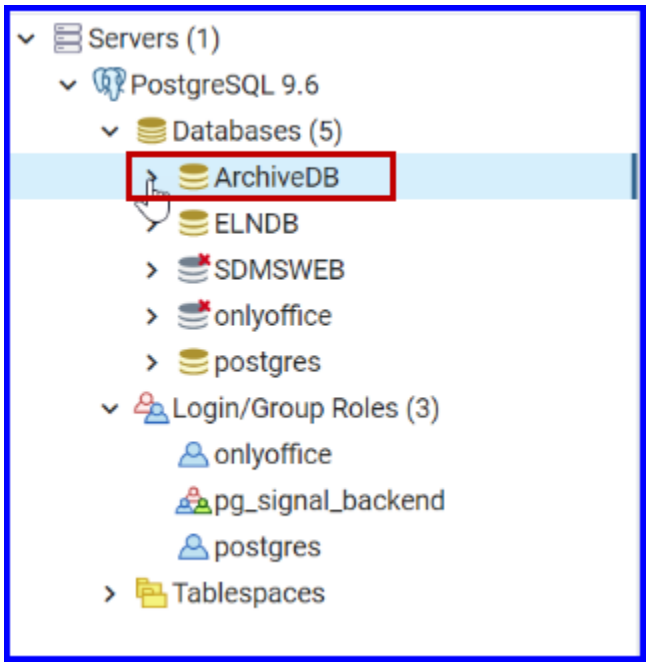


FIGURE: Archive Database Created

3.2 Creating Database in MongoDB

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

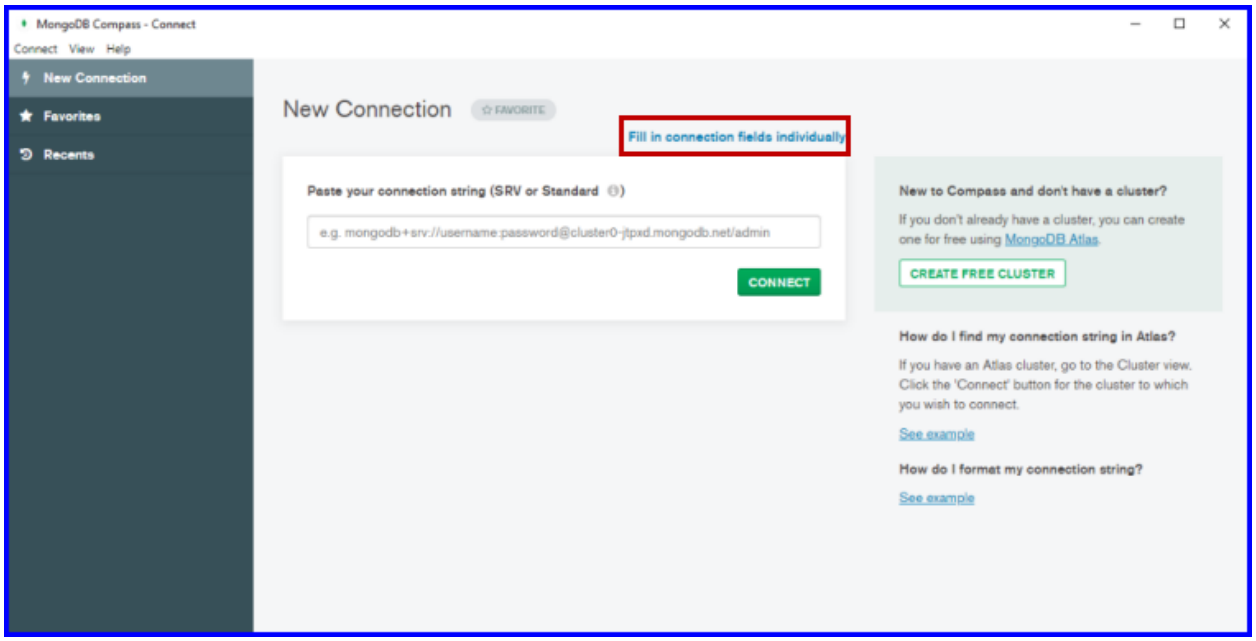


FIGURE: New Connection Screen

The screen appears as shown in the figure:

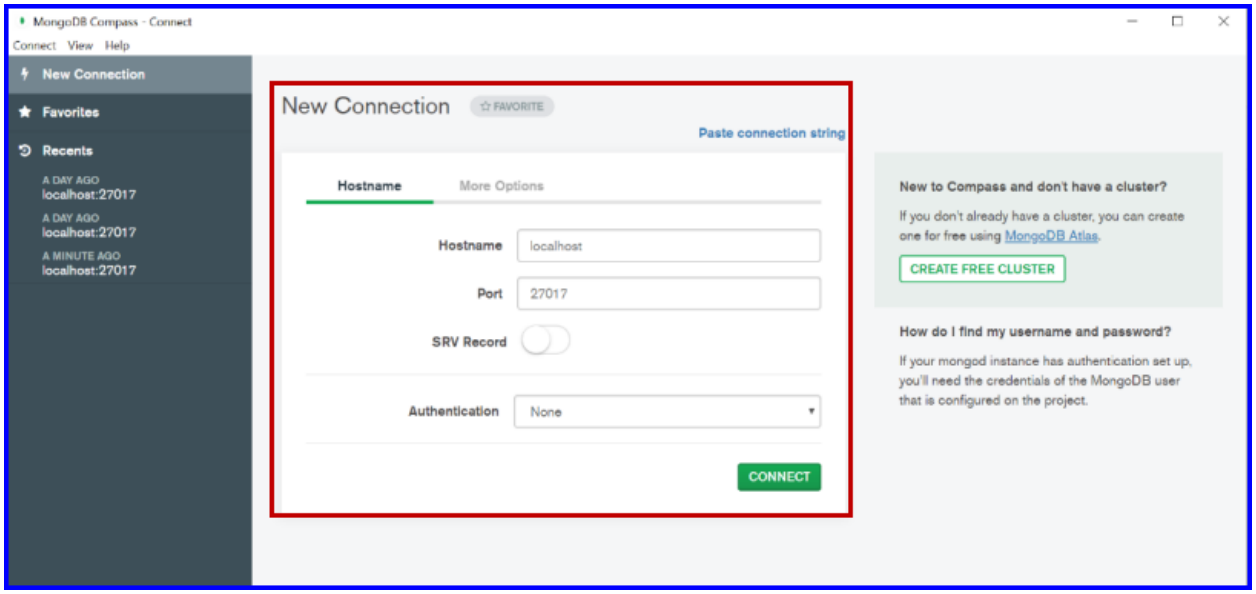


FIGURE: New Connection Screen

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:

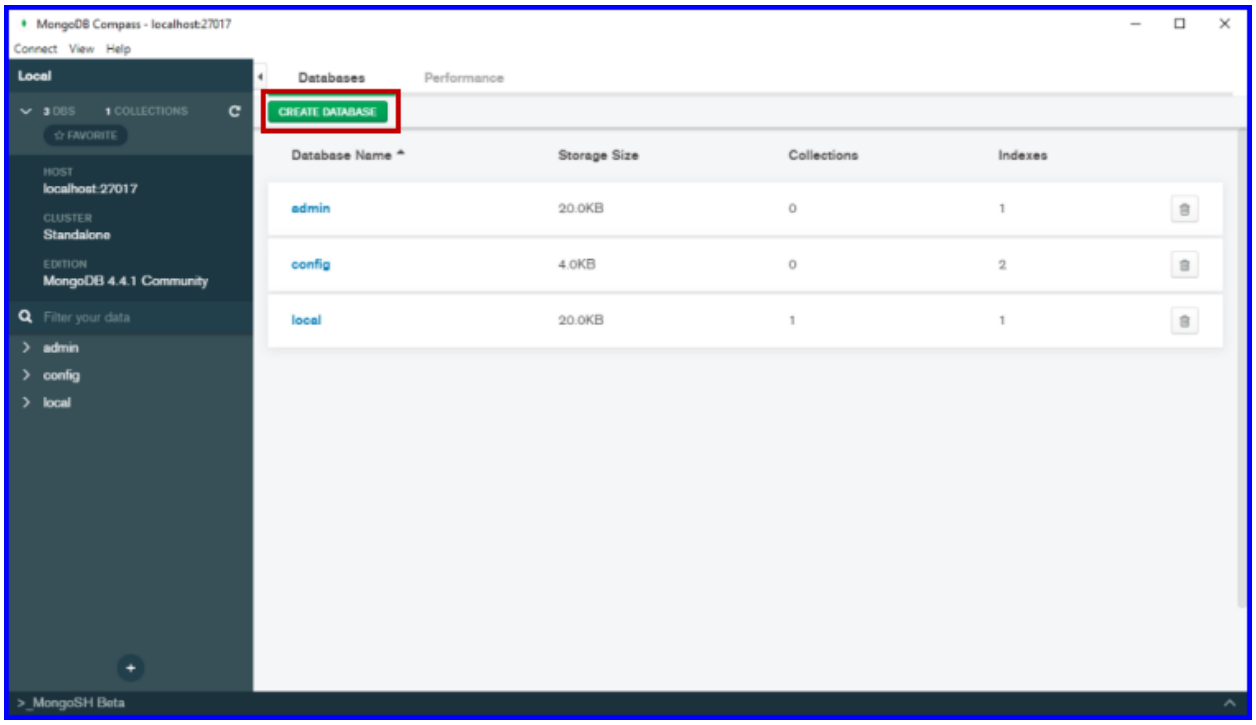


FIGURE: Database Screen

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:

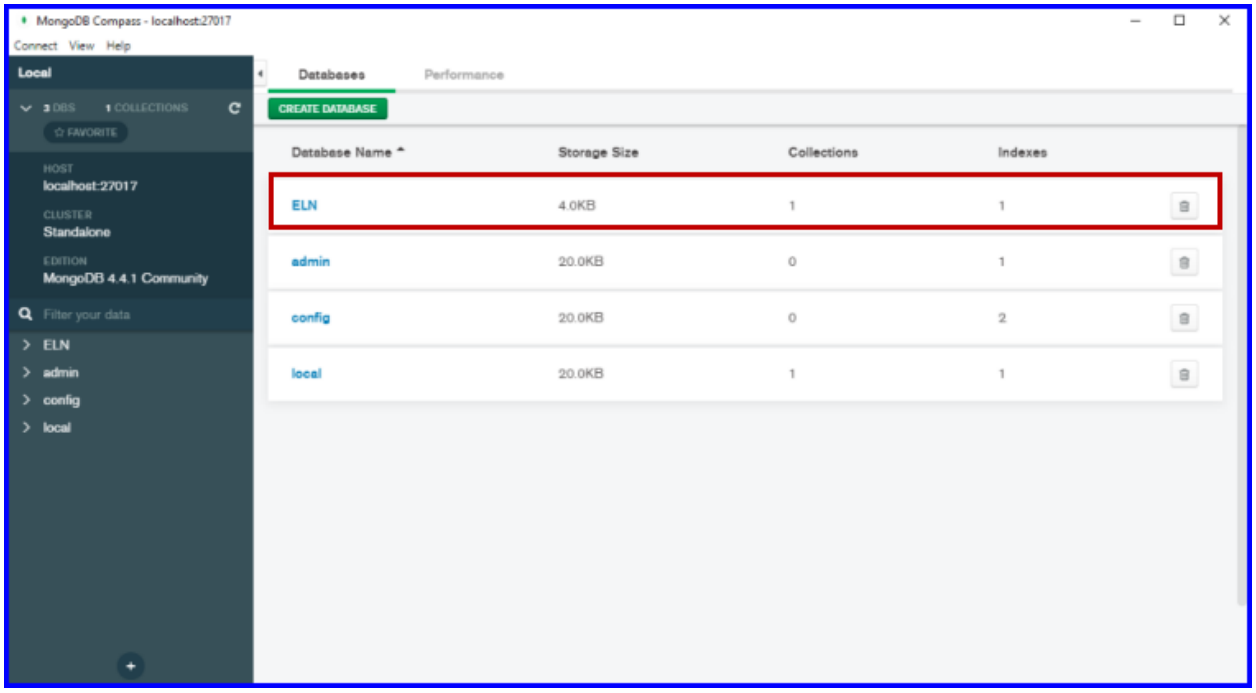


FIGURE: Database Created

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

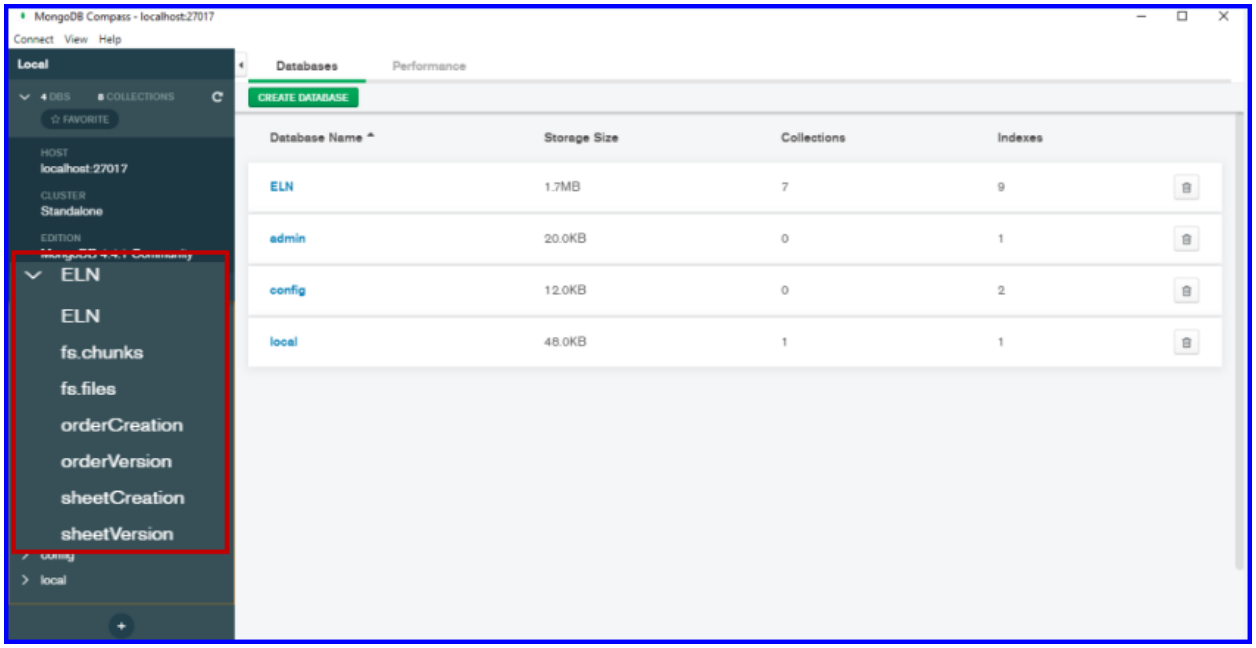


FIGURE: MongoDB Showing Stored ELN Sheets and Orders

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:

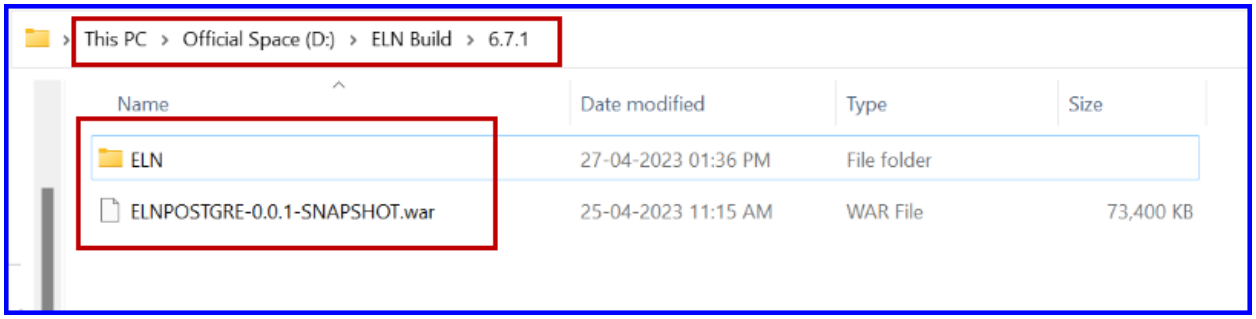


FIGURE: ELN Installation Folders

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

Note:

i) 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.*

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

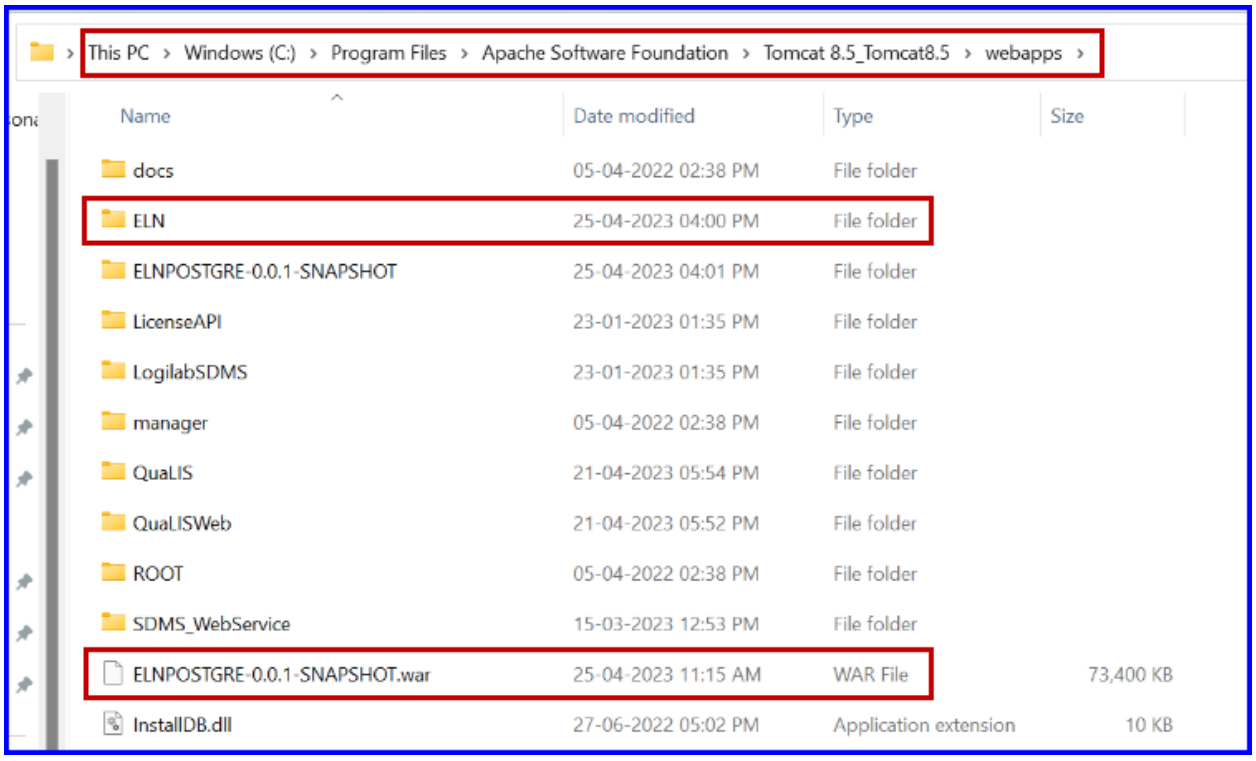


FIGURE: Copying ELN Installation Folder to Tomcat webapps Folder

3. Start Tomcat service in services.msc. The ***ELNPOSTGRE-0.0.1-SNAPSHOT*** folder is generated inside the ***webapps*** folder as shown in the figure:

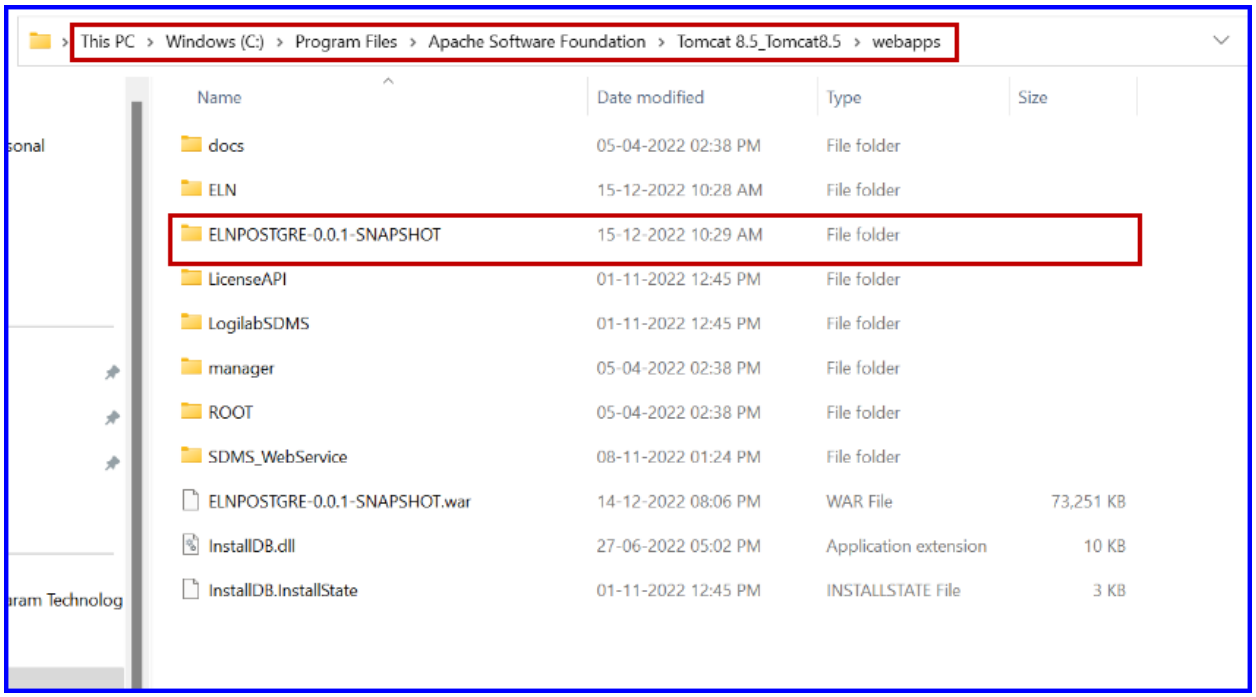


FIGURE: ELNPOSTGRE-0.0.1-SNAPSHOT Folder Generated

4. Stop Tomcat service in services.msc.

5. Inside the Tomcat ***webapps*** folder, open ***ELNPOSTGRE-0.0.1-SNAPSHOT\WEB-INF\classes*** folder.

6. Locate ***application.properties*** file, right-click and then click ***Edit with Notepad++*** as shown in the figure:

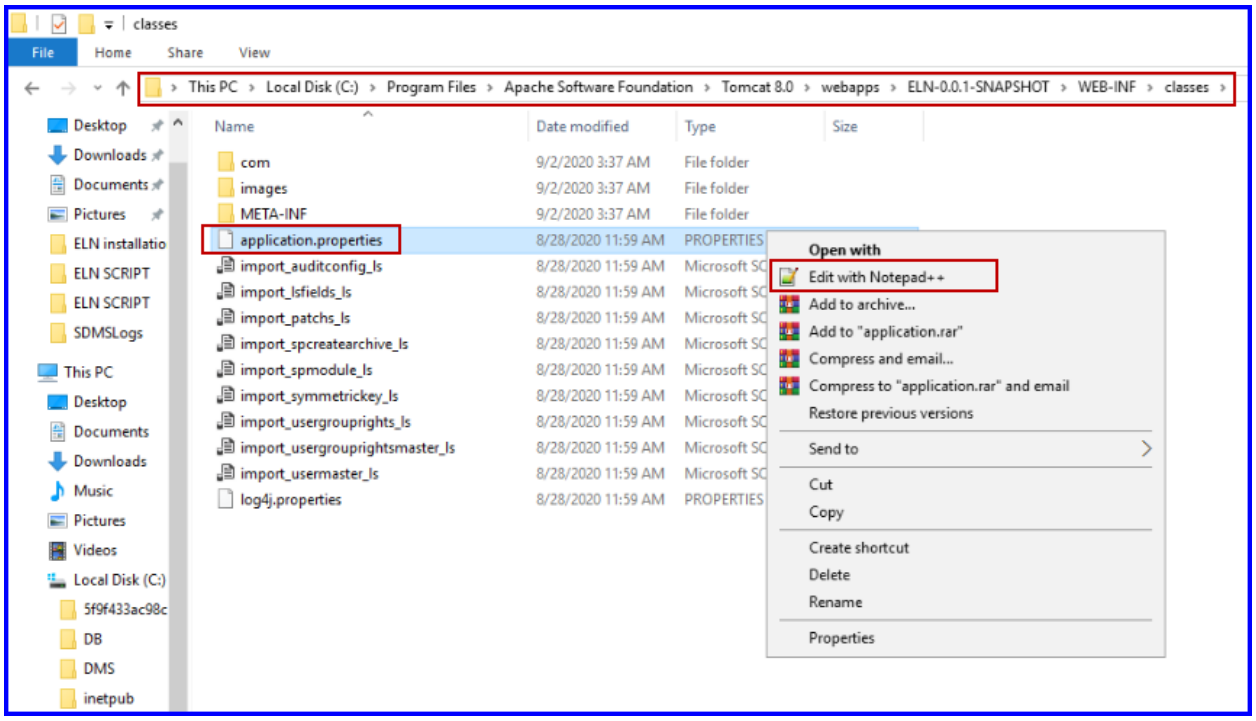


FIGURE: Opening application.properties File

7. Update the ***PostgresSQL server*** name, ***Database*** name, ***username*** and ***password***, ***Archive DB*** name as shown in the figure:

application (9).properties

```
spring.servlet.multipart.enabled=true
spring.servlet.multipart.max-file-size=512MB
spring.servlet.multipart.max-request-size=512MB

spring.http.multipart.max-file-size=512MB
spring.http.multipart.max-request-size=512MB

app.datasource.eln.url=jdbc:postgresql://localhost:5435/ELNDB
app.datasource.eln.username=postgres
app.datasource.eln.password=postgres
app.datasource.eln.driverClassName=org.postgresql.Driver
app.datasource.eln.initialize=false
#spring.jpa.hibernate.ddl-auto=create

app.datasource.archive.url=jdbc:postgresql://localhost:5435/ArchiveDB
app.datasource.archive.username=postgres
app.datasource.archive.password=postgres
app.datasource.archive.driverClassName=org.postgresql.Driver

spring.jpa.show-sql=true
spring.jpa.properties.hibernate.dialect =org.hibernate.dialect.PostgreSQL92Dialect
spring.datasource.driver-class-name=org.postgresql.Driver

spring.jpa.database-platform=org.hibernate.dialect.PostgreSQL9Dialect
spring.jpa.generate-ddl=true
spring.data.mongodb.uri=mongodb://localhost:27017/ELNPGDB
spring.jpa.properties.hibernate.temp.use_jdbc_metadata_defaults = false

spring.jpa.hibernate.naming.physical-strategy=org.hibernate.boot.model.naming.PhysicalNamingStrategyStandardImpl

limsbaseservice.url=http://AGL88:8085/QuaLIS/
webparserservice.url=http://192.168.0.235:8089/methodSetup/
sdms.template.service.url=http://AGL88:8085/SDMS_WebService/
# true = direct call on lims service, false = call from limslabsheetservice
limsbaseservice.serviceapi=true

DocxApi=http://AGL88/web-apps/apps/api/documents/api.js
DocxUrl=http://AGL88:8090/ELNdocuments
#Comment next line in case of deployment
#DocsPath=C:/Program Files/Apache Software Foundation/Tomcat 8.5/webapps/ROOT/ELNdocuments/
fileReceiver = http://llelnonlyofficedev.centralus.cloudapp.azure.com:9080/ELNFileReceiver-0.0.1-SNAPSHOT/fileserver/

server.port = 8095

jwt.secret=agaram
```

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"

FIGURE: Editing Script in application.properties file

Edit the script as mentioned below for color boxes

Update PostgreSQL server name or IP Address and port number of PostgreSQL Server. The default port number 5432 is recommended for PostgreSQL.

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 experince 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 PostgreSQL server

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

3.3.1 Connecting LIMS

3.3.1.1 Method 1: Connect using LIMS lab sheet service

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

a. Set limsbaseservice.serviceapi=false.

b. And then, update the LIMS lab sheet service folder name(***LIMSLabSheet_Service-1.0.1***) as shown in the figure:

```
29  limsbaseservice.url=http://AGL88:8085/LIMSLabSheet_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 LIMSLabSheetService

3.3.1.2 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.

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

FIGURE: Connect LIMS Directly

3.3.1.3 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:

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

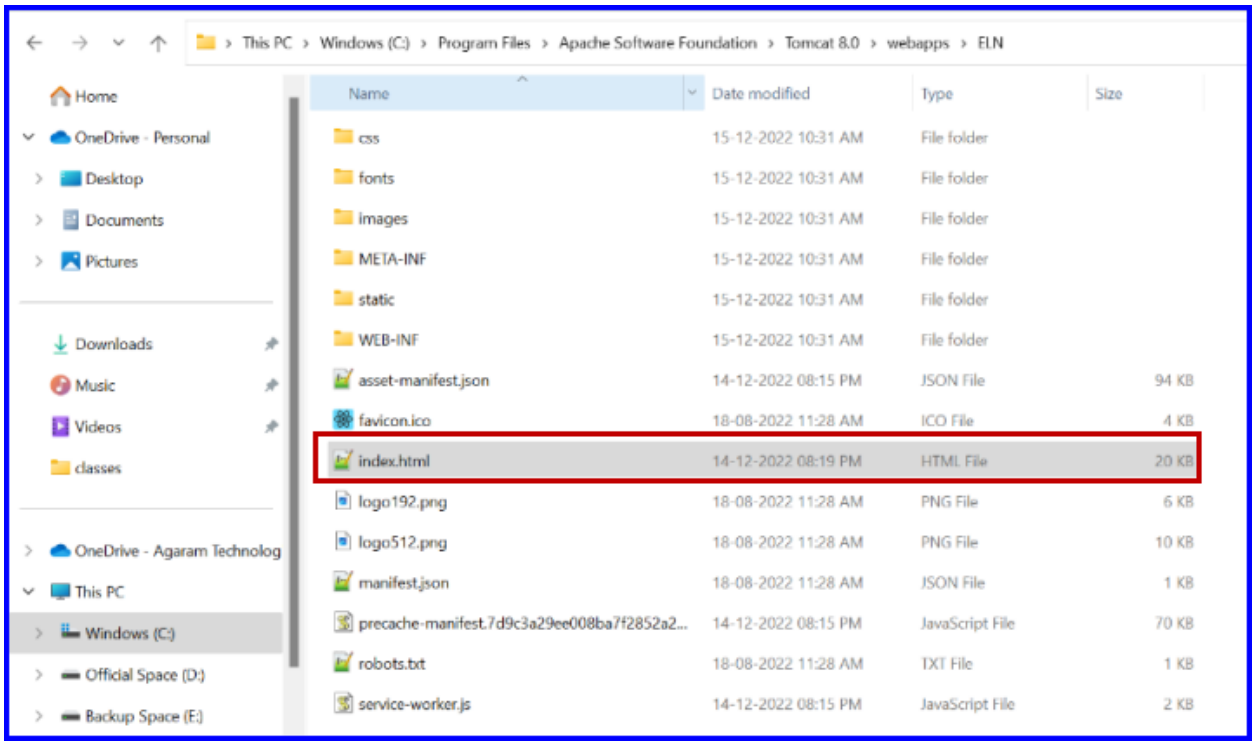


FIGURE: Editing index.html File

9. Locate **index.html** file, right-click and then click **Edit with Notepad++.**

10. Update the server name and Tomcat Port number of SDMS DB as shown in the figure:

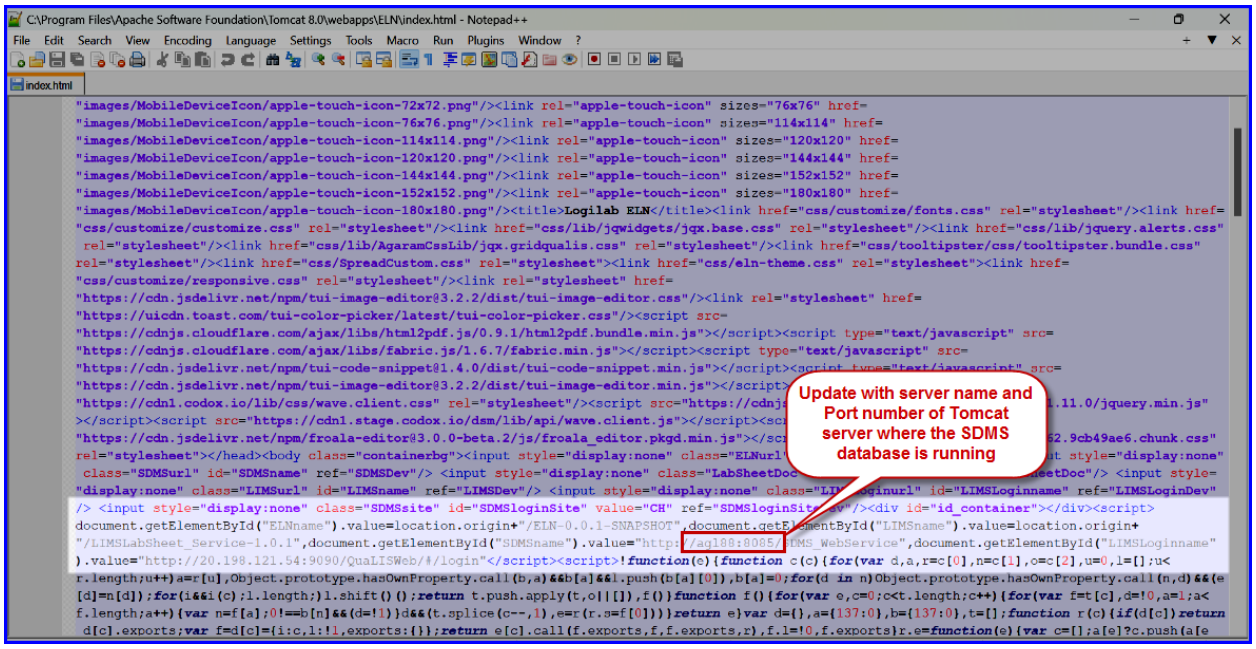


FIGURE: Updating Server name and Port No of SDMS DB

11. Restart Tomcat server.

12. In the Tomcat Application status screen, you can check the status as running for the ***ELN*** and ***/ELNPOSTGRE-0.0.1-SNAPSHOT*** as shown in the figure:

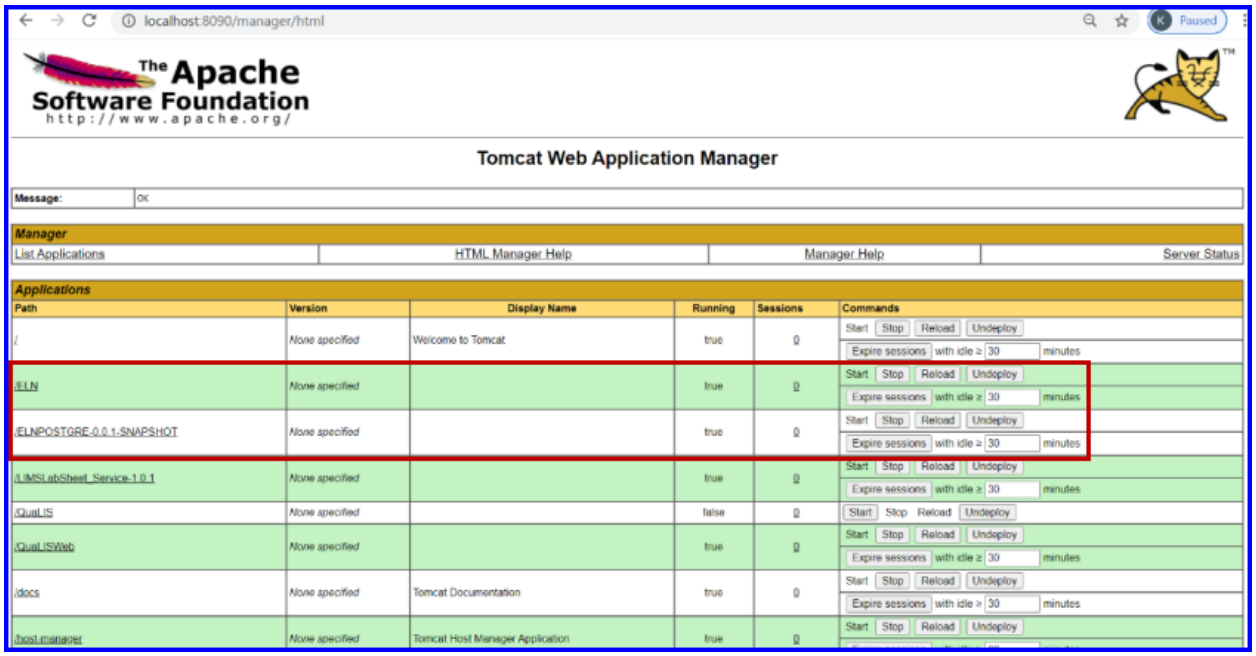


FIGURE: Checking Service Status

13. 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:

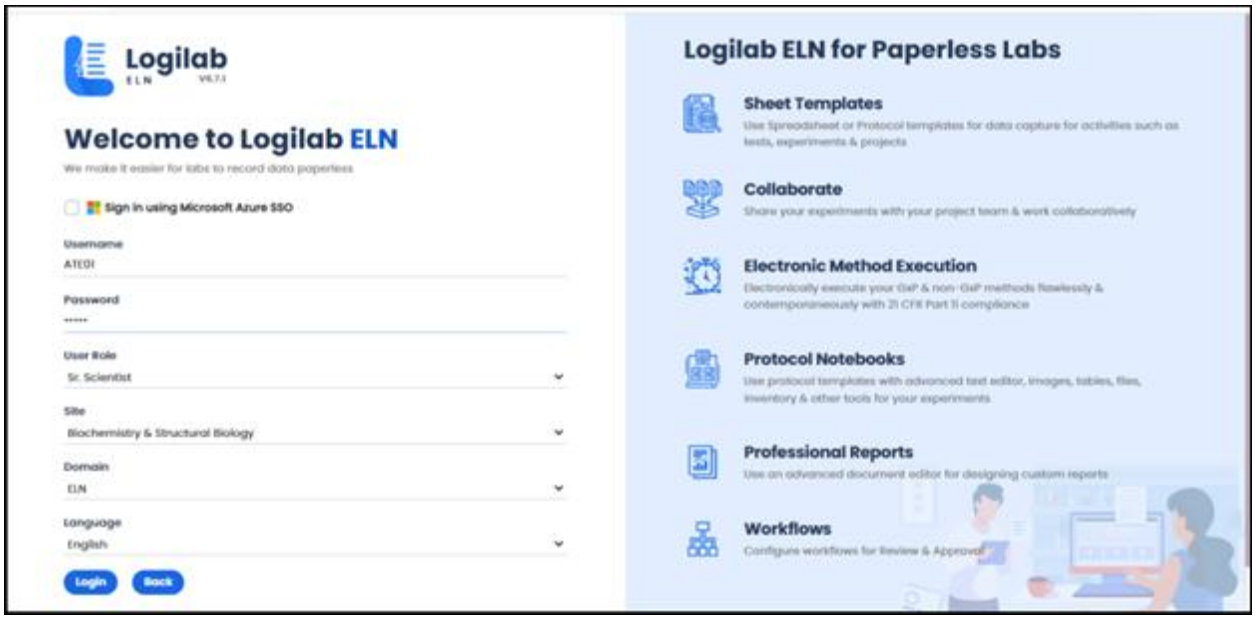
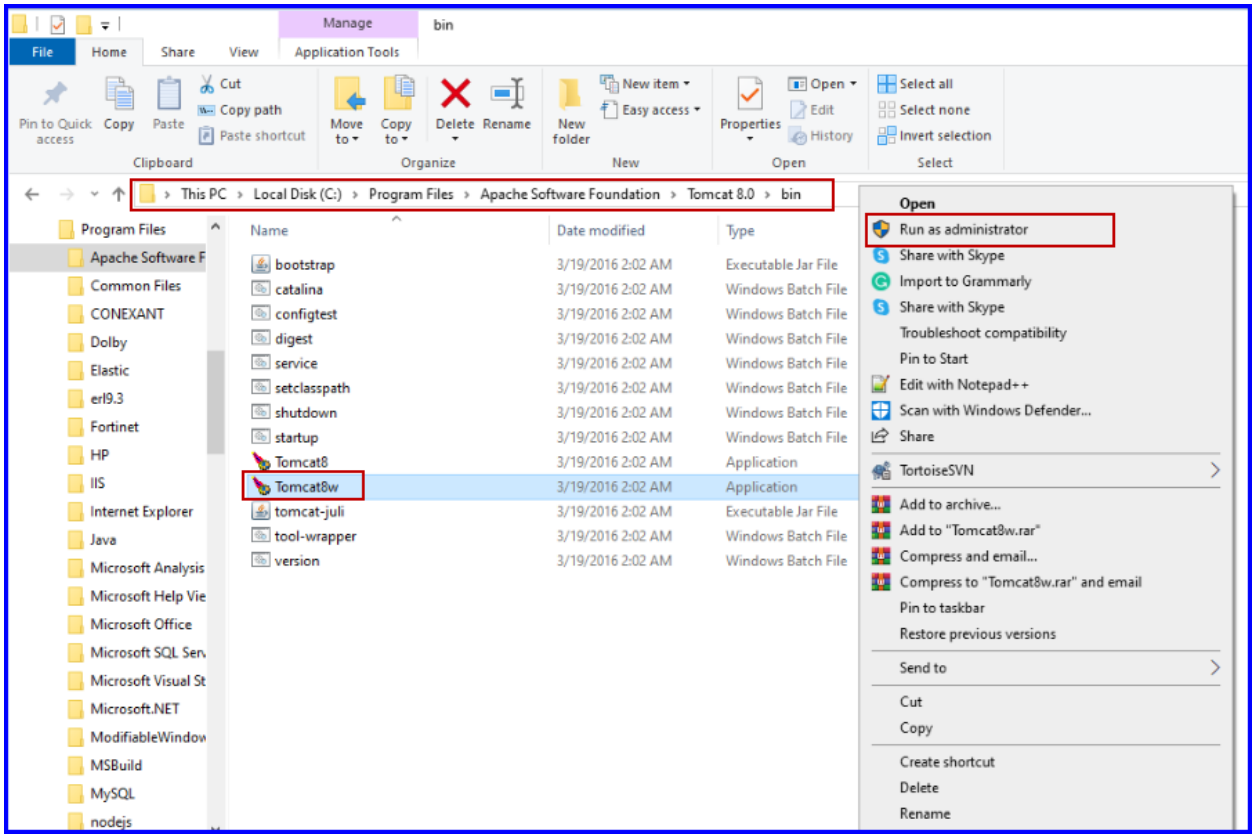


FIGURE: Logilab ELN Login Screen

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:

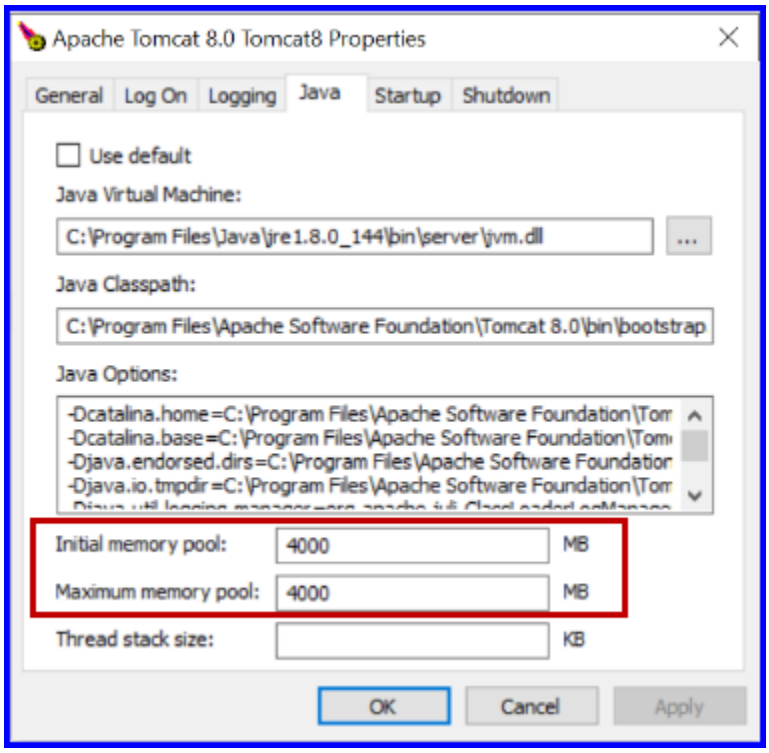


FIGURE: Apache Tomcat Properties – Java Tab

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