

## Migration Documentation from older Ambience and Repertoire versions to Ambience/Repertoire 202x

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|------|--|-------------------|
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## 1. Introduction

This document serves as a migration guide from Ambience 4.x or Repertoire 8.x to both Ambience 202x or Repertoire 202x.

## 2. Assumption

To start-up Ambience 202x, it is assumed that users have already downloaded and installed,

- A 64-bit, Java 17 or above. (For example, OpenJDK)
- A MongoDB server version 4.x or above.

To start-up Repertoire 202x, it is assumed that users have already downloaded and installed,

- A 64-bit, Java 17 or above. (For example, OpenJDK)

Otherwise, do refer to the following links to download, setup and install the necessary items:

Java (OpenJDK): <https://openjdk.org/projects/jdk/>

MongoDB: <https://www.mongodb.com/download-center/community>

The links shared above are open-source and commercial offerings of Java and MongoDB which are compatible with Ambience 202x and Repertoire 202x. It is recommended to use the latest long term support (LTS) versions of Java releases.

## 3. System Requirements

Ambience 202x and Repertoire 202x are compatible with all platforms that support 64-bit, e.g. Java 17 and above, including Windows, Linux and Mac.

For more information, do refer to the following entry as a guide to set-up Ambience 202x:

<https://docs.elixirtech.com/Ambience/2023.0/pdf/Ambience%202021%20Setup%20Guide.pdf>

For more information, do refer to the following entry as a guide to set-up Repertoire 202x:

<https://docs.elixirtech.com/Repertoire/2023.0/pdf/Repertoire%202022%20Setup%20Guide.pdf>

#### 4. Configuring the etc/application.conf files

- a. Open up the etc/application.conf file on your Ambience/Repertoire 202x installation directory & follow through the following points below to configure the necessary nodes.
- b. For Ambience 202x, these are the required MongoDB configurations for the Ambience server to start-up.

*Do revise the values colored in blue as necessary.*

- mongodb = "localhost"
- elixir.mongo {  
    connectionString = "mongodb://*localhost*:27017"  
    database = "ambience"  
}
- elixir.data.mongodb {  
    default {  
        connectionString = "mongodb://*localhost*:27017"  
        database {  
            eno = "eno"  
        }  
    }  
}

**\*\*A MongoDB connection is not required for Repertoire 202x**

- c. To set-up font mapping in Ambience/Repertoire 202x, do refer to the following entry below:  
<https://support.elixirtech.com/t/font-mapping-in-ambience-repertoire-v202x/603>
- d. To configure Ambience/Repertoire 202x to run in HTTPS mode, do refer to the following entry below:  
<https://support.elixirtech.com/t/running-ambience-repertoire-202x-in-https-mode/609>

- **Notes:**

- The application configuration file is used to configure the parameters and initial settings for the Ambience & Repertoire software. When upgrading the Ambience/Repertoire software suite, it is advisable to compare the new application.conf file (ERS2.xml for Repertoire 8.x & below) with the old one to see whether any new items have been added.
- Shown below are the different types of parameters which could be configured from the Ambience/Repertoire 202x application.conf file: *Security, Database and File Size, RML, ETL, Config Editor, Audit Log*

For more details on the parameters mentioned in the above bullet point, do refer to the following document link below:

Ambience 202x:

<https://docs.elixirtech.com/Ambience/2023.0/pdf/Application%20Config%20File%20Guide.pdf>

Repertoire 202x:

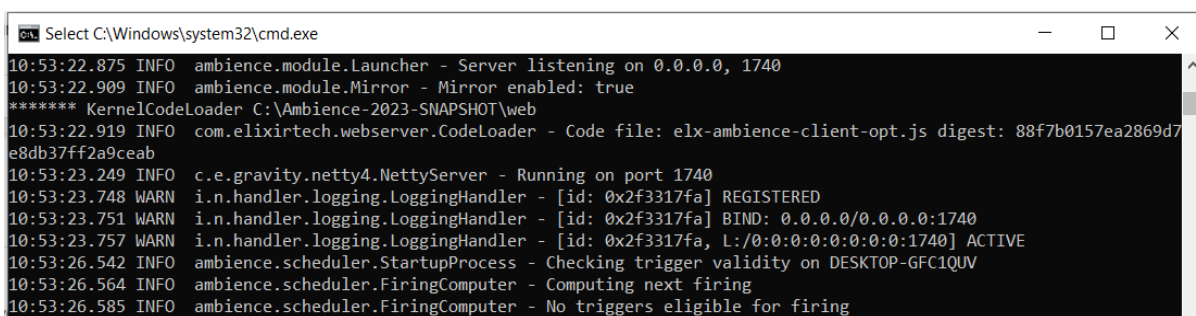
<https://docs.elixirtech.com/Repertoire/2023.0/pdf/Application%20Config%20File%20Guide.pdf>

## 5. Startup scripts (Ambience 202x)

- a. Go to the ./bin directory and start the Ambience Server using either of the following,
  - i. i. run-server (Linux Environment)
  - ii. ii. run-server.bat (Windows Environment)

\*\*A command window will appear. DO NOT close this command window.

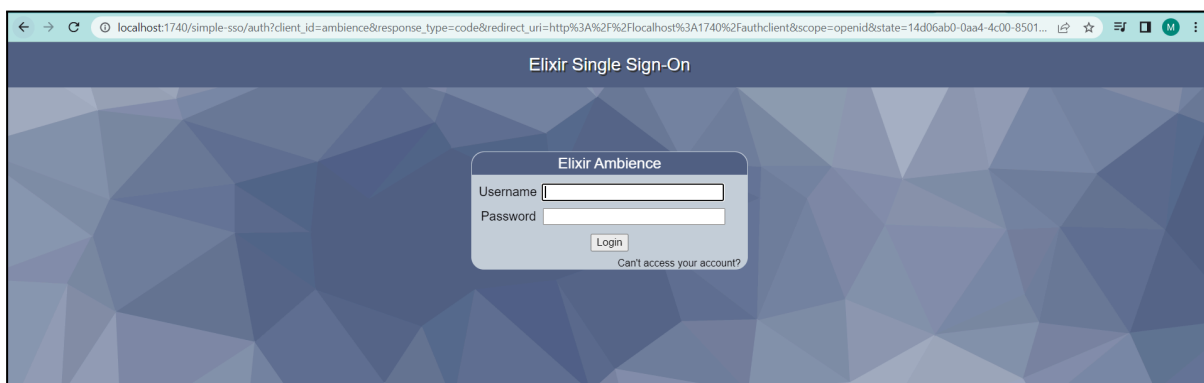
- b. Check the command window for any error messages. After a few seconds, you will see a message “**ambience.module.Launcher – Server listening on 0.0.0.0, 1740**” and “**c.e.gravity.netty4.NettyServer - Running on port 1740**”



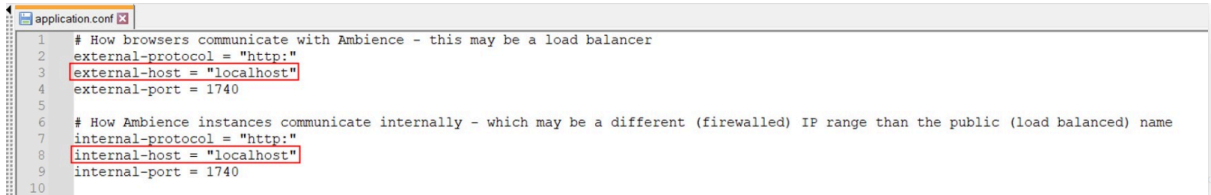
```

C:\> Select C:\Windows\system32\cmd.exe
10:53:22.875 INFO    ambience.module.Launcher - Server listening on 0.0.0.0, 1740
10:53:22.909 INFO    ambience.module.Mirror - Mirror enabled: true
***** KernelCodeLoader C:\Ambience-2023-SNAPSHOT\web
10:53:22.919 INFO    com.elixirtech.webserver.CodeLoader - Code file: elx-ambience-client-opt.js digest: 88f7b0157ea2869d7e8db37ff2a9ceab
10:53:23.249 INFO    c.e.gravity.netty4.NettyServer - Running on port 1740
10:53:23.748 WARN    i.n.handler.logging.LoggingHandler - [id: 0x2f3317fa] REGISTERED
10:53:23.751 WARN    i.n.handler.logging.LoggingHandler - [id: 0x2f3317fa] BIND: 0.0.0.0/0.0.0.0:1740
10:53:23.757 WARN    i.n.handler.logging.LoggingHandler - [id: 0x2f3317fa, L:/0:0:0:0:0:0:0:1740] ACTIVE
10:53:26.542 INFO    ambience.scheduler.StartupProcess - Checking trigger validity on DESKTOP-GFC1QUV
10:53:26.564 INFO    ambience.scheduler.FiringComputer - Computing next firing
10:53:26.585 INFO    ambience.scheduler.FiringComputer - No triggers eligible for firing
  
```

- c. Open a browser and key in “localhost:1740” (by default) on the address bar and hit the “Enter” key.
- d. The Elixir Ambience login page will appear.



- e. For those user that need to access the host machine from another machine, it can be done over in the etc/application.conf file by changing the "localhost" to the IP address of the host machine as shown in the screenshot below:

A screenshot of a text editor window titled "application.conf [2]". The file content is as follows:

```
1 # How browsers communicate with Ambience - this may be a load balancer
2 external-protocol = "http:"
3 external-host = "localhost"
4 external-port = 1740
5
6 # How Ambience instances communicate internally - which may be a different (firewalled) IP range than the public (Load balanced) name
7 internal-protocol = "http:"
8 internal-host = "localhost"
9 internal-port = 1740
10
```

The lines 3 and 8 are highlighted with a red box.

Make sure to restart the Ambience server once done the revision

- f. To run Ambience as a Linux Service or Windows service, do refer to point 11 of this documentation or the following entries below.

Linux Service:

<https://support.elixirtech.com/t/configuring-ambience-repertoire-2020-as-linux-service/576>

Windows Service:

<https://support.elixirtech.com/t/installing-ambience-repertoire-202x-as-a-windows-service/421>

- **Notes:**

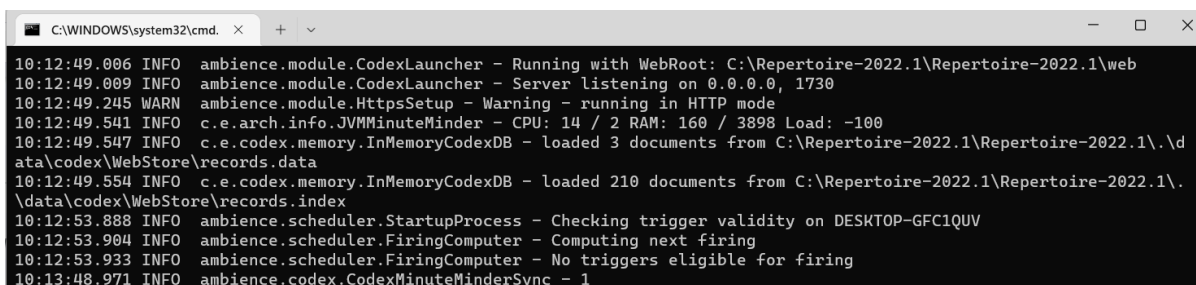
- Do ensure that the former logback.xml file from the previous Ambience version is not copied over to the current Ambience 202x /etc directory.
- If any changes are made to the former logback.xml file, do copy over the configurations line by line.

## 6. Startup Scripts (Repertoire 202x)

- a. Go to the ./bin directory and start the Repertoire Server using either of the following,
  - i. i. run-server (Linux Environment)
  - ii. ii. run-server.bat (Windows Environment)

\*\*A command window will appear. DO NOT close this command window.

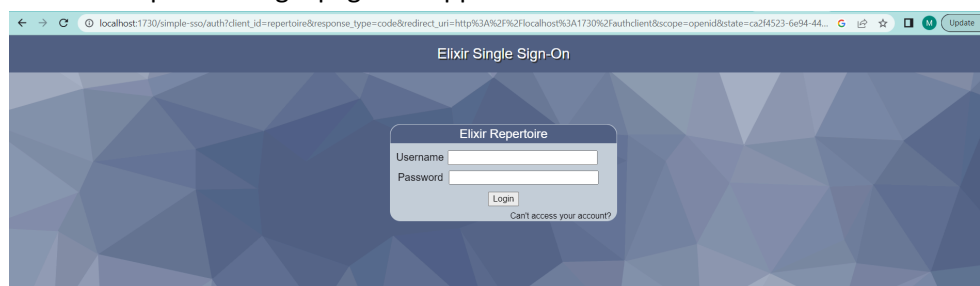
- b. Check the command window for any error messages. After a few seconds, you will see a message “**ambience.module.CodexLauncher – Server listening on 0.0.0.0, 1730**”



```

C:\WINDOWS\system32\cmd. x + v
10:12:49.006 INFO ambience.module.CodexLauncher - Running with WebRoot: C:\Repertoire-2022.1\Repertoire-2022.1\web
10:12:49.009 INFO ambience.module.CodexLauncher - Server listening on 0.0.0.0, 1730
10:12:49.245 WARN ambience.module.HttpsSetup - Warning - running in HTTP mode
10:12:49.541 INFO c.e.arch.info.JVMMinuteMinder - CPU: 14 / 2 RAM: 160 / 3898 Load: -100
10:12:49.547 INFO c.e.codex.memory.InMemoryCodexDB - loaded 3 documents from C:\Repertoire-2022.1\Repertoire-2022.1\data\codex\WebStore\records.data
10:12:49.554 INFO c.e.codex.memory.InMemoryCodexDB - loaded 210 documents from C:\Repertoire-2022.1\Repertoire-2022.1\data\codex\WebStore\records.index
10:12:53.888 INFO ambience.scheduler.StartupProcess - Checking trigger validity on DESKTOP-GFC1QVU
10:12:53.904 INFO ambience.scheduler.FiringComputer - Computing next firing
10:12:53.933 INFO ambience.scheduler.FiringComputer - No triggers eligible for firing
10:13:48.971 INFO ambience.codex.CodexMinuteMinderSync - 1
  
```

- c. Open a browser and key in “localhost:1730” (by default) on the address bar and hit the “Enter” key.
- d. The Elixir Repertoire login page will appear.





- e. To run Repertoire as a Linux Service or Windows service, do refer to point 11 of this documentation or the following entries below.

Linux Service:

<https://support.elixirtech.com/t/configuring-ambience-repertoire-2020-as-linux-service/576>

Windows Service:

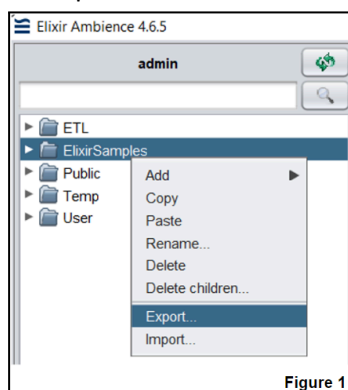
<https://support.elixirtech.com/t/installing-ambience-repertoire-202x-as-a-windows-service/421>

- **Notes:**

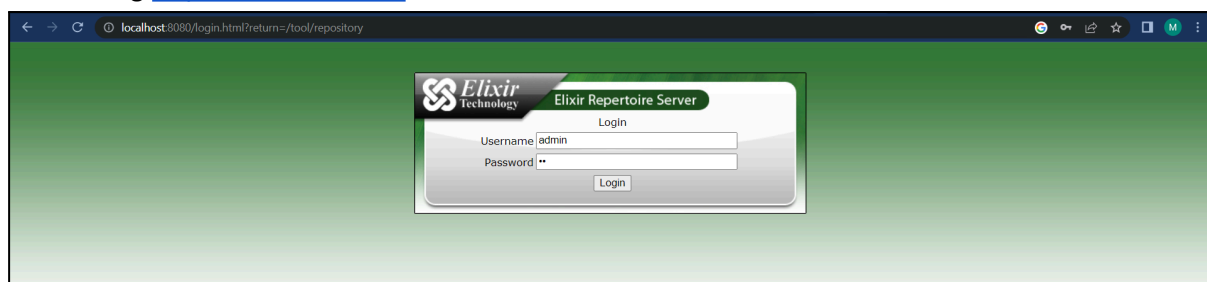
- Elixir Repertoire 202x currently uses logback instead of log4j.
- Hence, if there are any changes made to the log-config.xml file in Repertoire 8.x, do migrate it over into the logback.xml file line by line.

## 7. Exporting and deploying existing report templates and data sources

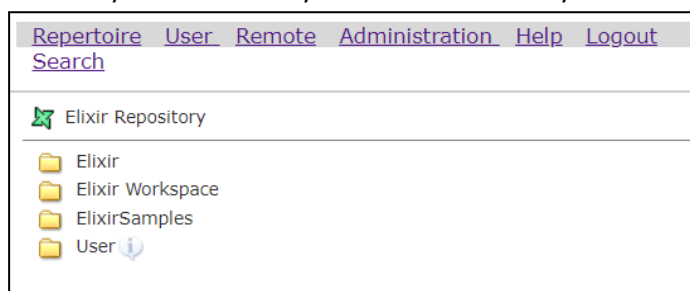
- a. Start-up the Ambience 4.x designer and export each directory folder into your local workspace.



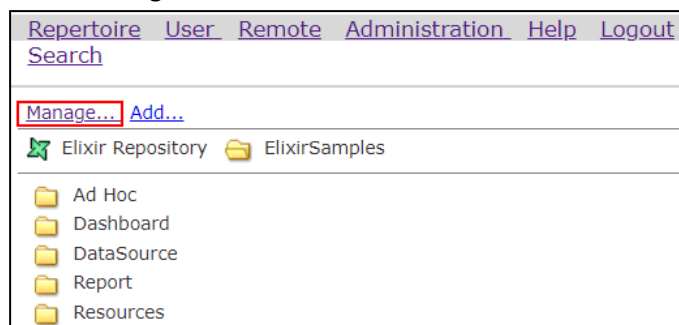
- b. For Repertoire 8.x, start-up the server and open the Repertoire admin web using the browser e.g <http://localhost:8080>.



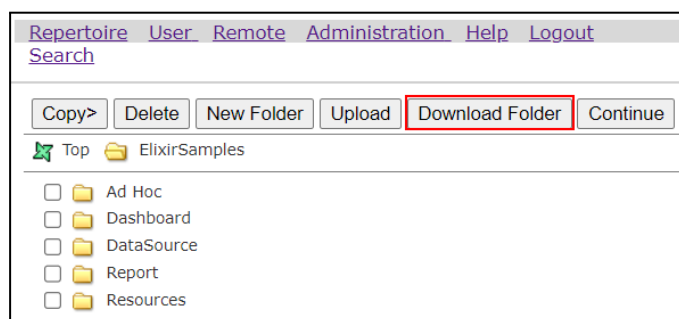
Select any folder directory as listed below that you want to export e.g ElixirSamples



### Select manage

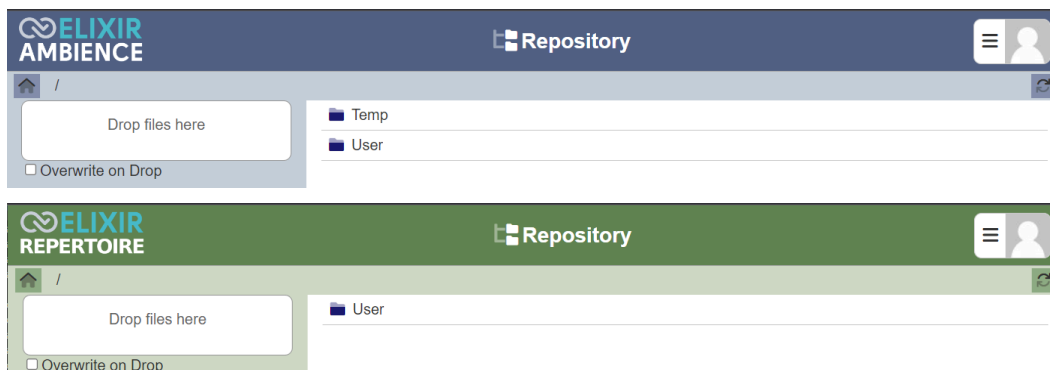


Choose the Download folder and it will download and zip the whole ElixirSamples directory folder

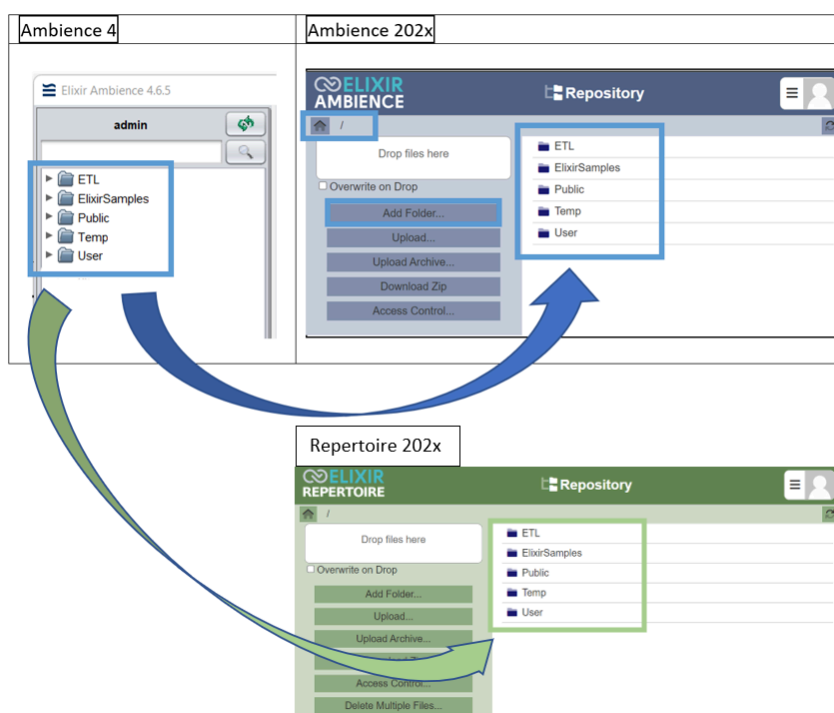


- As Ambience & Repertoire 202x only supports Excel files in XLSX format, do ensure that excel data sources which rely on XLS file types are recreated to read from a XLSX file instead.
- All connection pools are now configured over in the etc/application.conf file as connection properties. Do refer to [point 9](#) for more details on how to establish a connection pool in Ambience/Repertoire 202x.

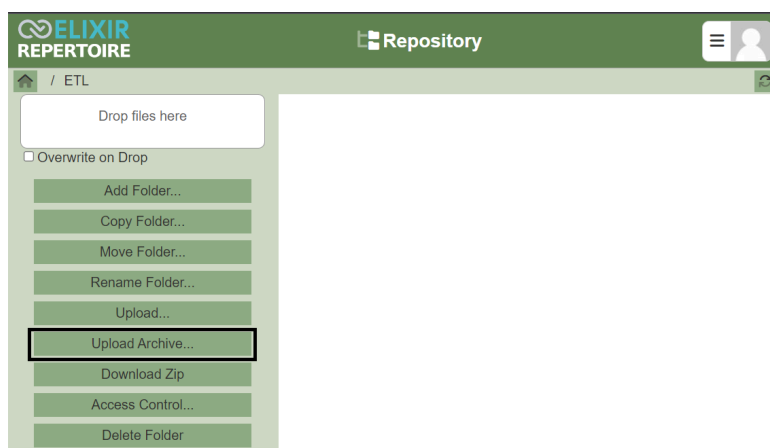
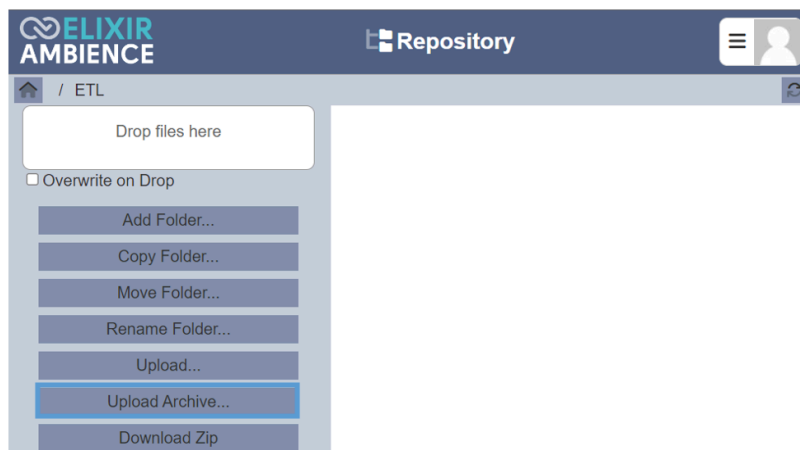
- c. Next, in Ambience/Repertoire 202x, open the “Repository” module & navigate to the root directory. (i.e. “/”)



- d. Replicate your Ambience 4.x or Repertoire 8.x repository by adding new folders into the Repository module of Ambience/Repertoire 202x.



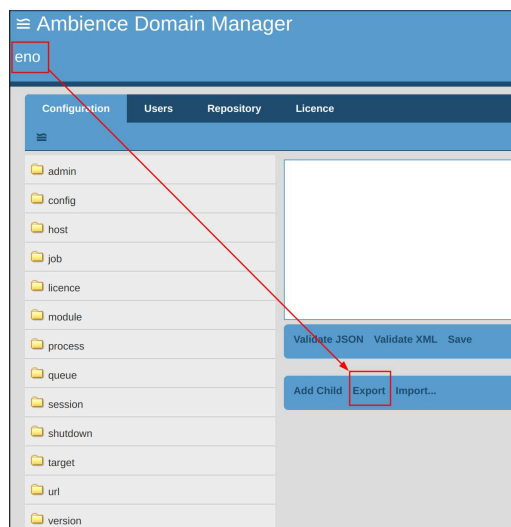
- e. Next, click into each folder and upload the respective archive file which was exported from the Ambience 4 designer by clicking on **“Upload Archive...”**.



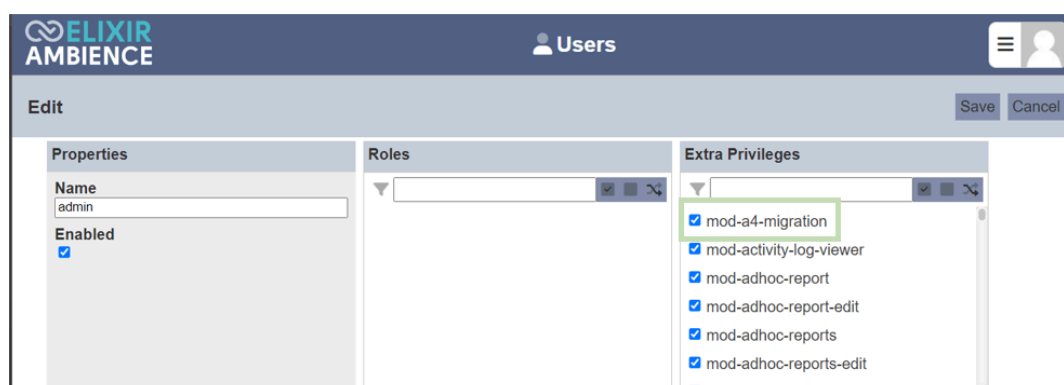
## 8. Users and groups (Identities and roles)

### 8(i) Migrate Local Users, Roles and their respective ACL's using the A4 Migration module.

- a. Log into the Domain Manager in your Ambience 4.x server and export the Configuration XML file. (The file would be saved as <domain-name>.xml in your local machine)



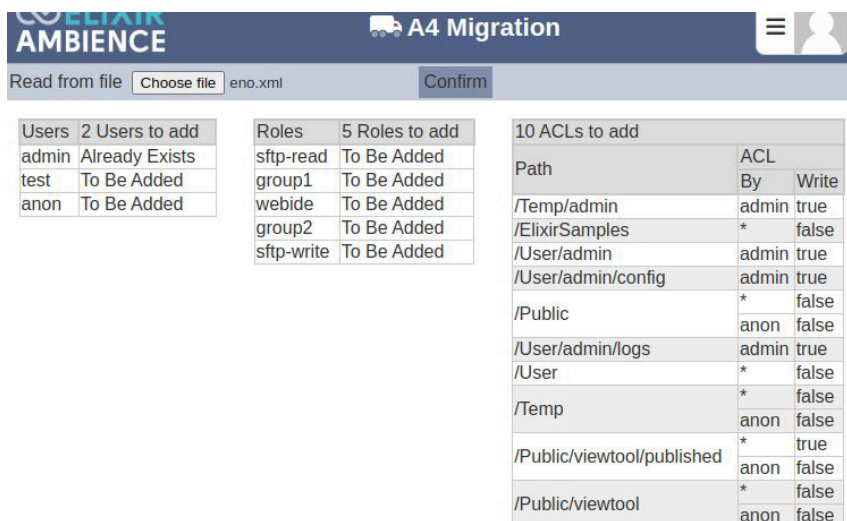
- b. Next, in Ambience/Repertoire 2023 ensure that the user used has “mod-a4-migration” privilege and login again.
- To add the privilege, navigate to the Users module, click “Edit” under the Actions column and ensure that the privilege has been added for the required user.



- c. After logging in again, open the “A4 Migration module” and upload the configuration xml file which was exported from your Ambience 4.x server.



- d. Once the configuration file has been uploaded, you should be able to view a list of users, roles and ACLs found in the config will be displayed for your review. (An example as shown below)



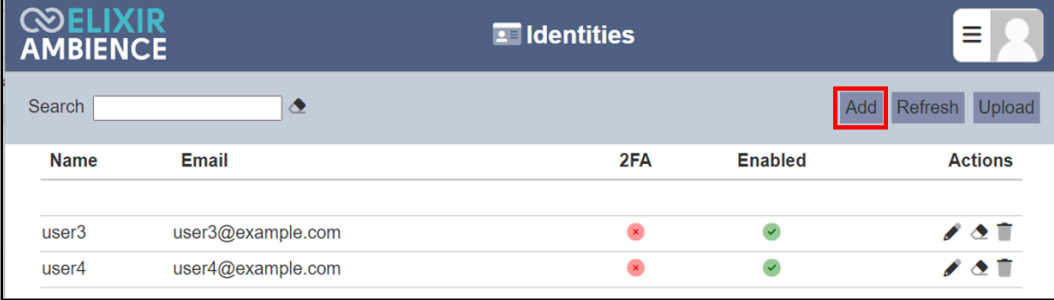
| Users | 2 Users to add |
|-------|----------------|
| admin | Already Exists |
| test  | To Be Added    |
| anon  | To Be Added    |

| Roles      | 5 Roles to add |
|------------|----------------|
| sftp-read  | To Be Added    |
| group1     | To Be Added    |
| webide     | To Be Added    |
| group2     | To Be Added    |
| sftp-write | To Be Added    |







| 10 ACLs to add             |       |       |
|----------------------------|-------|-------|
| Path                       | ACL   |       |
|                            | By    | Write |
| /Temp/admin                | admin | true  |
| /ElixirSamples             | *     | false |
| /User/admin                | admin | true  |
| /User/admin/config         | admin | true  |
| /Public                    | *     | false |
| /User/admin/logs           | admin | true  |
| /User                      | *     | false |
| /Temp                      | anon  | false |
| /Public/viewtool/published | *     | true  |
|                            | anon  | false |
| /Public/viewtool           | *     | false |
|                            | anon  | false |

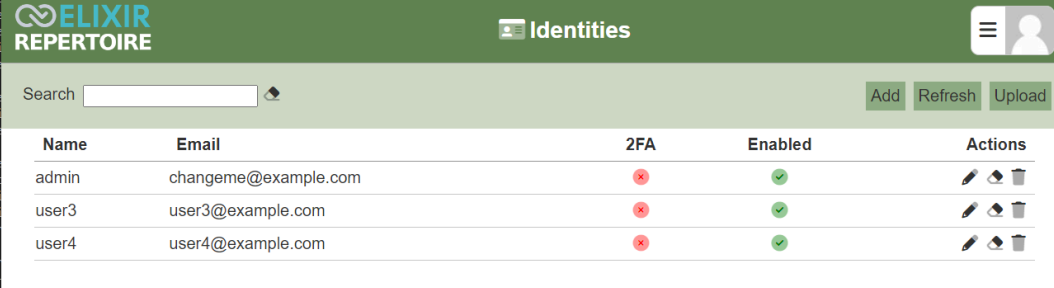
- e. After confirming, click on the “Confirm” button and the changes reviewed will be applied accordingly.
- The Users and Roles which were not present will be added. The roles will also be added to the necessary users accordingly. This can be checked in the “Users” and “Roles” module respectively.
  - The Access Control List (ACL) 's will be added to any of the repository entries that exist and do not already have an ACL set. (This would only be applied successfully if the necessary repositories have been migrated over prior to this step)

- f. To authenticate the migrated users, click on the “Identities” module, click “Add” and create an identity for the necessary users.












The screenshot shows the 'Identities' module in the ELIXIR AMBIENCE interface. It features a search bar, an 'Add' button (highlighted with a red box), and 'Refresh' and 'Upload' buttons. Below the buttons is a table with columns for Name, Email, 2FA, Enabled, and Actions. The table contains two rows of user data.

| Name  | Email             | 2FA | Enabled | Actions   |
|-------|-------------------|-----|---------|---|
| user3 | user3@example.com | ×   | ✓       |    |
| user4 | user4@example.com | ×   | ✓       |    |

The screenshot shows the 'Identities' module in the ELIXIR REPERTOIRE interface. It features a search bar, 'Add', 'Refresh', and 'Upload' buttons. Below the buttons is a table with columns for Name, Email, 2FA, Enabled, and Actions. The table contains three rows of user data.

| Name  | Email                | 2FA | Enabled | Actions  |
|-------|----------------------|-----|---------|--|
| admin | changeme@example.com | ×   | ✓       |       |
| user3 | user3@example.com    | ×   | ✓       |       |
| user4 | user4@example.com    | ×   | ✓       |    |

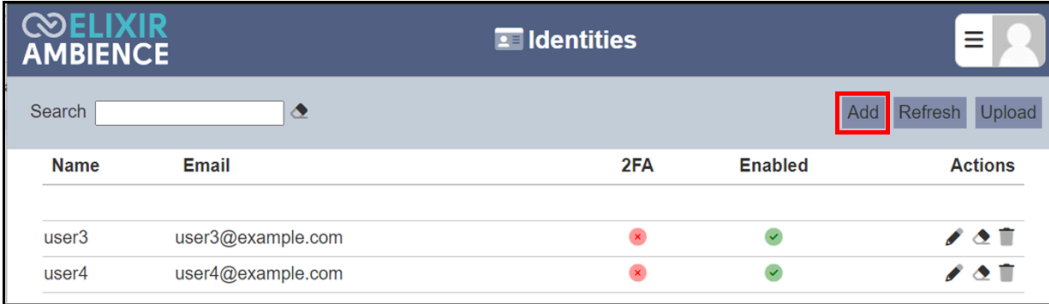
For more details, do refer to the following link:

<https://docs.elixirtech.com/Ambience/2023.0/identityMgmt/index.html#add-user>  
<https://docs.elixirtech.com/Repertoire/2023.0/identityMgmt/index.html#add-user>









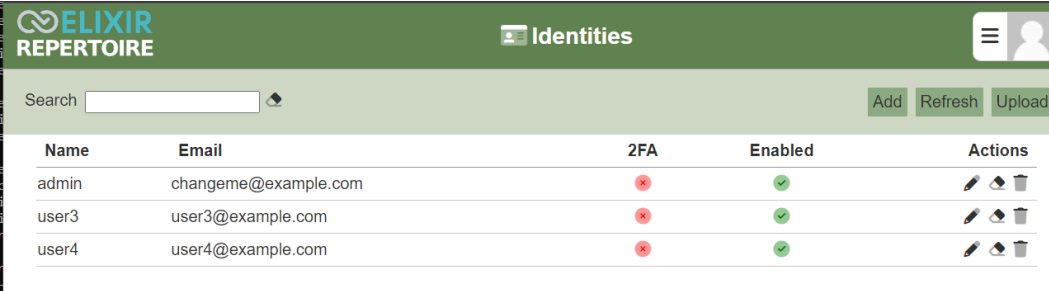
**8(ii) Adding Users and their Roles Manually.**

- a. Login as an administrator & navigate to the “identities” module to authenticate the users.
- b. Click on the “Add” button & add the necessary users.












The screenshot shows the 'Identities' module in the ELIXIR AMBIENCE interface. It features a search bar, an 'Add' button (highlighted with a red box), 'Refresh', and 'Upload' buttons. Below these is a table with columns for Name, Email, 2FA, Enabled, and Actions. The table contains two rows of user data.

| Name  | Email             | 2FA | Enabled | Actions   |
|-------|-------------------|-----|---------|---|
| user3 | user3@example.com | ✗   | ✓       |    |
| user4 | user4@example.com | ✗   | ✓       |    |

The screenshot shows the 'Identities' module in the ELIXIR REPERTOIRE interface. It features a search bar, 'Add', 'Refresh', and 'Upload' buttons. Below these is a table with columns for Name, Email, 2FA, Enabled, and Actions. The table contains three rows of user data.

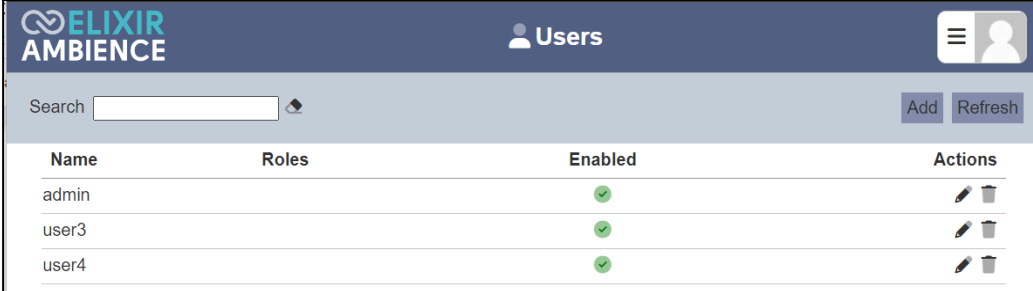
| Name  | Email                | 2FA | Enabled | Actions   |
|-------|----------------------|-----|---------|---|
| admin | changeme@example.com | ✗   | ✓       |    |
| user3 | user3@example.com    | ✗   | ✓       |    |
| user4 | user4@example.com    | ✗   | ✓       |    |

For more details, do refer to the following link:







<https://docs.elixirtech.com/Ambience/2023.0/identityMgmt/index.html#add-user>

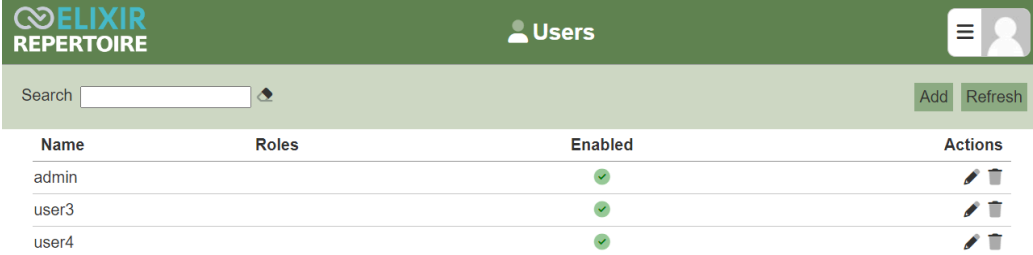
<https://docs.elixirtech.com/Repertoire/2023.0/identityMgmt/index.html#add-user>

- c. Next, navigate to the “Users” module, add the authenticated users 1-by-1.









The screenshot shows the 'Users' module in the ELIXIR AMBIENCE system. It features a search bar, 'Add' and 'Refresh' buttons, and a table with columns for Name, Roles, Enabled, and Actions. The table lists three users: admin, user3, and user4, all of whom are enabled.

| Name  | Roles | Enabled | Actions   |
|-------|-------|---------|---|
| admin |       | ✓       |   |
| user3 |       | ✓       |   |
| user4 |       | ✓       |   |



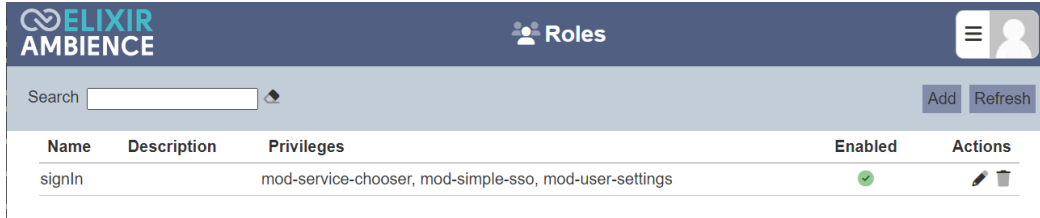
The screenshot shows the 'Users' module in the ELIXIR REPERTOIRE system. It features a search bar, 'Add' and 'Refresh' buttons, and a table with columns for Name, Roles, Enabled, and Actions. The table lists three users: admin, user3, and user4, all of whom are enabled.



| Name  | Roles | Enabled | Actions   |
|-------|-------|---------|---|
| admin |       | ✓       |   |
| user3 |       | ✓       |   |
| user4 |       | ✓       |   |

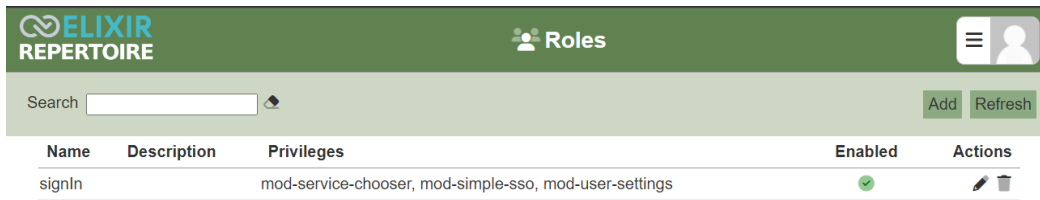
For more details on creation of Users, do refer to the following link:



<https://docs.elixirtech.com/Ambience/2023.0/users/index.html#add-user-a-name-add-user-a->  
<https://docs.elixirtech.com/Repertoire/2023.0/users/index.html#add-user-a-name-add-user-a->

- d. Next, navigate to the “Roles” module. Similar to “Groups” in Ambience 4, do create the necessary roles with the specific privileges as required on your end. For now, as an example, we have created a role which authorizes the user(s) to sign in and configure their user settings.



| Name   | Description   | Privileges  | Enabled | Actions   |
|--------|---|---|---------|---|
| signIn | mod-service-chooser, mod-simple-ssso, mod-user-settings | mod-service-chooser, mod-simple-ssso, mod-user-settings | ✓       |   |



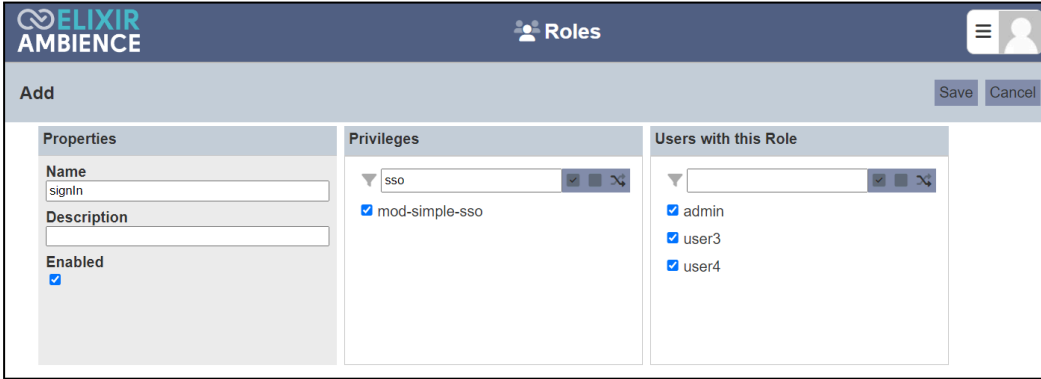
| Name   | Description   | Privileges  | Enabled | Actions   |
|--------|---|---|---------|---|
| signIn | mod-service-chooser, mod-simple-ssso, mod-user-settings | mod-service-chooser, mod-simple-ssso, mod-user-settings | ✓       |   |

For more details on creating a role, do refer to the following link:

<https://docs.elixirtech.com/Ambience/2023.0/roles/index.html#add-role-a-name-add-role-a->  
<https://docs.elixirtech.com/Repertoire/2023.0/roles/index.html#add-role-a-name-add-role-a->

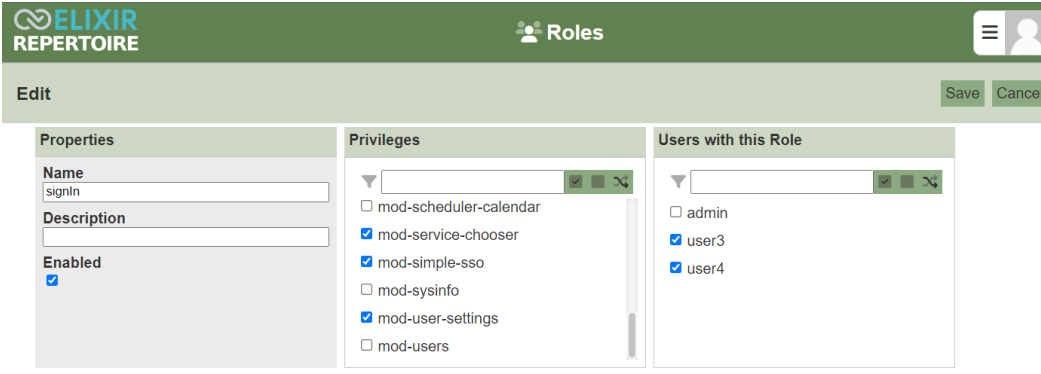
For more details on each privilege, do navigate to the “Privileges” module from the Service Chooser.

- e. In addition, do assign the roles to the necessary users based on the requirements on your end. (For e.g., A basic “signIn” role has been created with the following privileges: “mod-service-choose”, “mod-simple-sso”, “mod-user-settings”)



The screenshot shows the 'Roles' configuration page in the ELIXIR AMBIENCE system. The page is titled 'Add' and has 'Save' and 'Cancel' buttons. It is divided into three main sections: Properties, Privileges, and Users with this Role.

| Properties  | Privileges   | Users with this Role                      |
|---|--|---|
| <b>Name</b><br>signIn                                 | ▼ sso  | ▼   |
| <b>Description</b><br>                                | <input checked="" type="checkbox"/> mod-simple-sso | <input checked="" type="checkbox"/> admin |
| <b>Enabled</b><br><input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/> user3 |
|   |  | <input checked="" type="checkbox"/> user4 |

The screenshot shows the 'Roles' configuration page in the ELIXIR REPERTOIRE system. The page is titled 'Edit' and has 'Save' and 'Cancel' buttons. It is divided into three main sections: Properties, Privileges, and Users with this Role.

| Properties  | Privileges  | Users with this Role                      |
|---|---|---|
| <b>Name</b><br>signIn                                 | ▼   | ▼   |
| <b>Description</b><br>                                | <input type="checkbox"/> mod-scheduler-calendar         | <input type="checkbox"/> admin            |
| <b>Enabled</b><br><input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> mod-service-chooser | <input checked="" type="checkbox"/> user3 |
|   | <input checked="" type="checkbox"/> mod-simple-sso      | <input checked="" type="checkbox"/> user4 |
|   | <input type="checkbox"/> mod-sysinfo                    |   |
|   | <input checked="" type="checkbox"/> mod-user-settings   |   |
|   | <input type="checkbox"/> mod-users                      |   |

- f. Once done, do try signing into Ambience/Repertoire using the newly created user.

## 9. Configuring connection pools for JDBC data sources

How To Create A Connection Pool For, e.g. MSSQL Server 2019 for both Ambience 202x and Repertoire 202x:

- a. If you are using MySQL or MSSQL, ensure that the drivers are copied to the /ext sub directory found in Ambience/Repertoire 202x installer path.

```
root@ubuntu1:/home/tmp/Ambience202xServer/ext# ls  
empty-directory.txt  mssql-jdbc-11.2.0.jre11.jar
```

- b. Make changes to the file hikari-sample.properties according to the database server you are connecting. ie. I am running MSSQL Server 2019, thus the file name is mssql.properties.
  - The file can be found inside the Ambience/Repertoire 202x sub directory which is under /etc.
- c. Make Changes to properties found inside mssql.properties.

```
GNU nano 2.9.3          mssql.properties          Modified  
# Configuration options for HikariCP are described here:  
# https://github.com/brettwooldridge/HikariCP  
dataSourceClassName=com.microsoft.sqlserver.jdbc.SQLServerDataSource  
dataSource.user=user  
dataSource.password=password  
dataSource.databaseName=database  
dataSource.portNumber=8080  
dataSource.serverName=192.168.1.100  
dataSource.url=jdbc:sqlserver://192.168.1.100;encrypt=true;trustServerCertificate=true;
```

- Ensure the properties inside mssql.properties are edited correctly. The setting showcases the host machine where MSSQL Server 2019 is running.
- d. This is how you encrypt the password for the above example.
- Proceed to ./bin under Ambience/Repertoire 202x directory and type the following commands.

```
C:\root\Ambience-2022.1\bin>ambience-cli.bat encrypt "Thisismypassword"
Thisismypassword = {enc:elx-2.0}UGiKWsoffEsn1ozmKddQfTn1kCuDsfg+DP0J/bqv4FdaH0516Z6ahFLdSAuBulB9
C:\root\Ambience-2022.1\bin>
```

```
C:\root\elx-repertoire-2022.0\Repertoire-2022.0\bin>repertoire-cli encrypt "This is my password"
This is my password = {enc:elx-2.0}GBrFJxRdR1uAxFJwpt/6FDyyvBfjbPBxp4SUZaaJS2my/n0krX4SwZhEYn8Iay1j
C:\root\elx-repertoire-2022.0\Repertoire-2022.0\bin>
```

- Go to the properties file and substitute the password.  
For example,  
dataSource.password={enc:elx-2.0}UGiKWsoffEsn1ozmKddQfTn1kCuDsfg+DP0J/bqv4FdaH0516Z6ahFLdSAuBulB9
  - For more details, do refer to the following entry:  
<https://support.elixirtech.com/t/encrypting-using-ambience-repertoire-202x/540>
- e. Make changes to the definition found inside application.conf.
- The application.conf file can be found inside the ./etc directory.
  - Ambience/Repertoire 202x regards those connection pools as definitions. You would not need to use the pool file extension in Ambience/Repertoire 202x.
  - Ensure the definitions are edited correctly. If you have more than one connection pool, you can list those definitions as shown below.
  - Ensure those properties files are created accordingly.
  - The labelled name (unique name) would be used in this section.  
(For e.g., **mssql**= "etc/mssql.properties")



```

GNU nano 2.9.3 application.conf Modified
# scope to certain folders is preferred. Relative paths are relative to the installation root folder
readable: ["/data/in", "/data/out"]
writable: ["/data/out"]
}

elixir.data.file {
# Only files within these directories (and sub directories) are readable and writable by the File S$
# You could use "/" or "C:" or equivalent to allow access to all files and folders, but restrictin$
# scope to certain folders is preferred. Relative paths are relative to the installation root folder
readable: ["/data/in", "/data/out"]
writable: ["/data/out"]
}

elixir.data.jdbc {
connection-pool {
implementation = "hikari"
# Loader may be replaced by a custom one which decrypts or otherwise manipulates a file,
# For example it may use info in the file to load properties from elsewhere.
# Loader must implement ambience.etl.jdbc.ConnectionPoolLoader.LoaderImplementation
# which has a single function:
# trait LoaderImplementation {
#   def load(file: java.io.File): java.util.Properties
# }
loader = "ambience.etl.jdbc.DefaultConnectionPoolLoader"
definition {
# enable this next line for a JDBC MySQL sample connection pool
# edit the hikari-sample.properties file to match your MySQL credentials and schema
sample1_ = "etc/mssql.properties"
oracle = "etc/oracle.properties"
mysql = "etc/mysql.properties"
}
}
}

```

- If the connection pool is configured correctly, the following can be seen in the startup process if it is connected successfully.

```

09:38:13.854 INFO ambience.etl.jdbc.ConnectionPool - Building sample1
09:38:13.857 INFO a.etl.jdbc.ConnectionPoolLoader - Using loader: ambience.etl.jdbc.DefaultCon
nectionPoolLoader
09:38:13.860 INFO a.e.jdbc.DefaultConnectionPoolLoader - Loading /home/tmp/Ambience202xServer/
./etc/mssql.properties
09:38:13.885 INFO com.zaxxer.hikari.HikariDataSource - HikariPool-1 - Starting...
09:38:14.472 INFO com.zaxxer.hikari.pool.HikariPool - HikariPool-1 - Added connection Connecti
onID:1 ClientConnectionId: cb5b0565-ae6b-4008-a3ff-0338821f4b9a
09:38:14.476 INFO com.zaxxer.hikari.HikariDataSource - HikariPool-1 - Start completed.

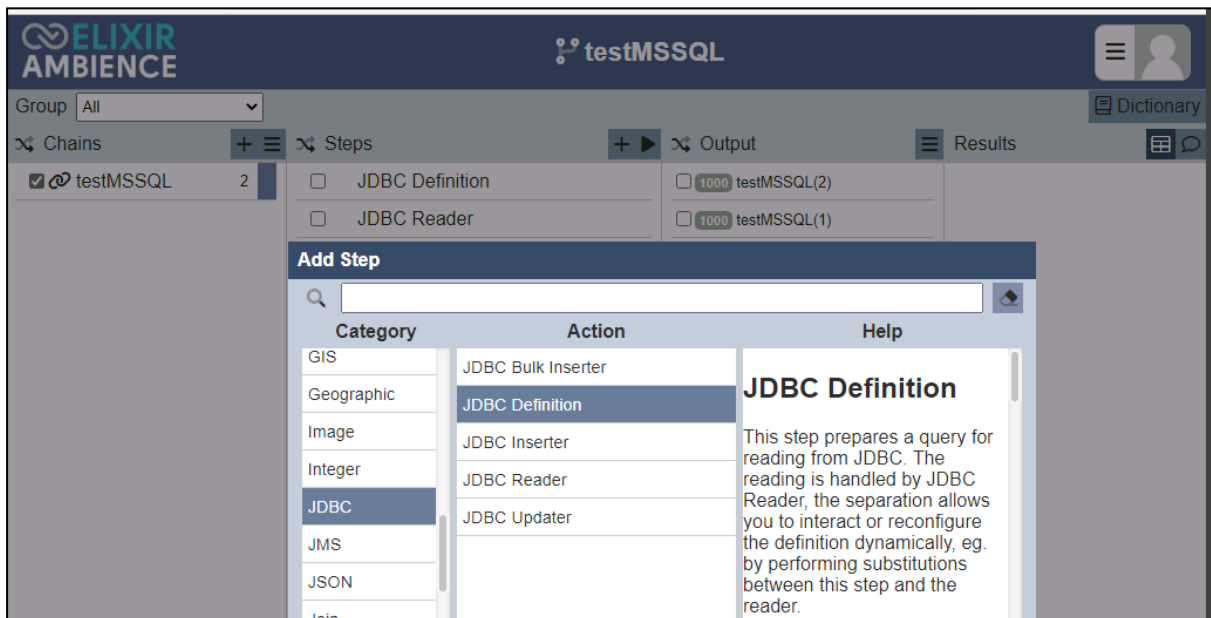
```

- Next, to test, from the Service Chooser, navigate to the ETL module.

- Select ETL from the profile icon. Add a new ETL chainset.

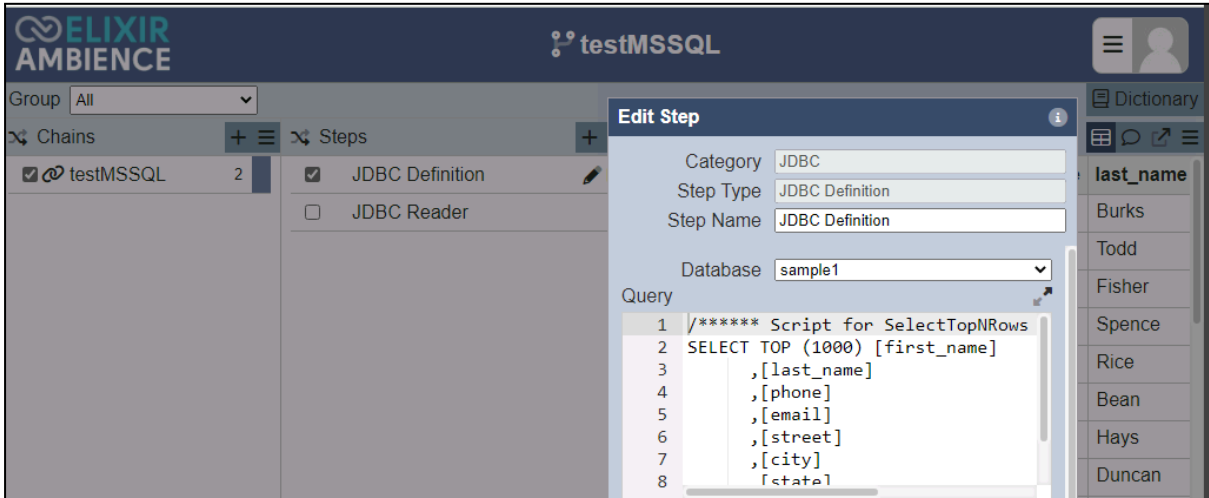


- Select JDBC from Category, under Action, choose JDBC Definition and JDBC Reader.



- Select the Database you had configured in Step 2. Edit the Query field with the appropriate SQL query.





testMSSQL

Group All

Chains testMSSQL 2

Steps
 

- JDBC Definition
- JDBC Reader

**Edit Step**

Category JDBC

Step Type JDBC Definition

Step Name JDBC Definition

Database sample1

Query

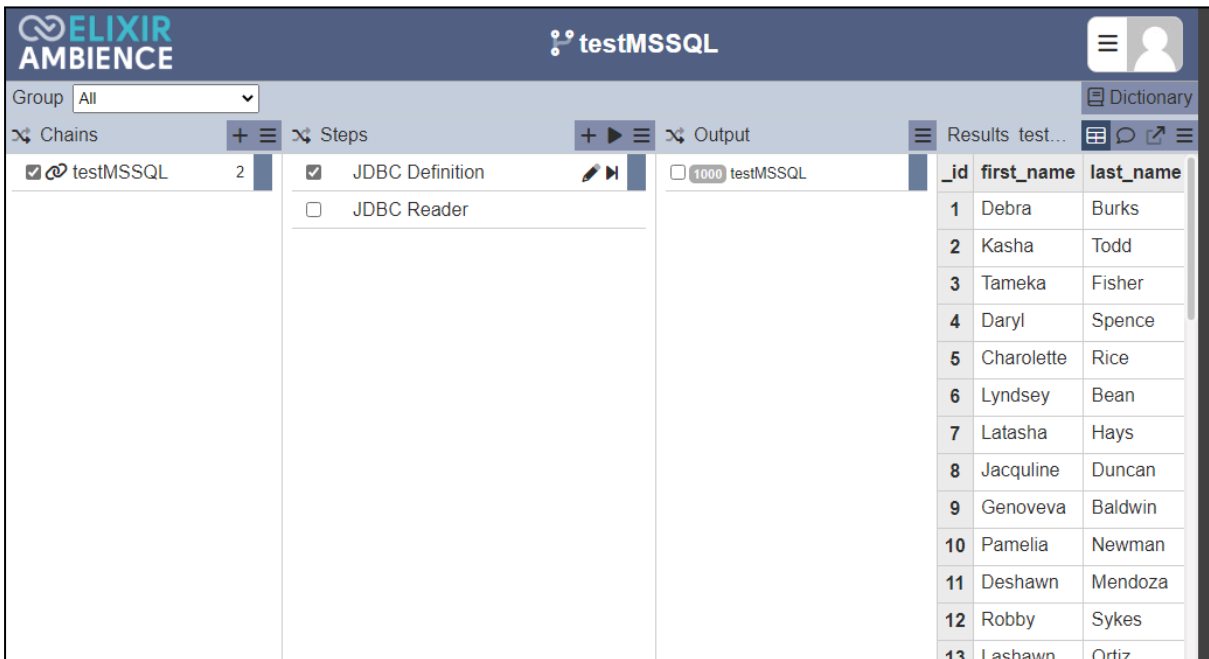
```

1 /***** Script for SelectTopNRows
2 SELECT TOP (1000) [first_name]
3     ,[last_name]
4     ,[phone]
5     ,[email]
6     ,[street]
7     ,[city]
8     ,[state1]
```

Dictionary

| last_name |
|-----------|
| Burks     |
| Todd      |
| Fisher    |
| Spence    |
| Rice      |
| Bean      |
| Hays      |
| Duncan    |

- Select and click the play button to stream the values from database MSSQL Server 2019.



testMSSQL

Group All

Chains testMSSQL 2

Steps
 

- JDBC Definition
- JDBC Reader

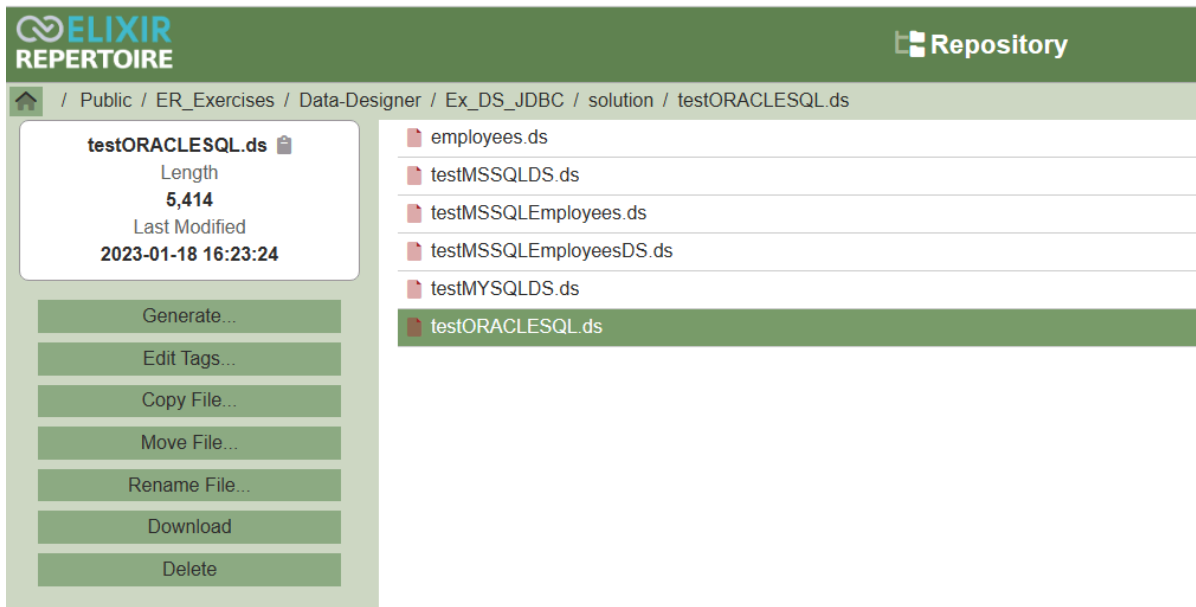
Output

Results testMSSQL

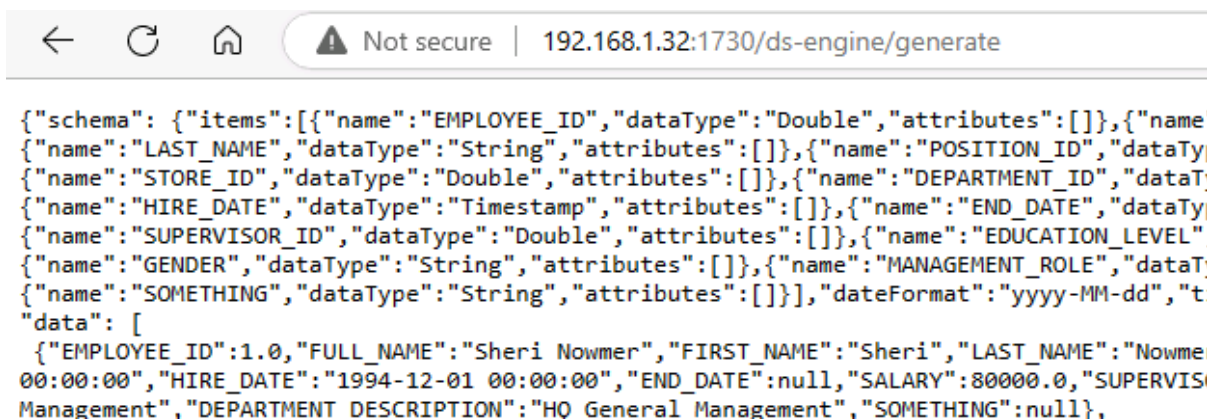
| _id | first_name | last_name |
|-----|------------|-----------|
| 1   | Debra      | Burks     |
| 2   | Kasha      | Todd      |
| 3   | Tameka     | Fisher    |
| 4   | Daryl      | Spence    |
| 5   | Charolette | Rice      |
| 6   | Lyndsey    | Bean      |
| 7   | Latasha    | Hays      |
| 8   | Jacqueline | Duncan    |
| 9   | Genoveva   | Baldwin   |
| 10  | Pamelia    | Newman    |
| 11  | Deshawn    | Mendoza   |
| 12  | Robby      | Sykes     |
| 13  | Lashawn    | Ortiz     |

- The ETL steps above help to confirm that there's a successful database connection between MSSQL Server 2019 and Ambience/Repertoire 202x.

- g. Here's another way to test out the connection pool for Ambience/Repertoire 202x. Navigate to the Repository module where the datasource is located.



- h. Proceed to generate any of the datasource. If the properties and JDBC drivers are updated correctly. You should be able to generate the JSON value as shown below.



```

{"schema": {"items": [{"name": "EMPLOYEE_ID", "dataType": "Double", "attributes": []}, {"name": "LAST_NAME", "dataType": "String", "attributes": []}, {"name": "POSITION_ID", "dataTy
{"name": "STORE_ID", "dataType": "Double", "attributes": []}, {"name": "DEPARTMENT_ID", "dataTy
{"name": "HIRE_DATE", "dataType": "Timestamp", "attributes": []}, {"name": "END_DATE", "dataTy
{"name": "SUPERVISOR_ID", "dataType": "Double", "attributes": []}, {"name": "EDUCATION_LEVEL".
{"name": "GENDER", "dataType": "String", "attributes": []}, {"name": "MANAGEMENT_ROLE", "dataT
{"name": "SOMETHING", "dataType": "String", "attributes": []}], "dateFormat": "yyyy-MM-dd", "t
"date": [
  {"EMPLOYEE_ID": 1.0, "FULL_NAME": "Sheri Nowmer", "FIRST_NAME": "Sheri", "LAST_NAME": "Nowmer
00:00:00", "HIRE_DATE": "1994-12-01 00:00:00", "END_DATE": null, "SALARY": 80000.0, "SUPERVISOR
Management", "DEPARTMENT DESCRIPTION": "HQ General Management", "SOMETHING": null},

```

- i. For more details on how to troubleshoot connection pools in Ambience 202x, do refer to the following entry:



---

<https://support.elixirtech.com/t/how-to-troubleshoot-ds-in-ambience-202x-after-exporting-from-ambience-4-x/608>

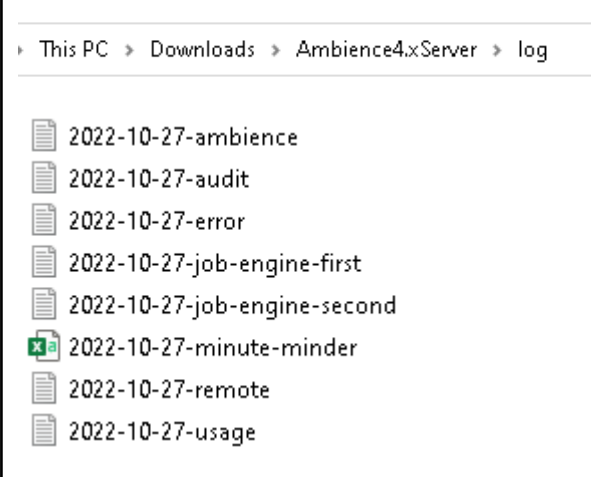
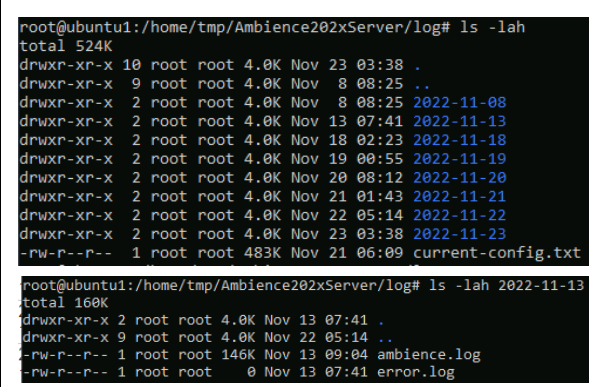
- j. Additional information on setting up JDBC connection pools for MSSQL and Oracle databases in both Ambience 202x & Repertoire 202x:

<https://support.elixirtech.com/t/creating-an-oracle-jdbc-connection-pool/342>

<https://support.elixirtech.com/t/creating-a-mssql-jdbc-connection-pool/426>

## 10. Logging configuration

- a. Key Difference in Log File Present between Ambience 4.x, Repertoire 8.x, Ambience 202x and Repertoire 202x.

| Log Files Present in Ambience 4.x  | Log Files Present in Ambience 202x   |
|--|--|
|  <p>1. The log files are identified by the date it is created and appended to this list of log files as shown above.</p> <p>2. By default 2 job-engines are created.</p> |  <p>1. The log files are identified by folder name which represent the date it is created.</p> <p>2. Event logs, audit logs and minute minder info are stacked inside ambience.log</p> <p>3. Ambience202x architecture does not have job engines, requests are sent to queues which are configurable in the application.conf file.</p> |



### Log Files Present in Repertoire 8.x

| Name         | Date modified      | Type          | Size   |
|--------------|--------------------|---------------|--------|
| activity.log | 9/11/2022 10:10 am | Text Document | 1 KB   |
| derby.log    | 9/11/2022 10:09 am | Text Document | 3 KB   |
| jetty.log    | 9/11/2022 10:09 am | Text Document | 2 KB   |
| ldap.log     | 9/11/2022 10:09 am | Text Document | 0 KB   |
| logfiles.txt | 3/8/2021 9:55 am   | TXT File      | 1 KB   |
| mail.log     | 9/11/2022 10:09 am | Text Document | 0 KB   |
| server.log   | 9/11/2022 10:10 am | Text Document | 8 KB   |
| server.log.1 | 7/10/2021 2:20 pm  | 1 File        | 501 KB |
| task.log     | 9/11/2022 10:10 am | Text Document | 1 KB   |
| trigger.log  | 9/11/2022 10:09 am | Text Document | 0 KB   |

1. As seen, log files are not identified by the date and a certain log could contain up to more than a day's worth of activity.

### Log Files Present in Repertoire 8.10

| Name         | Date modified      | Type          | Size |
|--------------|--------------------|---------------|------|
| 2022-01-31   | 31/1/2022 11:35 am | File folder   |      |
| 2022-03-15   | 15/3/2022 4:22 pm  | File folder   |      |
| 2022-04-12   | 12/4/2022 4:02 pm  | File folder   |      |
| 2022-04-13   |                    |               |      |
| 2022-05-11   |                    |               |      |
| 2022-05-30   |                    |               |      |
| 2022-08-02   |                    |               |      |
| 2022-09-23   |                    |               |      |
| 2022-09-26   |                    |               |      |
| 2022-09-28   |                    |               |      |
| 2022-10-10   |                    |               |      |
| 2022-11-08   |                    |               |      |
| log          |                    |               |      |
| activity.log | 15/3/2022 4:22 pm  | Text Document |      |
| error.log    | 15/3/2022 4:22 pm  | Text Document |      |
| jetty.log    | 15/3/2022 4:22 pm  | Text Document |      |
| ldap.log     | 15/3/2022 4:22 pm  | Text Document |      |

### Log Files Present in Repertoire 2022.x

```

root@ubuntu1:/mnt/myshare/repertoire2022x/log# ls -lah
total 424K
drwxr-xr-x 2 root root  0 Jan 18 07:35 .
drwxr-xr-x 2 root root 4.0K Jan 18 07:35 ..
drwxr-xr-x 2 root root  0 Jan 18 07:35 2023-01-18
-rwxr-xr-x 1 root root 418K Jan 18 09:00 current-config.txt

root@ubuntu1:/mnt/myshare/repertoire2022x/log/2023-01-18# ls -lah
total 328K
drwxr-xr-x 2 root root 4.0K Jan 18 07:35 .
drwxr-xr-x 2 root root  0 Jan 18 07:35 ..
-rwxr-xr-x 1 root root 266K Jan 18 08:55 ambience.log
-rwxr-xr-x 1 root root 2.6K Jan 18 08:17 audit.jsonl
-rwxr-xr-x 1 root root 28K Jan 18 08:36 error.log
-rwxr-xr-x 1 root root 21K Jan 18 08:55 minute-minder.jsonl
    
```

1. In Repertoire 202x, the /log directory would now output the following files: "ambience.log, audit.log, error.log, minute-minder.jsonl"

2. The log files are identified by folder name which represent the date it is created.

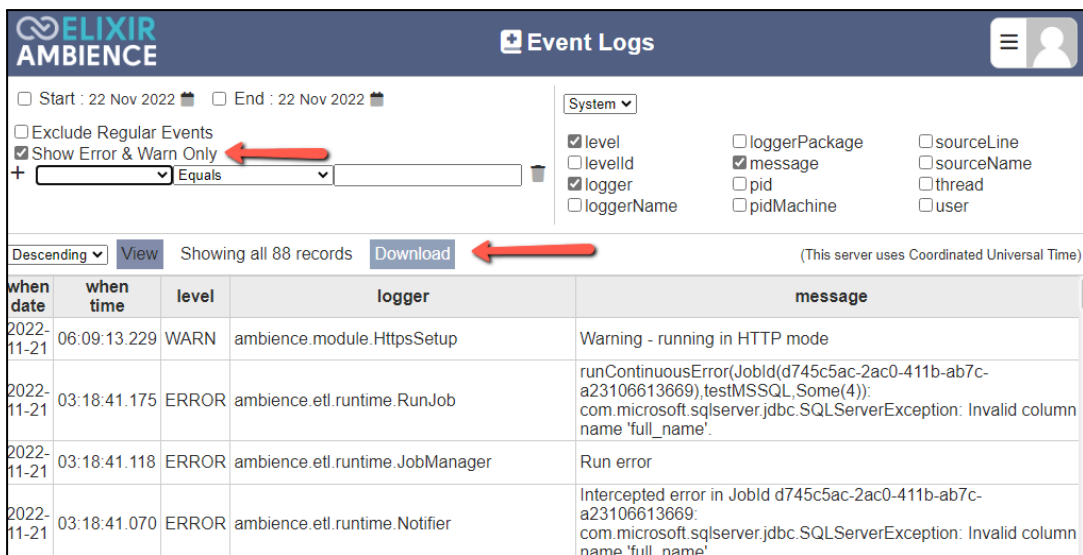
3. Repertoire 202x architecture does not have job engines, requests are sent to queues which are configurable in the application.conf file.

b. In Ambience 202x, logs could also be viewed using the following module(s).



c. Expanded version of viewing the Event Logs For Ambience 202x.

- You can review the Event logs as CSV with the Download button.



## 11. Running the Ambience/Repertoire 202x Server as a service

### 11(i) How To Run Ambience/Repertoire 202x As A Service In A Linux Environment:

- a. Follow The Sequence as Suggested
  - Ensure the user created is reflected in **ambience.service** or **repertoire.service** file.
  - Ensure ownership of directory Ambience/Repertoire 202x is given to the created user.
  - Ensure the sub directory of the bash file is correctly edited in the respective service file. (i.e. **ambience.service** or **repertoire.service**)
  - Service files could be extracted from this forum - <https://support.elixirtech.com/t/configuring-ambience-repertoire-2020-as-linux-service/576>
- b. Restart Host After Enable Service
  - If you follow the sequence as directed. This is what you will observe.
  - In this example, root user is used.
  - Restart Host to ensure this service remains part of the Linux system.

```

root@ubuntu1:/home/tmp/Ambience202xServer/bin# sudo systemctl enable ambience
root@ubuntu1:/home/tmp/Ambience202xServer/bin# sudo systemctl daemon-reload
root@ubuntu1:/home/tmp/Ambience202xServer/bin# sudo systemctl start ambience
root@ubuntu1:/home/tmp/Ambience202xServer/bin# systemctl status ambience
● ambience.service - Elixir Ambience 202x Service
   Loaded: loaded (/etc/systemd/system/ambience.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2022-11-24 05:38:51 UTC; 4s ago
 Main PID: 23396 (run-server)
   Tasks: 26 (limit: 4653)
   CGroup: /system.slice/ambience.service
           └─23396 /bin/sh /home/tmp/Ambience202xServer/bin/run-server
             └─23397 java -Dvisualvm.display.name=Ambience -Djava.awt.headless=true -Dlogback.confi

Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.467 INFO   ambience.module.StartupTests - user
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.468 INFO   ambience.module.StartupTests - user
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.468 INFO   ambience.module.StartupTests - java
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.469 INFO   ambience.module.StartupTests - java
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.469 INFO   ambience.module.StartupTests - java
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.470 INFO   ambience.module.StartupTests - java
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.470 INFO   ambience.module.StartupTests - java
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.471 INFO   ambience.module.StartupTests - os.n
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.471 INFO   ambience.module.StartupTests - os.a
Nov 24 05:38:53 ubuntu1 run-server[23396]: 05:38:53.471 INFO   ambience.module.StartupTests - os.v
Nov 24 05:38:54 ubuntu1 run-server[23396]: 05:38:54.180 INFO   akka.event.slf4j.Slf4jLogger - Slf4

```

```

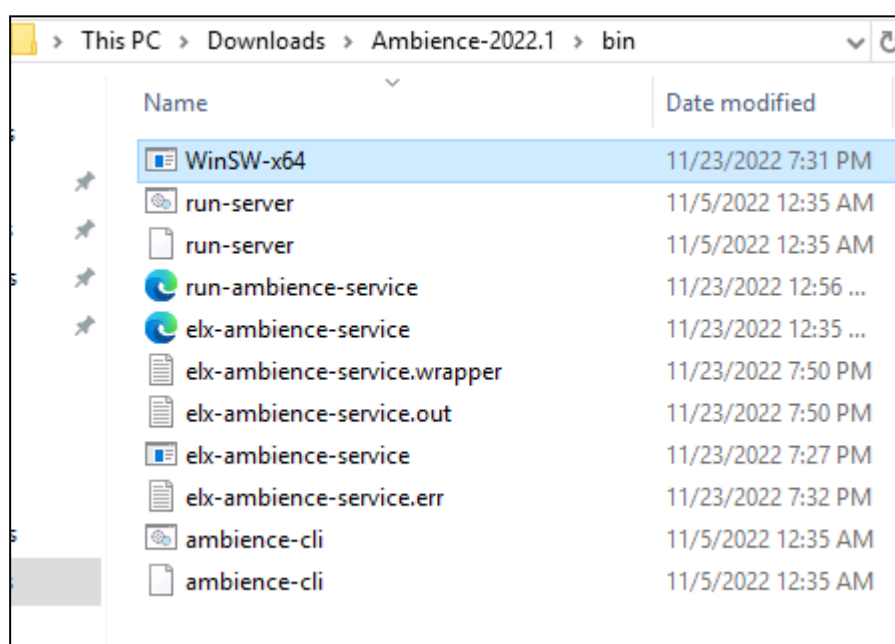
top - 05:43:57 up 1 day, 13:38, 3 users, load average: 0.07, 0.11, 0.05
Tasks: 127 total, 1 running, 68 sleeping, 0 stopped, 0 zombie
%Cpu(s): 0.2 us, 0.0 sy, 0.0 ni, 99.8 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 4030832 total, 255956 free, 773972 used, 3000904 buff/cache
KiB Swap: 4027388 total, 4026864 free, 524 used, 2982368 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 23397 root        20   0 3806260 436160 21988 S   0.7 10.8   0:29.72 java
 19687 mongod     20   0 1720788 191680 43584 S   0.3  4.8   7:48.53 mongod
 23489 root        20   0  42788   3920  3328 R   0.3  0.1   0:00.05 top

```

**11(ii) How To Run Ambience/Repertoire 202x As A Service In A Windows Environment:**

- a. Download the necessary files
  - Download WinSw-x64.exe from the this link - <https://github.com/winsw/winsw/releases/tag/v2.11.0>
  - Download **elx-ambience-service.xml** or **elx-repertoire-service.xml** from this forum - <https://support.elixirtech.com/t/installing-ambience-repertoire-202x-as-a-windows-service/421>
- b. Move WinSw-x64.exe into bin, sub directory Ambience/Repertoire 202x.



- c. Rename WinSw-x64.exe to **elx-ambience-service.exe** or **elx-repertoire-service.exe**
  - 1/ Open Command Prompt as Administrator.
  - 2/ Run the following command to start Ambience/Repertoire 202x as a Windows



service:

For Ambience 202x:

**elx-ambience-service.exe install elx-ambience-service.xml**  
**elx-ambience-service.exe start elx-ambience-service.xml**

For Repertoire 202x:

**elx-repertoire-service.exe install elx-repertoire-service.xml**  
**elx-repertoire-service.exe start elx-repertoire-service.xml**



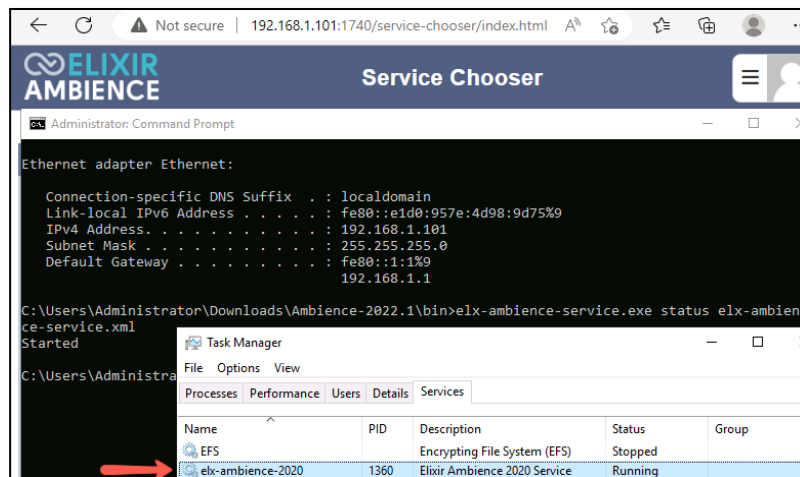
```
Administrator: Command Prompt

C:\Users\Administrator\Downloads\Ambience-2022.1\bin>elx-ambience-service.exe install elx-ambience-service.xml
2022-11-23 19:50:30,957 INFO - Installing service 'Elixir Ambience 2020 Service (elx-ambience-2020)'...
2022-11-23 19:50:30,982 INFO - Service 'Elixir Ambience 2020 Service (elx-ambience-2020)' was installed successfully.

C:\Users\Administrator\Downloads\Ambience-2022.1\bin>elx-ambience-service.exe start elx-ambience-service.xml
2022-11-23 19:50:37,927 INFO - Starting service 'Elixir Ambience 2020 Service (elx-ambience-2020)'...
2022-11-23 19:50:38,446 INFO - Service 'Elixir Ambience 2020 Service (elx-ambience-2020)' started successfully.

C:\Users\Administrator\Downloads\Ambience-2022.1\bin>
```

d. Check the status with the Task manager.



The screenshot shows the Elixir Ambience Service Chooser web interface at the top. Below it, a Command Prompt window displays network configuration for the Ethernet adapter and the successful execution of the service status command. The Task Manager Services tab is open, showing a list of services. The 'elx-ambience-2020' service is highlighted in blue, and a red arrow points to it. The service is running.

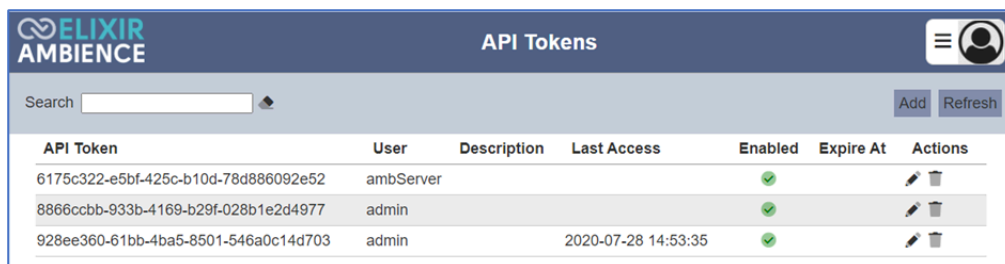
| Name              | PID  | Description                  | Status  | Group |
|-------------------|------|------------------------------|---------|-------|
| EFS               |      | Encrypting File System (EFS) | Stopped |       |
| elx-ambience-2020 | 1360 | Elixir Ambience 2020 Service | Running |       |







## 12. Rendering a Report Template via REST API

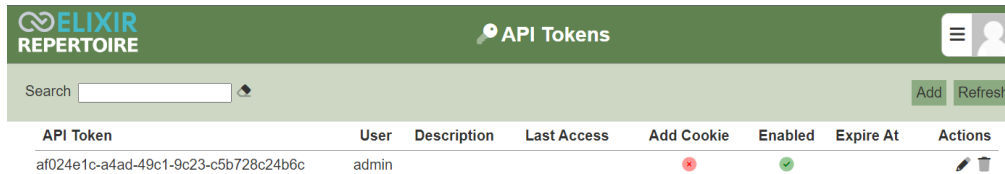
The following example showcases how a report template on the Elixir Ambience or Repertoire server repository is rendered via REST API.



### a. Create API token

Add an API token and assign a user account to this API token. The API token string will be appended to the API call in a later step.



| API Token                            | User      | Description | Last Access         | Enabled | Expire At | Actions   |
|--------------------------------------|-----------|-------------|---------------------|---------|-----------|---|
| 6175c322-e5bf-425c-b10d-78d886092e52 | ambServer |             |                     | ✓       |           |   |
| 8866ccbb-933b-4169-b29f-028b1e2d4977 | admin     |             |                     | ✓       |           |   |
| 928ee360-61bb-4ba5-8501-546a0c14d703 | admin     |             | 2020-07-28 14:53:35 | ✓       |           |   |

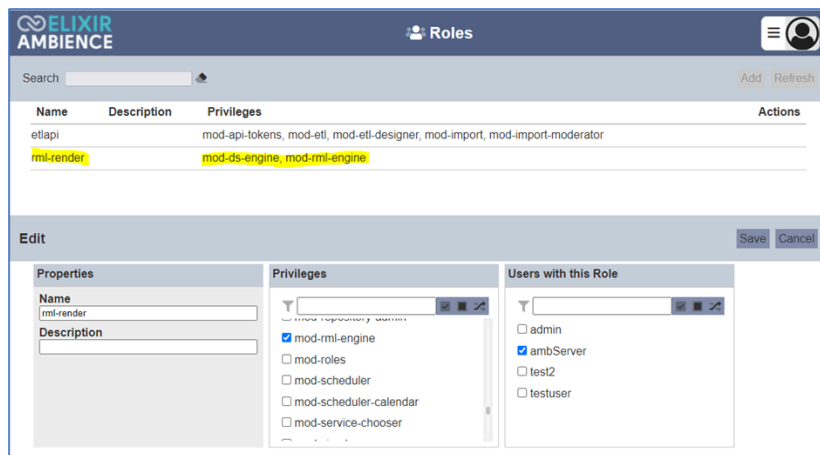
  


| API Token                            | User  | Description | Last Access | Add Cookie | Enabled | Expire At | Actions   |
|--------------------------------------|-------|-------------|-------------|------------|---------|-----------|---|
| af024e1c-a4ad-49c1-9c23-c5b728c24b6c | admin |             |             | ✗          | ✓       |           |   |

### b. Create Role

Add a role and assign a user that has the following access privileges:

- mod-ds-engine
- mod-rml-engine



| Name       | Description | Privileges  | Actions |
|------------|-------------|---|---------|
| etlapi     |             | mod-api-tokens, mod-eti, mod-eti-designer, mod-import, mod-import-moderator |         |
| rml-render |             | mod-ds-engine, mod-rml-engine   |         |

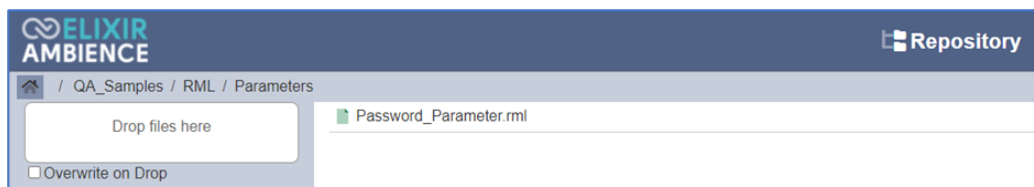
  

| Properties   | Privileges  | Users with this Role   |
|--|---|--|
| Name: <input type="text" value="rml-render"/><br>Description: <input type="text"/> | <input checked="" type="checkbox"/> mod-rml-engine<br><input type="checkbox"/> mod-roles<br><input type="checkbox"/> mod-scheduler<br><input type="checkbox"/> mod-scheduler-calendar<br><input type="checkbox"/> mod-service-chooser | <input type="checkbox"/> admin<br><input checked="" type="checkbox"/> ambServer<br><input type="checkbox"/> test2<br><input type="checkbox"/> testuser |

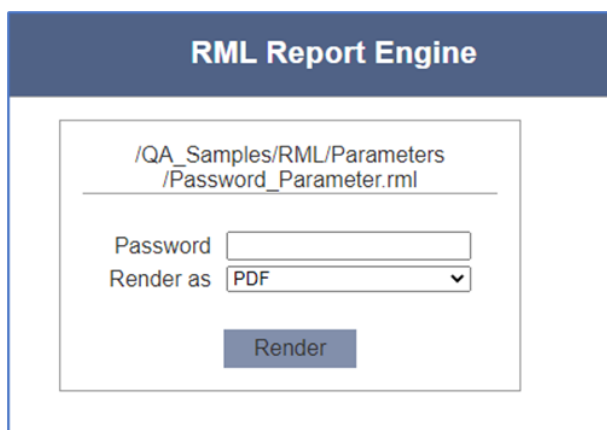
c. Sample Report Template

For this example we will use a sample report template with a parameter. The path of this report template is:

/QA\_Samples/RML/Parameters/Password\_Parameter.rml



The parameter in this rml template is 'password', e.g.



d. Creating the API call

Using the HTTP endpoint, construct the HTTP call to the rml rendering engine by appending '?elx.token=' and the API token, e.g.

<http://localhost:8081/rml-engine/api/v1/render?elx.token=6175c322-e5bf-425c-b10d-78d886092e52>

Construct a header in json format, e.g



```
-H "Content-Type: application/json" -d "{\"rml\":
  \"/QA_Samples/RML/Parameters/Password_Parameter.rml\", \"Password\":
  \"testparameter\", \"renderDetails\": { \"RenderAsImage\": \"Yes\",
  \"AllowScreenReaders\": \"No\" }}" -o result.pdf
```

- "/QA\_Samples/RML/Parameters/Password\_Parameter.rml" is the path of the rml file.
- "Password" is the parameter name, "testparameter" is the parameter value.
- "renderDetails" refer to the PDF rendering options in the array { "RenderAsImage": "Yes", "AllowScreenReaders": "No" }
- -o result.pdf indicates the output file name

Test the API call using CURL, e.g.

```
curl -v -X POST
http://localhost:8081/rml-engine/render?elx.token=6175c322-e5bf-425c-b10d-78d8
86092e52 -H "Content-Type: application/json" -d "{\"rml\":
  \"/QA_Samples/RML/Parameters/Password_Parameter.rml\", \"Password\":
  \"testparameter\", \"renderDetails\": { \"RenderAsImage\": \"Yes\",
  \"AllowScreenReaders\": \"No\" }}" -o result.pdf
```

```
C:\app>curl -v -X POST http://localhost:8081/rml-engine/render?elx.token=6175c322-e5bf-425c-b10d-78d886092e52 -H "Content-Type: applicati
on/json" -d "{\"rml\": \"/QA_Samples/RML/Parameters/Password_Parameter.rml\", \"Password\": \"testparameter\", \"renderDetails\": { \"Rende
rAsImage\": \"Yes\", \"AllowScreenReaders\": \"No\" }}" -o result.pdf
Note: Unnecessary use of -X or --request, POST is already inferred.
 % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload  Total   Spent    Left   Speed
  0   0     0    0     0     0      0      0  --:--:-- --:--:-- --:--:--    0*   Trying ::1...
* TCP_NODELAY set
* Connected to localhost (::1) port 8081 (#0)
> POST /rml-engine/render?elx.token=6175c322-e5bf-425c-b10d-78d886092e52 HTTP/1.1
> Host: localhost:8081
> User-Agent: curl/7.55.1
> Accept: */*
> Content-Type: application/json
> Content-Length: 160
>
} [160 bytes data]
* upload completely sent off: 160 out of 160 bytes
< HTTP/1.1 200 OK
< Cache-Control: max-age=0, must-revalidate
< X-Content-Type-Options: nosniff
< X-XSS-Protection: 1; mode=block
< X-Frame-Options: SAMEORIGIN
< Content-Disposition: inline; filename="Password_Parameter.pdf"
< X-elxjob.PageCount: 1
< X-elxjob.ByteCount: 3464
< X-elxjob.RecordCount: 0
< X-elxjob.ElapsedTime: 86
< X-elxjob.StatusCode: 1
< Date: Thu, 09 Sep 2021 13:36:19 GMT
< Content-Type: application/pdf
< Content-Length: 3464
<
} [3464 bytes data]
100 3624 100 3464 100 160 3464 160 0:00:01 --:--:-- 0:00:01 13624
* Connection #0 to host localhost left intact
```



- Another approach would be to write the report template, its rendering options and parameters to a json file and specify the path of the json file, e.g.

```
curl -v -X POST
http://localhost:8081/rml-engine/api/v1/render?elx.token=6175c322-e5bf-425c-b10d-78d886092e52 -H "Content-Type: application/json" --data "@/app/params.json"
--output result.pdf
```

```
C:\app>curl -v -X POST http://localhost:8081/rml-engine/api/v1/render?elx.token=6175c322-e5bf-425c-b10d-78d886092e52 -H "Content-Type: application/json" --data "@/app/params.json" --output result.pdf
Note: Unnecessary use of -X or --request, POST is already inferred.
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
  0     0    0     0    0     0      0      0  --:--:-- --:--:-- --:--:--    0*   Trying ::1...
* TCP_NODELAY set
* Connected to localhost (::1) port 8081 (#0)
> POST /rml-engine/api/v1/render?elx.token=6175c322-e5bf-425c-b10d-78d886092e52 HTTP/1.1
> Host: localhost:8081
> User-Agent: curl/7.55.1
> Accept: */*
> Content-Type: application/json
> Content-Length: 160
>
} [160 bytes data]
* upload completely sent off: 160 out of 160 bytes
< HTTP/1.1 200 OK
< Cache-Control: max-age=0, must-revalidate
< X-Content-Type-Options: nosniff
< X-XSS-Protection: 1; mode=block
< X-Frame-Options: SAMEORIGIN
< Content-Disposition: inline; filename="Password_Parameter.pdf"
< X-elxjob.PageCount: 1
< X-elxjob.ByteCount: 3464
< X-elxjob.RecordCount: 0
< X-elxjob.ElapsedTime: 91
< X-elxjob.StatusCode: 1
< Date: Thu, 09 Sep 2021 13:53:41 GMT
< Content-Type: application/pdf
< Content-Length: 3464
<
{ [3464 bytes data]
100 3624 100 3464 100 160 3464 160 0:00:01 --:--:-- 0:00:01 14496
* Connection #0 to host localhost left intact
```

---

### 13. Rendering a report via the RepertoireClient.jar

The following example showcases how to render a report template using the new RepertoireClient jar.

The full Java codes used in this example as well as the /ElixirSamples directory which includes the required RML templates and data sources could be downloaded [here](#).

There are 3 parts to this example as listed below. Do refer to the necessary points as required from your end.

- i) Using name/password authentication
- ii) Using Ambience/Repertoire Generated API token
- iii) Reports with Parameters

To start off, create a new project in your preferred java IDE and add the following jar files under the project library tree.

- elx-build-client\_2.x\*.jar
- elx-repertoire-client\_2.x\*.jar
- httpclient5-\*.jar
- httpclient5-fluent-\*.jar
- httpcore5-h2-5\*.jar
- json4s-ast\_2.\*.jar
- json4s-core\_2.\*.jar
- json4s-native\_2.\*.jar
- json4s-native-core\_2.\*.jar
- json4s-scalap\_2.\*.jar
- paranamer-2.\*.jar
- scala-library-2.\*.jar
- slf4j-api-2.\*.jar

### 13(i) Using name/password authentication:

- a. Additional configuration to etc/application.conf file.
  - To enable name/password authentications from non-web interfaces via “resource-owner-password”, add the following line to your configuration file.
  - **elixir.sso.server.resource-owner-password-enabled = true**
  
- b. Next, to walk through the codes. Firstly, declare the server address, username & password.

Java

```
final static String server = "http://localhost:1740";
final static String username = "admin";
final static String password = "sa";
```

- c. Create a new method, “testRml1”. This method would render the Master-Detail Report.rml as “sample-rml1.pdf” over at the user’s local temp directory in PDF format.

Java

```
private static void testRml1() throws IOException {
    RepertoireClient client = new RepertoireClient(server, username, password);
    ByteArrayOutputStream os = new ByteArrayOutputStream();
    HashMap<String, String> emptyMap = new HashMap<>();
    JobInfo info = client.renderReport("/ElixirSamples/Report/RML/Master-Detail
Report.rml", "application/pdf", emptyMap, emptyMap, os);
    File tmpDir = new File(System.getProperty("java.io.tmpdir"));
    File output = new File(tmpDir, "sample-rml1.pdf");
    Files.write(output.toPath(), os.toByteArray());
    System.out.println("File rendered to: " + output.getAbsolutePath());
    System.out.println(info.getEntries().mkString("Entries(", ", ", ", ")"));
    System.out.println("-----");
}
```

- d. Next, ensure that the method name is declared in the main class.

Java

```
public static void main(String[] args) throws IOException {  
    testRml1();  
}
```

- e. Once code has been executed, you should be able to see the following in your console:

```
File rendered to: C:\Users\██████████\AppData\Local\Temp\sample-rml1.pdf  
Entries(record-count: 117, byte-size: 99883, status-code: 1, elapsed-time: 200, page-count: 8)
```

- States the path where the report has been rendered as well as the report's record-count, byte-size, status-code, elapsed-time and page-count.
- f. To render the report in XLSX format, simply revise "application/pdf" to "application/vnd.openxmlformats-officedocument.spreadsheetml.sheet".



### 13(ii) Using Ambience/Repertoire Generated API token

- a. Create API token
  - Add an API token and assign a user account to this API token. The API token string will be appended to the API call in a later step.

| ELIXIR AMBIENCE                      |           | API Tokens  |                     |         |           |         |             |
|--------------------------------------|-----------|-------------|---------------------|---------|-----------|---------|-------------|
| Search <input type="text"/>          |           |             |                     |         |           |         | Add Refresh |
| API Token                            | User      | Description | Last Access         | Enabled | Expire At | Actions |             |
| 6175c322-e5bf-425c-b10d-78d886092e52 | ambServer |             |                     | ✓       |           |         |             |
| 8866ccbb-933b-4169-b29f-028b1e2d4977 | admin     |             |                     | ✓       |           |         |             |
| 928ee360-61bb-4ba5-8501-546a0c14d703 | admin     |             | 2020-07-28 14:53:35 | ✓       |           |         |             |

| ELIXIR REPERTOIRE                    |       | API Tokens  |             |            |         |           |             |
|--------------------------------------|-------|-------------|-------------|------------|---------|-----------|-------------|
| Search <input type="text"/>          |       |             |             |            |         |           | Add Refresh |
| API Token                            | User  | Description | Last Access | Add Cookie | Enabled | Expire At | Actions     |
| af024e1c-a4ad-49c1-9c23-c5b728c24b6c | admin |             |             | ✗          | ✓       |           |             |

- b. Ensure that the server address is declared.

```
final static String server = "http://localhost:1740";
```

- c. Create a new method, "testRml4". This method would render the Master-Detail Report.rml as "sample-rml4.pdf" over at the user's local temp directory in PDF format.

Java

```
private static void testRml4() throws IOException {
    //Insert your token here
    String apiToken = "11894fad-0a0b-4a16-8c48-a2vfbsbaea2c15";
    RepertoireClient client = new RepertoireClient(server, apiToken);
    ByteArrayOutputStream os = new ByteArrayOutputStream();
    HashMap<String, String> emptyMap = new HashMap<>();
    JobInfo info = client.renderReport("/ElixirSamples/Report/RML/Master-Detail
Report.rml", "application/pdf", emptyMap, emptyMap, os);
    File tmpDir = new File(System.getProperty("java.io.tmpdir"));
    File output = new File(tmpDir, "sample-rml4.pdf");
    Files.write(output.toPath(), os.toByteArray());
    System.out.println("File rendered to: " + output.getAbsolutePath());
    System.out.println(info.getEntries().mkString("Entries(", ", ", ", ")"));
    System.out.println("-----");
}
```

- d. Next, ensure that the method name is declared in the main class.

Java

```
public static void main(String[] args) throws IOException {
    testRml1();
}
```

- e. Once code has been executed, you should be able to see the following in your console:

```
File rendered to: C:\Users\████████\AppData\Local\Temp\sample-rml4.pdf
Entries(record-count: 117, byte-size: 99803, status-code: 1, elapsed-time: 213, page-count: 8)
```

- States the path where the report has been rendered as well as the report's record-count, byte-size, status-code, elapsed-time and page-count.

- f. To render the report in XLSX format, simply revise “application/pdf” to “application/vnd.openxmlformats-officedocument.spreadsheetml.sheet”.

### 13(iii) Reports with Parameters

- a. To pass in parameters, revise the codes as shown below to add in the parameters:

```

Java
private static void testRml4() throws IOException {

    String apiToken = "11894fad-0a0b-4a16-8c48-a2vfsbaea2c15";
    RepertoireClient client = new RepertoireClient(server, apiToken);
    ByteArrayOutputStream os = new ByteArrayOutputStream();

    HashMap<String, String> paramMap1 = new HashMap<>();
    HashMap<String, String> paramMap2 = new HashMap<>();

    //Format: paramMap1.put("<parameter-name>", "<parameter-value>")
    paramMap1.put("param1", "Hello");
    paramMap1.put("param2", "Hello");
    paramMap1.put("param3", "Hello");

    JobInfo info =
client.renderReport("/ElixirSamples/Report/RML/Master-Detail Report.rml",
"application/pdf", paramMap1, paramMap2, os);

    File tmpDir = new File(System.getProperty("java.io.tmpdir"));
    File output = new File(tmpDir, "sample-rml4.pdf");
    Files.write(output.toPath(), os.toByteArray());

    System.out.println("File rendered to: " + output.getAbsolutePath());
    System.out.println(info.getEntries().mkString("Entries(", " ", " ", ")"));
    System.out.println("-----");
}

```

## 14. Others

- a. Adding timeout settings for report template rendering
  - The default report rendering timeout in Ambience 202x is 60 seconds. Add the following lines to the etc/application.conf to extend the rendering timeout beyond 60 seconds, e.g.
    - i. ambience.rml-engine.default-timeout: 360 seconds
    - ii. ambience.docx-engine.default-timeout: 360 seconds
  
- b. Deprecated data sources
  - Below is a list of data sources that are no longer supported by Ambience 202x:
    - i. ARFF
    - ii. Binary
    - iii. Cache
    - iv. FileSystem
    - v. Form
    - vi. GSS
    - vii. Random
    - viii. Reference
  
- c. Deprecated rml template functions
  - These rml functions, from Repertoire 8.x and Ambience 4.x, are no longer supported by Ambience 202x:
    - i. Safe file
    - ii. elxfn.terminate function
    - iii. Call-back function
  
- d. Repertoire Designer
  - Apart from utilising the designer in Repertoire 202x, the Repertoire Designer could be used along with Ambience 202x and above.
  - Do refer to the following entry for more details:  
<https://support.elixirtech.com/t/using-the-repertoire-designer-with-ambience-2022-above/625>



## 15. Useful links

Elixir Ambience/Repertoire v202x documentation(s):

<https://support.elixirtech.com/t/elixir-ambience-repertoire-202x-documentation/247>

Elixir Support Forum:

<https://support.elixirtech.com/>