

REPERTOIRE 2025 SETUP GUIDE



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This document describes the setup of the Repertoire 2025 software and its pre-requisites, as well as creating a simple dashboard.

Refer to the following websites for more information:

- <u>https://docs.elixirtech.com/Repertoire/2025.0/index.html</u>
- <u>www.elixirtech.com</u>

Do note that this guide also works for Ambience software suite. To use for Ambience software, change all instances of "repertoire" in commands to "ambience" and change the port to 1740.

Another point to note for Ambience software is that it uses MongoDB, which is not mentioned here.

1. Pre-requisites

The following are the pre-requisites for Repertoire 2025 software suite:

- Java 17 or above (including OpenJDK)
- Repertoire 2025

2. Setup Repertoire

2.1. Installation

2.1.1. Install Dependencies – Java

Install Java 17

You need to download and install any Java 17 or above (including Open JDK) or higher for Repertoire.

2.1.2. Install Repertoire

Contact our representatives for the Repertoire suite and a licence. The Repertoire comes in a form of a zip file.

To install Repertoire, extract the zip file to the desired location.

2.2. Repertoire

2.2.1. Launch Repertoire on Windows

Use the following steps to launch Repertoire on Windows:

- 1. Go to Repertoire root directory, then to the "bin" folder.
- 2. To launch Repertoire:
 - Double click on the "run-server.bat" file for Windows
 - Execute "run-server" in terminal window
- 3. For Windows, if this is the first time you launch Repertoire, a dialog will appear.

Windows protected your PC	×	
Microsoft Defender SmartScreen prevented an unrecognized app from starting. Running this app might put your PC at risk. More info		
Don't rur	۱	

In the dialog box, click on "More Info".



Click on "Run anyway" button at the bottom.

4. A command window will appear. DO NOT close this command window.

C:\WINDOWS\syste	m32\cmd.exe —
5:53:30.446 INFO	a.identity.SimpleIdentityModule - SimpleIdentity running
	c.e.codex.memory.InMemoryCodexDB - loaded 1 documents from C:\Users\RepertoireServer\.\data\codex
Identities\record	
5:53:30.453 INFO	c.e.codex.memory.InMemoryCodexDB - loaded 2 documents from C:\Users\RepertoireServer\.\data\codex
Identities\record	s.data
5:53:30.503 INFO	ambience.module.ModuleRegisterImpl - Module loaded ok: identity (Identities)
5:53:30.503 INFO	ambience.module.ModuleRegisterImpl - Module loaded ok: licence-deployer (Licence Deployer)
5:53:30.503 INFO	ambience.module.ModuleRegisterImpl - Module loaded ok: privileges (Privileges)
5:53:30.504 INFO	ambience.module.ModuleRegisterImpl - Module loaded ok: service-chooser (Service Chooser)
5:53:30.505 INFO	ambience.module.ModuleRegisterImpl - Module loaded ok: simple-sso (Simple SSO)
5:53:30.505 INFO	ambience.module.ModuleRegisterImpl - Module loaded ok: users (Users)
5:53:30.515 INFO	c.e.codex.memory.InMemoryCodexDB - loaded 2 documents from C:\Users\RepertoireServer\.\data\codex
RunInfo\records.d	ata
5:53:30.540 INFO	
	ambience.module.InMemoryRunInfo - PId = 16828@DESKTOP-3C1RSM6 RunId = 3
	ambience.module.CodexLauncher - Registering NoLifecycle
	ambience.module.CodexLauncher - CodexLauncher running
	c.e.codex.memory.InMemoryCodexDB - loaded 6 documents from C:\Users\RepertoireServer\.\data\codex
Privileges\record	
5:53:30.585 INFO	ambience.module.CodexLauncher - Privileges configured
	c.e.codex.memory.InMemoryCodexDB - loaded 1 documents from C:\Users\RepertoireServer\.\data\codex
Users\records.dat	
	ambience.module.CodexLauncher - User access configured
	ambience.module.CodexLauncher - Running with WebRoot: C:\Users\RepertoireServer\web
	ambience.module.CodexLauncher - Server listening on 0.0.0.0, 1730
5:53:30.792 WARN	
	c.e.arch.info.JVMMinuteMinder - CPU: 24 / 20 RAM: 66 / 4042 Load: -100
	c.e.codex.memory.InMemoryCodexDB - loaded 20 documents from C:\Users\RepertoireServer\.\data\codex

- 5. 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".
- 6. Open a browser, key in "localhost:1730" on the address bar and hit the "Enter" key.
- 7. The Elixir Repertoire login page will appear.

Elixir Single Sign-On	
Elixir Repertoire	
Username	
Password	
2FA Code	
Login Can't access your account?	
	Copyright 2025 Elixir Technology Pte Ltd

2.2.2. Launch Repertoire on Ubuntu

Use the following steps to launch Repertoire on Ubuntu:

- 1. In the terminal window, navigate to the Repertoire root directory, then to the "bin" folder.
- 2. In the terminal window, execute the command to launch Repertoire:

./run-server

QA:bin zhouying\$.	/run-server
Config using defau	lts
09:19:10.093 INFO	ambience.module.Launcher - Log current config: true
09:19:10.134 INFO	ambience.module.Launcher - Launcher invoked
09:19:10.168 INFO	ambience.module.StartupTests - user.name=zhouying
09:19:10.169 INFO	<pre>ambience.module.StartupTests - user.home=/Users/zhouying</pre>
09:19:10.169 INFO	ambience.module.StartupTests - user.dir=/Users/zhouying/Test/Ambience/2020-SNAPSHO
т	
09:19:10.170 INFO	ambience.module.StartupTests - java.version=11.0.3
09:19:10.171 INFO	ambience.module.StartupTests - java.vendor=Oracle Corporation
09:19:10.171 INFO	ambience.module.StartupTests - java.home=/Library/Java/JavaVirtualMachines/jdk-11.
0.3.jdk/Contents/H	ome
09:19:10.171 INFO	<pre>ambience.module.StartupTests - java.io.tmpdir=/var/folders/4t/4t8mqkvj3zv7s8z2yh1f</pre>
v9xw0000gn/T/	
09:19:10.172 INFO	ambience.module.StartupTests - os.name=Mac OS X
09:19:10.172 INFO	ambience.module.StartupTests - os.arch=x86_64
09:19:10.172 INFO	ambience.module.StartupTests - os.version=10.14.6
09:19:10.878 INFO	akka.event.slf4j.Slf4jLogger - Slf4jLogger started
09:19:11.696 INFO	com.elixirtech.arch.info.JavaPID - JVM Name = 60919@QA
09:19:11.709 INFO	com.elixirtech.mongodb.MongoDB - MongoDB ambience Serial=1
09:19:11.716 INFO	com.elixirtech.mongodb.MongoDB - Building MongoDB Client starting (com.elixirtech.
	<pre>goDB.buildMongoClient:30)</pre>
09:19:11.852 INFO	org.mongodb.driver.cluster - Cluster created with settings {hosts=[localhost:27017

- 3. Open a browser, key in "localhost:1730" on the address bar and hit the "Enter" key.
- 4. The Elixir Repertoire login page will appear.

Elixir Single Sign-On
Elixir Repertoire
Jsername
Password
2FA Code
Login Can't access your account?
Copyright 2025 Elixir Technology Pte Ltd

2.2.3. Launch Repertoire on macOS

Use the following steps to launch Repertoire on macOS:

- 1. In the terminal window, navigate to the Repertoire root directory, then to the "bin" folder.
- 2. In the terminal window, execute the command

```
2. In the terminical window, exceeded the community
./run-server
QA:bin zhouying$ ./run-server
Config using defaults
09:19:10.093 INFO ambience.module.Launcher - Log current config: true
09:19:10.134 INFO ambience.module.StartupTests - user.name=zhouying
09:19:10.168 INFO ambience.module.StartupTests - user.name=zhouying
09:19:10.169 INFO ambience.module.StartupTests - user.name=zhouying
09:19:10.169 INFO ambience.module.StartupTests - user.name=zhouying
09:19:10.170 INFO ambience.module.StartupTests - java.version=11.0.3
09:19:10.170 INFO ambience.module.StartupTests - java.version=11.0.3
09:19:10.171 INFO ambience.module.StartupTests - java.version=11.0.3
09:19:10.171 INFO ambience.module.StartupTests - java.home=/Library/Java/JavaVirtualMachines/jdk-11.
0.3.jdk/Contents/Home
09:19:10.171 INFO ambience.module.StartupTests - java.io.tmpdir=/var/folders/4t/4t8mgkvj3zv7s8z2yhlf
v9ww0000g/T/
09:19:10.172 INFO ambience.module.StartupTests - os.aname=Mac OS X
09:19:10.172 INFO ambience.module.StartupTests - os.ersion=10.14.6
09:19:10.172 INFO ambience.module.StartupTests - os.ersion=10.14.6
09:19:11.709 INFO com.elixirtech.arch.info.JavaPID - JVN Name = 60919@QA
09:19:11.709 INFO com.elixirtech.mongodb.MongoDB - MongoDB ambience Serial=1
09:19:11.716 INFO com.elixirtech.mongodb.MongoDB - MongoDB ambience Serial=1
09:19:11.176 INFO org.mongodb.driver.cluster - Cluster created with settings (hosts=[localhost:27017
3 Open a browser kay in "localhost:1720" on the address har and hit the "Enter"
```

- 3. Open a browser, key in "localhost:1730" on the address bar and hit the "Enter" key.
- 4. The Elixir Repertoire login page will appear.

Elixir Single Sign-On
Elixir Repertoire
Username
Password
2FA Code
Login Can't access your account?
Copyright 2025 Elixir Technology Pte Ltd

2.2.4. Login

By default, the Repertoire has a super user "admin".

Use the following steps to log into Repertoire:

- 1. After launching Repertoire, the log-in page will appear.
- 2. To log into Repertoire, key in the following:
 - Username: admin
 - Password: sa
 - 2FA Code: 6-digit code

	Elixir Repertoire
Username	
Password	
2FA Code	
	Login
	Can't access your account?

If 2FA has not been enabled, the 2FA Code will not appear in the log-in page. Refer to the <u>Ambience-Repertoire Admin Guide</u> on how to enable 2FA.

If the user has not set up the 2FA yet, leaves the 2FA Code blank.

If the user has forgotten the password, click on the "Can't access your account?" link at the bottom right. A dialog box will appear, prompting the user to enter the user's username.

(Elixir Repertoire
	enter your u "Request Pa An email wit	remember your password, please sername below and press the assword Reset" button. th reset instructions will be sent to red email address.
	Username	
		Request Password Reset Back to login

Click on the "Request Password Reset" button and the new password will be sent to the user's email along with a notification. To abort this action, click on the "Back to login..." link at the bottom right.



Reset request accepted. Please check your email for more details.

3. Click on the "Login" button. Upon login, the "Service Chooser" screen will appear with default modules in the "Favourites" options.



4. Click on the "All Services" option in the left panel to display the list of available modules in the right panel.

K E All Services Search	admin 🔶
Al Migration Pinned Ad Migration	
User Settings	
Licence Deployer	
Queue Monitor Redirect Report Portal	*
Repository Roles	
Secrets System Information System Settings	
Text Templates User Settings	

5. If the licence in Repertoire is the minimal licence, the right panel will display the set of modules that are allowed by the minimal licence. Contact our representatives for the new licence if the current licence expires.

2.2.5. Logout

To log out of Repertoire, click on the "Profile" icon on the upper right corner of the page. A dialog box will appear. Click on the "Sign out from Elixir Repertoire" portion to log out of Repertoire.



2.2.6. Repertoire Interface

This section briefly describes the interface of the Repertoire "Service Chooser" page.

Upon login into Repertoire, you will see the "Service Chooser" page. This page will display all the modules that are currently available.

2 📑	All Servi	ices	Sea	rch	٠		admin (
Vice Pinned		4 Migration	,0	API Tokens		Banners	
User Setting	P E	TL	00	ETL Daemon		Identities	
	2	icence Deployer	11	Lookup	۲	Privileges	
		Queue Monitor		Redirect	6	Report Portal	*
	E R	Repository	*	Roles		Scheduler	

Navigation	Consists of three parts:			
Panel				
Fallel	At the top – Show/Hide button and Elixir Repertoire logo			
	At the centre – List of service options			
	At the bottom – Toggle Dark/Light mode button			
Show/Hide	Expand or collapse the navigation panel.			
button	By default, the navigation panel is shown (expanded). If			
	collapsed, the navigation panel shows only the icons of the			
	service options.			
	Ravourites			
	All Services			
	Pinned			
	🔯 User Settings 📖			
	Documentation			
Elixir	The Elixir Repertoire logo allows user to return to the Favourites			
Repertoire	option from any page the user has navigation to.			
Service	Any option selected in this panel will have its content displayed			
Options	in the Content Panel.			
Toggle Allows user to toggle between light and dark mode.				
Dark/Light	By default, light mode is used.			
button	e 📝 🗈 Al Services tourn a som G			
	a Riberer F Rend F Rend			
	Bite Services 27 Ex. OO El Carrer 🗃 Identita			
	🖉 Lone Cablyn K. 🖻 🗈 All Services burst 🛛 🔹 units 💽			
	Gaustions & France B France 1 France			
	e Une fordage Provider O Description P TL Description B Reality Constraints			
	🔓 Linne Turkyer 🗮, Linke 🕑 Trikyen			
	👔 Constituter 🔷 Indust 🗈 Ingentral			
	C Transfer			
Content Panel	Displays the content of the option selected in the Navigation			
	Panel or any other page navigation to.			
	When the "All Services" option is selected, the services			
	available to the user will be displayed			
Logout	When clicked upon, a pop-up will appear. Displaying the user's			
	profile at the top and the logout option below.			
	Click on "Sign out from Elixir Repertoire" to log out of			

2.3. **Deploy Licence**

When the Repertoire is initially installed, it comes with a default licence. This default licence allows a minimal set of modules and does not have an expiration date.

To access to other modules in Repertoire, a new licence needs to be imported into Repertoire. This new licence has an expiration date and need to be replaced before the expiry or Repertoire will fall back onto the minimal set of modules.

There are two methods to deploy the licence, either by using the Repertoire interface or by using the Ambience command line interface. This method is useful during setup as you can install the licence before starting the server, hence avoiding the need to stop and restart.

To deploy a licence using Repertoire interface:

1. From the "Service Chooser" page, select the "Licence Deployer" in the right panel. If Ambience is initially installed and logged in for the first time, step 2 will appear directly.

< =1	All Services	Search 🖉	admin 🧲
Favourites All Services Pinned	A4 Migration	API Tokens	Banners
User SettingsDocumentation	ETL	ETL Daemon	Les Identities
	Licence Deployer	Lookup	Privileges
	Queue Monitor	Redirect	Report Portal

The "Licence Deployer" page will appear. 2.

Jicence Deployer	admin 😝
Read from file Choose File No file chosen	Deploy Licence

3. Click on the "Choose File" button and browse to the location of the licence file (ElixirRepertoire.licence). The content of the licence file will appear in the editor.



- If the content is correct, click on the "Deploy Licence" button at the upper right corner 4. of the page.
- Upon successful upload, a message will appear. 5.



6. After the licence has been deployed to the server. Restart the server for the licence to take effect.

7. Ensure to map any new privileges to the desired users to see the new modules.

To deploy a licence using Repertoire command line interface:

- 1. Open a terminal window and navigate to the Repertoire main folder, then navigate to the "bin" folder.
- 2. In the command line, key in the following command:

```
repertoire-cli deploy-licence <path of ElixirRepertoire.licence
file>
```

3. The command line window will display messages indicating the successful deployment.

🔤 Command Prompt	_		×
C:\Users\Repertoire	e\bin>repertoire-cli deploy-licence C:\ElixirRepertoire.licence		~
20:10:37.821 INFO	com.elixirtech.mongodb.MongoDB - MongoDB connection information: localhost:27017		
20:10:37.831 INFO	com.elixirtech.mongodb.MongoDB - MongoDB ambience Serial=1		
20:10:37.842 INFO	com.elixirtech.mongodb.MongoDB - Building MongoDB Client starting (com.elixirtech.mongodb	.Defau	ltMong
oDB.buildMongoClier	nt:48)		
20:10:38.374 INFO	com.elixirtech.mongodb.MongoDB - Building MongoDB Client elapsed time 526ms		
20:10:38.375 INFO	com.elixirtech.mongodb.MongoDB - Opening database: ambience		
20:10:38.653 INFO	ambience.cli.DeployLicence - Licence Deployed		
C:\Users\Repertoire	e\bin>		

4. Restart the server to allow the new licence to take effect.

2.4. Report Generation

It is often required to generate reports, either an ad-hoc report or a report at a particular day or time of the month, every month.

For both cases, the report can be generated via the Repository module, manually.

But to generate a report month after month manually can be tedious and a repetitive task. This job can be automated using ETL chainset and a scheduler.

The following sections describe how to generate a report manually and how to automate a report to run monthly.

2.5. Manual Report Generation

A report can be generated manually via the Repository module.

The Repository module stores files, such as DocX and RML report templates and datasources which are used in report generation.

The following sections describes the above steps.

2.5.1. Upload Report Template and Datasource

To generate a report, a report template (either a DocX or RML) file and a datasource are required.

Use the following steps to upload the required files onto the repository:

1. From the "Service Chooser" page, select "Repository" in the right panel.

< =1	All Services	Search	admin (
Favourites All Services	A4 Migration	API Tokens	Banners
 Pinned User Settings Documentation 	ETL ETL	CO ETL Daemon	Identities
	Licence Deployer	Lookup	Privileges
	Queue Monitor	Redirect	Report Portal
	Repository	Roles	Scheduler

2. The "Repository" page will appear.

Repository	
User / admin	
Drop files here	
rwrite on Drop	
Add Folder	
Copy Folder	
Upload	
Upload Archive	
Download Zip	
Access Control	
Delete Multiple Files	

- 3. Navigate to the desired location in the repository.
- 4. If a new folder is required, click on the "Add Folder…" button on the left panel. The "Add Folder" dialog box will appear.

Add Folder			×
Folder Name			
		OK	Cancel

- 5. Key in a unique name for the new folder and click on the "OK" button.
- 6. A message will appear once the folder is added. If the name already exist, an error message will appear.

× Folder added successfully	New path a

here" box in the repository.

7. From the file explorer, select the desired file and drop the file onto the "Drop files

eady exists

21 February 2025

8. Once the file is deposited into the repository, it will appear in the Content Panel. Select the file and the available actions will appear in left panel.

2.5.2. Render Reports

To generate a report manually using the repository, the following steps are required:

- 1. In the Repository module, navigate to the location of the report template.
- 2. Select the desired report template file.



- 3. On the left panel, click on the "Render" button to generate the report.
- 4. The DocX Report Engine page will appear.

J	DocX Report	Engine				admin 🔶
		/ElixirSamples/Report/Do	ocX/Customer I	Profile by Location.do	DCX	
		city Render as	Burnaby DocX	~		
		Render	Now	~		

If a RML file is selected, the RML Report Engine page will appear.

- 5. Select the desired parameter and output format.
- 6. You can opt to render the immediately or select a pre-defined time to run the report from the drop-down list on the right of the "Render" button. After selecting the option, click on the "Render" button.
- 7. Depending on the selection, the report will be generated now or at the preselected timing.

Canada					
Burnaby (Canad	la)				
CustomerID	Education	Birth Date	Gender		
10185	Partial College	1973-04-22	М		
9015	Bachelors Degree	1922-05-25	F		
10016	High School Degree	1936-11-02	М		
9649	Partial High School	1937-07-28	М		
9128	Partial College	1930-01-23	F		
9843	Bachelors Degree	1931-09-07	F		
9650	Partial College	1924-05-15	F		
9880	High School Degree	1922-09-23	F		
9798	High School Degree	1977-04-07	М		

2.6. Automatic Report Generation

It is beneficial for the reports to be generated automatically instead of being generated manually. This can avoid error and forgetting to generate the report.

To generate based on a schedule, the following steps are required:

- 1. Upload the required report template (DocX or RML) and datasource onto the Repository.
- 2. Create ETL chainset that calls the report template to generate the report.
- 3. Create calendars and trigger that will automatically generates the report.

The following sections describes the above steps.

2.6.1. Report Template and Datasource

Before generating a report, the report template (either DocX or RML) file and the datasource must be present in the Repository module.

If they are not present, see <u>Section 2.5.1 Upload Report Template and Datasource</u> on how to upload the relevant files onto the repository.

2.6.2. Create ETL

Use the following steps to create an ETL chainset that calls the report and generates an output file:

1. Click on the 🗾 "Elixir Repertoire" icon on the upper left corner of the page and select "All Services". In the right panel, select "ETL".

< =1	All Services	Search	admin (
Favourites All Services Pinned	A4 Migration	API Tokens	Banners
User Settings	ETL	ETL Daemon	Identities
	Licence Deployer	Lookup	Privileges
	Queue Monitor	Redirect	Report Portal

2. The "ETL" page will appear.

F ETL								admin (🗲
Search		•		Add	More Actions	Refresh	Upload	Dictionary
Name	Owner	Workgroups	Roles	Last Modified		Enabled	ł	Actions
ReportGen	admin		Administrator	14:54:40		•		1

3. In the "ETL" page, click on the "Add" button on the upper right corner of the page. A "Add ETL Chainset" dialog box will appear.

Add ETL Chainset	×
Name	
Copy From	
Blank ETL	~
	OK Cancel

- 4. In the dialog box, key in and select the following:
 - "Name" field Key in a name for the new ETL chainset
 - "Copy From" field Selects to copy from existing ETL from drop-down list or a blank ETL
 - (in this example, a blank ETL is selected)
- 5. Click on the "OK" button to create the new blank ETL and the ETL Designer page will appear.

GenReport					
Group All	✓ Test Input	Output	✓		
X Chains	+ t = 🗙 Steps	Results			

6. In "Chains" section, click on the "+" icon. The "Add Chain" dialog box will appear.

Add Chain			×
Name			
Copy From	Blank Chain		~
		OK	Cancel

- 7. In the dialog box, key in and select the following:
 - "Name" Field Key in a name for the new
 - "Copy From" field Selects an existing chain from the drop-down list or a blank chain (in this example, select "Blank Chain")
- 8. Click on the "OK" button to save the changes. A message will appear upon successful saving the ETL.

			×		
Group All	✓ Test In	p ETL saved		Output	✓
X₄ Chains	+ • = ∞; Ste	ps	+	Results	Q
🗆 🖉 GenReport	0				

- 9. In this example, three steps are required:
 - a) First step Calls the Ambience RML engine to generate the report
 - b) Second step Defines the path of the report generated
 - c) Third step Places a marker to indicate the ETL chain is usable directly by authenticated HTTP calls
- 10. Click on the "+" icon in the "Steps" panel. The "Add Step" dialog box will appear.

Add Step			٠
Category	Action	Help	
JMS	JSON Array Writer		
JSON	JSON Reader		
Join	JSON Record		
Kafka	JSON String Reader		
Long Integer	JSON String Writer		
MQTT	JWT Decoder		
Mail	JWT Encoder		
MongoDB	Line Delimited JSON Reader		
Null	Line Delimited JSON Writer		
Number			
PDF			
PGP			
		Add	Close

11. Search and add the following ETL steps in the following category:

Category	Step Name
RML	Ambience RML Engine
File	File Writer
Result	HTTP Endpoint

12. Add first ETL step and click on the "Add" button. The ETL step will be added into the "Steps" panel. Repeat the other two steps and click on the "Close" button to close the dialog box. A message will appear upon successful saving the ETL.



13. The "Edit Step" dialog box will appear, prompting user to enter the required parameters.

Edit Step		(Edit Step		i	Edit Step		(1)
Category	RML		Category	File		Category	Result	
Step Type	Ambience RML Engine		Step Type	File Writer		Step Type	HTTP Endpoint	
Step Name	Ambience RML Engine		Step Name	File Writer		Step Name	HTTP Endpoint	
Report Path MimeType		~	File Path			Retain Headers I18N Language		
	Render Details					Acce	ss this result by visiting	
		+				JSON Endpoint	ů 🖸	
						JSON Record Endpoint		
						JSON Stream Endpoint	0 2	
						Bytes Endpoint	02	
						Redirect Endpoint		
< Previous Ne	ext >	Save Cancel	< Previous N	ext > Save	Cancel	< Previous No	ext > Save	Cancel

- 14. For the first ETL step, select the desired value for the following parameters:
 - "Report Path" field Selects the report template in the repository from the drop-down list
 - "Mime Type" field Selects the output report file format
- 15. To go to the next ETL, click on the "Next >" button at the bottom of the dialog box.
- 16. For the second ETL step, define the path for the output report file in the "File Path" field.
- 17. Click on the "Next >" button to go the next ETL. The third ETL does not have any parameters. Click on the "Save" button to save the edits. To go to the previous ETL step, click in the "< Previous" button.
- 18. To test if the ETL chainset generates the report, either select the last ETL step and click on the ▶ "Run to Step" icon that appear on the right or click on the ▶ "Run Steps" icon. Find the output report file in the location defined in the second ETL step.

Group All	~	Test Input	~ =	Output	✓
X Chains	$+ t_{\bullet} \equiv$	X₄ Steps	+ ▶ ‰	Results	E Ω
🗆 🖉 GenReport	3	Ambience RML Engine			
		File Writer			
		HTTP Endpoint	Ø 🕨		

19. To edit the ETL step, select the ETL step and click on the ✓ "Edit" icon. The "Edit Step" dialog box will appear.

2.6.3. Scheduler ETL Via Email

This method allows you to send an alert to any users, as long as their email addresses are defined in the step.

Use the following steps to create a scheduler ETL via email:

1. Click on the 🗾 "Elixir Repertoire" icon on the upper left corner of the page and select "All Services". In the right panel, select "ETL".

< ₹	All Services	Search	admin 🤤
Favourites All Services Pinned	A4 Migration	API Tokens	Banners
User SettingsDocumentation	ETL	ETL Daemon	Identities
	Licence Deployer	Lookup	Privileges
	Queue Monitor	Redirect	Report Portal

2. The ETL page will appear.

F PETL						admin 🔶
Search		•		Add More Acti	ons Refresh Upload	Dictionary
Name	Owner	Workgroups	Roles	Last Modified	Enabled	Actions
ReportGen	admin		Administrator	14:54:40	0	1

3. In the "ETL" page, click on the "Add" button on the upper right corner of the page. A "Add ETL Chainset" dialog box will appear.

Add ETL Chainset	×
Name	
Copy From	
Blank ETL	~
	OK Cancel

- 4. In the dialog box, key in and select the following:
 - "Name" field Key in a name for the new ETL
 - "Copy From" field Selects an existing ETL from drop-down list or a blank ETL (in this example, select "Blank ETL")
- 5. Click on the "OK" button to save the changes.
- 6. The ETL Designer page appears.

= J GenReport					
Group All	✓ Test	Input	Output	Dictionary	
X Chains	$+$ $t_{\bullet} \equiv \infty$ s	Steps F	Results	Ω	

7. In "Chains" section, click on the "+" icon. The "Add Chain" dialog box will appear.

Add Chain			×
Name			
Copy From	Blank Chain		~
		OK	Cancel

- 8. In the dialog box, key in and select the following:
 - "Name" Field Key in a name for the new
 - "Copy From" field Selects an existing chain from the drop-down list or a Blank chain (in this example, select "Blank Chain")
- 9. Click on the "OK" button to save the changes. A message will appear upon successful saving the ETL.

		,	×		
Group All	✓ Test Input	ETL saved		Output	✓
X Chains	+ 🔩 🚍 🗙 Steps		+	Results	
🗆 🔗 EmailETL	0				

- 10. For the via email method, two steps are required:
 - a. First step Compose Mail
 - b. Second step Send Mail
- 11. Click on the "+" icon in the "Steps" panel. The "Add Step" dialog box will appear.

Add Step		
Q		٢
Category	Action	Help
JMS	JSON Array Writer	
JSON	JSON Reader	
Join	JSON Record	
Kafka	JSON String Reader	
Long Integer	JSON String Writer	
MQTT	JWT Decoder	
Mail	JWT Encoder	
MongoDB	Line Delimited JSON Reader	
Null	Line Delimited JSON Writer	
Number		
PDF		
PGP		
		Add Close

12. Add first ETL step and click on the "Add" button. The ETL step will be added into the "Steps" panel. Repeat for the other step and click on the "Close" button to close the dialog box. A message will appear upon successful saving the ETL.



13. The "Edit Step" dialog box will appear.

Key in the desired text as content for the email. Click on the "Next >" button to go to the next ETL.

Edit Step		(i)	Edit Step			i
Category			Category			
	Compose Mail Compose Mail		Step Type Step Name			
Message		2	то			
			CC			
			BCC			
			ReplyTo			
			Subject			
Plain Text Include Attachment Fold						
< Previous Ne	ext >	Save Cancel	< Previous	ext >	Save	Cancel

- 14. In the second ETL, key in the appropriate email addresses and subject in the respective fields.
- 15. To go back to the previous ETL, click on the "< Previous" button. Click on the "Save" button to save the edits.

2.6.4. Create Schedule

The Scheduler module allows you to set up jobs to automatically trigger the generation of these reports. The Scheduler module also allows you to view the status of the job, or sent an email to you, if it is being set up.

The Scheduler module consists of three pages:

- Status Shows the status of the job triggers that have run or are currently running
- Trigger List all jobs that are available for the owner
- Calendar List all constraints shared among the triggers

2.6.4.1. Create Calendar

The Calendar page in the Scheduler module allows you to set conditions or constraints in these calendars and apply them onto the trigger to determine when the job is to be run, such as which year, month, day and/or time, as well as the time zone. Do note that the calendar constraints may be shared and can be used by more than one trigger.

Use the following steps to create a simple public holiday calendar:

1. Click on the 🗾 "Elixir Repertoire" icon on the upper left corner of the page and select "All Services". In the right panel, select "Scheduler".

< ■	All Services	Search 🖉		admin (
Favourites All Services Pinned	Licence Deployer	Lookup	Privileges	
User SettingsDocumentation	Queue Monitor	Redirect	Report Portal	*
	Repository	Roles	Scheduler	
	Secrets	System Information	System Settings	

2. The "Scheduler" page will appear.

	Scheduler							ź	admin (
<	Search	٠							Refresh
Status	Name	Ov	wner	Started	Finished	Elapsed	Mode	Status	Actions
Trigger	Prigger - Run hourly w same cron job	ad	fmin	2024-12-04 16:00:20	2024-12-04 16:00:20	108 ms	run-now	Completed	
🛗 Calendar	Trigger - Run weekly -Days of year	ad	fmin	2024-12-04 16:00:09	2024-12-04 16:00:10	1937 ms	run-now	Completed	

3. Click on the "Calendar" option in the left panel.

<	Search	<u>.</u>			Add	Refresh
Status	Name		Description	TimeZone		Actions
Trigger	PublicHoliday Singapore		Public Holidays in Singapore	System Default		T
🛗 Calendar	Weekdays		Working days	System Default		T.

4. Click on the "Add" button on the upper right corner of the "Calendar" page. The "Add Calendar" dialog box will appear.



- 5. In the dialog box, key in a unique name .and click on the "OK" button to create the new calendar.
- 6. The new calendar with no constraints will appear in the management page.
- 7. To edit the calendar, click on the name of the calendar under the "Name" column.
- 8. The "Scheduler / Calendar" panel will appear.

← Schedule	er / Calendar	MyCalendar	
Properties	Constraints		Apply Changes
Name			
MyCalendar			
Description			
TimeZone			
System Defa	ult 🗸		~

- 9. In the "Properties" tab, key in and select the following:
 - "Name" field Edit the unique name of the calendar
 - "Description" field Key in a brief description for the calendar (optional)
 - "TimeZone" field Selects timezone from drop-down list (optional but
 - recommended) (in this example, select "Singapore")
- 10. In the "Constraint" tab, select the following:

•

- "Calendar matches times when" field Selects "Day of Year"
- The next field is dependent on the above field, one or more fields may appear

← Scheduler / Calendar MyCalendar					
Properties	Constraints		Apply Changes		
Calendar ma	atches times v	when			
Days of Year			~		
Add					

11. Click on the "Add" button to add a new date.



By default, the current date is selected.

12. Click on the "Calendar" icon and select the correct date.



- 13. Repeat steps 6 and 7 until all public holidays are added.
- 14. Click on the "Apply Changes" button to save the changes.
- 15. Click on the **←** "Previous" icon to return to the management page.

Repeat the above steps to create a weekday calendar that involves Monday to Friday only.

2.6.4.2. Trigger

A trigger defines the following:

- Chain or chainset to run
- Frequency or interval of the trigger
- Calendars to decide when a trigger should fire at a particular month, date, day and/or time, as well as the time zone

Use the following steps to create a simple trigger:

1. Click on the "Trigger" option in the left panel.

<		Se	earch 🖉 🕭						Add More Actions	Refresh
F	Status		Name	Owner	Description	Enabled	In Progress	Last Run	Next Run	Actions
•	Trigger		🚏 Trigger - Run hourly w same cron job	admin	Run hourly	9		2024-12-04 16:00:19	2025-01-02 00:00:00	• 1
-	Calendar		Trigger - Run weekly -Days of year	admin	Run once a week	•		2024-12-04 16:00:09	2024-12-10 10:05:00	01

- 2. Click on the "Add" button on the upper right corner of the page.
- 3. The "Add Trigger" dialog box will appear.

Add Trig	ger		×
Name			
Туре	ETL		~
		OK	Cancel

4. Key in a unique name for the trigger in the "Name" field and select the type of trigger for the "Type" field.

There are two types of triggers:

- ETL Job run by ETL chain/chainset
- Report Job run by defining report
- 5. The new trigger is created and will appear in the management page.
- 6. To edit the trigger, click on the name of trigger under the "Name" column. The "Scheduler / Trigger" panel will appear.

Scheduler / Trigger MyTriggerETL				
Last Run - Next Run 2024-12-04 In Progress false				
Properties Calendar Constraints Frequency ETL Apply Changes				
Name				
MyTriggerETL				
Description				
TimeZone				
System Default V				
Enabled				

- 7. In the "Properties" tab, key in and select the following:
 - "Name" field Key in a unique name for the calendar
 - "Description" field Key in a brief description for the calendar (optional)
 - "TimeZone" field Selects timezone from drop-down list (optional but
 - recommended) (in this example, select "Singapore")
 - "Enabled" field Ensure this field is selected

- 8. In the "Constraint" tab, select the following:
 - "Day of Week Weekdays" Selects "Include"
 - "Public Holiday Singapore" Selects "Exclude"

This will ensure only weekday and non-public holidays will trigger the job.

← Scheduler / Trigger MyTriggerETL				
Last Run	Next Run 2024-12-04 In Progress false			
Properties	Calendar Constraints Frequency ETL Apply Changes			
~	Cron expression - At 14.15			
~	Cron expression - At 14.15 2			
~	Cron expression - Every day at 1 PM			
~	Day of Month - First 10 Day of month			
~	Day of Month - First 4 Day of weekday			
~	Day of Month - Last 10 Day of month			
~	Day of Week - Last 4 Day of week			
~	Day of Week - Weekdays			
~	Day of Week - Weekend			
~	Day of Year - days 1,5,11,15,20,25,30 March 2020			
~	Days of Year - Labour Day			
~	Edit Calendar			
~	MyCalendar			
~	Time of Day - 14.30.30 to 14.31.30			
~	Time of Day - 9 AM to 5 PM			
~	Time of Day - 9 AM to 6 PM			

- 9. In the "Frequency" tab, key in and select the following:
 - "Trigger Mode" field Selects "Run Monthly"
 - "Monthly" field Selects all months "Dove" field Selects this field ar •
 - "Days" field - Selects this field and key in "10" •
 - "Time of Day" field Key in "9" in the "Hour" field, "05" in the "Minute" field

Cheduler / Trigger MyTriggerETL	
Last Run - Next Run 2024-12-04 In Progress false	
Properties Calendar Constraints Frequency ETL	Apply Changes
Trigger Mode	
Run Monthly ~	
Month	
☑ Jan ☑ Feb ☑ Mar ☑ Apr ☑ May ☑ Jun ☑ Jul ☑ Aug ☑ Sep ☑ Oct ☑ Nov ☑ Dec	
Days 10 (eg. 1,2,14-18 etc. or * for all)	
O On First V Monday V	
O On First V Day V	
Time of Day	
Hour 9 Minute 0 Second 0	

10. The last tab depends on which type of trigger is selected prior. In this case, ETL is selected.

11. In the "Job" tab, select the scheduler ETL that was created in <u>Section 2.5.3</u> <u>Scheduler ETL</u>.

← Scheduler / Trigger MyTriggerE	TL		
Last Run - Next Run 2024-12	2-04 In Pr	ogress false	
Properties Calendar Constraints	Frequency	ETL	Apply Changes
Chainset			
			~
Chain			
			~
Parameters			
0			
JSON			

- 12. Click on the "Apply Changes" button to save the changes.
- 13. Click on the \leftarrow "Previous" icon to return to the management page.

3. Annex

3.1. Add User

There may be a situation where you need to add a user into Repertoire.

Use the following steps to add a user:

1. Click on the 🗾 "Elixir Repertoire" icon on the upper left corner of the page and select "All Services".



2. In the "Service Chooser" page, select "Identities" in the right panel. The "Identities" page will appear.

=	Identities				admin 🔶
Search	٩			Add More Actions	Refresh Upload
Name	Email	Last Login	2FA	Enabled	Actions
UserA	usera@example.com		8	 Image: A start of the start of	Ø 🕭 🗎
□ admin	admin@example.com	16:37:37	e	 Image: A start of the start of	d 🖄 🖉

3. To add a new identity, click on the "Add" button on the upper right corner of the page. The "Add Identity" dialog box will appear.

Add Identity		×
Name		
Email		
Enabled		
	OK	Cancel

- 4. In the dialog box, key in and select the following:
 - "Name" field Key in a unique name
 - "Email" field Key in the email of the new identity
 - "Enabled" field Ensure this field is selected
- 5. Click on the "OK" button in the dialog box.

6. Click on the 🗾 "Elixir Repertoire" icon on the upper left corner of the page and select "All Services".

≤ ₹	All Services	Search	٢	admin 🕞
Favourites All Services Pinned	Queue Monitor	Redirect	Report Portal	*
User SettingsDocumentation	Repository	Roles	Scheduler	
	Secrets	System Information	System Settings	
	Text Templates	User Settings	Users	

7. In the "Service Chooser" page, select "Users" in the right panel. The "Users" page will appear.

=J 💵 Use	ers		admin 🔶
Search	٩	Ac	d More Actions Refresh
Name	Roles	Enabled	Actions
UserA		0	Ť
admin	Administrator	0	T

8. Click on the "Add" button at the upper right corner of the page.

Add User		×
Name		
Enabled		
Roles Extra Privileges		
T	~	X 🗐
□ Administrator		
	OK	Cancel

- 9. Key in and select the following:
 - "Name" field Unique name created in the Identities module in the "Name" field
 - "Enabled" field Ensure this field is selected
 - "Roles" tab Selects the appropriate role for the new user
 - "Extra Privileges" tab Selects the appropriate privileges
- 10. Click on the "OK" button in the dialog box.
- 11. If the email server has been set up, an email will be sent to the new user with a randomly generated password. The new user will need to change the password upon login.

If the email server has not been set up, the random password can be found in a text file in the "/mail" folder in the Repertoire root directory.

3.2. Change Password

For normal users, you will be prompted to change your password on your first log in.

🗐 🌣 User S	Set	tings	
		Pass	word Change Requir
UserB (userb@ex	am	ple.com)	
Email Address			
Password		Change F	Password
(H) Landing Page		Old Password	
E User Sessions		New Password	
₽ <mark>₩</mark> 2FA		Repeat New Password	
		Request Pass	sword Change

In the "Change Password" section, key in the old password and key in the new password twice. Hit the "Request Password Change" button. A verification panel will appear to request you to key in the validation code.

Password Change Require
ample.com)
Change Password
Old Password
New Password ·····
Repeat New Password
Request Password Change
Check your email address Inbox for a validation code
Validation Code
Verify Password Change

A validation code will be sent to your email upon successful change password request. Key in the validation code and click on the "Verify Password Change" button. A message will appear to inform you that the password change is successful.

Password Change
Successful. Reloading

After reloading, the Service Chooser page will appear.

×

3.3. Setup 2FA

By default, TOTP 2FA is disabled in Repertoire. If it is enabled, users can set up their own TOTP 2FA using the User Settings module.

Use the following steps to setup 2FA:

1. Click on the 🗾 "Elixir Repertoire" icon on the upper left corner of the page and select "All Services".

< =1	All Services	Search	٥	admin (
 Favourites All Services Pinned 	Queue Monitor	Redirect	Report Portal	*
User SettingsDocumentation	Repository	Roles	Scheduler	
	Secrets	System Information	System Settings	
	Text Templates	User Settings	Users	

2. In the "Service Chooser" page, select "User Settings" in the right panel. The "User Settings" page will appear.

🗐 🔹 User S	ettings	
admin (admin@ex	ample.com)	
Email Address		
Password	Change Email Address	
① Landing Page	New Email Address	
E User Sessions	Verify Password	
2FA	Request Email Address Change	

3. Select "2FA" from the left panel.



4. In the "Two Factor Authentication" section, click on the "Setup" button to display the QR code.



5. Open any 2FA Authenticator (such as Google Authenticator) on your phone to scan the QR Code. The app will register "*ElixirAmbience (<username>)*" and provides a 6-digit code. This code will change every 30 seconds.

Repertoire provides a minute window for clock drift. Ensure the 2FA app and the Repertoire server is in sync.

 Enter the 6-digit code as the 2FA Verification Code (with or without) space and click on the "Confirm" button. Once authentication is completed, the "TOTP 2FA Enabled" panel will appear.

admin (admin@example.com)						
Email Address						
Password	Two Factor Authentication					
(H) Landing Page	TOTP 2FA Enabled					
E User Sessions	2FA Code					
₽ <mark>₽</mark> 2FA	Disable					
 ඔ Landing Page iii User Sessions 	TOTP 2FA Enabled 2FA Code					

7. If the wrong code (6-digit, less than 6-digit) or no code is entered, the following error messages will appear accordingly.



3.4. Disable 2FA

There are two ways to disable 2FA. User can disable it for themselves using User Settings module. Identity administrators can disable 2FA for any user via the Identities module (e.g., if a user has lost their 2FA device). Once the 2FA is disabled or reset, the user will need to set up 2FA again.

3.4.1. User Settings

One way is to use the User Settings module.

In the "Two Factor Authentication" section, key in the 6-digit code generated from the 2FA Authenticator into the "2FA Code" field and click on the "Disable" button.

admin (admin@example.com)					
Email Address					
Password	Two Factor Authentication				
(H) Landing Page	TOTP 2FA Enabled				
E User Sessions	2FA Code				
₽ <mark>₽</mark> 2FA	Disable				

3.4.2. Identity

The other method is to use the Identities module.

To disable 2FA, use the following steps:

1. Click on the 🗾 "Elixir Repertoire" icon on the upper left corner of the page and select "All Services".

< =1	All Services	Search 👲	admin 🤤
Favourites All Services Pinned	A4 Migration	API Tokens	Banners
User Settings	ETL	ETL Daemon	Identities
	Licence Deployer	Lookup	Privileges
	Queue Monitor	Redirect	Report Portal

2. In the "Service Chooser" page, select "Identities" in the right panel. The "Identities" page will appear.

Identities admin 📀						
Search	٩			Add More Actions	s Refresh Upload	
Name	Email	Last Login	2FA	Enabled	Actions	
UserA	usera@example.com		8	 Image: A start of the start of	Ø 👁 🔳	
admin	admin@example.com	16:37:37	~	e	Ø 🕭 🖩 🗊	

- 3. Select the select 2FA" icon under the Actions column corresponding the desired user.
- 4. Upon successful deletion, a notification will appear.



3.5. Configure and Test Mail Server

When identities are added, an email is sent containing a random password. When a user wants to change email or password, a verification is sent via email as well.

If you have not set up an email server, the default behaviour is to store the emails in the "/mail" folder within Repertoire. This is usually for diagnosis or debugging purposes. It is recommended to set up a mail server at the start.

Below are two examples of how to set up a mail server.

Example 1: Uses Gmail

- Gmail allows only OAuth2 authentication without weakening security. Visit <u>https://console.developers.google.com/apis/credentials</u> to set up a "*clientID*" and "*clientSecret*". Use these to generate a "*refreshToken*".
- 2. In the Repertoire oot folder, navigate to the "/etc" folder. Open the "*application.conf*" file using a text editor. In the "*elixir.mail*" section, edit the following with the information obtained earlier accordingly.

```
elixir.mail {
  smtp = "gmail"
  gmail {
    host = "smtp.gmail.com"
    port = 587
    debug = true
    oauth2 {
        userName = "xxx@gmail.com"
        clientId = "XXXX"
        clientSecret = "YYYY"
        refreshToken = "ZZZZ"
    }
}
```

3. After the above is edited in the "*application.conf*" file, start the Repertoire server and go to Identities module to create a user with a valid email address.

Example 2: Uses AWS

1. In the Repertoire root folder, navigate to the "/etc" folder. Open the "*application.conf*" file using a text editor. In the "*elixir.mail*" section, edit the following:

```
elixir.mail {
 smtp = "aws"
 aws {
   from = "user@elixirtech.com"
   host = "email-smtp.us-west-2.amazonaws.com"
   dnsResolver = ""
   port = 465
   user = "XXXX"
   password = "YYYY"
   connectionTimeout = 30000
   tls = true
   ssl = true
   authMechanism = ""
   debug = false
 }
}
```

2. After the above is edited in the "*application.conf*" file, start the Repertoire server and go to Identities module to create a user with a valid email address.