



AMBIENCE 2021 SETUP GUIDE

ELIXIR TECHNOLOGY PTE LTD

2 Kallang Ave, #05-12/13/14 CT Hub, Singapore 339407

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Ambience 2021 Setup Guide

This document describes the setup of the Ambience 2021 software and its pre-requisites, as well as creating a simple dashboard.

Refer to the following websites for more information:

- <http://docs.elixirtech.com/Ambience/2021/index.html>
- www.elixirtech.com

1. Pre-requisites

The following are the pre-requisites for Ambience 2021 software suite:

- Java 11 (including OpenJDK)
- MongoDB 4.x
- Ambience 2021

2. Setup Ambience 2021

2.1. Installation

2.1.1. Install Dependencies – Java, MongoDB

Install Java 11

You need to download and install any Java 11 (including Open JDK) or higher for Ambience 2021.

Install MongoDB

MongoDB is a document database with the scalability and flexibility that you want with the querying and indexing that you need. It uses JSON-like documents with schema.

Below are the steps to install MongoDB:

1. Go to <https://www.mongodb.com/download-center/community> website.
2. In the webpage, select MongoDB Community Server and select the following:
 - MongoDB 4.2.6 or higher (latest release is recommended)
 - Desired OS
 - Desired package
3. Click on the “Download” button.
4. Installing the package:
 - a. For MSI package, use the following steps:
 - i. Go to the directory where you downloaded the MongoDB installer (.msi file). By default, this is your downloads directory.
 - ii. Double click on the .msi file and follow the instructions in the installer wizard.
 - b. For ZIP package, use the following steps:
 - i. Extract the zip file into the desired location.
 - ii. Create a folder “data/db” in the root directory of the location. This directory is required to save the database records.

You may be prompted to install MongoDB Compass. It is an optional application.

5. To run MongoDB:
 - From Windows Explorer/File Explorer, go to the “../MongoDB\Server/4.x/bin/” directory and double-click on *mongod.exe*. Depending on the OS, a command window will appear and may close after a few seconds.
 - For terminal window or command prompt for Windows, navigate to the “../MongoDB\Server/4.x/bin/” directory and execute the command “*mongod.exe*”.

The MongoDB server runs at the default port 27017.

For further details and advice on MongoDB installation, please refer to the MongoDB website.

2.1.2. Install Ambience 2021

Contact our representatives for the Ambience 2021 suite. The Ambience 2021 comes in a form of a zip file. By default, the Ambience 2021 comes with a licence for a minimal set of modules that allows the administrator to log in and perform the basic setup. To acquire a larger set of modules, you will need to a new licence.

To install Ambience 2021, extract the zip file to the desired location.

2.2. Ambience 2021

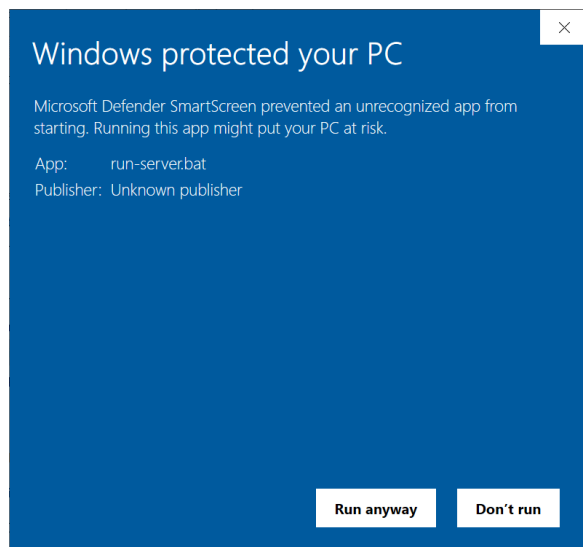
2.2.1. Launch Ambience 2021 on Windows

Use the following steps to launch Ambience 2021 on Windows:

1. Launch MongoDB and use either one of the following methods:
 - a. From Windows Explorer/File Explorer, go to the “../MongoDB\Server/4.x/bin/” directory and double-click on mongod.exe.
 - b. For terminal window or command prompt for Windows, navigate to the “../MongoDB\Server/4.x/bin/” directory and execute the command “mongod.exe”.
2. Go to Ambience root directory, then to the “bin” folder.
3. To launch Ambience 2021:
 - Double click on the “run-server.bat” file for Windows
 - Execute “run-server” in terminal window
4. For Windows, if this is the first time you launch Ambience 2021, a dialog will appear.

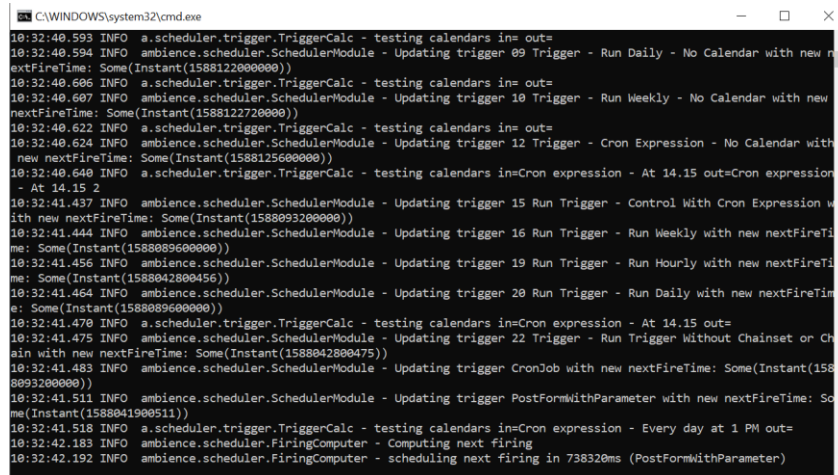


In the dialog box, click on “More Info”.



Click on “Run anyway” button at the bottom.

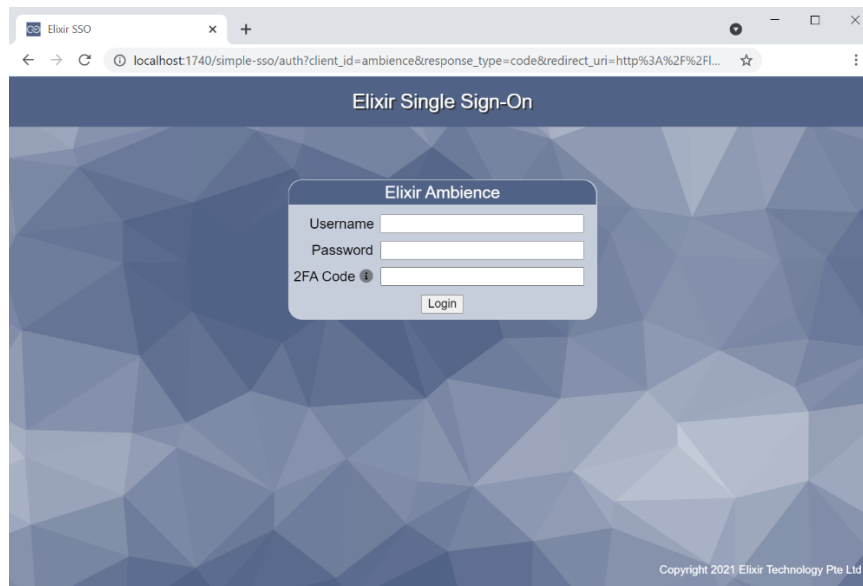
5. A command window will appear. DO NOT close this command window.



```

C:\WINDOWS\system32\cmd.exe
10:32:40.593 INFO a.scheduler.trigger.TriggerCalc - testing calendars in= out=
10:32:40.594 INFO ambience.scheduler.SchedulerModule - Updating trigger 09 Trigger - Run Daily - No Calendar with new nextFireTime: Some(Instant(1588122800000))
10:32:40.606 INFO a.scheduler.trigger.TriggerCalc - testing calendars in= out=
10:32:40.607 INFO ambience.scheduler.SchedulerModule - Updating trigger 10 Trigger - Run Weekly - No Calendar with new nextFireTime: Some(Instant(1588122720000))
10:32:40.622 INFO a.scheduler.trigger.TriggerCalc - testing calendars in= out=
10:32:40.624 INFO ambience.scheduler.SchedulerModule - Updating trigger 12 Trigger - Cron Expression - No Calendar with new nextFireTime: Some(Instant(1588125600000))
10:32:40.640 INFO a.scheduler.trigger.TriggerCalc - testing calendars in=Cron expression - At 14.15 out=Cron expression - At 14.15 2
10:32:41.437 INFO ambience.scheduler.SchedulerModule - Updating trigger 15 Run Trigger - Control With Cron Expression with new nextFireTime: Some(Instant(1588093200000))
10:32:41.444 INFO ambience.scheduler.SchedulerModule - Updating trigger 16 Run Trigger - Run Weekly with new nextFireTime: Some(Instant(1588089600000))
10:32:41.456 INFO ambience.scheduler.SchedulerModule - Updating trigger 19 Run Trigger - Run Hourly with new nextFireTime: Some(Instant(1588042800456))
10:32:41.464 INFO ambience.scheduler.SchedulerModule - Updating trigger 20 Run Trigger - Run Daily with new nextFireTime: Some(Instant(1588089600000))
10:32:41.470 INFO a.scheduler.trigger.TriggerCalc - testing calendars in=Cron expression - At 14.15 out=
10:32:41.475 INFO ambience.scheduler.SchedulerModule - Updating trigger 22 Trigger - Run Trigger Without Chainset or Chain with new nextFireTime: Some(Instant(1588042800475))
10:32:41.483 INFO ambience.scheduler.SchedulerModule - Updating trigger CronJob with new nextFireTime: Some(Instant(1588093200000))
10:32:41.511 INFO ambience.scheduler.SchedulerModule - Updating trigger PostFormWithParameter with new nextFireTime: Some(Instant(1588041900511))
10:32:41.518 INFO a.scheduler.trigger.TriggerCalc - testing calendars in=Cron expression - Every day at 1 PM out=
10:32:42.183 INFO ambience.scheduler.FiringComputer - Computing next firing
10:32:42.192 INFO ambience.scheduler.FiringComputer - scheduling next firing in 738320ms (PostFormWithParameter)
  
```

6. 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”.
7. Open a browser, key in “localhost:1740” on the address bar and hit the “Enter” key.
8. The Elixir Ambience login page will appear.



2.2.2. Launch Ambience 2021 on Ubuntu

Use the following steps to launch Ambience 2021 on Ubuntu:

1. Launch MongoDB and use the following steps:
 - a. In the terminal window, execute the command to start MongoDB:


```
sudo systemctl start mongod
```
 - b. If an error message is received, execute the commands:


```
sudo systemctl daemon-reload
sudo systemctl start mongod
```
 - c. To verify that MongoDB has started successfully, execute the command:

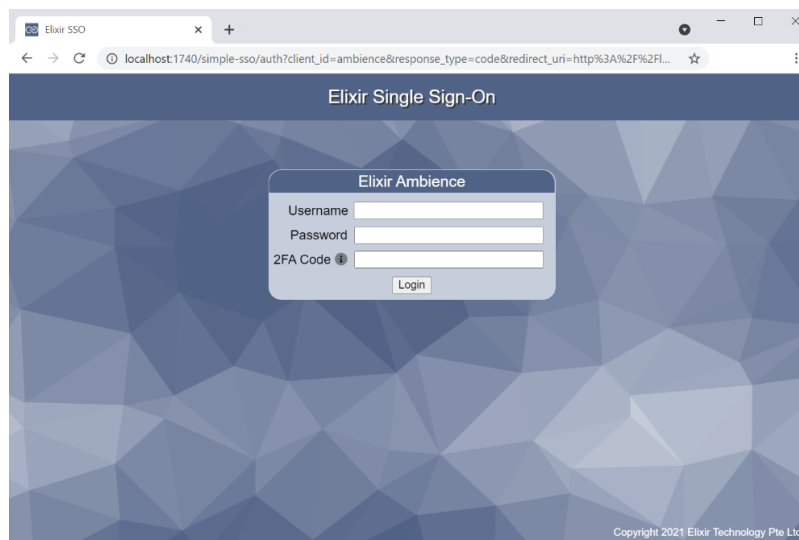

```
sudo systemctl status mongod
```
 - d. To ensure that MongoDB will start following a system reboot, execute the command (optional):


```
sudo systemctl enable mongod
```
2. In the terminal window, navigate to the Ambience root directory, then to the “bin” folder.
3. In the terminal window, execute the command to launch Ambience:

```
./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.Launcher - Launcher invoked
09:19:10.168 INFO  ambience.module.StartupTests - user.name=zhouying
09:19:10.169 INFO  ambience.module.StartupTests - user.home=/Users/zhouying
09:19:10.169 INFO  ambience.module.StartupTests - user.dir=/Users/zhouying/Test/Ambience/2020-SNAPSHOT
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/Home
09:19:10.171 INFO  ambience.module.StartupTests - java.io.tmpdir=/var/folders/4t/4t8mqkvj3zv7s8z2yh1fv9xw0000gn/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.mongodb.DefaultMongoDB.buildMongoClient:30)
09:19:11.852 INFO  org.mongodb.driver.cluster - Cluster created with settings (hosts=[localhost:27017
```

4. Open a browser, key in “localhost:1740” on the address bar and hit the “Enter” key.
5. The Elixir Ambience login page will appear.



2.2.3. Launch Ambience 2021 on macOS

Use the following steps to launch Ambience 2021 on macOS:

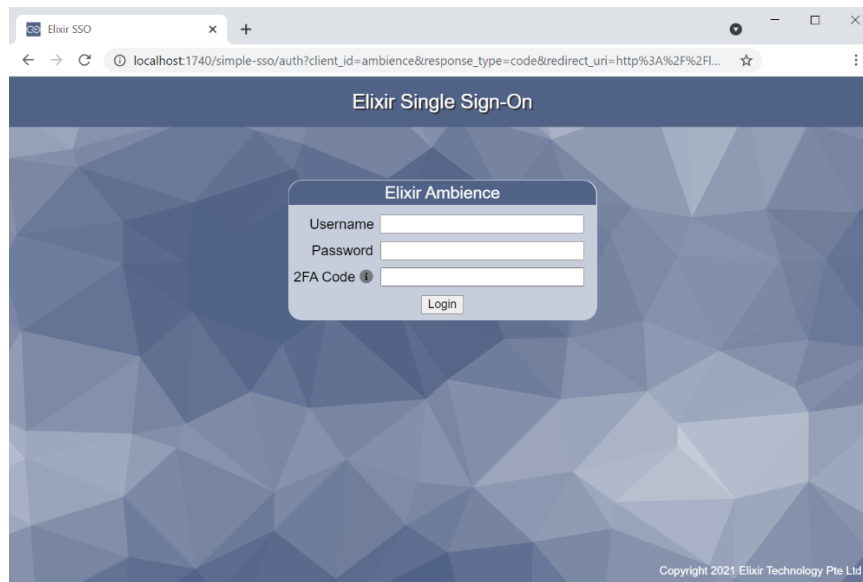
1. Launch MongoDB and use the following steps:
 - a. Open a terminal window, execute the command “brew services start mongodb-community@4.x” to run MongoDB as a service.
 - b. To verify that MongoDB has started successfully, execute the command:


```
ps aux | grep -v grep | grep mongod
```
2. In the terminal window, navigate to the Ambience root directory, then to the “bin” folder.
3. In the terminal window, execute the command


```
./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.Launcher - Launcher invoked
09:19:10.168 INFO  ambience.module.StartupTests - user.name=zhouying
09:19:10.169 INFO  ambience.module.StartupTests - user.home=/Users/zhouying
09:19:10.169 INFO  ambience.module.StartupTests - user.dir=/Users/zhouying/Test/Ambience/2020-SNAPSHO
T
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/Home
09:19:10.171 INFO  ambience.module.StartupTests - java.io.tmpdir=/var/folders/4t/4t8mqkvj3zv7s8z2yh1f
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.
mongodb.DefaultMongoDB.buildMongoClient:30)
09:19:11.852 INFO  org.mongodb.driver.cluster - Cluster created with settings {hosts=[localhost:27017
```

4. Open a browser, key in “localhost:1740” on the address bar and hit the “Enter” key.
5. The Elixir Ambience login page will appear.

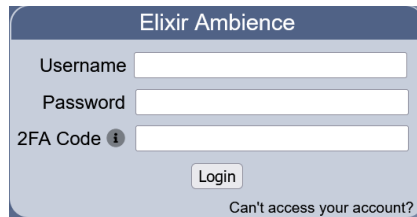


2.2.4. Login

By default, the Ambience has a super user “admin”.

Use the following steps to log into Ambience 2021:

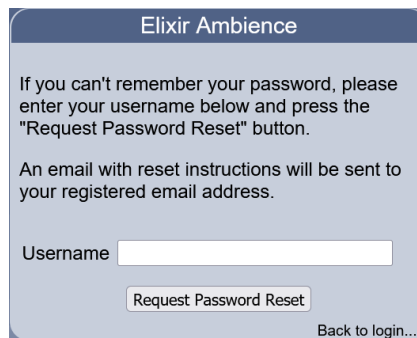
1. After launching Ambience 2021, the log-in page will appear.
2. To log into Ambience 2021, key in the following:
 - Username: admin
 - Password: sa
 - 2FA Code: 6-digit code



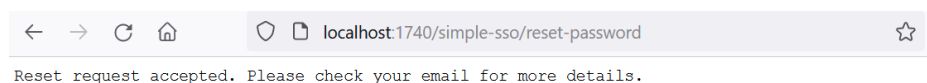
If 2FA has not been enabled, the 2FA Code will not appear in the log-in page. Refer to the [Ambience 2021 Admin Guide](#) on how to enable 2FA.

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

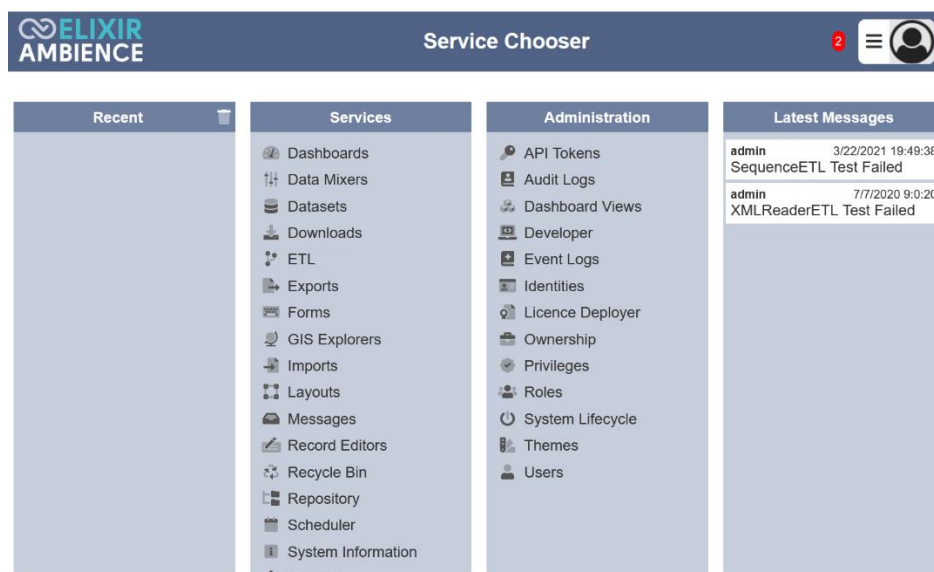
If the user has forgotten the password, click on the “Can’t access your account?” link at the bottom right. A dialog box will appear, prompting the user to enter the user’s username.



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.



3. Click on the “Login” button. Upon login, the “Service Chooser” screen will appear with the list of available modules in the “Services” and “Administration” panels.



4. If the licence in Ambience 2021 is the minimal licence, the “Services” and “Administration” panels will display the set of modules that are allowed by the minimal licence. To be able to use more modules, a new licence will be required. Contact our representatives for the new licence.

2.2.5. Logout

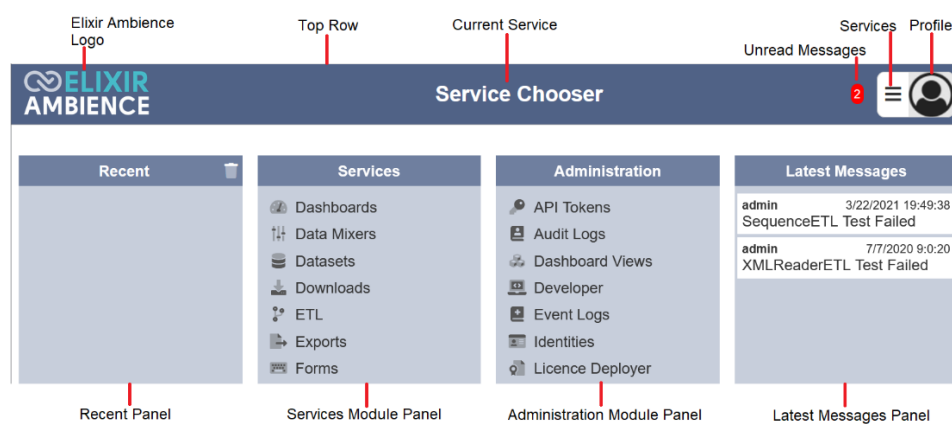
To log out of Ambience 2021, click on the “Profile” icon on the upper right corner of the page. A dialog box will appear. Click on the “Sign out from Ambience Suite” portion to log out of Ambience 2021.

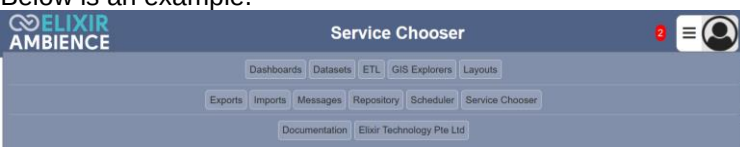


2.2.6. Ambience 2021 Interface

This section briefly describes the interface of the Ambience 2021 “Service Chooser” page.

Upon login into Ambience 2021, you will see the “Service Chooser” page. This page will display all the modules that are currently available.



Top Row Panel	Consists of three parts: - On the left – Elixir Ambience logo - At the centre – Current service or module - On the right – Unread messages, Services and Profile icons
Unread Messages	Shows the number of unread messages received for the user. Clicking on the number will bring you to the Messages modules.
Services	When clicked, displays the most frequently used services, including the documentation of the Ambience. Below is an example. 
Profile	This icon displays the details of the user and allows user to log out of Ambience suite.
Recent Panel	Lists all recently services used by the user. Clicking on the service will bring you to the service directly. You can remove the list by clicking on the “Delete” icon.
Services Panel	Lists all the Services modules available for the user. Clicking on any of the modules will bring you to the main page of the selected module.
Administration Panel	Lists all the Administration modules available for the user. Clicking on any of the modules will bring you to the main page of the selected module.
Latest Messages Panel	Lists all the unread messages. Clicking on the message will open the message and it will be marked as read. This action will remove this message from the panel.

2.3. Import Licence

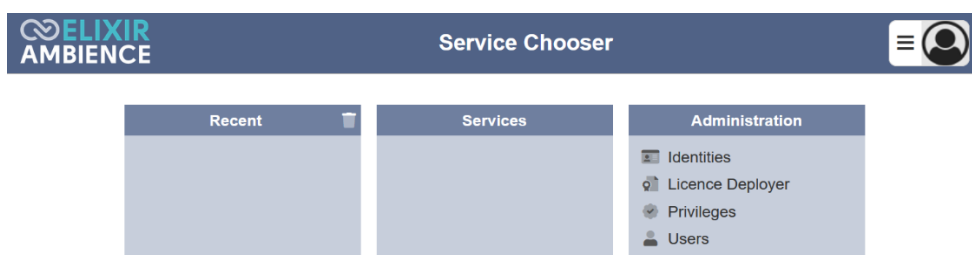
When the Ambience 2021 is initially installed, it comes with a default licence. This default licence allows a minimal set of modules and does not have an expiration date.

To access other modules in Ambience 2021, a new licence needs to be imported into Ambience 2021. This new licence has an expiration date and needs to be replaced before the expiry or Ambience will fall back onto the minimal set of modules.

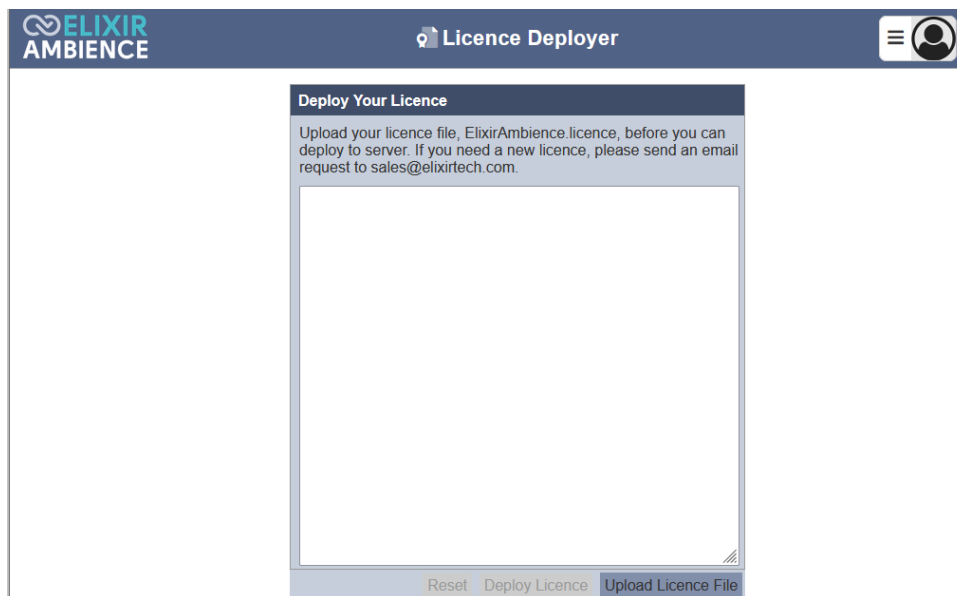
There are two methods to import the licence, either by using the Ambience 2021 interface or by using the Ambience command line interface. This method is useful during setup as you can install the licence before starting the server, hence avoiding the need to stop and restart.

To import a licence using Ambience 2021 interface:

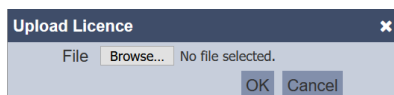
1. From the “Service Chooser” page, select the “Licence Deployer” in the “Administration” panel. If Ambience is initially installed and logged in for the first time, step 2 will appear directly.



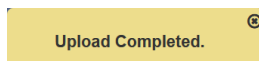
2. The “Licence Deployer” page will appear, along with the “Deploy Your Licence” dialog box.



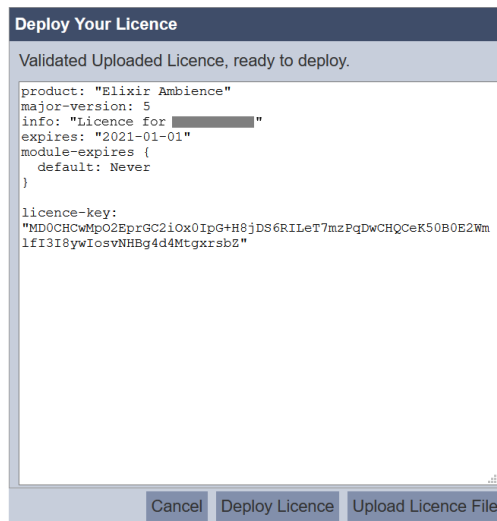
3. Click on the “Upload Licence File” button and browse to the location of the licence file (*ElixirAmbience.licence*). Click on the “OK” button to upload the licence file.



4. Upon successful upload, a message will appear.

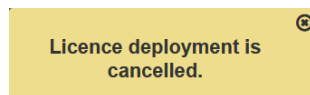


5. The details of the uploaded licence will appear in the dialog box, ready to be deployed.

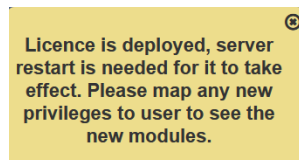


6. At this stage, you can either deploy the uploaded licence, cancel the deployment or upload another licence file (this will replace the current uploaded file).

- Click on the “Cancel” button to abort the deployment. A message will appear indicating the cancellation.



- Click on the “Deploy Licence” button to deploy the licence to the server. A message will appear after the licence has been deployed to the server.



- Click on the “Upload Licence File” button to upload another licence file. This will bring you back to step 2 to replace the current uploaded file.
7. After the licence has been deployed to the server. Restart the server for the licence to take effect. The new modules will appear in the “Service Chooser” page according to the uploaded licence.

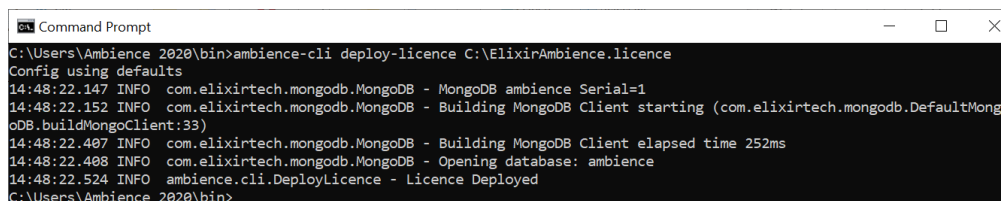
To import a licence using Ambience 2021 command line interface:

1. Open a terminal window and navigate to the Ambience 2021 main folder, then navigate to the “bin” folder.

2. In the command line, key in the following command:

```
ambience-cli deploy-licence <path of ElixirAmbience.licence file>
```

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



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

2.4. Build Dashboard

The Dashboards module provides data visualization and interaction through various view types and configurations. The data presented on the dashboards are based on the available datasets set up in the Datasets module.

To build a dashboard, the following steps are required:

1. Import data and create a dataset in Ambience 2021 (Imports module)
Or
Create a dataset from the imported data (Datasets module)
2. Create a dashboard to display the dataset (Dashboards module)

The following sections describes the above steps.

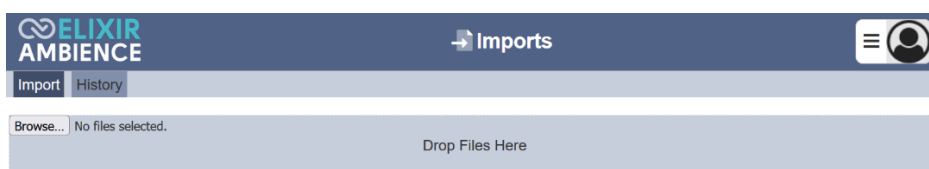
2.4.1. Import Data and Create Dataset

Data is imported into Ambience 2021 via the Imports module. The Imports module can also create a dataset from the data imported.

In the example below, it is assumed that there is only one database in MongoDB and the data to be imported is new.

Use the following steps to import the new data into Ambience 2021:

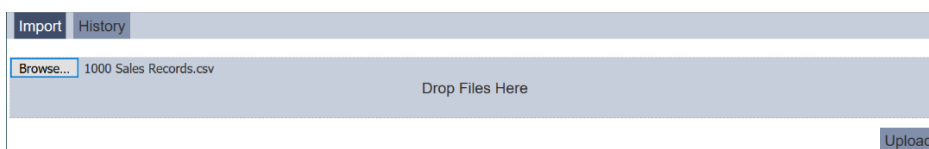
1. From the “Service Chooser” page, select “Imports” in the “Services” panel. The “Imports” page will appear.



2. In the “Import” tab, browse to the location of the data file to be imported or simply drag-and-drop the data file onto the “Drop Files Here” portion.

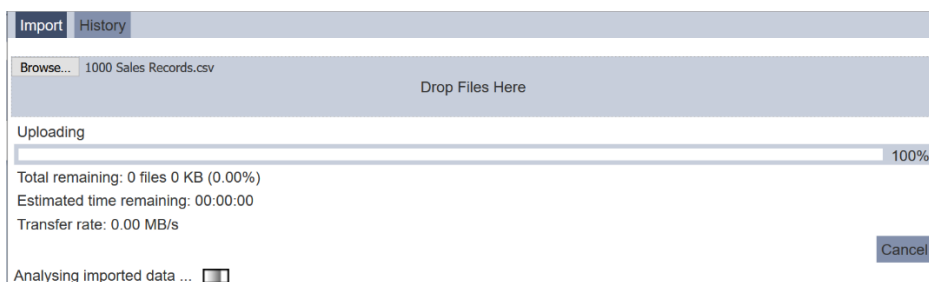
Upon detecting the file of supported types, the name of the file is displayed next to the “Browse” button and the “Upload” button will appear at the lower right below the “Drop Files Here” portion.

An error message will appear if the selected file is not supported.

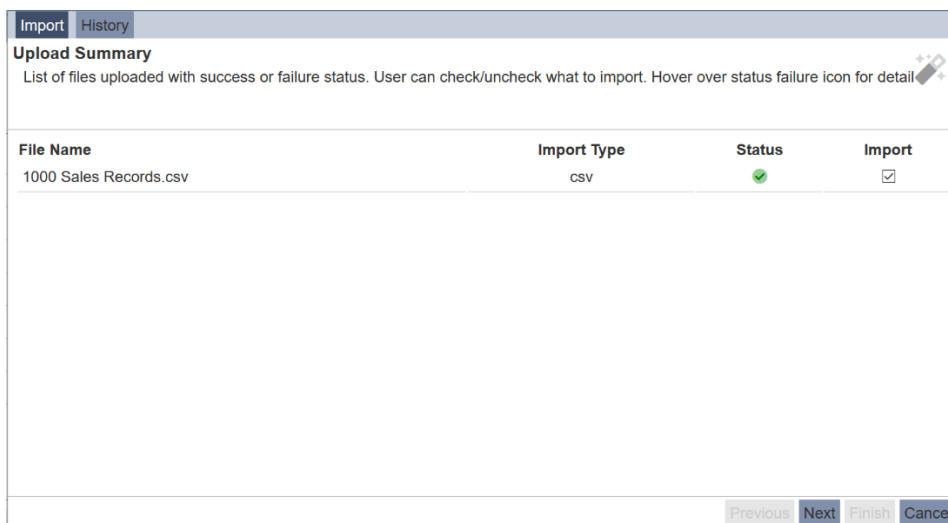


3. Click on the “Upload” button and the progress page will appear.

Do note that the progress page will appear during uploading and will disappear after data is uploaded. If the data file is too small, the progress page may not be visible. You can abort the uploading by clicking on the “Cancel” button at the bottom right of the page.

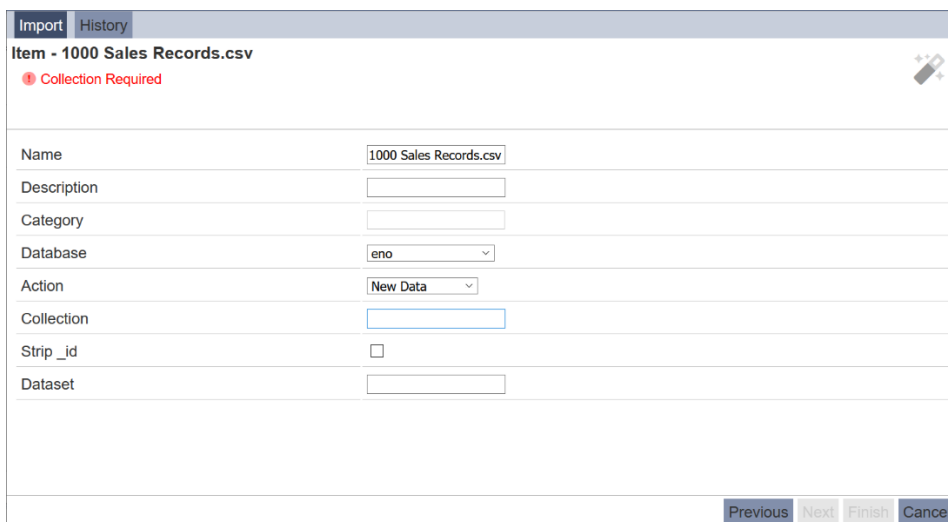


4. Upon successful uploading, the details of the data file are displayed. If a gzip file is selected, the list of files contained in the gzip will be displayed. You can select the desired file(s) to be imported. If no file is selected, only the “Finish” button will be selectable.



File Name	Import Type	Status	Import
1000 Sales Records.csv	csv	Success	☒

5. After selecting the desired file, click on the “Next” button to continue. The next page allows you to select the desired database and collection.



Name	1000 Sales Records.csv
Description	
Category	
Database	eno
Action	New Data
Collection	
Strip_id	☐
Dataset	

6. In the “Import” page, select and key in the following:
 - “Name” field – By default, the file name of the import file is used (if this is not desired, you can rename it)
 - “Description” field – Key in a brief description for the data (optional)
 - “Database” field – Ensure “eno” is selected
 - “Action” field – Selects the appropriate action type from drop-down list (in this example, select “New Data”)
 - “Collection” field – Key in the collection name for the data file
 - “Strip_id” field – Selects this field if _id field is not required in the dataset
 - “Dataset” field – Key in the dataset name of the data file (left this field blank if you do not wish to create a dataset)
7. After all the required data is filled, the “Next” button will appear. You can always click on the “Previous” button to go back to step 4.

8. If the imported data file is a CSV file, The “Import Item Schema” page will appear.

Import History

Import Item Schema - 1000 Sales Records.csv

The detected Schema. Optionally change the data types of the schema's fields

Field	Data Type
Country	String
Item Type	String
Order Date	String
Order ID	Int32
Order Priority	String
Region	String
Sales Channel	String
Ship Date	String
Total Cost	Decimal
Total Profit	Decimal

Previous Next Finish Cancel

Select according and click on the “Next” button.

9. The “Import Summary” page will appear. Check through the information and click on the “Import” button on the upper right to import the data and create a dataset.

Import History

Import Summary

Summary of import settings

Item	Name	Category Database	Collection	Action	Strip Id	Schema Changed	Dataset
1000 Sales Records.csv	1000 Sales Records.csv	eno	1000 Sales	New Data	*	*	1000 Sales

Previous Next Finish Cancel

10. The “Import Results” page will appear, showing you the status of list of items selected for import.

Import

History

Import Results

All imports succeeded

Item	Status	Retry
1000 Sales Records.csv		

Previous

Next

Finish

Cancel

Any item that failed to import is indicated by a red cross under the “Status” column. You can try to import the item again by selecting the checkbox under the “Retry” column and click on the “Next” button that appears.

If the item has a green tick under the “Status” column, it indicates that the import is successful. Click on the “Finish” button to complete the import and create the dataset.

11. Click on the “History” tab and you will see the imported data.

Import History					
Search					Refresh
Name	Database	Collection	Action	By	Actions
1000 Sales Records.csv	eno	1000 Sales	new	admin	

2.4.2. Create Dataset

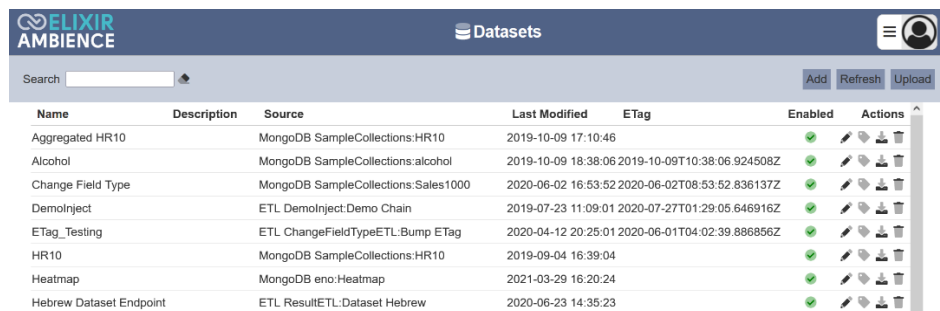
If the data imported has not been converted to a dataset in the Imports module, you can convert the data to a dataset using the Datasets module.

Use the following steps to create a dataset:

1. Click on the  “Services” icon on the upper right corner of the page and select “Datasets”.



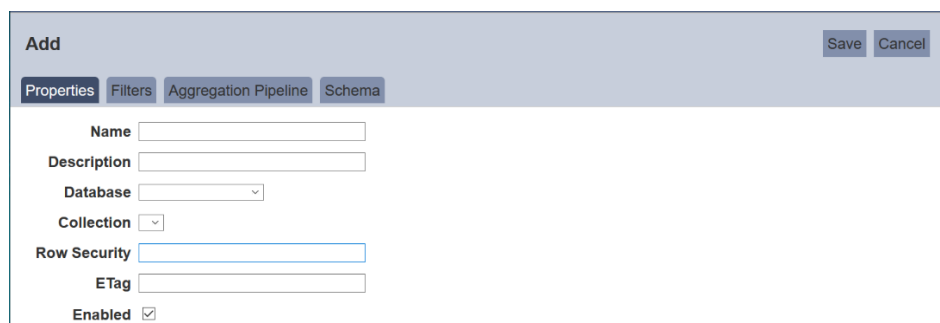
2. The “Datasets” page will appear.



3. Click on the “Add” button at the upper right corner of the page and the “Add Dataset” dialog box will appear.



4. In the “Copy From” field, select “New MongoDB Dataset” and click on the “OK” button. The “Add” panel will appear.



5. In the “Properties” tab, key in and select the following:
 - “Name” field – Key in a name for the dataset
 - “Description” field – Key in a brief description of the dataset (optional)
 - “Database” field – Selects the appropriate database from the drop-down list
 - “Collection” field – Selects the desired data from the drop-down list
 - “Row Security” field – Key in the field to be used as access rights control for the dataset (optional)
 - “ETag” field – Key in an appropriate tag for the dataset (optional)
 - “Enabled” field – Ensure this field is selected

The “ETag” field is used to reflect when the dataset has changed by checking the last modified datatime.

- After all settings are done, click on the “Schema” tab.



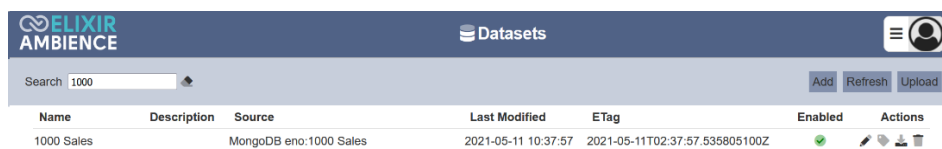
Click on the “Infer Schema” icon at the upper right corner of the tab.

- The list of fields of the dataset are displayed.



You can choose to unselect any of the fields by un-checking the checkbox.

- Click on the “Save” button to save the dataset. The dataset is now added into Ambience 2021 and can be used by other modules.



Name	Description	Source	Last Modified	ETag	Enabled	Actions
1000 Sales		MongoDB eno:1000 Sales	2021-05-11 10:37:57	2021-05-11T02:37:57.535805100Z		

2.4.3. Create Dashboard

A dashboard provides data visualization and interaction through various view types and configurations. The data presented on the dashboards are based on the available datasets set up in the Datasets module.

With the correct privileges, the following features are available in the Dashboards module:

- View the list of dashboards
- Add new dashboard (via Dashboard Designer)
- Upload/download dashboard
- Edit dashboard
- Open dashboard (via Dashboard Viewer)
- Delete dashboard

In the below sections, you will create a new dashboard, with two different charts (pie chart and sunburst chart) using the same dataset.

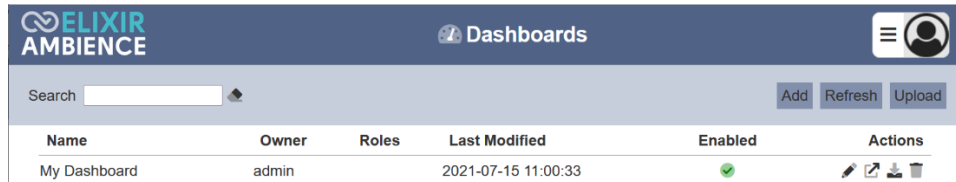
2.4.3.1. Create New Dashboard

Use the following steps to create a dashboard:

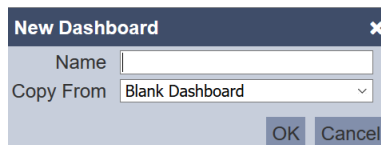
1. Click on the  “Services” icon on the upper right corner of the page and select “Dashboards”.



2. The “Dashboards” page will appear.

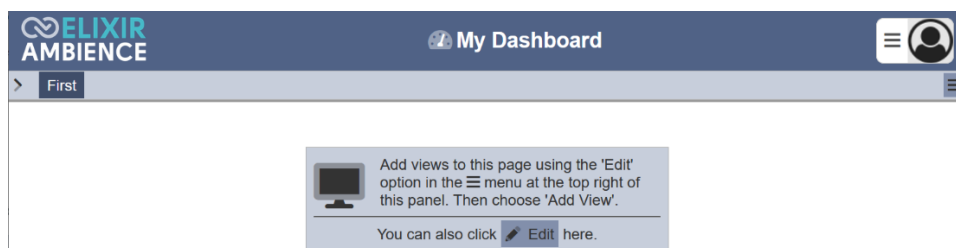


3. In the “Dashboards” page, click on the “Add” button on the upper right corner of the page. A “New Dashboard” dialog box will appear.



4. In the “New Dashboard” dialog box, key in and select the following:
 - “Name” field – Key in a name for the new dashboard
 - “Copy From” field – Selects to copy from existing dashboards from drop-down list or a blank dashboard (in this example, a blank dashboard is selected)

- Click on the “OK” button to create the new blank dashboard. In this mode, you are in the Dashboard Designer page.



- By default, the first page is labelled as “First”.

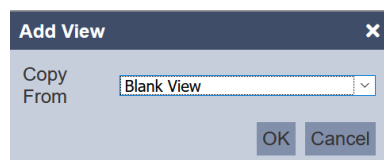
2.4.3.2. Create Pie Chart

In this section, you will create a pie chart.

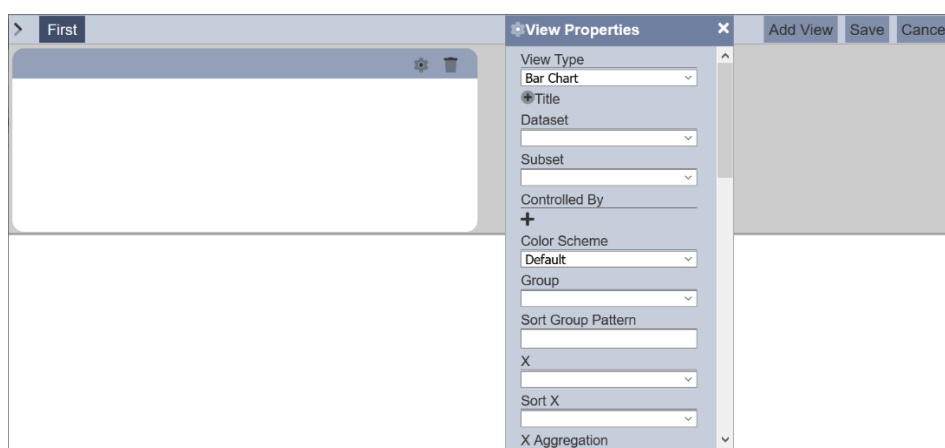
- Click on the “Edit” button in the dialog box. The “Add View”, “Save” and “Cancel” buttons appears on the upper right corner of the page.



- To add a view, click on the “Add View” button. The “Add View” dialog box appears.



- In the dialog box, you can select a blank view or copy from existing views from the drop-down list. In this example, select a blank view.
- Click on the “OK” button to create the view.
- A blank area and the “View Properties” dialog box appears in the page. The fields in the “View Properties” dialog box will vary according to the different type of chart or view selected.

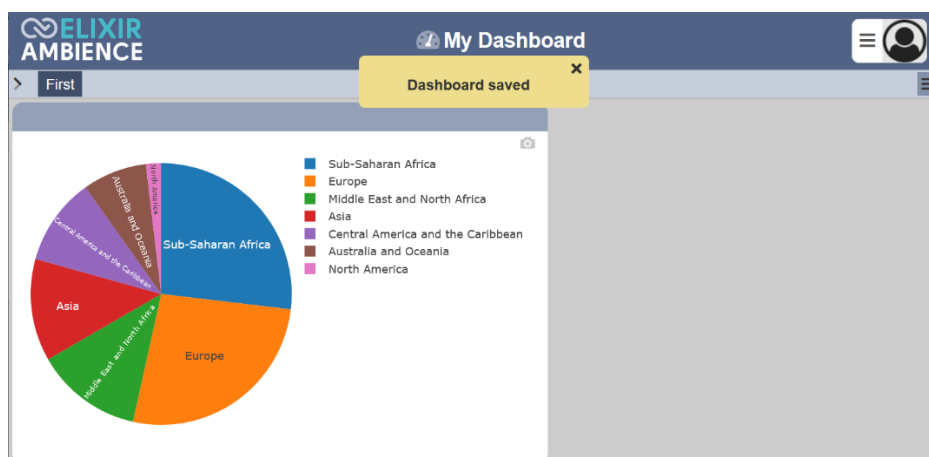


6. In the “View Type” field, select “Pie Chart” from the drop-down list and the other fields for pie chart will appear.

7. In the “View Properties” dialog box, select the following:
 - “Dataset” field – Selects the appropriate data set from drop-down list
 - “Key” field – Selects the appropriate field from drop-down list (this field groups output into separate groups based on the selected value)
 - “Value” field – Selects appropriate field from drop-down list as main output point (determines size of each portion based on selected “Aggregation”)
 - “Aggregation” field – Selects either “sum”, “average” and “count” from drop-down list (by default, “count” is selected) (this field is the accumulation of data by count, average or summation)

In this example, only the mandatory fields are used. The other optional fields are used to enhance or add features to the pie chart.

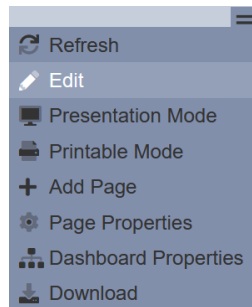
8. You can adjust the size of the view window by dragging the  icon at the lower right corner of the view window when hover over the corner.
9. Click on the “Save” button to save the chart. A message will appear to inform you that the dashboard has been saved successfully.



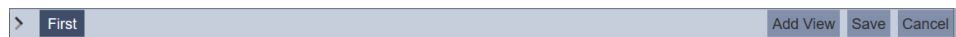
2.4.3.3. Create Sunburst Chart

In this section, you will create a simple sunburst chart.

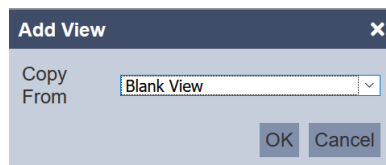
1. In the dashboard page, click on the  “More Actions” icon at the upper right corner of the page to display a list of available actions.



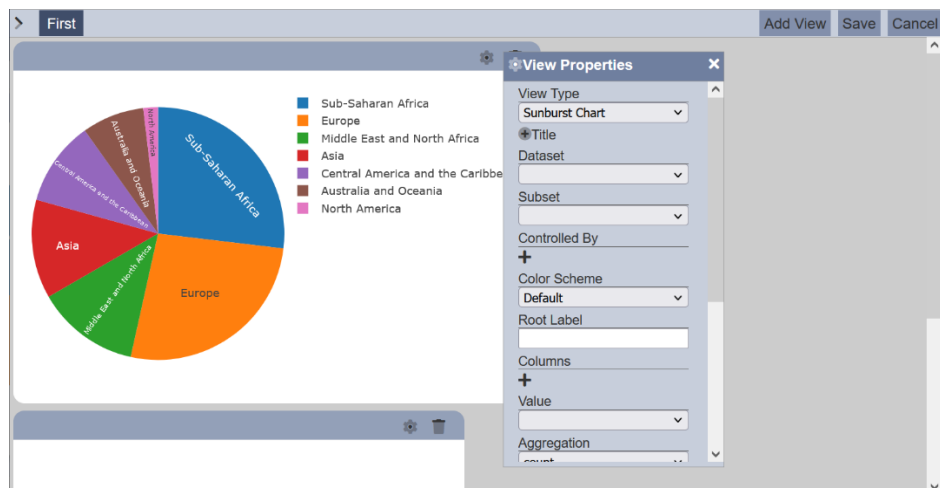
2. Select “Edit” and click on the “Add View” button on the upper right corner of the dashboard.



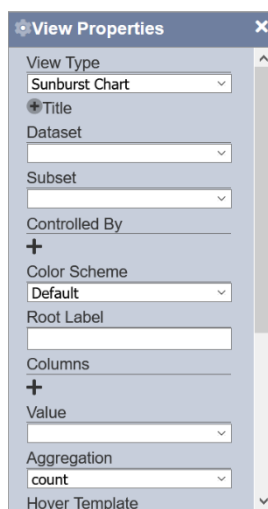
3. In the “Add View” dialog box that appears, select a blank view.



4. Click on the “OK” button to create the view.
5. A blank area and the “View Properties” dialog box appears in the page. By default, the new blank area is located below the first view. You can re-locate the view window and re-size the window.



6. In the “View Type” field, select “Sunburst Chart” from the drop-down list and the other fields for sunburst chart will appear.



7. In the “View Properties” dialog box, select the following:
 - “Dataset” field – Selects the appropriate data set from drop-down list
 - “Columns” field – Selects the appropriate fields (see step 8)
 - “Value” field – Selects appropriate field from drop-down list as main output point (determines size of each portion based on selected “Aggregation”)
 - “Aggregation” field – Selects either “sum”, “average” and “count” from drop-down list (by default, “count” is selected) (this field is the accumulation of data by count, average or summation)

The sunburst chart uses the same dataset used in the pie chart and two nodes are selected.

In this example, only the mandatory fields are used. The other optional fields are used to enhance or add features to the sunburst chart.

8. The “Columns” field defines the fields (nodes) to be displayed in the chart. The first column defined will be the innermost ring of the chart. The last column defined will be the outermost ring of the chart.

Use the following steps to add the two nodes:

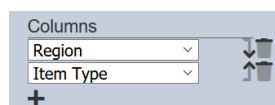
- a. Click on the “+” icon below the “Columns” field to add a node.



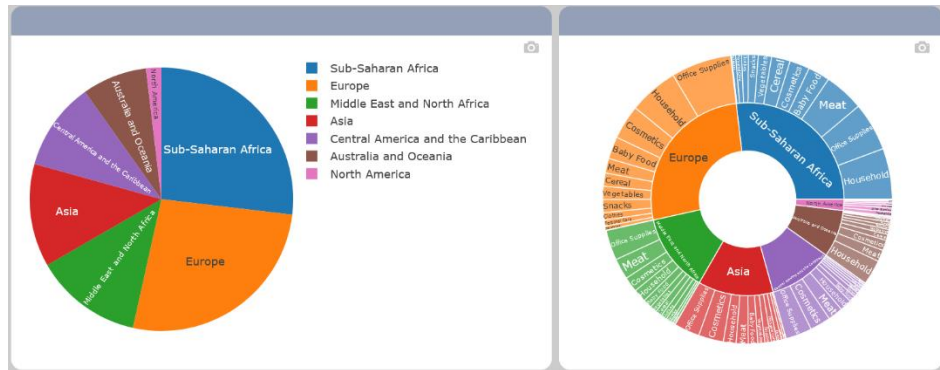
- b. Select an appropriate field from the drop-down list.



- c. Repeat steps a and b for another node.
- d. You can re-order the nodes clicking on the ↑ “Move Up” and ↓ “Move Down” icons.



9. Click on the “Save” button to save the chart. A message will appear to inform you that the dashboard has been saved successfully.



10. In the sunburst chart, clicking on any portion in the inner ring and the chart will display the details of that portion.

In the below example, “Europe” is selected, the sunburst chart will display the details of Europe.



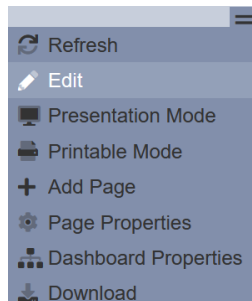
To return to the original chart, click on the “Europe” at the centre of the chart.

2.4.4. Edit Dashboard

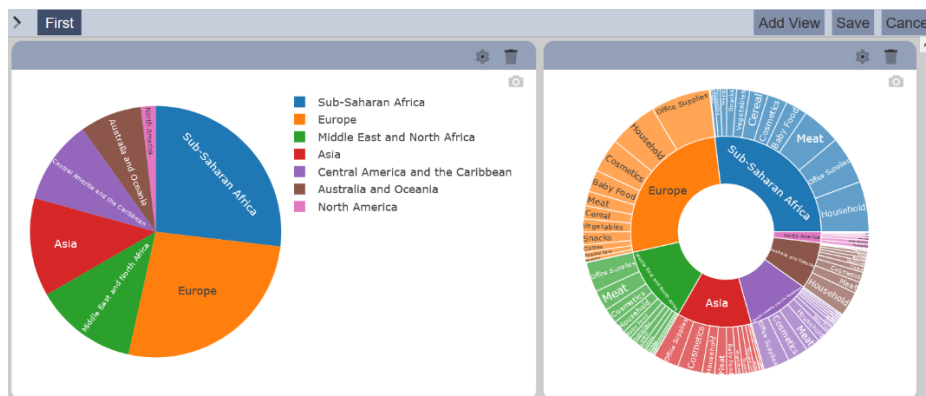
You can edit the dashboard views using the Dashboard Designer.

Use the following steps to edit a dashboard:

1. In the dashboard page, click on the ≡ “More Actions” icon at the upper right corner of the page to display a list of available actions.



2. In the list, select “Edit” to go to the Dashboard Designer (i.e., edit mode).



In the Dashboard Designer, the following functions are available:

- Edit the existing view, table or chart
- Delete the view, table or chart
- Add a new view, table or chart
- Add and/or edit control filters

Edit

To edit the view, table or chart, click on the ⚙️ “Properties” icon at the upper right corner of the pie chart window. The “View Properties” dialog box will appear. You can make the necessary changes and click on the “Save” button to save the changes.

Delete

To delete the view, table or chart, click on the 🗑️ “Delete” icon at the upper right corner of the pie chart window.

Add View

To add a new view, table or chart, click on the “Add View” button at the upper right corner of the page. A new blank area and the “View Properties” dialog box appears in the page. See [Section 2.3.3 Create Dashboard](#) onwards for how to create the new view.

Control Filters

See [Section 2.4.1 Control Filters](#) on how to create control filters.

2.4.5. Dashboard Pages

There are several operations that can be performed on the dashboard:

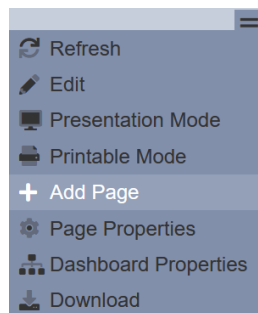
- Add dashboard page
- Switch between pages
- Edit page properties

2.4.5.1. Add Dashboard Page

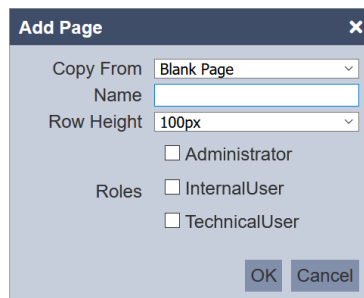
You can add pages to a dashboard. This will allow you to create more views or charts on the same dashboard.

Use the following steps to add a dashboard page:

1. In the dashboard page, click on the “More Actions” icon on the upper right corner of the page to display a list of available actions.



2. To add a new page, select and click on “Add Page”. The “Add Page” dialog box will appear.



3. In the “Add Page” dialog box, select and key in the following:
 - “Copy From” field – Selects to copy from existing page or create a blank page (in this example, select “Blank Page”)
 - “Name” field – Key in a unique name for the new page
 - “Row Height” field – Height of the page (default is 100 px)
 - “Roles” field – Selects the appropriate roles
4. Click on the “OK” button to save the changes. A new page will be added to the dashboard.



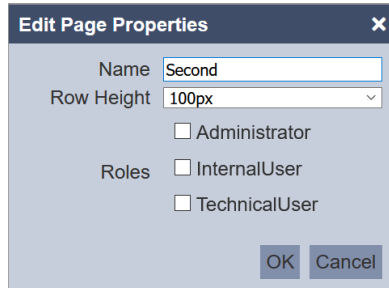
2.4.5.2. Switch Between Pages

To switch between pages, click on the name of the page, that is, “First” and “Second”.

2.4.5.3. Edit Dashboard Page

Use the following steps to edit the dashboard page:

1. Select the desired page.
2. Click on the  “More Actions” icon on the upper right corner of the page and select “Page Properties”. The “Edit Page Properties” dialog box will appear.



3. In the “Edit Page Properties” dialog box, make the necessary changes.
4. Click on the “OK” button to save the changes.

2.5. Build Dynamic Dashboard

2.5.1. Control Filters

Control filters provides a highly customizable ways of controlling the data to be displayed on the dashboard views.

Managing and configuring a dashboard's controls are done through the Dashboard Designer. A control can be linked to multiple views across all pages on the dashboard and a view can also be linked with multiple controls.

Controls become usable, typically as interactive filters for users, through the Dashboard Viewer.

Controls can be categorized into several types:

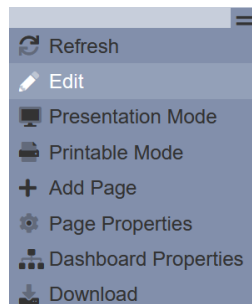
• Filter control	Apply filters on a specific field of the dataset displayed on a view
• Inject control	Advanced features for passing data (e.g., filter values as input parameters values) to other modules, such as ETL.
• Parameter control	Allows parameterisation of aggregation pipeline
• Timer control	Provides an easy way to add real-time or near real-time data updates on the dashboard

2.5.1.1. Checkbox Filter Control

Below is an example on how to create a checkbox filter control for the pie chart that was created earlier.

Use the following steps to create a checkbox filter control:

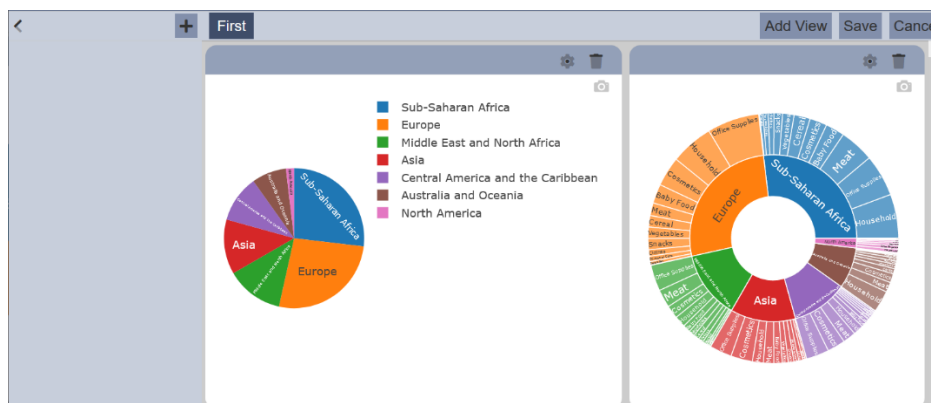
1. In the dashboard page, click on the  "More Actions" icon on the upper right corner of the page and select "Edit". The dashboard is now in the Dashboard Designer mode.



2. On the upper left corner of the page, click on the ">" icon.



3. This will open the Filter Panel.



4. In the Filter Panel, click on the “+” icon to create a new control. The “Add Control” dialog box will appear.

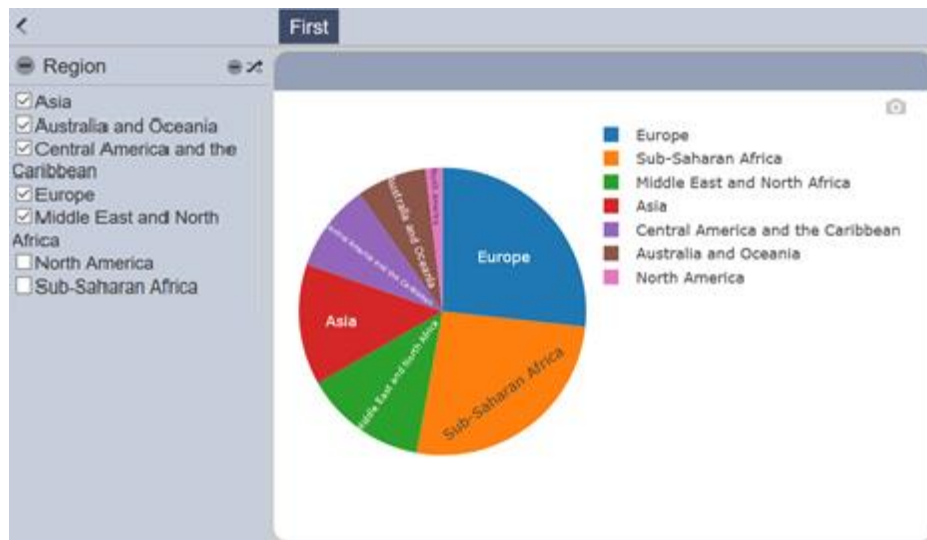
5. In the “Add Control”: dialog box, key in and select the following:
 - “Name” field – Key in a name for the control
 - “Type” field – Selects “Checkbox Filter” from the drop-down list
6. Click on the “OK” button to save the settings and the “Add Control” dialog box will close.
7. The new filter is added onto the Filter Panel and the dialog box for the new filter appears.

8. Select the following:
 - “Visibility” field – Selects “Always” to show filter in the filter panel at all time
 - “Dataset” field – Selects the same dataset as for the pie chart
 - “Filter” field – Selects a field from the drop-down list as the filter value
9. Click on the ⚙️ “Properties” icon on the pie chart window to display the “View Properties” dialog box.

10. In the “View Properties” dialog box, click on the “+” icon below the “Controlled By” field. Select the newly added filter control.



11. Click on the “Save” button on the upper right corner of the page to save the changes and goes back to the Dashboard Viewer.
12. In the dashboard, click on the “+” “Expand” icon to display the values. Select the desired values and see the effect of the filter control by comparing the below chart with the chart in step 3.



13. To quickly reverse the selection, click on the “Invert Selection” icon in the Filter Panel or remove all selection by clicking on the “Deselect All” icon.
14. To close the Filter Panel, click on the “Collapse” icon on the left. Do note that by doing so, the selection in the control filter will not take effect.

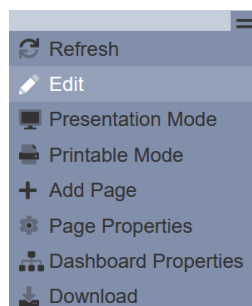
2.5.1.2. Interval Timer Control

Timer control provides an easy way to add real-time or near real-time data updates on the dashboard.

This timer control is used to created fixed-interval data refreshing on the dashboard, specifically by reloading the datasets displayed on views it controls.

Use the following steps to create a timer control:

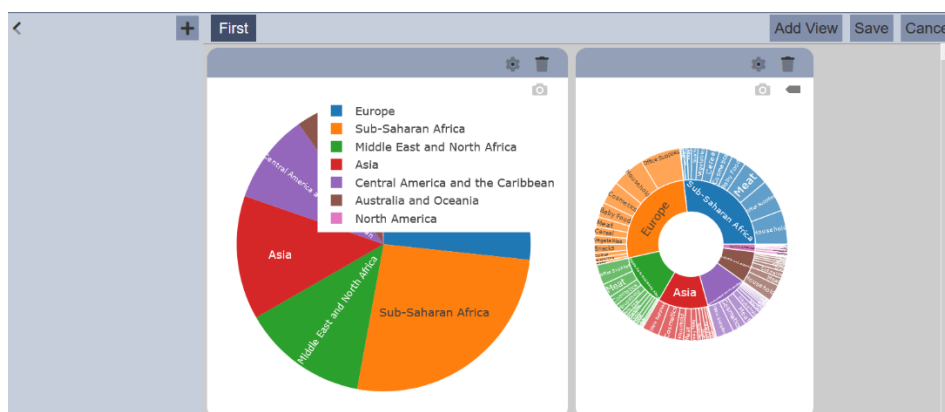
1. In the dashboard page, click on the “More Actions” icon on the upper right corner of the page and select “Edit”. The dashboard is now in the Dashboard Designer mode.



2. On the upper left corner of the page, click on the “>” icon.



3. This will open the Filter Panel.



4. In the Filter Panel, click on the “+” icon to create a new control. The “Add Control” dialog box will appear.

5. In the “Add Control”: dialog box, key in and select the following:
 - “Name” field – Key in a name for the control
 - “Type” field – Selects “Interval timer” from the drop-down list
6. Click on the “OK” button to save the settings and the “Add Control” dialog box will close.
7. The new filter is added onto the Filter Panel and the dialog box for the new filter appears.

8. In the dialog box, key in and select the following:
 - “Control Type” field – Selects “Interval timer” from drop-down list
 - “Units” field – Selects the desired time unit from drop-down list
 - “Interval” field – Key in the desired interval in the text box or alternatively increase or decrease the value by clicking on the “Increase” or “Decrease” icons
9. For any dashboard that requires regular refresh, select this timer control in the “Controlled By” field in the “View Properties”.

2.5.2. Interactivity

There are several ways to interact between views and dashboard pages. Below are two methods:

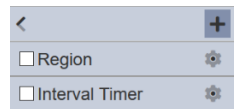
- Select to Control
- Click to Page

2.5.2.1. Select to Control

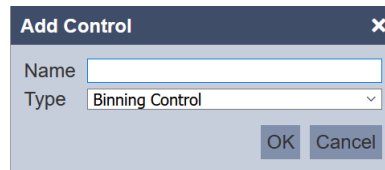
The “Select to Control” feature allows you to use the current view or chart to control the content of a view or chart. Do note that both views or charts must use the same dataset.

Use the following steps to create a “Select to Control” feature:

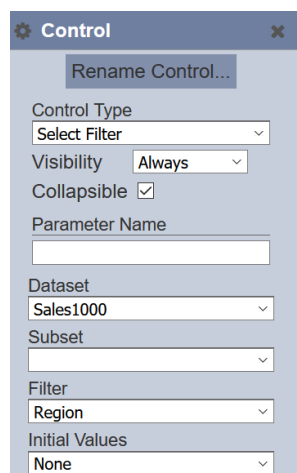
1. In the Dashboards page and select the desired dashboard.
2. Ensure there are at least two views or charts in the dashboard.
3. In the dashboard page, click on the  “More Actions” icon and select “Edit”.
4. Create a filter control:
 - a. Click on the “>” icon on the upper left corner of the page to display the Filter Panel.



- b. Click on the “+” icon in the Filter Panel. The “Add Control” dialog box will appear.



- c. In the dialog box, key in and select the following:
 - “Name” field – A unique name for the control
 - “Type” field – Selects “Select Filter” from the drop-down list
- d. Click on “OK” button to create the new filter. The “Control” dialog box will appear.



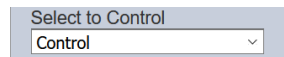
e. In the “Control” dialog box, select the following:

- “Control Type” field – Selects “Select Filter” from drop-down list
- “Visibility” field – Selects “Hidden” from drop-down list
- “Dataset” field – Selects the same dataset as the two charts created earlier from the drop-down list
- “Filter” field – Selects the same field selected as “Key” in the two charts from drop-down list

By selecting “Hidden” for “Visibility” field, this filter will only be shown in the Dashboard Designer mode (or Edit mode). In Dashboard View mode, this filter will not be displayed in the Filter Panel, thus user will not be able make selection on this filter. In this example, it is recommended to keep this filter hidden.

5. In the first view (pie chart), perform the following:

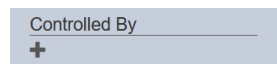
- a. Click on the  “Properties” icon to display the “View Properties” dialog box.
- b. In the dialog box, scroll to the “Select to Control” field.



- c. Select the newly created filter control from the drop-down list.

6. In the second view (sunburst chart), perform the following:

- a. Click on the  “Properties” icon to display the “View Properties” dialog box.
- b. In the dialog box, scroll to the “Controlled By” field.



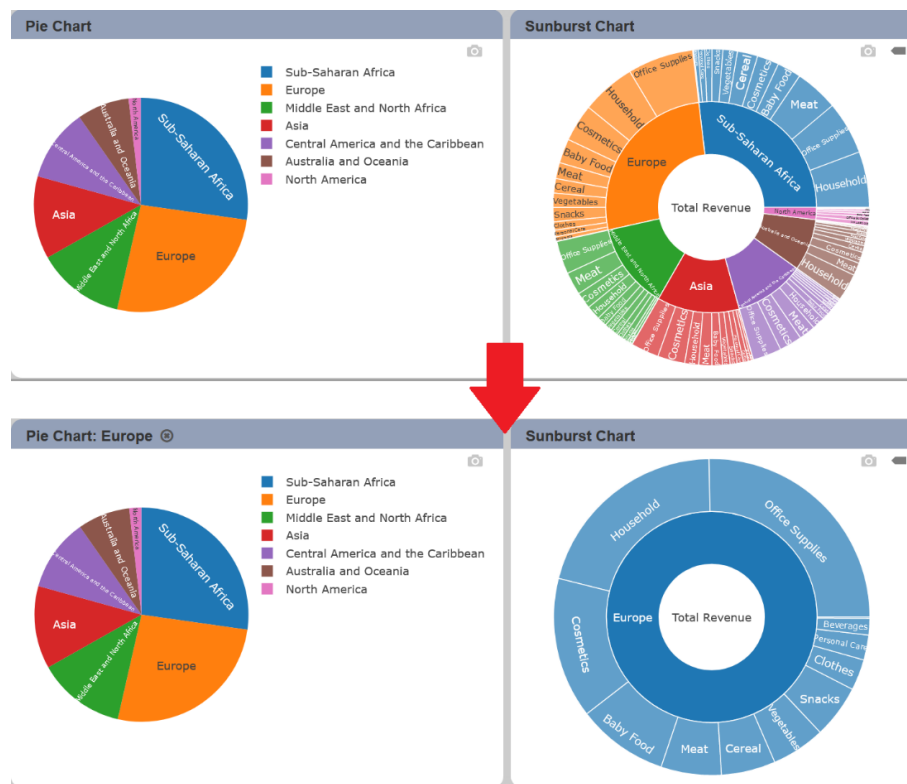
- c. Click on the “+” icon to add a new selection.
- d. Select the newly created filter control from the drop-down list.

7. Click on the “Save” button on the upper right corner of the page to save the changes.

8. Close the Filter Panel if it is not closed.

- Click on any portion of the pie chart, the contents in the sunburst chart changes accordingly.

In the below example, “Europe” is selected in the pie chart. The sunburst chart changes to display the contents for Europe only. To revert back to the original view, click in the ✕ “Reset” icon on the title of the pie chart.

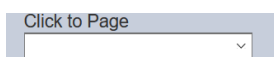


2.5.2.2. Click to Page

The “Click to Page” feature allows you to switch to another dashboard page with a single click on the view.

Use the following steps to create a “Click to Page” feature:

1. In the “Dashboards” page and select the desired dashboard.
2. Ensure there are at least two pages in the dashboard.
3. In the dashboard, click on the ≡ “More Actions” icon and select “Edit”.
4. Click on the ⚙️ “Properties” icon in the view window to display the “View Properties” dialog box.
5. In the dialog box, scroll to “Click to Page” field.



6. Select the desired page to from the drop-down list.
7. Click on the “Save” button to save the change.
8. To see the effect, click anywhere in the dashboard page and it will bring you to the selected page.

Do note that there are some weightings on some of the features. Some properties have priorities over others. You may have noticed that once the “Click to Page” feature is implemented, the “Select to Control” feature is ineffective. Thus, these two features should not be used together.

2.6. Create ETL

The ETL module enables writing powerful and versatile high-level functions that can be used for various purposes including but not limited to:

- ETL (extract, transform, load) for preparing and enriching data
- Log monitoring
- Report generation
- Maintenance or cleanup
- Sending notifications
- Making external API calls

A record or item in the ETL interface is called a chainset. Each chainset can contain as many chains as desired. Each chain is made up of a set of steps. These steps are the building blocks in the ETL module.

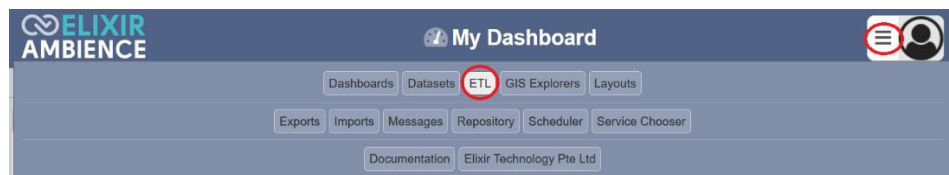
The ETL module allows you to perform the following:

- Add ETL
- Upload ETL
- Delete ETL
- Edit ETL
- Open ETL Designer
- Download ETL

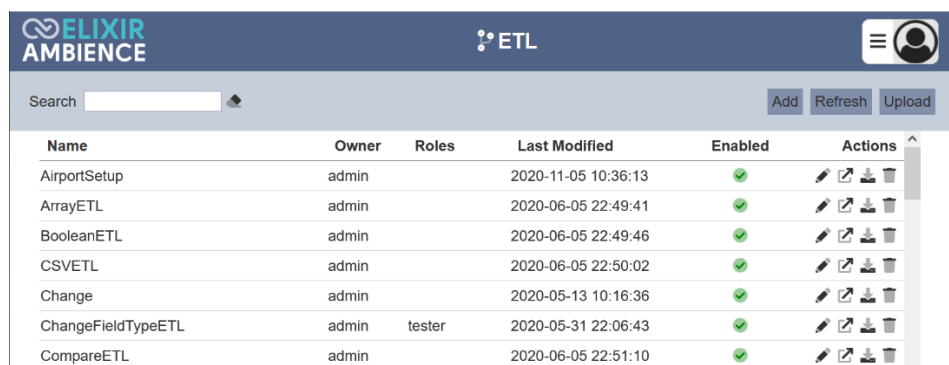
2.6.1. Simple Calculation ETL

Below is an example of creating a very simple calculation ETL.

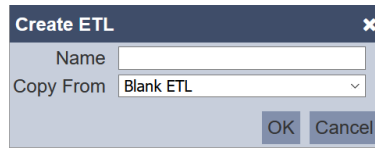
1. From the  “Services” icon on the upper right corner of the page, select “ETL”.



2. In the “ETL” page, click on the “Add” button on the upper right corner of the page. A dialog box will appear.



3. 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”)



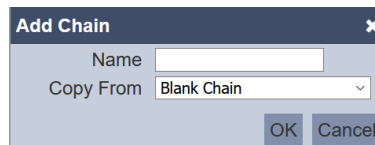
The 'Create ETL' dialog box has a title bar with a close button. It contains two input fields: 'Name' with an empty text box, and 'Copy From' with a dropdown menu showing 'Blank ETL'. At the bottom right are 'OK' and 'Cancel' buttons.

4. Click on the “OK” button to save the changes.
5. The ETL Designer page appears.



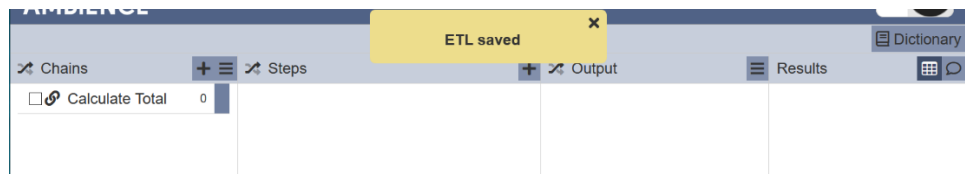
The ETL Designer page has a top navigation bar with tabs: 'Chains' (selected), 'Steps', 'Output', and 'Results'. There is also a 'Dictionary' icon on the right. The main area is divided into four columns corresponding to these tabs, which are currently empty.

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



The 'Add Chain' dialog box has a title bar with a close button. It contains two input fields: 'Name' with an empty text box, and 'Copy From' with a dropdown menu showing 'Blank Chain'. At the bottom right are 'OK' and 'Cancel' buttons.

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.

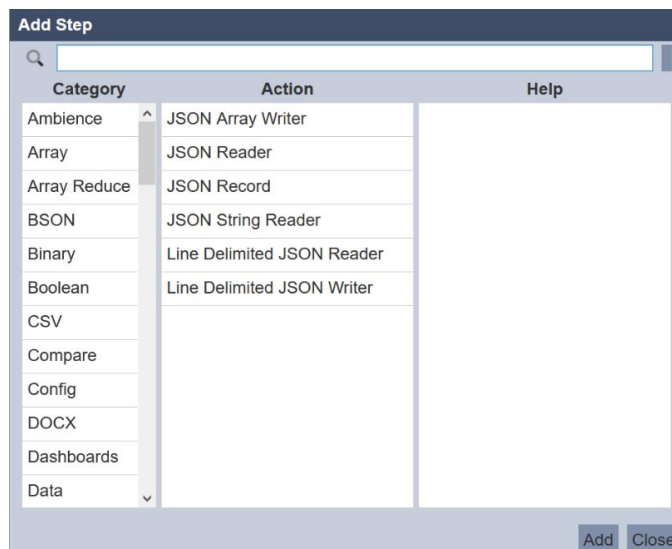


The ETL Designer page shows a yellow toast message 'ETL saved' at the top. In the 'Chains' tab, a new chain named 'Calculate Total' is visible with a value of '0'. The 'Steps' tab is also visible and empty.

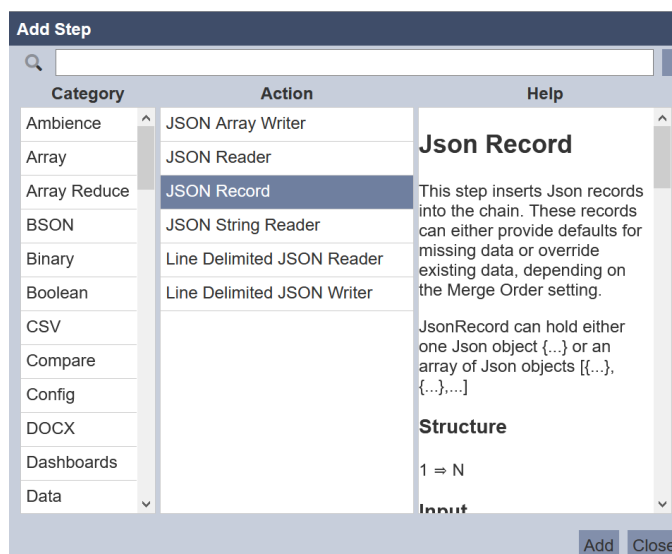
9. In this example, two steps are required:
 - a. First step – Adds two JSON records
 - b. Second step – Creates a total by multiplying two fields in the JSON record

10. First step:

- a. In the “Steps” section, click on the “+” icon. The “Add Step” dialog box will appear.



- b. In the “Category” section, select “JSON”. The list of available actions will appear in the “Action” section. From the list of actions, select “JSON Record”.



- c. Click on the “Add” button to add the step. The new step is added in the background. Click on the “Close” button to close the dialog box. Another dialog box “Edit Step” will appear.

- d. In the “JSON” section, key in the following:

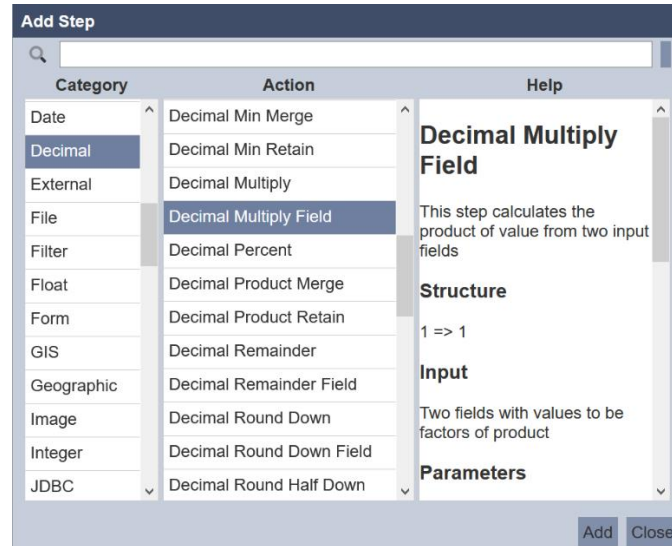
```
[
  {
    "fruit" : "Apple",
    "unit" : 10,
    "cost" : 2
  },
  {
    "fruit" : "Orange",
    "unit" : 8,
    "cost" : 5
  }
]
```

- e. Click on the “Save” button after keying in the data above.

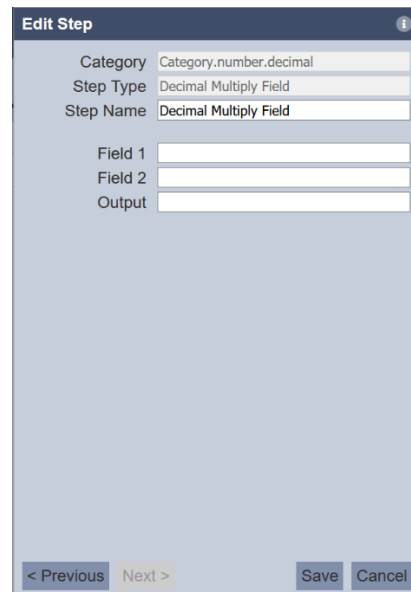
- f. You can edit the step by clicking on the  “Edit” icon. The “Edit Step” dialog box will appear.

11. Second step:

- a. In the “Steps” section, click on the “+” icon. The “Add Step” dialog box will appear.
- b. In the “Category” section, select “Decimal”, then select “Decimal Multiply Field” in the “Action” section.



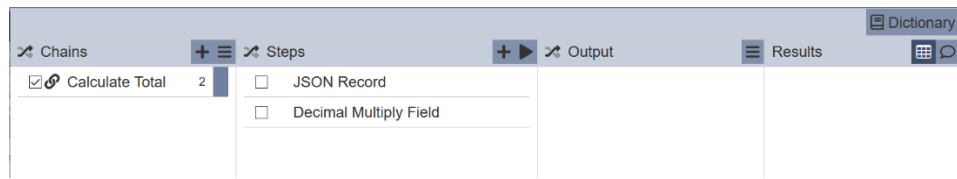
- c. Click on the “Add” button to add the step. The new step is added in the background. Click on the “Close” button to close the dialog box. The “Edit Step” dialog box will appear.



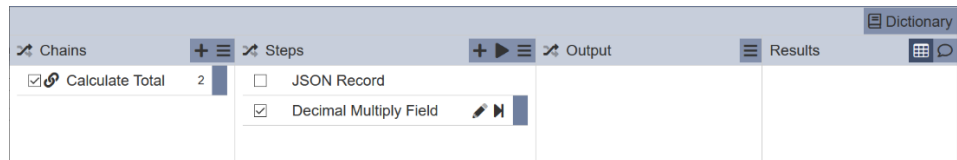
- d. In the “Edit Step” dialog box, key in the following:
 - “Field 1” field – Key in “unit”
 - “Field 2” field – Key in “cost”
 - “Output” field – Key in “total”
- e. Click on the “Save” button to save the step.
- f. You can edit the step by clicking on the  “Edit” icon. The “Edit Step” dialog box will appear.

In the “Edit Step” dialog box, you can switch between the first and second step by clicking on the “Previous” and “Next” buttons at the lower left corner of the dialog box.

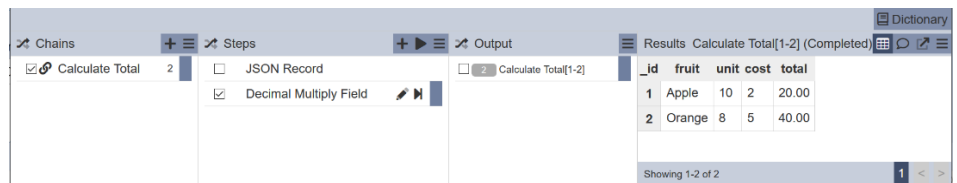
12. The first and second steps are now added to the chain.



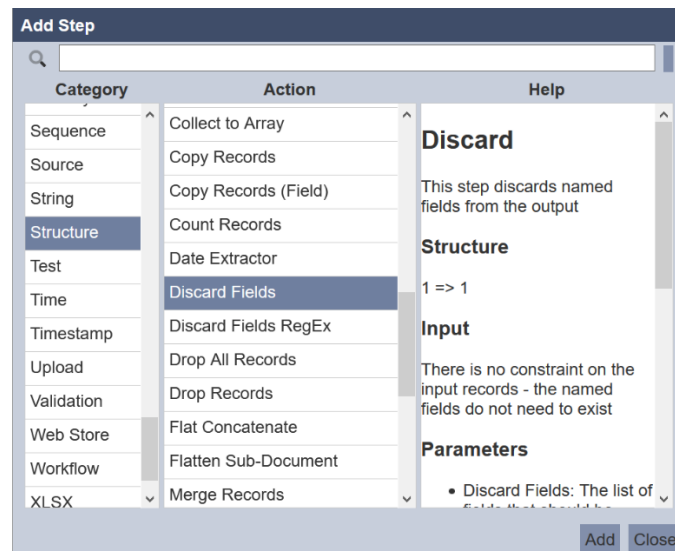
13. To run the steps, select "Decimal Multiply Field" to display the available action icons next to it.



14. Click on the "Run to Step" icon to run the steps.
15. By selecting the last step, you will run both steps sequentially. Alternatively, you can select and run the steps individually and sequentially.
16. The outputs are displayed in the "Output" and "Results" sections. The field "total" is added and it is the result of "unit" multiply by "cost".

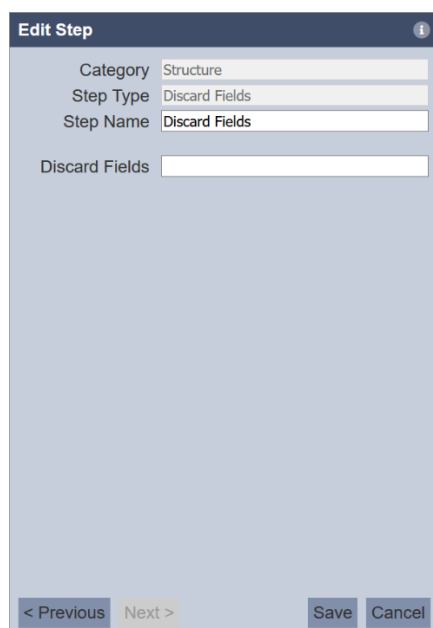


17. If you do not want to display "unit" and "cost" in "Results", you can add another step to the chain to remove them.
- In the "Steps" section, click on the "+" to add a new step.
 - In the "Add Step" dialog box, select "Structure", then select "Discard Fields".



- Click on the "Add" button to add the new step, then click on the "Close" button to close the dialog box. The "Edit Step" dialog box will appear.

- d. In the “Edit Step” dialog box, key in “unit, cost” into the “Discard Fields” field.

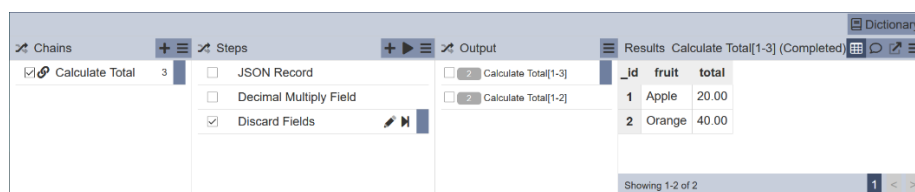


The "Edit Step" dialog box is shown. It has a title bar "Edit Step" with an information icon. The form contains the following fields:

- Category: Structure
- Step Type: Discard Fields
- Step Name: Discard Fields
- Discard Fields: (empty text input field)

At the bottom, there are four buttons: "< Previous", "Next >", "Save", and "Cancel".

- e. Click on the “Save” button to save the changes.
- f. Select the newly added step and click on the ▶ “Run to Step” icon. The result now displays the “total” field.



The screenshot shows the application interface with the following components:

- Chains:** A list of steps. The first step is "Calculate Total" with a status of 3. The second step is "Discard Fields" with a status of 1 and a "Run to Step" icon (▶).
- Steps:** A list of steps. The first step is "JSON Record". The second step is "Decimal Multiply Field". The third step is "Discard Fields" with a status of 1 and a "Run to Step" icon (▶).
- Output:** A list of output fields. The first field is "Calculate Total[1-3]". The second field is "Calculate Total[1-2]".
- Results:** A table showing the results of the "Calculate Total[1-3] (Completed)" step. The table has three columns: "_id", "fruit", and "total". The data is as follows:

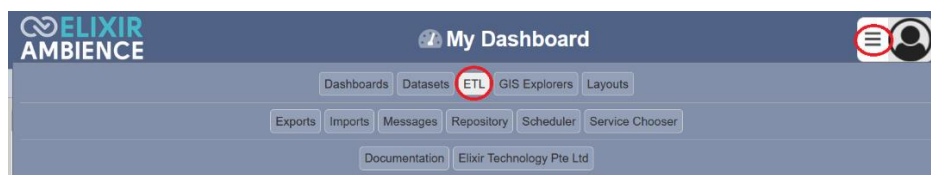
_id	fruit	total
1	Apple	20.00
2	Orange	40.00

At the bottom right, there is a status bar showing "Showing 1-2 of 2" and a page number "1".

2.6.2. MongoDB Read ETL

Below is an example of reading data from MongoDB.

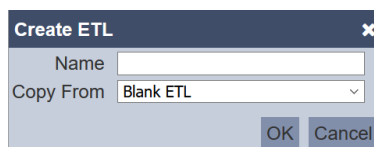
1. From the  “Services” icon on the upper right corner of the page, select “ETL”.



2. In the “ETL” page, click on the “Add” button on the upper right corner of the page. A “Create ETL” dialog box will appear.



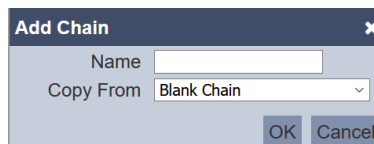
3. In the dialog box, key in and select the following:
 - “Name” field – Key in a name for the new ETL
 - “Copy From” field – Selects an existing ETL from drop-down list or a blank ETL (in this example, select “Blank ETL”)



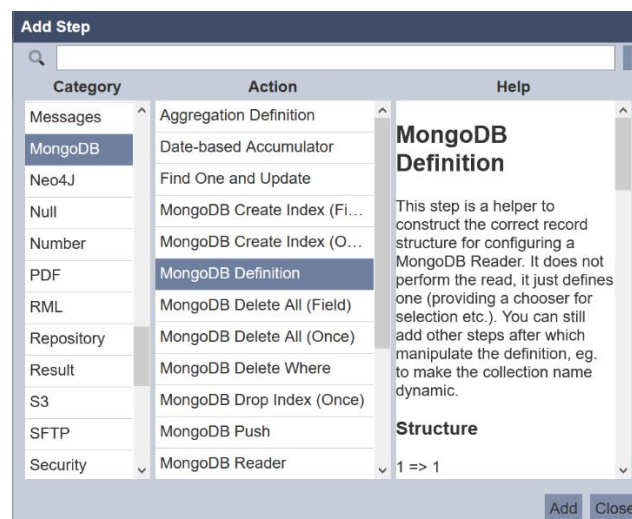
4. Click on the “OK” button to save the changes.
5. The ETL Designer page appears.



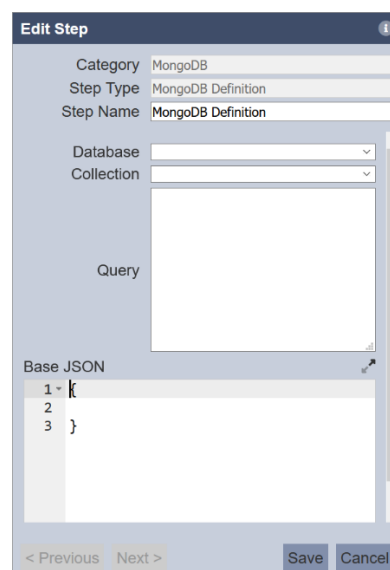
6. In “Chains” section, click on the “+” icon. The “Add” dialog box will appear.



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.
9. In this example, two steps are required:
 - a. First step – Defines MongoDB
 - b. Second step – Read from MongoDB
10. First step:
 - a. In the “Steps” section, click on the “+” icon. The “Add Step” dialog box will appear.
 - b. In the “Category” section, select “MongoDB”, then select “MongoDB Definition” in the “Action” section.



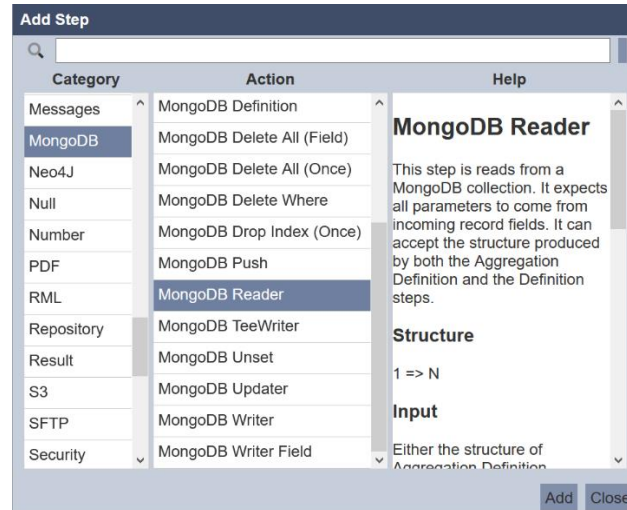
- c. Click on the “Add” button to add the step. The new step is added in the background. Click on the “Close” button to close the dialog box. Another dialog box “Edit Step” will appear.



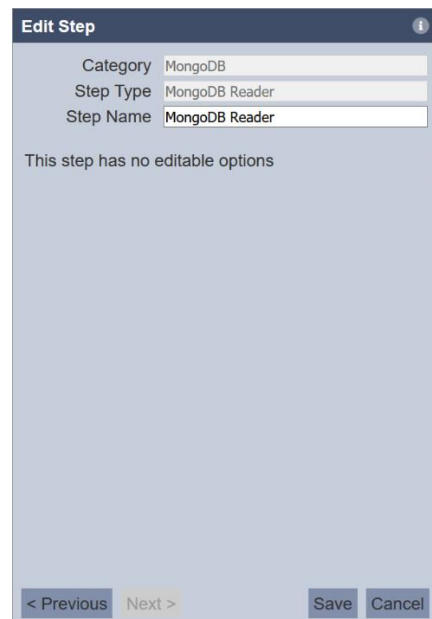
- d. In the “Edit Step” dialog box, select the appropriate database and collection.
 - e. Click on the “Save” button to save the changes.

11. Second step:

- In the “Steps” section, click on the “+” icon. The “Add Step” dialog box will appear.
- In the “Category” section, select “MongoDB”, then select “MongoDB Reader” in the “Action” section.



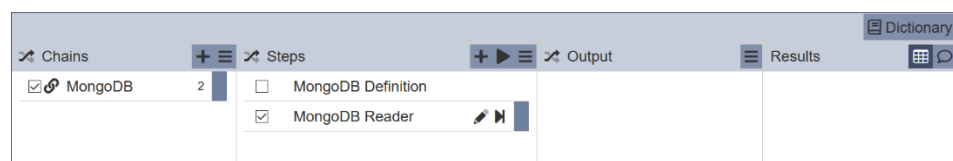
- Click on the “Add” button to add the step. The new step is added in the background. Click on the “Close” button to close the dialog box. Another dialog box “Edit Step” will appear.



- There are no editable options in this step. Click on the “Save” button to exit the dialog box.

12. The first and second steps are now added to the chain.

13. To run the steps, select “MongoDB Reader” to display the available action icons next to it.



14. Click on the ▶ “Run to Step” icon to run the steps.
15. By selecting the last step, you will run both steps sequentially. Alternatively, you can select and run the steps individually and sequentially.
16. The outputs are displayed in the “Output” and “Results” sections.

Id	Region	Country
1	Middle East and North Africa	Libya
2	North America	Canada
3	Middle East and North Africa	Libya
4	Asia	Japan
5	Sub-Saharan Africa	Chad
6	Europe	Armenia

2.6.3. Scheduler ETL

Ambience 2021 allows user to scheduler jobs for generating reports for example. It will be useful if an alert can be generated to inform the user that the scheduled job has been triggered.

You can create an ETL to send an alert to the desired user(s). This ETL will be used in conjunction with the Scheduler in Ambience 2021 to perform the above function.

This alert can be in two forms:

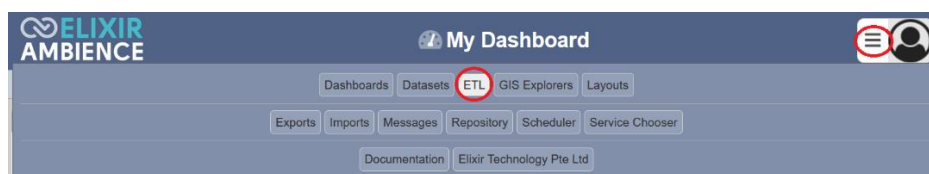
- Via email
- Via message to the Messages module to users within Ambience 2021

2.6.3.1. 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:

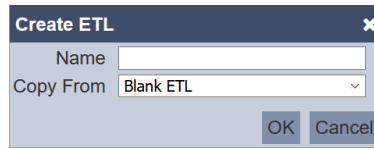
1. From the ≡ “Services” icon on the upper right corner of the page, select “ETL”.



2. In the “ETL” page, click on the “Add” button on the upper right corner of the page. A “Create ETL” dialog box will appear.

Name	Owner	Roles	Last Modified	Enabled	Actions
AirportSetup	admin		2020-11-05 10:36:13	✓	
ArrayETL	admin		2020-06-05 22:49:41	✓	
BooleanETL	admin		2020-06-05 22:49:46	✓	
CSVETL	admin		2020-06-05 22:50:02	✓	
Change	admin		2020-05-13 10:16:36	✓	
ChangeFieldTypeETL	admin	tester	2020-05-31 22:06:43	✓	
CompareETL	admin		2020-06-05 22:51:10	✓	

3. 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”)



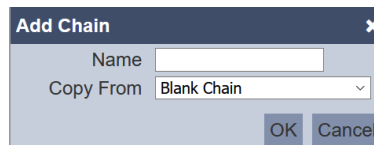
The image shows a 'Create ETL' dialog box with a title bar containing a close button. It has two input fields: 'Name' with a text box and 'Copy From' with a dropdown menu showing 'Blank ETL'. At the bottom right are 'OK' and 'Cancel' buttons.

4. Click on the “OK” button to save the changes.
5. The ETL Designer page appears.



The image shows the ETL Designer interface. It has a top bar with tabs: 'Chains' (active), 'Steps', 'Output', 'Results', and 'Dictionary'. Below the tabs are four empty rectangular panels corresponding to each tab.

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

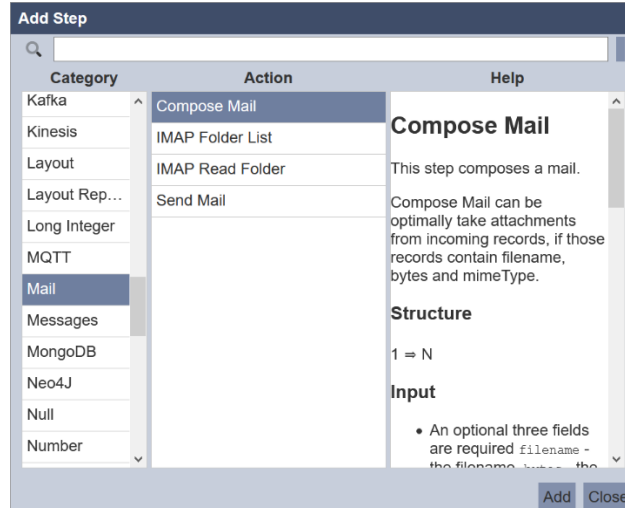


The image shows an 'Add Chain' dialog box with a title bar containing a close button. It has two input fields: 'Name' with a text box and 'Copy From' with a dropdown menu showing 'Blank Chain'. At the bottom right are 'OK' and 'Cancel' buttons.

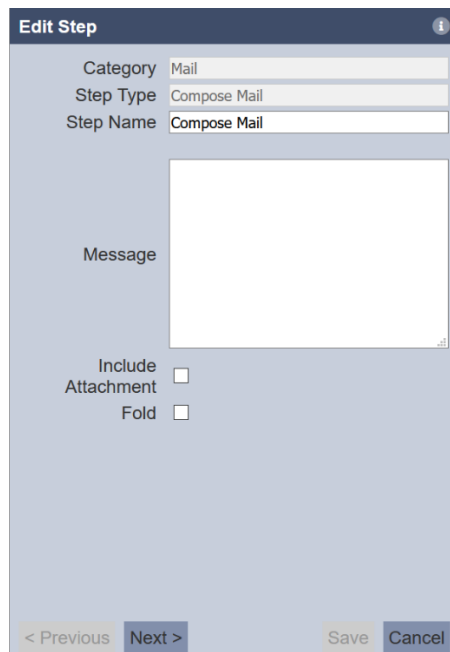
7. In the dialog box, key in and select the following:
 - “Name” Field – Key in a name for the new
 - “Copy From” field – Selects an existing chain from the drop-down list or a Blank chain (in this example, select “Blank Chain”)
8. Click on the “OK” button to save the changes. A message will appear upon successful saving the ETL.
9. For the via email method, two steps are required:
 - a. First step – Compose Mail
 - b. Second step – Send Mail

10. First step:

- In the “Steps” section, click on the “+” icon. The “Add Step” dialog box will appear.
- In the “Category” section, select “Mail”, then select “Compose Mail” in the “Action” section.

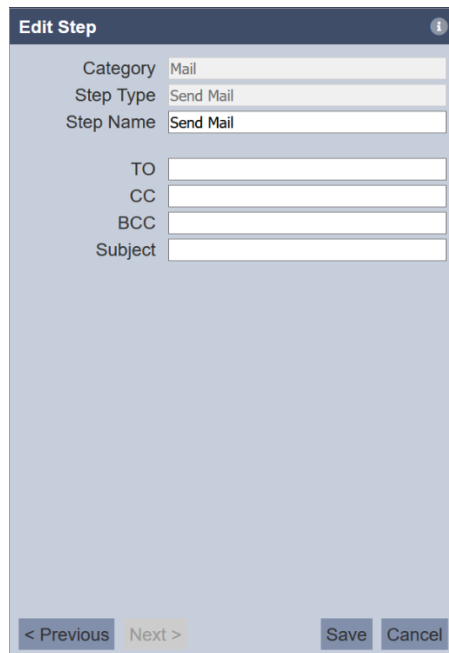


- Click on the “Add” button to add the step. The new step is added in the background.
 - In the “Category” section, select “Mail”, then select “Send Mail” in the “Action” section.
 - Click on the “Add” button to add the step. The new step is added in the background.
 - Click on the “Close” button to close the dialog box.
11. The “Edit Step” dialog box will appear. This “Edit Step” is for the first step “Compose Mail”.



- In the “Edit Step” dialog box, key in appropriate message for the email. You can also opt to include attachment.

13. Click on the “Next” button on the lower left corner of the dialog box to display the “Edit Step” for the second step.



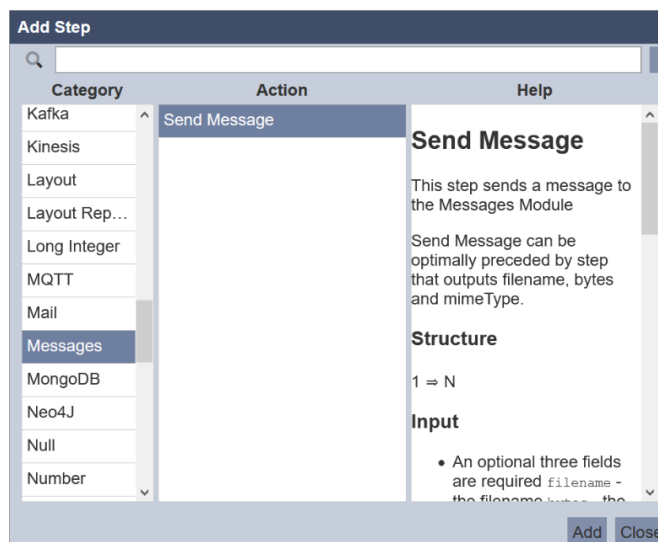
14. In the dialog box, key in the appropriate email addresses and subject in the respective fields.
15. Click on the “Save” button to save the edits.

2.6.3.2. Via Message

This method sends an alert via message to the Message module to users within Ambience 2021.

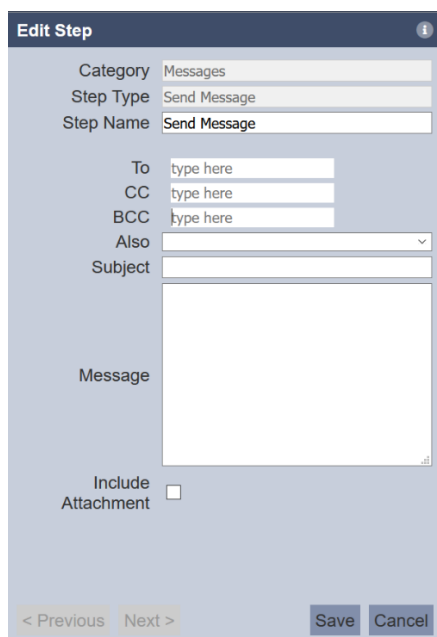
Use the following steps:

1. Follow steps 1 to 8 from the [Section 2.5.3.1 Via Email](#).
2. In the “Steps” section, click on the “+” icon. The “Add Step” dialog box will appear.



3. In the “Category” section, select “Messages”, then select “Send Message”.

4. Click on the “OK” button to save the step. The new step is added in the background. Click on the “Close” button. The “Edit Step” dialog box will appear.



5. In the dialog box, select and key in the following:
 - “To” field – Selects the desired user from drop-down list
 - “CC” field – Selects the desired user from drop-down list
 - “BCC” field – Selects the desired user from drop-down list
 - “Also” field – Selects which group to include the current user from drop-down list
 - “Subject” field – Key in the appropriate subject title
 - “Message” field – Key in the appropriate message
 - “Include Attachment” field – Selects to include attachment
6. Click on the “Save” button to save the changes.

2.7. Scheduler

The Scheduler module in Ambience 2021 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 (shows last 200)
- Trigger – Lists all jobs that are available for the owner
- Calendar – Lists all constraints shared among the triggers

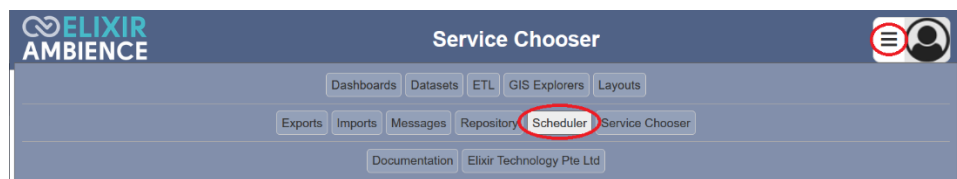
In the below example, a job trigger that occurs on the 10th of each month. The selected day must be a weekday and must not be a public holiday.

2.7.1. 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 “Services” icon on the upper right corner of the page and select “Scheduler”.



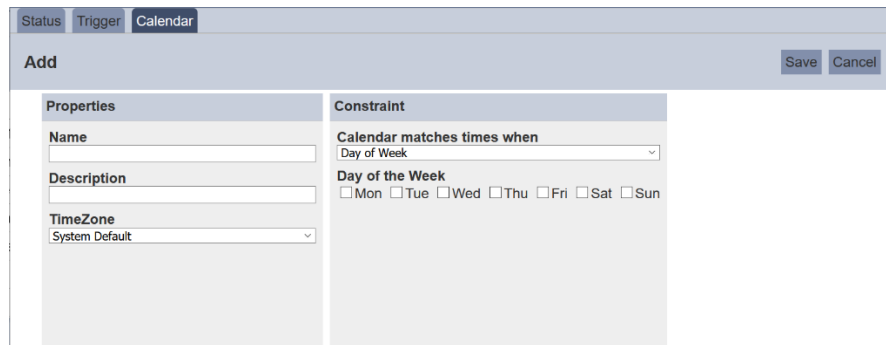
2. The “Scheduler” page will appear.

Name	Owner	Started	Finished	Elapsed	Mode	Status	Actions
08 Trigger-Run hourly-No calendar	admin	2021-07-29 11:05:00	2021-07-29 11:05:00	75 ms	scheduled	Completed	...
19 Run Trigger-Run hourly	admin	2021-07-29 11:00:00	2021-07-29 11:00:00	153 ms	scheduled	Completed	...
08 Trigger-Run hourly-No calendar	admin	2021-07-29 10:05:00	2021-07-29 10:05:01	78 ms	scheduled	Completed	...
04 Trigger-Run weekly-Days of yr(Excl)	admin	2021-07-29 10:01:00	2021-07-29 10:01:00	73 ms	scheduled	Completed	...
19 Run Trigger-Run hourly	admin	2021-07-29 10:00:00	2021-07-29 10:00:00	323 ms	scheduled	Completed	...

3. Click on the “Calendar” page.

Name	Description	TimeZone	Actions
Cron expression - Every day at 1 PM	Cron expression	Singapore	
Day of Month - First 10 Day of month	Days 1,2,3,4,5,6,7,8,9,10	Singapore	
Day of Month - First 4 Day of weekday	Monday, Tuesday, Wednesday, Thursday only	Singapore	
Day of Month - Last 10 Day of month	For month that has Days 31	Singapore	
Day of Week - Last 4 Day of week	Thursday, Friday, Saturday, Sunday Only	Singapore	
Day of Week - Weekdays	Monday, Tuesday, Wednesday, Thursday, Friday	Singapore	
Day of Week - Weekend	Saturday and Sunday	Singapore	

4. Click on the “Add” button on the upper right corner of the “Calendar” page. The “Add” panel will appear.

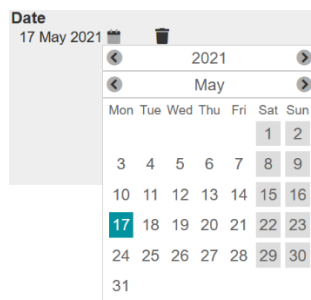


5. In the “Add” panel, key in and select the following:
 - “Properties” section:
 - “Name” field – Key in a unique name for the calendar
 - “Description” field – Key in a brief description for the calendar (optional)
 - “TimeZone” field – Selects timezone from drop-down list (optional but recommended) (in this example, select “Singapore”)
 - “Constraint” section:
 - “Calendar matches times when” field – Selects “Day of Year”
 - The next field is dependent on the above field, one or more fields may appear
6. Click on the “Add” button in the “Constraint” section to add a new date.



By default, the current date is selected.

7. Click on the “Calendar” icon and select the correct date.



8. Repeat steps 6 and 7 until all public holidays are added.
9. Click on the “Save” button to save the changes. The new calendar is now listed in the “Calendar” page.

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

2.7.2. 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” page.

Status Trigger Calendar							
Search monthly				Add Refresh			
Name	Owner	Description	Enabled	In Progress	Last Run	Next Run	Actions
05 Trigger- Run monthly- Day of mth(excluded)	admin	Pos scenario-run every mth from days 1-31, exclude 1st 10 day of mth	✓		2020-09-30 00:00:00	2021-05-18 00:00:00	
11 Trigger- Run monthly- No calendar	admin	Pos scenario-run every mth for day 24 at 9 am	✓		2020-09-24 09:00:00	2021-05-24 09:00:00	
18 Run Trigger- Run monthly	admin	Pos scenario: Test data for AM-305	✓		2020-10-01 00:00:00	2021-06-01 00:00:00	
Monthly First Day	admin		✓		2021-04-01 12:00:00	2021-06-01 12:00:00	
Monthly Last Week Day	admin		✓		2021-04-30 12:00:00	2021-05-31 12:00:00	
Monthly Third Wed	admin	Monthly Third Wed	✓		2021-02-17 12:00:00	2021-05-19 12:00:00	
Monthly by Days	admin	Run monthly by certain days	✓		2021-05-17 15:40:36	2021-05-18 15:40:36	

2. Click on the “Add” button on the upper right corner of the page.
3. The “Add” panel will appear.

Save

Cancel

Properties

Name

Description

Timezone

System Default

Enabled

✓

Calendar Constraints

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 - Weekdays

Frequency

Trigger Mode

Run Daily

Time of Day

Hour 0 Minute 0 Second 0

Job Properties

Chainset

Chain

Parameters

1 {}

4. In the “Properties” section, 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
5. In the “Constraint” section, 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.

6. In the “Frequency” section, key in and select the following:
 - “Trigger Mode” field – Selects “Run Monthly”
 - “Monthly” field – Selects all months
 - “Days” field – Selects this field and key in “10”
 - “Time of Day” field – Key in “9” in the “Hour” field
7. In the “Job Properties” section, select the scheduler ETL that was created in [Section 2.5.3 Scheduler ETL](#).
8. Click on the “Save” button to save the changes. The new job trigger is now listed in the “Trigger” page.

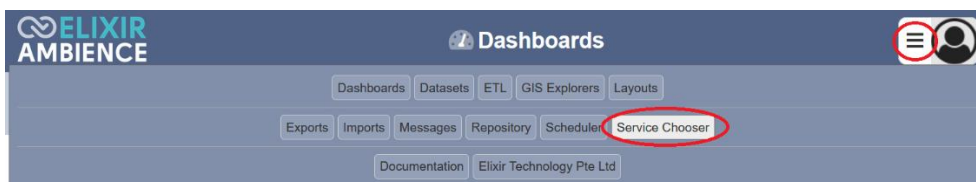
3. Annex

3.1. Add User

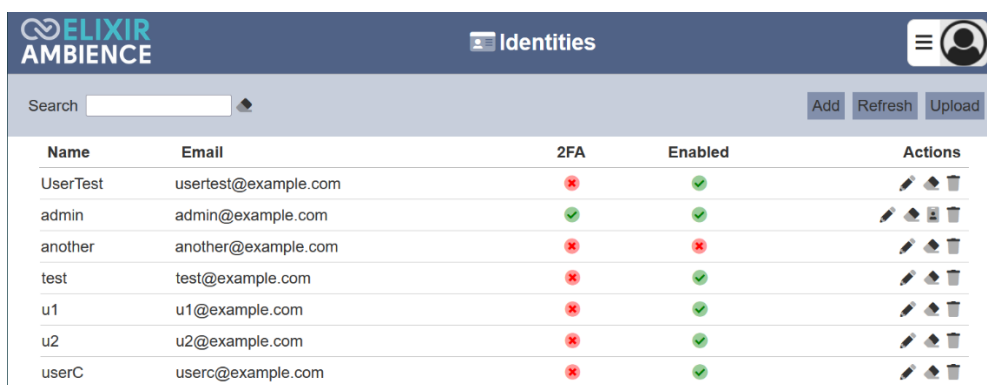
There may be a situation where you need to add a user into Ambience 2021.

Use the following steps to add a user:

1. Click on the  “Services” icon on the upper right corner of the page and select the “Service Chooser”.



2. In the “Service Chooser” page, select “Identities” in the “Administration” panel. The “Identities” page will appear.



Name	Email	2FA	Enabled	Actions
UserTest	usertest@example.com			  
admin	admin@example.com			  
another	another@example.com			  
test	test@example.com			  
u1	u1@example.com			  
u2	u2@example.com			  
userC	userc@example.com			  

3. To add a new identity, click on the “Add” button on the upper right corner of the page. The “Add” page will appear.



Add Save Cancel

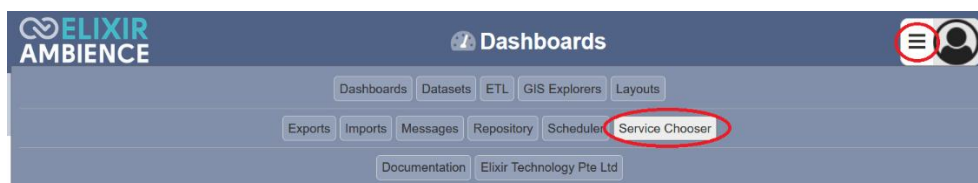
Name

Email

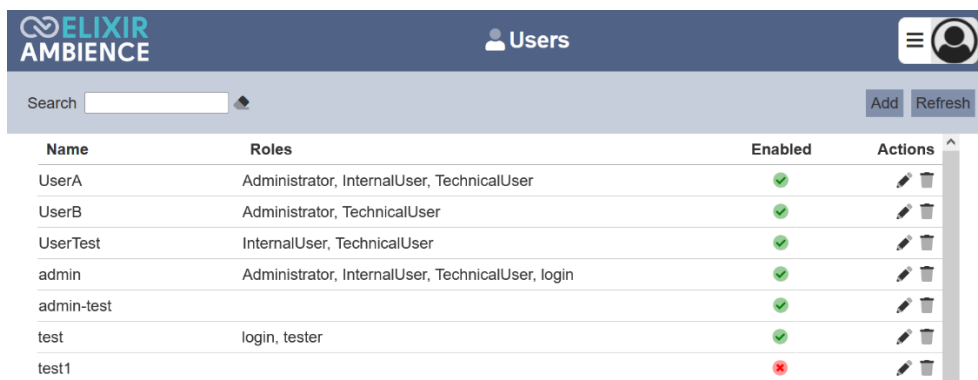
Enabled ☒

4. In the “Add” page, 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 “Save” button on the upper right corner of the panel.

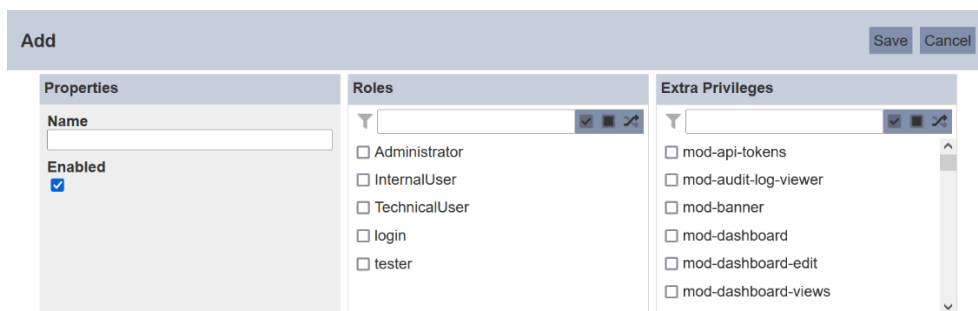
6. Click on the “Services” icon on the upper right corner of the page and select “Service Chooser”.



7. In the “Service Chooser” page, select “Users” in the “Administration” panel. The “Users” page will appear.



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

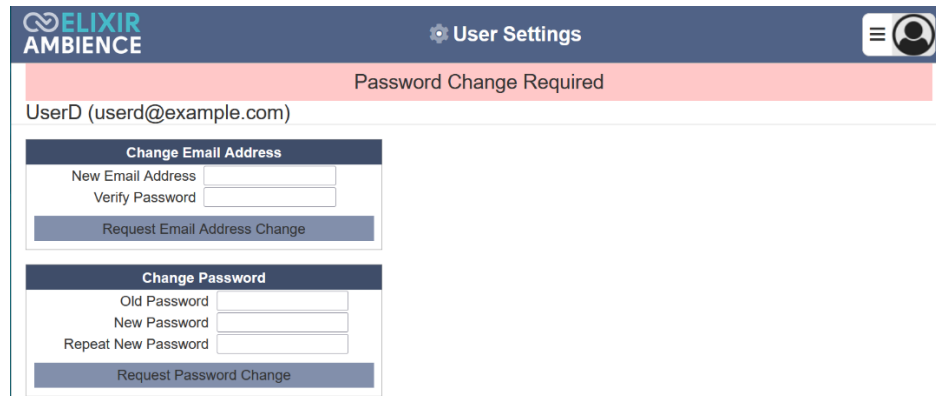


9. Key in and select the following:
 - “Properties” section
 - “Name” field – The unique name created in the Identities module in the “Name” field
 - “Enabled” field – Ensure this field is selected
 - “Roles” section – Selects the appropriate role for the new user
 - “Extra Privileges” section – Selects the appropriate privileges
10. Click on the “Save” button at the upper right corner of the page.
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.

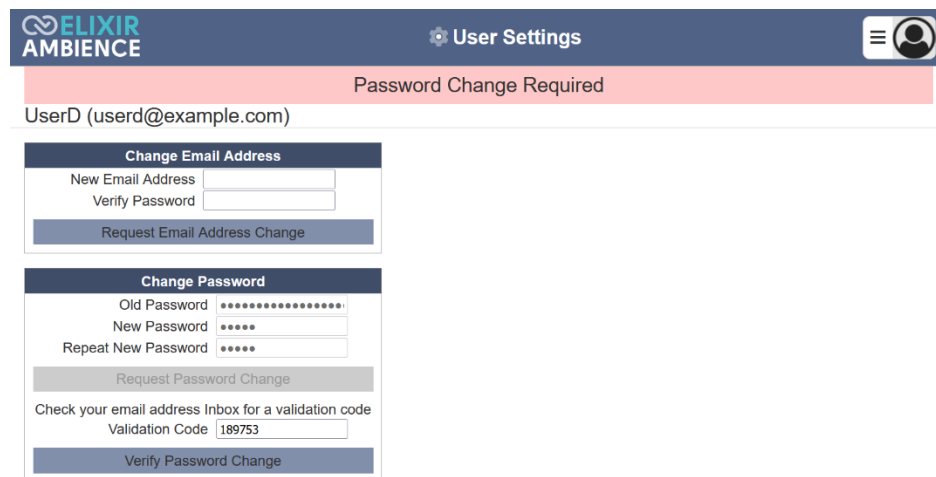
If the email server has not been set up, the random password can be found in a text file in the “/mail” folder in the Ambience root directory.

3.2. Change Password

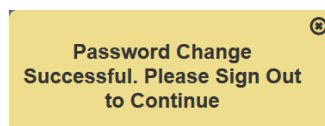
For normal users, you will be prompted to change your password on your first log in.



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.



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.



You have to logout and login again to continue.

3.3. Setup 2FA

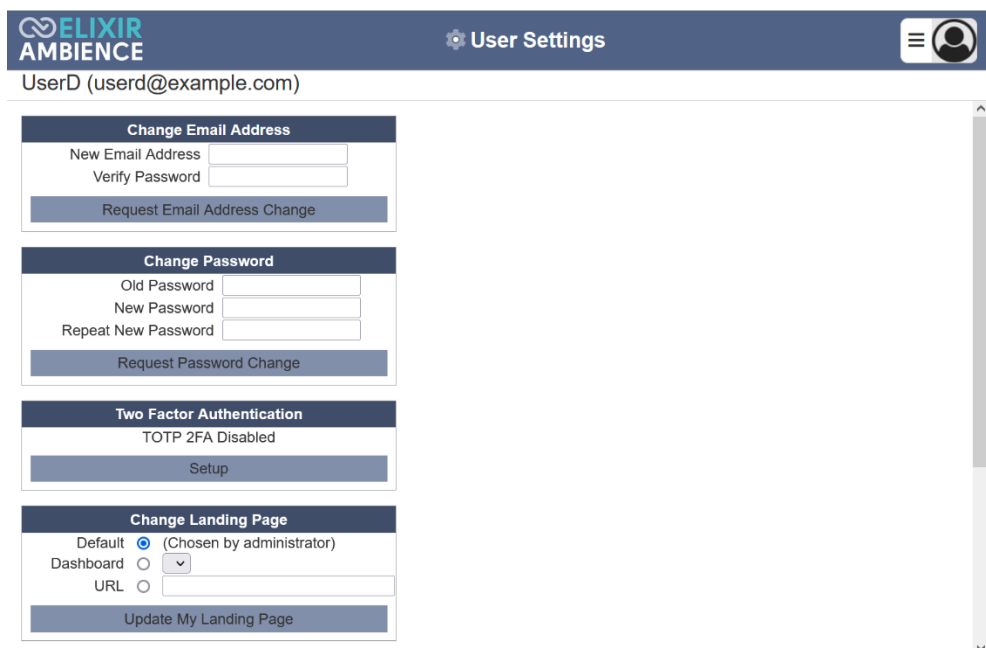
By default, TOTP 2FA is disabled in Ambience 2021. If it is enabled, users can set up their own TOTP 2FA using the User Settings module.

Use the following steps to setup 2FA:

1. Click on the  “Services” icon on the upper right corner of the page and select the “Service Chooser”.



2. In the “Service Chooser” page, select “User Settings” in the “Services” panel. The “User Settings” page will appear.



3. In the “Two Factor Authentication” section, click on the “Setup” button.

Two Factor Authentication

Scan the QRCode below with your 2FA TOTP Authenticator and enter the digits produced to confirm correct setup.

This is a time-sensitive operation, so you should ensure the time reported by your device is correct and proceed to confirm immediately.



Manual Code Entry

2FA Verification Code

VV5ECPUSBWH42QR2

Confirm
Cancel

4. 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.

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

5. 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.

Two Factor Authentication

TOTP 2FA Enabled

2FA Code

Disable

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

Invalid verification code

Invalid 2FA Code

2FA Code required

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.

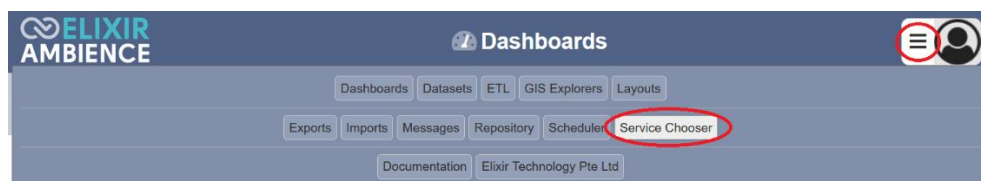
In the “Two Factor Authentication” section, key in the 6-digit code generated from the 2FA Authenticator into the “2FA Code” field and click on the “Disable” button.

3.4.2. Identity

The other method is to use the Identities module.

To disable 2FA, use the following steps:

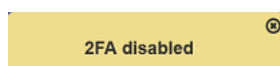
1. Click on the ≡ “Services” icon on the upper right corner of the page and select “Service Chooser”.



2. In the “Service Chooser” page, select “Identities” in the “Administration” panel. The “Identities” page will appear.

Name	Email	2FA	Enabled	Actions
UserTest	usertest@example.com	✗	✓	
admin	admin@example.com	✓	✓	
another	another@example.com	✗	✗	
test	test@example.com	✗	✓	
u1	u1@example.com	✗	✓	
u2	u2@example.com	✗	✓	
userC	userc@example.com	✗	✓	

3. Select the “Reset 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 Ambience. 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

1. Gmail allows only OAuth2 authentication without weakening security. Visit <https://console.developers.google.com/apis/credentials> to set up a “*clientId*” and “*clientSecret*”. Use these to generate a “*refreshToken*”.
2. In the Ambience 2021 root 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 Ambience 2021 server and go to Identities module to create a user with a valid email address.

Example 2: Uses AWS

1. In the Ambience 2021 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 Ambience 2021 server and go to Identities module to create a user with a valid email address.