

1. Installation Overview

1 Overview of Installation

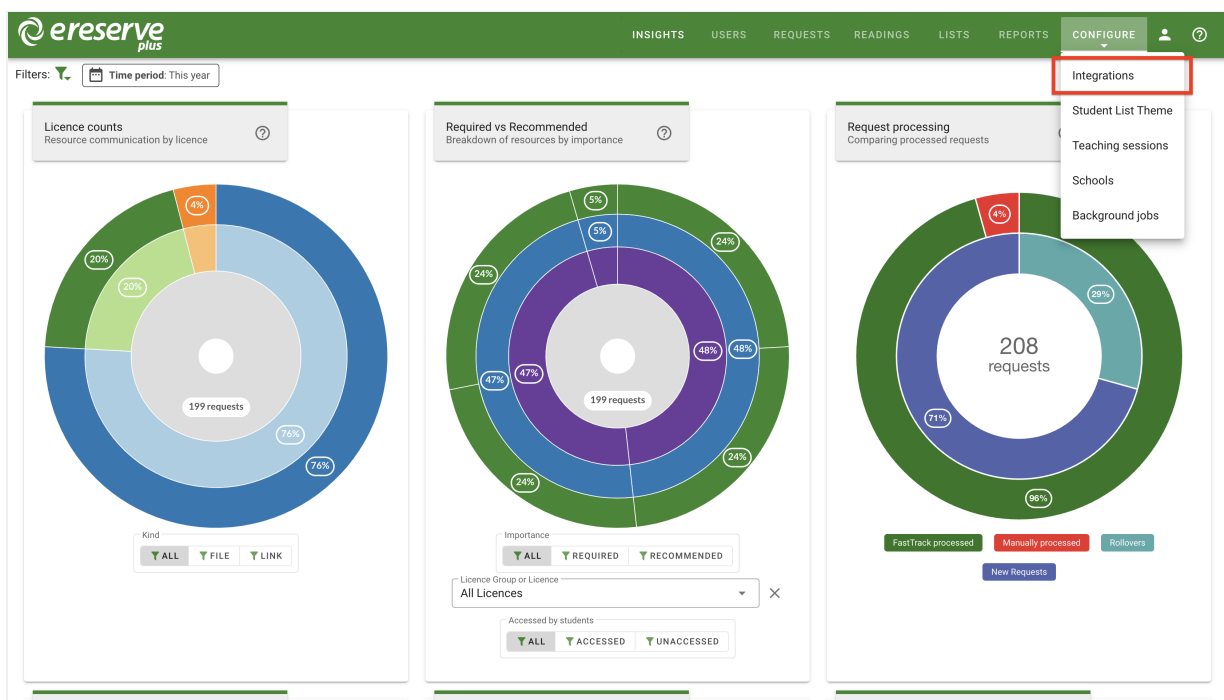
Installation of the eReserve Plus LTI Tool starts in the eReserve Plus Configuration console. Following are the steps necessary to complete the installation.

1.1 Integration Record Creation

Creation of new integration records is done within the eReserve Plus Admin interface. You will need access to this interface to complete this step of the setup. If you do not have access then please contact the eReserve Support Team.

Each integration record contains the details for authentication (a key and a secret) and, once activated it will contain details of the LMS Instance once it has been activated.

Login to eReserve then navigate to Configure > Integrations.



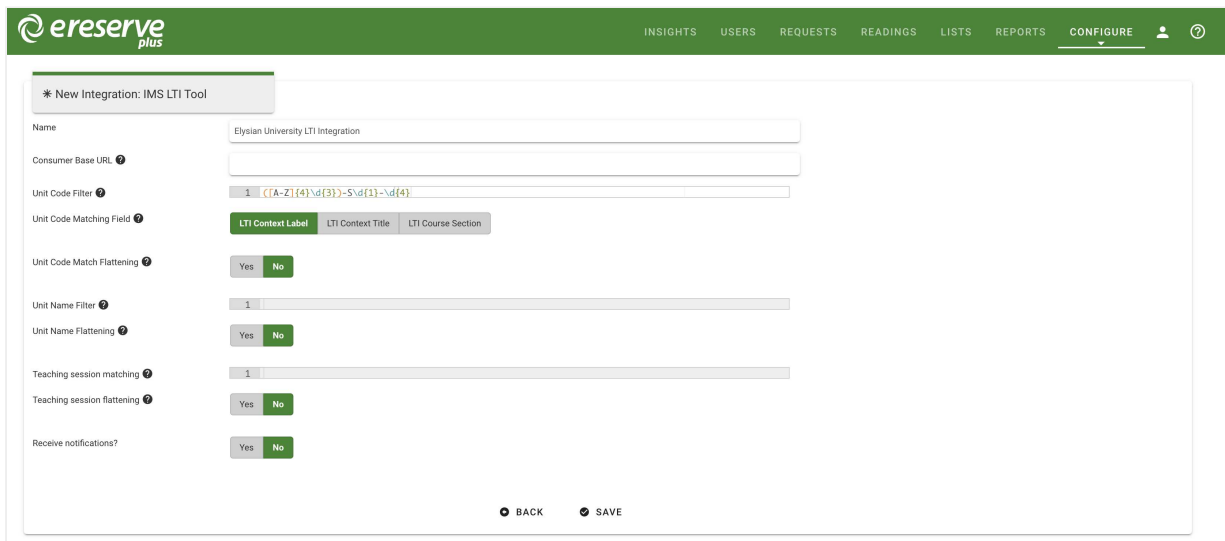
configure-integrations

Once you have navigated to Integrations, you will see the interface pictured below.

(blank intergration screenshot needs to be added or wording above needs to be adjusted)

To start the creation process click on the New integrations for dropdown button then select IMS LTI Tool.

You'll then be presented with the form below. All you need to do is enter a name for your integration then click on the Save button. You'll notice that a key and secret have been automatically created for you. Take note of these, we'll be using them when we head over to your LMS to do the next step.



The screenshot shows the 'New Integration: IMS LTI Tool' form in the eReserve Plus interface. The form is titled '* New Integration: IMS LTI Tool' and contains the following fields and options:

- Name:** Elysian University LTI Integration
- Consumer Base URL:** (empty)
- Unit Code Filter:** 1
- Unit Code Matching Field:** LTI Context Label (selected), LTI Context Title, LTI Course Section
- Unit Code Match Flattening:** Yes (selected), No
- Unit Name Filter:** 1
- Unit Name Flattening:** Yes (selected), No
- Teaching session matching:** 1
- Teaching session flattening:** Yes (selected), No
- Receive notifications?:** Yes (selected), No

At the bottom of the form, there are two buttons: BACK and SAVE.

completed-ims-lti-tool

At this point it's important to note that each instance of your LMS will need its own integration record created in eReserve. So if you have 3 instances of your LMS you'll have 3 integration records in eReserve. Once an integration record has been activated it can only be used with the LMS instance that it was activated from. So using those credentials for another LMS Instance will fail.

1.2 Installation in your LMS

Each LMS that supports IMS LTI 1.1+ has its own specific installation requirements. With this in mind we've created instructions for each LMS that we support. These can be found in section 3 of this document onwards.

1.3 Reading list access management

Every user from your LMS has a role as defined in the LTI standard (see [LTI Role Vocabularies](#)). The role is passed to eReserve Plus at the time a user accesses their Reading List in eReserve Plus. Subsequently this role is then used to dictate what features the user has access to in the reading list. Currently there are two access levels defined in eReserve Plus: Student and Academic. The Student role provides read only access to the Reading List whereas the Academic access provides a fully featured reading list management interface. You can manage this access simply by editing your LTI Integration record once it has been activated through the eReserve Plus Integration Management. Once you've started editing your LTI integration, you will see a LTI Role Access console to manage like the image below.

🔍 Edit Integration: Moodle LTI Integration

Name: Moodle LTI Integration

Consumer Base URL:

Unit Code Filter: 1

Unit Code Matching Field: **LTI Context Label** LTI Context Title LTI Course Section

Unit Code Match Flattening: Yes **No**

Unit Name Filter: 1

Unit Name Flattening: Yes **No**

Teaching session matching: 1

Teaching session flattening: Yes **No**

Receive notifications?: Yes **No**

Kind: IMS LTI Tool

Key: 2024010877115

Secret: de7f260821054bba960770ded34e9c3

LTI Role Access

Name	Role	Access Level	
Academic	Instructor	Academic	<input type="button" value="✎"/>
Student	Learner	Student	<input type="button" value="✎"/>
Unknown	urn:lti:sysrole:ims/lis/Administrator	NOT SET	<input type="button" value="✎"/>
Unknown	urn:lti:instrole:ims/lis/Administrator	NOT SET	<input type="button" value="✎"/>

LMS Name: New Site (GUID: 13ba9f6da79970487064e048600ae1eb)

LMS Software: moodle (version: 2022112811)

IMS LTI Version: LTI-1p0

Activated: Yes

⬅️ BACK ➡️ UPDATE

moodle-lti-integration

You'll note the list of LTI roles with their associated access level. Rows that are green have had their access level set and those that are red have not. To set or change the access level it's just a matter of clicking on the edit button. Once clicked you'll see the form below.

Edit reading list access

Role: Instructor

Name:

Access level:

SAVE CLOSE

edit-reading-list-access

Change the name as needed and select an appropriate access level then click on the save button and you're done. This will be updated immediately and end users will see the change.

The first time an LTI role attempts to access eReserve Plus, the role will be made available in red as per the screenshot above until the Role is mapped in eReserve Plus to a Student or Academic; at which time it will become green (authorised). If there are Roles in your LTI which have not become available in eReserve then login using the LMS using the appropriate role and select the Reading List activity to initiate the first access of eReserve Plus.

1.4 Reading lists, course codes and course names

When displaying the Reading Lists eReserve Plus will use the course code from your LMS to know which Reading Lists to display. For a lot of Institutions the course code will change each time it is offered. For example, a course code for one offering may be CS101_S2_2014 and the next offering the course code may be CS101_S1_2015. There are commonalities, however they are unique to the offering of the course and will mean that eReserve Plus will not have any historical lists for the new code. This is solved in eReserve Plus through its course code filtering.

1.4.0 Course Code Prefix

In very special circumstances a prefix can be added to all course codes connecting from the integration. If utilised all course codes originating from the integration will have the prefix added and all course code filters will have to be setup based on the prefixed course code.

1.4.1 Course code filter

To map a newly created offering to a base code, eReserve Plus has a filtering mechanism that allows you to match the new offering to the base course code (e.g. CS101 in the example above). To set the filtering simply edit the associated integration record in the Intergration Management interface and complete the Course Code Filter field. To create a filter you will need to provide a **Regular Expression**. You can use tools like **Rublar** to test your regular expressions before applying them to your integration record.

NB: It's important that this course code filter is correct otherwise it will lead to incorrect display of Reading Lists. If you are not comfortable with creating a regular expression then please contact the eReserve support team.

1.4.2 Course code filter - Multiple Matching Groups

LTI1.3 integrations support additional flexibility in course code filters. The Multiple Matching Groups switch allows the supplied regular expression to match more than one part of the course code and course name.

Multiple Matching Groups ?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Unit Code Filter ?	1 <input type="text" value="([A-Z]{4}\d{3})-S\d{1}-\d{4}"/>

1.4.3 Course code matching field

The majority of Learning Management Systems will send the Course Code via the LTI Context Label and the Course Description will be in the LTI Context Title. If the Base Code is only available within the Course Description this option sets which LTI field is processed by the Course Code Filter.

1.4.4 Course code matching field - Multiple Matching Fields

LTI1.3 integrations allow you to select which fields the course code filter is applied to, and can match on multiple fields. Check the boxes for each field that the Course Code Filter regular expression will be applied to.

The combined course code fields are joined together using `~~`, before the regular expression is applied. e.g:

```
LABEL~~TITLE  
BMKG201~~Marketing
```

Unit Code Filter ?	1	<code>([A-Z]{4}\d{3})-S\d{1}-\d{4}</code>
Unit Code Matching Field ?	<input checked="" type="checkbox"/>	LTI context label
	<input type="checkbox"/>	LTI context title
	<input type="checkbox"/>	LTI Course Offering

1.4.5 Course code match flattening

If set to yes all text captured by the regex is joined together in the resulting Base Code.

1.4.6 Example course code filter

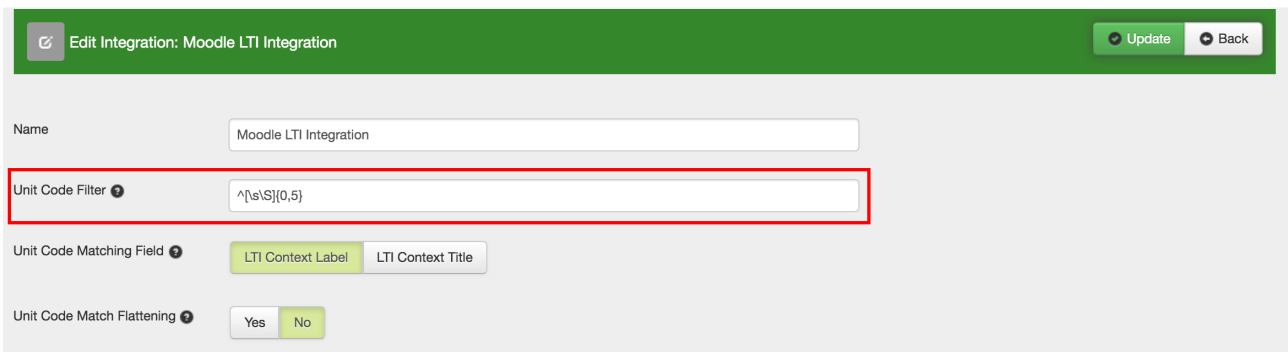
This example is based on a course code with the format below.

```
<base_code>_<teaching_period>_<year>
```

We'll be using the following course code samples for testing Rublar: CS101_S2_2-14 and CS101_S1_2015. Below is a test of the regular expression created for filtering.



As you can see our regular expression (i.e. `^\s\S]{0,5}`) has matched the `base_code` and we can now apply it to our integration record simply by entering it in the Course Code Filter field then saving the integration record. So every time the course is offered eReserve Plus will only look at the `base_code` when choosing a reading list to display.



1.4.7 Course name filter

The LTI Course Name Filter allows unnecessary detail and other content about the course to be removed from the course name displayed within eReserve Plus.

When utilised the LTI Course Name filter allows the display of course long names to be modified to fit the display requirements of the reading list within eReserve Plus. Long

course names can be modified to better fit the layout, course code and reading list display within the eReserve Plus interface.

1.4.8 Course name match flattening

In the same manner as the Course Code Filter if set to yes all text captured by the regex is joined together in the resulting course name.

1.4.9 Example course name filter

The Course Name Filter can be designed to remove the Course Code and Time Period from the Course Name. The matched string for the Course Name would be Civil and Criminal Procedure.

```
^\s\S]{0,5} ([^-]*) - .*20\d\d$
```

When eReserve receives the LTI handshake from the LMS, it will receive the string CS101 Introduction to Computational Theory - Semester One 2015, however it will only store and display Introduction to Computational Theory.

The screenshot shows the 'Edit Integration: Moodle LTI Integration' configuration page. The 'Unit Name Filter' field is highlighted with a red box and contains the regex: `^\s\S]{0,5} ([^-]*) - .*20\d\d$`. Other fields include 'Name' (Moodle LTI Integration), 'Unit Code Filter' (`^\s\S]{0,5}`), 'Unit Code Matching Field' (LTI Context Label, LTI Context Title), 'Unit Code Match Flattening' (Yes/No), 'Unit Name Flattening' (Yes/No), and 'Receive notifications?' (Yes/No). The page has a navigation bar with 'Home', 'Users', 'Requests', 'Readings', 'Lists', 'Reports', 'Configure', 'Help', 'Edit account', and 'Logout'. There are 'Update' and 'Back' buttons in the top right corner.

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4. Moodle Integration

Throughout this section of the document are the details for getting your Moodle instance connected to eReserve Plus. It's very important to read all of the details in Installation (see section 2 of this document) and complete all of the activities in this section which will result in a successful connection to eReserve Plus. Should you have any questions please contact the eReserve Support Team at support@ereserve.com.au

4.1 Requirements

The eReserve Plus LTI Tool is regularly tested with the releases supported by Moodle. It is recommended that you use a Moodle supported version of Moodle however the eReserve Plus LTI Tool has been tested with earlier Moodle versions without incident. It is important to note that we will not be testing against older versions of Moodle as where support has been withdrawn by Moodle.

4.2 LTI Management

In order for course maintainers link to a Reading List in eReserve Plus for their courses you will need to create a configuration in the Moodle LTI Management interface. To get to this interface you will need to be logged into Moodle as an Administrator then navigate to the following location in Moodle:

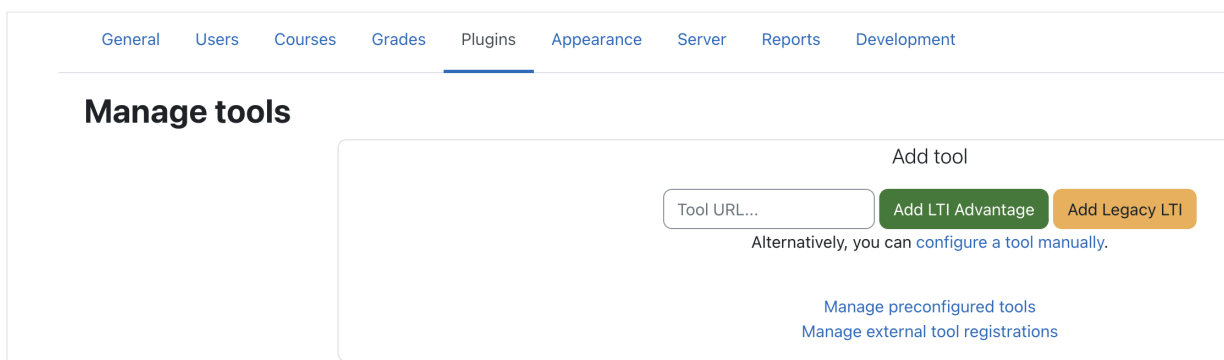


Figure 1: Manage tools

Click on the configure a tool manually then fill out the form as follows:

Tool Settings

1. Tool Name - You can name this as you need but we recommend eReserve Plus
2. Tool base URL - This URL will be provided by the eReserve Support Team along with this document.
3. Consumer Key - The key in the integration record that you created earlier.
4. Shared Secret - The secret in the integration record that you created earlier.
5. Launch Container - This is how the External Tool will be displayed. Below are the options:
 - Default - If in doubt, leave as default;
 - Embedded - The External Tool will be embedded in the Moodle course page with blocks and navigation bar;
 - Embedded without Blocks - The External Tool will be embedded in the Moodle course page but without blocks;
 - New Window - The External Tool will open in a new window (A new window or tab will open with the External Tool and the old browser window containing the course page will not change.)

Tip: It is our recommendation that you configure the Launch Container to be Embedded without Blocks as a default to ensure the Reading List size available to users is optimised.

External tool configuration Expand all

Tool settings

Tool name ?

Tool URL ?

Tool description ?

LTI version ?

Consumer key ?

Shared secret ? ? ?

Custom parameters ?

Tool configuration usage ?

Default launch container ?

Supports Deep Linking (Content-Item Message) ?

Content Selection URL ?

[Show more...](#) ?

Figure 2: Tool settings

Privacy

1. Share launcher's name with tool - This is set to Always for eReserve to pre-populate reading requests with a User's name.
2. Share launcher's email with tool - This is set to Always for eReserve to pre-populate reading requests with a User's email address.
3. Force SSL - All communication with eReserve Plus is done over SSL so this needs to be ticked.

Privacy

Share launcher's name with tool ?

Share launcher's email with tool ?

Accept grades from the tool ?

Force SSL ?

Figure 3: Privacy Settings

NB: eReserve Plus does not store Student emails or names. These settings are purely for recording reading requests from Academics.

Once you have completed the form just click on the Save Changes button. You're now ready to create a link in a course.

4.3 Course Link to Moodle

The LTI Tool integration in Moodle is treated as an 'Activity'. So for those who maintain the course, its just a matter of adding a new activity in an appropriate location in Moodle. Just navigate to the course in question then click on the Turn editing on button, if you haven't already. Once in edit mode just click on Add activity or resource link.

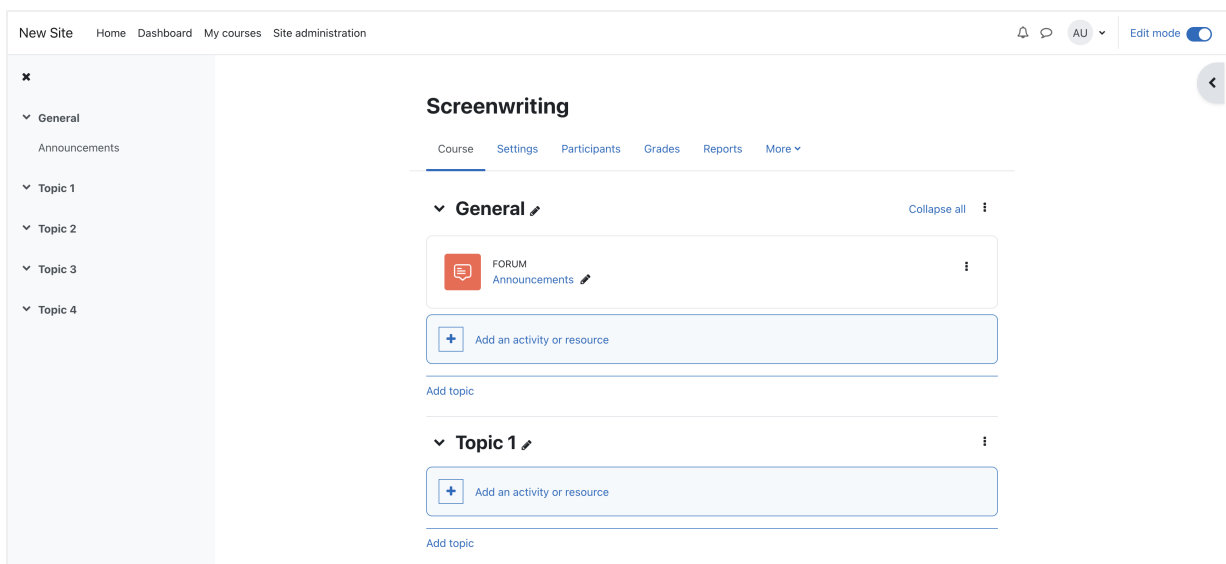


Figure 4: Edit mode is enabled in the Course

Once you've clicked on the link you'll see the Add an activity resource dialog displayed (see below). Choose the External tool option then click the Add button.

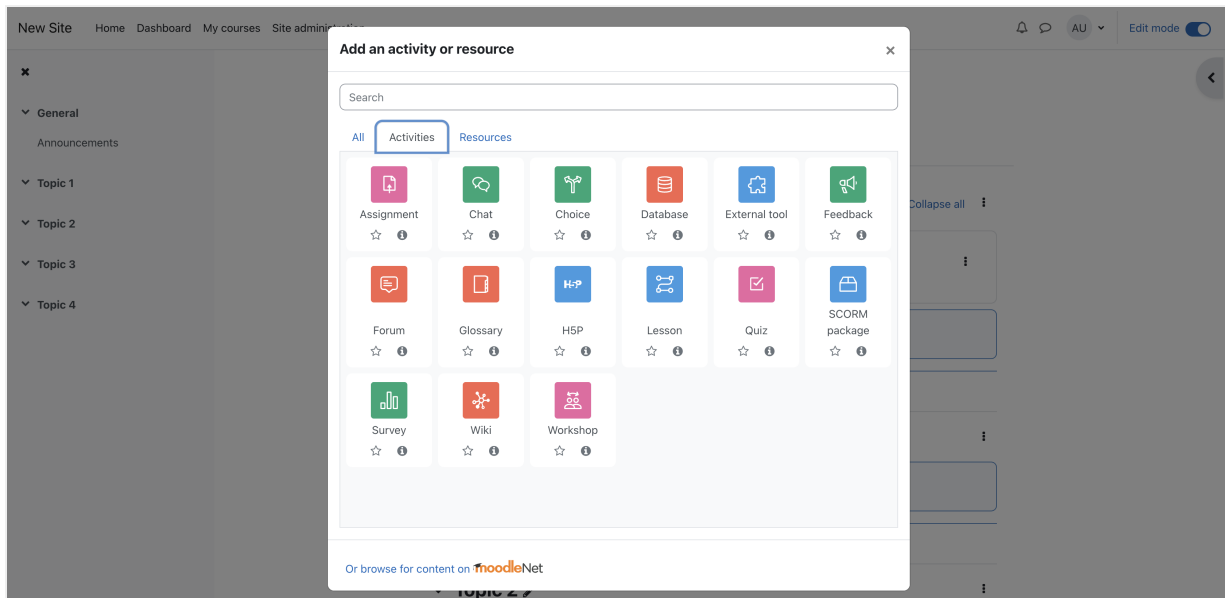


Figure 5: Adding an activity resource

The Adding a new External tool form (see below) will be displayed. Fill it in as follows

1. Activity Name This name can be chosen by the course maintainer but we recommend eReserve Plus or Reading List
2. External tool type To use the configuration you created earlier just select the eReserve Plus option.

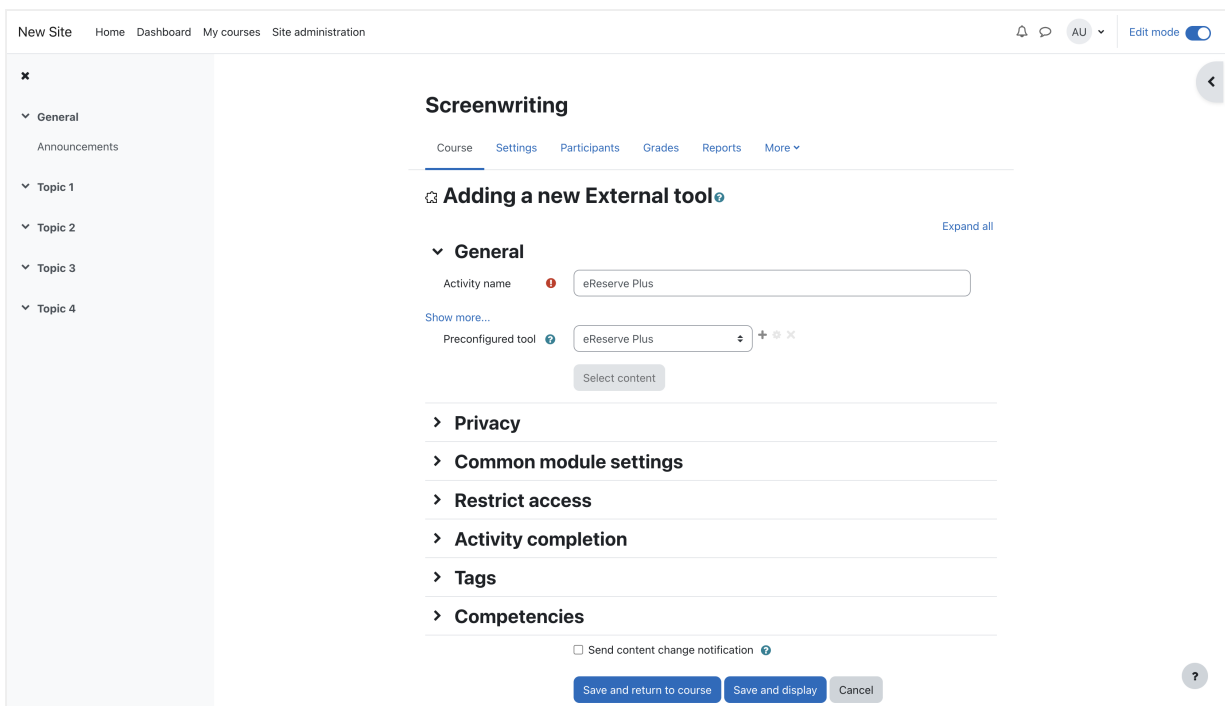


Figure 6: Adding an external tool

All other options can be left with their defaults. Click on Save and return to course and you're done. Now onto activation of your integration record.

4.4 Integration Record Activation

This is the final step and the most important one. It binds your Moodle Instance to the integration record within eReserve Plus. To do this is very simple, it's just a matter of clicking on the link you created in the course. If you've chosen the Embed option then you'll see something like the page below for those who have access to manage the Reading List.

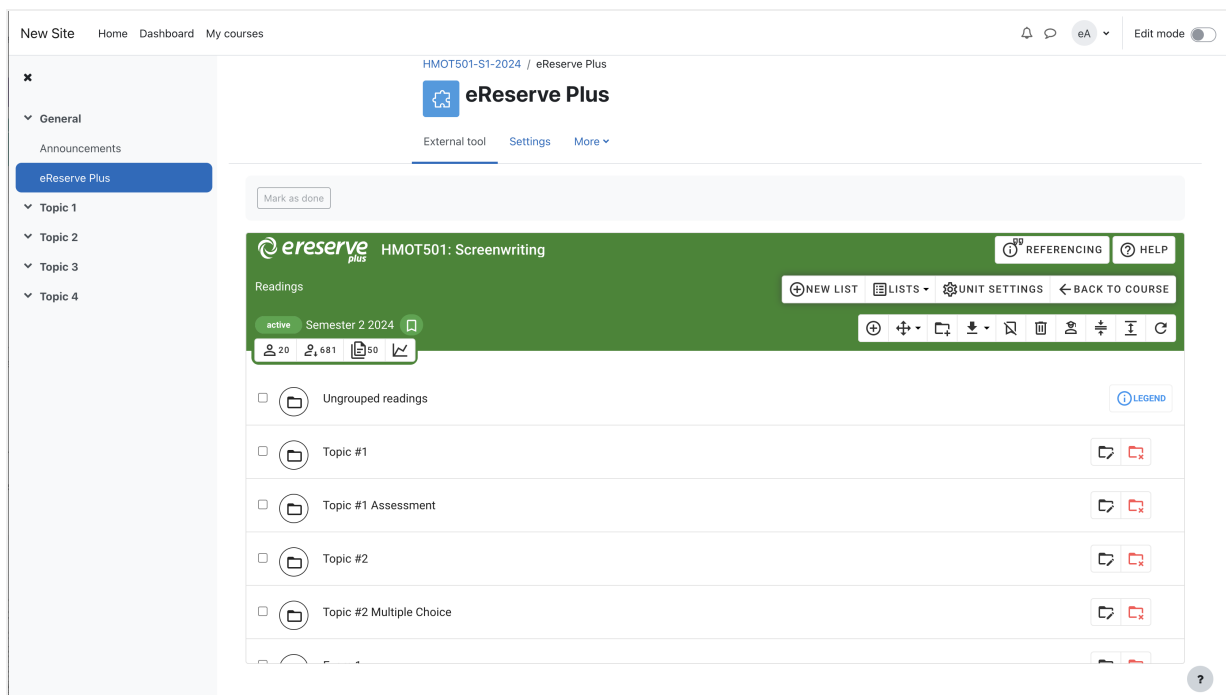


Figure 7: Integration record activation

Once this has been done if you return to eReserve Plus and navigate to Configure > Integrations you'll note the integration record has been activated with the details of your Moodle Instance.

Before activation:

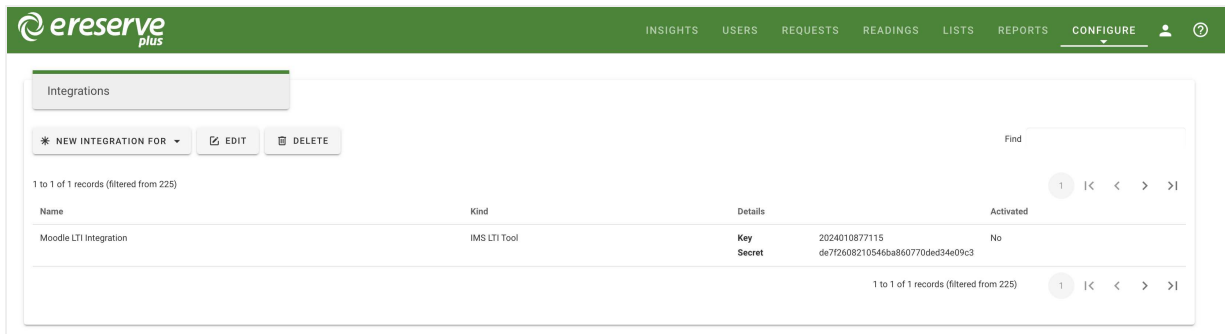


Figure 8: Before Activation

After activation:

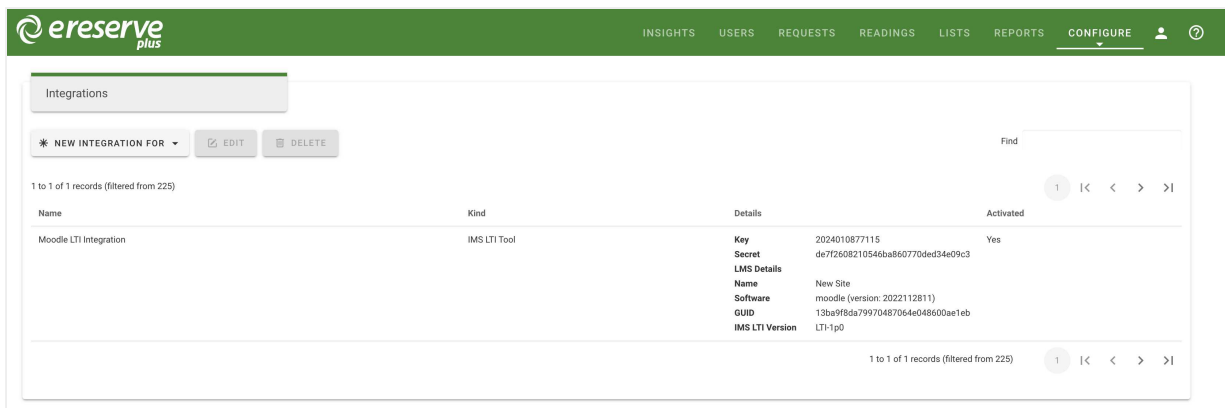


Figure 9: After Activation

Now that your integration record has been activated it's important to configure it correctly so please read 2.3 Reading list access management and 2.4 Reading lists and course codes to apply your desired configuration details.

4.5 Resource Linking with Moodle

There are four plugins which make Resource Linking for Academics and Teachers possible from Moodle:

- eReserve Plus Local Plugin

This plugin contains all of the core functionality for the integration between the two platforms. For the end user this is where all of the configuration is done.

- eReserve Atto & TinyMCE Plugins

This plugin allows for integration with eReserve Plus. At this stage it focused on Resource Linking. To support the insertion of resource links (link to a list of one or more resources in eReserve Plus) this plugin provides a button that can be added to the Atto editor (now the default editor for Moodle) and automatically added to the TinyMCE Editor.

- eReserve Plus Filter Plugin This plugin will make sure that the correct details are used such as the Course ID and Reading ID when using Resource Linking.

Download the necessary installation files [here](#)

Prerequisites

To use these plugins you will need an eReserve Plus instance and Moodle 3.3.4 or later.

Installing the plugins

File Copy / Upload

To start the installation of the plugins you can use one of the two following methods:

1. File Copy

If you have access to the file system for the target Moodle instance then you can kickstart the installation by doing a simple copy in bash:

```
$ cp -rf path/to/repo/lib path/to/moodle/lib  
$ cp -rf path/to/repo/local path/to/moodle/local
```

2. Zip File Upload

With this method you will need to zip each of the plugins using the following steps in bash

```
$ sh build.sh
```

After running the above script all of the zip files will exist in a `build` directory. You can upload the zip files via the Moodle admin interface `Administration > Plugins > Install plugins`. Once there, follow the on-screen instructions to do the installation.

Installation

After using either of the above methods to get the files onto your Moodle instance it's just a matter of visiting the Moodle administration page and Moodle will detect that the plugins need to be installed. Follow the instructions laid out by Moodle providing the settings, which are detailed in the `Settings` section of this document.

Atto Editor Post Installation

In order to have the eReserve Plus Resource Link button in the Atto Editor you will need to manually add it via the Moodle administration. Navigate to

`Administration > Plugins > Text editors > Atto HTML editor > Atto toolbar settings`.

Once on the page scroll down to the `Toolbar config` then place `ereserve` in where you want the button to appear. Following is an example configuration (note `ereserve` on the `files` line of the config):

```
collapse = collapse
style1 = title, bold, italic
list = unorderedlist, orderedlist
links = link
files = image, media, managefiles, ereserve
style2 = underline, strike, subscript, superscript
align = align
indent = indent
insert = equation, charmap, table, clear
undo = undo
```

```
accessibility = accessibilitychecker, accessibilityhelper  
other = html
```

Filter Plugin Post Installation

Once the filter plugin has been installed you will need to enable the filter. This can be done in the Moodle Site Administration using the following steps:

1. Login as an administrator
2. Navigate to **Site administration > Plugins > Filters > Manage filters**
3. Locate the **eReserve Plus Filter** then change **Active?** to **On**
4. Move the **eReserve Plus Filter** to the bottom of the list of active filters

Settings

General Settings

- eReserve Plus Host Name -
This setting is the fully qualified domain for your eReserve Plus instance (e.g. [ereserve].institution.edu.au). This will be supplied as part of your onboarding. NB: Please do not include the http:// or https:// portion of the URL

IMS LTI Settings

The following Consumer Key and Secret are generated in eReserve Plus by creating an integration record associated with this instance of Moodle. Creation of integration records can be done within the eReserve Plus admin interface via **Configure > Integrations**. For specific details please see the eReserve Plus documentation

- Consumer Key
The Key from the associated integration record in eReserve Plus

- Shared Secret

The Secret from the associated integration record in eReserve Plus

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