EQUELLA®

LTI Consumer Configuration Guide

Version 6.3

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Table of Contents

LTI Overview

To understand the basics of LTI, an excerpt from IMS Global's website is provided below:

Introducing Learning Tools Interoperability (LTI)

*The principal concept of LTI is to establish a standard way of integrating rich learning applications (often remotely hosted and provided through third-party services) with platforms like learning management systems, portals, or other educational environments. In LTI these learning applications are called **Tools** (delivered by **Tool Providers**) and the LMS, or platforms, are called **Tool Consumers**.*

The basic use case behind the development of the LTI specification is to allow the seamless connection of web-based, externally hosted applications and content, or Tools (from simple communication applications like chat, to domain-specific learning environments for complex subjects like math or science) to platforms that present them to users. In other words, if you have an interactive assessment application or virtual chemistry lab, it can be securely connected to an educational platform in a standard way without having to develop and maintain custom integrations for each platform.

Who is Using LTI?

Many learning management systems, including the most widely used in education across the world, already support LTI, as well as a growing list of application and content vendors. Those systems and applications that have achieved official conformance are listed on the IMS website.

To go to the website, click http://www.imsglobal.org/toolsinteroperability2.cfm.

EQUELLA is certified as both an **IMS LTI Tool consumer** and **Tool provider**. This means that External LTI tools can now be contributed to EQUELLA resources as links then launched from within EQUELLA or an associated LMS. Additionally, other platforms can integrate with EQUELLA as a **Tool provider.**

The purpose of this guide is to provide system administrators with an understanding of the configuration and use of LTI consumer within EQUELLA.

The examples used in this guide are from the LTI external tool provider Edu Apps, which supplies open source LTI tools.

EQUELLA as an LTI consumer

As a certified LTI Tool consumer, EQUELLA can now link to and launch tools supplied by certified external LTI tool providers. External LTI tools can be contributed to resources during the contribution process, and launched from within EQUELLA. Additionally, LTI tool links can be added to associated LMS courses, then launched from those courses.

There are many external LTI tool providers, and one LTI tool provider may have multiple tools available for use. EQUELLA allows the LTI tool providers to be stored with associated configuration details, so that when a tool from that provider is being added to a resource during contribution, the system matches the base URL of the provider from the entered launch URL, and uses the default configuration settings for that provider. Configuration options may be overwritten if required.

Additionally, LTI tools can be pre-configured with launch URLs and selected during contribution, without the contributor needing to configure any LTI tool options.

External LTI tools may also be added during contribution.

Configuring external tool providers (LTI)

Glossary

Base URL – the server component of an external tool provider's URL. For example, *http://lotsoftools.org.*

Launch URL – the URL of a specific external LTI tool, which includes the server component plus the specific tool details. For example, *http://lotsoftools.org/excellentmathdiagrams.*

Overview

External LTI tool providers can be configured using the **External tool providers (LTI)** link from the *Settings* page. This allows administrators to:

- Configure tools that may be contributed often, which allows contributors to select them from a list rather than having to add the LTI tool details during contribution. In this case, the supplied **Base URL** in Settings is the Launch URL for the specific tool; therefore there is no need for the user to supply a Launch URL during contribution (unless they wish to override the default). See Configure an LTI tool with a Launch URL on page 6 for further information.

- Configure specific tools which have consumer keys, shared secrets and custom parameters which a contributor doesn't necessarily need to know about. In this case, the supplied **Base URL** in Settings is the Launch URL for the specific tool; therefore there is no need for the user to supply a Launch URL during contribution (unless they wish to override the default).

- Store a provider that supplies a number of LTI tools. Each tool the provider makes available has its own unique Launch URL, but may share other configuration features, such as a consumer key, shared secret and some custom parameters.
  An administrator can create an external tool provider record where the **Base URL** entered on the settings page consists of the server component of those tools as a non-launchable **Base URL**, together with the configured details which all tools hosted on that server have in common.
  For example, *https://www.lotsoftools.org* might be the **Base URL** that is configured with a consumer key, shared secret and custom parameters. Each tool associated with this provider would have its own specific **Launch URL** made up of the Base URL plus the specific tool details (e.g. *https://www.lotsoftools.org/excellentmathdiagrams*) which would be entered during contribution. When the Launch URL is entered when creating an LTI attachment, EQUELLA searches and matches the preconfigured base URL (*https:/www.lotsoftools.org*), and uses the values saved against that base URL as the defaults.
  Other examples include LTI provider compliant applications, where the application's server could be stored as a Base URL, and specific Launch URLs pointing to content could be added during contribution.
  See Configure an external tool provider (LTI) with a Base URL on page 6 for further information.

LTI tools can also be added 'from scratch' during contribution. See Add an External tool provider during contribution on page 15 for further information.

LTI ACLs

To add, edit or delete external tool providers through the **Settings, External tool providers (LTI)** function, the following ACLs are need to be granted:

- **CREATE_EXTERNAL_TOOL**
- **EDIT_EXTERNAL_TOOL**
- **DELETE_EXTERNAL_TOOL**

Configure an LTI tool with a Launch URL

Below is an example of how to add an external LTI tool called *Wikipedia* (which is part of the Edu Apps suite)*. Wikipedia* is a specific LTI tool, so in the example, we'll add it to the External tool providers (LTI) settings page with a valid **Launch URL** stored in the *Base URL* field. A user can then select the pre-configured tool from the drop-down list during contribution.

NOTE: This example is presuming there is no Edu Apps record stored in the External tool providers (LTI) settings function with a Base URL, as the system will not allow more than one entry with the same base URL to be stored.

To configure the LTI tool

1. From the Settings page, select **External tool providers (LTI).** The External tool providers (LTI) page displays. An example is shown in Figure 1.
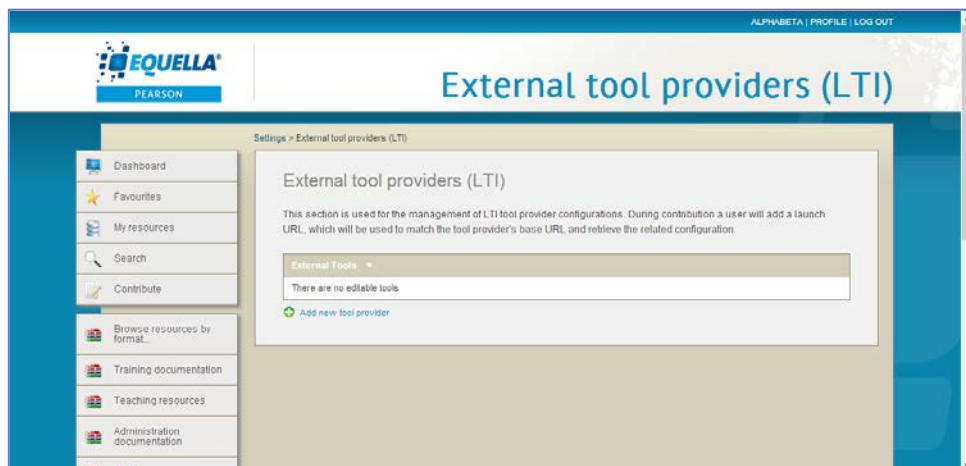
Figure 1 External tool providers (LTI) page

2. Click the **Add new tool provider** link. The **Create external tool provider** page displays, as shown in Figure 2.

Figure 2 Create external tool provider

3. Enter a **Title** (e.g. *Wikipedia*) and a **Description**, if required.

4. Enter the **Base URL** (e.g. *https://www.edu-apps.org/tool_redirect?id=wikipedia*).
    Note that this is the valid **Launch URL** for this tool.

5. Leave the **Consumer key**, **Shared secret** and **Custom parameters** blank for this
    example. The values required for these fields are supplied by some external LTI tools,
    particularly if a licence is required to use the tool.

*NOTE: If multiple custom parameters are required, separate each parameter with a
comma.*

6. Enter the **Icon URL** (this is not mandatory) (e.g. *https://www.edu-
    apps.org/tools/wikipedia/banner.png*).

7. For this example, select **Share launcher's email with tool** which will share only the
    user's email address with the tool.

8. Click ✔ Save . The new external tool provider displays in the External tools table, as
    shown in Figure 3.
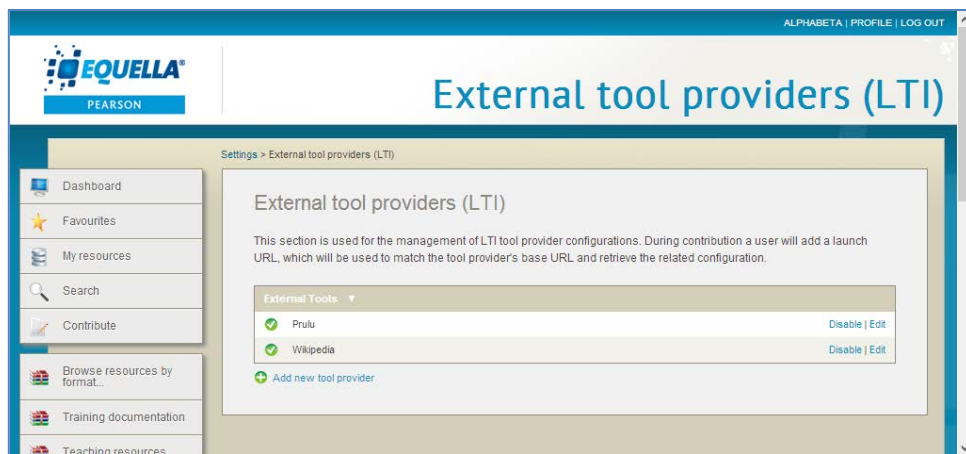
Figure 3 Wikipedia displays in table

To attach the pre-configured LTI tool during contribution

1. Select the **Add a resource** from a contribution attachment control to display the **Pick resource type** dialog. An example is shown in Figure 4.
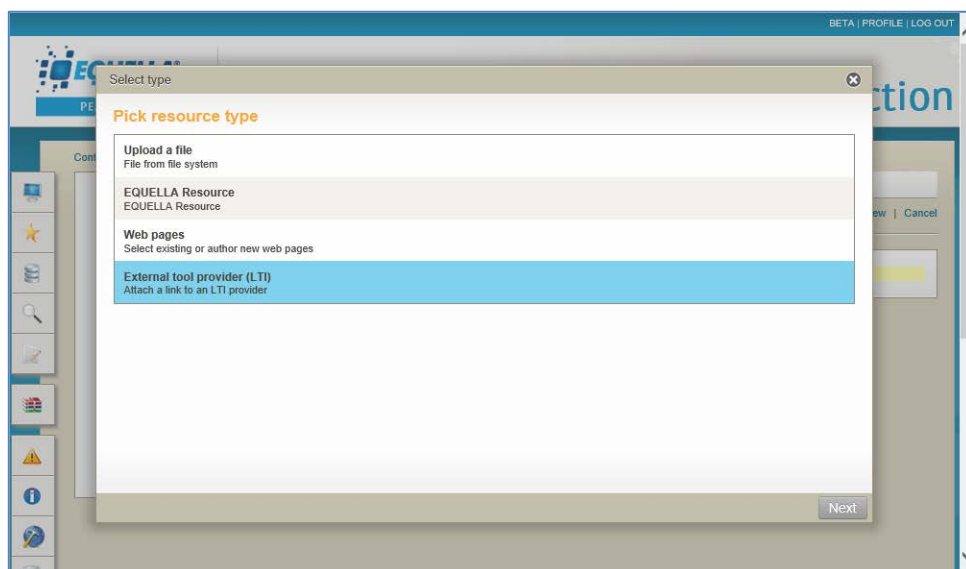
Figure 4 External tool provider (LTI) resource type

2. Select **External tool provider (LTI)** and click Next . The **Add external tool** dialog displays, as shown in Figure 5.

Figure 5 Add external tool dialog

3. Select **Wikipedia** from the **LTI provider** drop-down list.

NOTE: As this is a pre-configured tool with a Launch URL stored in the Base URL field in the External tool provider (LTI) setting being selected from the drop-down, there is no need to enter a Launch URL.

No other information is required, as all other fields will default to the configuration set for the tool (in this example, the **Privacy options** will default).

NOTE: Anything added to the Advanced settings will override the pre-configured external tool provider's information, excepting the Custom parameters, which appends to any custom parameters that have been configured through Settings, rather than overriding them.

4. Click ✔ Add . The **Edit attachment** dialog displays as shown in Figure 6.

Figure 6 Edit attachment dialog

5. Enter a meaningful Display name, if required.

6. Click ✔ Save to save the link to the attachments list on the contribution wizard page. An example is shown in Figure 7

Figure 7 LTI tool link in Attachments list

Click the link to launch the LTI tool (*Wikipedia*) in a separate window. An example is shown in Figure 8.

Figure 8 LTI tool launched in separate window

Configure an external tool provider (LTI) with a Base URL

Below is an example of how to add an external LTI tool provider called *Edu Apps. Edu Apps* is a provider of multiple LTI tools, so in the example, we'll add it to the External tool providers (LTI) settings page with a Base URL, then add one of the apps belonging to the provider during a contribution.

NOTE: If an external tool provider is configured with a Base URL in the External tool providers (LTI) setting, a specific tool belonging to that external tool provider cannot also be configured and saved (using a launch URL containing the same Base URL) within the External tool providers (LTI) setting. However, multiple specific tools from the same provider may be stored with launch URLs as long as a Base URL record for that provider does not exist.

To configure the LTI tool provider

1. From the Settings page, select **External tool providers (LTI).** The External tool providers (LTI) page displays. An example is shown in Figure 9.
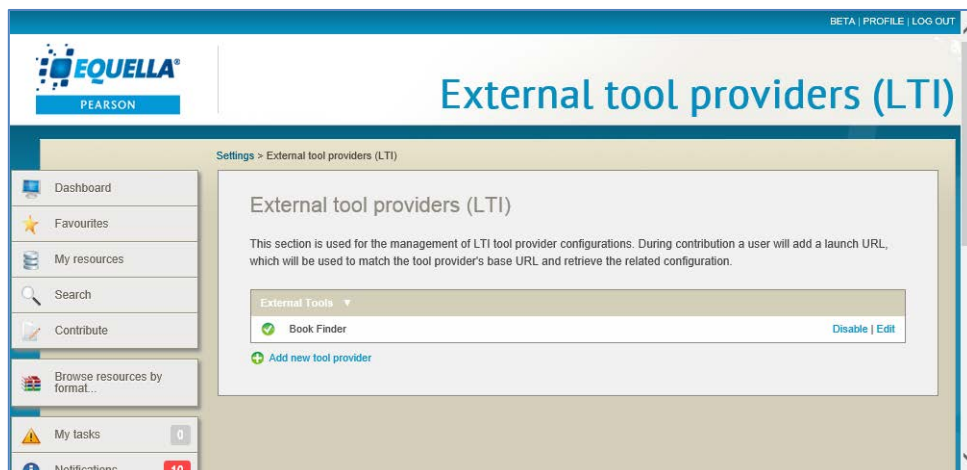
Figure 9 External tool providers (LTI) page

2. Click the **Add new tool provider** link. The **Create external tool provider** page displays, as shown in Figure 10.
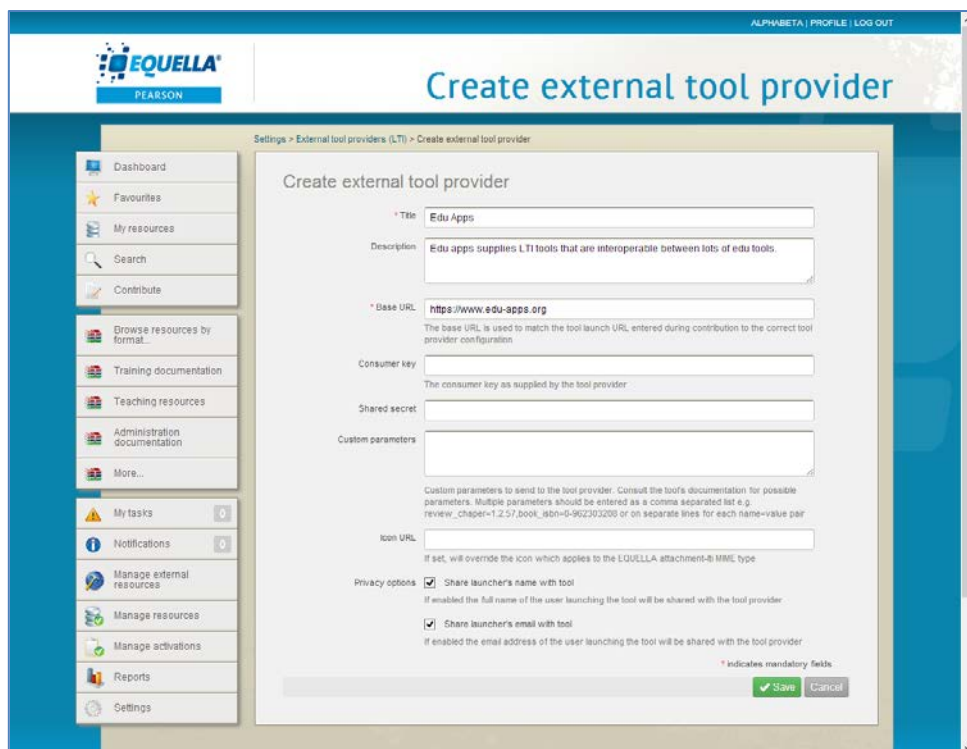
Figure 10 Create external tool provider

3. Enter a Title (e.g. Edu Apps) and a Description, if required.

4. Enter the Base URL (https://www.edu-apps.org).

5. Leave the Consumer key, Shared secret and Custom parameters blank for this example. The values required for these fields are supplied by some external LTI tools, particularly if a licence is required to use the tool.

NOTE: If multiple custom parameters are required, separate each parameter with a comma.

6. Leave the Icon URL blank for this example. Because each Edu Apps app has its own icon, we'll add these during contribution. There may be some cases where an external tool provider uses the same icon for each tool it provides in which case the Icon URL could be entered here.

7. Select Share the launcher's name with tool and Share launcher's email with tool which will share the user's full name and email address with the tool.

8. Click ✔ Save . The new external tool provider displays in the External tools table, as shown in Figure 11.
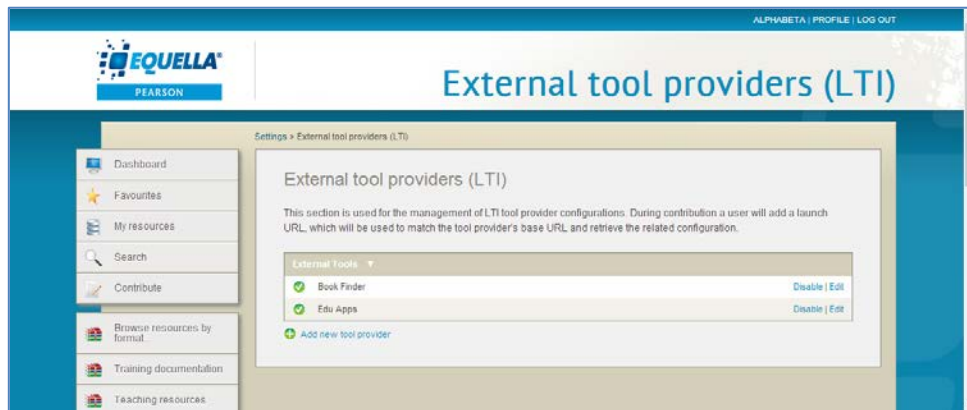
Figure 11 Edu Apps displays in table

To attach an Edu Apps LTI tool during contribution

1. Select the **Add a resource** from a contribution attachment control to display the **Pick resource type** dialog. An example is shown in Figure 12.
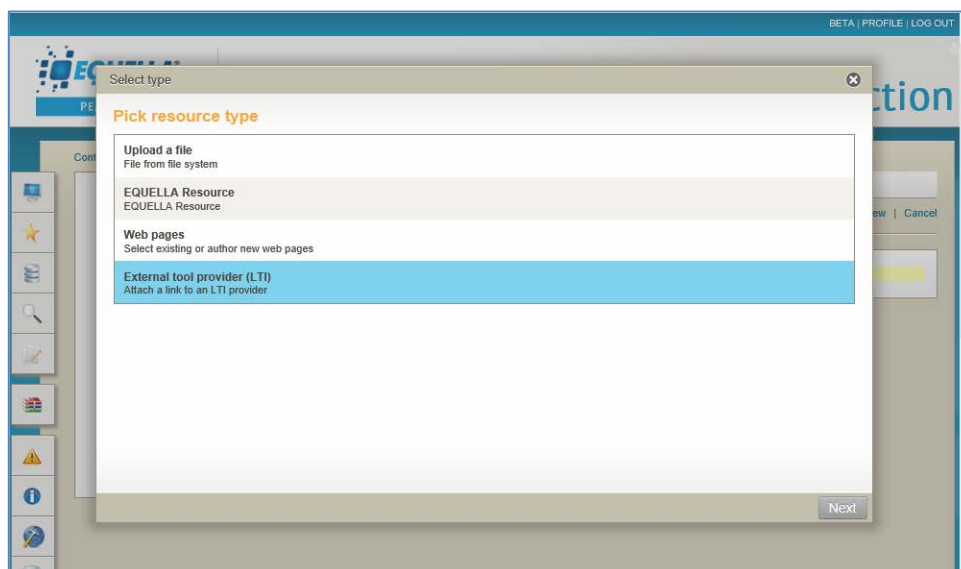
Figure 12 External tool provider (LTI) resource type

2. Select **External tool provider (LTI)** and click Next . The **Add external tool** dialog displays, as shown in Figure 13.

Figure 13 Add external tool dialog

3. Select **Automatic, based on URL** from the **LTI provider** drop-down list.

NOTE: We choose Automatic, based on URL *regardless of the fact that the Edu Apps record we saved through settings displays in the drop-down, as it is a Base URL record which means our Launch URL will be automatically matched against that record. If Edu Apps were to be selected, it would still find the match, but it would display a warning that it isn't an exact match, because it compares the Launch URL to the recorded Base URL.*

4. Enter the **Launch URL** of the specific LTI tool (e.g. *https://www.edu-apps.org/tool_redirect?id=quizlet*).

5. Enter the **Icon URL** for the tool (e.g. *https://www.edu-apps.org/tools/quizlet/banner.png).*

No other information is required, as all other fields will default to the configuration set for the tool provider when the Base URL is matched (in this example, the **Privacy options** will default).

NOTE: Anything added to the Advanced settings will override the pre-configured external tool provider's information, excepting the Custom parameters, which appends to any custom parameters that have been configured through Settings, rather than overriding them.

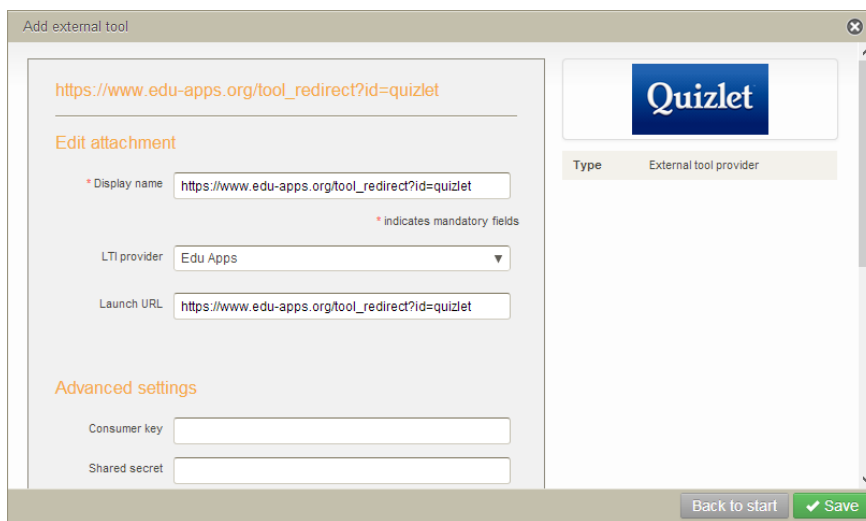6. Click **✔ Add** . The **Edit attachment** dialog displays as shown in Figure 14.

Figure 14 Edit attachment dialog

7. Enter a meaningful Display name (e.g. Quizlet flash cards).

8. Click **✔ Save** to save the link to the attachments list on the contribution wizard page.

9. Click on the Quizlet Flash Cards link to launch the tool. The Quizlet tool opens in a separate window. An example is shown in Figure 15.
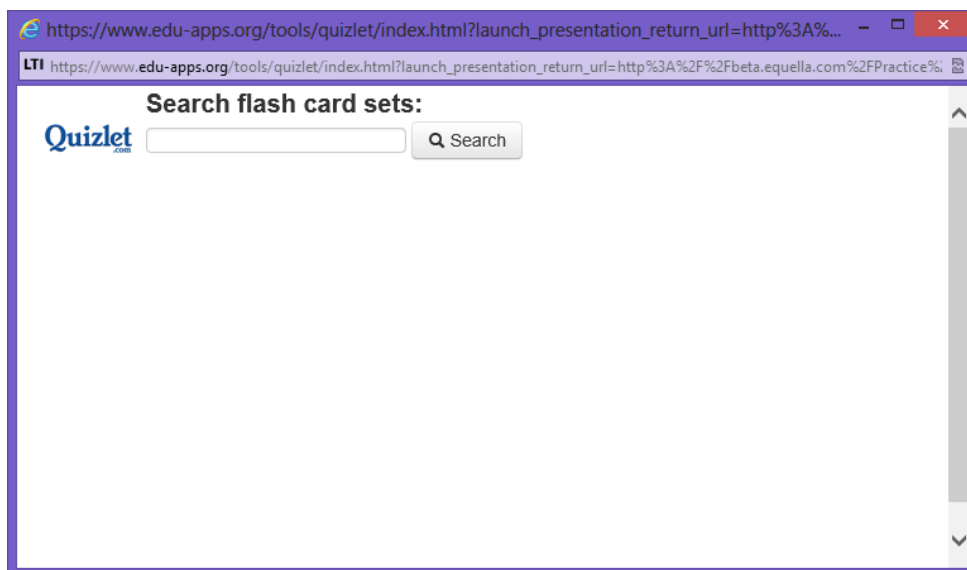

Figure 15 LTI tool launched in separate window

Add an External tool provider during contribution

External tool providers can be added 'on the fly' during contribution. The user needs to know the **Launch URL** at a minimum to successfully link the LTI tool.

In the example below, we are using the Edu Apps LTI tool called *Graph Builder*. It is presumed in this example that no Edu Apps external tool provider has been configured and saved in the settings.

To add an LTI tool during a contribution

1. Select the **Add a resource** from a contribution attachment control to display the **Pick resource type** dialog. An example is shown in Figure 16.
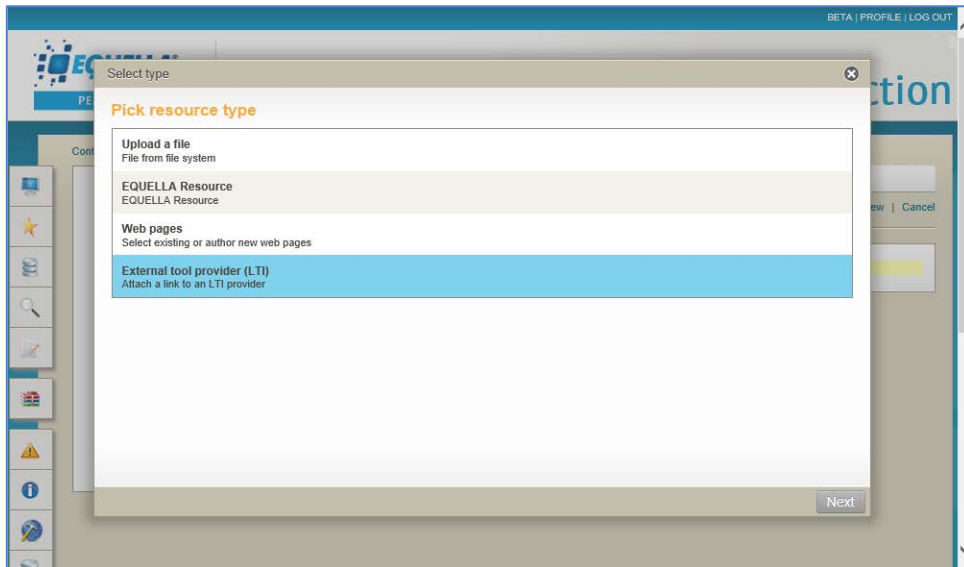
Figure 16 External tool provider (LTI) resource type

2. Select **External tool provider (LTI)** and click **Next** . The **Add external tool** dialog displays, as shown in Figure 17.
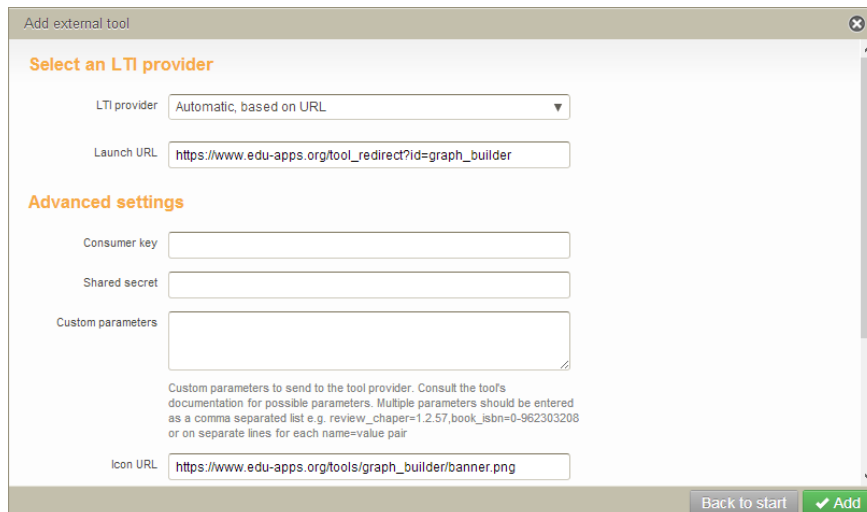
Figure 17 Add external tool dialog

3. Select **Automatic, based on URL** from the **LTI provider** drop-down list.

4. Enter the tool's **Launch URL** (e.g. *https://www.edu-apps.org/tool_redirect?id=graph_builder*)

5. Leave the **Consumer key**, **Shared secret** and **Custom parameters** blank for this example. The values required for these fields are supplied by some external LTI tools, particularly if a licence is required to use the tool.

NOTE: If multiple custom parameters are required, separate each parameter with a comma.

6. Enter the **Icon URL** (this is not mandatory) (e.g. *https://www.edu-apps.org/tools/graph_builder/banner.png*).

7. Scroll down to view the **Privacy options,** uncheck **Use default privacy options** (as there is no matching record to take defaults from) and select **Share launcher's name** and/or **Share launcher's email** as required. An example is shown in Figure 18.

Figure 18 Privacy options

8. Click [✔ Add]. The **Edit attachment** dialog displays as shown in Figure 19.

Figure 19 Edit attachment dialog

9. Enter a meaningful Display name, if required (e.g. *Graph Builder*).

10. Click [✔ Save] to save the link to the attachments list on the contribution wizard page. An example is shown in Figure 20

Figure 20 LTI tool link in Attachments list

11. Click the link to launch the LTI tool (Graph Builder) in a separate window. An example is shown in Figure 21.
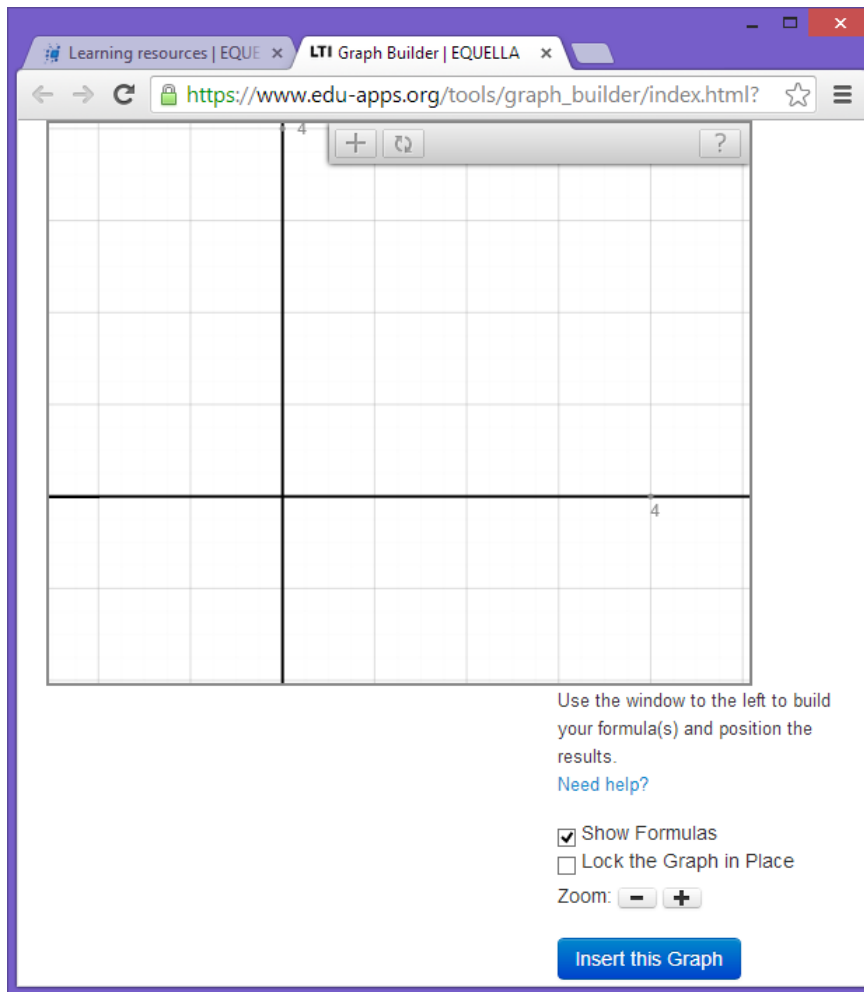
Figure 21 LTI tool launched in separate window

Using Edu Apps tools

When linking to LTI tools from the Edu Apps suite (https://www.edu-apps.org/index.html), you will need to locate the **Launch URL** for the desired tool.

To find the Launch URL for an Edu Apps tool

1. Click on the specific tool to open the website page for that tool (e.g. for *Graph Builder*, https://www.edu-apps.org/index.html?tool=graph_builder). An example is shown in Figure 22.
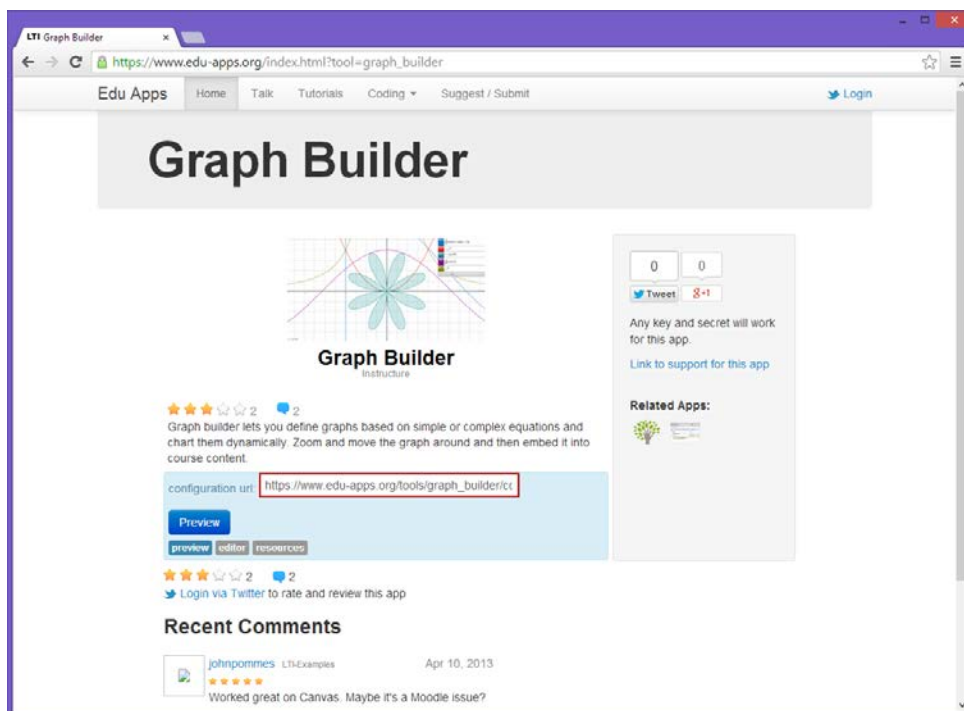
Figure 22 Edu Apps Graph Builder page

2. Copy the **configuration url** value and paste it in a new browser page to open the xml. An example is shown in Figure 23.
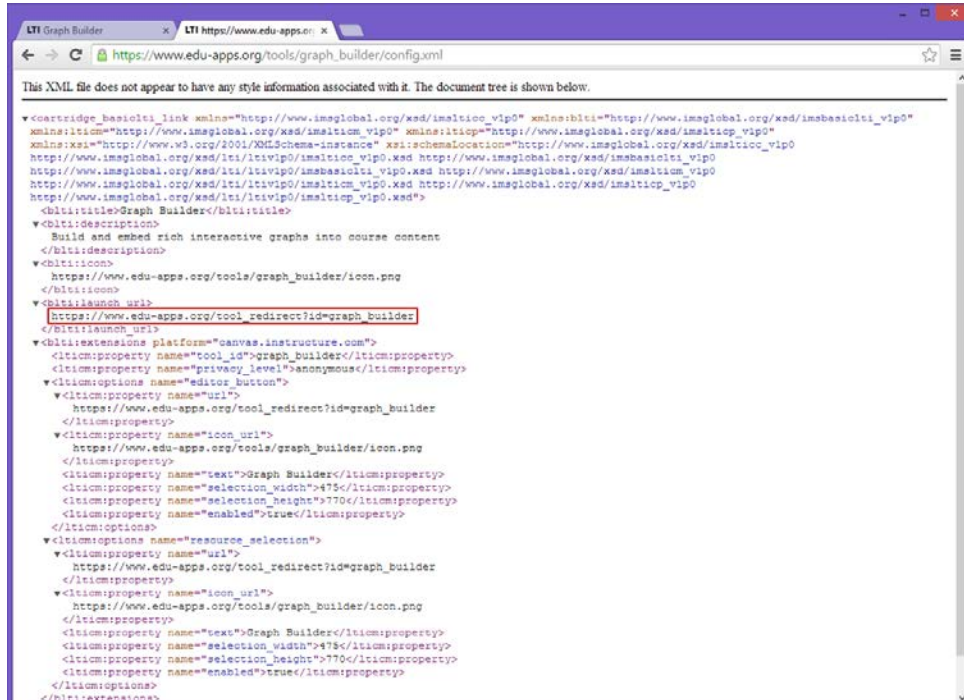

Figure 23 Graph Builder xml with Launch URL

3. Locate the **Launch URL** within the xml. Copy and paste into the appropriate EQUELLA field when required.

Contact Client Support

We are always happy to help.

If your organisation has a support agreement with EQUELLA then help is available at
http://equella.custhelp.com.