Adding LTI consumers to Elgg

Learning Tool Interoperability v1.1: Elgg

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March 2012

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Introduction

IMS LTI v1.1 specifies a standard way to securely launch a tool provider (TP) from a tool consumer (TC), typically a learning environment like Blackboard or Moodle. The 1.1 specification also adds the ability to send back from the TP to the TC an outcome (thus student marks can be sent back from the TP and stored in the grade centre, or equivalent, in the TC).

There are also some unofficial extensions to the v1.1 specification that add a setting service and membership service. The setting service allows the TP to store some arbitrary data in the TC for each context (i.e. for each LTI link) and the membership service allows the TP to request a complete list of the enrolments from the TC context, e.g., the course in Blackboard. The Elgg plugin supports all the extensions: outcomes is used to store the last login time and number of logins for each user, memberships is used to allow all the students and staff from a course to be synchronised into the Elgg group and the setting service is used to store the time that last membership synchronisation was performed. For the extensions to work the TP must also support the extensions. The Blackboard building block and WebCT powerlink available from OSCELOT support the extensions. URLs are:

Building Block: http://projects.oscelot.org/gf/project/bb-basiclti/

Powerlink: http://projects.oscelot.org/gf/project/wct-basiclti/

The Blackboard LTI support introduced in Learn 9.1sp4 does not support the extensions. Moodle 2.2 also includes support for LTI v.1.1 in the core but this does not support the extensions either. An open source plugin available for Moodle 1.9 and 2.0 does support the extensions.

Elgg groups normally have an owner (the creator of the group) and members. The LTI plugin for Elgg adds the notion of an instructor (with full owner privileges on the Elgg group) and makes all staff from the TC instructors of the Elgg group. Instructors can perform the membership synchronisation task.

Setting up the consumer in Elgg

Having agreed the key and secret (see readme.txt) for the LTI link between the consumer and Elgg, we need to set these up in Elgg so that incoming connections from the consumer are acted upon.

Having installed and enabled the plugin, a new choice appears in the Administration menus, LTI consumers:

Once the consumer is defined, we get:

Now the LTI information must be entered in the consumer too. Note the consumer name will only appear after Elgg has been launched by the consumer (if the consumer passes over this information).

There are a number of settings for the plugin:

User provisioning — accounts are created when new users arrive via the LTI link in the consumer (of form key:user_id; user_id as passed by LTI). Thus from a Blackboard Learn consumer (with key bb.hei.ac.uk) the accounts in Elgg would have usernames of bb.hei.ac.uk:_21_1

Group provisioning — instructors can create group on their first use of the link in the tool consumer

Allow instructors to create/update users — synchronising membership (group sync) will appear when instructors can actually create/update users and a membership synchronisation will probably require this.

Test mode — allows the testing of membership synchronisation as when in test mode the results of a synchronisation can in inspected without actually updating Elgg.

Membership

If the consumer supports the memberships service and instructors can create/update users then the group in Elgg will offer a *Group Sync* option

Bb **Simon Booths Test Area: Group for Under Graduates**

Provisioned by LTIv1.1

Edit group

Invite friends

Manage join requests

Group discussion

Group Sync
► *Create Share Key*
Manage Sharing
Group blog
Group files
Group pages

Via which the enrolments from the consumer can be synchronised with Elgg

Membership Synchronisation

This page allows you to update this group with any changes to the enrolments in the course which is the source for this group. These updates may include:

new members
changes to the names and/or email addresses of existing members
changes to the type (instructor or student) of an exsiting member
deletion of members which no longer exist in the course course

Click on the *Continue* to obtain a list of the changes to be processed. The updates will not be made until you confirm them

The last sychronisations were performed for contexts:

Simon Booths Test Area: Group for Under Graduates: 01-Mar-2012 22:00

Continue

Click on continue and you'll get the list of changes to be processed:

Membership Synchronisation

Update Membership | Update Membership without deletions

Members to be added | Provisioning On

1 Group Members

Simon Booth (Student)

In the example below there is one new group member to be added (who is already a user of Elgg). Because provisioning is on and the instructors can add users in Elgg we can see that 2 new users will be created and joined to this group

Membership Synchronisation

| Update Membership | Update Membership without deletions |

| Members to be added | Provisioning On |

1 Group Members (2 new user(s) to be added)

Update Membership does the actual synchronisation (the first line is two names!):

Membership Synchronisation: Completed

New users: Elizabeth Andrews Robert Adam (Student)

Added members: Simon Booth (Student)

No deleted members

No changed members

Sharing

Sharing is not part of LTI v1.1 specification but an experimental feature added by the ceLTIc project (www.celtic-project.org) that allows two or more contexts from a consumer share the same group in Elgg. This can be used to bring together two or more courses at the same institution or two or more courses from different institutions or any mixture thereof! The mechanism for sharing is for the owner of the group to generate a sharing key which is sent to the instructor on the second course who then adds the sharing value as a custom parameter (this must be done in the consumer). When there are multiple contexts sharing the same Elgg group we refer to the initial context used to create the group as the primary content (i.e. the course in the consumer that originally created the group). The sharing contexts are referred to as secondary.

To generate the key, use the *Create Share Key* option

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▶ *Create Share Key*

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To get to the share key creation page:

Create Share Key

You may share this module with users from other sources. These might be:

> other links from within the same course/module
> links from other course/modules in the same VLE/LMS
> links from a different VLE/LMS within your institution or outside

To invite another source to share this course/module:

> use the button below to generate a new share key (you may choose to pre-approve the share or leave it to be approved once the key has been initialised, see below
> send the share key to an instructor for the other source

This context is shared

Life [1 hr ▼]   Auto-approve ☐

Enter the email address for the sharing recipient:

[test@no-reply.com   ]

[Generate a new share key]

The life specifies the time the key will be valid for. This means that the secondary context with whom you are going to share must use key within the specified life—this means that an attempt to make a connection must be made within that time. The auto-approve option, if set, means that the attempted connection from the secondary context will be allowed automatically. If not set then the primary context instructor must use the

Manage Sharing option, after the secondary context has attempted a connection (which will fail), and approve the connection to make it work.

Finally you can place the secondary context's instructor's email in the email textbox and the share key will be sent directly to them.

Having set everything as required, Generate a new share key will send the email (if selected) and list the sharing key (so that cut and paste can also be employed):

Share this context using the key below

The text below has been emailed to test@no-reply.com:

> Place this key (kegfEEQjRmGxTX1JvD3Fr2BkvinHAThn) in the custom fields of the LTI connection as
>
> share_key=kegfEEQjRmGxTX1JvD3Fr2BkvinHAThn
>
> The share key is valid for 1 hours and needs approving.

The instructor in the secondary context does not get a option to generate keys and cannot casade this sharing to additional contexts, only the primary context instructors can do this.

Finally the Manage Sharing screen showing an approved connection (which can be suspended by the primary context instructor):

Manage Sharing

WebCT
TTTMOU - TTTMOU - Muscat Training Course 1 (1011): Elgg Share Test   Suspend

Membership synchronisations are allowed across contexts but only instructors from the primary context can synchronise across all contexts—assuming the consumers all support this unofficial extensions. Instructors from secondary context can synchronise their own context but no other.

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March 2012