Integration with Moodle via LTI 2.0

Introduction

This guide utilises PebblePads LTI 2.0 integration and supports SSO, Memberships and Outcomes.

You should only consider using this type of integration if you are self-hosting Moodle or your host is able to make a code change to Moodle core as the following Moodle issues are preventing a complete level of integration with our platform.

- https://tracker.moodle.org/browse/MDL-55940
- https://tracker.moodle.org/browse/MDL-55898
- https://tracker.moodle.org/browse/MDL-40761

Known issues

- This document applies to Moodle versions post 3.5.4
- There are there Moodle tracker issues as above
- UK customers will only have the ATLAS tool registered for them via the tool proxy and will need to manually configure the Pebble+/Deep Linking tools following the LTI 1.0 documentation instructions
- The content item picker does not allow users to choose resources that have been shared with them

Links to external resources

- https://docs.moodle.org/dev/Releases
What can you do, what are the limitations of this implementation and what is not supported?

With this type of integration you **WILL** be able to:

- Single Sign On from Moodle to Pebble+
- Single Sign On from Moodle to ATLAS
- Create PebblePad accounts upon single sign on for new users
- Populate an ATLAS workspace members based on course enrolment
- Pass grades back to Moodle
- Create assets using Deep Linking and have them Auto Submitted to ATLAS.

The following limitations are in place:

- Register to use PebblePocket app if LTI is the only method of authentication
- Search for/share with users who haven't already logged into the system if LTI is the only method of authentication
- Synchronise to Sets
- Auto submit will pick the first workspace the learner is a member of when then content item has been added to multiple workspaces.

The membership's service takes into consideration the status of a user, the enrolment start date and the enrolment end date so only active and eligible users are synchronised.

Moodle will only accept grades passed back to it via the LTI link with a numeric value between 0 and 100.

Moodle's Grade Book will only show one grade per LTI link (Does not support multiple assignments in ATLAS) – the last grade released will be displayed. Multiple LTI links can be added to the one Moodle course, each linking to a different workspace.

Moodle follows the following rules for role mappings (MDL-40761):

- If a user is the Moodle site Administrator, their LTI Role is "Administrator"
- If a user is a teacher and can manage a course, their LTI Role is "Instructor"
- If none of the above, their LTI Role is "Learner". This role is typically a Student.
What's covered in this guide and what is not?

As with most systems there are a number of options that are visible to you but not all are used by our platform, therefore only those that are relevant to the tools configuration are referred to in this document.

The following tasks are covered in this guide

- Prerequisites
- Setting up Pebble+
- Setting up ATLAS
- Setting up Linking to Resources
- Testing the configuration

The following tasks are NOT covered in this guide

- Using the integration as an Instructor
- Using the integration as a Learner
Prerequisites

- Moodle 3.5.4 or above
- Your Moodle domain must be added to your PebblePads organisations content security policy
- A Pebble+ account with resources
- Administrative access to Moodle
- Write access to Moodle core
- Global Admin access to PebblePad
- Creator level access on a Region in ATLAS
**Moodle core code changes**

Please ensure you read through each of the bugs logged with Moodle to ensure that you are affected by them before making changes to your code.

Also ensure that you make a backup of any changes to yours files.

To ensure that a user's username is passed in the list of included capabilities you will need to edit the following file:

`mod/lti/service/memberships/classes/local/service/memberships.php` you'll need to add the following code to the `$includedCapabilities` array.

```php
'User.username' => ['type' => 'id',
'member.field' => 'ext_username',
'source.value' => format_string($user->username)]
```
Updating your organisation content security policy

1. Using your Global Admin account log into your PebblePad test environment.
2. Click the burger menu then click **Additional settings** then **Administration** to launch the PebblePad Administration portal.
3. Click **Settings** and scroll down to the **General** section and tick the **Content Security Policy header append** checkbox.
4. Add your Moodle URL to the **Content Security Policy header whitelist** input box.
5. Scroll to the bottom and press the **Update** button.
Registration via Tool Proxy

1. Log into Moodle as an Administrator

![Moodle Integration](image)

2. Click Site administration / Plugins / Activity modules / External tool / Manage tools / Manage external tool registrations

3. Click Configure a new external tool registration and complete the External tool configuration as follows

*Please note that only the options that are relevant to the tools configuration are detailed below.*

<table>
<thead>
<tr>
<th>Registration options</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool provider name</td>
<td>PebblePad</td>
</tr>
</tbody>
</table>
| Registration URL      | Test: [https://apptest.pebblepad.com/admin/org-url/lti/registerlti](https://apptest.pebblepad.com/admin/org-url/lti/registerlti)  
Your org-url can be seen in the URL from the main login page, for example [https://apptest.pebblepad.com/login/org-url](https://apptest.pebblepad.com/login/org-url) |
| Capabilities          | Select All                                                              |
| Services              | Select All                                                              |

4. Click Save changes
5. Click on the tick in the Action column to launch the registration process.
6. Select your **Organisation** from the drop down list and enter the username and password you were provided with by Support and click the **Login** button.
7. Click on the **Accept** button and you will be redirected back to Moodle’s **Manage external tool registrations** page.

![PebblePad Admin](image)

**Supported capabilities**
- User:Id
- ToolConsumerProfile.url
- Context:Id
- Membership:role
- Person:email:primary
- Person:name:family
- Person:name:full
- Person:name:given
- Person:source:Id
- Resource:link:description
- Resource:link:Id
- Resource:link:title
- Result:authors
- Result:source:Id
- User:username
- ToolProxyBinding:memberships:url
- Lti:Link:memberships:url

**Capabilities not offered**
- Context:title
- Context:description

![Tool registration configuration](image)

8. Click on the **Accepted** tab to see the successful tool registration.
9. Navigate to Site administration / Plugins / Activity modules / External tool / Manage tools and you will see the newly created tools in a pending state.

10. Click on each of the **Activate** buttons to activate the tools.
11. Edit each of the tools and change the following settings.

<table>
<thead>
<tr>
<th>Tool settings</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default launch container</td>
<td>New window</td>
</tr>
</tbody>
</table>
Testing the configuration

Pebble+

1. Navigate to a course from your My courses menu
2. Click on the cog icon and click Turn editing on

3. Click Add an activity or resource
4. Click External tool then Add

5. Complete the Adding a new External tool as follows

<table>
<thead>
<tr>
<th>General</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity name</td>
<td>SSO</td>
</tr>
<tr>
<td>Preconfigured tool</td>
<td>PebblePad Pebble+</td>
</tr>
</tbody>
</table>

6. Click Save and return to course
7. Click on the newly create SSO activity link and you should be signed into Pebble+, if the tool has been configured successfully you should see your Moodle Forename and Surname on the profile tile.

8. Finally click on the ATLAS icon to launch ATLAS and check that your username is correct. If you see your Moodle username then the tool has been configured successfully. If you see a number then you are missing the custom launch parameter.
ATLAS

1. Navigate to a course from your My courses menu
2. Click on the cog icon and click Turn editing on

3. Click Add an activity or resource
4. Click External tool then Add

5. Complete the Adding a new External tool as follows

<table>
<thead>
<tr>
<th>General</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity name</td>
<td>My first assignment</td>
</tr>
<tr>
<td>Preconfigured tool</td>
<td>PebblePad ATLAS</td>
</tr>
</tbody>
</table>

6. Click Save and return to course
7. Click on the newly created **My first assignment** activity link and you should be signed into ATLAS, if the tool has been configured successfully you should see your Moodle username at the top right of the screen and be presented with **Create a workspace** wizard.

As per the prerequisites you need to have at least Creator level access on a Region or be a Region Manager in ATLAS. If not you will be redirected to the ATLAS dashboard instead of seeing the wizard.

8. Click **Continue** to create a brand new workspace.
9. Notice that there is a **Managers** tab and a **Members** tab. If you can see these then you know that the membership's service connection is working. If you don't see these tabs then ensure that your Moodle install is publically accessible and you are not running on a localhost.
10. Click the **Managers** tab and check that you can see your course instructors.
11. Click the **Members** tab and check that you can see your course leaners.

12. From the **Basic Settings** tab change the workspace to start in **Active mode** and Click **Finish**.
Click the Managers tab under Management and check that the instructor accounts have been added as a Lead Tutor.

13. Click the Members tab under Management and check that a synchronised group has been created and all of the student accounts have been added.

Please note that the synchronisation of members will occur each time an Instructor (and only an Instructor) clicks the ATLAS link.

14. Check that you can see your Moodle username at the top right of the screen.
15. Click **Assignments** under **Management** and Allow direct file uploads and click the **Save** button.

![Allow direct file uploads]

Please note that enabling file uploads is a step that you will be taking as the Moodle Administrator to test the integration is working correctly and isn’t a requirement of the integration.

16. Now log into Moodle as a student and click on the **My first assignment** activity link. You should be logged into ATLAS and land on the **About** page. You should be able to see your Moodle username at the top right of the screen.

![Moodle Student (student)]

17. Click the **Submissions** tab and click **Upload a file**
18. Press the **Continue** button
19. Click **Select file**, browse and select a file for upload
20. Enter a **Title**, check the **I am entitled to upload this file...** disclaimer and press the **Confirm** button
21. Once the file has uploaded switch back to your Admin account and log back into ATLAS.
22. Click the **Submissions** tab and open up the file submission.
23. Click on the leave Feedback button and click **Add grade**

![Feedback for My First Submission]

24. Enter a grade into the **Grade** textbox. Notice that you can only enter a numeric value between 0 and 100.
25. Click the **Save & close** button to release the grade back to Moodle.

26. From Moodle click on the **Grades** tab. Notice that the grade you entered in ATLAS is now in the corresponding activity link column.
Choosing a resource

1. Navigate to a course from your My courses menu
2. Click on the cog icon and click Turn editing on

3. Click Add an activity or resource
4. Click External tool then Add

5. Complete the Adding a new External tool as follows

<table>
<thead>
<tr>
<th>General</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity name</td>
<td>My Pebble+ resource</td>
</tr>
<tr>
<td>Preconfigured tool</td>
<td>Pebble+</td>
</tr>
</tbody>
</table>

6. Click the Select content button and a popup modal will show you a list of all of your Pebble+ resources. Click on Select Resource for the resource you would like to test with and you will automatically be redirected back to Moodle.

7. Click Save and return to course
Using a resource

Log in as a student and click the **My Pebble+ resource** activity link and you should be logged into Pebble+ and presented with the selected resource in edit mode.