3 Integration [patched] Moodle 4.0 with SLS

Current Situation

Moodle 4.0 supports LTI 1.3 and LTI Advantage

Moodle 4.0 patched to allow integration with SLS

SLS partially supports LTI 1.3 and does not support LTI Advantage. Refer to this official listing of products that have passed 1EdTech interoperability certification.

https://site.imsglobal.org/certifications?refinementList%5Bstandards_lvlx%5D%5B0%5D=Learning%20Tools%20Interoperability%C2%AE%20%28LTI%29 Note that SLS is NOT certified LTI 1.3.
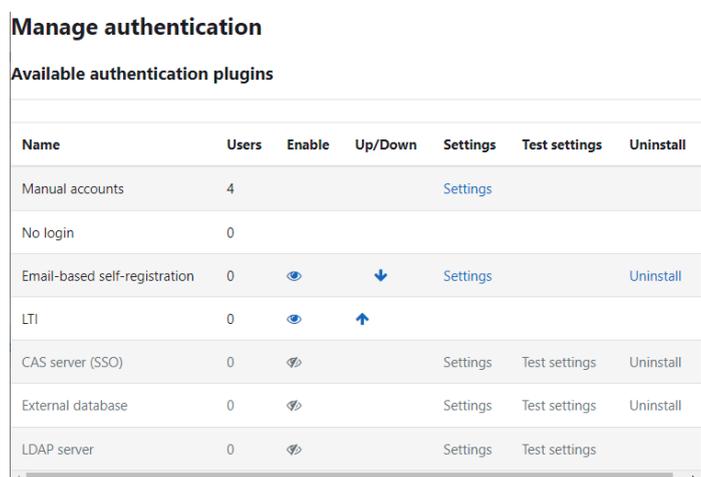
References:

- Publish as LTI tool in Moodle, available at
  https://docs.moodle.org/400/en/Publish_as_LTI_tool#Custom_launch_parameters
- List of LTI Advantage certified products, available at https://www.imsglobal.org/ltiadvantage
- Integration with SLS, available at
  https://docs.learning.moe.edu.sg/sls/partners/integration/integrationsls.html

Step 1. Enabling the 'Publish as LTI tool' feature in Moodle

As an admin user, enable the 'Publish as LTI tool' for use across the site:

- Go to Site administration > Plugins > Authentication > Manage authentication, and enable LTI

- Go to Site administration > Plugins > Enrolments > Manage enrol plugins, and enable 'Publish as LTI tool'

- Optionally, go to Settings of 'Publish as LTI tool' and fill the properties

It is recommended that the site administration setting 'Allow frame embedding' is enabled (in "Site Administration > Security > HTTP security") so that tools can be displayed within a frame rather than in a new window, if desired.

Step 2. Initial manual registration in Moodle

As an admin user, create a new platform registration for SLS:

- Go to "Site administration > Plugins > Enrolments > Publish as LTI tool > Tool registration"
- Click the "Register a platform" button to create a new platform registration
- Enter the name of the platform and click "Continue"

You'll see a "Tool details" tab with the LTI endpoints.

Edit registration

Back

Tool details   Platform details   Deployments

Dynamic registration

If the platform supports dynamic registration, use the registration URL below. For further information on dynamic registration, see the documentation **Publish as LTI tool**.

Registration URL   https://iwant2study.org/moodle402/enrol/lti/register.php?tok

Manual registration

The tool endpoints below are for manual LTI 1.3 setup only. For earlier versions (1.1/2.0), details for consumers can be found on the 'Published as LTI tools' page, accessible via course navigation.

Name   URL

Tool URL   https://iwant2study.org/moodle402/enrol/lti/launch.php

Initiate login URL   https://iwant2study.org/moodle402/enrol/lti/login.php?id=33·

JWKS URL   https://iwant2study.org/moodle402/enrol/lti/jwks.php

Deep linking URL   https://iwant2study.org/moodle402/enrol/lti/launch_deeplink.

Step 3. Manual registration in SLS

As an App Admin user, add an LTI App using the Moodle information:

- Go to "Administration > App Admin > Manage Apps"
- Click the "Add New App" button to create a new App
- Enter the name, description, division, branch and icon, and optionally the rest of parameters
- Change the tab "App Configuration" and enter the type LTI
- The App configuration depends on the Moodle configuration and your preferences. An example is the following one:
    - ❌Public Key: "ignored" or updated 20230904 "MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAk0vdTbC0eTjLZpucQ0rzIJbZNbOn9w fkLT7BycO0LrzdsG15dKwILWRnNmMYHhlsM6vwtdofERLhVLpzVwnA0p2v+p3mVEioR+wnKe4 OuMwq0JOtw716xigpuqF4U7FpMOHXPNSiKOtdz2Y/kmy4+n1wjxreFotaFhxhCuGqLRLkyUW4 H1qNeoyrqg6qUXCmscVxFCkze4XmyOy+0c3JAB53Y1na3DtrJIfaesxq9oeHf6iAmghq6Sd9uCQ Dy3BSTleGjipfplc1JPWHwZLxfbV3pmtvxBKMsyQIlwAwIradBAlPEDuUUo0dNGez4PouC8XyK58 EAiO1iEkvPOtvaQIDAQAB"
    - ✅OIDC Login URL: https://iwant2study.org/moodle402/enrol/lti/login.php
    - ❌Searchable in App Library: https://iwant2study.org/moodle402/enrol/lti/launch.php
    - ❌Installable to Class / Group: https://iwant2study.org/moodle402/enrol/lti/launch.php
    - ✅Embeddable to Lesson: https://iwant2study.org/moodle402/enrol/lti/launch.php
    - ✅Whitelisted Domains (Maximum 10 Domains): vle.dev.sls.ufinity.com, dev.sls.ufinity.com, vle.learning.moe.edu.sg, iwant2study.org
- Click "Save" and then click the button "Edit App Availability" in order to make available the App.

Step 4. Final manual registration in Moodle

As the admin user, complete the registration for SLS:

- Go to "Site administration > Plugins > Enrolments > Publish as LTI tool > Tool registration". If you have the registration open still, simply click the "Platform details" tab. If not, from the registration table, click the "View platform details" action. You'll see a table listing the various platform endpoints and identifiers.
- Click "Edit platform details"
- **Copy the following values from actual SLS:**
    - o **Platform ID (issuer): https://vle.learning.moe.edu.sg**
    - o **Client ID: 1ecc01ea-c4ad-4221-b1a6-7237c8fb5a14**
    - o **Authentication request URL: or OIDC:
      https://vle.learning.moe.edu.sg/lti/authorize/1ecc01ea-c4ad-4221-b1a6-7237c8fb5a14**
    - o **Public keyset URL or JWKS:
      https://vle.learning.moe.edu.sg/lti/key-set/1ecc01ea-c4ad-4221-b1a6-7237c8fb5a14**
    - o **Access token URL:
      https://vle.learning.moe.edu.sg/lti/authorize/1ecc01ea-c4ad-4221-b1a6-7237c8fb5a14**
- Older copy: Copy the following values from SLS for example in development server:
    - o Platform ID (issuer): https://vle.dev.sls.ufinity.com
    - o Client ID: 76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9
    - o Authentication   request   URL:
      https://vle.dev.sls.ufinity.com/lti/authorize/76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9

     o   Public   keyset   URL:
https://vle.dev.sls.ufinity.com/lti/key-set/76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9

     o   Access   token   URL:
https://vle.dev.sls.ufinity.com/lti/authorize/76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9

Edit registration

Back

Tool details | **Platform details** | Deployments

Once the tool has been set up in the platform, details from the platform must be recorded here to complete the registration.
- For dynamic registrations, this information will have been set automatically and no further changes are required.
- For manual registrations, this information must be manually copied from the platform.

Platform name	SLS MoE
Platform ID (issuer)	https://vle.dev.sls.ufinity.com
Client ID	76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9
Authentication request URL	https://vle.dev.sls.ufinity.com/lti/authorize/76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9
Public keyset URL	https://vle.dev.sls.ufinity.com/lti/key-set/76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9
Access token URL	https://vle.dev.sls.ufinity.com/lti/authorize/76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9

Edit platform details

- Save and, next, select the "Deployments" tab
- Click "Add a deployment", enter a deployment name, copy *the value Deployment ID provided by the SLS vendor* and save.

Edit registration

Back

Tool details | Platform details | **Deployments**

A deployment ID is generated by the platform when the tool is made available in a context. This may occur at the time of registration, or later, when the tool is made available to a specific course or category. The deployment ID must be entered here before launches from the tool deployment are permitted.

Name	Deployment ID	Actions
sls dev	9ebbd42f-0f45-41f8-b25b-8cf5aef68d02	🗑

Add a deployment

Note that Platform ID and Client ID are obtained from the SLS registration. However, the Deployment ID is not visible at the SLS platform. You must request the Deployment ID to the SLS vendor seet.shaoyuen@ufinity.com and moe.sls@support.ufinity.com.

Update 20230904: Client ID : 1ecc01ea-c4ad-4221-b1a6-7237c8fb5a14

Update 20230904: Deployment ID : 1823fd1e-b1b4-4f3d-82df-4ddc3cda50b7

The registration process is now complete. Click the "Back" button or navigate to "Site administration > Plugins > Enrolments > Publish as LTI tool > Tool registration", where you will now see the registration listed as "Active".

SLS MoE   **Platform ID (issuer):** https://vle.dev.sls.ufinity.com   1   Active   ≣ ☑ ⛓ 🗑
            Client ID: 76b5f118-d6b0-4a6b-9cfa-00fa3387e3d9

Step 5. Sharing access to an EjsS Simulation from Moodle

As a course admin user, share access to your EjsS Simulations:

- From the course navigation, select "Published as LTI tools"

- Under the "LTI Advantage" tab (this is selected by default) click the "Add" button
    o In "Tool to be published" select the EjsS Simulation to be shared
    o In "Teacher first launch provisioning modes" and "Student first launch provisioning mode" select "New accounts only (automatic)".
    o Disable grade and user sync for the resource
- Click the "Add method" button

Publish as LTI tool

Publish as LTI tool

LTI version	❓	LTI Advantage ⬍
Custom instance name		EjsS Simulation
Tool to be published		EjsS Simulation Sample ⬍
Enrolment duration	❓	0 days ⬍ ☐ Enable
Start date	❓	17 ⬍ August ⬍ 2022 ⬍ 14 ⬍ 41 ⬍ 🗓 ☐ Enable
End date	❓	17 ⬍ August ⬍ 2022 ⬍ 14 ⬍ 41 ⬍ 🗓 ☐ Enable
Maximum enrolled users	❓	0
Role for teacher	❓	Teacher ⬍
Role for student	❓	Student ⬍
Teacher first launch provisioning mode	❓	New accounts only (automatic) ⬍
Student first launch provisioning mode	❓	New accounts only (automatic) ⬍

Remote system

Grade synchronisation	❓	No ⬍
Require course or activity completion prior to grade synchronisation		No ⬍
User synchronisation	❓	No ⬍
User synchronisation mode	❓	Enrol new and unenrol missing users ⬍

User default values

Email display	❓	Allow only other course participants to see my email address ⬍
City/town		Singapore

Show more...

[Save changes] [Cancel]

The published activity or course is now ready for use in SLS. Note that Moodle provides an identifier that must be used in the next step.

Step 6. Sharing access to an EjsS Simulation from Moodle

As a teacher user, add an EjsS Simulation using the LTI App:

- Add a component as usual into your lesson and add Embed App
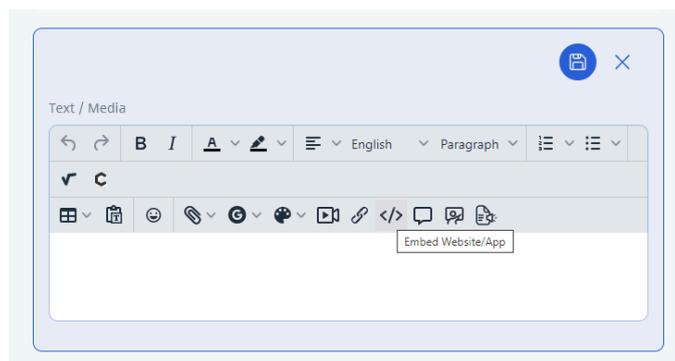
- On the tab "App", select the App created in Step 2 by its name. Now, there are two options to input the Resource URL.
  - Option 1. Manually enter the Resource URL. The Resource URL is the target link uri. Based on the result of the previous step, enter:
    "https://iwant2study.org/moodle402/enrol/lti/launch.php?id= c57f3601-5d95-4fa0-8c75-6d09d59e057c"
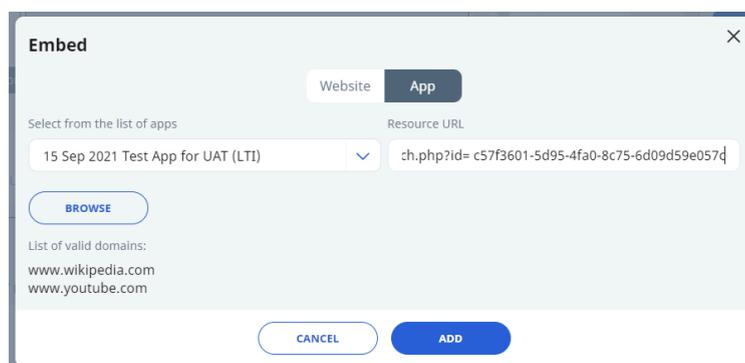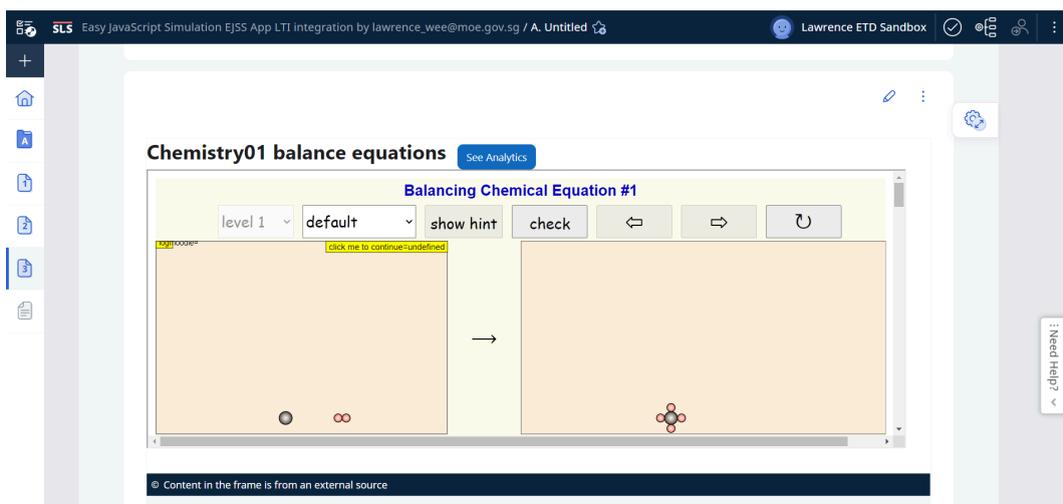
Note that the target link uri has the form "Launch URL" + "Custom properties"

o   Option 2. Click the "Browse" button. A list of simulations and their Resource URLs are shown. Copy the Resource URL and paste into the corresponding input.
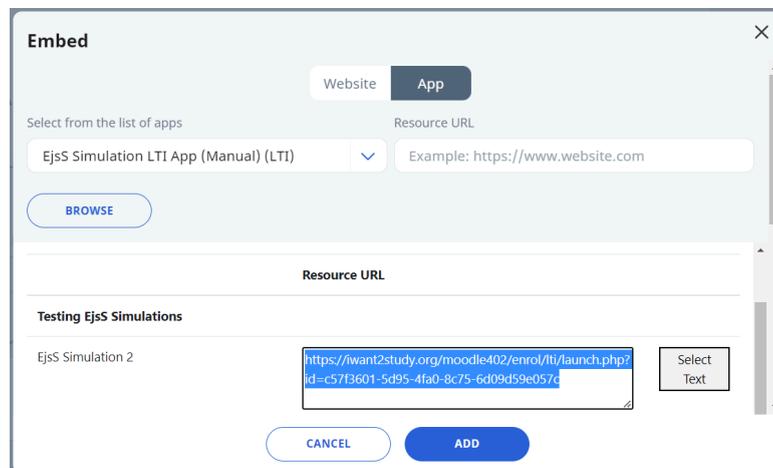
-    Click "Add" and save

Finally, the EjsS Simulation will be visible.

References:

●   Publish as LTI tool in Moodle, available at
https://docs.moodle.org/400/en/Publish_as_LTI_tool#Custom_launch_parameters
●   Integration Guide with SLS, available at
https://docs.learning.moe.edu.sg/sls/partners/integration/adpspecifications.pdf