

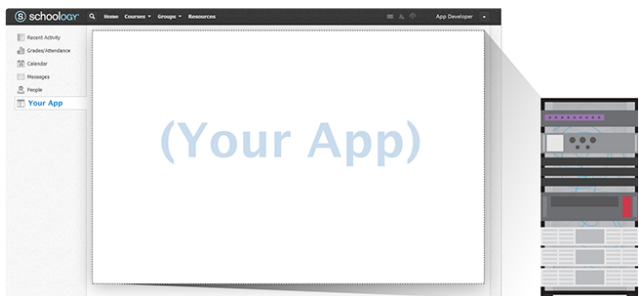
Creating an LTI 1.3 app for Schoology: Edtech Community Hub

What is the Schoology application platform?

Technically, it is an iFrame canvas which links to one or more pages on your application server.

Simply put, you can run any URL from within Schoology. Merely linking to a static URL like [Google](#) or a specific YouTube video is no different than attaching an embed code to a Schoology content type. What makes an embedded application extremely useful, however, is the communication that happens between your linked application and the Schoology API.

Because the application processing happens on your server, you are more than welcome to use any server programming language to output your HTML webpages.



LTI 1.3 Support and Documentation

IMS Global has deprecated LTI 1.1 in favor of LTI 1.3. While Schoology still currently supports LTI 1.1 we recommend you use LTI 1.3 for new app development.

Schoology is certified LTI 1.3 Advantage Complete. We are in compliance with the following IMS Specs, which LTI 1.3 App Developers must follow as well.

Placement Choices

The placement and integration options available to LTI 1.3 app developers impact how an educator and student will interact with the app in Schoology.

Type of App: * LTI 1.3 App Launch app in Schoology ?

LTI Apps use the IMS LTI protocol for app launching and content return.

Can be installed for ? : *

- Users**
 - App Center Dropdown Menu Overwrite Domain/URL
 - User Profile Left Navigation Menu Overwrite Domain/URL
- Courses**
 - Left Navigation Overwrite Domain/URL
 - Course Materials Selection Overwrite Domain/URL
 - Rich Text Editor Overwrite Domain/URL
 - External Tool Overwrite Domain/URL
- Groups**
- Resources** Overwrite Domain/URL

Configuration Type: Manual

Privacy: Send Name and Email/Username of user who launches the tool

LTI Advantage Extensions:

- Deep Linking ?
- Assignment and Grade Services ?
- Names and Roles Services

Domain/URL:

Custom Parameters:
Custom Parameters: One key value pair per line (e.g. key=value)

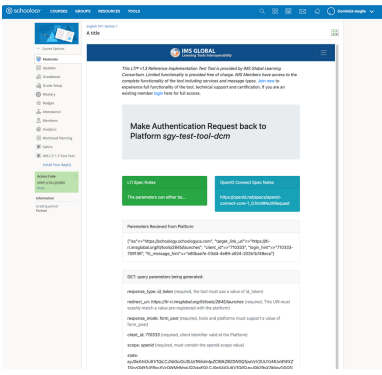
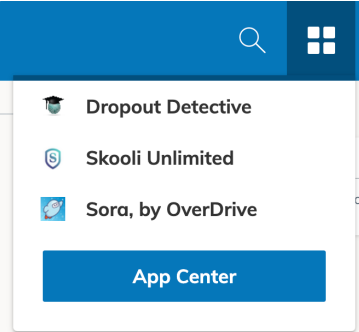
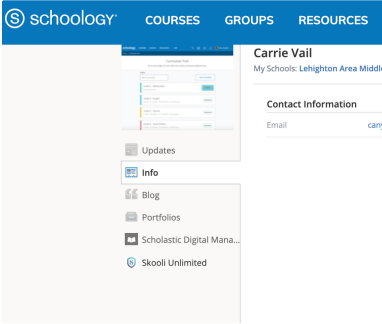
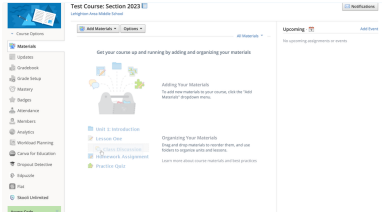
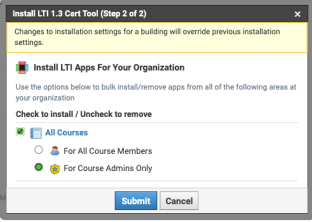
OIDC Login Init URL ? :

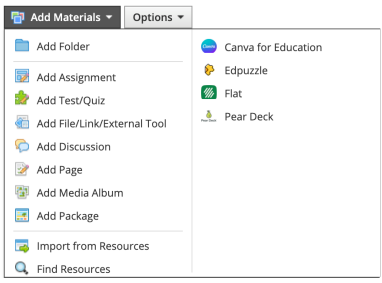
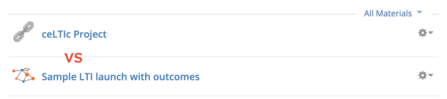
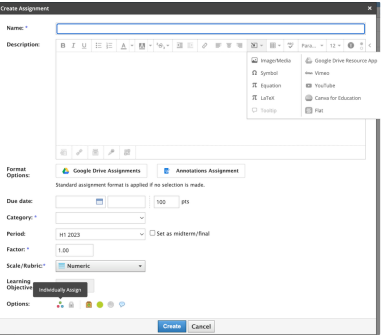
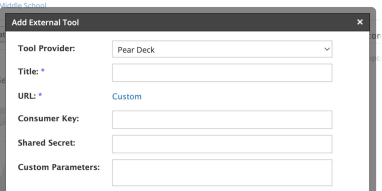
Redirect URLs ? :

Allow System Administrators to configure settings for this App ?

For each of the selections above, here is what the placement would look like in Schoology and why you would want to select this placement.

Placement Choice	Schoology UX	Use Cases
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<p>Launch app in Schoology checkbox</p>	<p>Embeds app display in the Schoology content frame</p>  <ul style="list-style-type: none"> • Yes - defaulted to check and opens within a SGY window • If it is unchecked it opens in a separate window, not in SGY. • We offer this check box since some apps want the flexibility to launch in a separate window (separate browser tab which allows more capabilities). 	<p>To provide an end user experience that keeps the user inside of Schoology's classroom navigation frame instead of opening in a new window.</p>
<p>Overwrite Domain/URL</p>	<ul style="list-style-type: none"> • Overwrite Domain URL is customizable for Left Nav, Course Materials, RTE and External Tool with the intent of offering the app provider ability to send user to a specific URL for that specific placement context. 	<ul style="list-style-type: none"> • Example of this is App launching with its "Deep Link" URL for Course Materials and Rich Text Editor, but using a "Resource Launch" URL for other placements.
<p>Users</p>		
<p>App Center Dropdown Menu</p>	<p>Adds the app as a link from the App Center menu</p>  <ul style="list-style-type: none"> • Resource apps are not part of this - only LTI 1.1 and 1.3 and standard apps. 	<p>When the app is available to users and does not need to be used in the context of a course for instruction or a group for collaboration. Example:</p> <ul style="list-style-type: none"> • Dropout Detective provides drop out data that a teacher or administrator may be viewing daily
<p>User Profile Left Navigation Menu</p>	<p>Adds the app as a link from the user's profile left navigation menu.</p> 	<p>If the app is a tool to be used by individuals for personal portfolios, credentials, or badging, you may want to place it within the User Profile area.</p>
<p>Courses</p>		
<p>Left Navigation</p>	<p>For all members of the course: Adds the app as a link in the left navigation menu of all courses for the district or building/school.</p> 	<p>When your app is a class tool that is not assigned to individual students or groups of students. For example, an app that provides conferencing capabilities or an app that gets launched by the whole class to do a warmup activity run by the teacher.</p> <p>Note the app is visible for all relevant users. Therefore, if Teacher & Student were selected, it would be available in the left nav always for each role. District Admin can choose to limit the app to Course/Group admins only.</p> 

<p>Course Materials Selection:</p> <p>Schoology supports two kinds of Deep Links in Course Materials:</p> <ul style="list-style-type: none"> a "Link" (i.e. a web link) - Learning Tools Interoperability® Deep Linking 2.0 IMS Global Learning Consortium an "LTI Resource Link" (a link to launch this LTI app, usually to a particular activity) - Learning Tools Interoperability® Deep Linking 2.0 IMS Global Learning Consortium, which could be associated with "lineitems" (i.e. a gradebook column) <p>We do not support Files, stand-alone Images, or "HTML Fragments" in this placement.</p>	<p>For teachers: Adds the app as a selection option in the Materials menu for teachers building their courses for the district or building/school.</p>  <p>For students: The app would appear as an assignment listing within the course materials, alongside other assignments.</p>	<p>Web links:</p> <p>Teachers: as the creator of the web links these are references to articles or online content they are using to share with their students.</p> <p>Students: as the consumer of the web links, they use the links for reading or referencing articles for assignments. The weblinks could be anything the teacher wants the students to read.</p> <p>LTI Resource Link:</p> <p>Could be a resource from provider that doesn't need to use deep linking or as link to a particular activity. This would launch to a specific URL that references something from the providers.</p> 
<p>Rich Text Editor</p>	<p>For teachers: Adds the app as a selection option in the Rich Text Editor (RTE) of Assignment or Add Page material types.</p>  <p>For students: The app would appear as an assignment listing within the course materials, alongside other assignments.</p>	<p>When your app provides content that might be embedded in an assignment, like an image, video or audio clip, PDF, etc. this placement allows the teacher to include it as part of the materials they are creating for students in their class. We currently support only "LTI Resource Link" (a deep link that launches into the App) from the RTE placement, but the LTI Resource Link cannot be associated with a grade item.</p> <p>Students would likely consume this material within the context of the Schoology navigation frame since clicking would take them to additional windows where they would lose context for the work they are doing.</p>
<p>External Tool</p>	<p>For teachers: Adds the app as a selection option in the External Tool drop down menu of the External Tool material type.</p> 	<p>This experience is similar to the Course Left Navigation or User App Center Dropdown Menu in that it provides a single link to open the app, but with the External Tool choice, students wouldn't see it all the time. It would display in the context of the course materials provided by the teacher for completion by the student.</p> <p>This choice is helpful for interactive activities that are available to the student to complete and all interaction is happening within the app, though it can still be framed within the Schoology navigation window. Completion status and/or scores can be sent back to the Schoology gradebook.</p>

LTI Advantage Options


Deep Linking

Deep linking simplifies course building with the easy addition of deep links to content, including content playlists and tables of content. Look for more to come on how Schoology works with deep linking in LTI Advantage.

[Learning Tools Interoperability® Deep Linking 2.0 | IMS Global Learning Consortium](#)

[LTI Advantage Overview | IMS Global Learning Consortium](#)

Grade Pass Back

 Note: The terms 'Realm' and 'Realm ID' are Schoology terms and can refer to the Course, Section or Group. 'Realm ID = NID or UID

LTI uses the term "Context" for a similar concept - [Learning Tools Interoperability Core Specification 1.3 | IMS Global Learning Consortium](#)

How are external tool links created in Schoology?

Standalone/Crosslisted sections: Schoology creates one material for both types of sections.

Linked sections: Schoology does not create multiple materials for each section in linked sections. Schoology references the same material for each section. One item is only needed when returning content to Schoology's linked sections.

Each follow the same method for creation:

- Manually by user within a Schoology section:
 - Navigate to section within Schoology
 - As course admin, select Add Materials > Add external tool
 - Complete settings, then save.
- Content item return by LTI app provider:

- Navigate to section within Schoology
- As course admin, select Add materials > desired app
- Within window/iframe LTI provider will provide option to insert tool(s) into Schoology section
- Insert tools.

How are line items created for external tool links?

Passback for LTI is enabled at app level and can be used via External tool lineitem association.

How are lineitems created in Schoology and when you can create?

- During content item insertion from LTI provider
- During new creation of lineitem from LTI provider

You can create lineitems at any point of time, however there are some circumstances that will benefit better for your use case.

Teacher perspective

1. Create external tool and Lineitem at the same time from Schoology course materials selection (best option)
2. Create external tool and later enable grading on external tool material
 - a. LTI provider does not create line item during content return, but during first ever launch of material
 - b. Create Line item after recognizing LTI provider does not have one for tool link

Student perspective

1. Create Lineitem during first student launch
 - a. Must check if lineitem already exists to avoid duplicate lineitems

Linked sections

After a content item or external tool is created, Schoology will only use one lineitem for the tool link. We do not recommend or require creating multiple line items for each section. It would be correct to assume a launch from one tool with multiple context ids belongs to linked sections. If creating the tool link via content return, you will have the parent context id provided. Any manually created or copied external tools being used would be impossible to track what the parent context id is.

Teacher perspective

1. Create external tool and lineitem at the same time from Schoology course materials selection (best option)
 - a. Schoology does not currently send linked section information during tool provider launch. The context id will only be for the parent section
 - b. This means that any subsequent launch for the same tool that contains a different context ID, the provider should recognize and handle the relationship of multiple context IDs to tool link

Teacher can launch tool from select dropdown. This action will provide different context IDs.

1. Create external tool and later enable grading on external tool material
 - a. LTI provider does not create lineitem during content return, but during first ever launch of material
 - b. Create line item after recognizing LTI provider does not have one for tool link

Student perspective

Students launching an external tool from any linked section will only have their enrolled context id provided for the tool provider to consume. This means that the tool provider should handle multiple launches of the same tool with different context ids amongst the linked sections.

1. Create lineitem during first student launch
 - a. Must check if lineitem already exists to avoid duplicate lineitems

Examples

Create line item on content return

- Amongst the other essentials, we expect to see line item data returned

```

1  {"@graph":[{"type":"LtiLinkItem","title":"Sample LTI launch with outcomes","text":"A sample LTI link (with outcomes enabled) created using the Content-Item mess
2  "icon":{"width":50,"height":50,"id":"https://lti.tools/icons/celtic.png"},"hideOnCreate":true,"lineItem":{"label":"Sample LTI launch with outcomes","scoreMaximu
3  "resourceId":"a-9334df-33","tag":"launch2","submissionReview":{"url":"Goto_launch2"},"scoreConstraints":{"normalMaximum":50},"assignedActivity":{"activityId":"a
4  "noUpdate":false,"custom":{"fullName":"$Person.name.full"},"username":"$User.username","page":"31","last":"37"},"mediaType":"application/vnd.ims.lti.v1.ltilink"

```

- This is recommended, however not always required. A provider may choose to enable grading on a LTI link later on.
- Create external tool via add material or app content item insertion + grading
 - If a tool is created manually, it can have grading enabled. This will create a grade item within the Schoology gradebook, however this does not create a lineitem for the link. The process of creating a lineitem and associating it with the tool should still be completed.
 - This process is as follows:
 1. Add materials > Add external tool > Enable grading
 2. Schoology user (teacher or admin) launches link > tool provide consumes post data that includes the `resource_link_id=6704224505`
 3. The tool provider then can send a request to /lineitems like so

```

1  {
2  "label": "Test",
3  "scoreMaximum": 100,
4  "resourceLinkId": "6704224505"
5  }

```

5. We recommend sending in the same name as the link that already created because this will change only the gradebook item title, not the actual external tool title in materials.
6. The provider then would receive the lineitem ID to store and reference for score updates.

Grading/Categories:

- When creating content the provider does not know what Categories exist inside of Schoology
 - If a category is default selected (starred) Schoology will auto assign the line item to that category

Names & Roles

First, here is the overview from 1EdTech: [Names and Roles Provisioning Service w/ Demos \(LTI Roundtable 7/26/22\)](#)

Minimum Data Returned

- members "status"
- members "user_id"
- members "roles" (required, but the array can be empty)

i We support the following roles: Administrator, Instructor, and Learner.

∨ LTI Roles

Context (Course, Section, or Group in Schoology) Roles

Context Roles	Type	Name
Core context roles	Administrator Instructor Learner	http://purl.imsglobal.org/vocab/lis/v2/membership#Administrator http://purl.imsglobal.org/vocab/lis/v2/membership#Instructor http://purl.imsglobal.org/vocab/lis/v2/membership#Learner

f If you want additional information included in the launch payload sent from Schoology to your App, you can set [Custom Parameters](#) when creating your App. We recommend setting a key without upper-case letters, because casing data is lost when Schoology processes the custom parameter.

For additional information on the LTI 1.3 specification and Advantage extensions, please refer to the 1EdTech documentation.

- [Learning Tools Interoperability | IMS Global Learning Consortium](#)
- [LTI Advantage Overview | IMS Global Learning Consortium](#)
- [LTI Advantage Overview \(In 5 Minutes\)](#)
- [LTI Advantage for Tool Providers \(In 5 Minutes\)](#)

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