



PROCTOREXAM

Proctoring Infrastructure as a Service

ProctorExam LTI documentation: Use ProctorExam as a tool consumer

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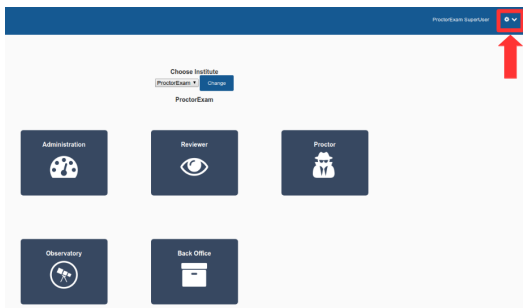
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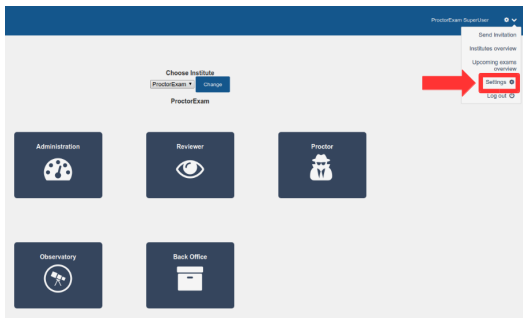


How to register a tool provider in ProctorExam

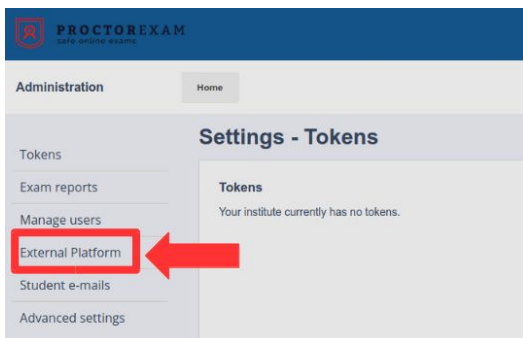
Before accessing to the resources provided by another platform, the tool provider needs to be registered inside ProctorExam's platform.



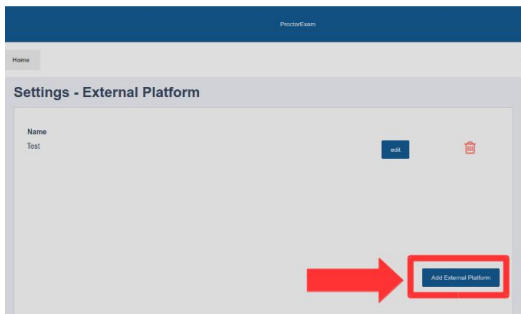
After being logged in the platform, the configuration page of the tool providers can be found by first clicking on the gear icon in the top right corner.



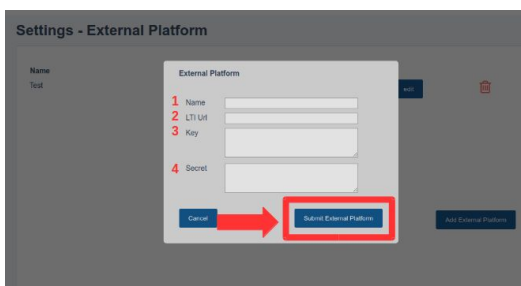
Then you can select you can select settings to enter the configuration of your account



Next you can click on External Platform to enter the configuration of a tool provider.



Now to register a tool provider to ProctorExam platform, you need to click on the the button **Add External Platform**.



Finally you just need to fill the information needed to use the tool provider.

First in 1 you need to add a name so that you can find it later to add a LTI link to the exam page.

Then you need to add the information provided by your tool provider:

- 2: the launch url that will be used to connect to the external platform;
- 3 and 4: the LTI credential provided by the tool provider to use their services.

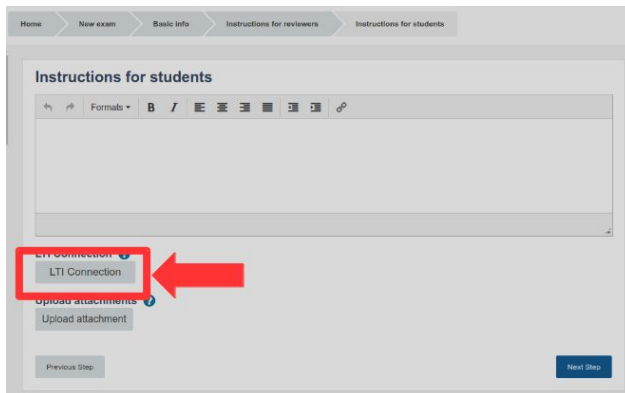
Finally you will need to click on the **Submit External Platform** to save your tool provider in the ProctorExam platform.

How to select a resource

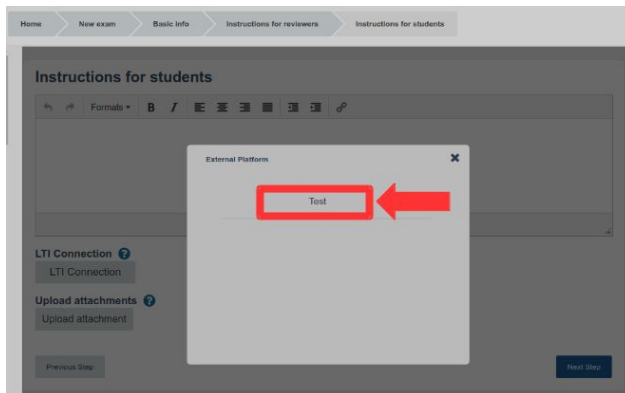


When an exam is created, you have the possibility to use LTI to select a resource provided by a tool provider and add a link in the exam instruction that will open the external resource in an iframe.

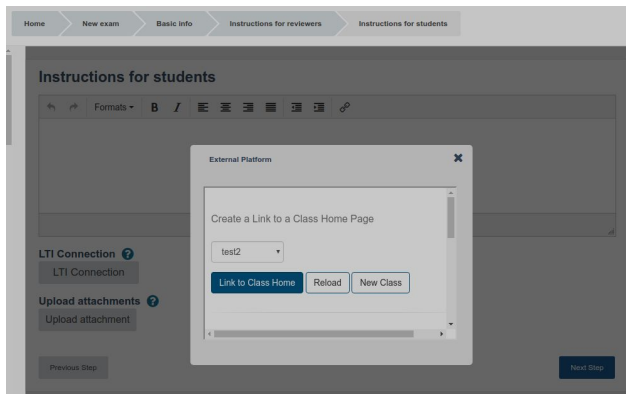
Select a resource as a teacher



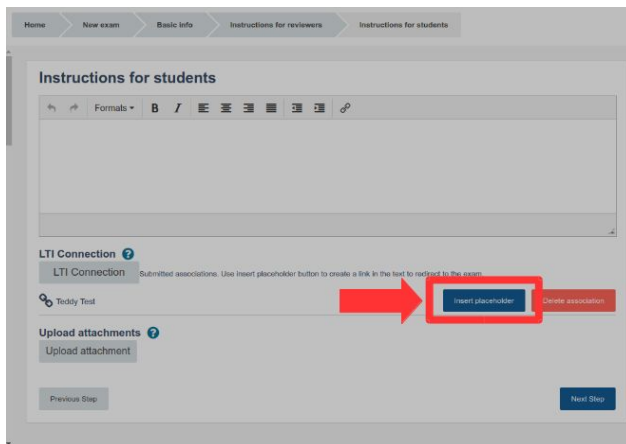
While creating an exam, you will see a button called **LTI Connection**. This button will allow you to display the list of tool providers that you registered in your account.



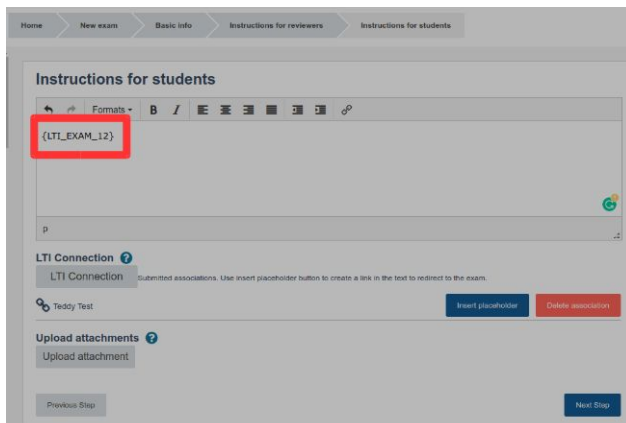
When the list is displayed, you can click on the name of the tool provider that contains your desired resource to select it.



The tool provider will display all the resource that you can select and include in the exam you are creating for the students.



Once you have selected the resource that you want to integrate to your exam, you must click on the button **Insert placeholder** to actually insert the link to the resource in the exam that the student will see.



After you have clicked on the button **Insert placeholder** you will see a new string that will appear in the text editor above the buttons. This string will be replaced by the resource link when the exam will launch allowing you to place the link wherever you want in the exam instructions.



The technical aspect of the course selection

To allow the users to select a course from a tool provider, ProctorExam Platform is following the ims standard of deep linking that is described on this page: <https://www.imsglobal.org/specs/litciv1p0/specification-3>

when a student select a tool provider, an iframe with an auto submitted form will be created and will send the following datas:

```
<form id="form_lti_request" action="tool_provider_launch_url"
method="post" enctype="application/x-www-form-urlencoded"
target="lti_frame">
  <input type="hidden" name="accept_media_types"
value="application/vnd.ims.lti.v1.ltilink">
  <input type="hidden" name="accept_presentation_document_targets"
value="iframe">
  <input type="hidden" name="content_item_return_url"
value="https://subdomain.proctorexam.com/administration/exams/deep_link
_callback">
  <input type="hidden" name="launch_presentation_document_target"
value="iframe">
  <input type="hidden" name="lis_person_contact_email_primary"
value="student@email_domain.com">
  <input type="hidden" name="lis_person_name_family"
value="student_family_name">
  <input type="hidden" name="lis_person_name_given"
value="student_given_name">
  <input type="hidden" name="lti_message_type"
value="ContentItemSelectionRequest">
  <input type="hidden" name="lti_version" value="LTI-1p0">
  <input type="hidden" name="oauth_callback" value="about:blank">
  <input type="hidden" name="oauth_consumer_key" value="oauth_key">
```



```
<input type="hidden" name="oauth_nonce" value="1531743202">
<input type="hidden" name="oauth_signature_method" value="HMAC-SHA1">
<input type="hidden" name="oauth_timestamp" value="1531743202">
<input type="hidden" name="oauth_version" value="1.0">
<input type="hidden" name="roles" value="Instructor">
<input type="hidden" name="user_id" value="5">
<input type="hidden" name="oauth_signature"
value="TkTDxWkOGwyFRo/2JnsHiFABqeA=">
</form>
```

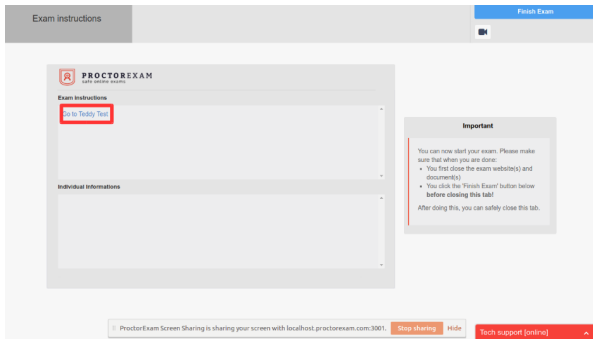
This will then redirect the user to the external platform that will allow him to select the resource that he wants to integrate into the exam. When the teacher has selected his resource, the tool provider in which the resource is contained, needs to return data to the ProctorExam platform through an auto submitted form to the `content_item_return_url` showed in the form above, which should have the following layout:

```
<form action="http://www.tc.com/item-return" method="post"
  enctype="application/x-www-form-urlencoded">
  <input type="hidden" name="lti_message_type"
value="ContentItemSelection" />
  <input type="hidden" name="lti_version" value="LTI-1p0" />
  <input type="hidden" name="content_items"
value="{&quot;@context&quot;:&quot;http://purl.imsglobal.org/ctx/lti/
v1/ContentItem&quot;;&quot;@graph&quot;:[{&quot;@type&quot;:&quot;Lti
LinkItem&quot;;&quot;mediaType&quot;:&quot;application/vnd.ims.lti.v1
.ltilink&quot;;&quot;title&quot;:&quot;Test
Titel&quot;;&quot;custom&quot;:{custom_data}}]}" />
  <input type="hidden" name="oauth_version" value="1.0" />
  <input type="hidden" name="oauth_nonce" value="..." />
  <input type="hidden" name="oauth_timestamp" value="..." />
  <input type="hidden" name="oauth_consumer_key" value="..." />
  <input type="hidden" name="oauth_callback" value="about:blank" />
  <input type="hidden" name="oauth_signature_method"
value="HMAC-SHA1" />
  <input type="hidden" name="oauth_signature" value="..." />
</form>
```

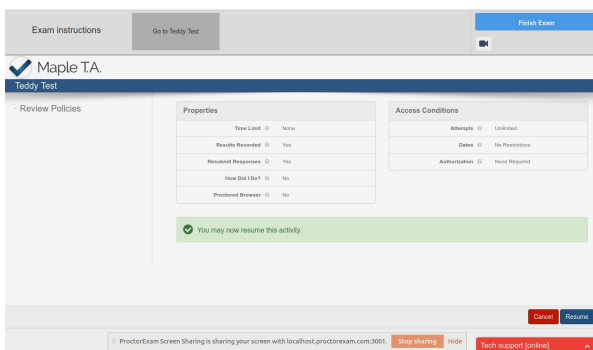


How the student will access the LTI resource

The student view

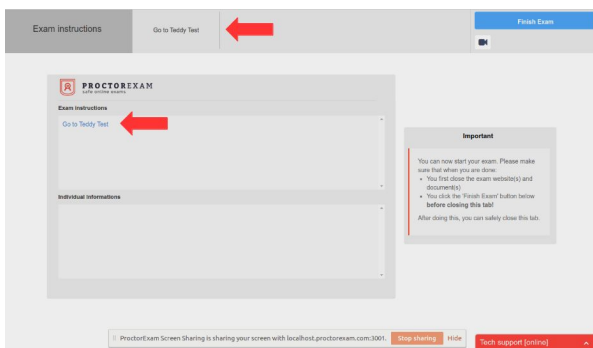


When the student will enter the exam room, the LTI resources links selected by the teacher will appear allowing the student to open them.



When the student will click on the LTI link, this one will open in an iframe allowing the student to stay in the exam room.

By clicking on the **Exam Instruction** tab, the student will return to the exam instructions without losing any informations.



When the student will be in the exam instruction page and has already open LTI links, he can go back to the external resource where he was by either clicking again on the link in the instructions or by clicking on the tab carrying the same name as the link.



The technical aspect

When a student will click on the link to the resource that the teacher selected for the exam, a form containing the following data will be sent to the tool provider:

```
<form id="form_lti_request" action="tool_provider_launch_url"
method="post" enctype="application/x-www-form-urlencoded"
target="lti_frame">
  <input type="hidden" name="launch_presentation_document_target"
value="iframe">
  <input type="hidden" name="lis_person_contact_email_primary"
value="student@email_domain.com">
  <input type="hidden" name="lis_person_name_family"
value="student_family_name">
  <input type="hidden" name="lis_person_name_given"
value="student_given_name">
  <input type="hidden" name="lti_message_type"
value="basic-lti-launch-request">
  <input type="hidden" name="lti_version" value="LTI-1p0">
  <input type="hidden" name="oauth_callback" value="about:blank">
  <input type="hidden" name="oauth_consumer_key" value="oauth_key">
  <input type="hidden" name="oauth_nonce" value="1531743202">
  <input type="hidden" name="oauth_signature_method"
value="HMAC-SHA1">
  <input type="hidden" name="oauth_timestamp" value="1531743202">
  <input type="hidden" name="oauth_version" value="1.0">
  <input type="hidden" name="user_id" value="student_id">
  <input type="hidden" name="roles" value="Student">
  <input type="hidden" name="user_id" value="5">
  <input type="hidden" name="oauth_signature"
value="TkTDxWkOGwyFRo/2JnsHiFABqeA=">
</form>
```

If the tool provider add some custom datas in the content items when the teacher select the resource, those custom datas will be added to the form shown above. The form will be auto submitted inside of an iframe so that the student remains in the exam room.