

TestOut[®]

LabSim LTI Support Technical Documentation

LabSim Support for LTI 1.0 and 1.1

Introduction

LabSim can be launched from a Learning Management System (LMS) using the LTI 1.0 and LTI 1.1 specification. This allows a student to enter a LabSim course from the LMS without having to enter login information a second time. LTI calls the LMS a *Tool Consumer* and LabSim a *Tool Provider*.

The launch request is sent using an HTTP POST from the *Tool Consumer* to the *Tool Provider's LTI Launch URL*. The request must be signed using an OAuth signature. This allows the *Tool Provider* to authenticate the *Tool Consumer* for access to LabSim. The signature is created using a **Consumer Key** and **Consumer Secret** provided by TestOut and known to both the *Tool Consumer* and the *Tool Provider*.

LabSim LTI Launch URL:	<code>http://www.testout.com/orbispartner/basiclti.aspx</code>
Consumer Key:	<code>[UniqueKey]</code>
Consumer Secret:	<code>[UniquePassword]</code>

The *Tool Consumer* provides additional parameters in the HTTP POST request to identify the user, his role, and LabSim custom parameters including the course to be launched, the section to begin with, and the class within LabSim in which to place the student.

Link

Configuring the LTI link to launch LabSim is specific to each LMS. Generally the LMS provides a form to add an external tool provider where you can enter the **LabSim LTI URL** and the shared **Consumer Key** and **Consumer Secret**. You will also usually specify privacy settings including which user fields to send to the external tool provider. LabSim requires that the LMS user's ID, role in the course, and email address be sent. It is recommended to also send the LMS user's name, as it will be easier to find users in LabSim if a name is provided. You can usually provide custom parameters to send to the external tool provider on this form as well. LabSim requires one custom parameter named `labsim_course_id`. You should use the ISBN of the LabSim course you want to launch as the value of this parameter. LabSim also supports two additional custom parameters `labsim_class_id` and `labsim_section_id`. See the Request Parameter table below for more information about these custom parameters. The LMS usually prefixes custom parameters with `custom_` when sending them so you do not need to enter this part of the name. Consult your LMS documentation or provider for specifics on how to configure a LTI link.

Launch Interaction

When a user launches the link within the course, the LMS: generates a *LTI Launch* request (HTTP POST) using the links' configured values and the launching user's context; signs the request using the shared key and secret; and sends the request to the LabSim URL.

LabSim receives the request and verifies the signature; validates the LabSim custom parameters; provisions the user within LabSim using the received user context and a pool of LabSim licenses assigned to the **LabSim School**; optionally assigns the user to a LabSim class; and launches the LabSim course and section using the received custom parameters.

Request Parameters

The tables below lists the HTTP POST parameters LabSim expects or can understand in the LTI Launch request. Your LMS will normally build the request with these parameters using the launching user's context and the LMS configuration for your external tool link.

Required Parameters

Parameter	Status	Notes
<code>oauth_consumer_key</code>	Required	The Consumer Key provided by TestOut.
<code>oauth_timestamp</code> <code>oauth_nonce</code> <code>oauth_signature</code>	Required	The OAuth signing process will create values for these parameters using the shared Consumer Secret provided by TestOut.
<code>lti_message_type</code>	Required	Should be <code>basic-lti-launch-request</code> .
<code>lti_version</code>	Required	Should be <code>LTI-1p0</code> .
<code>resource_link_id</code>	Required	Identifies the link's placement within your LMS.
<code>user_id</code>	Required	Identifies the user requesting the launch within your LMS. A license from the pool assigned to your LabSim School is allocated for each <code>user_id</code> and <code>custom_labsim_course_id</code> combination.
<code>roles</code>	Required	The user's role. Should be <code>instructor</code> for a LabSim teacher, or <code>learner</code> for a LabSim student.
<code>lis_person_contact_email_primary</code>	Required	The email address of the user. If a LabSim LTI user account does not already exist for <code>user_id</code> , LabSim will look for an existing non-LTI LabSim user account using this value. If an account is found, it will be converted to an LTI account and associated with <code>user_id</code> . LabSim will provision a new LabSim account if no existing account is found.
<code>labsim_course_id</code>	Required	The ISBN of the LabSim course to be launched. The LabSim School must have an available pool of LabSim licenses for this course. See http://www.testout.com/home/it-certification-training/purchasing/labsim-isbns for LabSim course ISBN's.

Recommended Parameters

Parameter	Status	Notes
<code>lis_person_name_given</code> <code>lis_person_name_family</code> <code>lis_person_name_full</code>	Recommended	The name of the user for any created LabSim account. The <code>lis_person_name_full</code> parameter is used only if <code>lis_person_name_given</code> and <code>lis_person_name_family</code> are not provided. It will be more convenient to find users within LabSim if a name is provided.
<code>labsim_class_id</code>	Recommended	Identifies the LabSim class for the user. LabSim links teachers and students using classes. When a name is provided, LabSim will ensure a LabSim class with that name exists and will add the user as either a student or teacher of that class. If your LMS provides a suitable value in the <code>context_id</code> or <code>context_title</code> parameters, you may set the <code>custom_labsim_class_id</code> value to the context parameter name prefixed with @, such as <code>@context_title</code> . The context value will then be used as the LabSim class. Note: If your class name contains spaces, use <code>%20</code> in place of spaces when creating a URL.

Optional Parameters

Parameter	Status	Notes
<code>labsim_section_id</code>	Optional (Required for scores back to LMS)	<p>The section number from the LabSim course outline to jump to when the course is launched. See http://www.testout.com/home/educator-resources/instructor-tools/labsim-outlines for LabSim course outlines and possible section numbers and titles. You may also provide a section name for this value. For example, 1.2.1 Using the Simulator, 1.2.1, and Using the Simulator will all launch to the same section*.</p> <p>If you are linking to a Custom Exam, use the Exam ID found on the Custom Exam screen inside of LabSim.</p> <p>If you are linking to a TestOut Pro Certification, set the parameter equal to the full name of the Pro Certification*.</p> <p><i>*If using words to designate a section in a URL, use %20 to designate spaces.</i></p>
<code>labsim_allow_outcomes=true</code>	Optional (Required for scores back to LMS)	The score for the specified resource is sent back to the tool consumer