

TestOut[®]

Moodle Integration Guide

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Configuring Moodle to Integrate with LabSim

This guide was made for the LMS Administrator or individual experienced at configuring their LMS systems and settings.

To help you better integrate LabSim with your Moodle LMS, we have produced the following guide as a courtesy. We walk you through the steps of how to link to a course, a specific resource within a course, and how to send a score back from a LabSim resource to Moodle's gradebook.

At the end of the guide, we will explain some of the common errors you may run into when trying to connect to LabSim through Moodle. Please be advised, **we are not Moodle (or LMS) experts.**

We are unable to provide support or set up your Moodle LMS. TestOut Technical Support is willing to let you know if there are any issues on our end with the LMS integration, but do not currently have the resources to set up a Moodle account.

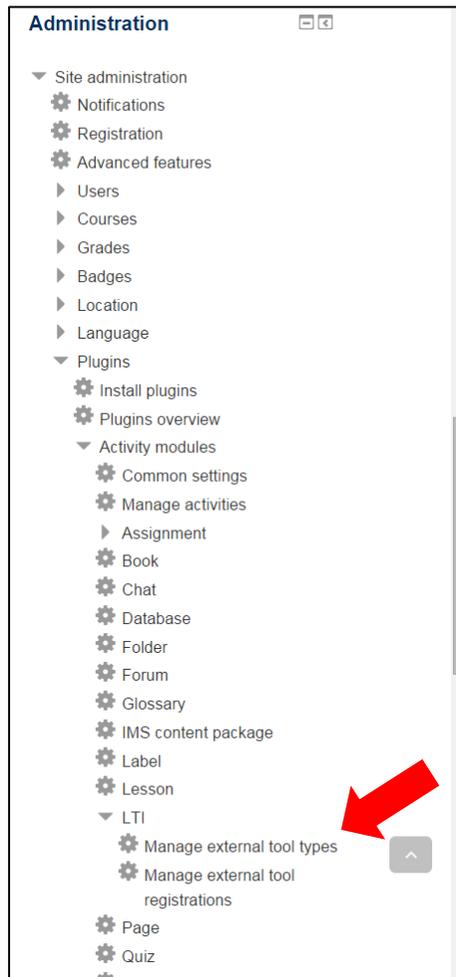
As always, feel free to contact us with any issues. Have a great school year!

Setting up your LTI Tool Provider

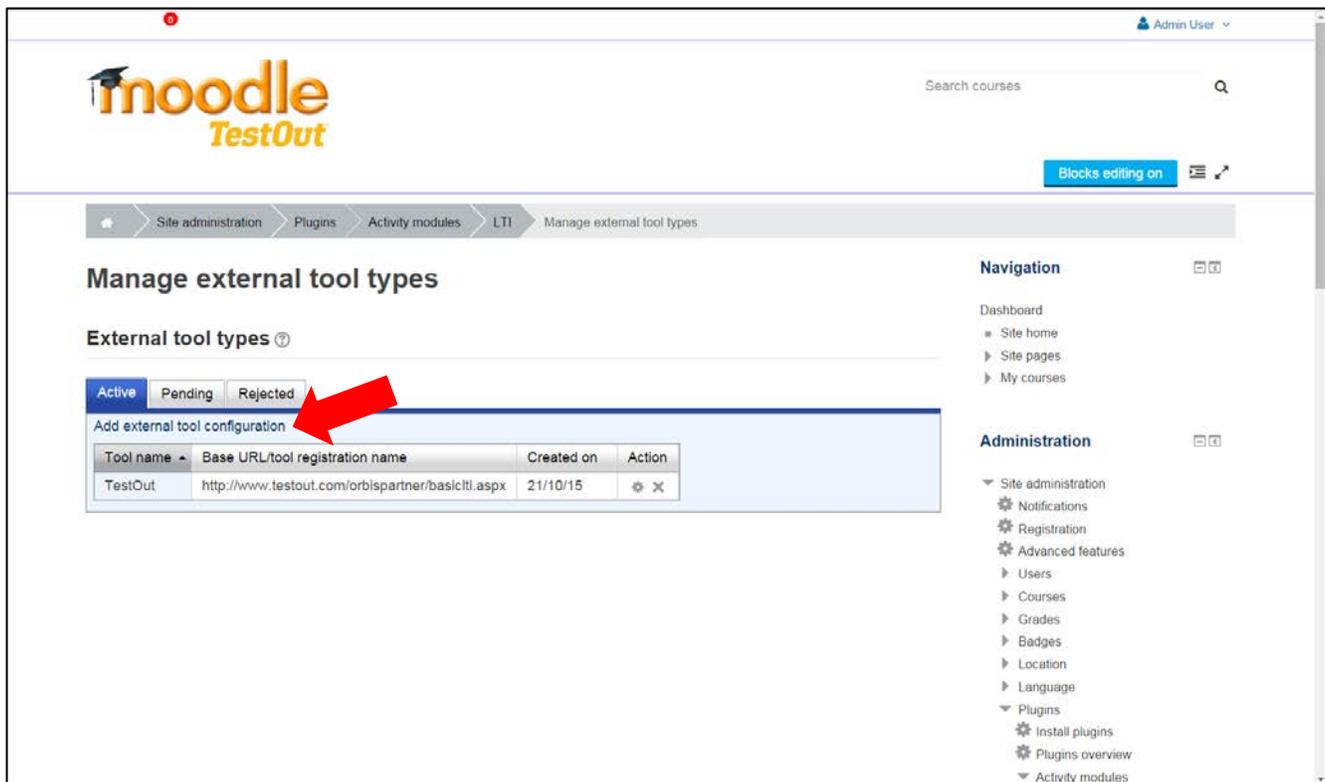
On your Home page, navigate to the Administration panel and click through the following options.

Site administration → Plugins → Activity modules → LTI

Click on “Manage external tool types.”



On the Manage external tool types page, click “Add external tool configuration.”



The screenshot shows the Moodle interface for managing external tool types. At the top, the Moodle logo and 'TestOut' branding are visible. A search bar for courses is present. The breadcrumb trail indicates the current location: Site administration > Plugins > Activity modules > LTI > Manage external tool types. The main heading is 'Manage external tool types'. Below this, there are tabs for 'Active', 'Pending', and 'Rejected'. A red arrow points to the 'Add external tool configuration' link. Below the link is a table with the following data:

Tool name	Base URL/tool registration name	Created on	Action
TestOut	http://www.testout.com/orbispartner/basiclti.aspx	21/10/15	 

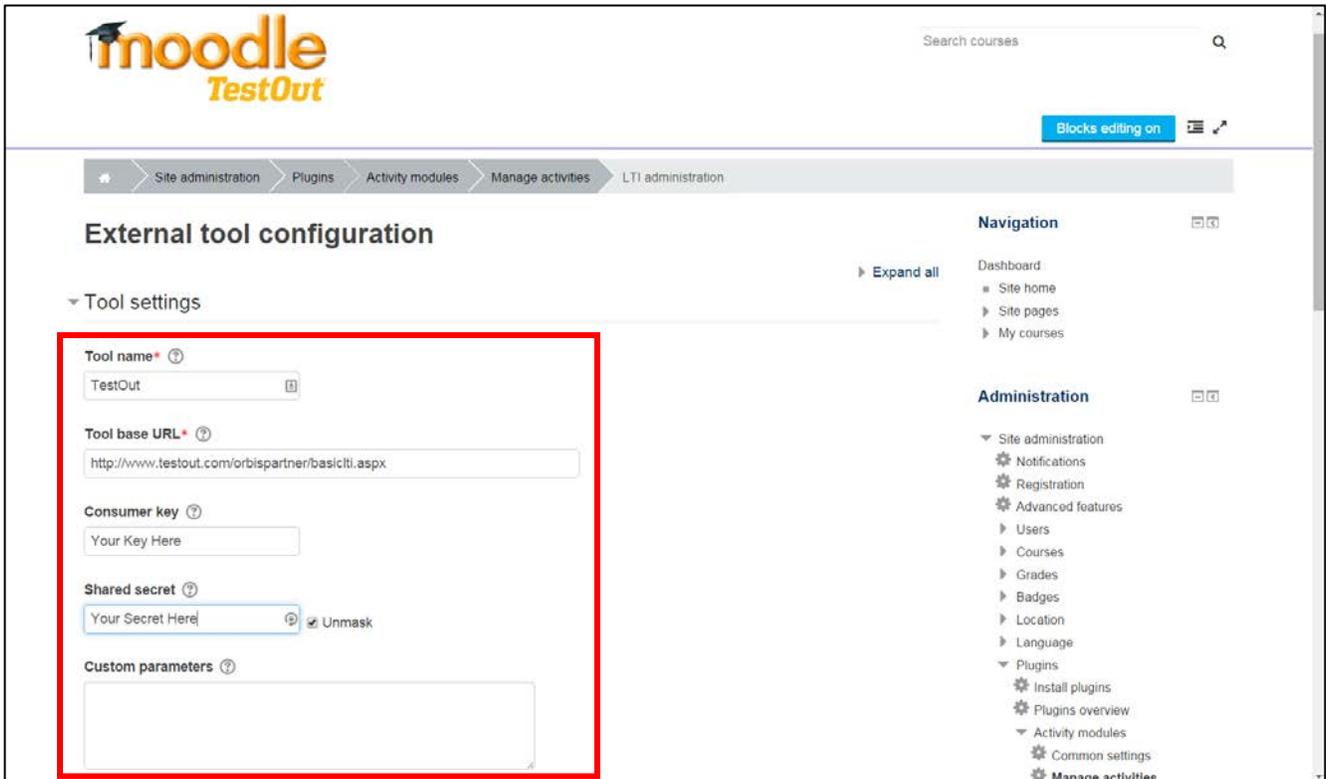
On the right side, there is a navigation menu with sections for 'Navigation' (Dashboard, Site home, Site pages, My courses) and 'Administration' (Site administration, Notifications, Registration, Advanced features, Users, Courses, Grades, Badges, Location, Language, Plugins, Install plugins, Plugins overview, Activity modules).

On this screen, enter a “Tool Name” that will identify that this is for TestOut.

Add the base URL (<http://www.testout.com/orbispartner/basiclti.aspx>) to the “Tool base URL.” If needed, <https://www.testout.com/orbispartner/basiclti.aspx> will also connect you to LabSim.

Add your Consumer Key & Secret received from your TestOut Account Executive to the respective fields.

Additionally, you can add any custom parameters you wish to apply globally on this screen. One option here is the `labsim_outcomes_allow=true`. This will enable send scores to be sent back to Moodle for **every** link you create to LabSim in Moodle.



The screenshot shows the Moodle TestOut interface. At the top left is the Moodle TestOut logo. A search bar for courses is at the top right. Below the logo is a navigation breadcrumb: Site administration > Plugins > Activity modules > Manage activities > LTI administration. The main heading is "External tool configuration". On the right side, there are two panels: "Navigation" with links for Dashboard, Site home, Site pages, and My courses; and "Administration" with a tree view including Site administration, Notifications, Registration, Advanced features, Users, Courses, Grades, Badges, Location, Language, Plugins, Install plugins, Plugins overview, Activity modules, Common settings, and Manage activities. The "Tool settings" section is expanded, and its fields are highlighted with a red box: "Tool name" (TestOut), "Tool base URL" (http://www.testout.com/orbispartner/basiclti.aspx), "Consumer key" (Your Key Here), "Shared secret" (Your Secret Here) with an "Unmask" checkbox, and "Custom parameters" (empty text area).

Scroll down and click "Save changes."

The screenshot shows the Moodle settings page for 'Manage activities'. The 'Custom parameters' field is empty. Below it, there is a checkbox for 'Show tool type when creating tool instances' which is checked. The 'Default launch container' is set to 'Embed, without blocks'. The 'Miscellaneous' section is expanded, and a red arrow points to the 'Save changes' button. A message at the bottom states: 'There are required fields in this form marked *.' The right sidebar shows a list of settings categories including Language, Plugins, Activity modules, and Admin tools.

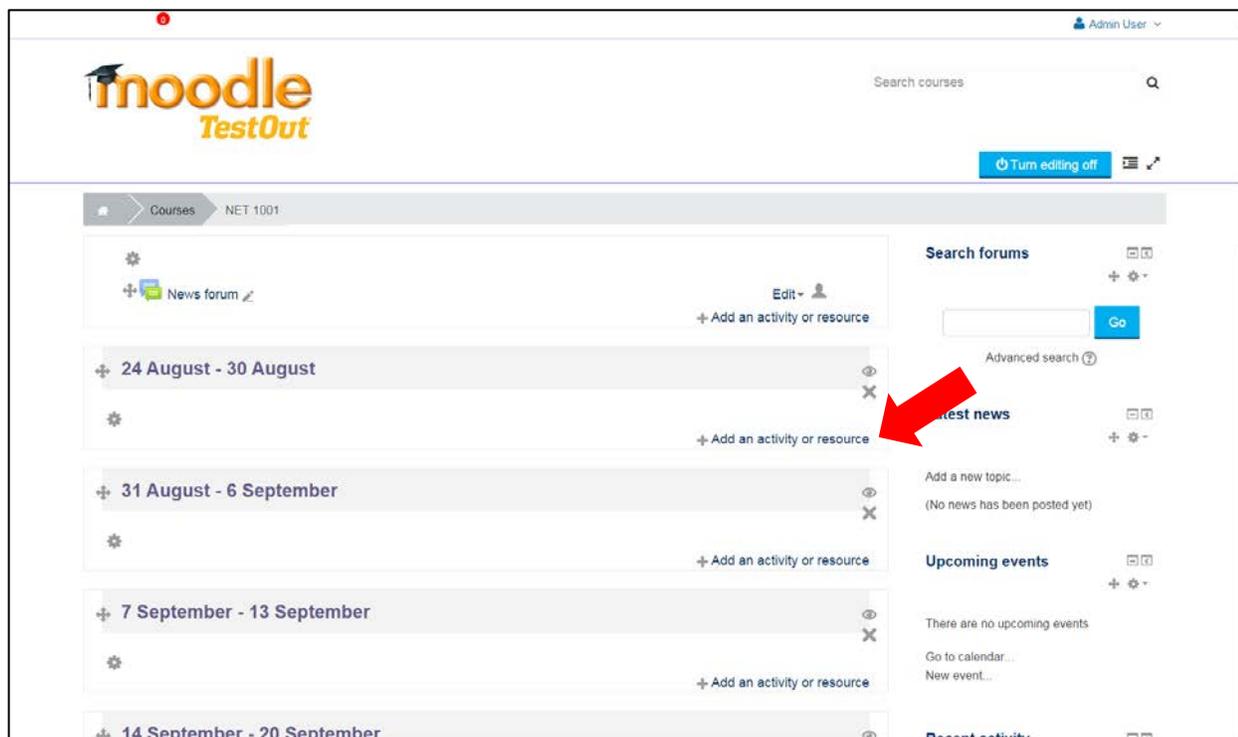
You should see your tool listed.

The screenshot shows the Moodle 'Manage external tool types' page. The breadcrumb trail is 'Site administration > Plugins > Activity modules > LTI > Manage external tool types'. The page title is 'Manage external tool types'. Below the title, there are tabs for 'Active', 'Pending', and 'Rejected'. A table titled 'Add external tool configuration' shows one entry for 'TestOut'. A red arrow points to the 'TestOut' entry in the table.

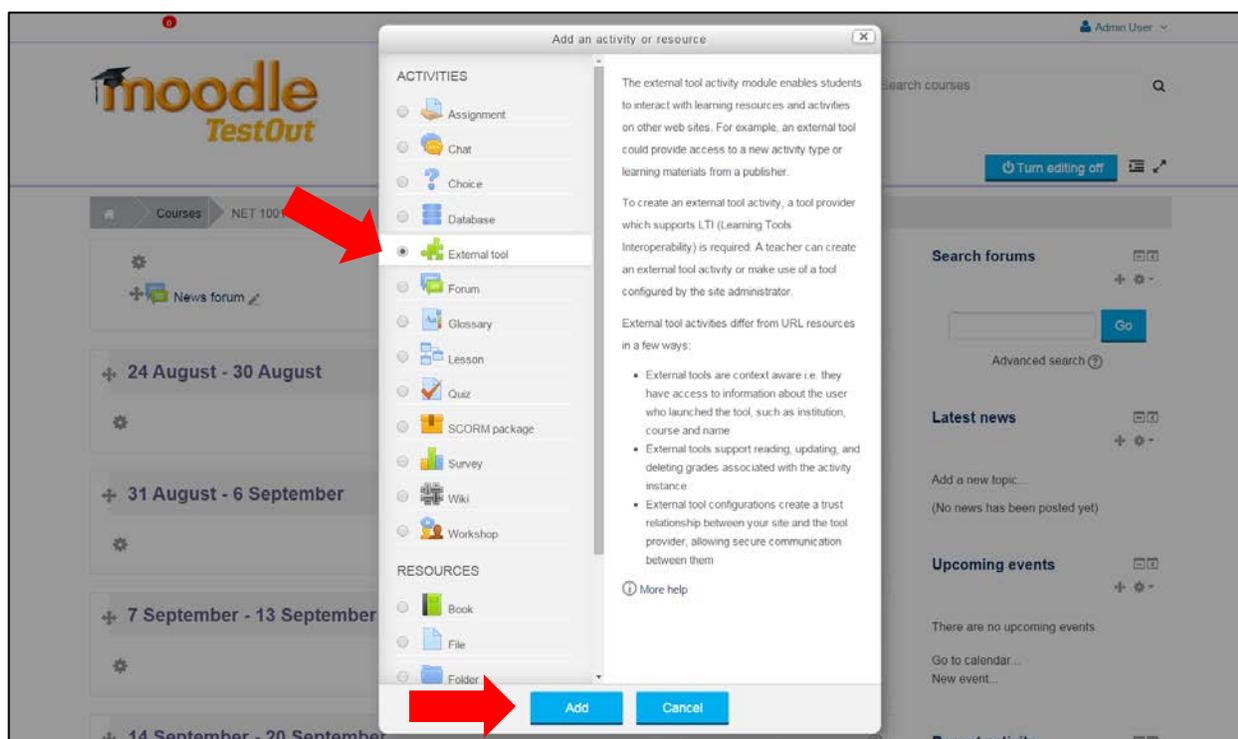
Tool name	Base URL/tool registration name	Created on	Action
TestOut	http://www.testout.com/orblspartner/basiclti.aspx	21/10/15	

Steps to Integrate LabSim with Moodle

Inside of your course, select “Add an activity or resource.”



On the “Add an activity or resource” dialog box, select “External tool” and then press “Add.”



Give your assignment a name. Insert <http://www.testout.com/orbispartner/basiciti.aspx> into the “Launch URL” box. You should see a green check mark verifying that Moodle recognizes the tool you have created.

If you have not created an External Tool, you can also do it here by clicking on the + symbol next to the External tool type dropdown field.

Press “Show more...”

The screenshot displays the Moodle interface for updating an external tool. The breadcrumb trail shows: Courses > OfficePro > General > Assignment #1 > Edit settings. The main heading is "Updating: External tool".

General Section:

- Activity name:** Assignment #1
- External tool type:** Automatic, based on launch URL
- Launch URL:** <http://www.testout.com/orbispartner/basiciti.aspx>. A green checkmark and the text "Using tool configuration: TestOut" are displayed next to the URL.
- Launch container:** Default

Navigation:

- Dashboard
 - Site home
 - Site pages
- Current course
 - OfficePro
 - Participants
 - Badges
 - General
 - Getting Started
 - Video: Introduction to Office Pro
 - Lesson: Course Overview
 - Lesson: Course Objectives
 - Lesson: Pop-up Blockers
 - Lesson: Tips for Mac Users
 - Lesson: Using the Simulated Labs
 - News forum
 - Assignment #1**
 - 1.0 Computer Basics
 - 2.0 Microsoft Word
 - 3.0 Microsoft Excel
 - 4.0 Microsoft PowerPoint
 - 5.0 Microsoft Access

At this point, there are two ways to direct your Moodle link to a specific course and section.

Web Links

You can build the Launch URL to do a variety of things. Simply add ? to the end of the base URL and add the following custom parameters, separated by &.

- Go to your specific LabSim Course: Add *labsim_course_id=* followed by the ISBN of your course (example: 978-1-935080-43-5). **This is required to connect to LabSim.**
- Go to a Specific Resource: To go to a specific resource inside of the course you have specified, add *labsim_section_id=* followed by the section (example: 9.5.3).
 - If you wish to link to a resource without a numbered title, you may put the name of the resource, using “%20” in place of spaces (for example: Course%20Overview)
 - To link to a Custom Exam, use the Exam ID (found on the Custom Exams screen in LabSim) in place of the section number (You must include *labsim_class_id={Your Class Name Here}* as well if you want the score stored and visible within your LabSim class).
- Request that Student’s Submit a Score Back: If you wish to have students report back a grade from a resource, add *labsim_allow_outcomes=true* to the URL. This is unnecessary if you have had TestOut set this globally or if you have previously set this globally while setting up the tool.

In the end, your URL should look similar to the URL below:

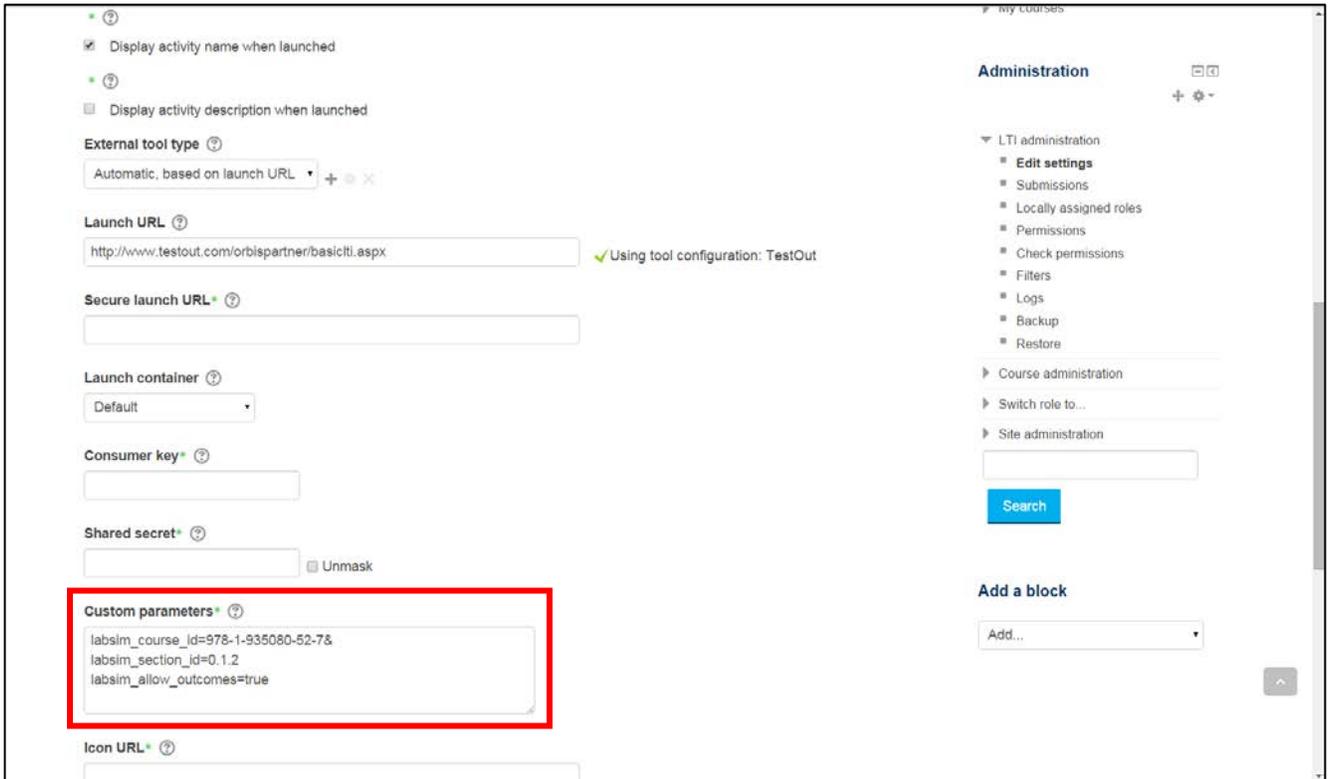
http://www.testout.com/orbispartner/basiclti.aspx?labsim_course_id=978-1-935080-43-5&labsim_section_id=9.5.3&labsim_allow_outcomes=true

Note: If you wish to create a LabSim class or add students to a LabSim class, refer to [Creating a LabSim Class using LMS Integration](#).

The screenshot shows the Moodle LTI configuration interface. The 'Launch URL' field is highlighted with a red box and contains the URL: `j=978-1-935080-52-7&labsim_section_id=1.2.10&labsim_allow_outcomes=true`. A green checkmark next to the URL indicates the tool configuration is TestOut. Other fields include 'Display activity name when launched', 'Display activity description when launched', 'External tool type' (Automatic, based on launch URL), 'Secure launch URL', 'Launch container' (Default), 'Consumer key', 'Shared secret', 'Custom parameters', and 'Icon URL'. The right sidebar shows 'Administration' options like 'Edit settings', 'Submissions', 'Locally assigned roles', 'Permissions', 'Check permissions', 'Filters', 'Logs', 'Backup', and 'Restore'.

Custom Parameters Field

Additionally, you can add the “Custom Parameters” to the field, as shown below.



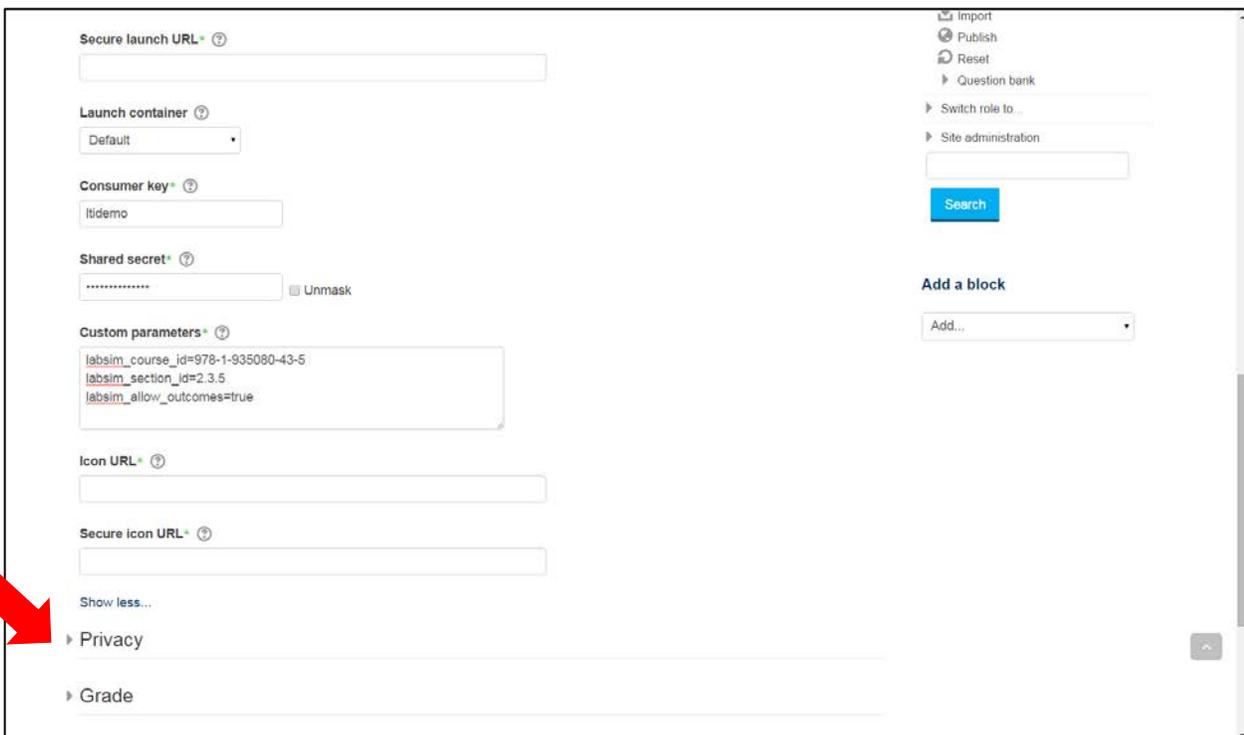
The screenshot shows the Moodle LTI configuration form. The "Custom parameters" field is highlighted with a red box. The form includes the following fields:

- Display activity name when launched
- Display activity description when launched
- External tool type: Automatic, based on launch URL
- Launch URL: Using tool configuration: TestOut
- Secure launch URL:
- Launch container: Default
- Consumer key:
- Shared secret: Unmask
- Custom parameters:

```
labsim_course_id=978-1-935080-52-7&
labsim_section_id=0.1.2
labsim_allow_outcomes=true
```
- Icon URL:

The right sidebar shows the "Administration" menu with options like LTI administration, Edit settings, Submissions, etc.

Expand the “Privacy” section of the page.



The screenshot shows the Moodle LTI configuration form with the "Privacy" section expanded. A red arrow points to the "Privacy" section. The form includes the following fields:

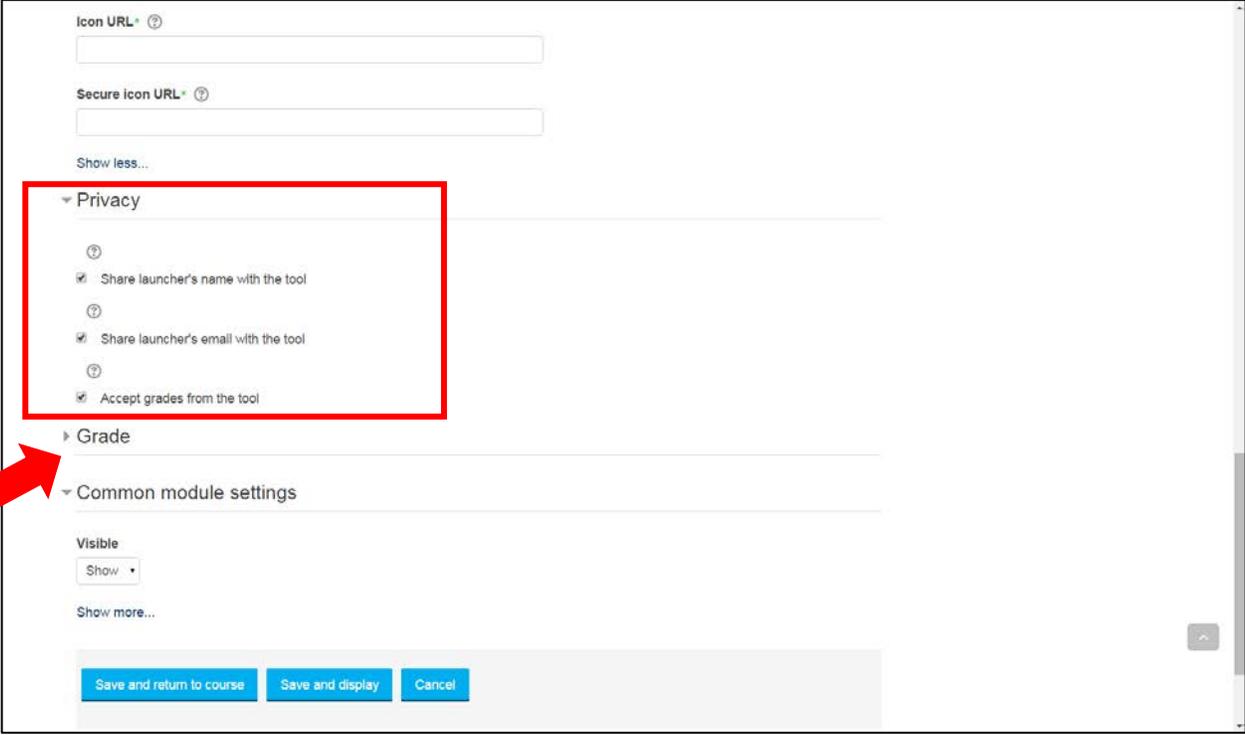
- Secure launch URL:
- Launch container: Default
- Consumer key:
- Shared secret: Unmask
- Custom parameters:

```
labsim_course_id=978-1-935080-43-5
labsim_section_id=2.3.5
labsim_allow_outcomes=true
```
- Icon URL:
- Secure icon URL:
- Show less...
- Privacy:
- Grade:

The right sidebar shows the "Administration" menu with options like Import, Publish, Reset, Question bank, etc.

In the “Privacy” section, check the boxes to “Share launcher’s name with the tool” and “Share launcher’s email with the tool.” **This is required to connect to LabSim.** Also, if you wish to collect grades in Moodle from LabSim, check the box to “Accept grades from the tool.”

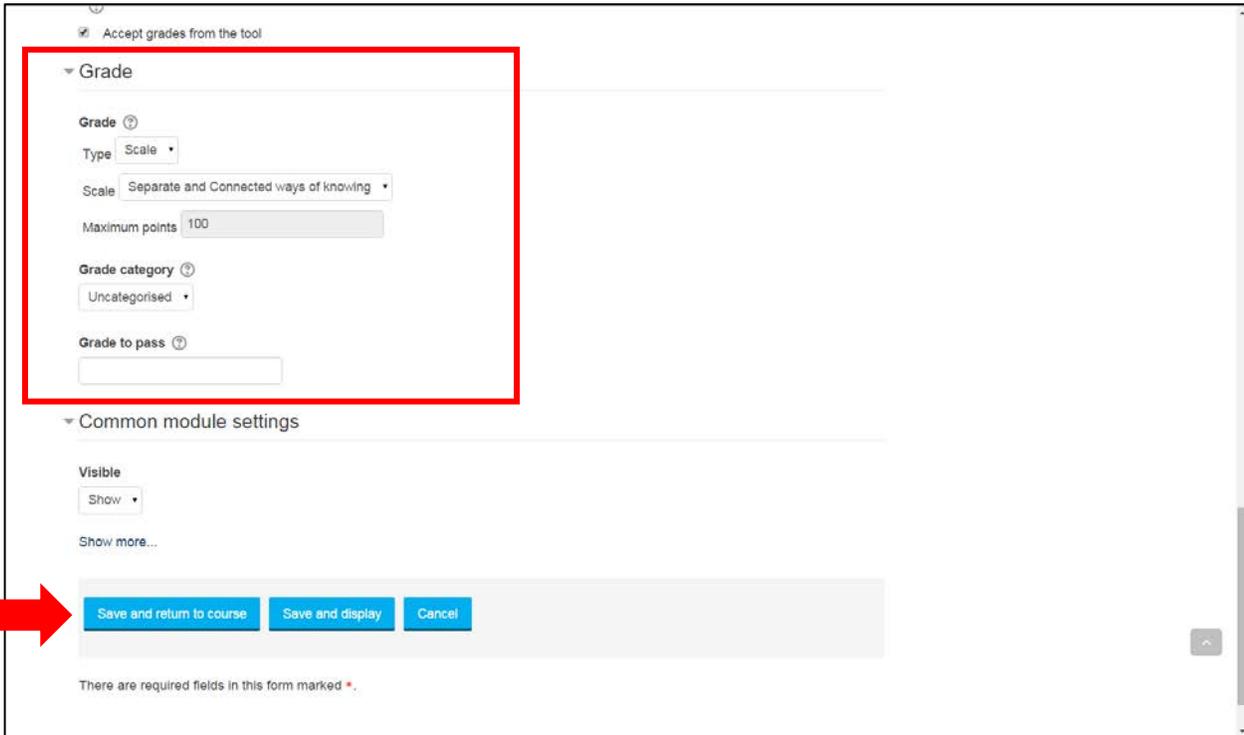
Expand the Grade tab.



The screenshot shows a Moodle settings page for LabSim integration. At the top, there are two text input fields for "Icon URL" and "Secure icon URL", each with a help icon. Below these is a "Show less..." link. The "Privacy" section is expanded and highlighted with a red box; it contains three checkboxes, all of which are checked: "Share launcher's name with the tool", "Share launcher's email with the tool", and "Accept grades from the tool". Below the Privacy section are the "Grade" and "Common module settings" sections. The "Grade" section is partially visible. The "Common module settings" section includes a "Visible" dropdown menu set to "Show" and a "Show more..." link. At the bottom of the page are three buttons: "Save and return to course", "Save and display", and "Cancel". A red arrow points to the "Grade" section header.

In the Grade tab, you tell the LMS how to interpret the score that LabSim sends to Moodle. LabSim will send Moodle value from 0 to 1 and this is where you determine how Moodle converts that value to what you would like to see in your Moodle gradebook.

Select “Save and return to course.”

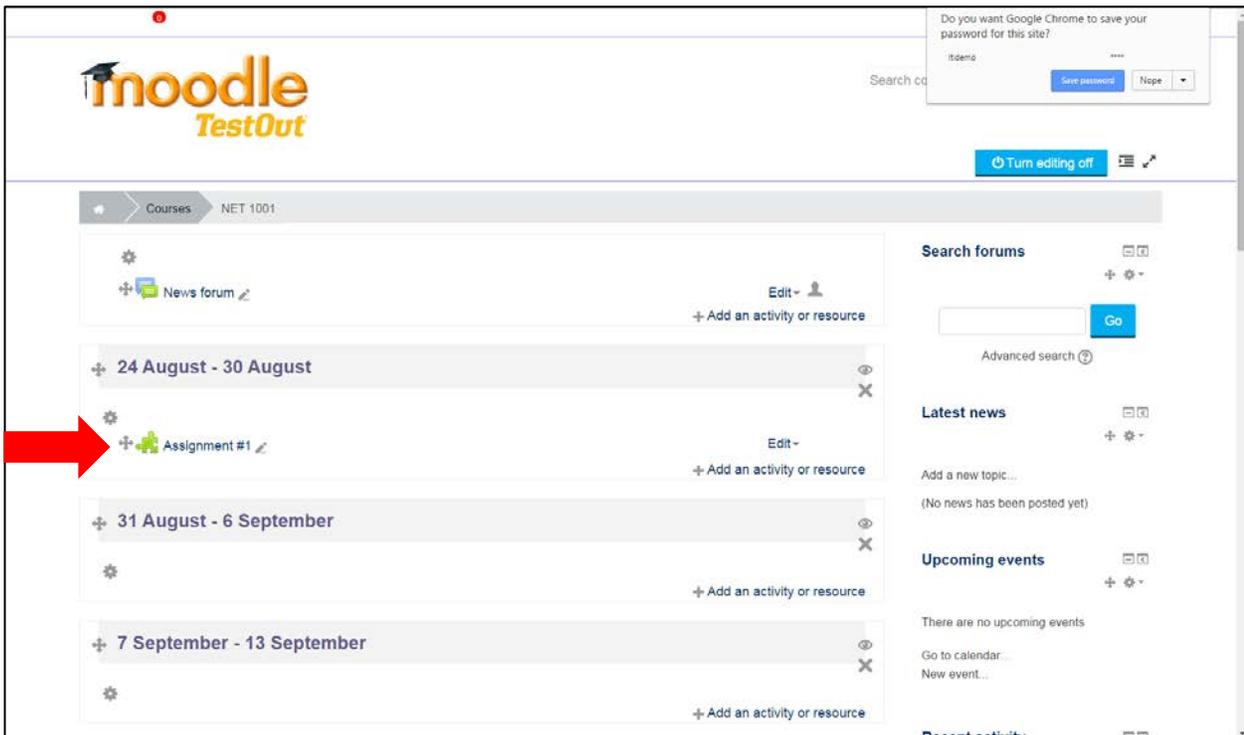


The screenshot shows the Moodle assignment settings form. A red box highlights the 'Grade' section, which includes the following fields:

- Accept grades from the tool
- Grade (with a help icon)
- Type: Scale
- Scale: Separate and Connected ways of knowing
- Maximum points: 100
- Grade category: Uncategorized
- Grade to pass (with a help icon)

Below the 'Grade' section is the 'Common module settings' section, which includes a 'Visible' dropdown set to 'Show' and a 'Show more...' link. At the bottom of the form, there are three buttons: 'Save and return to course', 'Save and display', and 'Cancel'. A red arrow points to the 'Save and return to course' button. At the very bottom, there is a message: 'There are required fields in this form marked *.'

When you exit the assignment creator, you will see your assignment. Click the link.

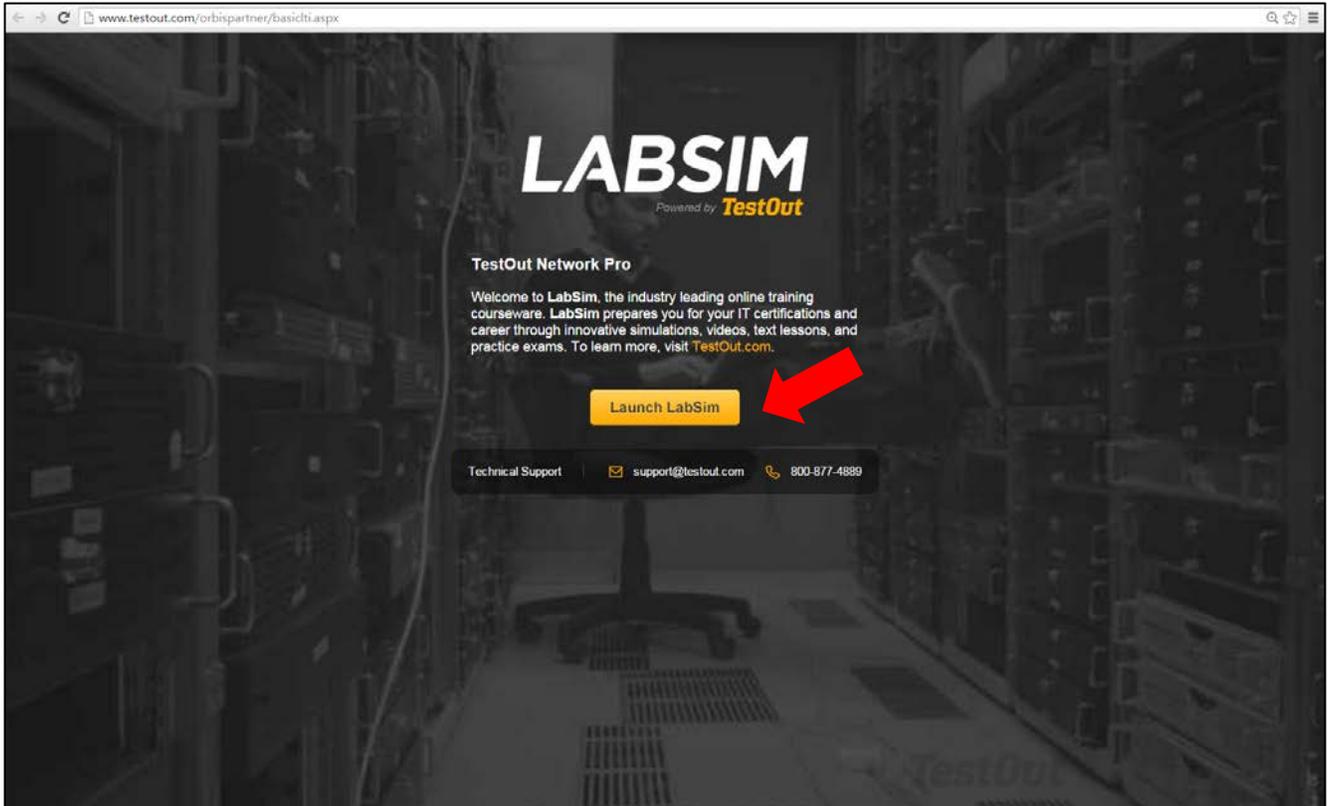


The screenshot shows the Moodle course page for 'NET 1001'. The page features a navigation bar with 'Courses' and 'NET 1001'. Below the navigation bar, there is a list of activities:

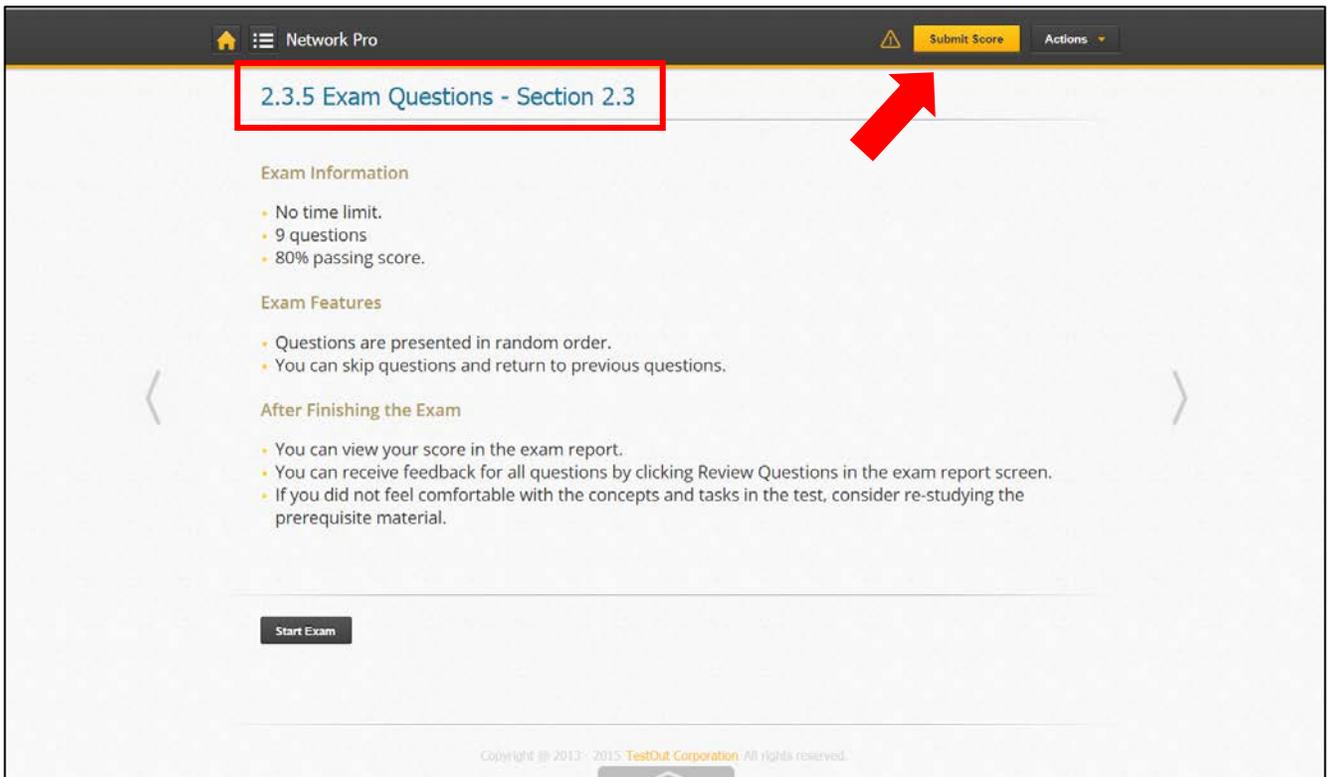
- News forum (with an edit icon and '+ Add an activity or resource')
- 24 August - 30 August (with an edit icon and '+ Add an activity or resource')
- Assignment #1 (with an edit icon and '+ Add an activity or resource') - A red arrow points to this activity.
- 31 August - 6 September (with an edit icon and '+ Add an activity or resource')
- 7 September - 13 September (with an edit icon and '+ Add an activity or resource')

On the right side of the page, there are several widgets: 'Search forums', 'Latest news', and 'Upcoming events'. A 'Turn editing off' button is visible at the top right of the course content area.

You will be directed to a LabSim screen. Press “Launch LabSim” to get into LabSim.

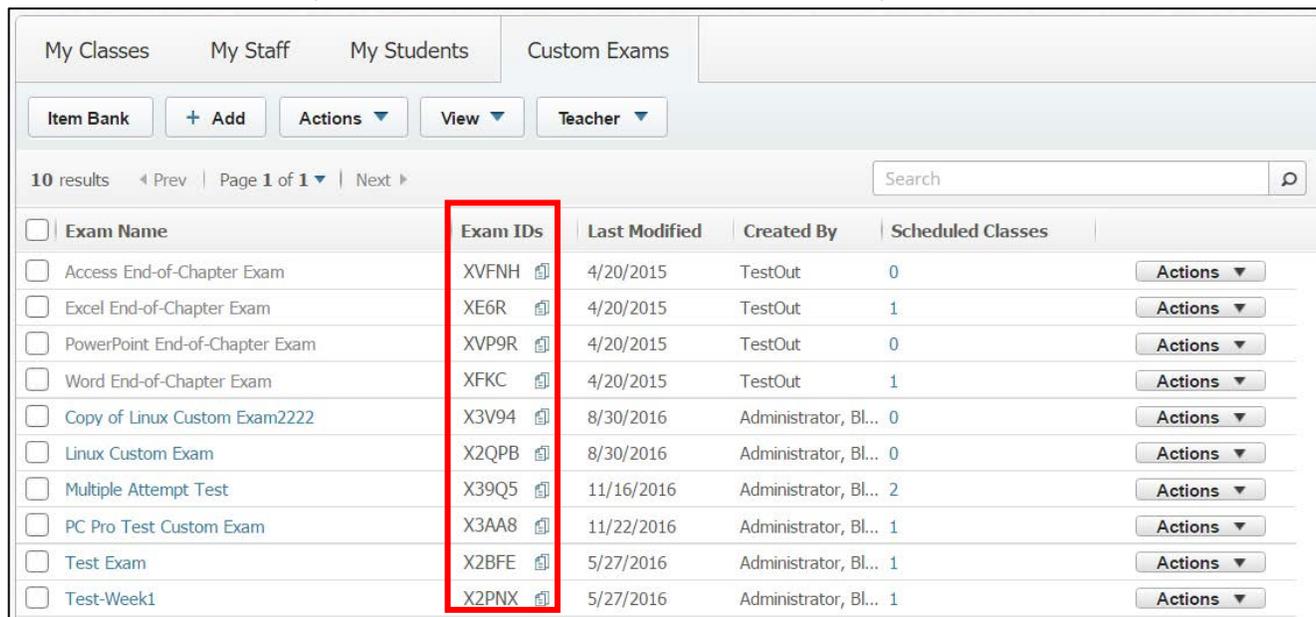


You will see that we enter LabSim at an exam, section 2.3.5, as we created our integration. You will also notice at the top, students are given the option to “Submit Score.”



Linking to a Custom Exam

To link to a Custom Exam you will first need to find the Exam ID found on your Custom Exams screen in LabSim.



Exam Name	Exam IDs	Last Modified	Created By	Scheduled Classes	Actions
<input type="checkbox"/> Access End-of-Chapter Exam	XVFNH	4/20/2015	TestOut	0	Actions ▼
<input type="checkbox"/> Excel End-of-Chapter Exam	XE6R	4/20/2015	TestOut	1	Actions ▼
<input type="checkbox"/> PowerPoint End-of-Chapter Exam	XVP9R	4/20/2015	TestOut	0	Actions ▼
<input type="checkbox"/> Word End-of-Chapter Exam	XFKC	4/20/2015	TestOut	1	Actions ▼
<input type="checkbox"/> Copy of Linux Custom Exam2222	X3V94	8/30/2016	Administrator, Bl...	0	Actions ▼
<input type="checkbox"/> Linux Custom Exam	X2QPB	8/30/2016	Administrator, Bl...	0	Actions ▼
<input type="checkbox"/> Multiple Attempt Test	X39Q5	11/16/2016	Administrator, Bl...	2	Actions ▼
<input type="checkbox"/> PC Pro Test Custom Exam	X3AA8	11/22/2016	Administrator, Bl...	1	Actions ▼
<input type="checkbox"/> Test Exam	X2BFE	5/27/2016	Administrator, Bl...	1	Actions ▼
<input type="checkbox"/> Test-Week1	X2PNX	5/27/2016	Administrator, Bl...	1	Actions ▼

Following the same steps outlined in [Steps to Integrate LabSim with Moodle](#), use the Exam ID in place of the section number.

You must include `labsim_class_id={Your Class Name Here}` if you want the score stored and visible within your LabSim class).

For example:

```
https://www.testout.com/orbispartner/basiclti.aspx?labsim_course_id=978-1-935080-43-5&labsim_section_id=X2BFE&labsim_class_id={Your Class Name Here}
```

Linking to a TestOut Pro Certification Exam

To link to a TestOut Pro Certification Exam, follow the same steps as outlined in [Steps to Integrate LabSim with Moodle](#), but simply replace the value following `labsim_section_id=` with the name of the Pro Certification Exam.

For example:

```
https://www.testout.com/orbispartner/basiclti.aspx?labsim_course_id=978-1-935080-43-5&labsim_section_id=TestOut%20Network%20Pro%20Certification
```

Note that the `labsim_course_id=` followed by the ISBN of your course is still required.

Scores cannot be sent back to the LMS for Pro Certifications at this point.

Creating a LabSim Class using LMS Integration

[Using LTI to Create a Class](#)

You can create a class in LabSim by adding the custom parameter *labsim_class_id* followed by the name of your class.

Note: If you have spaces in your class title, please insert %20 in place of the spaces.

In the end, your URL might look something like this:

http://www.testout.com/orbispartner/basiclti.aspx?labsim_course_id=978-1-935080-43-5&labsim_section_id=9.5.3&labsim_allow_outcomes=true&labsim_class_id=Test%20Networking%20Class

[Assigning a Teacher and Product to the Class](#)

Creating a New Class

A teacher can create a class by clicking on an assignment where the link contains the *labsim_class_id* parameter.

By doing this, the teacher creates the class, is assigned as the instructor of this class and associates a TestOut product to the class (based on the ISBN contained in the URL).

Note: If a different instructor clicks on this link, they will be placed as the instructor of this course, replacing whoever the instructor was prior to that point.

Linking to an Existing LabSim Class

A teacher can add students to class that was previously created in LabSim by creating a link with the *labsim_class_id* and adding the EXACT class name after the custom parameter (remembering to add %20 in place of any spaces).

[Adding Students to the Class](#)

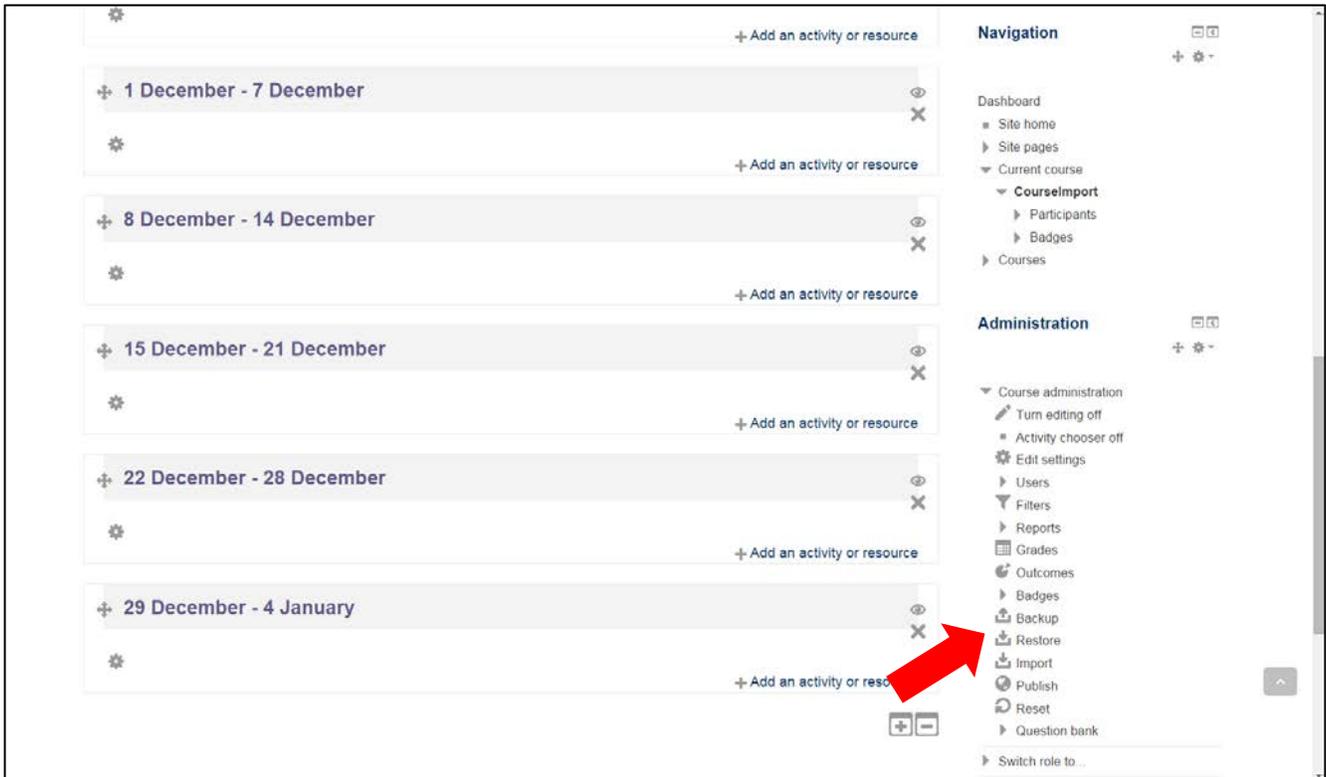
To add students to a class, students need only to click on an assignment that contains the *labsim_class_id* parameter in the URL. Once a student clicks on ONE LINK that contains *labsim_class_id*, they will be added to the indicated class.

Note: The custom parameter *labsim_class_id* does not need to be in every link to LabSim, just make sure it is in one of the initial links a student clicks on inside of your LMS.

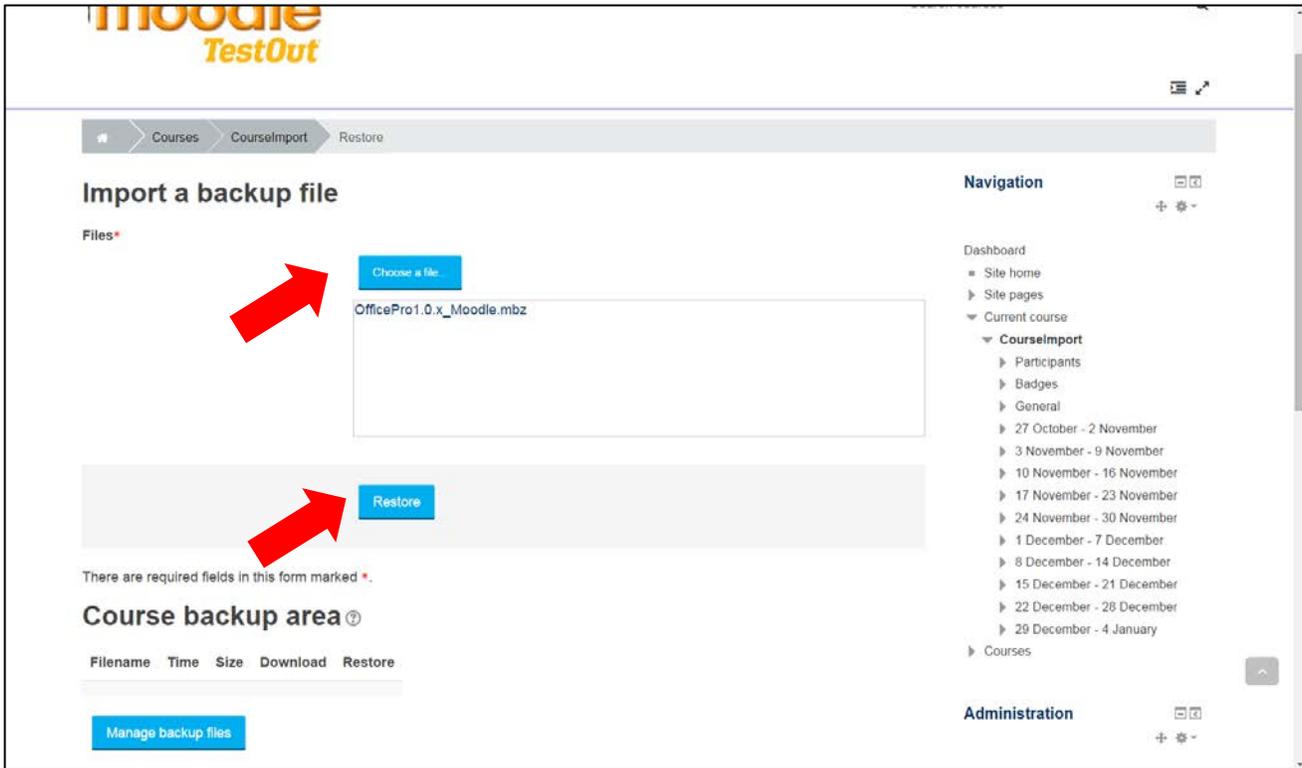
Importing a Course Shell into Moodle

TestOut has a select few course shells built in Moodle 2.9 while testing LMS Integration with LabSim. If your TestOut Account Executive has provided you a “course shell” for a TestOut product, follow these steps to import that shell into Moodle.

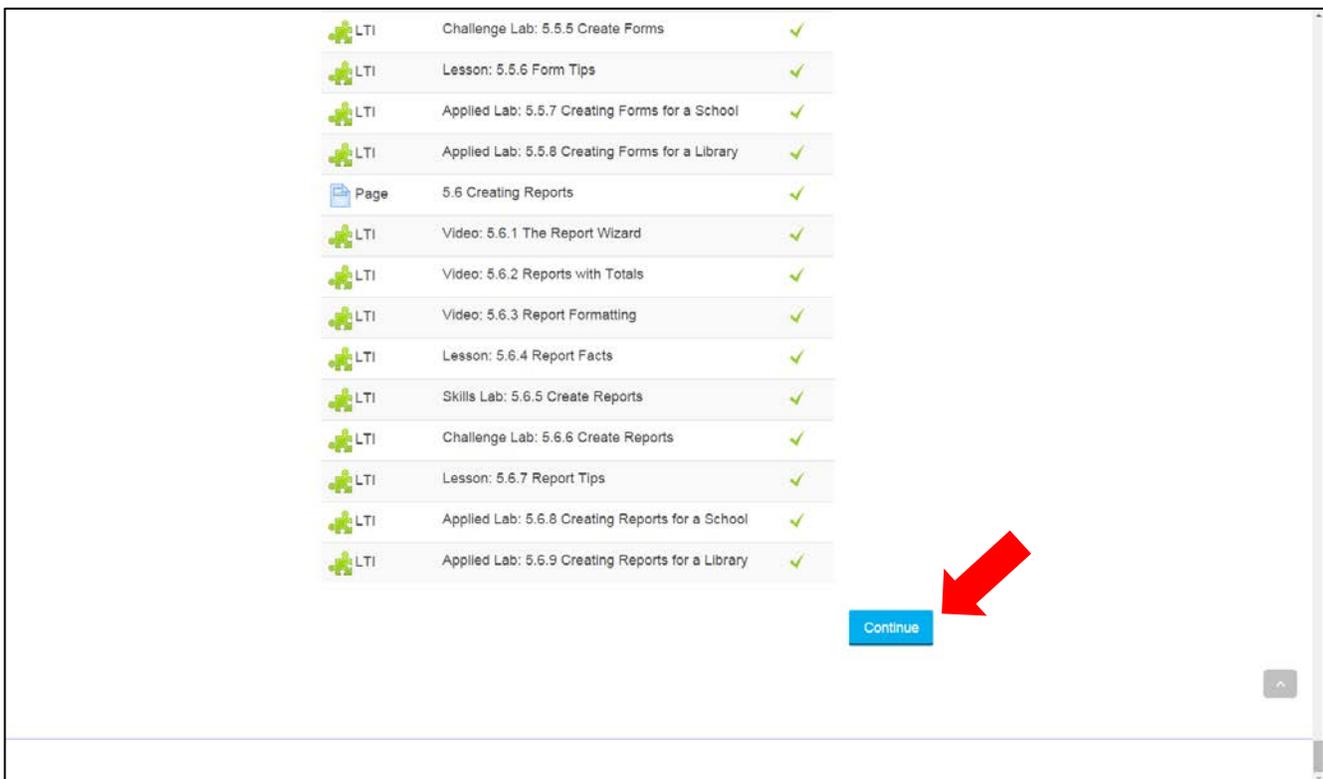
From inside your course, click on “Restore” in the Administration Panel.



Press "Choose a file..." or drag the course you wish to import into the box and press "Restore."



Scroll to the bottom of the screen.



In the “Restore into this course” section, select the option you would like and then press “Continue.”

1. Confirm ▶ 2. Destination ▶ 3. Settings ▶ 4. Schema ▶ 5. Review ▶ 6. Process ▶ 7. Complete

Restore as a new course

Restore as a new course

Select a category

Name	Description
Miscellaneous	

Restore into this course

Merge the backup course into this course

Delete the contents of this course and then restore

Restore into an existing course

Merge the backup course into the existing course

Delete the contents of the existing course and then restore

Select a course

Course short name	Course full name
LMS Integration	LMS Integration

Navigation

- Dashboard
- Site home
- Site pages
- Current course
 - CourseImport
 - Participants
 - Badges
 - General
 - 27 October - 2 November
 - 3 November - 9 November
 - 10 November - 16 November
 - 17 November - 23 November
 - 24 November - 30 November
 - 1 December - 7 December
 - 8 December - 14 December
 - 15 December - 21 December
 - 22 December - 28 December
 - 29 December - 4 January
 - Courses

Administration

- Course administration
 - Turn editing off
 - Edit settings
 - Users
 - Filters
 - Reports
 - Grades

On the Restore Settings page, the important settings to import are the activities and resources and blocks.

Courses ▶ CourseImport ▶ Restore

1. Confirm ▶ 2. Destination ▶ 3. Settings ▶ 4. Schema ▶ 5. Review ▶ 6. Process ▶ 7. Complete

Restore settings

Include enrolled users

Restore as manual enrolments

Include user role assignments

Include activities and resources

Include blocks

Include filters

Include comments

Include badges

Include calendar events

Include user completion details

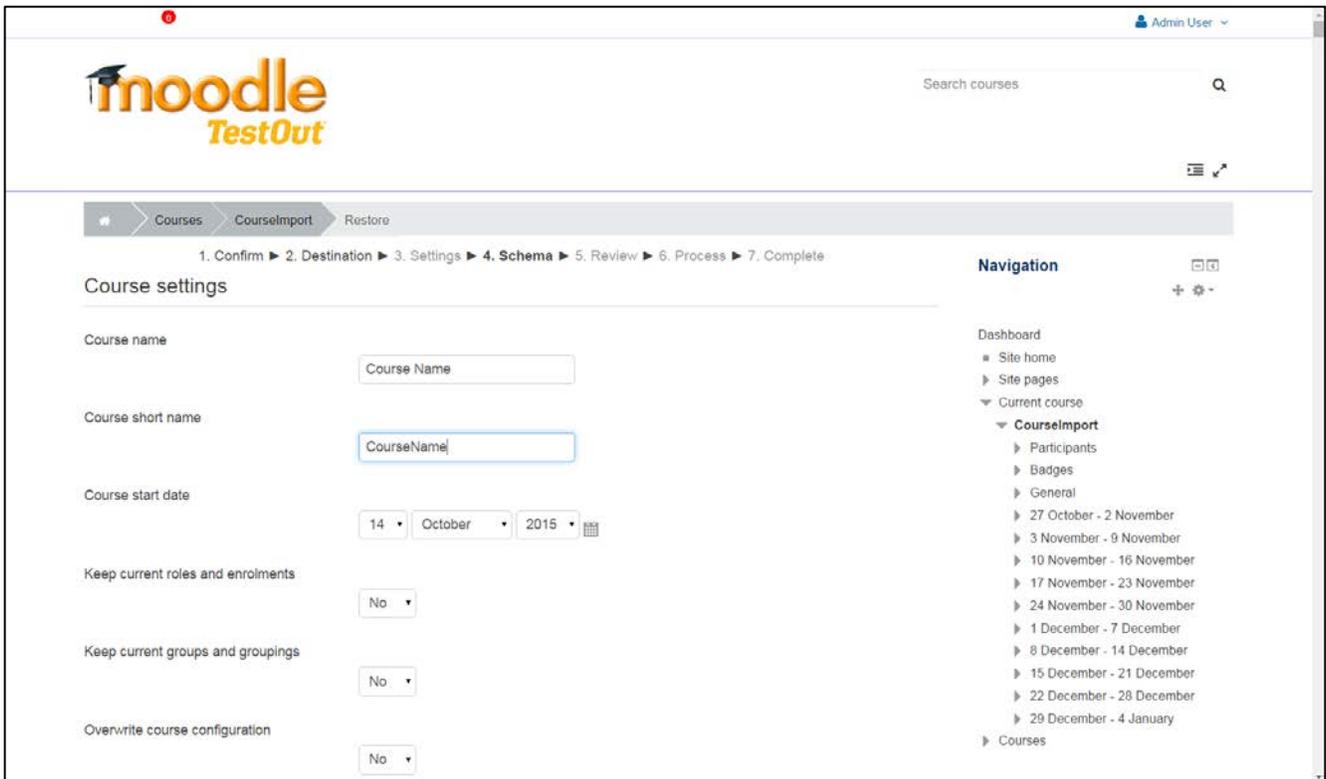
Navigation

- Dashboard
- Site home
- Site pages
- Current course
 - CourseImport
 - Participants
 - Badges
 - General
 - 27 October - 2 November
 - 3 November - 9 November
 - 10 November - 16 November
 - 17 November - 23 November
 - 24 November - 30 November
 - 1 December - 7 December
 - 8 December - 14 December
 - 15 December - 21 December
 - 22 December - 28 December
 - 29 December - 4 January
 - Courses

Administration

- Course administration
 - Turn editing off
 - Edit settings
 - Users
 - Filters

Give your course a name. As you are scrolling down, you can include or not include any of the Course Links you wish to include in your course. Then click “Next.”



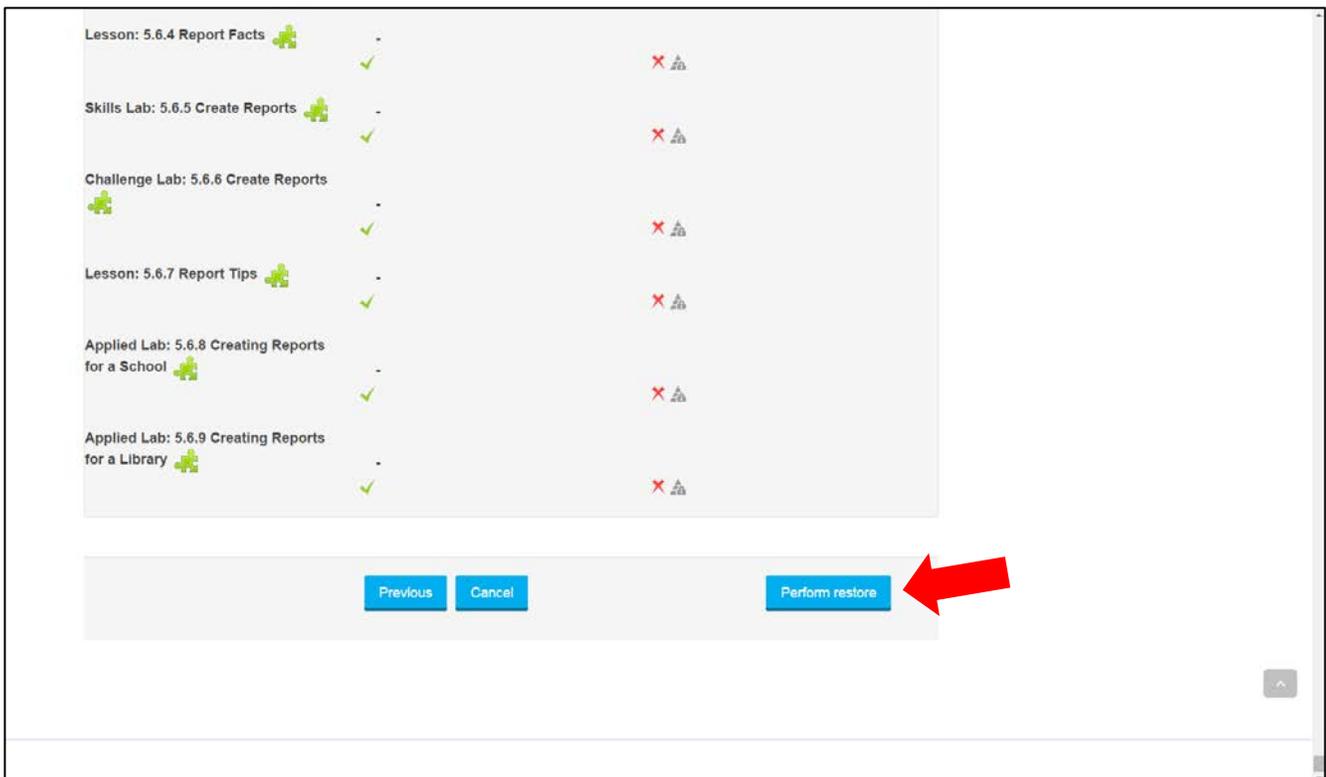
The screenshot shows the Moodle Course Import 'Restore' page. The breadcrumb trail is: Courses > CourseImport > Restore. A progress indicator shows steps: 1. Confirm, 2. Destination, 3. Settings, 4. Schema, 5. Review, 6. Process, 7. Complete. The 'Course settings' section includes:

- Course name:
- Course short name:
- Course start date: 14 October 2015
- Keep current roles and enrolments: No
- Keep current groups and groupings: No
- Overwrite course configuration: No

The right-hand 'Navigation' menu shows a tree structure under 'Current course' > 'CourseImport':

- Participants
- Badges
- General
- 27 October - 2 November
- 3 November - 9 November
- 10 November - 16 November
- 17 November - 23 November
- 24 November - 30 November
- 1 December - 7 December
- 8 December - 14 December
- 15 December - 21 December
- 22 December - 28 December
- 29 December - 4 January
- Courses

Next you will review the settings of the import. Scroll to the bottom and click “Perform restore.”

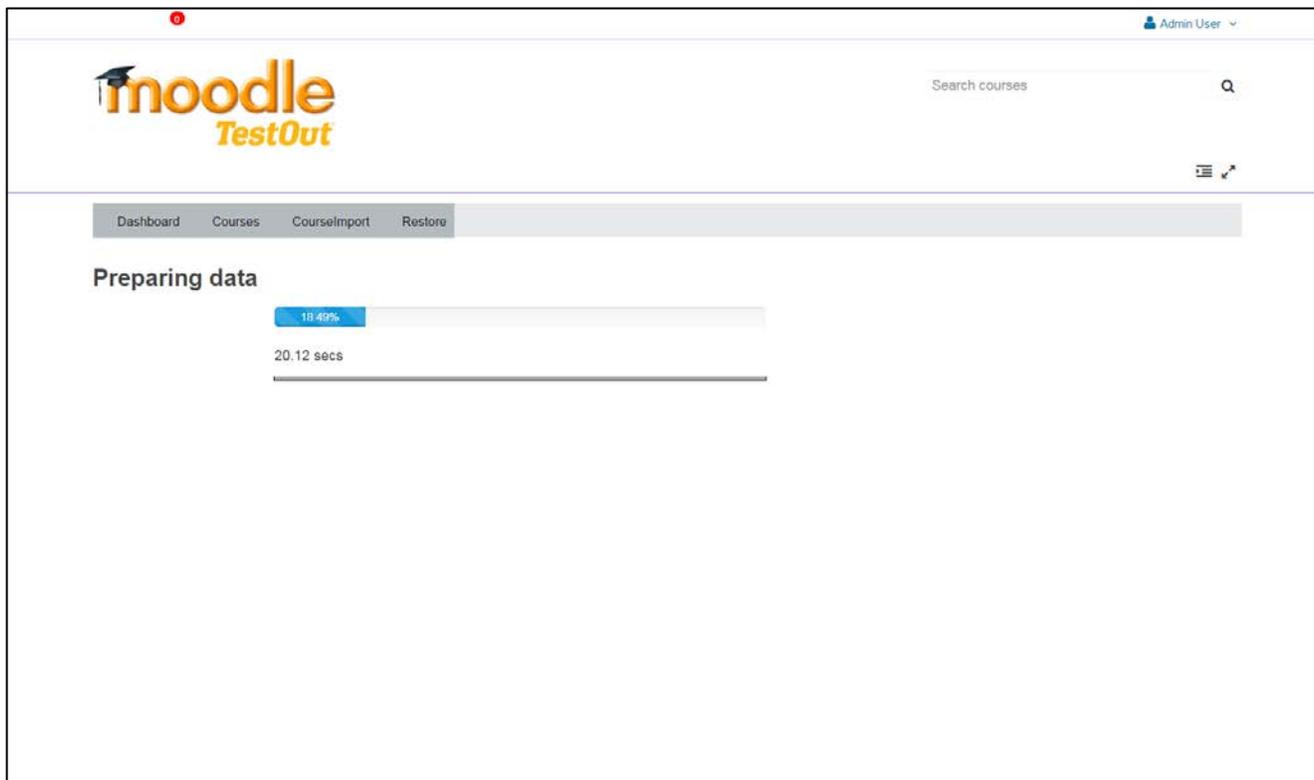


The screenshot shows the 'Schema' review page for the import. It lists several items with checkboxes and icons:

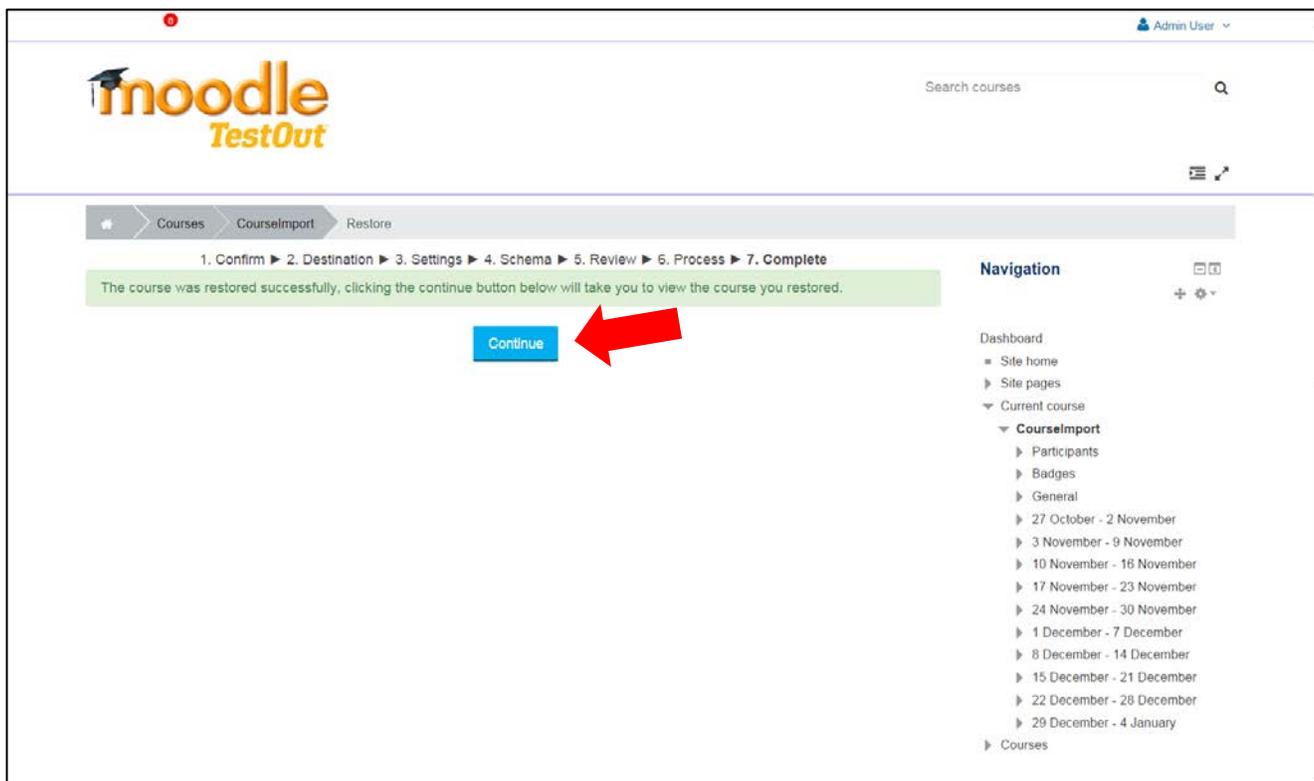
Lesson: 5.6.4 Report Facts	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Skills Lab: 5.6.5 Create Reports	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Challenge Lab: 5.6.6 Create Reports	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lesson: 5.6.7 Report Tips	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Applied Lab: 5.6.8 Creating Reports for a School	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Applied Lab: 5.6.9 Creating Reports for a Library	<input checked="" type="checkbox"/>	<input type="checkbox"/>

At the bottom, there are three buttons: 'Previous', 'Cancel', and 'Perform restore'. A red arrow points to the 'Perform restore' button.

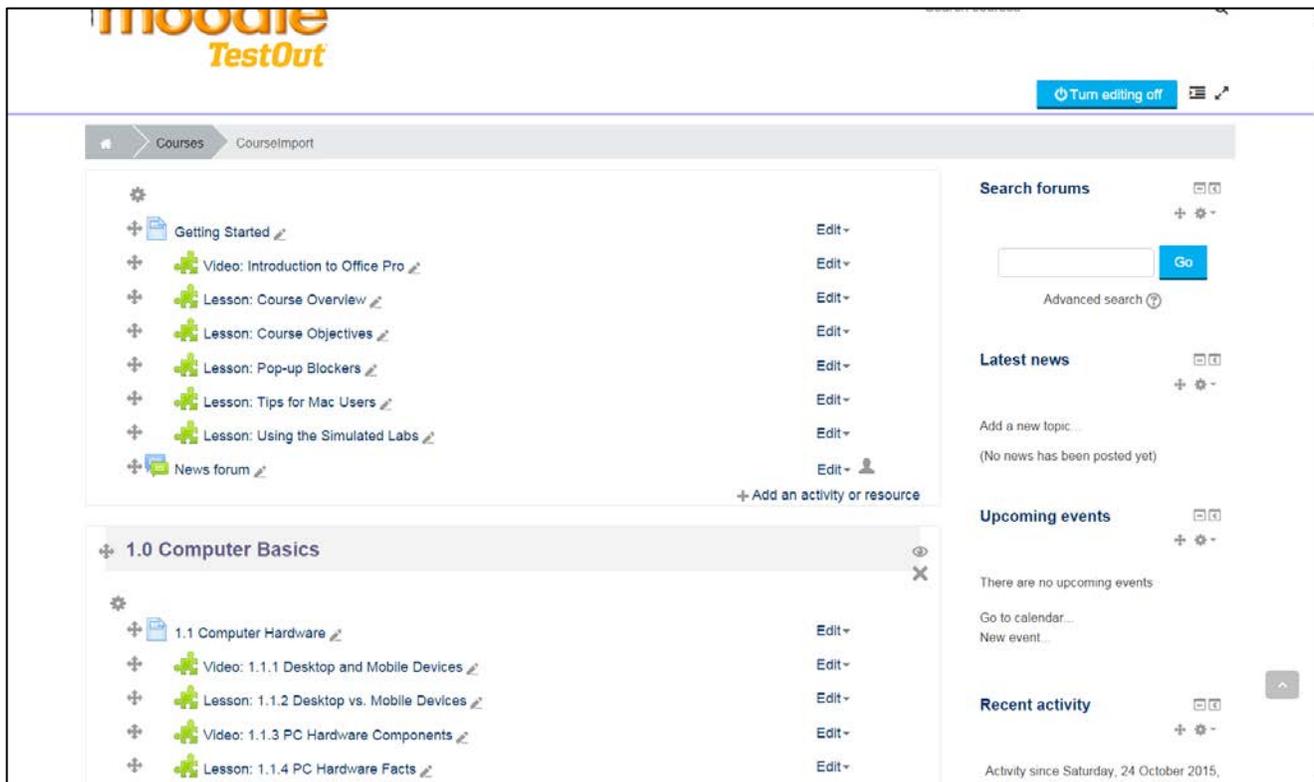
The course will take a while to import.



After the finishes importing, press “Continue.”



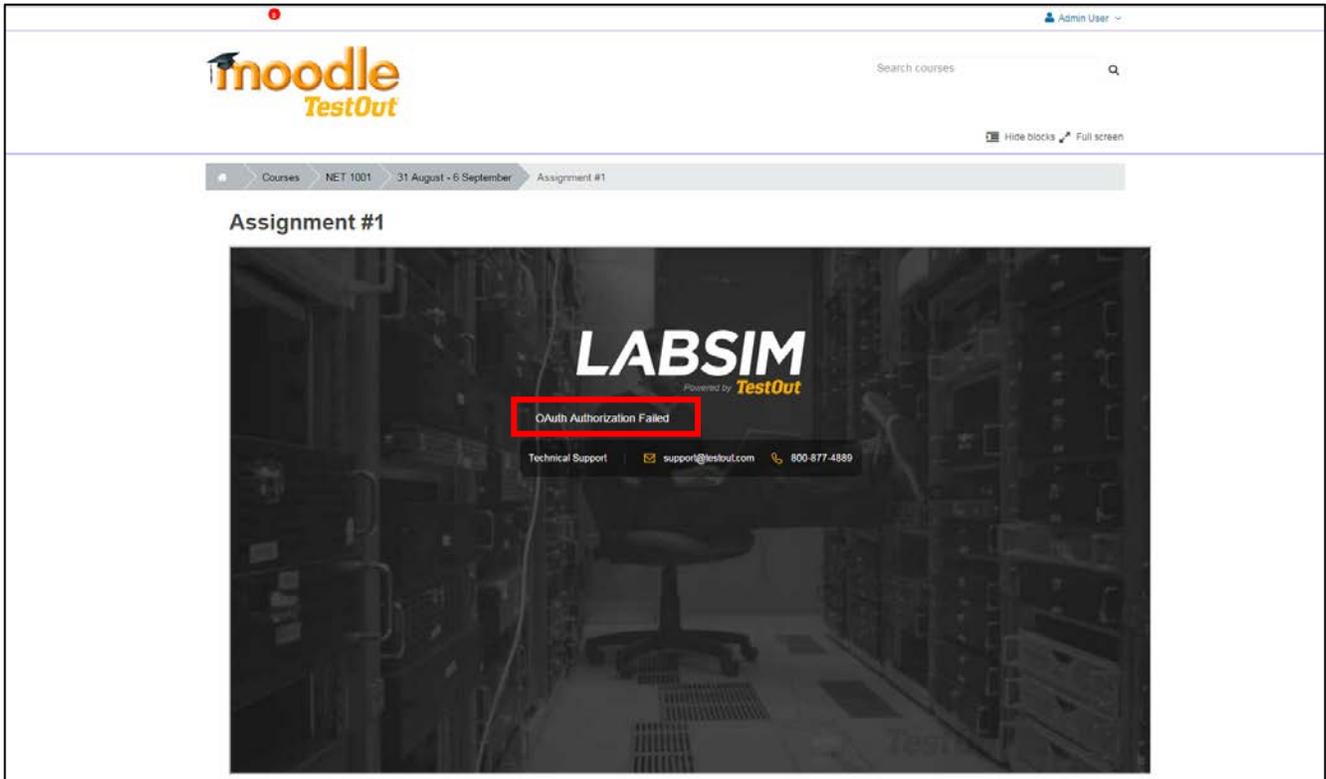
You will see the course links have imported into your course.



Common Errors

There are some common errors that we have seen when trying to integrate LabSim with LMS Systems.

Below you see an error when trying to connect to LabSim. The text in the box will often give you a clue as to what the information LabSim is not receiving so that you can correct the problem in you LMS. Below are some of the common errors. If you see an error other than one of these, please contact us.



Invalid Consumer Key: This means that you have inputted your Consumer Key incorrectly. Please verify you have keyed the Consumer Key correctly. If you have, please take a screenshot and contact us.

OAuth Authorization Failed: Your Shared/Consumer Secret is incorrect. Please verify you have keyed the Consumer Key correctly. If you have, please take a screenshot and contact us.

Invalid LabSim Course Id: You have inputted the parameters that direct you to the course you are looking to access. The parameter should look like this—the value after the equal sign is the ISBN of your LabSim product:

labsim_course_id=978-1-935080-43-5

Invalid User Id: LabSim requires that the User ID is passed from the LMS. If you are receiving this error, you (or your admin) needs to change the permissions in your LMS to pass over the User ID to LabSim.

Invalid User Role: LabSim requires a user role to be passed over from the LMS. This is how LabSim knows to create an instructor account or a student account. If you are receiving this error, you (or your admin) needs to change the permissions in your LMS to pass over the role to LabSim.

No licenses are available for the requested product: This error means that your Consumer Key and Secret have been setup with a group licensing model and there are no more licenses available. Please contact your Account Executive to get more licenses added to the pool

Server Error in '/OrbisPartner' Application

The “Launch URL” you input into the LMS is incorrect. It should be:

<http://www.testout.com/orbispartner/basiclti.aspx>

Please verify that it is correct. If it is and you are still getting this error, please take a screenshot of both the screen and the URL you have input and contact us.

