



## **Newrow LTI Integration - V1.2**

### Change Log

Version	Date	Description
1.0	July 15, 2016	Initial Doc
1.1	May 20, 2018	Added: <ul style="list-style-type: none"><li>- Parent Window Functionality</li></ul>
1.2	Jun 3, 2019	Updated: <ul style="list-style-type: none"><li>- LTI Integration Doc Structure</li></ul> Added: <ul style="list-style-type: none"><li>- New attributes to preload playlist into a room</li><li>- New attributes to manage auto start recording</li></ul>

## 1. What is LTI:

*LTI - Learning Tools Interoperability™ is developed by IMS Global Learning Consortium, to allow remote tools and content to be integrated into a Learning Management System (LMS). This document brings a subset of that specification forward for standardization. [This document](#) precedes the full IMS LTI v1.0 specification set.*

## 2. Newrow\_ LTI integration

newrow\_ supports Basic LTI that exposes a single destination as a Tool Provider system. Newrow\_ exposes the live room as single destination page.

Basic LTI will do the combination of:

- Create Newrow\_ user - if the user does not already exist
- Create Newrow\_ Course / Room - if the course/room does not already exist
- Assign user to course attendees with the specific role
- Redirect the user to the Live Room or other [endpoints](#) newrow will expose

The procedure for establishing a request to this single destination is simple:

1. Create your newrow account (if you do not already have one)
2. Send an email to [sales@newrow.com](mailto:sales@newrow.com) that includes the following information:  
Email address associated with newrow\_ account, the name of your company/institution, name of the LMS you are using.  
Upon clarification of needs, you will be provided your LTI\_KEY & LTI\_SECRET from Newrow.
3. Setup newrow\_ as a tool provider in your LMS using the provided key, secret and set the launch url to be: <https://smart.newrow.com/backend/lti/course> (or any other, see [LTI Endpoints](#)).

If you are using an LMS that has built in LTI integration, you need to find their documentation on how to configure LTI tool providers.

For example:

- Brightspace / D2L - [How to](#)
- Schoology - [How to](#)
- Moodle - [How to](#)

If you have your own system and you want to integrate newrow\_ LTI - find the #3 LTI Attributes and #5 PHP example and implement it in your system!

Newrow offers various LTI Attributes for [recording](#) & [preload playlist](#) & [room settings](#).

For more info [click here](#).

### 3. LTI Endpoints

Newrow offer 3 LTIs Endpoints,

#### 3.1. Launch Live Room

<https://smart.newrow.com/backend/lti/course>

#### 3.2. Launch OnDemand Room

The page where students access all shared files, videos and recording from the room.

<https://smart.newrow.com/backend/lti/onDemandRoom>

#### 3.3. Launch Course Directory

Page that include all Newrow Light LMS options.

- Students & moderators can access all courses in Newrow.
- Instructors will be able to manage Files
- Instructors will be to view Session Stats

<https://smart.newrow.com/backend/lti/courseDirectory>

## 4. LTI Attributes

Basic LTI attributes are separated into 3 main groups:

- a. User Attributes
- b. Room Attributes
- c. OAuth Attributes

Each Newrow account has unique Consumer Key & Secret. All LTIs requests are associated to the Newrow account recognized by Consumer Key.

### LTI ATTRIBUTES:

User Attributes			
<b>user_id</b>	<b>string</b>	<b>required</b>	User id of the third party system. Newrow will identify the user in LTI by user_id. If user_id not exist in your Newrow Account, LTI will create a new user in your account.  Added automatically in LMS that has built in LTI Integration.
lis_person_contact_email_primary	string	optional	User email in the third party system. If user_id not exist in your Newrow Account, user will be created and this lis_person_contact_email_primary will be attached to it.  If lis_person_contact_email_primary not sent, Newrow will generate email for this user_id.  Added automatically in LMS that has built in LTI Integration - Can be configurable in privacy section.
<b>roles</b>	<b>string</b>	<b>required</b>	User role in the room. User can be 'Administrator', 'Instructor', 'Student' Ref to <a href="#">LTI Roles</a> .  Added automatically in LMS that has built in LTI Integration.
lis_person_name_given	string	optional	User first name.  Added automatically in LMS that has built in LTI Integration - Can be configurable in privacy

			section.
lis_person_name_family	string	optional	User last name.  Added automatically in LMS that has built in LTI Integration - Can be configurable in privacy section.
<b>Room Attributes</b>			
context_id	string	required	Identifier for the room / course in the third party system. If context_id not exist in your Newrow Account, LTI will create a new room in your account.  Added automatically in LMS that has built in LTI Integration.
context_title	string	required	Room/Course name. If room already exist - it will update room name.  Added automatically in LMS that has built in LTI Integration.
<b>OAuth LTI Attributes</b>			
tool_consumer_info_product_family_code	string	optional	Name of the LTI consumer platform. Newrow will refer this as Identifier to LTI Consumer Platform. For Newrow internal use - additional attributes will be recognized by it.  Added automatically in LMS that has built in LTI Integration.
oauth_callback	string	required	Set to "about:blank"
oauth_consumer_key	string	required	Newrow Consumer key, Newrow Account Identifier
oauth_version	string	required	Set to "1.0"
oauth_nonce	string	required	Generated nonce, det as unqid.
oauth_timestamp	string	required	Current Timestamp

oauth_signature_method	string	<b>required</b>	Set as "HMAC-SHA1".
oauth_signature	string	<b>required</b>	Signature that has been generated by secret key. Do not expose secret key in client side.  See <a href="#">PHP Example</a> for more details.
<b>Additional Supported LTI &amp; Newrow Attributes</b>			
launch_presentation_locale	string	optional	User localization language. Supported Languages: <ul style="list-style-type: none"> <li>● fr-FR French (France)</li> <li>● de-DE German</li> <li>● ko-KR Korean</li> <li>● pt-BR Portuguese (Brazil)</li> <li>● ja-JP Japanese</li> <li>● en-US English (US)</li> <li>● zh-CN Simplified Chinese (China)</li> <li>● it-IT Italian</li> <li>● es-LA Spanish</li> <li>● he-IL Hebrew</li> </ul> If language not listed, en-US will set as default.
<a href="#">Recording Attributes</a>		optional	
<a href="#">Preload Playlist Attributes</a>		optional	
<a href="#">Room Settings Attributes</a>		optional	

## 5. PHP Example

Code example for secured LTI Request.

*\* In the example below you will find the mandatory fields that Newrow use.*

```
<?php
// -----
//  CONFIGURATION SECTION
// -----
$launch_url = "https://smart.newrow.com/backend/lti/course";

$key = "LTI_KEY_GIVEN_BY_NEWROW";
$secret = "LTI_SECRET_GIVEN_BY_NEWROW";

$launch_data = array(

    // Consumer identifier (Vendor name like: desire2learn, moodle, etc.)
    "tool_consumer_info_product_family_code" => "newrowTest",

    //-----
    // User details
    //-----
    // Internal authenticated user id in your system
    "user_id" => "2928321264",

    // User role ('Administrator','Instructor', 'Student')
    "roles" => "Student",

    // User email
    "lis_person_contact_email_primary" => "sam@school.edu",

    // User first name
    "lis_person_name_given" => "Sam",

    // User last name
    "lis_person_name_family" => "Thompson",

    //-----
    // Room details
    //-----
    // Internal Room identifier
    "context_id" => "4512313",

    // Room name
    "context_title" => "Design of Personal Environments",
```



```

    );

    // -----
    // OAUTH CONFIGURATION
    // -----

    $now = new DateTime();

    $launch_data["lti_version"] = "LTI-1p0";

    # Basic LTI uses OAuth to sign requests
    # OAuth Core 1.0 spec: http://oauth.net/core/1.0/

    $launch_data["oauth_callback"] = "about:blank";
    $launch_data["oauth_consumer_key"] = $key;
    $launch_data["oauth_version"] = "1.0";
    $launch_data["oauth_nonce"] = uniqid('', true);
    $launch_data["oauth_timestamp"] = $now->getTimestamp();
    $launch_data["oauth_signature_method"] = "HMAC-SHA1";

    # In OAuth, request parameters must be sorted by name
    $launch_data_keys = array_keys($launch_data);
    sort($launch_data_keys);

    $launch_params = array();
    foreach ($launch_data_keys as $key) {
        array_push($launch_params, $key . "=" . rawurlencode($launch_data[$key]));
    }

    $base_string = "POST&" . urlencode($launch_url) . "&" . rawurlencode(implode("&",
    $launch_params));
    $secret = urlencode($secret) . "&";
    $signature = base64_encode(hash_hmac("sha1", $base_string, $secret, true));

    ?>

    <form id="ltiLaunchForm" name="ltiLaunchForm" method="POST" action="<?php
    printf($launch_url); ?>">
        <?php foreach ($launch_data as $k => $v ) { ?>
            <input type="hidden" name="<?php echo $k ?>" value="<?php echo $v ?>">
        <?php } ?>
        <input type="hidden" name="oauth_signature" value="<?php echo $signature ?>">
    </form>

    <script language="javascript">
        document.getElementById("ltiLaunchForm").style.display = "none";
        document.ltiLaunchForm.submit();
    </script>

```

## 6. LTI Roles:

Newrow\_ has 3 user roles.

1. Admin - Can join to each room and manage company. User will be set as admin in the company only at the first time LTI launched and create his user.
2. Instructor - Can host courses and manage course content
3. Student - Can join courses

Newrow\_ support LTI roles:

```
$roles = [  
  ROLE_ADMIN => [  
    'urn:lti:sysrole:ims/lis/SysAdmin',  
    'urn:lti:sysrole:ims/lis/SysSupport',  
    'urn:lti:sysrole:ims/lis/Creator',  
    'urn:lti:sysrole:ims/lis/AccountAdmin',  
    'urn:lti:sysrole:ims/lis/Administrator',  
    'urn:lti:instrole:ims/lis/Staff',  
    'urn:lti:instrole:ims/lis/Administrator',  
    'Administrator'  
  ],  
  ROLE_INSTRUCTOR => [  
    'urn:lti:instrole:ims/lis/Faculty',  
    'urn:lti:instrole:ims/lis/Instructor',  
    'urn:lti:instrole:ims/lis/Mentor',  
    'urn:lti:role:ims/lis/TeachingAssistant',  
    'Instructor'  
  ],  
  ROLE_STUDENT => [  
    'urn:lti:instrole:ims/lis/Student',  
    'urn:lti:instrole:ims/lis/Member', // Member of a course, can be a student  
    'urn:lti:instrole:ims/lis/Learner',  
    'urn:lti:instrole:ims/lis/Alumni', // Alumni likely means former student  
    'urn:lti:instrole:ims/lis/Other',  
    'urn:lti:instrole:ims/lis/ProspectiveStudent',  
    'urn:lti:instrole:ims/lis/Guest',  
    'urn:lti:instrole:ims/lis/Observer',  
    'urn:lti:instrole:ims/lis/None',  
    'Learner',  
    'Student'  
  ]  
];
```

## 7. Embedded Iframe & Parent Window Functionality

### 7.1. Embedded Iframe

Best practice is to load this page in iframe in your App.

It allows your users to enter Newrow from the existing page and not redirect the user.

For example, your launch url is:

<https://www.yourapp.com/newrow/ltiRoomLancher>

So, in order to load url in your iframe, add the following:

```
<--> Site Header Section <-->

<iframe allow="microphone *; camera *; speakers *; usermedia *; autoplay
*;" allowfullscreen src="https://www.yourapp.com/newrow/ltiRoomLancher"
></iframe>

<--> Site Footer Section <-->
```

### 7.2. Parent Window Functionality

Newrow\_ expose to Parent Window the ability to take some actions in Newrow\_ Iframe. Actions can be passed by window.postMessage JS function.

Object structure to pass to function is:

```
{
  type: String,
  action: String
}
```

Each type is different module in Newrow, and for each type there are allowed actions.

Allowed types:

- Newrow Top Manu Events - '**newrowTopBarEvents**'  
Allowed actions:
  1. Video ON/OFF - '**videoToggle**'

2. Audio ON/OFF - **'audioToggle'**
3. Chat Show/Hide - **'chatToggle'**
4. Participants list Show/Hide - **'participantsListToggle'**

Example for Participants list Show/Hide :

```
window.postMessage({  
  type: 'newrowTopBarEvents',  
  action: 'participantsListToggle'  
}, '*');
```

## 8. Preload Playlist into a room

Newrow let customer to load playlist into room via LTI.

Playlist can be loaded by playlist id or playlist name.

By assigning playlist to a room, new playlist instance is attached to room.

Playlist instance is unique and can include annotations.

If you want to keep annotation of the same playlist instance in the room, use attribute

`reset_playlist_instance = 0`.

If playlist was updated, playlist version will be updated, and in the next room session, the playlist will be updated by a new playlist instance.

### ATTRIBUTES:

custom_playlist_id	integer	optional	Playlist id to load, if not sent API will load Playlist by custom_playlist_name
custom_playlist_name	string	optional	Playlist name to load. API will use it only if custom_playlist_id not sent.
custom_reset_playlist_instance	boolean	optional	<p>1 - Every new room session, LTI will create new playlist instance in the room if same playlist is already loaded in this room. If the new custom_playlist_id is different from the existing one - new playlist will be loaded and existing playlist instance will be overridden.</p> <p>0 - LTI will not set new playlist instance if room has the same custom_playlist_id. All annotations will be kept in the playlist room.</p> <p>Default set to be 1.</p>

## 9. Auto Recording

Within the LTI request, Newrow can start recording automatically in the room.

The recording will start automatically only when “Room Session” will start, when the Instructor joins to room.

If the Instructor will join the room to prepare the class before & LTI attribute to start recording will send, the recording will start sooner. Newrow LTI offers an attribute to avoid this scenario.

In order to start recording at the right time, when all students join, Newrow Room can remind the instructor to start the recording.

### AUTO RECORDING ATTRIBUTES:

custom_rec_auto_start	boolean	optional	1 - Enable start recording automatically when Instructor joins. 0 - Auto start recording is disable  Default set to be 0.
custom_rec_set_reminder	boolean	optional	1 - Enable recording reminder. After the instructor is in the room for 2 minutes they will be prompted to start recording.  0 - Disable reminder to start recording.  Default set to be 0.
custom_rec_start_time	timestamp	optional	Timestamp GMT of recording start date. If set, will prompt the instructor to start recording at that time.
custom_rec_end_time	timestamp	optional	Timestamp GMT of recording end date. If set, will prompt the instructor to start recording for the right duration. If duration passed, Instructor will be able to add additional recording time. Max duration: 3 hours per recording.

## 10. Room Settings

Newrow LTI allow you to set room settings.

Room settings will be changed only when Instructor launch the LTI.

### ROOM SETTINGS ATTRIBUTES:

custom_rs_show_participant	boolean	optional	1 - Show Participant List for Students & Guests. 0 - Hide Participant List Students & Guests to see the.  Default set to be 1.
custom_rs_show_invite	boolean	optional	1 - Show Invite option for Moderators & Instructors. 0 - Hide Invite option for Moderators & Instructors.  Default set to be 1.
custom_rs_show_chat	boolean	optional	1 - Enable Chat for Students & Guests. 0 - Disable Chat for Students & Guests to see the.  Default set to be 1.
custom_rs_enable_guests_to_join	boolean	optional	1- Enable Guests to join by Invite Link. 0 - Block Guests to join by Invite Link.  Default set to be 1.