

RAINBOW CLASSROOM-MOODLE INTEGRATION GUIDE

Rainbow Classroom

(Moodle Integration Guide)





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1 Document History

Edition	Date	Changes / Comments / Details
01	30/09/2020	Initial Moodle Integration Guide
02	10/03/2021	Overview has been added. Screenshots have been updated.
03	26/05/2021	Screenshots and details have been updated.
04	09/07/2021	Screenshots and details have been updated.
05	06/08/2021	Screenshots and details have been updated about guest users.
06	23/10/2021	Reference to documents for 'Rainbow Classroom Provisioning - Moodle Links' utility has been added.
07	27/10/2021	Sequence of steps to setup Moodle API Integration with Rainbow Classroom has been modified. New section about creating an external service in moodle has been added. Details about access token generation has been updated.
08	25/07/2022	Legal notice has been updated. Section 2.1 List of features has been updated. Section 3.1 Note has been added. Section 4.1 Screenshots have been updated. Section 5.2 Screenshots have been updated. Section 6.1 Notes have been added.



2 Introduction

2.1 Overview – The Product

Rainbow Classroom is a SaaS (Software as a Service) solution that offers powerful collaboration and learning tools for education and training institutes. It enhances and provides a deep integration with industry leading Learning Management Systems (LMS). Organisations can keep their existing LMS e.g. Moodle and create an integrated learning and teaching experience for both students and teachers alike. The integration with LMS works via the LTI (Learning Tools Interoperability) protocol while the internal Moodle APIs are also used for extended integration.

Enhanced integration with Moodle enables education institutes to leverage new collaboration methods without having to spend energy on changing their existing LMS solutions. Rainbow Classroom provides a range of collaboration features for better management of classroom sessions including:

- Centralised administration
- Dashboard for live and upcoming classroom sessions
- KPIs and attendance module
- School and teacher level classroom configuration controls
- Audio and video conferencing
- Screen-share for both students and teachers
- Course content sharing
- Classroom session recording
- Online and offline whiteboards
- Workgroups for offline collaboration between students and breakout rooms for in-call collaboration
- Classwork
- Welcome Screen, Course Material and Links
- Watch Together
- Breakout & Exams rooms

More information on the back office administration and live classroom features that enrich the attendee experience can be found in Rainbow Classroom user and administration guides.

2.2 Overview – The Guide

The purpose of this document is to explain the process of integrating Rainbow Classroom with Moodle LMS. This guide expects the user to be a Moodle administrator, which is the access level required for the necessary configuration in Moodle to integrate Rainbow Classroom. Apart from course details, the integration also makes it easier for teachers and students to access the Rainbow Classroom directly from Moodle.

This guide goes through the administrative steps required for initial configuration along with screenshots to provide a better understanding and relevant context.



The Table of Contents is also provided at the beginning of this document which includes hyperlinks. These links can be used to jump to sections and topics of focus. Sometimes only small parts of the screen are shown to highlight a specific item or feature of the user interface.



3 Setup Moodle API Integration with Rainbow Classroom

Rainbow Classroom leverages Moodle's open APIs to build an extended learning experience. As part of the configuration of Rainbow Classroom, a new and unique access token needs to be setup in Moodle. The administrator must also enable the web services from Moodle for the API connectivity between LMS and Rainbow Classroom.

3.1 Creating an External Service in Moodle

Note: It is important to note that an external service can only be added by a user that has been configured with a role of Moodle administrator.

A new external service has to be added in Moodle Site Administration for integration with Rainbow Classroom. This external service will only use the specific functions of Moodle's Open APIs that are required by Rainbow Classroom for proper integration.

Following are the steps to create a new external service in Moodle for Rainbow Classroom.

- 1. Log in to your Moodle account as an administrator.
- 2. Click on **Site Administration** link in the left menu, as shown below:



ashboard te home alendar	Admin User	Customise this page
tvate files	COURSE OVERVIEW Timeline Courses	PRIVATE FILES No files available Manage private files
	No courses	ONLINE USERS (last 5 minutes: 2) Admin User Mike David
	COURSE CATEGORIES	LATEST BADGES You have no badges to display
	 Computer Science Science Language Biology Mass Communication Physics Data Structure Mathematics Linear Equations All courses 	Mon West True Fri Sas Sun 1 2 3 4 5 6 7 8 9 10 11 1 2 3 4 5 6 7 8 9 10 11 15 16 15 16 17 18 14 15 15 16 17 18 19 10 11 12 23 24 25 26 27 28 29 30 31
		UPCOMING EVENTS There are no upcoming events Go to calendar New event

Screenshot- Home screen

3. You will be presented with site administration screen. On this screen, click on **Plugins** tab as shown below:



e administr	
	Search
e administration U:	sers Courses Grades Plugins Appearance Server
	Notifications Registration Advanced features Assignment upgrade helper
Competencies	Competencies settings Migrate frameworks Import competency framework Export competency framework Competency frameworks Learning plan templates
Badges	Badges settings Manage badges Add a new badge
Location	Location settings
Language	Language settings Language customisation Language packs
Security	IP blocker Site security settings HTTP security Notifications
Front page	Front page settings

4. Once in **Plugins** tab, scroll down to the end of the page and click on the **External Services** option under Web services section, as shown below.

Web services	Overview	
	API Documentation	
	External services	
	Manage protocols	
	Manage tokens	

Screenshot- Plugins screen

Note: It is important to note here that in some versions of Moodle, Web Services section and External Services option is available in **Server** tab, as shown below:

dministration Users Cours	es Grades Plugins Appearance Server Reports Development
Server	System paths
	Support contact
	Session handling
	HTTP
	Maintenance mode
	Cleanup
	Environment
	PHP info
	Performance Hubs
	Hubs Update notifications
	File types
	OAuth 2 services
	Scheduled tasks
Email	Outgoing mail configuration
	Incoming mail configuration
	Message handlers
Web services	Overview
1100 00111003	API Documentation
	External services
	Manage protocols
	Manage tokens

Screenshot- Server screen

5. You will be presented with the **External Services** screen. On this screen, click on the **Add** link to create an external service.

Moodle - Learning Management System Dashboard / Site administration / Plugins / Web services / External services Blocks editing on					
External services Information A service is a set of functions. A service ca Built-in services	in be accessed b	y all users or just spo	ecified users.		ADMIN BOOKMARKS Bookmark this page
External service	Plugin	Functions	Users	Edit	
Moodle mobile web service	moodle	Functions	All users	Edit	
Custom services					

Screenshot- Add External Service

6. The following screen will be displayed:



External se	ervice		
Name	0		
Short name			
		Enabled	
		Authorised users only ?	
Show more			
		Add service Cancel	
There are required f	fields in th	is form marked 🌗 .	

Screenshot- Add External Service

Enter the following details:

Name: Add Rainbow Classroom in this field.

Note: A user can enter a name of their own choice as well in the Name field.

Check Both Enabled and Authorised users only options.

Once done, click on **Add service** button.

7. You will be presented with the **Add functions** screen. This option enables you to add specific functions in this service that are required for integration between Moodle and Rainbow Classroom application. Click on **Add functions** option as shown below:



8. You will be presented with the following screen where you can add specific functions.



Rainbow Classroom . → Add functions					
Name	.0	No selection			
		Search V			
		Add functions Cancel			
There are require	d fields in th	is form marked () .			

Screenshot- Add functions screen

9. Simply copy the following functions one-by-one and paste them in the Name field.

core_course_get_courses core_enrol_get_enrolled_users core_enrol_get_users_courses core_user_get_users_by_field mod_lti_get_ltis_by_courses mod_lti_get_tool_proxies mod_lti_get_tool_types

A drop down will be shown with your entered function. Please select the appropriate function as shown below:

Rainbow Classroom ▼ <u>Add functions</u>				
Name 🧕	No selection core_course_get_courses▼			
	core_course_get_courses:Return course details			
There are required fields in thi	core_course_get_courses_by_field:Get courses matching a specific field (id/s, shortname, idnumber, category)			
	Screenshot- Add functions screen			

Once you have selected a function, it will displayed as shown below:



Rainbow ▼ Add funct		sroom
Name	0	× core_course_get_courses:Return course details
		Search v
		Add functions Cancel
There are require	d fields in th	is form marked \rm 0 .

Screenshot- Add functions screen

Once all above listed functions are selected, click on Add functions button

Rainbow Classroom - Add functions					
Name	0	<pre>x core_course_get_courses:Return course details x core_enrol_get_enrolled_users:Get enrolled users by course id. x core_enrol_get_users_courses:Get the list of courses where a user is enrolled in x core_user_get_users_by_field:Retrieve users' information for a specified unique field - If you want t x mod_lti_get_tool_proxies:Get a list of the tool proxies x mod_lti_get_tool_types:Get a list of the tool types Search </pre>			
There are require	ed fields in th	Add functions Cancel is form marked ()			

Screenshot- Add functions screen

Following screen will be displayed:



Function	Description	Required capabilities	Edit
core_course_get_courses	Return course details	moodle/course:view, moodle/course:update, moodle/course:viewhiddencourses	Remove
core_enrol_get_enrolled_users	Get enrolled users by course id.	moodle/user:viewdetails, moodle/user:viewhiddendetails, moodle/course:useremail, moodle/user:update, moodle/site:accessallgroups	Remove
core_enrol_get_users_courses	Get the list of courses where a user is enrolled in	moodle/course:viewparticipants	Remov
core_user_get_users_by_field	Retrieve users' information for a specified unique field - If you want to do a user search, use core_user_get_users()	moodle/user:viewdetails, moodle/user:viewhiddendetails, moodle/course:useremail, moodle/user:update	Remov
mod_lti_get_ltis_by_courses	Returns a list of external tool instances in a provided set of courses, if no courses are provided then all the external tool instances the user has access to will be returned.	mod/lti:view	Remov
mod_lti_get_tool_proxies	Get a list of the tool proxies	moodle/site:config	Remov
mod_lti_get_tool_types	Get a list of the tool types	moodle/site:config	Remov

Add functions to the service "Rainbow Classroom"

Screenshot- Add functions screen

Now access tokens for integration can be generated using this newly added external service.

3.2 Creating a New Access Token in Moodle

Note: It is important to note that an access token can only be generated by a user that has been configured with a role of Moodle administrator.

Following are the steps to create a new and unique API access token for Rainbow Classroom.

1. Click on **Site administration** link in the left menu, as shown below.



E Moodle		Admin User 📿 🗸
Dashboard Site home Calendar Private files	Admin User	Customise this page
Site administration	COURSE OVERVIEW Timeline Courses	PRIVATE FILES No files available Manage private files
	No courses	ONLINE USERS (last 5 minutes: 2) Admin User Mike David
	COURSE CATEGORIES	LATEST BADGES You have no badges to display
	 Computer Steller Science Language Biology Mass Communication Physics Data Structure Mathematics Linear Equations All courses 	Yes Yes <thyes< th=""> <thyes< th=""> <thyes< th=""></thyes<></thyes<></thyes<>
		UPCOMING EVENTS There are no upcoming events Go to calendar New event
	Moodle Docs for this page You are logged in as Admin User (Log out)	

Screenshot- Home screen

2. You will be presented with site administration screen. On this screen, click on **Plugins** tab as shown below.



e administr	ation
	Search
e administration U ports Developmen	sers Courses Grades Plugins Appearance Serve
	Notifications Registration Advanced features Assignment upgrade helper
Competencies	Competencies settings Migrate frameworks Import competency framework Export competency framework Competency frameworks Learning plan templates
Badges	Badges settings Manage badges Add a new badge
Location	Location settings
Language	Language settings Language customisation Language packs
Security	IP blocker Site security settings HTTP security Notifications
Front page	Front page settings
	Site security settings HTTP security Notifications

Screenshot-Site Administration

3. Once in **Plugins** tab, scroll down to the end of the page and click on the **Manage tokens** option under **Web services** section, as shown below.



Screenshot- Plugins screen

Note: It is important to note here that in some versions of Moodle, Web Services section and Manage Tokens option is available in **Server** tab, as shown below:



dministration Users Course	es Grades Plugins Appearance Server Reports Development
Server	System paths
	Support contact
	Session handling
	нттр
	Maintenance mode
	Cleanup
	Environment
	PHP info
	Performance
	Hubs
	Update notifications
	File types
	OAuth 2 services Scheduled tasks
	Scheduled tasks
Email	Outgoing mail configuration
Linai	Incoming mail configuration
	Message handlers
Web services	Overview
Web services	API Documentation
	External services
	Manage protocols
	Manage tokens

Screenshot- Server screen

4. You will be presented with the **Manage tokens** screen. On this screen, click on the **Add** link to generate a token.

Moodle - Learning Management System Dashboard / Site administration / Plugins / Web services / Manage tokens	Blocks editing on
Manage tokens	ADMIN BOOKMARKS Bookmark this page
Add	

Screenshot- Generate Access Token

5. The following screen will be displayed.



Create tok • Token	ken	
User		No selection
		Search 🔻
Service		Moodle mobile web service 🗢
IP restriction		
Valid until		23 ≑ February ≑ 2021 ≑
		Save changes Cancel
There are required	fields in t	this form marked 🕕 .

Screenshot- Generate Access Token

Enter the following details:

User: Select **Admin User** from the dropdown menu of the respective field to create a token for the LMS administrator.

Service: Select Rainbow Classroom service from the dropdown menu of the respective field.

IP restriction: Leave the IP restriction field blank in order to avoid any IP restriction.

Note: In case if limited access is required for your Moodle account then enter the predefined IP address in the respective field. Rainbow Classroom is capable of imposing restrictions on users who do not have the same IP address that is provided in the respective field.

Valid until: Use this option to specify the date until which the access token is valid. You can check the enable box and specify the date through icon or use the three dropdown cells.

Note: You can leave the **Valid until** option blank for no expiration. If a date is mentioned then a proper process should be put in place to ensure that Rainbow Classroom always has a valid access token for connectivity.

Once done, click on the **Save changes** button.

6. Once you have saved changes, the following screen is displayed. Please copy the Token field and save it for the subsequent configuration of the Rainbow Classroom Administration.



Token	User	Service	IP restriction	Valid until	Operation
loken	0361	0011100	rescriction	and	operation
	Admin	Rainbow			Delete
	User	Classroom			



3.3 Enable Web Services

The Moodle administrator needs to enable web services from their account. By doing so, it enables the LMS to provide API access to Rainbow Classroom.

In order to perform this task, go to **Site administration** > **Plugins** tab. Once in the plugins tab scroll down to the end of the page and click on **Manage protocols** under **Web services** section, as shown below.

Text editors	Manage editors
reacted to to	Atto HTML editor
	Atto toolbar settings
	Collapse toolbar settings
	Equation editor settings
	Table settings
	TinyMCE HTML editor
	General settings
	Insert emoticon
	Legacy spell checker
Web services	Overview
	API Documentation
	External services
	Manage protocols
	Manage tokens

Screenshot- Enable Web service

You will be presented with the following screen. Due to security reasons, all the protocols are disabled by default. Enable **Rest protocol** by clicking on ⁽¹⁾ icon, as shown below.



/lanage prot	cocols			ADMIN BOOKMARKS
ctive web service p	rotocols			Bookmark this page
Protocol	Version	Enable	Settings	
REST protocol	2017051500	\$	_	
SOAP protocol	2017051500	Ø		
XML-RPC protocol	2017051500	S)		
or security reasons, only	protocols that are in use should	be enabled.		
Web services documentation	Default: No			
enablewsdocumentation	Enable auto-generation of web his own documentation on his documentation for the enable	security keys page Mo		
	Save changes			

3.4 Moodle Access Token in Rainbow Classroom Administration

Before proceeding with the other sections of this guide, the newly created API access token needs to be configured in the Rainbow Classroom Administration. It is outside the scope of this document to cover the configuration steps for Moodle connectivity in the Rainbow Classroom Administration.

Please refer to <u>Rainbow Classroom – Administration Guide for Organisation Admin (Moodle)</u> documentation to find out the configuration steps and the place where Moodle access token needs to be provided.



4 Setup Rainbow Classroom as Moodle (External) tool

Rainbow Classroom can be added as a tool in Moodle. This makes Rainbow Classroom available right inside the Moodle courses screens for the students, teachers and guest users. Already logged in users can simply click on Rainbow Classroom button and instantly jump to respective Rainbow Classrooms.

Note: Rainbow Classroom uses Learning Tool Interoperability (LTI) standard to work as an integrated tool in Moodle.

4.1 Creating a New Moodle tool

Following are the steps to create a new "tool" in Moodle:

1. Click on **Site administration** link in the left menu, as shown below.

E Moodle		🜲 🍺 Admin User 🔘 🗸
Dashboard Site home Calendar Private files	Admin User	Customise this page
Site administration	COURSE OVERVIEW Timeline Courses	PRIVATE FILES No files available Manage private files
	No courses	ONLINE USERS (last 5 minutes: 2) ∩ Admin User ∩ Mike David
	COURSE CATEGORIES	LATEST BADGES You have no badges to display
	Computer StateVer Computer St	July 2021 Image: Second S
		UPCOMING EVENTS There are no upcoming events Go to calendar New event
	Moodle Docs for this page You are logged in as Admin User (Log out)	

Screenshot- Home screen

2. You will be presented with a site administration screen. On this screen, click on **Plugins** tab as shown below.



e administra	ation Search
e administration Us	sers Courses Grades Plugins Appearance Serve
	Notifications Registration Advanced features Assignment upgrade helper
Competencies	Competencies settings Migrate frameworks Import competency framework Export competency framework Competency frameworks Learning plan templates
Badges	Badges settings Manage badges Add a new badge
Location	Location settings
Language	Language settings Language customisation Language packs
Security	IP blocker Site security settings HTTP security Notifications
Front page	Front page settings
Mobile app	Mobile settings

Screenshot-Site Administration

3. Once in **Plugins** tab, scroll down and click on the **Manage tools** option under **Activity modules** section, as shown below.

	Search			
ite administration Users Courses Grades Plugins Appearance Server Reports Development				
Plugins	Install plugins Plugins overview			
Activity modules	Manage activities Common activity settings Assignment Assignment settings Submission plugins Manage assignment submission plugins File submissions Online text submissions Feedback plugins Manage assignment feedback plugins Feedback comments Annotate PDF File feedback Offline grading worksheet Book Chat Database External tool Manage tools Feedback			



4. Following screen is displayed. Click on **Configure a tool manually** link.

	e - Learning Management System
Manage	tools Add tool
	Tool URL Add Alternatively, you can configure a tool manually.
	Manage preconfigured tools Manage external tool registrations

Screenshot- Manage Tools

5. You will be presented with the following screen.



Moodle - Learning Management Sy Dashboard / Site administration / Plugins / Activity modules / Manage activities /		Blocks editing on
External tool configuration	Expand all	ADMIN BOOKMARKS Bookmark this page
Tool name 🔄 📀		
Tool description 👔		
Consumer key 👩		
Shared secret 👩 Click to enter text 💉 👁		
Custom 🕡 parameters		
Tool configuration 📀 Show as preconfigured tool when adding an external usage	tool 🗢	
Default launch container Embed, without blocks \$		
Content-Item Message 1 🥥		
Icon URL 🧜 🎯		
Secure icon URL 🕴 👩		
Showless Privacy Miscellaneous Save changes Cancel		
There are required fields in this form marked () .		

Screenshot- External Tool Configuration

Note: Click on the tool tip \bigcirc icon to read the description of each field.

Enter the following details under the **Tool settings** section:

Tool name: Enter 'Setup Classroom in advance' in the respective field.

Tool URL: Enter the following URL of Rainbow Classroom setup in the respective field. (<u>https://classroom.openrainbow.io/lti/launch_lti</u>)

Tool description: Enter the description in the respective field.

Consumer Key: Enter the consumer key provided by Rainbow Classroom team.

Shared Secret: Enter the shared secret provided by Rainbow Classroom team.

Custom parameters: Enter the authentication token provided by Rainbow Classroom team.

Note: Please make sure to place 'token=' before entering the authentication token, as shown below.





token=eyJhbGciOiJIUzI1NiIsInR5cCl6lkpXVCJ9.eyJpc3MiOiJBbWln b1NvZnR3YXJlliwic3ViljoiT1BDWFJBUEkiLCJlbWFpbCl6lmFzc2lzdG FuY2VAYW1pZ28tc29mdHdhcmUuY29tliwicm9sZSl6lk1hbnVmY WN0dXJlciIsIk1QVCl6lkZhbHNlliwiaHR0cDovL3NjaGVtYXMubWljc



Tool Configuration Usage: Make an appropriate selection from the dropdown menu.

Note: Select this option **'Show as preconfigured tool when adding an external tool'** from the dropdown menu of the respective field if you want this tool to be added to <u>preconfigured tool list</u>. It allows Moodle administrator / teacher to add the preconfigured tool in any course easily.

Default Launch Container: Select Embed option from the dropdown menu of the respective field.

Icon URL: Enter the following URL in the respective field.

https://web.openrainbow.com/static/logo rainbow.svg

Secure Icon URL: Enter the following URL in the respective field.

https://web.openrainbow.com/static/logo_rainbow.svg

IMPORTANT!! It is important to note that you will receive **consumer key**, **shared secret** and **authentication token** via email only after the integration configuration of your organisation admin account for the Rainbow *Classroom Administration. For more details, please refer to the* **"Rainbow Classroom – Administration Guide for Organisation Admin (Moodle)"** documentation.

6. Click **Save Changes** button and the newly created tool (Setup Classroom in advance) will be displayed in your tools list, as shown below.

Manage tools	,
	Add tool
	Tool URL Add
	Alternatively, you can configure a tool manually.
	Manage preconfigured tools Manage external tool registrations
Tools	
Active	¢ û
R	
Setup classroor	n in adv
Setup classroom in adva	ance



7. Repeat the process of adding an external tool as described above. Once you're on the **External Tool Configuration** screen, enter the following details under the **Tool settings** section.

Tool name: Enter 'Rainbow Classroom' in the respective field.

Tool URL: Enter the following URL of Rainbow Classroom in the respective field that will allow teacher, student and guest to redirect to Rainbow Classroom with a single click.



(https://classroom.openrainbow.io/lti/classroom)

Tool description: Enter the description in the respective field.

Consumer Key: Enter the consumer key provided by Rainbow Classroom team.

Shared Secret: Enter the shared secret provided by Rainbow Classroom team.

Custom parameters: Enter the authentication token provided by Rainbow Classroom team.

Note: Please make sure to place 'token=' before entering the authentication token, as shown below.

Custom ? token=ey parameters b1NvZnR FuY2VAYV

token=eyJhbGciOiJIUzI1NiIsInR5cCl6lkpXVCJ9.eyJpc3MiOiJBbWln b1NvZnR3YXJlliwic3ViIjoiT1BDWFJBUEkiLCJlbWFpbCl6lmFzc2lzdG FuY2VAYW1pZ28tc29mdHdhcmUuY29tliwicm9sZSl6lk1hbnVmY WN0dXJlciIsIk1QVCl6lkZhbHNlliwiaHR0cDovL3NjaGVtYXMubWljc

Tool Configuration Usage: Make an appropriate selection from the dropdown menu.

Note: Select this option **'Show as preconfigured tool when adding an external tool'** from the dropdown menu of the respective field if you want this tool to be added to <u>preconfigured tool list</u>. It allows Moodle administrator / teacher to add the preconfigured tool in any course easily.

Default Launch Container: Select **New Window** option from the dropdown menu of the respective field that will launch Rainbow Classroom in a separate window.

Icon URL: Enter the following URL in the respective field.

https://web.openrainbow.com/static/logo_rainbow.svg

Secure Icon URL: Enter the following URL in the respective field.

https://web.openrainbow.com/static/logo_rainbow.svg

Click **Save Changes** button and the second external tool (Rainbow Classroom) will be displayed in your tools list, as shown below.



Manage tools					
	Add tool				
	Tool URL.		Add		
	Alternatively	y, you can configure a	tool manually.		
		econfigured tools ternal tool registrations			
	Manage exi	emarioon registrations			
Tools Active	¢ û	Active			
Setup classroom	n in adva ▶	Rainbow Cl	assroom		
Setup classroom in advan	ice	Rainbow Classroom		-	
				•	

Screenshot- Tools

IMPORTANT!! The secondly created 'Rainbow Classroom' external tool will not be available to the guests of the course unless you allow external tool activities for them. To do this, go to the site administration, click on the **Users** tab and then click on the **Define roles** option displayed in the **Permissions** section, as shown below.

Dashboard Site home	Site administration Users Courses Grades Plugins App Reports Development	ppearance Server Cross Test MyName LTI	
Calendar	Users	All courses	
Private files	Accounts Browse list of users Bulk user actions Add a new user User default preferences User profile fields Cohorts Upload users Upload user pictures		
	Permissions User policies Site administrators Define roles Assign system roles Check system permissions Capability overview Assign user roles to cohort Unsupported role assignments		
	Privacy and Privacy settings		

Screenshot- Tools

You will be presented with the following screen. On this screen, click on the Edit icon displayed beside the **Guest** role, as shown below.

Manage roles	Allow role assignments Allow role overrid	des Allow role switches
Role 🕜	Description	Short name Edit
Manager	Managers can access course and modi they usually do not participate in course	
Course creator	Course creators can create new course	s. coursecreator 🛧 🔸
Teacher	Teachers can do anything within a cours including changing the activities and gra students.	
Non-editing teache	er Non-editing teachers can teach in cours grade students, but may not alter activit	• •
Student	Students generally have fewer privilege course.	s within a student ↑ ↓ ✿ ₪
Guest	Guests have minimal privileges and usu not enter text anywhere.	ually can guest 🔶 🔶
Authenticated use	All logged in users.	user 🛧 🗸

Screenshot- Tools

You will be presented with the **Manage roles** screen. On this screen, use the search key (CTRL + F)) to find the **'Launch external tools activities'** option, as shown below.

					-	launch		2/2	~ ×	0-
	mod/lesson:manage	Not set	Allow	Prevent	Prohibit					
bashboard	Manage lesson overrides mod/lesson:manageoverrides	 Not set 	O Allow	O Prevent	O Prohibit					
te home	View lesson activity mod/lesson:view	O Not set	Allow	O Prevent	OProhibit					
alendar rivate files	View lesson reports mod/lesson:viewreports	Not set	O Allow	O Prevent	OProhibit	0				
	Activity: External tool									
te administration	Be an Instructor when the tool is launched mod/lti:manage	Not set	O Allow	O Prevent	O Prohibit	0				
	Launch external tool activities mod/tti:view	Not set	O Allow	O Prevent	O Prohibit	-				
	Activity: Page									
	View page content mod/page:view	O Not set	Allow	O Prevent	O Prohibit					
	Activity: Quiz									
	Attempt quizzes mod/quiz:attempt	 Not set 	O Allow	O Prevent	O Prohibit	1				
	Delete quiz attempts mod/quiz:deleteattempts	Not set	O Allow	O Prevent	O Prohibit		۵			
	Get a confirmation message when submitting mod/quiz:emailconfirmsubmission	 Not set 	O Allow	O Prevent	O Prohibit					
	Get a notification message when an attempt is submitted	۲	0	0	0					

Screenshot- Manage Roles

Set the above-mentioned option to 'Allow'. This will enable the guest to have access to the Rainbow Classroom link created in the below section 'Create a New Module for Teacher only'.



5 Add Rainbow Classroom Tool in Moodle Courses

In order to provision Rainbow Classroom accessibility from your Moodle courses, Rainbow Classroom offers both manual and automated ways to achieve this offering. The scope of this document covers the manual procedure for setting up a classroom for a single Moodle course.

The automated process for setting up the Rainbow Classroom accessibility for Moodle courses can be achieved via tool "**Rainbow Classroom Provisioning - Moodle Link**". Please refer to available <u>documentation</u> that explains in detail the installation and usage procedure of this tool.

The steps for setting up a classroom for your Moodle course are below:

5.1 Create a new Classroom Module for Teachers, Students and Guests

1. Go to **Site home** tab from the left menu and click on the specified course, as shown below.

■ Moodle		🜲 🗭 Admin User 🔘 🗸
Dashboard Site home Calendar	R	۰ -
Private files		
Site administration	Available courses	
	🜣 Linear Equations <table-cell-columns></table-cell-columns>	
	Teacher: Teacher 1 Teacher: Teacher 2 Teacher: Teacher 3	
	© Computer Graphics	
	Teacher: Teacher 4 Teacher: Teacher 5	
	Digital Image Processing	
	Teacher: Teacher 5 Teacher: Teacher 3	
	© Discrete Mathematics	
	Teacher: Teacher 10 Teacher: Teacher 11 Teacher: Teacher 12 Teacher: Teacher 13 Teacher: Teacher 15	
	Theory of Programming Languages	
	Teacher: teacher 1 Teacher: teacher 2 Teacher: teacher 3 Teacher: teacher 4 Teacher: teacher 5	

Screenshot- Courses

You will be presented with the following screen:



Linear Equations Dashboard / Courses / Mathematics / Equations	Q •
Carl Announcements	
Topic 1	
Topic 2	
Topic 3	
Topic 4	



2. Click on 🍄 icon in the top right corner and a dropdown menu will be displayed, as shown below.

Linear Equations	
Dashboard / Courses / Mathematics / Equations	🖨 Edit settings
	Course completion
Announcements	T Filters
Announcements	🔅 Gradebook setup
Topic 1	🚡 Backup
Topic 1	1 Restore
Topic 2	1 Import
	r Publish
Topic 3	← Reset
	🛍 Recycle bin
Topic 4	🏟 More

Screenshot- Course

3. Please click on **Turn editing on** option as shown below:





Screenshot- Course Settings

4. This will make the entire section editable and you can configure your Rainbow Classroom environment for that particular course.



Linear Equations Dashboard / Courses / Mathematics / Equations	¢ -
🕈 🔂 Announcements 🖌	Edit 🕶 🛔
	+ Add an activity or resource
🕂 Topic 1 🖋	Edit 🚽
+ Topic 2 🖋	Edit 🚽
🕂 Topic 3 🖋	Edit 🚽
🕂 Topic 4 🖋	Edit - Add an activity or resource Add topics
Screenshot- Course Settin	

Note: You will only require 'Topic 1' for the external tools of Rainbow Classroom so delete the other topics via **Edit** button beside each topic.

5. Edit topic name by clicking on the edit 💜 icon next to the 'Topic 1' and rename it to 'Rainbow Classroom'. Once done, click enter and topic 1 will be renamed, as shown below.

Rainbow Classroom 🥒	Edit 🛩
	 Add an activity or resource
	+ Add topics

Screenshot- Add topics

5.2 Create a New Classroom Module for Teachers only

With Rainbow Classroom, teachers can setup classrooms and provision new students and guests directly from Moodle.

1. Go the module and click on the Add an activity or resource on the right side of the screen, as shown below.



🕂 Rainbow Classroom 🖌



Screenshot- Add an activity or resource

2. The following popup will be displayed. On this screen, click on **External tool** option, as shown below.

ACTIVITIES Assignment Chat Chat Choice Database Database External tool Chice External tool Choice Database Chat Choice Database Choice Forum Chois Glossary Choise Choise <

Screenshot- Add External Tool

3. Once done, click on Add button and you will be presented with the following screen.



🚜 Adding a ne	w Exte	rnal tool to Rainbow Classroom 🥑	h Turundull
- General			Expand all
Activity name			
Preconfigured tool	0	Automatic, based on tool URL	
		Select content	
Tool URL	0		
Show more			
Privacy			
▶ Grade			
Common modul	e setting	35	
• Restrict access			
• Activity complet	ion		
▶ Tags			
Competencies			
		Save and return to course Save and display Cancel	
There are required fields in	this form m	arked () .	

Screenshot- Add External Tool

4. Enter an appropriate activity name in the respective field and make sure to select the **Setup Classroom in advance** from the dropdown menu of **Preconfigured tool** field, as shown below.

🛃 Adding a ne	v External tool 👩	
- General		Expand all
Activity name		
Preconfigured tool	Automatic, based on tool URL + Automatic, based on tool URL Rainbow Classroom	
Tool URL	Setup Classroom in advance	
Show more		
Privacy		
▶ Grade		
Common modu	e settings	
Restrict access		
Activity complet	on	

Screenshot- Add External Tool



On the same above screen, scroll down and click on the Activity completion option, as shown below.

🚜 Adding a nev	v Exte	rnal tool to Rainbow Classroom 🧑	
- General			Expand all
Activity name	0	Setup Classroom in advance	
Preconfigured tool	0	Setup Classroom in advance 🗢 + 🔅 🗙	
		Select content	
Tool URL	0		
Show more			
Privacy			
▶ Grade			
• Common module	e setting	55	
• Restrict access			
Activity completion	on 🔶		
▶ Tags			
Competencies			
		Save and return to course Save and display Cancel	
There are required fields in t	his form ma	arked 🕕 .	

Screenshot- Add External Tool

5. You will be presented with the following options. The administrator must select the **Do not indicate any activity completion** from the **Completion Tracking** dropdown, as shown below.

 Activity completion 	n	
Completion tracking	0	Students can manually mark the activity as completed 🗢
Require view		Do not indicate activity completion Students can manually mark the activity as completed
Require grade		Show activity as complete when conditions are met Student must receive a grade to complete this activity ()
Expect completed on	0	30 ≑ March ¢ 2021 ¢ ⊞ □ Enable

Screenshot- Add External Tool

IMPORTANT!! The option **Students can manually mark the activity as completed** is selected by default from the Completion tracking dropdown but it is not applicable to Rainbow Classroom since it allows teacher and students to track their progress in a course while the Rainbow Classroom tools that are being created here are for setting up and starting a classroom in a course. Hence, when adding Rainbow Classroom to Moodle courses, an administrator must select Do not indicate any activity completion option from the respective dropdown to negate this feature.



6. Once done, click **Save and return to course** button. You will be presented with the following screen.



7. Repeat the process of adding an external tool as described above. This time select the **Rainbow Classroom** option from the dropdown menu of **Preconfigured tool** field. One instance of an external tool will help to setup Rainbow Classroom session while the other will allow teacher, student and guest to redirect to Rainbow Classroom in order to start / join the respective classroom session.

Rainbow Classroom 🖌	Edit -
🕂 🕞 Setup classroom in advance 🕜	Edit 👻
+ R Rainbow Classroom	Edit 🗸
	Add an activity or resource
	+ Add topic
Screenshot- External Tools	

8. To ensure only a teacher can access the **Setup Classroom in advance** option, this option must be hidden to students and guests. In order to perform this task, click on the **Edit** link displayed for the "Setup Classroom in advance" option. A dropdown menu is displayed, click on the **Hide** option as shown below.



Screenshot- External Tools

9. Upon clicking the **Hide** option, that particular link will be hidden from students and guests as can be seen below:



Rainbow Classroom 🕜	Edit 🛩
🕂 🕞 Setup classroom in advance 🕜	Edit 🔫
Hidden from students	Edit 🛩
	Add an activity or resource
	➡ Add topics

Screenshot- External Tools

10. Once you have completed the configuration process, click on 🍄 icon in the top right corner of the section and click **Turn Editing off** option.

		‡ -
	¢	Edit settings
-	A	Turn editing off
	٥	Course completion
	T	Filters
	¢	Gradebook setup
		Backup
	t	Restore
	t	Import
	~	Publish
	÷	Reset
	¢	More
	Scre	enshot- Course Settings

5

This will disable editing options in front of all fields displayed in this section.

-

Linear Equations	¢ -
Dashboard / Courses / Mathematics / Equations	
Announcements	Your progress 💡
Rainbow Classroom	





6 Running Rainbow Classroom directly from Moodle

The steps for setting up a classroom for your Moodle course are below:

6.1 Setup Classroom in advance

Moodle administrator or teacher can configure classrooms via a single link (Setup Classroom in advance) in Moodle. This link opens a new window of Rainbow Classroom setup that works as an integrated tool inside Moodle. The setup allows administrators and teachers to select/unselect sections against a particular course, add/remove participants from the classroom(s) and set classroom or individual student rules for the respective classroom sections.

Note: Teacher can setup the classroom each time before starting a new classroom session.

Following are the steps to setup Rainbow Classroom for your Moodle course:

1. In order to setup a classroom, click on the option Setup Classroom in advance.



Screenshot- Setup Classroom in advance

IMPORTANT!! Please allow cookies on your browser in order to start the setup of the respective classroom.

You will be presented with the following screen:



Rainbow*	Rainbow Classroom Setup Course: Linear Equations Step: 1/6	
Course detail	ତି ହ	
Sections		
Select participants		
Classroom rules		
Processing		
All set		
	Retrieving course details: Linear Equations	

Screenshot- Rainbow Classroom LTI Tool

After retrieving the course details, all the available sections are displayed in the box on the left. You can move the sections associated with the course to the box at right by first selecting the section and then using the arrow buttons, as shown below.

R	Rainbow Classroom Setup Course: Linear Equations	Step: 2/6
Rainbow"	Select sections to create in Rainbow Classroom	Next
Course detail	Following are the section(s) found under the course Course: Linear Equations	
Sections		
	Available section (0) A-Z Selected sections (1) A-Z	
Select participants	Type here to search section(s) Type here to search section(s) Linear Equations	
Classroom rules	20 20 2	
Processing	< «	
All set		
		Next

Screenshot- Select Sections

Once done, click Next.

Note: For each section, a separate Rainbow Classroom will be automatically created within the course.



2. On the **Select participants** screen, select the subscription plan of teachers and students from their respective dropdowns, as shown below.

Rainbow ^{**}	Select participants	Previous Next
Course detail		
Sections	Classroom Teacher 1-Year p × 2 Classroom Student 1-Year p × 7 All × 7 All All	
Select participants		rticipants (0) A-Z
Classroom rules	moodle_5_1 (Linear Algebra) moodle_5_2 (Linear Algebra) moodle_5_3 (Linear Algebra) moodle_5_4 (Linear Algebra)	
Processing	moodle t 2 (Linear Algebra)	
All set	moodle_t_ 3 (Linear Algebra)	

Screenshot- Select Participants

Note: You can filter the results of the participants for a specific section. The filter dropdown is available for the 'Available Participants' and 'Selected Participants' boxes. Select a section from the filter dropdown and its results will be displayed in their respective box. An example is displayed below.

R	Rainbow Classroom Setup Course: Linear Algebra				
Rainbow"	Select participants	Previous Next			
Course detail					
Sections	Classroom Teacher 1-Year p Classroom Student 1-Year p Classroom Student 1-Year p Classroom Student 1-Year p Classroom Student 1-Year p Available (2) Classroom Teacher 1-Year p Available (2) Ava				
Select participants	Available participants (8) A-Z Selected pa	articipants (0) A-Z o search paticipant			
Classroom rules	moodle_s_ 1 (Linear Algebra) moodle_s_ 2 (Linear Algebra) moodle_s_ 3 (Linear Algebra)				
Processing	moodle_s_4 (Linear Algebra)				
All set	moodle_t_3 (Linear Algebra)				
		Previous Next			

Screenshot- Select Participants



All the available participants are displayed in the box on the left. You can move the participants associated with the section(s) to the box on the right by first selecting the participants and then using the arrow buttons, as shown below.

Note: Please note that the available participant's list may include the teachers, students and guests of the respective sections.

Note: Selected participants will be automatically added to their respective class associated with the course in Rainbow Classroom.

Note: At least one participant should be selected in order to provision the course.

Rainbow*	Rainbow Classroom Setup Course: Linear Algebra Select participants Select participants Previous	Step: 3/6 Next
Course detail		
Sections		7
Select participants	Available participants (1) A-Z Selected participants (7) A- Type here to search paticipant Type here to search paticipant moodle_t_1 (Linear Algebra) moodle_s_1 (Linear Algebra)	-z
Classroom rules	moodle_s_ 2 (Linear Algebra)	
Processing	moodle_s_5 (Linear Algebra) conde_t_2 (Linear Algebra) conde_t_2 (Linear Algebra)	
All set		
	Previous	Next

Screenshot- Select Students of the Sections

Once done, click Next.

- 3. The next screen will help you set up classroom rules for multiple Rainbow features such as:
 - Chat
 - Audio
 - Video
 - Screen share
 - File Share

Rainbow	Rainbow Classroom Setup Course: Linear Al	Previous Next
Course detail	Features Chat Permission Yes	Audio Video Yes Yes
Sections	Student rules	
Select participants	Section V First Name 🗘 Last Name 🗘 Email 🗘 Chat	Search
Classroom rules		Yes Yes Yes Yes Yes Yes
Processing		Ves Ves Ves Ves
All set	Showing 1 to 5 of 5 students	< 1 >
		Previous

Screenshot- Set Classroom Rules

You can choose to disable/enable a feature for the entire virtual classroom (via **Classroom rules** section) or for each particular student (via **Student rules** section). Click **Next** once you are done setting up classroom rules.

Note: It is important to note that the permissions of the above-mentioned features will be disabled by default for any guests available in the classroom. However, the host can allow or decline permissions for the guests from Rainbow Classroom. For more details, please see section titled 'Rainbow Classroom – Host Guide'.

4. Your configurations will be processed and the following screen will be displayed with all the status details regarding sections and associated participants of the sections.



Rainbow	Rainbow Classro	om is all setup.				Export
	Sections	Pending	Inprocess	Completed	Failed	
Course detail	Linear Algebra	0	0	7	0	
	Total	0	0	7	0	
Sections	8					
Select participants					Search	
	Section	✓ First Name	🗘 Last Name	Email	Status	0
Classroom rules	Linear Algebra	moodle_s_	1	moodle_s_1@de	\oslash	
	Linear Algebra	moodle_s_	2	moodle_s_2@de	\oslash	
	Linear Algebra	moodle_s_	3	moodle_s_3@de	\oslash	
Processing	Linear Algebra	moodle_s_	4	moodle_s_4@de	\oslash	
	Linear Algebra	moodle_s_	5	moodle_s_5@de	\oslash	
All set	Linear Algebra	moodle_t_	2	moodle_t_2@de	\oslash	
	Linear Algebra	moodle_t_	3	moodle_t_3@de	\oslash	
	Showing 1 to 7 of 7	7 paticipants				

Screenshot- Processing Screen

Note: Pending status implies that this section is in queue and waiting to be processed. **In process** status implies that your configurations are being applied on the sections. **Failed** status implies that your intended configurations could not be implemented on the sections due to some issue.

Note: You can also export the above status details in an excel file by clicking on the **Export** button displayed at the top-right of the screen, as shown below.

	Rainbow Classroo	m is all setup.			Export
	Sections	Pending	Inprocess	Completed	Failed
Course detail	Linear Algebra	0	0	7	0
	Total	0	0	7	0
Sections					
	10 🗸				
Select participants	9				Search
	Section	✓ First Name	🗘 Last Name	Email	🗘 Status 🗘
Classroom rules	Linear Algebra	moodle_s_	1	moodle_s_1@de	\bigcirc
	Linear Algebra	moodle_s_	2	moodle_s_2@de	\odot
	Linear Algebra	moodle_s_	3	moodle_s_3@de	\bigcirc
Processing	Linear Algebra	moodle_s_	4	moodle_s_4@de	\odot
	Linear Algebra	moodle_s_	5	moodle_s_5@de	\oslash
All set	Linear Algebra	moodle_t_	2	moodle_t_2@de	\oslash
	Linear Algebra	moodle_t_	3	moodle_t_3@de	\oslash
	Showing 1 to 7 of 7 p	paticipants			

Screenshot- Processing Screen



Once the configuration are successfully implemented, a classroom is created for teacher, students and guests to login to.

6.2 Start Rainbow Classroom from Moodle (As a Teacher, Student or Guest)

A teacher, student or guest can start or join a classroom session via a single sign-on link for a Moodle course that allows them to jump directly to Rainbow Classroom. It also enables them to open classroom session within Moodle without having to provide user credentials to Rainbow Classroom separately. Once a teacher / student or guest redirects to Rainbow Classroom, they can start or join an audio/video live classroom session for a course.

The following are the steps to start/join a classroom session for your Moodle course:

1. Login to your Moodle account as a teacher/student or guest. Click on the **Dashboard** tab, go to the any of the available course, as shown below.

	🜲 🍺 Teacher 26 🔘 🗸
Dashboard Site home Calendar	Customise this page
Private files My courses COURSE OVERVIEW Timeline Courses In progress Future Past Course Courses Cour	PRIVATE FILES No files available Manage private files ONLINE USERS (Jast 5 minutes: 2) Teacher 25 Sidra Ariz
(1) x	LATEST BADGES You have no badges to display CALENDAR
	Unit The Keel The Keel The Keel Mm See Viet The Keel No 1 2 3 4 1

Screenshot- Dashboard screen of teacher/student account

2. On the next screen, click on the **Rainbow Classroom** link and you will be redirected to Rainbow Classroom.



Linear Equations	¢ -
Dashboard / Courses / Mathematics / Equations	
Announcements	Your progress 👩
Rainbow Classroom	
R Setup Classroom in advance	
Hidden from students	
Rainbow Classroom	

Screenshot- Course

Following screen of Rainbow Classroom will be displayed.



Screenshot- Home Screen of Rainbow Classroom



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