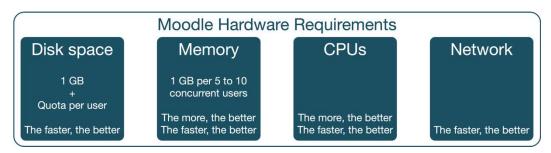
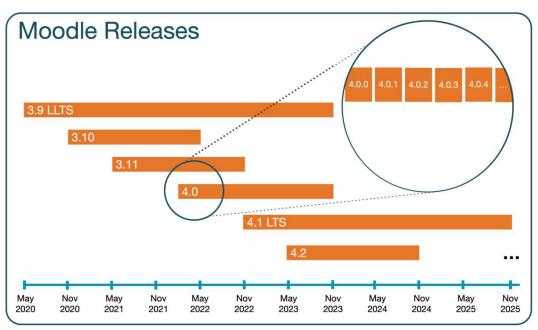
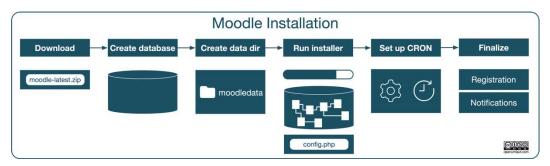
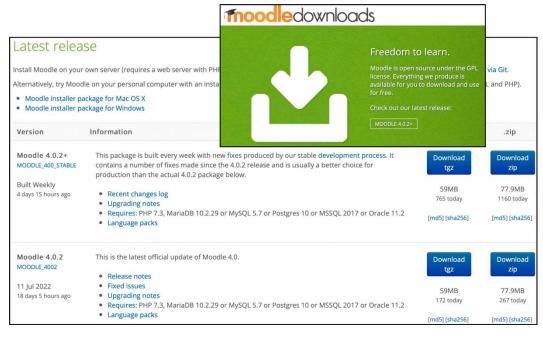
Chapter 1: An Introduction to Mantaflow

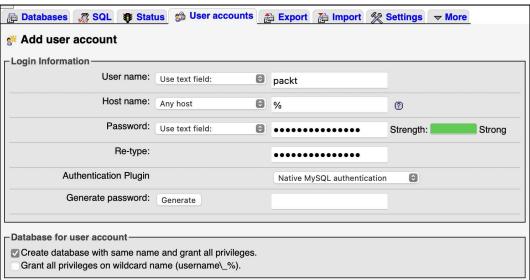
Max. number of concurrent users	Recommended setup
1 (to experiment locally)	Desktop, laptop, memory stick
100 (small school / company)	Shared server
250 (large school / company)	Dedicated server
500 (medium-to-large college)	Separate app and database servers
+500 (university/corporate)	Load-balanced cluster

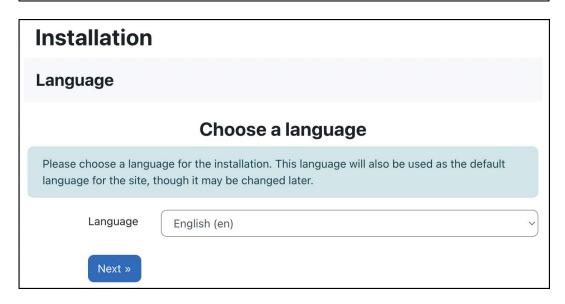




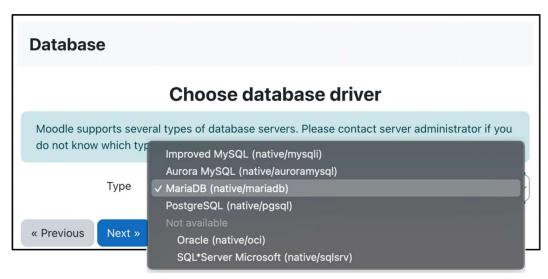




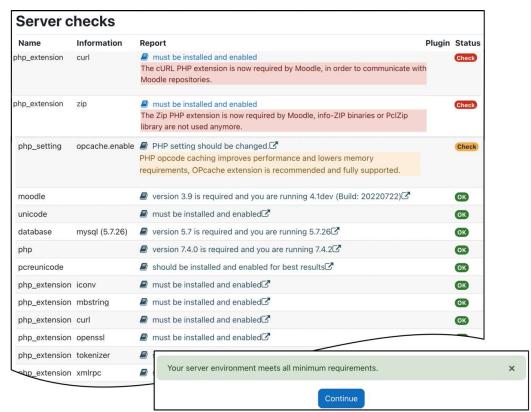


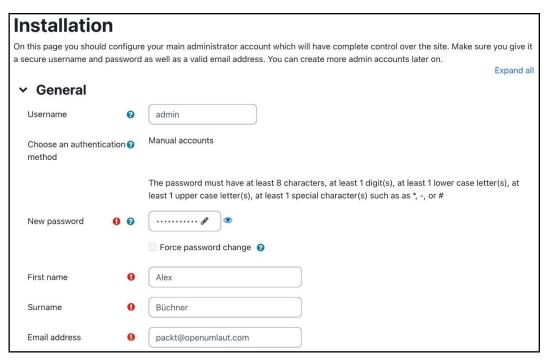


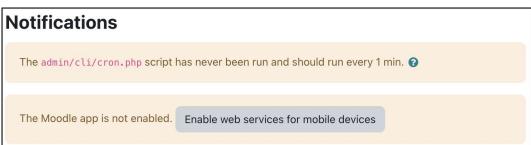
	Confirm paths
Web address	https://www.openumlaut.com/packt
Moodle directory	/var/www/html/openumlaut_packt
Data directory	/var/www/moodledata
« Previous Next »	

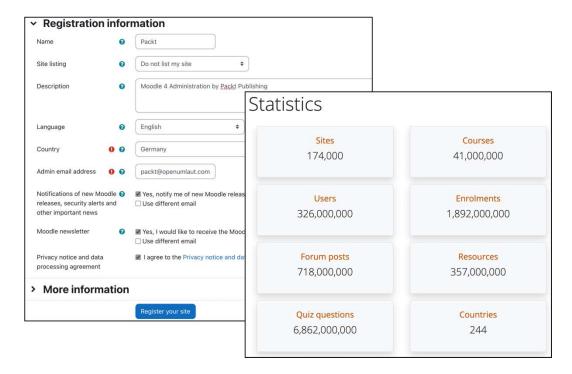


Database	
	Database settings
The database name, username	f the Moodle settings and data are stored and must be configured here. e, and password are required fields; table prefix is optional. ain only alphanumeric characters, dollar (\$) and underscore (_). not exist, and the user you specify has permission, Moodle will attempt to create a new database
Database host	localhost
Database name	packt
Database user	packt
Database password	password
Tables prefix	mdl_
Database port	
Unix socket	
« Previous Next »	

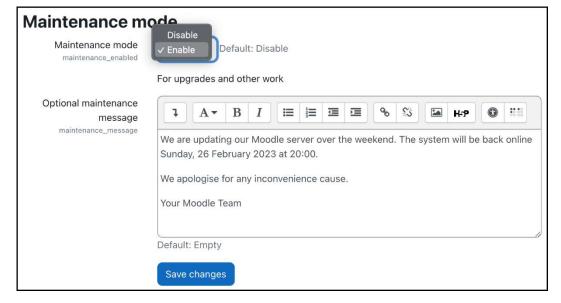


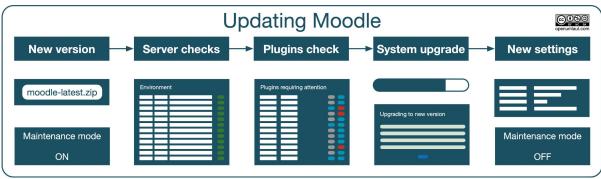






Options: -chmod=OCTAL-MODE Permissions of new directories created within dataroot. Default is 2777. You may want to change it to 2770 or 2750 or 750. See chmod man page for details. --lang=CODE Installation and default site language. --wwwroot=URL Web address for the Moodle site, required in non-interactive mode. --dataroot=DIR Location of the moodle data folder, must not be web accessible. Default is moodledata in the parent directory. --dbtype=TYPE Database type. Default is mysqli --dbhost=HOST Database host. Default is localhost --dbname=NAME Database name. Default is moodle --dbuser=USERNAME Database user. Default is root --dbpass=PASSWORD Database password. Default is blank --dbport=NUMBER Use database port. --dbsocket=PATH Use database socket, 1 means default. Available for some databases only. --prefix=STRING Table prefix for above database tables. Default is mdl_ -fullname=STRING The fullname of the site --shortname=STRING The shortname of the site The summary to be displayed on the front page --summary=STRING Username for the moodle admin account. Default is admin Password for the moodle admin account, --adminuser=USERNAME -adminpass=PASSWORD required in non-interactive mode. --adminemail=STRING Email address for the moodle admin account. --sitepreset=STRING Admin site preset to be applied during the installation process. --supportemail=STRING Email address for support and help. The upgrade key to be set in the config.php, leave empty to not set it. --upgradekev=STRING No interactive questions, installation fails if any --non-interactive problem encountered. --agree-license Indicates agreement with software license, required in non-interactive mode. --allow-unstable Install even if the version is not marked as stable yet, required in non-interactive mode. Stop the installation before installing the database. -skip-database -h, --help Print out this help Example: \\$sudo -u www-data /usr/bin/php admin/cli/install.php --lang=cs





Upgrading Moodle database from version 4.0.1 (Build: 20220509) (2022041901.00) to 4.0.2 (Build: 20220711) (2022041902.00)

Confirm

Your Moodle files have been changed, and you are about to automatically upgrade your server to this version:

4.0.2 (Build: 20220711) (2022041902.00)

Once you do this you can not go back again. Please note that this process can take a long time.

Are you sure you want to upgrade this server to this version?



Plugins check

This page displays plugins that may require your attention during the upgrade, such as new plugins to be installed, plugins to be upgraded, missing plugins etc. Additional plugins are displayed if there is an available update for them. It is recommended that you check whether there are more recent versions of plugins available and update their source code before continuing with this Moodle

Check for available updates

Plugins requirin	Plugins requiring attention						
Plugins requiring attention	All plugins 450						
Plugin name / Directory	Current version	New version	Requires	Source / Status			
Activity modules							
BigBlueButton /mod/bigbluebuttonbn	2022041900	2022041901	• Moodle 2022041200	Standard To be upgraded			
Text filters							
censor	2021051700			Standard To be deleted			
fontawesome	2021052600			Additional Missing from disk!			

Packt

The settings shown below were added during your last Moodle upgrade. Make any changes necessary to the defaults and then click the 'Save changes' button at the bottom of this page.

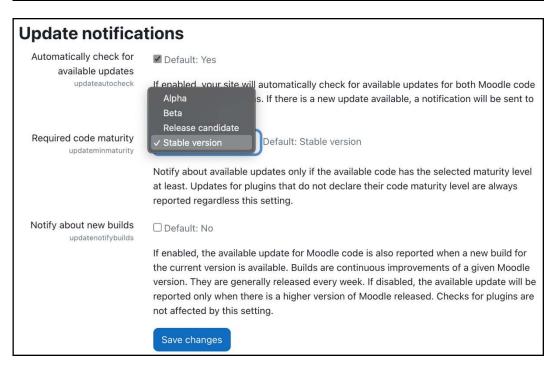
New settings - Course default settings

Number of participants per page

The number of users shown per page on the participants page in each course.

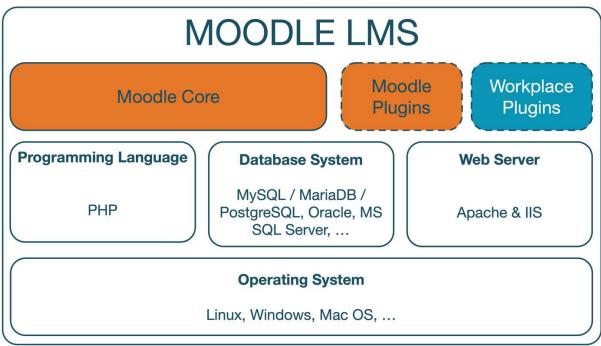
Save changes

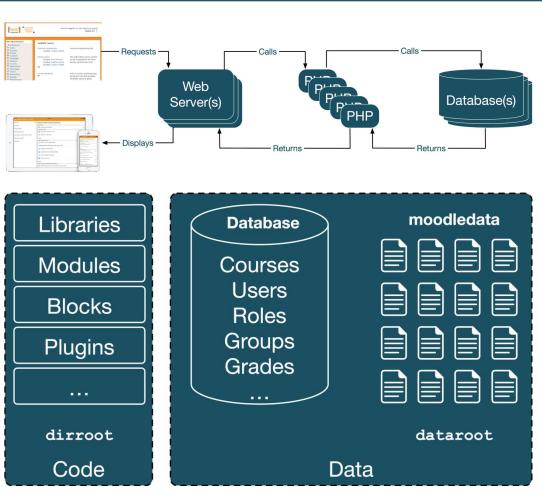
```
$ git fetch
remote: Enumerating objects: 56741, done.
remote: Counting objects: 100% (23499/23499), done.
remote: Compressing objects: 100% (7762/7762), done. remote: Total 17338 (delta 12590), reused 13084 (delta 8941), pack-reused 0
Receiving objects: 100% (17338/17338), 6.42 MiB | 8.57 MiB/s, done.
Resolving deltas: 100% (12590/12590), completed with 2846 local objects.
From https://github.com/moodle/moodle
   0d0f09bc7f..24f97edd91 master
                                          -> origin/master
   [new tag]
                             v4.0.0
                                          -> v4.0.0
   [new tag]
                             v4.0.0-rc1 -> v4.0.0-rc1
   [new tag]
                             v4.0.0-rc2 -> v4.0.0-rc2
   [new tag]
                             v4.0.0-rc3 -> v4.0.0-rc3
                             v4.0.0-rc4 -> v4.0.0-rc4
   [new tag]
```



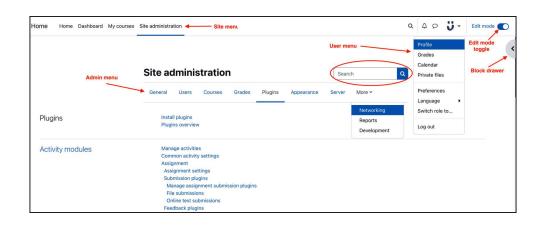


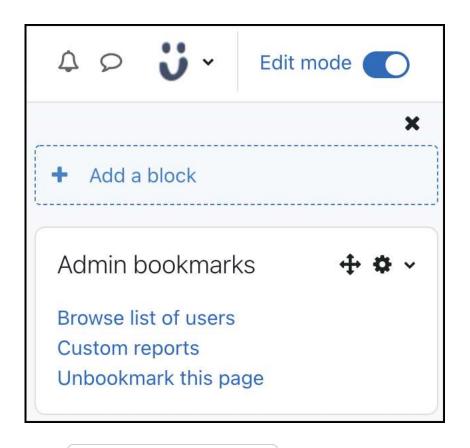
Chapter 2: Exploring the Moodle System

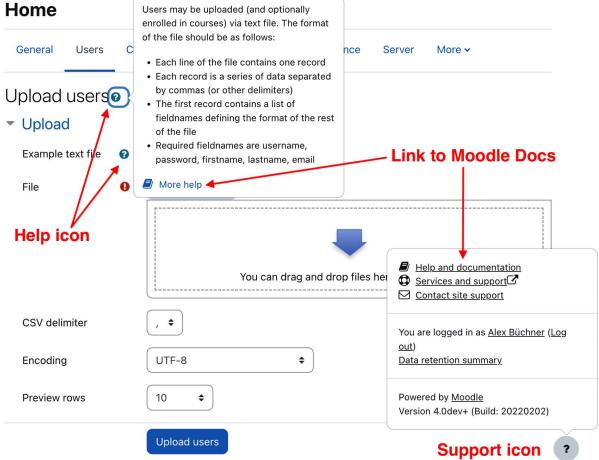


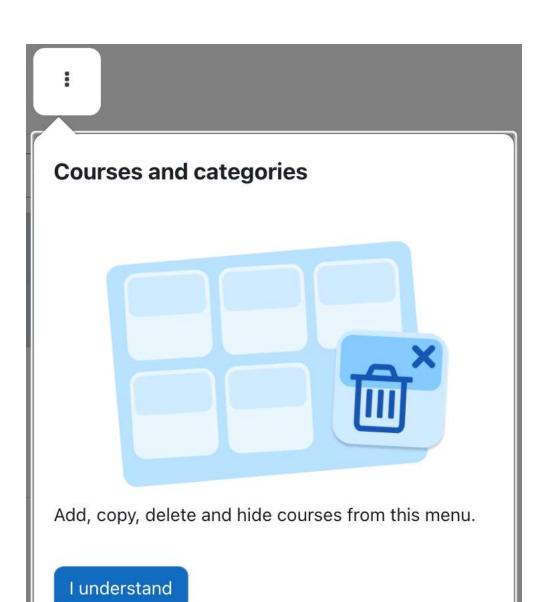


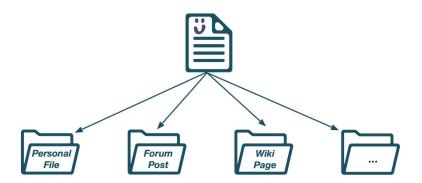
□ admin		All	☐ iplookup	Look up IP addresses	12
adminpresets .		17	☐ lang	Localization strings (one folder per lang)	11
analytics		12	□ lib	Libraries of core Moodle code	2
auth		5	□local	Local customizations	8
availability .			□ login	Login handling and account creation	5
backup	The state of the s	16	message	Messaging tool (one folder per channel)	11
badges		10	<u></u> mnet	Peer-to-peer and hub networking	19
blocks		7	<u></u> mod	Core Moodle course modules	8
blog	00 0		<u></u> my	Users' personal dashboards (myMoodle)	7
cache	·		notes	Handling of notes in user profiles	-
calendar	-	11	payment	Payment subsystem and gateways	4
cohort		10	pix	Generic site graphics	9
comment		10	□ plagiarism	Plagiarism detection plugins	10
competency			portfolio	Portfolio plugins to export data Privacy and policies / GDPR	14
contentbank		gation 4 9	privacy	Question bank and question types	9
course			Prating	Handling of user ratings	9
Customfield		4+5	☐ report	Report plugins and events list	12
A dataformat	3.	12	☐ report	Custom report builder	12
enrol		4	repository	Repository plugins to export data	10
☐ error			□repository	RSS feeds	10
☐ favourites	0.	7	⊟search	Global search	15
☐ files		2	⊟tag	Tagging	9
₱ filter			Theme	Themes to change branding of site	7
🗁 grade			Duser	User management	5
group		5	□userpix	Display thumbnails of user profile pictures	5
₱ h5p		9	₩ebservice	Web services functionality	18
	Moodle installation and update scripts	s 1	_	850.	
antivir	us quarantine S	Storing of	quarantined antiv	virue files	
	_			ilus illes	
cache .	C	Caching o	data		
Filadir	T	he actua	lucor content_fi	les that have been uploade	ho
				les triat riave been upload	eu
☐ filter	C	Caching of	of filtered data		
[lang	L	ocally us	land anguage had	ks and customizations	
-				d and customizations	
☐ localca	che C	Caching of	data of plugins		
□ lock		ocked fil	es		
models		acne of	analytics models		
muc	N	Moodle U	niversal Cache file	es	
The second secon					
		xternal l	ocation accessible	e from within Moodle	
session	s S	Session in	nformation		
		emporar	v filos		
			- A NOTHER CONTRACTOR		
	r [Deleted fi	les		
- 30					

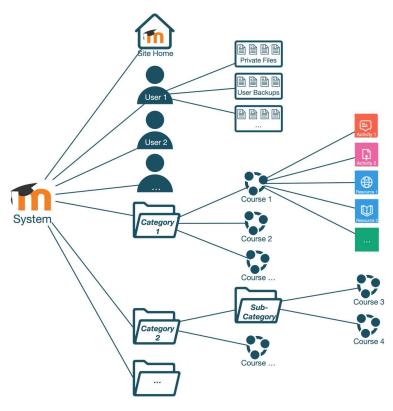


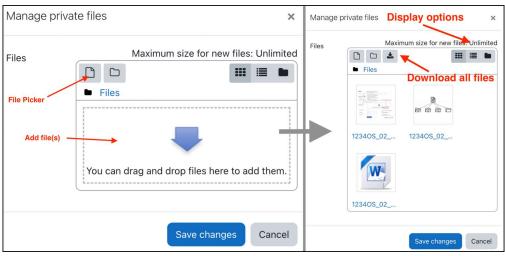






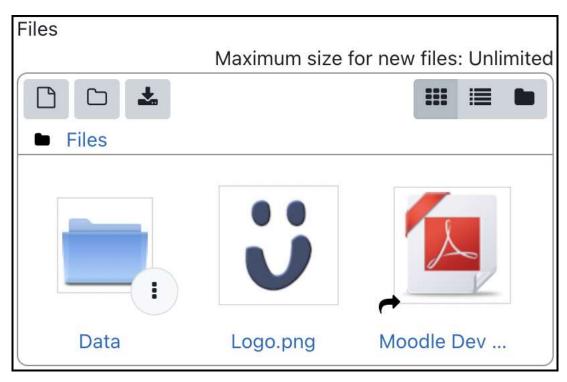


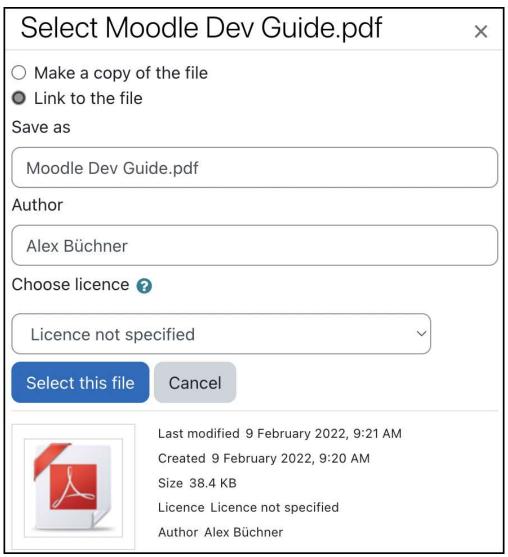


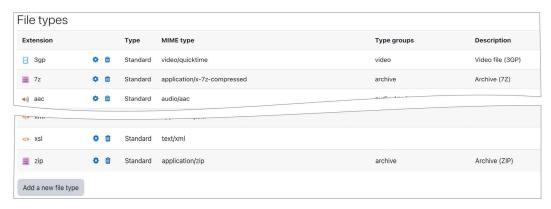


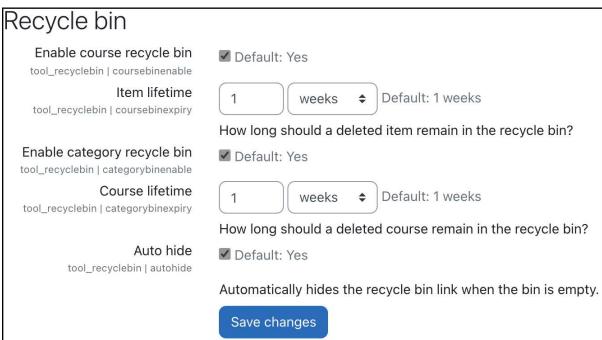


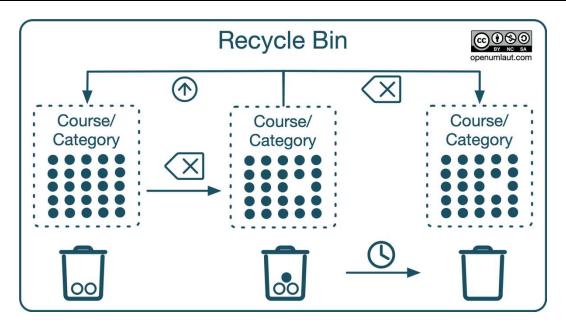




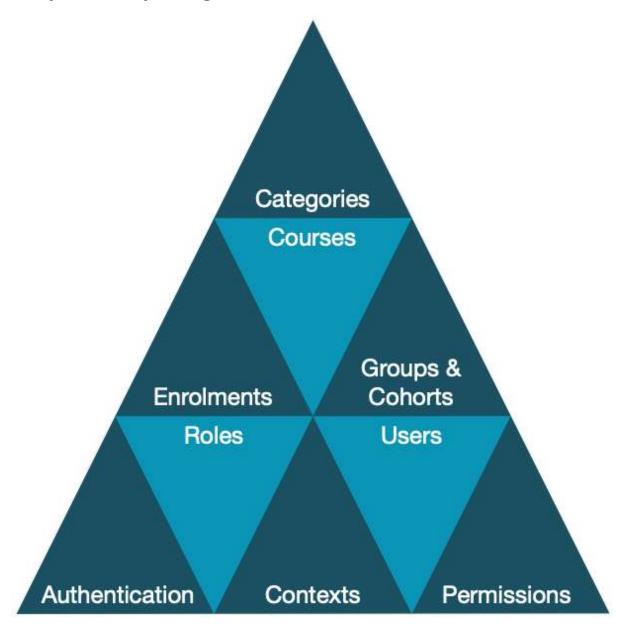


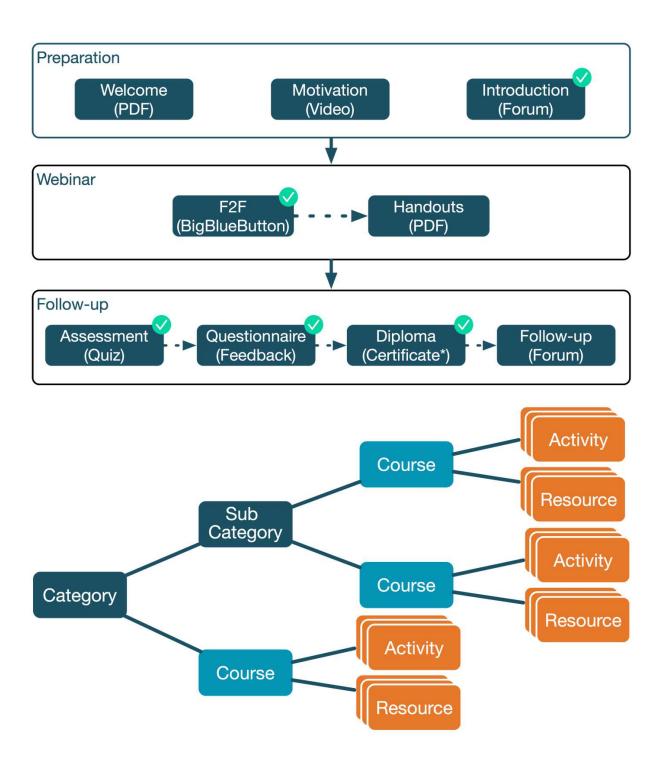


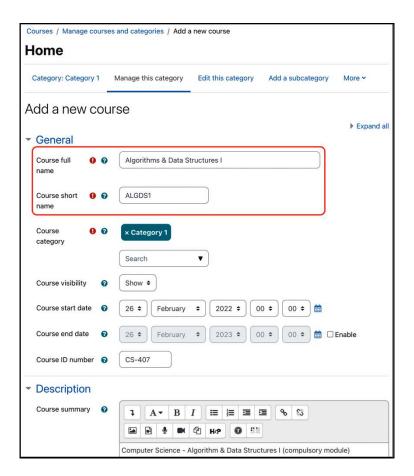


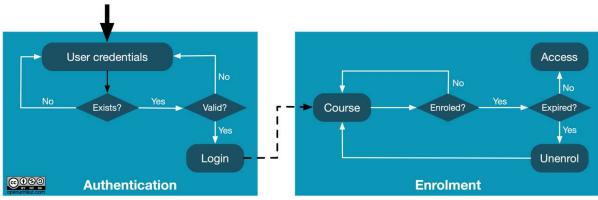


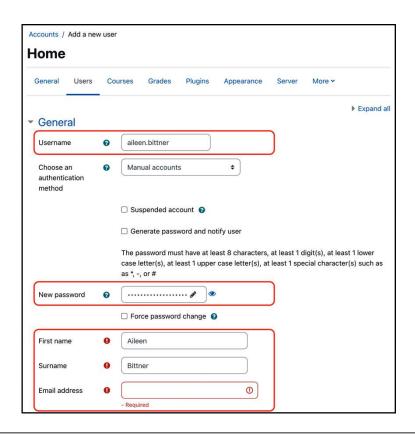
Chapter 3: Exploring Courses, Users, and Roles





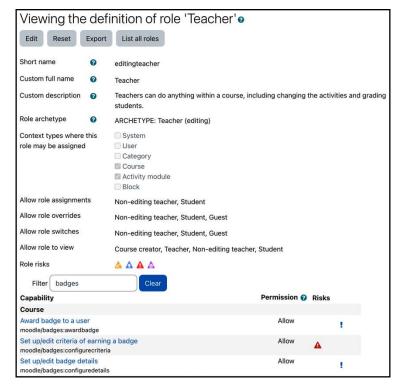




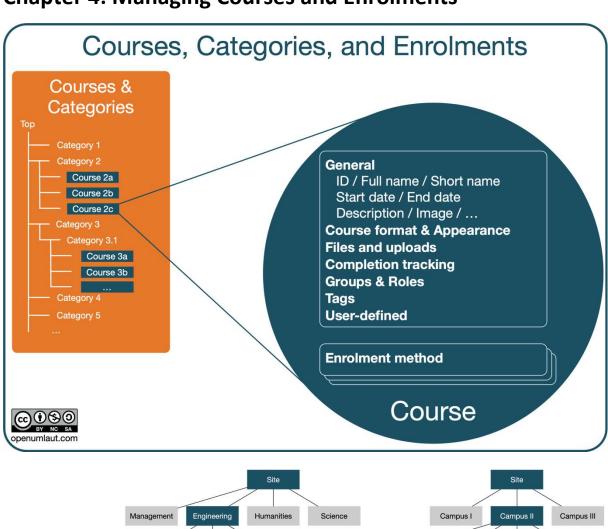


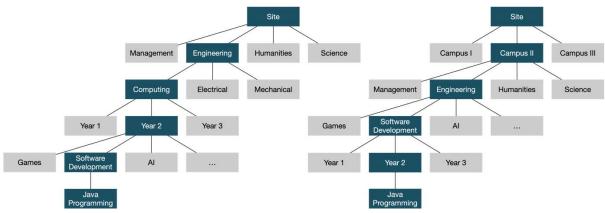
First name / Surname	Email address	City/town	Country	Last access	Edi	it	
Adam Stevenson	adam.stevenson@openumlaut.com	Heidelberg	Germany	Never	•	0	Ф
Aileen Bittner	aileen.bittner@openumlaut.com	Paris	France	Never	Û	0	•
Alex Büchner	packt@openumlaut.com	Heidelberg	Germany	8 secs	0		
Alex Newton	alex.newton@openumlaut.com	Heidelberg	Germany	Never	Û	0	Ф
Amanda Binnington	amanda.binnington@openumlaut.com	Heidelberg	Germany	Never	Û	0	Ф
Amanda hutchingson	amanda.hutchinson@openumlaut.com	Heidelberg	Germany	Never	Û	(Ф
Andrew Craig	andrew.craig@openumlaut.com	Heidelberg	Germany	Never	Û	(9)	•
Andrew Elleray	andrew.elleray@openumlaut.com	Heidelberg	Germany	Never	Û	(3)	•
Andrew Greenhouse	andrew.greenhouse@openumlaut.com	Heidelberg	Germany	Never	Û	0	•
Andrew Simpson	andrew.simpson@openumlaut.com	Heidelberg	Germany	Never	Û	(9)	•
Andrew Wright	andrew.w.wright@openumlaut.com	Heidelberg	Germany	Never	Û	0	0
Andy Hodnett	andy.hodnett@openumlaut.com	Heidelberg	Germany	Never	Û	0	0
Andy Lowes	andy.lowles@openumlaut.com	Heidelberg	Germany	Never		•	Ф
Anthony Bennett	antony.bennett@openumlaut.com	Heidelberg	Germany	Never	Û	0	Ф
Barrie Saxby	barrie.saxby@openumlaut.com	Heidelberg	Germany	Never	Û	(Ф
Barry Pullin	barry.pullin@openumlaut.com	Heidelberg	Germany	Never	Û	0	Ф



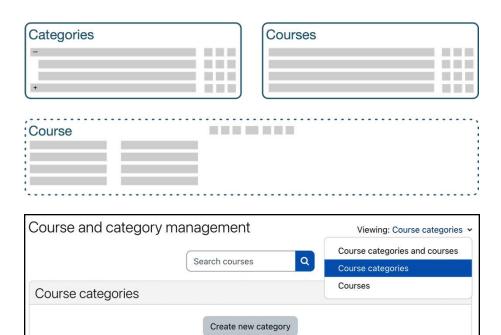


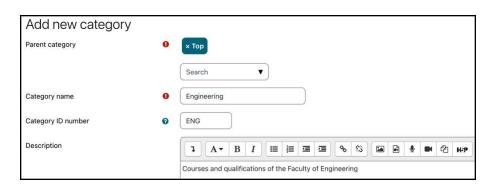
Chapter 4: Managing Courses and Enrolments

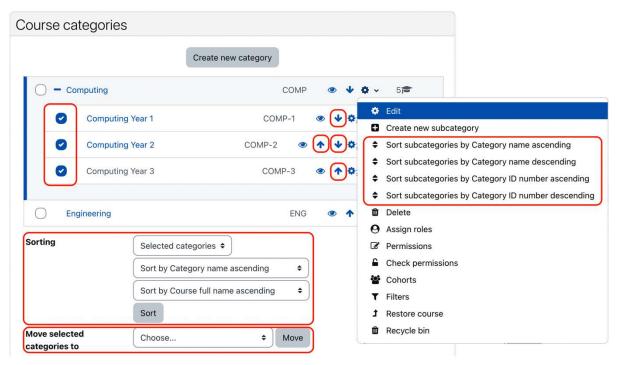




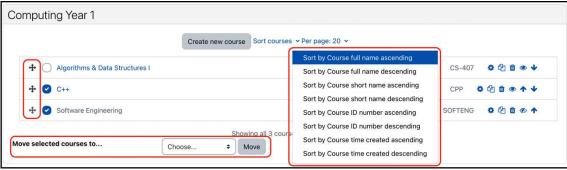


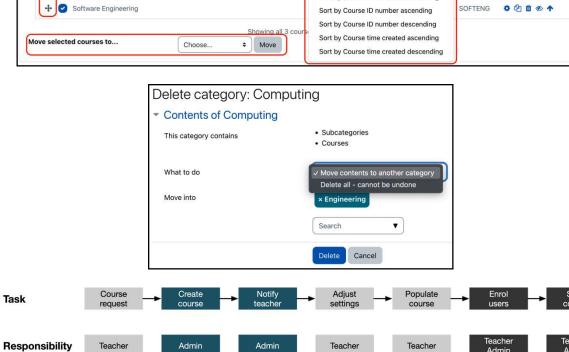






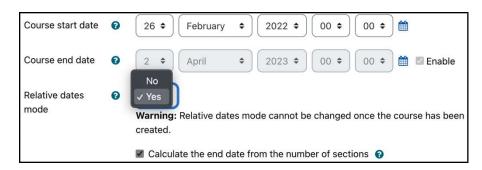
Option	Description	Chapter
Edit	Modify category details	
Create new subcategory	It does exactly what it says on the tin	
Sort	(Re-)ordering of categories	
Delete	Remove category after choosing some options	
Assign roles	Assign category roles	6
Permissions	Manage permissions in category	6
Check permissions	Check permissions in category	6
Cohorts	Manage category cohorts	5
Filters	Link to course filters	9
Restore course	Restore a course in this category	16
Recycle bin	Retrieve deleted categories and courses	2





Setting	Description
Course full name*	The course's full name is displayed at the top of the screen and in the list of courses, for example, on the dashboard.
Course short name*	Many organizations have a short form for referring to a course. The field is used in several places where the full name is inappropriate, such as in the navigation, when uploading users in batch files, or as a subject line in email communication.
Course category*	The category to which the course belongs. See previous section for details.
Course visibility	If set to Hide , the course won't appear in course listings, and students cannot access it. Other than the course teacher(s) and administrators (and anyone with permission to view hidden courses), no one will be able to view it in any course listings.
Enable download	If enabled, the course content can be downloaded by users with the capability
course content	moodle/course:downloadcoursecontent (by default, students and teachers). The feature has to be activated in Site administration Courses Download course content , where a maximum size per file can also be specified.
Course start/end date	See the following details on date fields.
Relative dates mode	See the following details on date fields.
Course ID number	The course code (often used in conjunction with external systems).
Course summary	Writing a concise paragraph explaining what the course is about is recommended. The summary is displayed when a user clicks on the information icon, and when the course appears in a list.
Course image	You have the option to upload an image, which will be shown in the course listing. This is highly recommended to make the course catalogue more attractive.

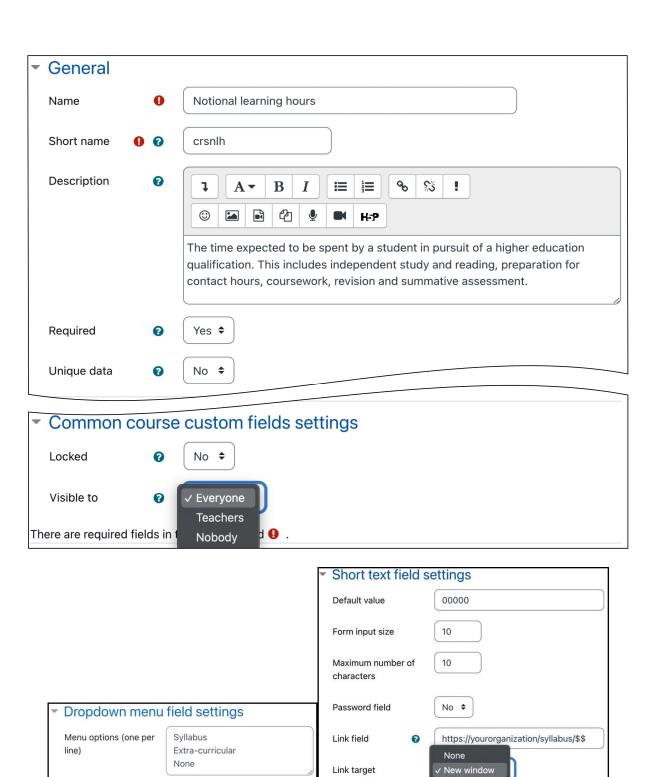
^{*} Compulsory field



	Start date	End date
Absolute dates	Manual	Manual / Open
Relative dates	Enrolment date Start date	Dynamic

Setting	Description
Force theme	The theme to be applied for this course is forced through this option. This requires course themes to be enabled in Site administration Appearance Themes Theme Settings (see <i>Chapter 7, Enhancing Moodle's Look & Feel</i>).
Force language	If set, the selected language is used throughout the course and cannot be changed.
Number of announcements	Determines how many recent items appear on your course home page in the news section (if any). Set this to 0 if the default news forum shown in a course should not be re-created automatically once deleted!
Show gradebook to students	Determines whether students are shown the Grades link. You can set this to No and still grade your activities.
Show activity reports	Determines whether students can see their own activity reports (see <i>Chapter 12, Gaining Insights Through Moodle Reporting and Analytics</i>) via their profile page.
Show activity dates	Determines whether activity dates are shown below each activity in addition to being displayed on the activity page.
Maximum upload size	Limits the size of a file a user can upload into this course.
Enable completion tracking	Once completion tracking is enabled sitewide (Advanced features), it has to be activated at the course level.
Show activity completion conditions	Determines whether activity completion conditions are shown below each activity in addition to being displayed on the activity page. Enable completion tracking must be enabled.
Group mode	 This sets the group mode of the course to: No groups: There are no subgroups. Everyone is part of one big community or class Separate groups: Users can only see their own group, while other groups are invisible Visible groups: Users work in their own group but can also see other groups
Force group mode	If set, the selected group mode is used for every activity, and group settings in individual activities are ignored. Forcing group mode is useful when the same course is run multiple times with separate batches of students. Also, if group mode is forced and set to No groups , the Groups link is hidden in the course administration menu.
Default grouping	If grouping is enabled and used within the course, the grouping to be used as default can be selected.



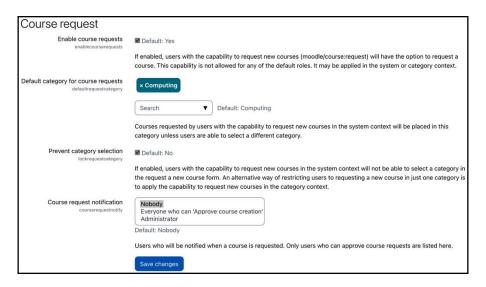


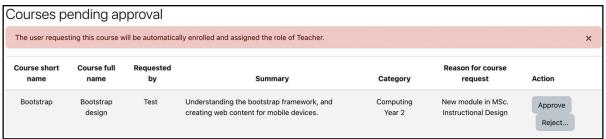
Default value

Syllabus

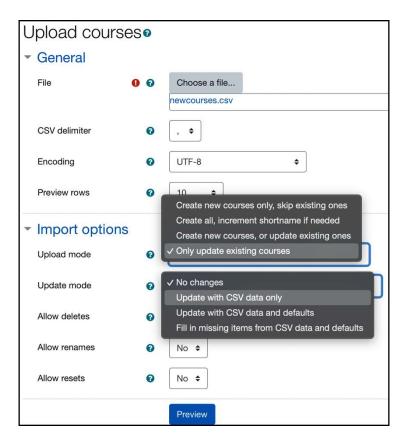
Same frame

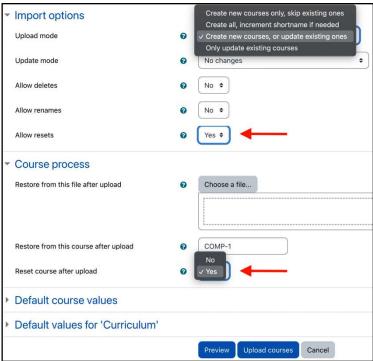
Same window

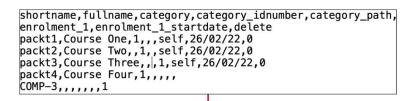




Option	Description
Upload mode	There are four self-explanatory options whether courses will be created or updated: • Create new courses only, skip existing ones • Create all, increment if needed (see templates further down) • Create new courses, or update the existing ones • Only update the existing ones If any of the latter two options are selected, the following settings will become available.
Update mode	 The mode specifies what data source will be used for updating fields: No changes Update with CSV data only Update with CSV data only and defaults Fill in missing items from CSV and defaults
Allow deletes	Determines whether the delete field will be accepted or not
Allow renames	Determines whether the rename field will be accepted or not
Allow resets	Determines whether the reset field will be accepted or not



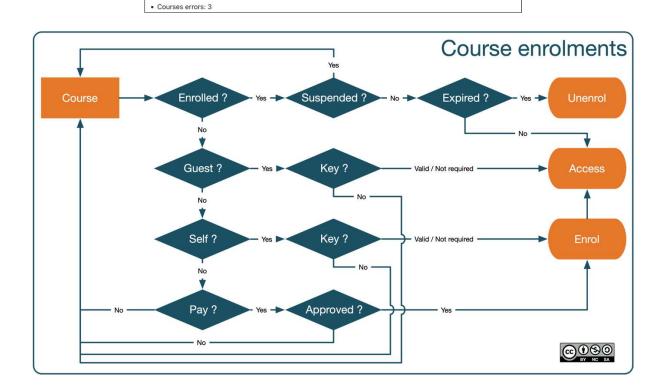




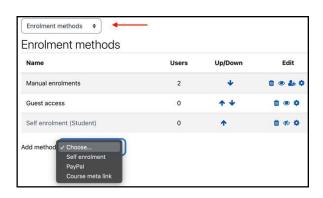
Line	Result	ID	Short name	Full name	ID number	Status
1	~		packt1	Course One		
2	×		packt2	Course Two		Could not resolve category by ID number
3	×		packt3	Course Three		Could not resolve category by path
4	~		packt4	Course Four		
5	×		COMP-3			Cannot delete a course that does not exist

Line	Result	ID	Short name	Full name	ID number	Status
1	~	9	packt1	Course One		Course created
2	×		packt2	Course Two		Could not resolve category by ID number
3	×		packt3	Course Three		Could not resolve category by path
4	~	10	packt4	Course Four		Course created
5	×		COMP-3			Cannot delete a course that does not exist

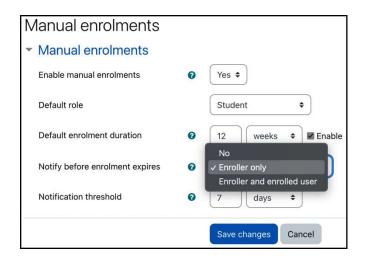
Courses deleted: 0



Manage enrol plugins vailable course enrolment plugins							
Name	Instances / enrolments	Version	Enable	Up/Down	Settings	Test settings	Uninstal
Manual enrolments	3 / 74	2021052500	•	•	Settings		
Guest access	3/0	2021052500	•	* *	Settings		Uninstall
Self enrolment	3/1	2021052500	•	+ +	Settings		Uninstall
Cohort sync	1/28	2021052500	•	* +	Settings		Uninstall
Enrolment on payment	2/0	2021052500	•	•	Settings		Uninstall
Category enrolments	0/0	2021052500	40		Settings		Uninstall
External database	0/0	2021052500	Ø		Settings	Test settings	Uninstall
Flat file (CSV)	0/0	2021052500	Ø		Settings		Uninstall
IMS Enterprise file	0/0	2021052500	Ø		Settings		Uninstall
LDAP enrolments	0/0	2021052500	Ø		Settings		Uninstall
Publish as LTI tool	0/0	2021052500	Ø		Settings		Uninstall
Course meta link	0/0	2021052501	Ø		Settings		Uninstall
MNet remote enrolments	0/0	2021052500	40		Settings		Uninstall
PayPal	0/0	2021052500	40		Settings		Uninstall

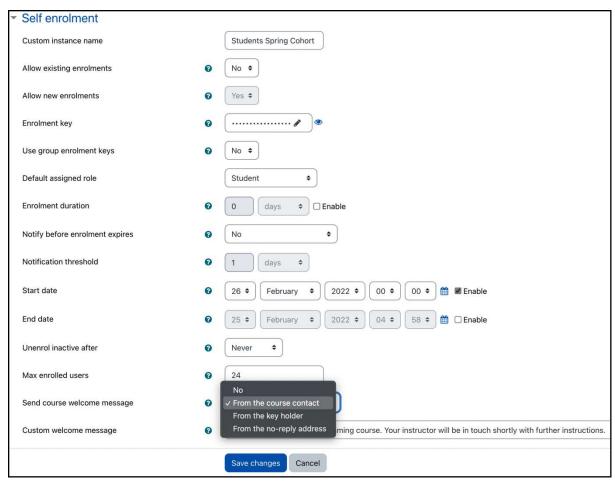


Option	Description
Enrolment expiration action	The action to be taken when a user enrolment expires.
Hour to send enrolment expiry notifications	The time when the enrolment expiry notification will be sent out to the user.
Add instance to new course	Every newly-created course will contain this plugin by default.
Enable manual enrolments	The plugin is enabled by default.
Default role	The role that manually enrolled users will have by default.
Default enrolment start	The three options when the enrolment is to commence are Course start , Today (default), and Now .
Default enrolment duration	The default time for how long users are enrolled in a course.
Notify before enrolment expires	You can opt to notify only the enroller or the enrolled user and also the affected user.
Notification threshold	The time before expiration users will be notified.

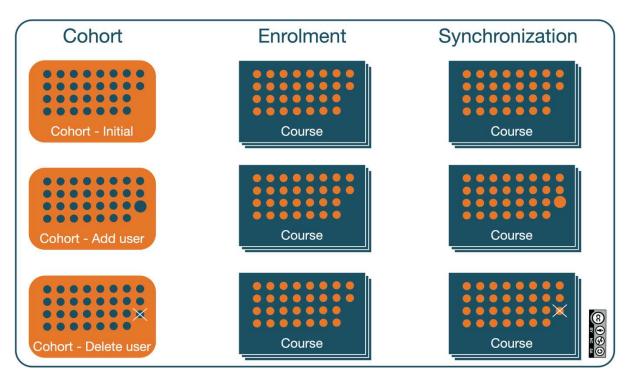


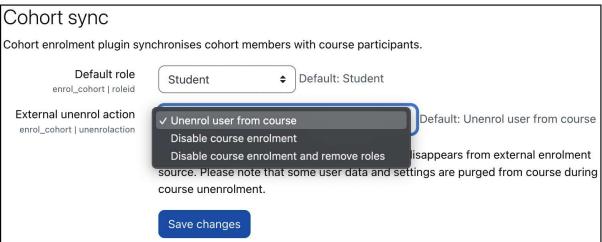


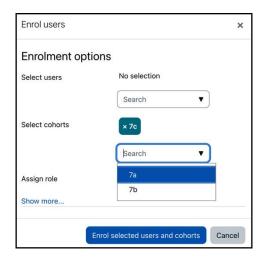
Setting	Description
Require enrolment key	If set, new courses must have an enrolment key. Enrolment keys set in the existing courses cannot be removed but can be modified.
Use password policy	If set, the password policy (see <i>Chapter 12, Security</i>) will be applied to enrolment keys.
Show hint	If set, the first letter of the enrolment key is shown.
Enrolment expiry action	The action to be taken when a user enrolment expires.
Hour to send enrolment expiry notifications	The time when the enrolment expiry notification will be sent out to the user.
Add instance to new courses	Every newly-created course will contain this plugin by default.
Enable existing enrolments	If set, all the existing enrolments will be suspended, and new users cannot enrol.
Allow new enrolments	If set, new users can enrol in the course.
Use group enrolment keys	If set, users can self-enrol via a group enrolment key, making them members of that group.
Default role assignment	The role self-enrolled users will have by default.
Enrolment duration	The default time for how long users are enrolled in a course.
Notify before enrolment expires	You can opt to notify only the enroller or the enroller and also the affected user.
Notification threshold	This is the time before expiration a user will be notified.
Unenrol inactive after	The number of days after users will be unenrolled after being logged in to the course.
Max enrolled users	The maximum number of users who can enrol in the course (0 equals unlimited).
Send course welcome message	If set, a welcome message will be sent to the user by email.

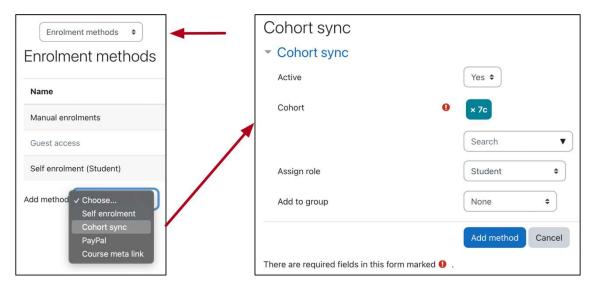


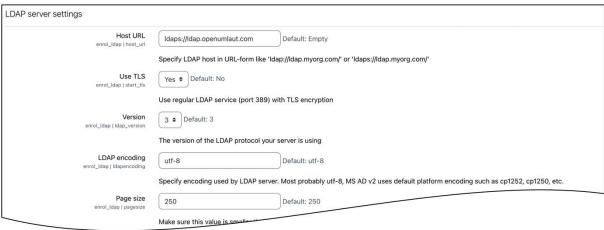
Guest access		
Guest access plugin is only granting	g temporary access to courses, it is not actually enrolling users.	
Require guest access password enrol_guest requirepassword	Deladit. No	
	Require access password in new courses and prevent removing of access password from ex	isting courses.
Use password policy enrol_guest usepasswordpolicy		
	Use standard password policy for guest access passwords.	
Show hint enrol_guest showhint	☐ Default: No	
	Show first letter of the guest access password.	
Enrolment instance defaults		
Default enrolment settings in new c	ourses.	
Add instance to new courses	■ Default: Yes	
	It is possible to add this plugin to all new courses by default.	
Allow guest access enrol_guest status	No 💠 Default: No	Advanced
	Allow temporary guest access by default.	

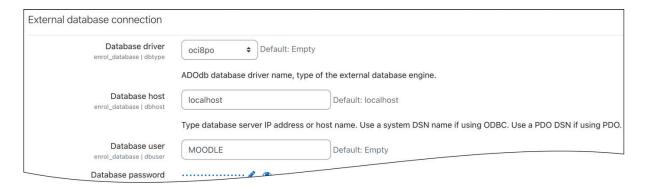




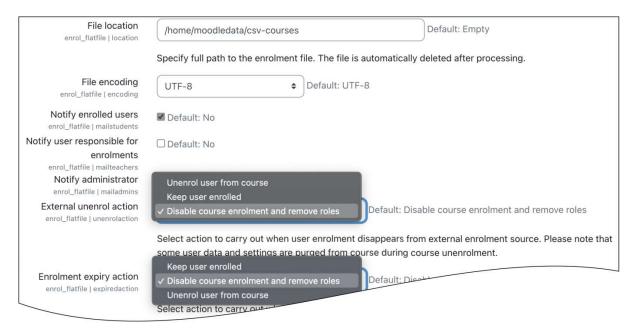


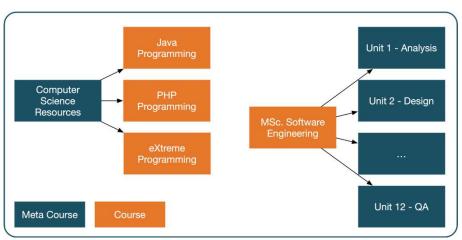


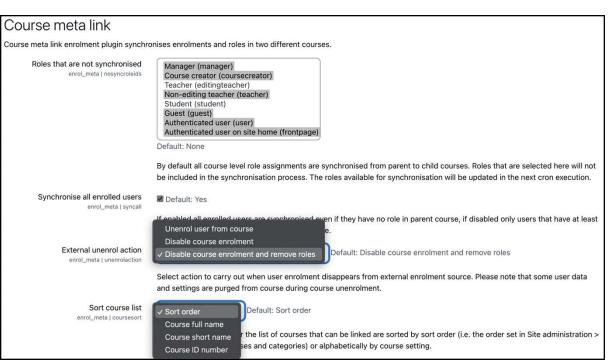


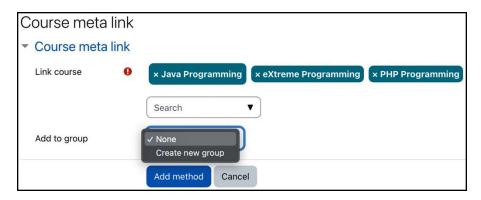


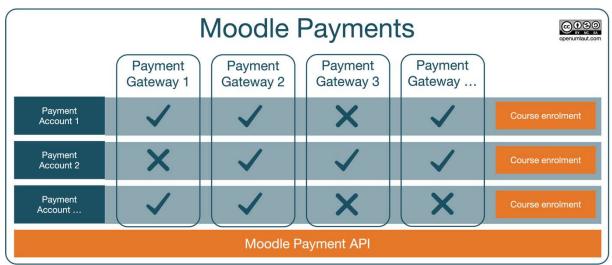
Field	Description
operation	add (to add an enrolment) or del (to remove it)
role	See Flat file role mapping in the lower part of the same screen, for example, student or teacher
user idnumber	The ID number of the user to be enrolled
course idnumber	The ID number of the course in which the user is to be enrolled
start time/end time	The optional start/end time in seconds since epoch (January 1, 1970)



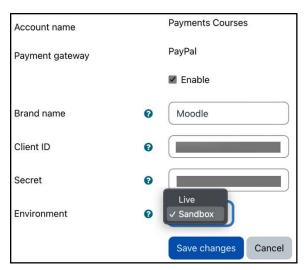


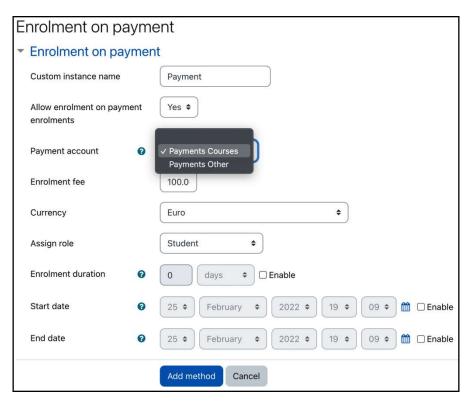


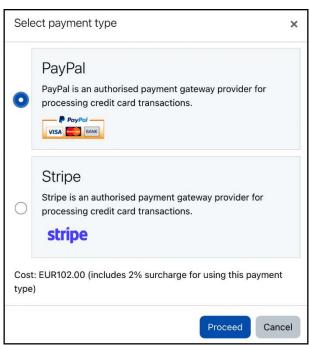




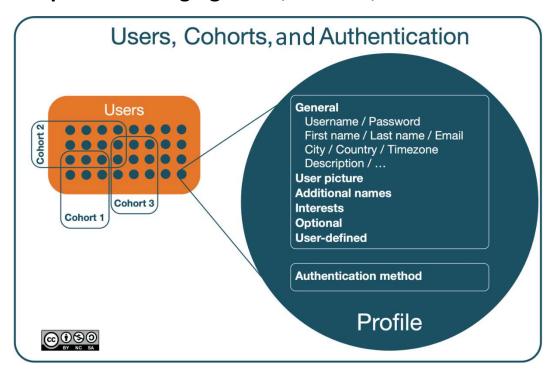


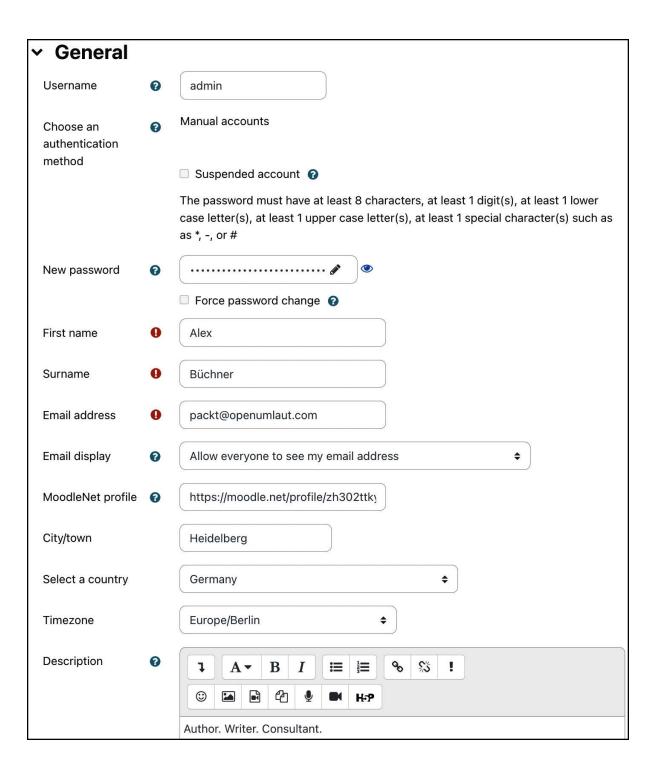


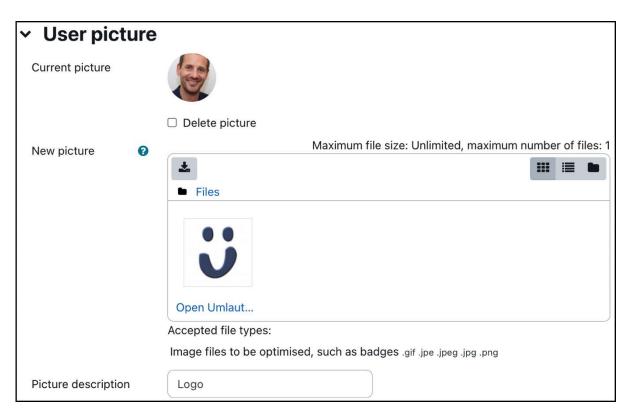


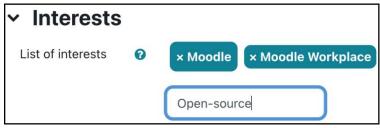


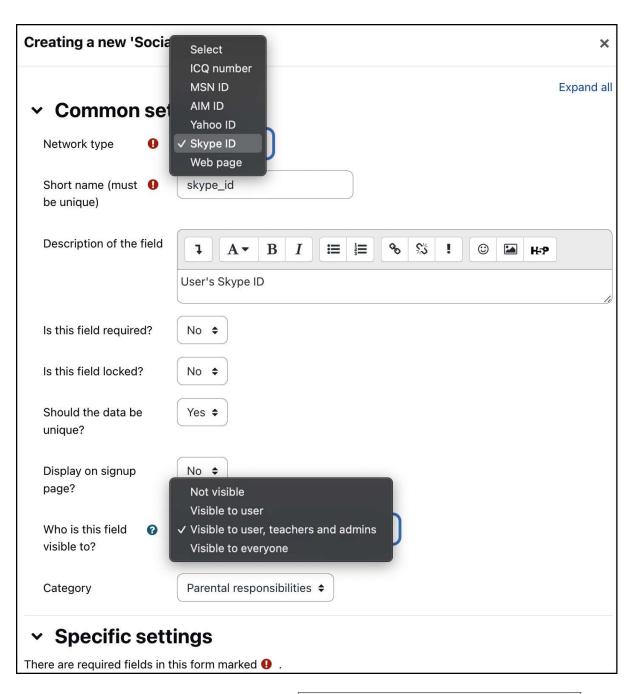
Chapter 5: Managing Users, Cohorts, and Authentication



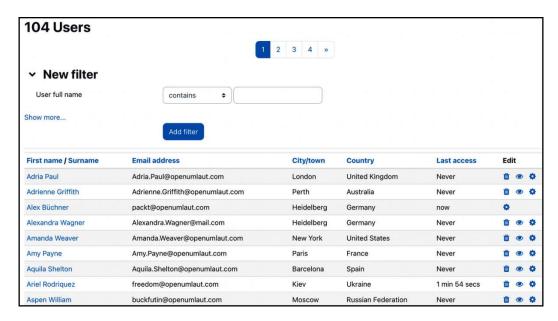


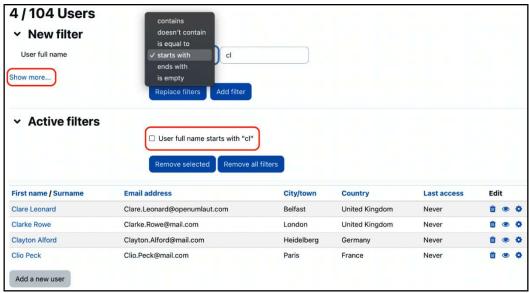


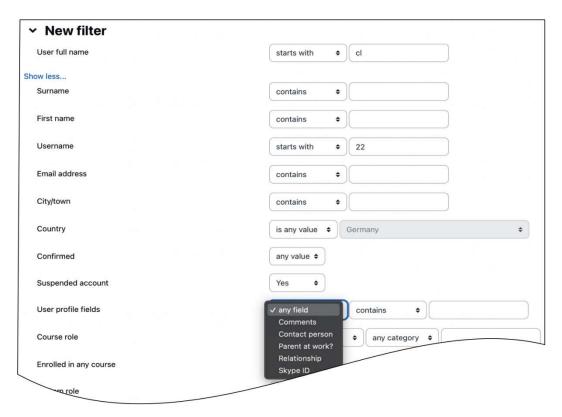






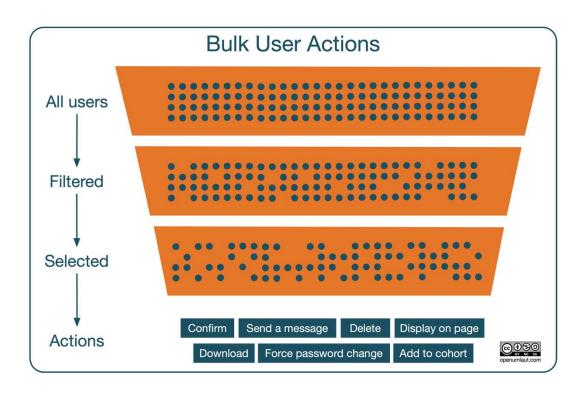






~	Active filters						
		☐ Last access is before Saturday, 26 February 2022, 12:00 am					
		☐ City/town is equal to "Heidelberg"					
		☐ Email address ends with "openumlaut.com"					
		Remove selected Remove all filters					

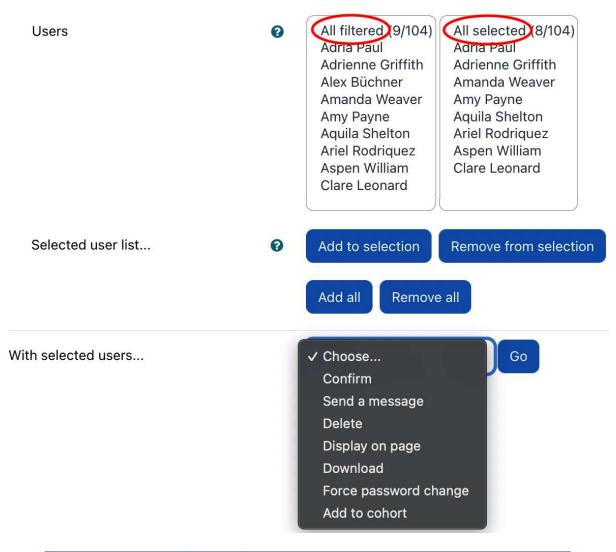
Filter operation	Field type	Description		
is any value	Lists	All values are acceptable; the filter is disabled		
is equal to Lists		The list value has to be the same as the one that's been selected		
isn't equal to	Lists	This is the opposite of is equal to		
any value	Yes/No	The value can be either Yes or No; the filter is disabled		
Yes	Yes/No	The value has to be Yes		
No	Yes/No	The value has to be No		
is defined	Profile fields	The field has to be defined for the user		
isn't defined	Profile fields	This is the opposite of is defined		
is after	Date	This contains all dates after the specified day, month, and year		
is before	Date	This contains all dates before the specified day, month, and year		



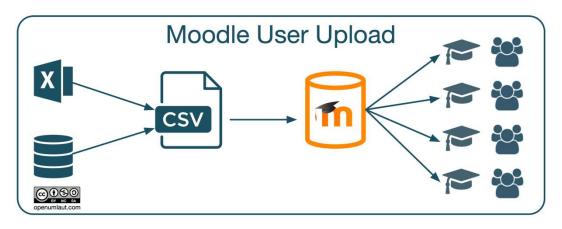
> New filter

> Active filters

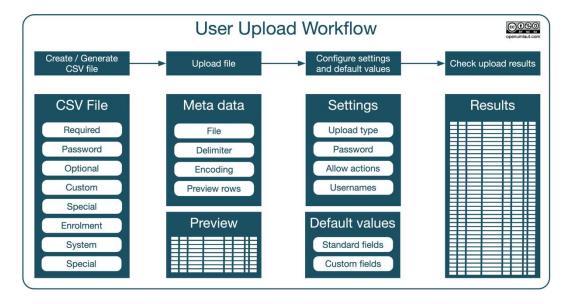
Users in list

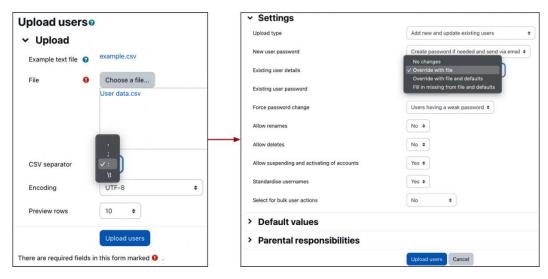


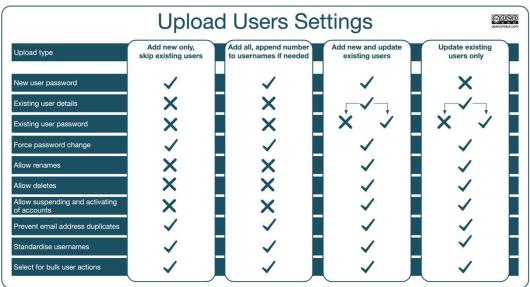
Action	Description
Confirm	After a confirmation screen, pending user accounts will be confirmed. This is only applicable to email-based self-registrations.
Send a message	You are asked to write a message body, which will be sent to the selected users.
Delete	After a confirmation screen, users will be irreversibly removed from the system (refer to the information on user deletion in the <i>Browsing users</i> section).
Display on page	The user information is shown on the screen. By default, the fields displayed are Full name, Email address, City/town, Country, and Last access (take a look at the Show user identity setting by going to Site administration I Users I Permissions I User policies for more details).
Download	You can choose between the following download formats: CSV, XLSX, HTML, JSON, ODS, and PDF. In addition to user profile fields (standard and custom), the list of fields also includes Moodle's internal user ID.
Force password change	Users will have to change their password the next time they log in to Moodle.
Add to cohort	Select a cohort that users will be added to. Cohorts will be dealt with in detail in the next section.

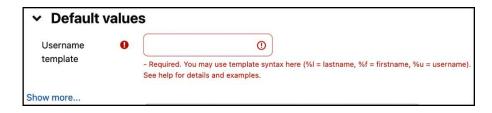


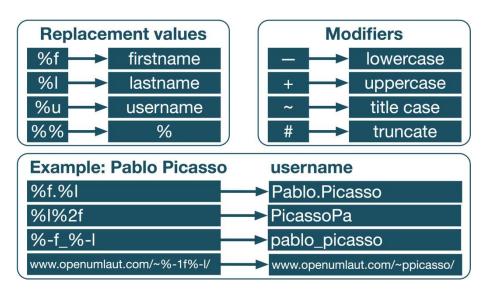
Type	Fields				
Text	The values of these fields are in plain text:				
	address,department,description,icq,idnumber,institution,interests,phonel,				
	phone2,timezone,url				
	If any fields contain commas, you must encode them as , the upload function will auton convert them back to commas.				
Numeric	The options a starts with 0:	are numbered in the same order as they appear in the Moodle interface—the numbering			
	autosubso	cribe: 0 = No, 1: Yes			
	htmledito	or: 0 = Standard web forms, 1: HTML Editor			
	maildispl	Lay: 0 = Hide, 1 = Allow everyone, 2 = Allow course members			
	mailforma	at: 0 = Pretty, 1 = Plain			
	maildiges	st: 0 = No digest, 1 = Complete digest, 2 = Digest with just subjects			
List	These fields	have to be populated with pre-defined values			
	auth:	Each authentication method is represented by its shortname, for instance, manual, Idap,			
		oauth2, or nologin.			
	country:				
	lang:	Shortname of the language pack, such as es, es_mx, es_ve, and es_co. You can find the			
		complete list in Site administration I General I Language I Language packs.			
	theme:	Shortname of the user theme. Options are boost and classic , plus any installed third-			
		party themes.			
	timezone:	The region of the user's time zone, for example, Europe/Berlin. Case sensitivity is critical,			
		so check out the available values in the Default timezone list in Site administration I			
		General I Language I Location settings.			

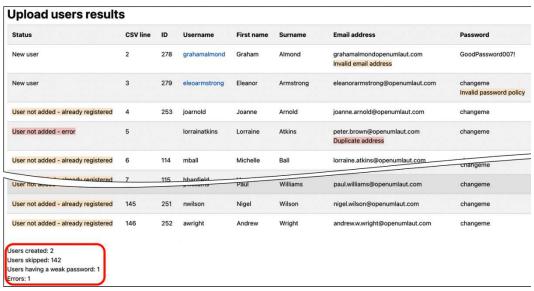


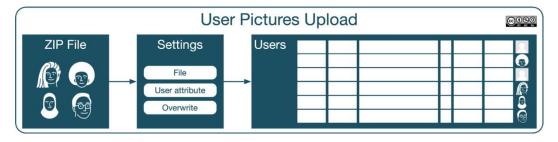






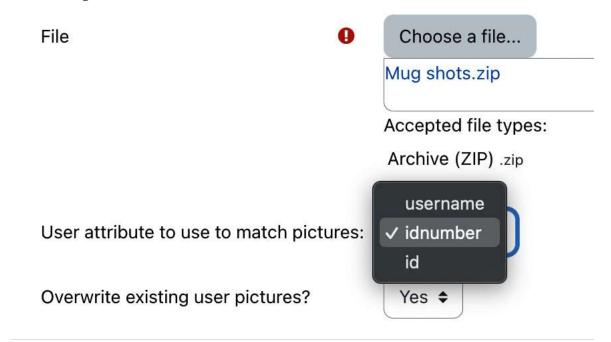




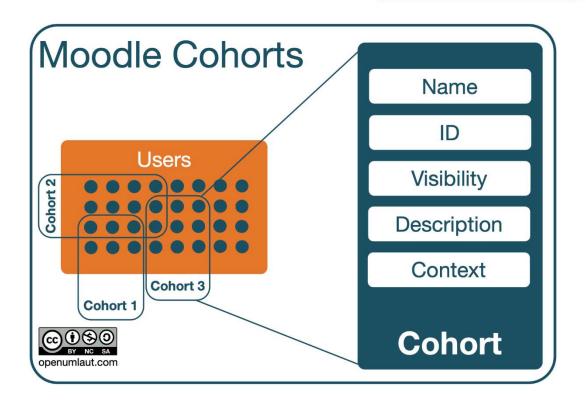


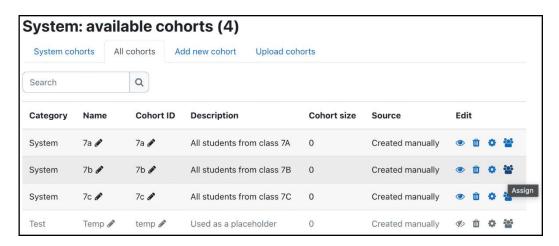
Upload user picturese

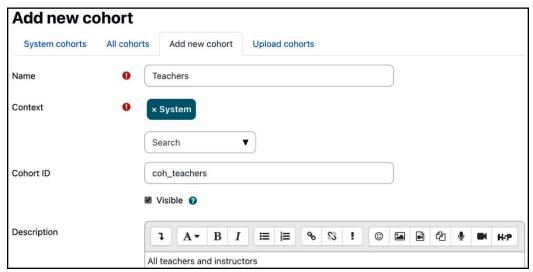
Upload

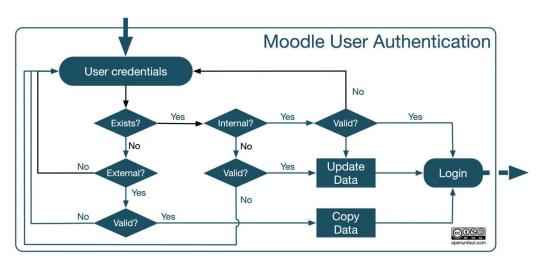


Upload user pictures





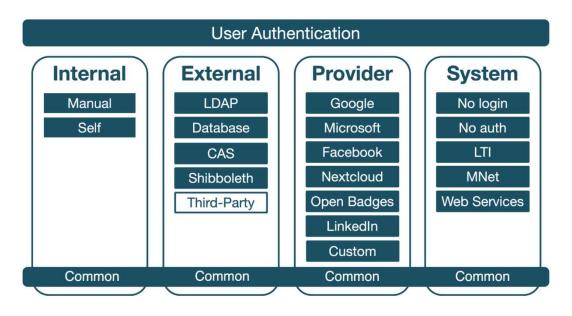


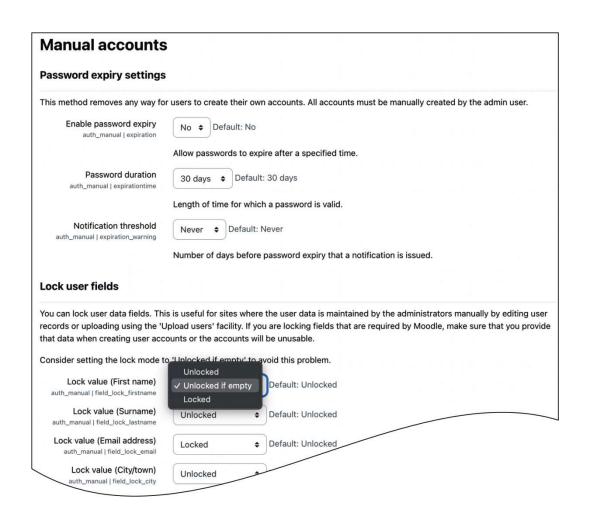


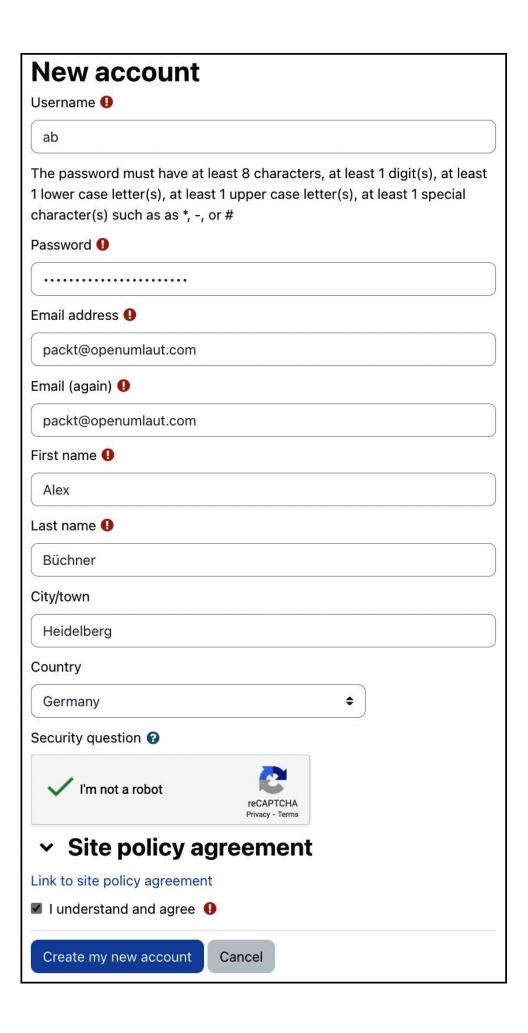
Manage authentication

Available authentication plugins

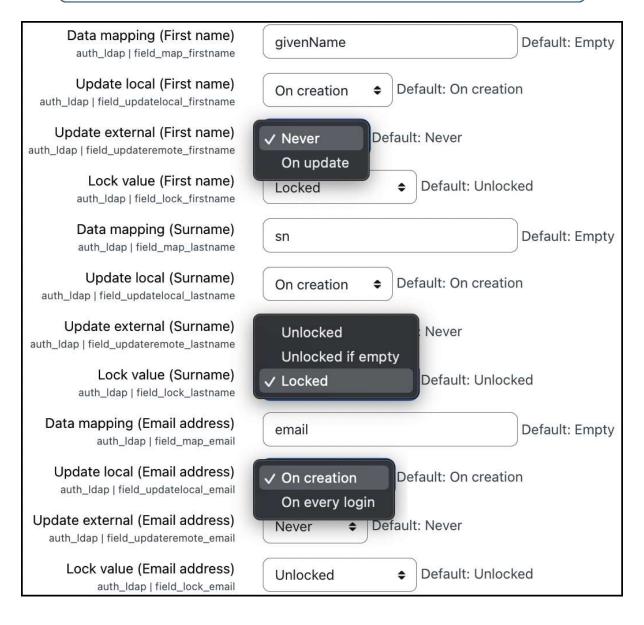
Name	Users	Enable	Up/Down	Settings	Test settings	Uninstall
Manual accounts	274			Settings		
No login	0					
Email-based self-registration	2	(•	Settings		
OAuth 2	30	(↑ ↓	Settings		
LDAP server	12	©	•	Settings	Test settings	
CAS server (SSO)	0	9 D		Settings	Test settings	Uninstall
External database	0	9 0		Settings	Test settings	Uninstall
LTI	0	4 0				
MNet authentication	0	9 0		Settings	Test settings	
No authentication	0	Ø		Settings		Uninstall
Shibboleth	0	9 0		Settings	Test settings	Uninstall
Web services authentication	0	4 0				

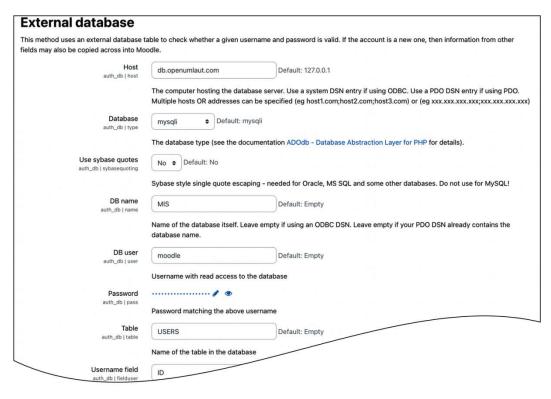






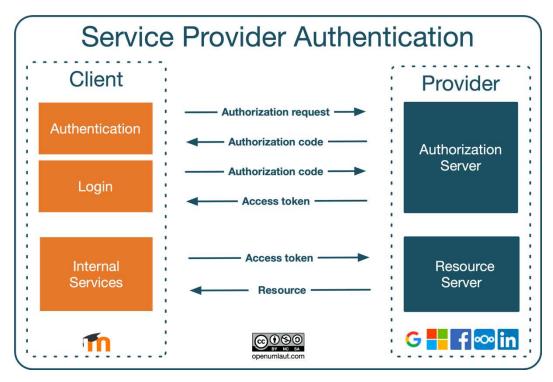
Checklist Self-Registration						
Enable self-registration	Plugins I Authentication I Manage authentication					
Configure user-defined profile fields	Plugins I Authentication I Email-based self registration					
Configure locked fields	Users I User profile fields					
Restrict email domains	Plugins I Authentication I Manage authentication					
Enable and configure reCAPTCHA	Plugins I Authentication I Email-based self-registration Plugins I Authentication I Manage authentication					
Configure user policy settings	Users I Privacy and policies I Policy settings					
Testing, testing, testing	Users I Browse list of users					

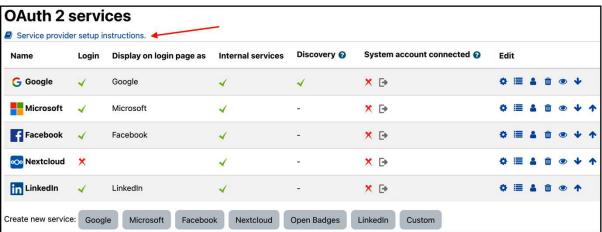


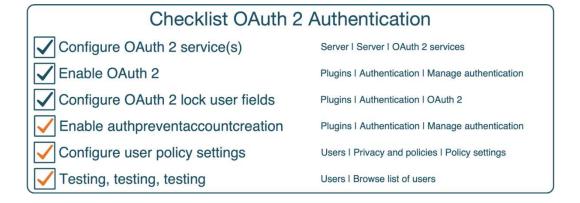




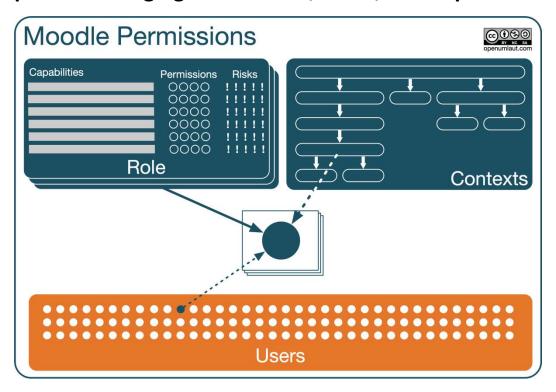




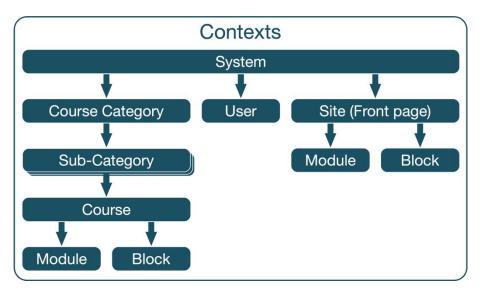


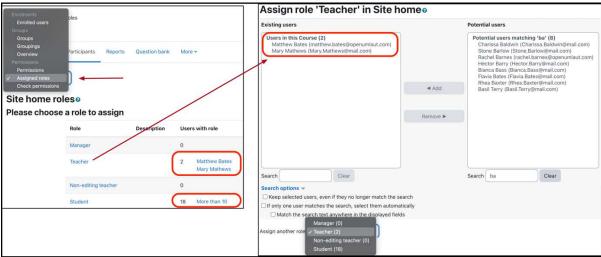


Chapter 6: Managing Permissions, Roles, and Capabilities

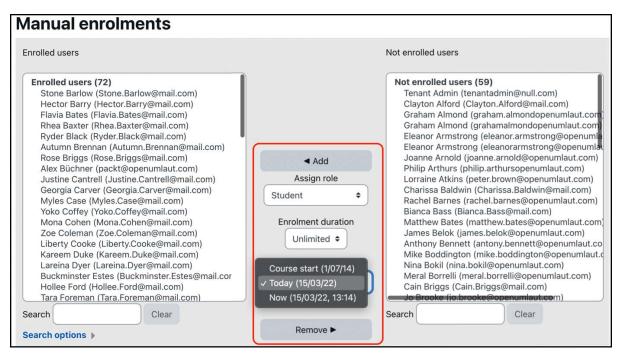


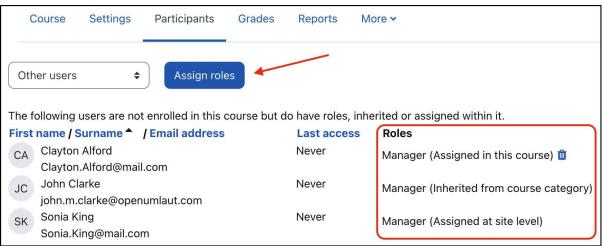
Role 🕝	Description	Short name
Manager	Managers can access courses and modify them, but usually do not participate in them.	manager
Course creator	Course creators can create new courses.	coursecreator
Teacher	Teachers can do anything within a course, including changing the activities and grading students.	editingteacher
Non-editing teacher	Non-editing teachers can teach in courses and grade students, but may not alter activities.	teacher
Student	Students generally have fewer privileges within a course.	student
Guest	Guests have minimal privileges and usually can not enter text anywhere.	guest
Authenticated user	All logged in users.	user
Authenticated user on site home	All logged-in users in the site home course.	frontpage

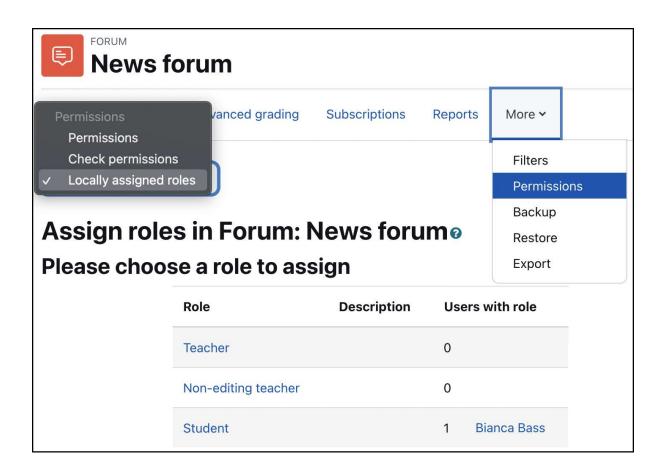


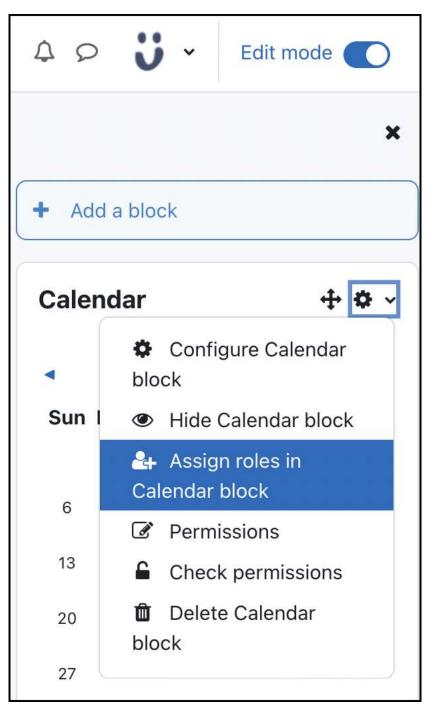


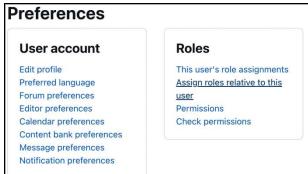


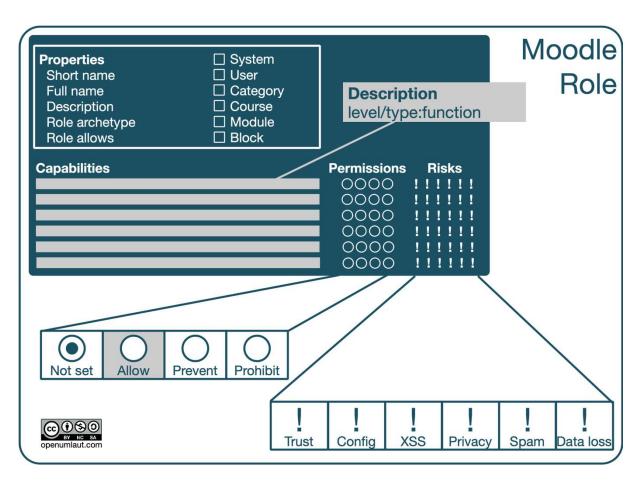


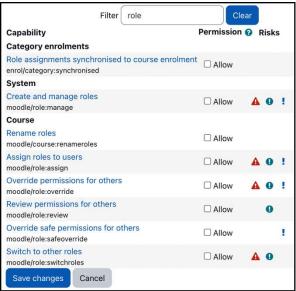








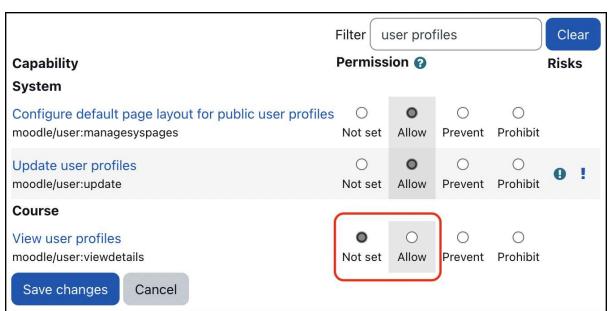


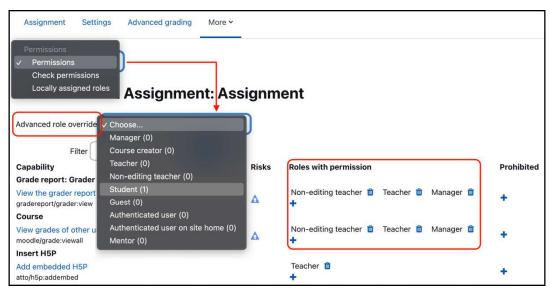


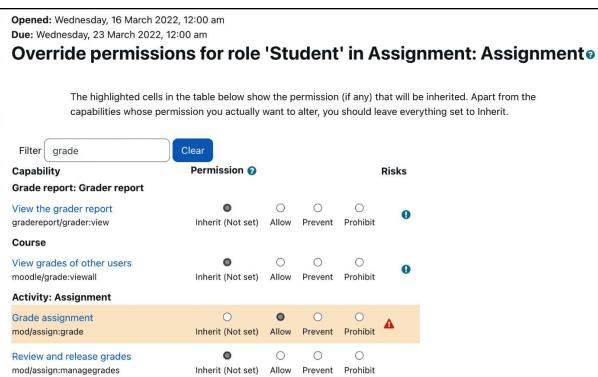
Permission	Description
Not set	All permissions for a new role are set to this value by default. The value in the context where it will be assigned is inherited from the parent context. Moodle searches upward through each context to determine this value until it finds an explicit value (Allow , Prevent , or Prohibit) for this capability; the search terminates when an explicit permission is found.
	<u>Example:</u> If a role is assigned to a user in a Course context and a capability has a Not set value, then the actual permission will be whatever the user has at the category level or, failing to find an explicit permission, at the site level. If no explicit permission is found, then the value in the current context is set to Prevent .
Allow	To grant permission for a capability, set the permission to Allow . It applies in the context in which the role will be assigned and all contexts below it. Example: When assigned in the Course context, students can start new discussions in all forums in that course unless some forum contains an override or a new assignment with a Prevent or Prohibit value for this capability.
Prevent	To remove permission for a capability, set the permission to Prevent . If granted in a higher context (no matter at what level), it will be overridden, and the value can be overridden again in a lower context.
Prohibit	This is the same as the Prevent permission, but the value cannot be overridden again at a lower context. The value is rarely needed but useful when an administrator wants to prohibit a type of user from certain functionality throughout the site. The capability is set to Prohibit and then assigned in the site context. A situation where this applies is when a user is a lousy student who is not allowed to post to the forums.

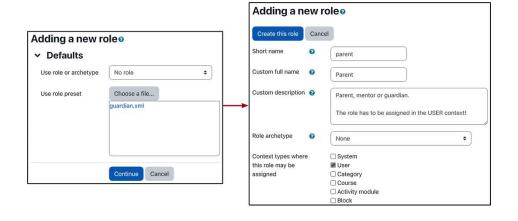
Risk	Icon	Description
XSS		Users can add files and texts that allow cross-site scripting (potentially malicious scripts which are embedded in web pages and executed on the user's computer)
Privacy		Users can gain access to private information of other users
Spam		Users can send spam to site users or others
Data loss		Users can destroy a large amount of content or information









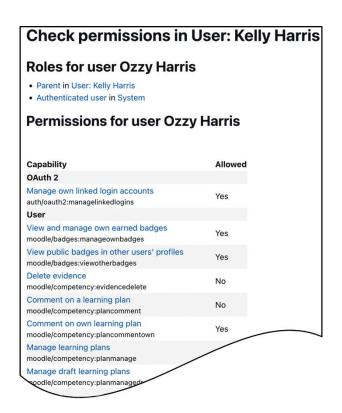


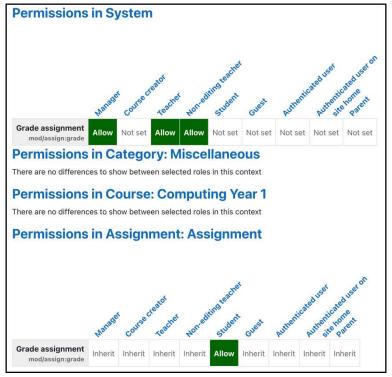
Capability	Permission 🔞	Risks
User		
View all learning plans moodle/competency:planview	Allow Default: Not set	
View all user blogs moodle/user:readuserblogs	Allow Default: Not set	
View all user forum posts moodle/user:readuserposts	Allow Default: Not set	
View user full information moodle/user:viewalldetails	Allow Default: Not set	0
See user activity reports moodle/user:viewuseractivitiesreport	Allow Default: Not set	0
Policies		
Give consent for policies on someone else's behalf tool/policy:acceptbehalf	Allow Default: Not set	0
Course		
View user profiles moodle/user:viewdetails	Allow Default: Not set	

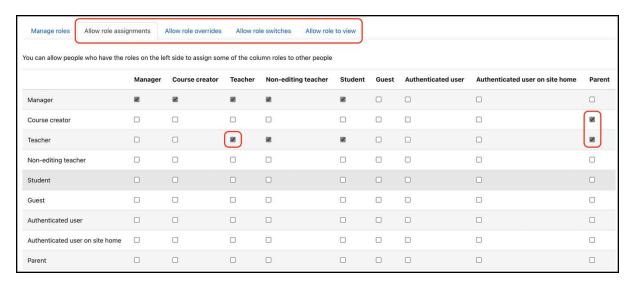
First name ✓ / Surname	Email address	City/town	Country
Ozzy Harris	ozzy.harris@openumlaut.com	Los Angeles	United States
Kelly Harris	kelly.harris@openumlaut.com	Los Angeles	United States
Jack Harris	jack.harris@openumlaut.com	Los Angeles	United States

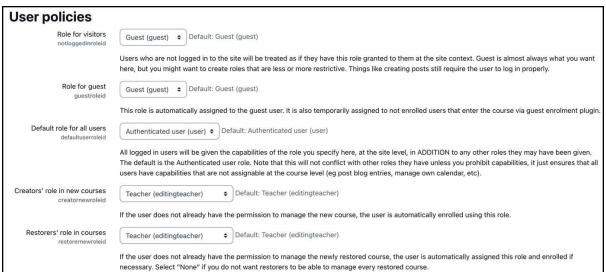
Parent access

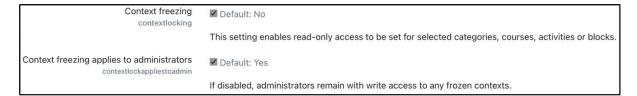
- Jack Harris
- Kelly Harris

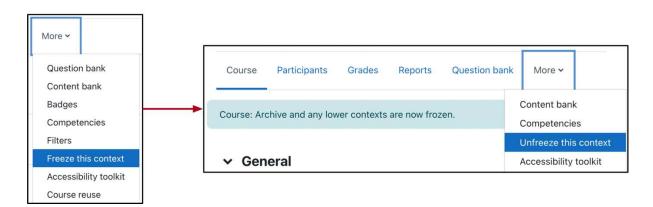




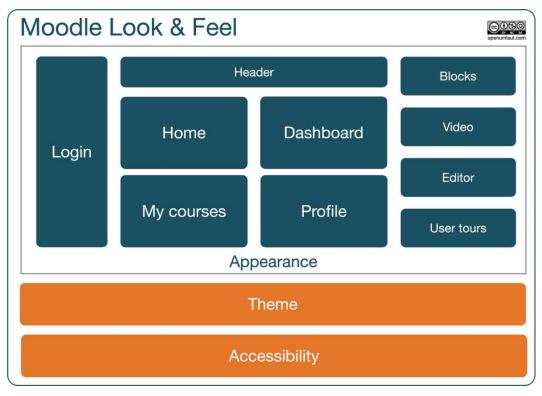


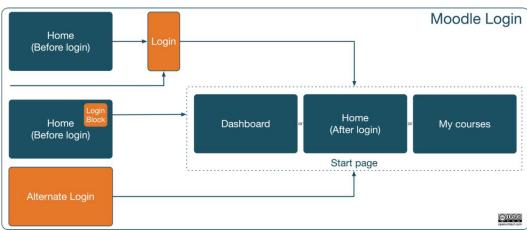


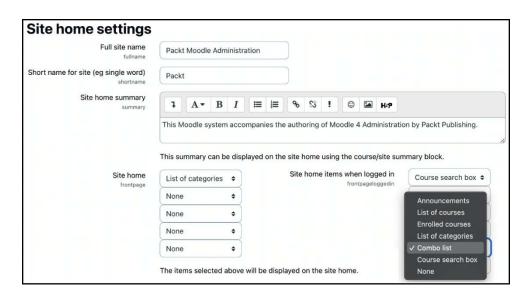


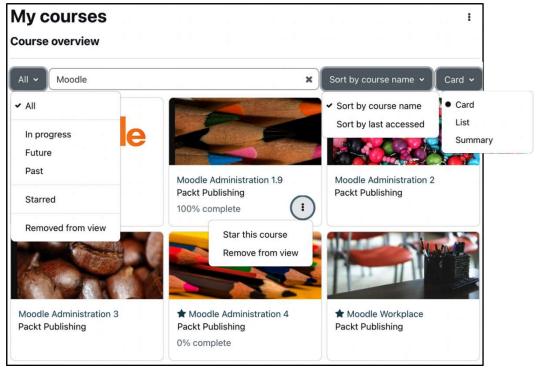


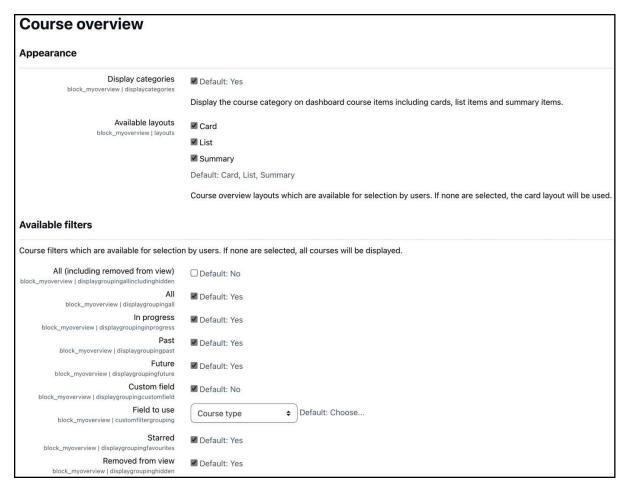
Chapter 7: Enhancing Moodle's Look and Feel

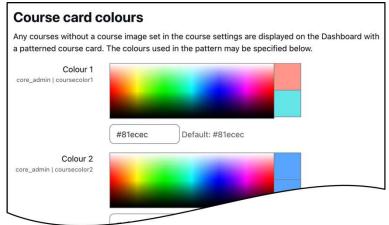


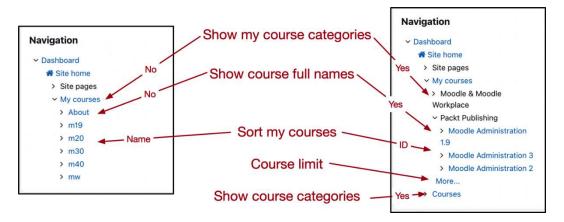






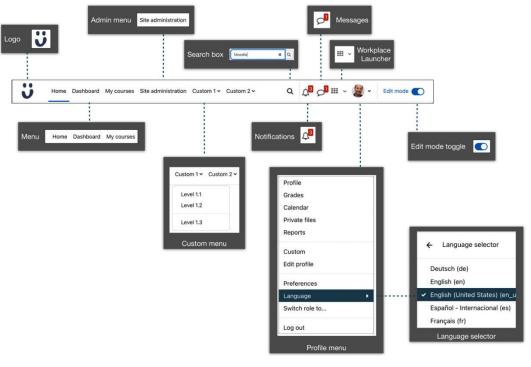


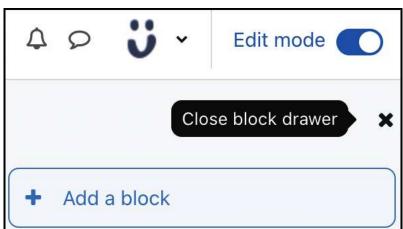


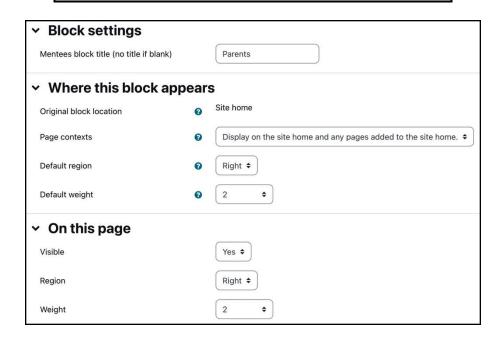


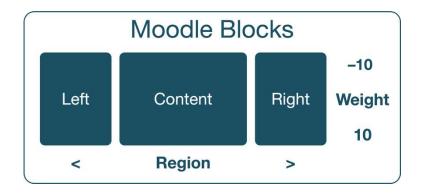


	Edit mode	Blocks in drawer	Blocks in content	Reset to default
Home page	×	×	×	×
Dashboard	✓	✓	/	✓
My courses	X	X	X	X
Profile	✓	~	X	/













Toolbar config

editor_atto | toolbar

collapse = collapse

style1 = title, bold, italic

list = unorderedlist, orderedlist

links = link, noautolink

files = emoticon, image, media, managefiles, recordrtc, h5p

color = fontcolor, backcolor

style2 = underline, strike, subscript, superscript

align = align

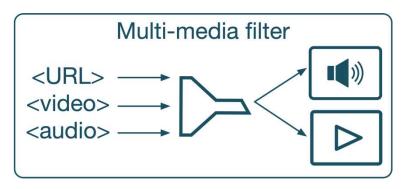
indent = indent

insert = equation, charmap, table, clear

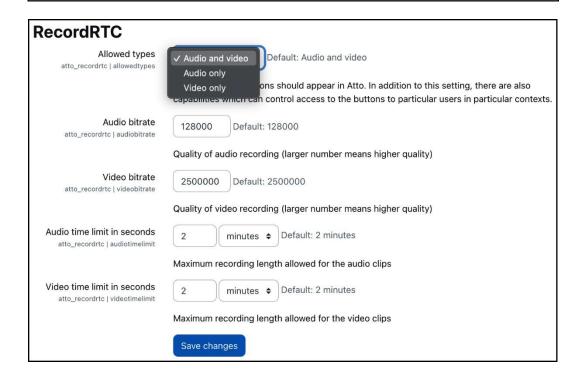
undo = undo

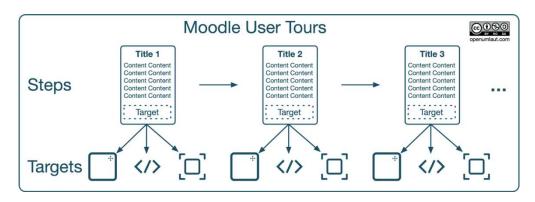
accessibility = accessibilitychecker, accessibilityhelper

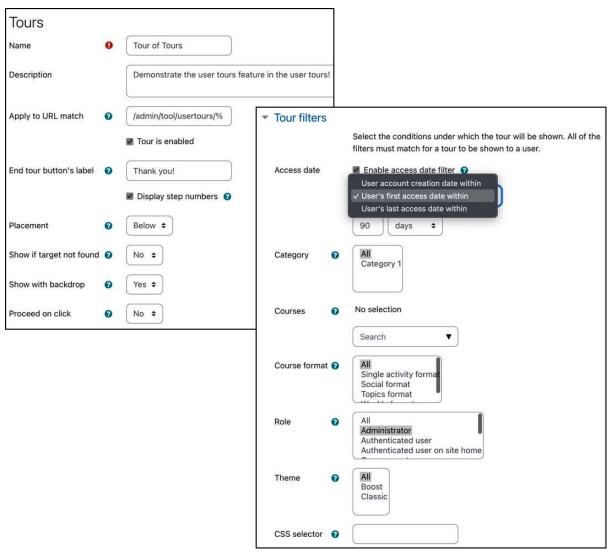
other = html



Manage media players Available players When players are enabled, media files can be embedded using the multimedia plugins filter (if enabled) or using a file or URL resource. When not enabled, these formats are not embedded and users can download or follow links to these resources. Where two players support the same format, enabling both increases compatibility across different devices such as mobile phones. It is possible to increase compatibility further by providing multiple files in different formats for a single audio or video clip. Name Supports Version Settings Uninstall Enable Up/Down VideoJS player ?? 2021052503 Uninstall Video: .mov. .mp4. .m4v. .ogv. .webm Settings Audio: .mp3, .aac, .flac, .m4a, .oga, .ogg, .wav YouTube videos YouTube ② 2021052500 Uninstall Vimeo 🔞 2021052500 Uninstall ☐ HTML5 video ② Video: .fmp4, .mov, .mp4, .m4v, .ogv, .webm 2021052500 Uninstall O HTML5 audio 🔞 Audio: .aac, .flac, .mp3, .m4a, .oga, .ogg, .wav 2021052500 Uninstall





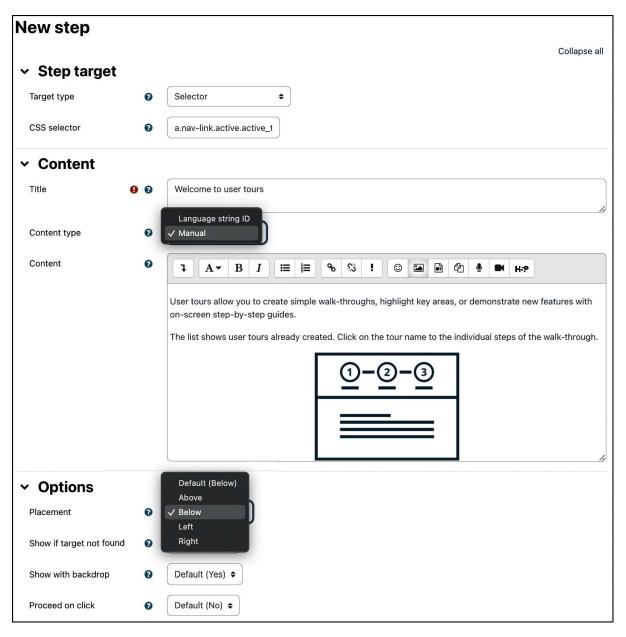


Tour of Tours

This is the 'Tour of Tours' tour. It applies to the path 'Jadmin/tool/usertours/%'. You can edit the tour defaults and force the tour to be displayed to all users again.

Title	Content	Target	Actions	
Welcome to user tours	User tours allow you to create simple walk-throughs, highlight key areas, or demonstrate new features with on-screen step-by-step guides.	A CSS selector matching 'a.nav- link.active.active_tree_node'	4 0	
	The list shows user tours already created. Click on the tour name to the individual steps of the walk-through.			
	<u></u>			
Adding a tour 🎤	To add a new user tour to your Moodle system vou have three options:	Display in middle of page	^ ¥ ¢	
	Create a new tour: Manually create a user tour			
	 Import a tour: Load an existing tour from another site Tours repository: Browse the public tours repository, download a tour and import it 			
	Tours repository: Browse the public tours repository, download a tour and import it			
Technical termns	There are a couple of technical terms used when working with user tours:	Display in middle of page	^ •	
	Step: A tour comprises of multiple steps		ti ti	
	Matching URL: Page(s) on which the tour is displayed, including wildcards (%)			
	Target: This is where on the page the step is shown. Target types are Block, CSS			
	Selector, and the Middle of the page			
lew sten				

New step

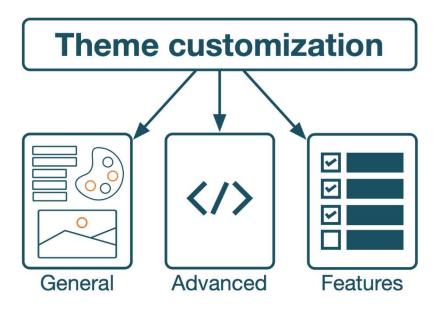


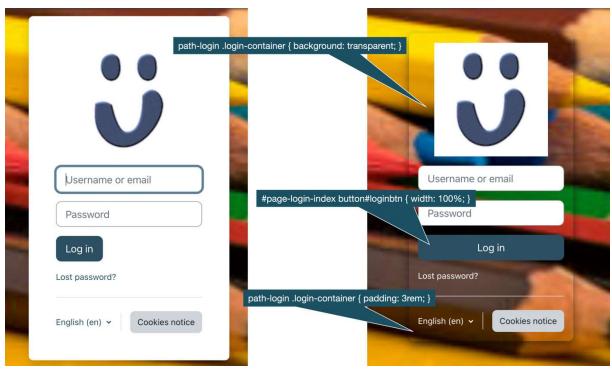
Туре	Description	Configuration
Site	Theme is applied throughout the site. Default when you first install Moodle.	Theme selector
User	Personal theme is selected in the user profile and applied throughout the site.	User profile
Cohort	Theme is applied to all cohort members.	Cohort settings
Category	Theme is applied to all courses within the category and all sub-categories.	Category settings
Course	Theme only applies to the course in which it is set.	Course settings
Session	Temporary theme applies until user is logged out. Set via URL (?theme=x).	URL
Page	Page themes are set in code. Added for completeness only.	Code



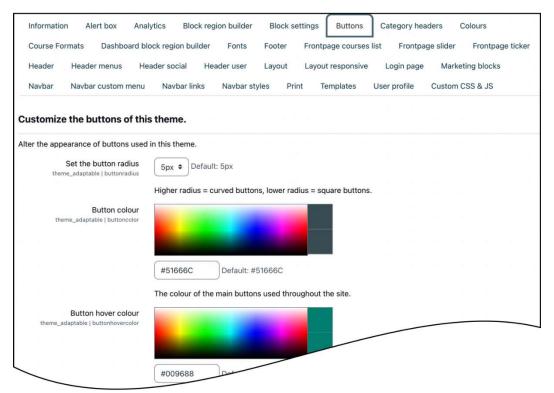


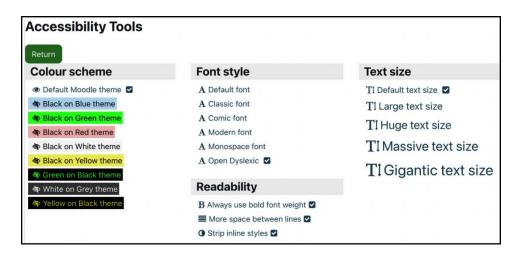


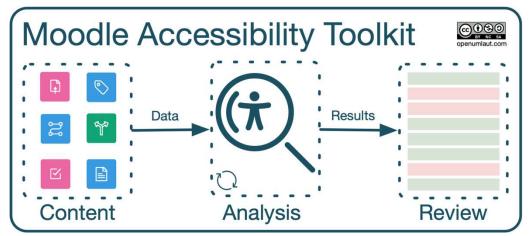


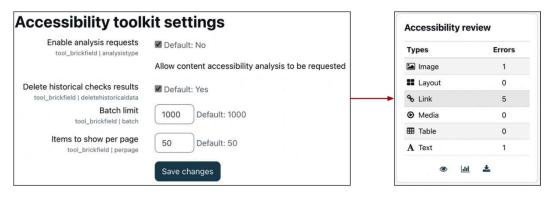


Boost		
General settings	Advanced settings	
Raw initia theme_boost	scsspre \$font-weig	ne weight to fonts to assist my old peepers */ ght-light: 500 !default; ght-normal: 600 !default;
	\$font-weig	ght-bold: 700 !default;
	50000 Sign Act 1000	oty ou can provide initialising SCSS code, it will be injected before everything else. time you will use this setting to define variables.
Raw theme_boo	y SCSS est scss	
	Default: Emp	oty d to provide SCSS or CSS code which will be injected at the end of the style sheet.



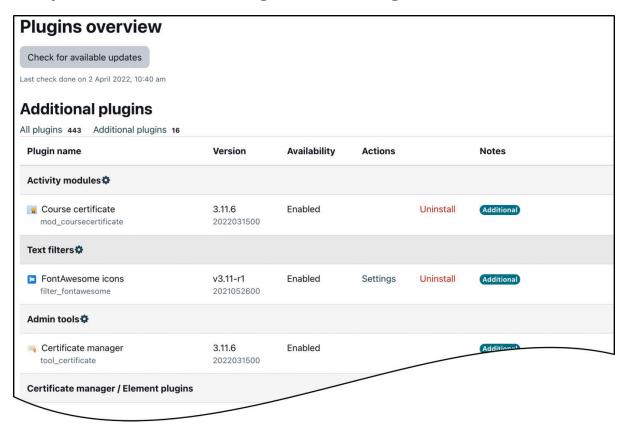


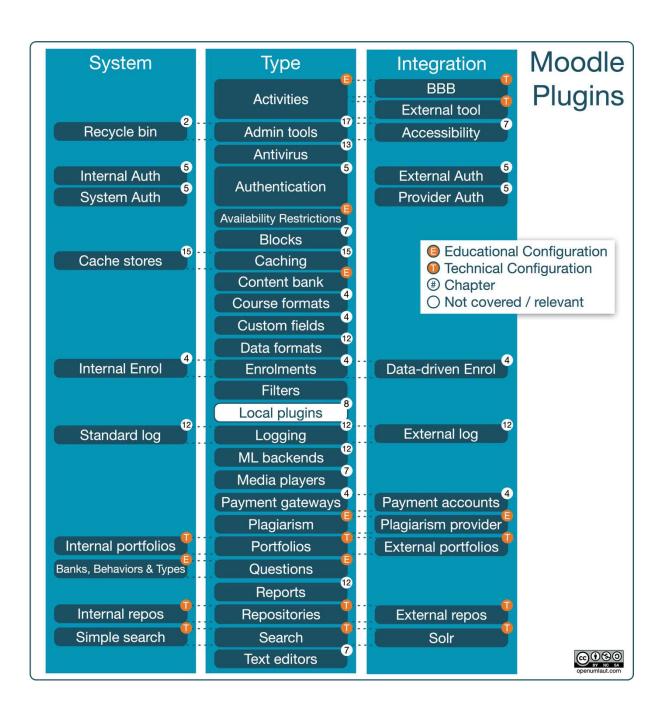


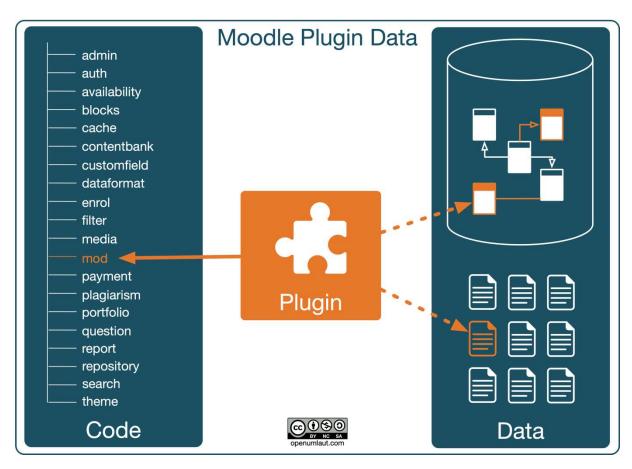


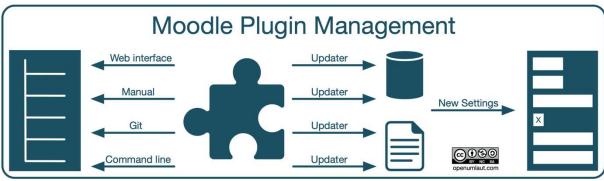


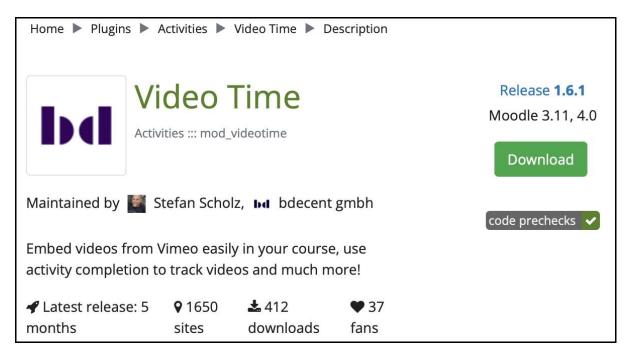
Chapter 8: Understanding Moodle Plugins

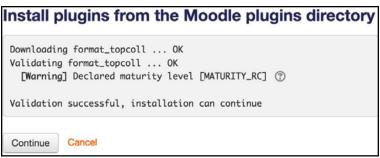


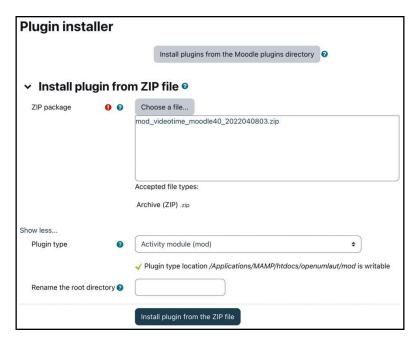




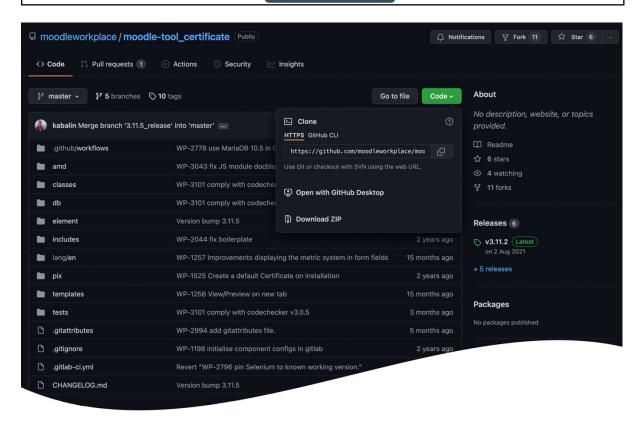




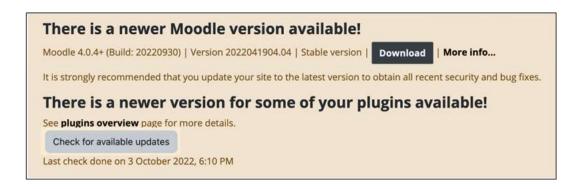


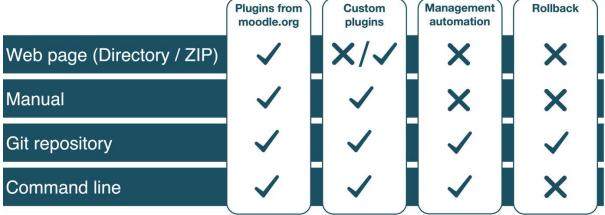


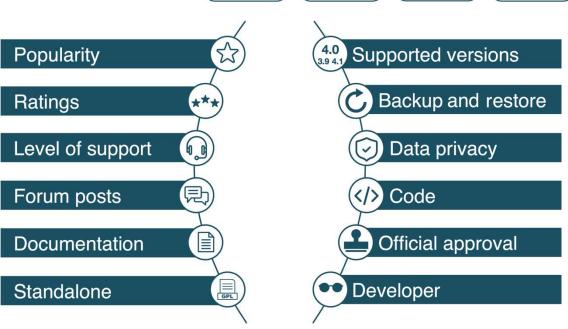
Plugins check This page displays plugins that may require your attention during the upgrade, such as new plugins to be installed, plugins to be upgraded, missing plugins etc. Additional plugins are displayed if there is an available update for them. It is recommended that you check whether there are more recent versions of plugins available and update their source code before continuing with this Moodle upgrade. Check for available updates Last check done on 31 March 2022, 6:26 am Plugins requiring attention Cancel new installations (1) Plugins requiring attention 1 All plugins 433 Plugin name / Directory **Current version New version** Requires Source / Status **Activity modules** Zoom meeting 2022031000 Moodle 2017051500 Additional To be installed Cancel this installation C Reload Upgrade Moodle database now



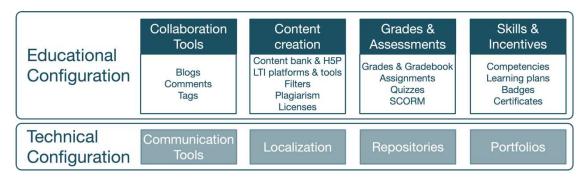
```
root@debian:/var/www/packt/mod# git clone https://github.com/markn86/moodle-mod_certificate.git certificate Cloning into certificate...
remote: Reusing existing pack: 1979, done.
remote: Total 1979 (delta 0), reused 0 (delta 0)
Receiving objects: 100% (1979/1979), 3.46 MiB | 811 KiB/s, done.
Resolving deltas: 100% (1009/1009), done.
```

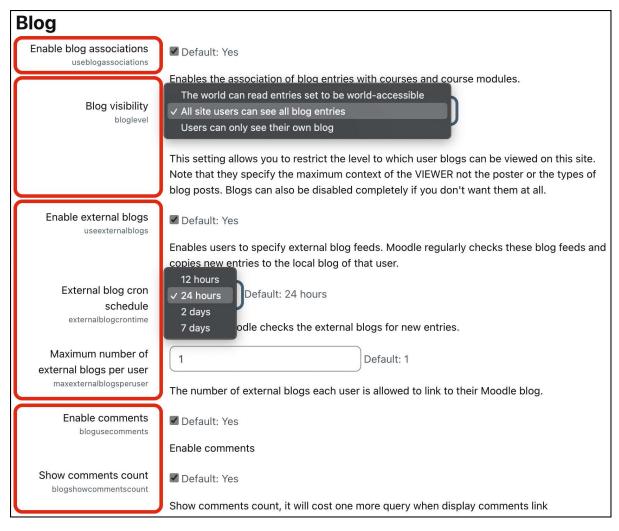




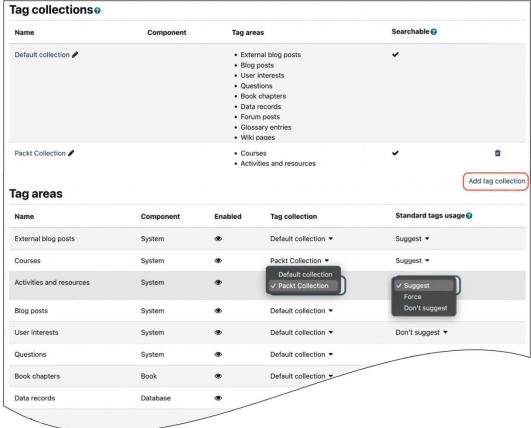


Chapter 9: Configuring Educational Features

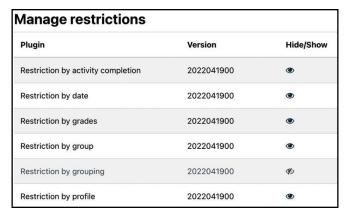


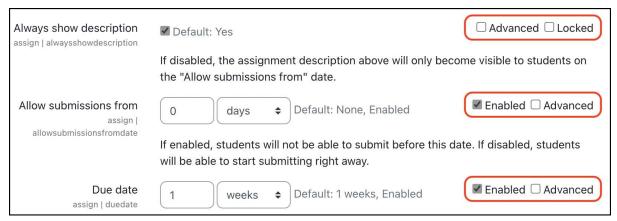


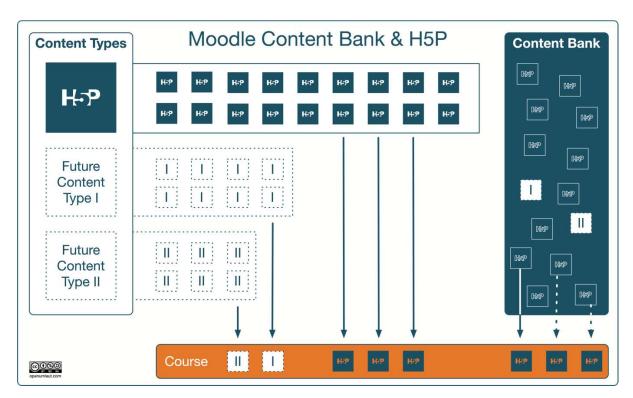


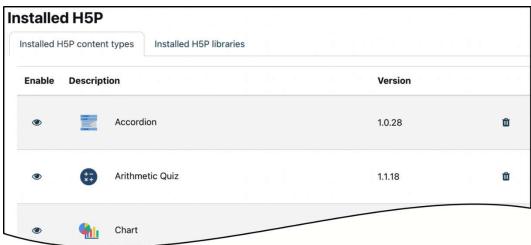




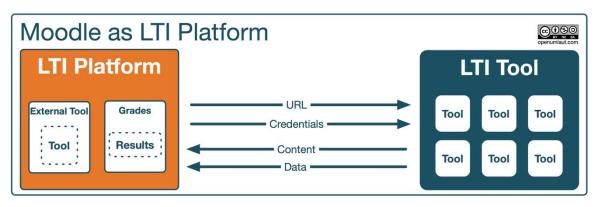


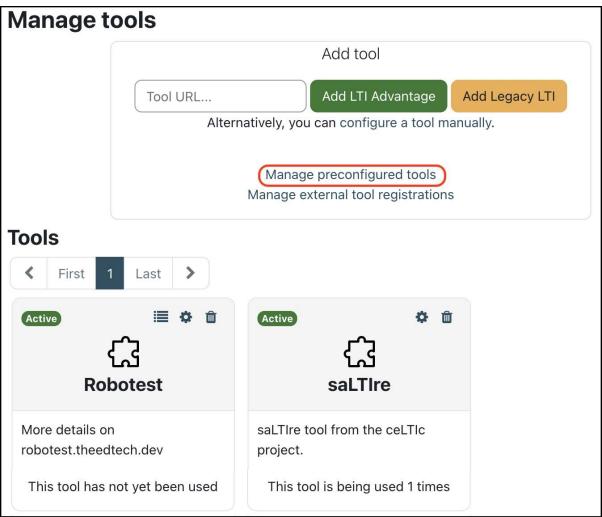


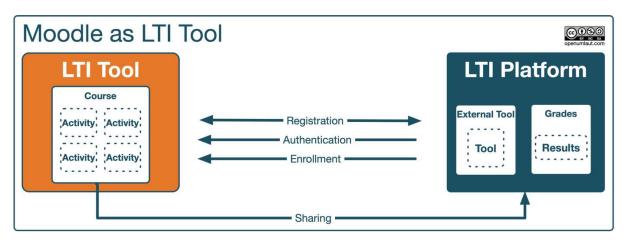


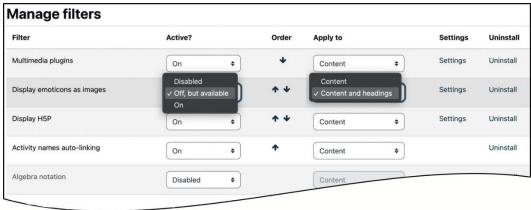


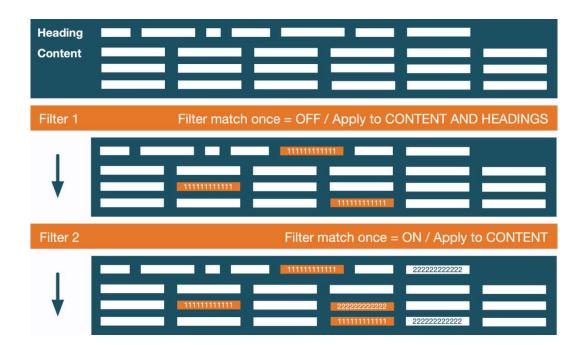




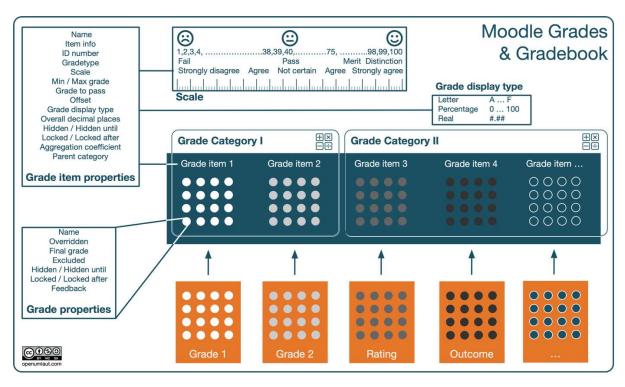


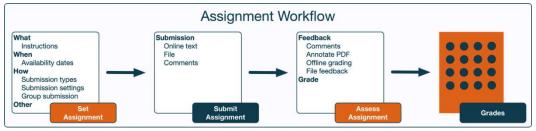


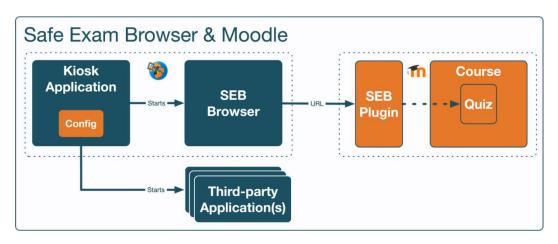


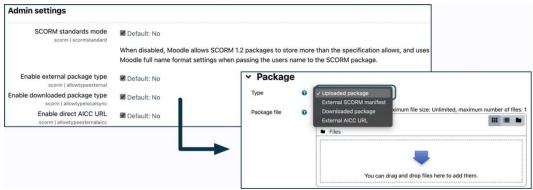


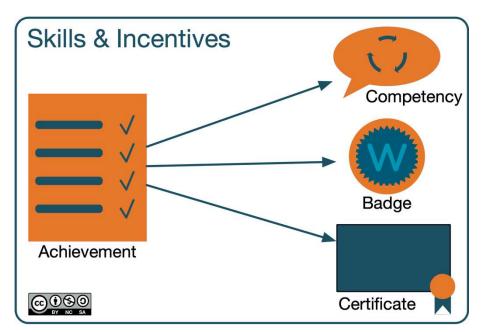
Create license					
Enable	License	Version	Order	Edit	Delete
•	License not specified (unknown)	2010033100	+		
•	All rights reserved (allrightsreserved) https://en.wikipedia.org/wiki/All_rights_reserved	2010033100	↑ ↓		
•	Public domain (public) https://en.wikipedia.org/wiki/Public_domain	2010033100	* *		
•	Creative Commons (cc) https://creativecommons.org/licenses/by/3.0/	2010033100	+ +		
•	Creative Commons - NoDerivs (cc-nd) https://creativecommons.org/licenses/by-nd/3.0/	2010033100	* *		
•	Creative Commons - No Commercial NoDerivs (cc-nc-nd) https://creativecommons.org/licenses/by-nc-nd/3.0/	2010033100	+ +		
•	Creative Commons - No Commercial (cc-nc) https://creativecommons.org/licenses/by-nc/3.0/	2010033100	+ +		
•	Creative Commons - No Commercial ShareAlike (cc-nc-sa) https://creativecommons.org/licenses/by-nc-sa/3.0/	2010033100	+ +		
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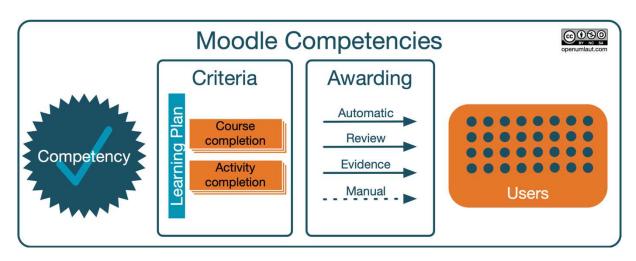


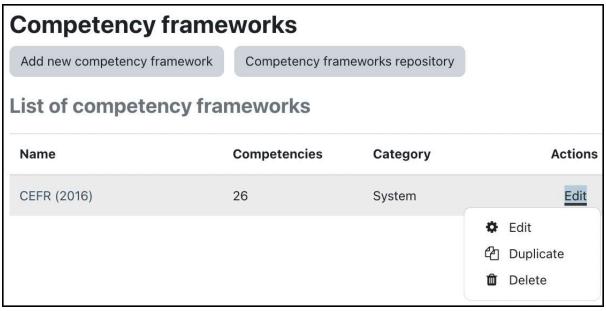


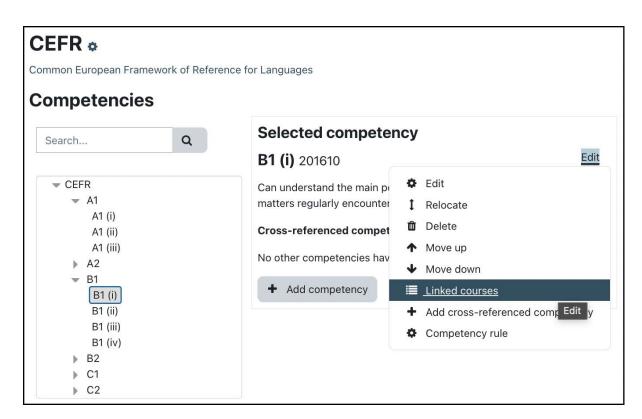


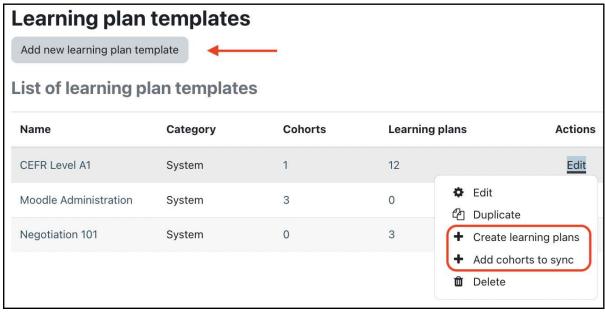


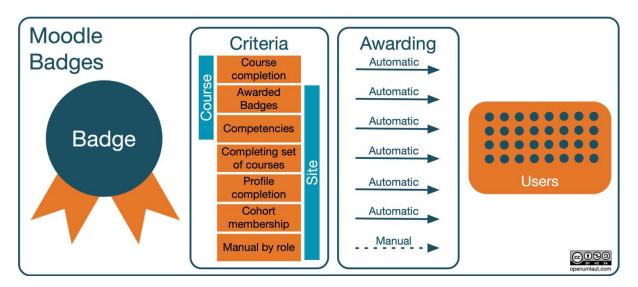




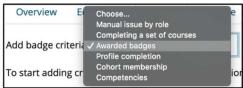


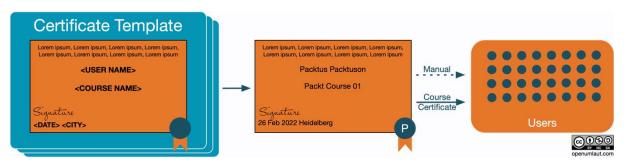


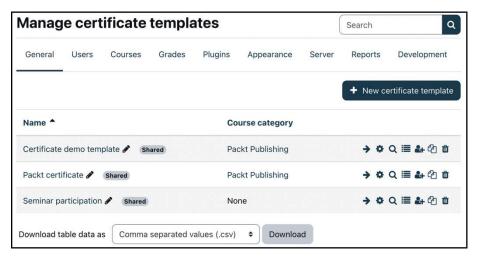


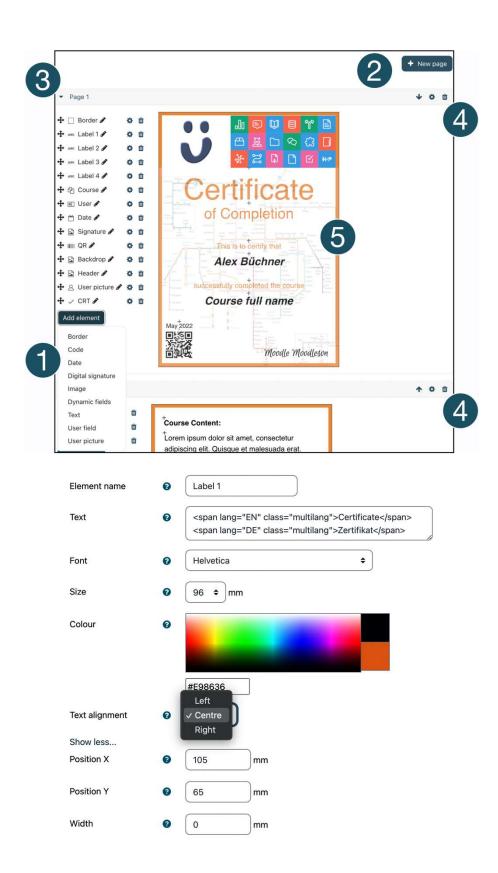


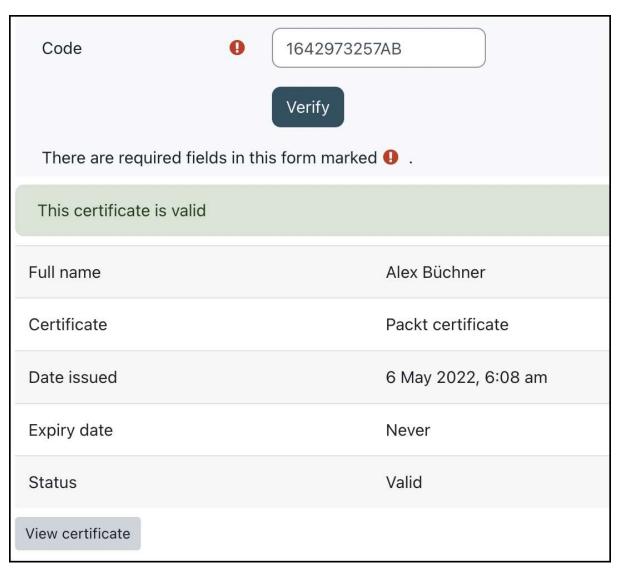




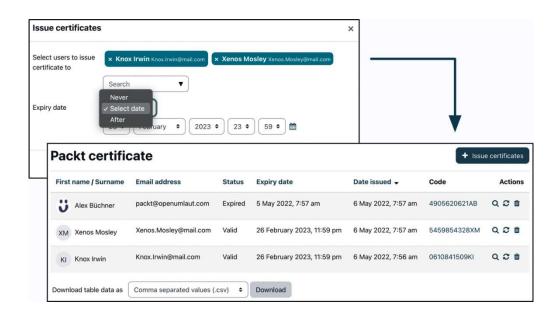








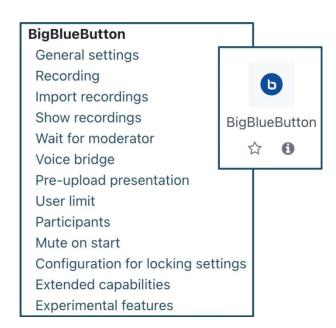




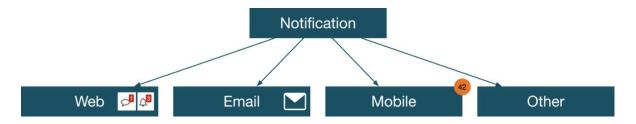
Chapter 10: Configuring Technical Features

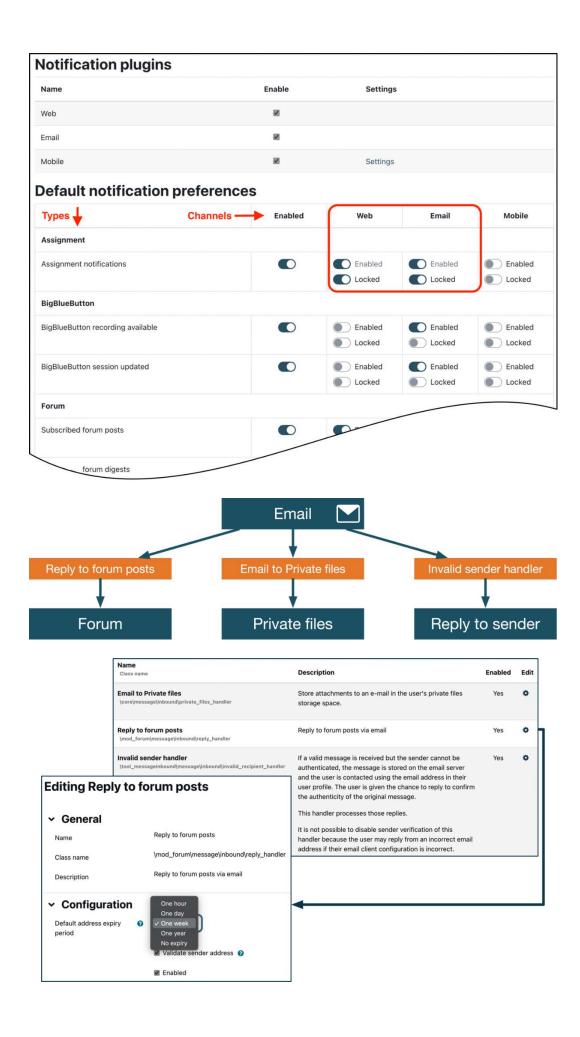
Educational Configuration	Collaboration Tools	Content creation	Grades & Assessments	Skills & Incentives
Technical	Communication Tools	Localization	Repositories	Portfolios
Configuration	Chats Video conferencing Messages Notifications RSS Feeds	Locales Languages Calendars Timezones	Internal External	Portfolios

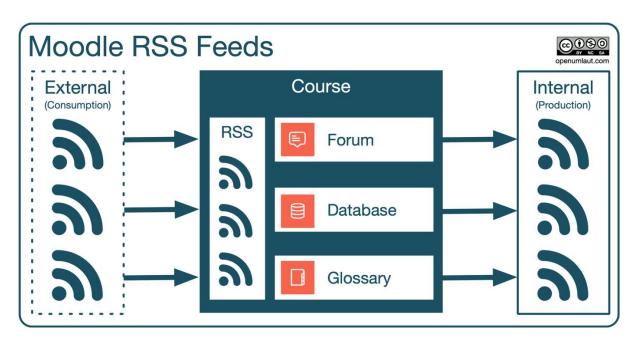
06:39 Moodle Admin Rookie



Sender	Receiver	Direction
User	User	Outbound
Activity	User	Outbound
Sytem	User	Outbound
External	Activity	Inbound
External	Private files	Inbound

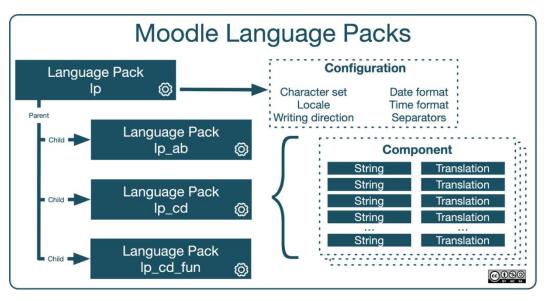


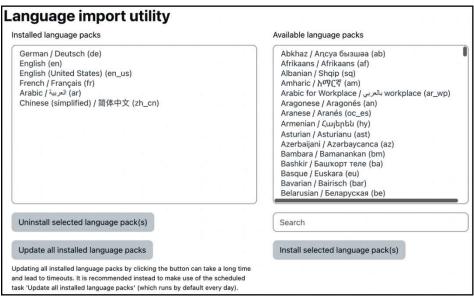




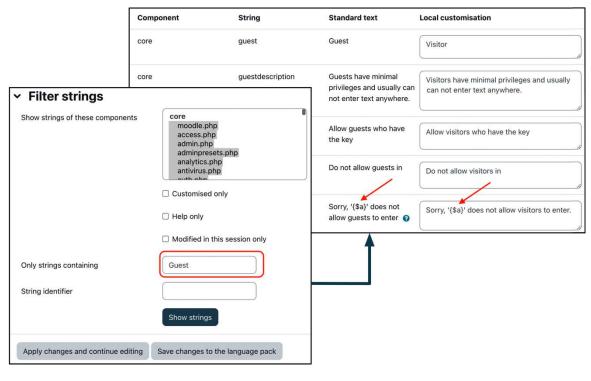


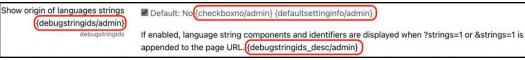


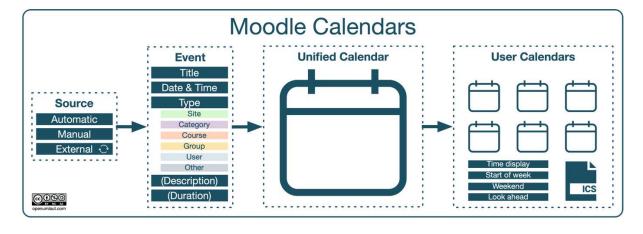






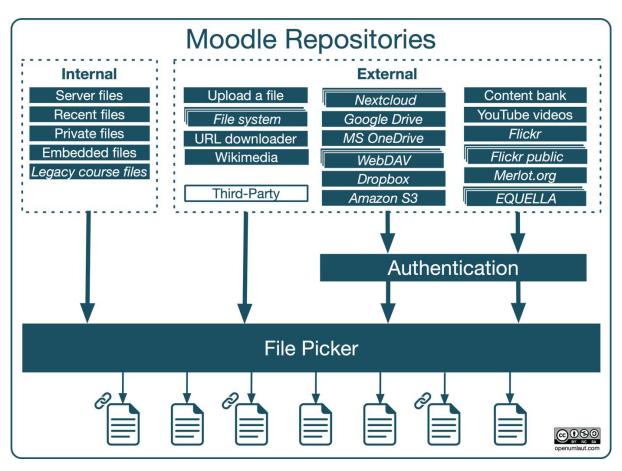


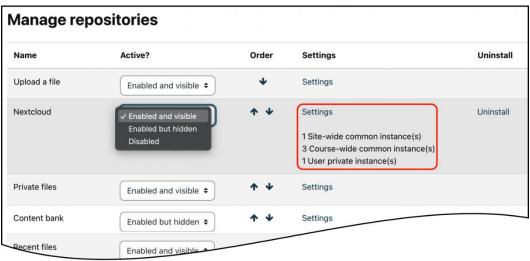




Calendar	
Calendar type calendartype	Gregorian Japanese Choose a derault calendar type for the whole site. This setting can be overridden in the course settings or by users in their personal profile.
Admins see all calendar_adminseesall	□ Default: No
	In the site calendar, do admins see and filter events from all course calendars or just those from courses they are enrolled in 2 pages of the chosen option, admins will always be able to manage events for each course calendar by navigating Default 12-hour (am/pm)
Time display format calendar_site_timeformat	V 24-hour Default: Default
	You can choose to see times in either 12 or 24 hour format for the whole site. If you choose "default", then the format will be automatically chosen according to the language you use in the site. This setting can be overridden by user preferences. Sunday
Start of week calendar_startwday	✓ Monday Tuesday
	Wednesday the week in the calendar? Thursday
Weekend days calendar_weekend	Friday Saturday Facility Friday Saturday
	Which days of the week are treated as "weekend" and shown with a different colour?

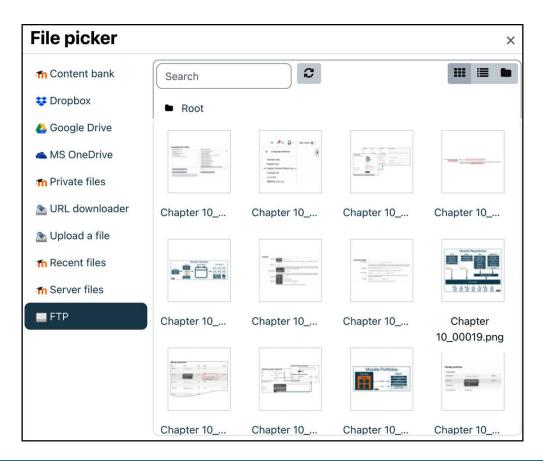
Location se	ettings
Default timezone timezone	UTC Default: Europe/London
	This is the default timezone for displaying dates - each user can override this setting in their profile. Cron tasks and other server settings are specified in this timezone. You should change the setting if it shows as "Invalid timezone"
Force timezone forcetimezone	Users can choose their own timezone \$ Default: Users can choose their own timezone
	You can allow users to individually select their timezone, or force a timezone for everyone.
Default country country	Germany Default: Choose
	If you set a country here, then this country will be selected by default on new user accounts. To force users to choose a country, just leave this unset.
Default city defaultcity	Heidelberg Default: Empty
	A city entered here will be the default city when creating new user accounts.

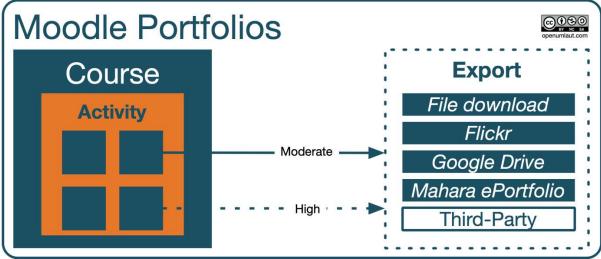


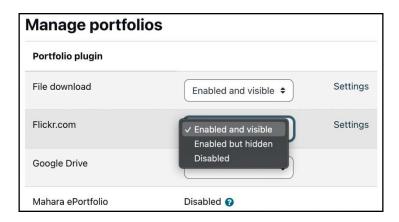


Plugin	Instances	Authentication	Format	Access to
Upload a file	Single	None	All	files manually uploaded from your local PC or Mac. This will be used a lot by all users.
File system	Single	None	All	subdirectories in \$CFG->dataroot/repository.
URL download	Single	None	All	a file via a URL link. This can be an internal or external web address.
Wikimedia	Single	None	Media	the Wikimedia Commons platform.
Nextcloud	Multiple	OAuth 2	All	Nextcloud's universal file access and sync platform.
Google Drive	Single	OAuth 2	All	users' documents in Google Drive. Additionally, you can configure the default import formats from Google.
MS OneDrive	Single	OAuth 2	All	users' documents in MS OneDrive.
WebDAV	Multiple	WebDAV	All	a WebDAV server.
Dropbox	Single	OAuth 2	All	a single Dropbox folder, not one for each user.
Amazon S3	Single	Access / Secret	All	the Amazon S3 storage service, including the choice of the geographical region your data will be stored.
Content bank	Single	Internal	H5P	local H5P content.
YouTube	Single	API key	Video	the YouTube video platform. Videos will be streamed to Moodle, not copied.
Flickr	Single	API key / Secret	Image	the personal accounts of Flickr, a photo sharing site. A login required when accessing it the first time.
Flickr public	Multiple	API key	Image	the public area of the Flickr photo sharing site.
Merlot.org	Single	License key	All	to MERLOT (Multimedia Education Resource for Learning and Online Teaching).
EQUELLA	Multiple	Secret	All	the EQUELLA repository.

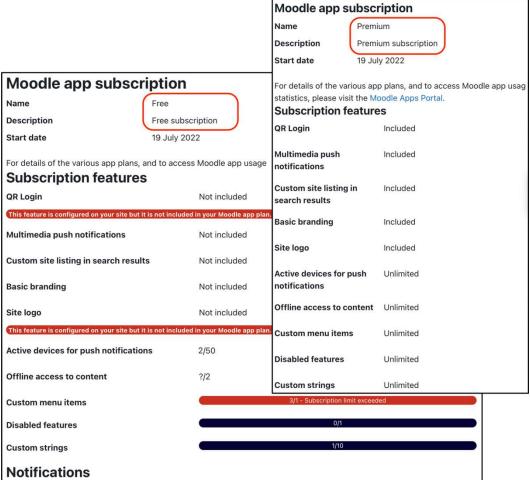








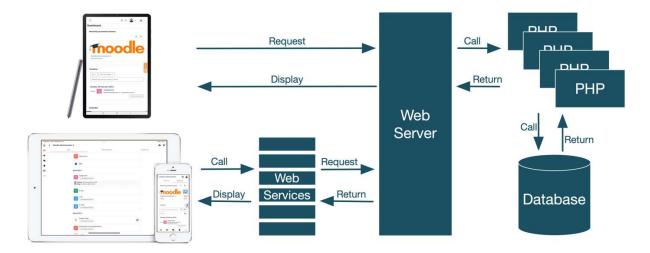
Chapter 11: Enabling Mobile Learning



For details of the various app plans, and to access Moodle app usage statistics, please visit the Moodle Apps Portal. Moodle app notification statistics could not be retrieved. This is most likely because mobile notifications are not yet enabled on the site. You can enable them in Site Administration / Messaging / Mobile.





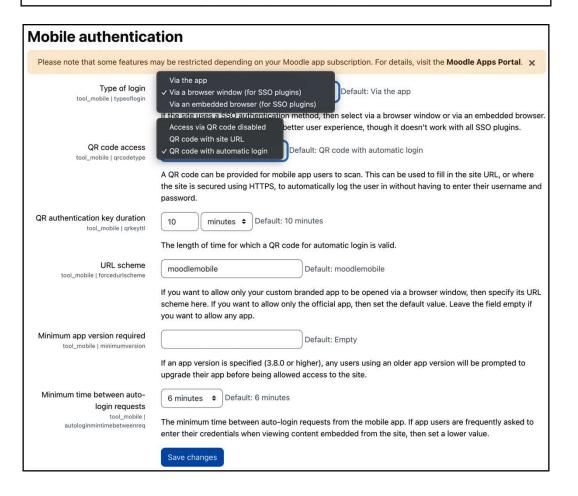


Enable web services for mobile devices

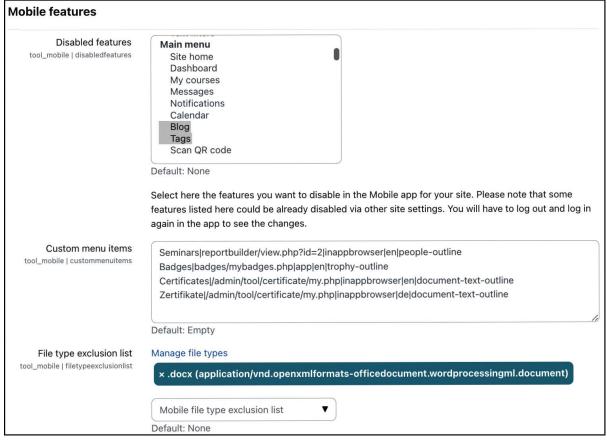
Default: No

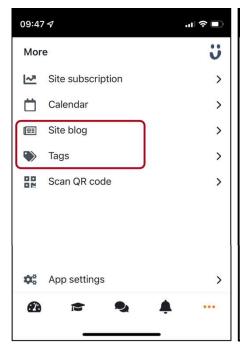
enablemobilewebservice

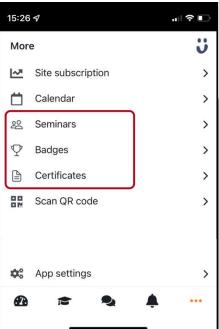
Enable mobile service for the official Moodle app or other app requesting it. For more information, read the Moodle documentation

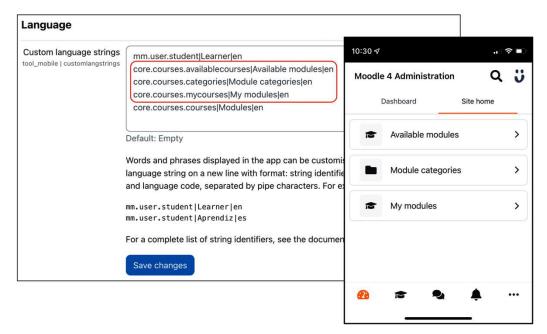










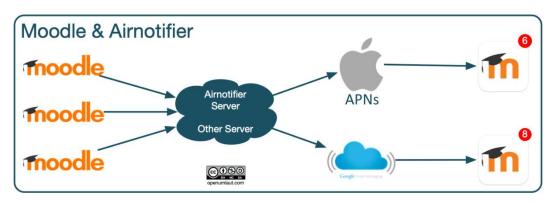


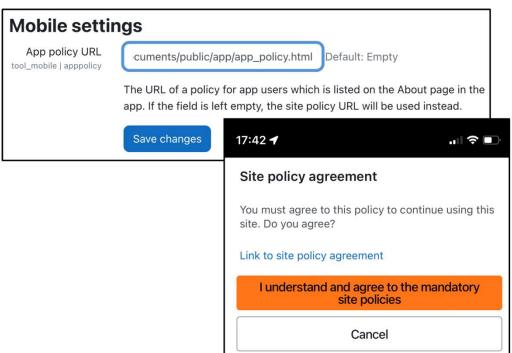
Mobile	
Airnotifier URL airnotifierurl	https://messages.moodle.net
	The server URL to connect to for sending push notifications.
Airnotifier port	443 Default: 443
	The port to use when connecting to the airnotifier server.
Mobile app name airnotifiermobileappname	com.moodle.moodlemobile Default: com.moodle.moodlemobile
	The Mobile app unique identifier (usually something like com.moodle.moodlemobile).
Airnotifier app name	commoodlemoodlemobile Default: commoodlemoodlemobile
	The app name identifier in Airnotifier.
Airnotifier access key airnotifieraccesskey	d4985ad12ce3099b040a4773724c Default: Empty
	The access key for connecting to the Airnotifier server. You can obtain an access key by clicking the "Request access key" link below (registered sites only) or by creating an account on the Moodle Apps Portal.
Request access key	
Check and test push notific	ation configuration
	Save changes

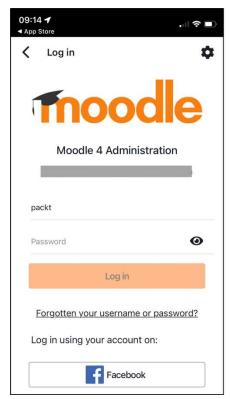
Checl	Check and test push notification configuration				
Status	Check	Summary			
OK	Enable web services for mobile devices	Enabled			
ОК	\$CFG->noemailever disabled	Disabled			
Critical	Enable mobile notifications	Mobile notifications are not enabled. They should be enabled in Notification settings			
OK	Notifications server (Airnotifier) configuration	Configured			
OK	Airnotifier URL	Online			
OK	Airnotifier access key	Enabled			
Warning	Default notification preferences	Only a few mobile notifications are enabled in default notification preferences.			
ОК	User devices	Configured			
	Send t	est push notification to my devices			



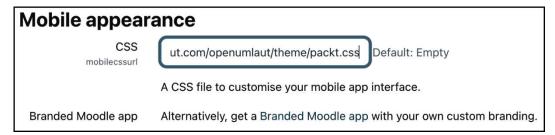
Push Notification Test now This is a test message send at: Tuesday, 19 July 2022, 9:07 AM















App Banners

Enable App Banners

tool_mobile | enablesmartappbanners

Default: No

If enabled, a banner promoting the mobile app will be displayed when accessing the site using a mobile browser.

iOS app's unique identifier

tool_mobile | iosappid

633359593 Default: 633359593

This setting may be left as default unless you have a custom iOS app.

Android app's unique identifier

tool_mobile | androidappid

com.moodle.moodlemobile Default: com.moodle.moodlemobile

This setting may be left as default unless you have a custom Android app.

App download page

tool_mobile | setuplink

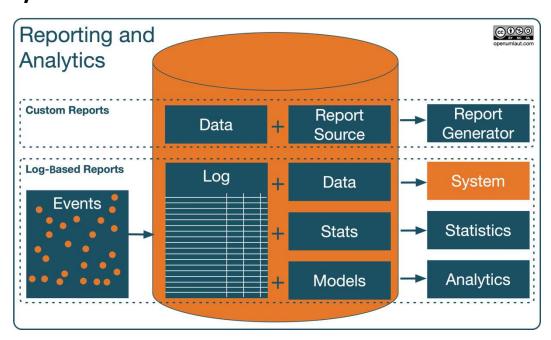
https://download.moodle.org/mobile

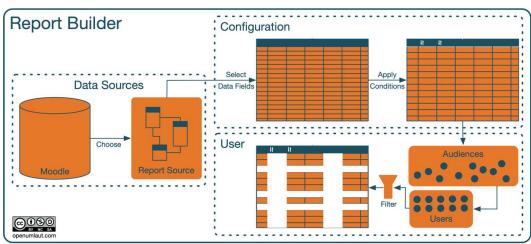
Default: https://download.moodle.org/mobile

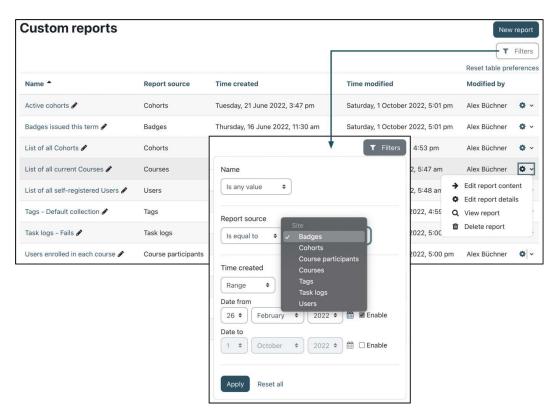
URL of page with options to download the mobile app from the App Store and Google Play. The app download page link is displayed in the page footer and in a user's profile. Leave blank to not display a link.

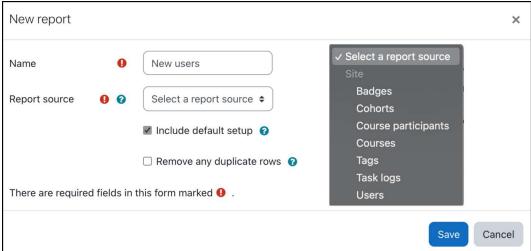
Save changes

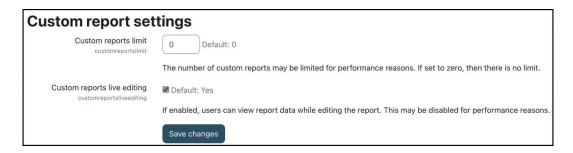
Chapter 12: Gaining Insights through Moodle Reporting and Analytics

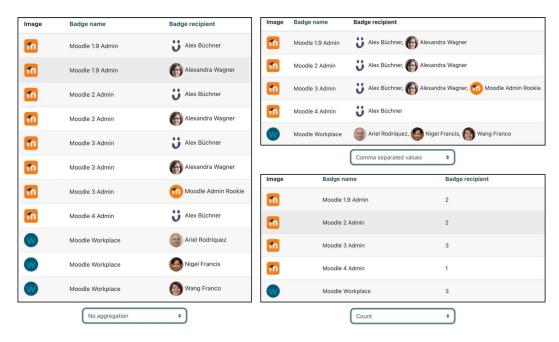




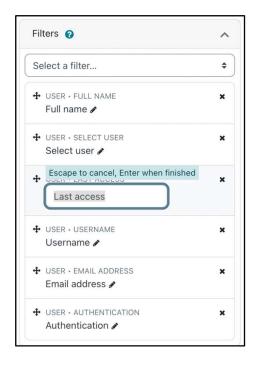




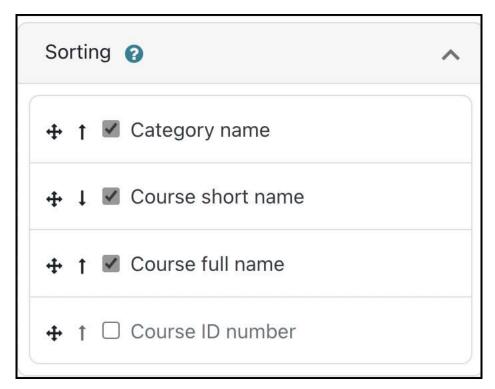


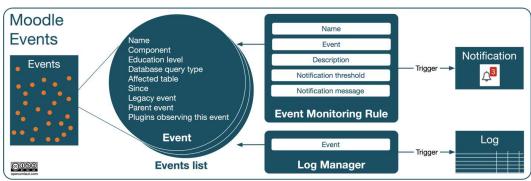


Aggregation Method	Description	SQL Function
Average	Average of all (numeric) values	AVG()
Count	Number of values in column	COUNT()
Count distinct	Number of unique values in column	COUNT DISTINCT()
Comma separate values	List of data points, separated by comma	GROUP_CONCAT()
Comma separate distinct values	List of unique data points, separated by comma	GROUP_CONCAT(DISTINCT)
Maximum	Biggest (numeric) value in column	MAX()
Minimum	Smallest (numeric) value in column	MIN()
Percentage	Ratio of (numeric) values in percent	AVG()
Sum	Sum of all (numeric) values in column	SUM()

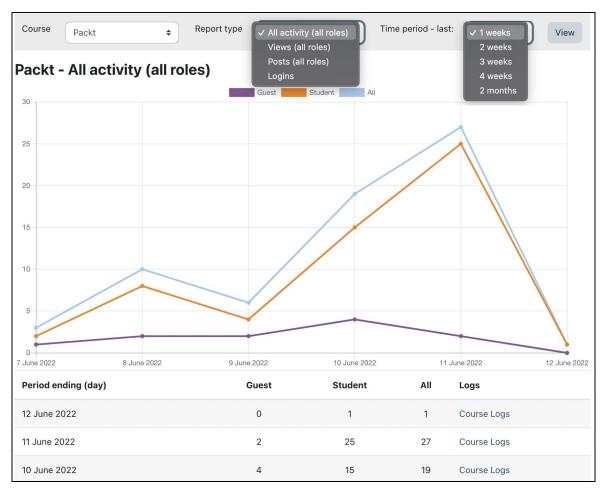


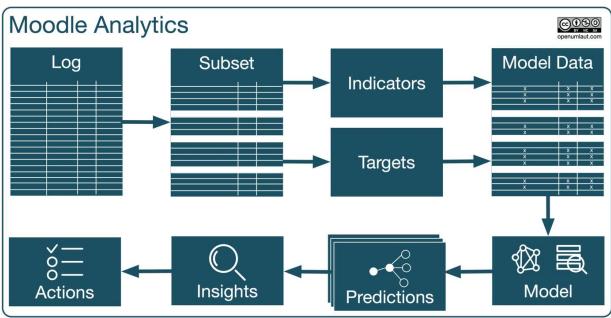


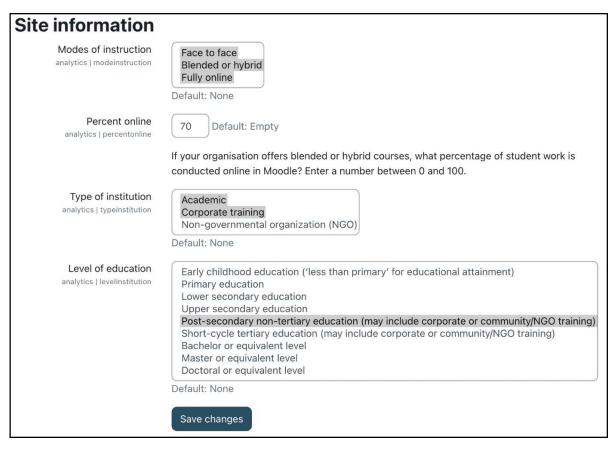


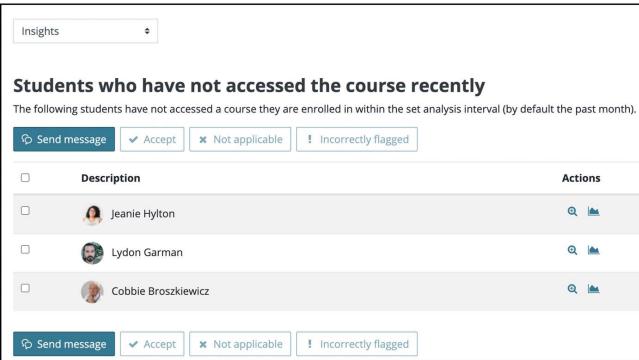


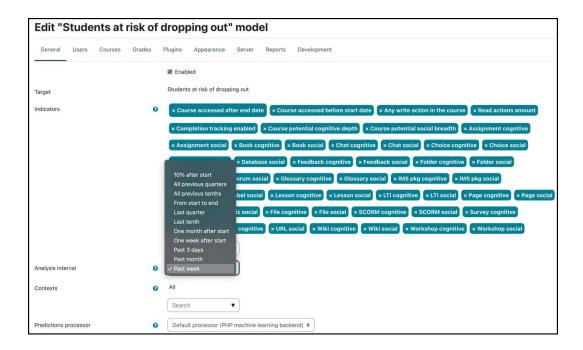




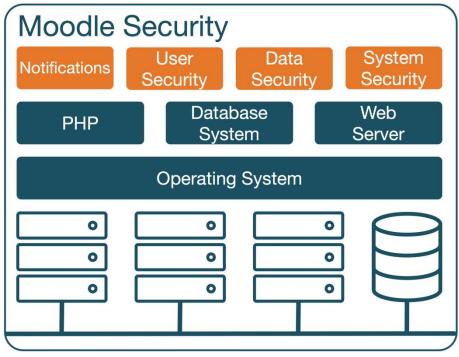




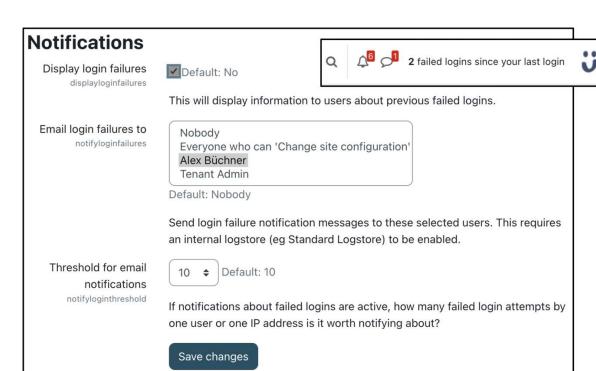


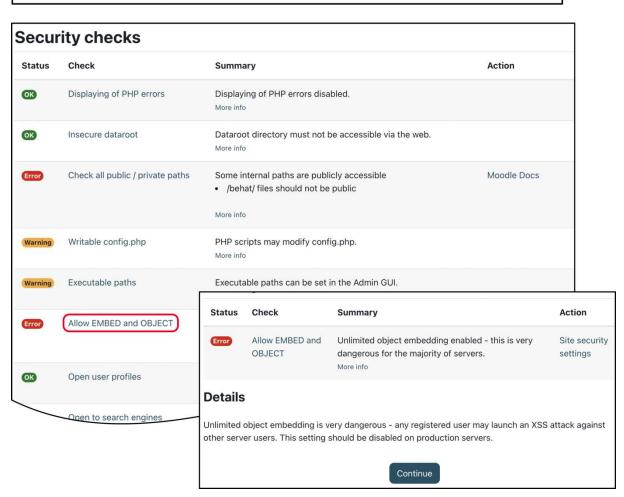


Chapter 13: Ensuring Moodle Security









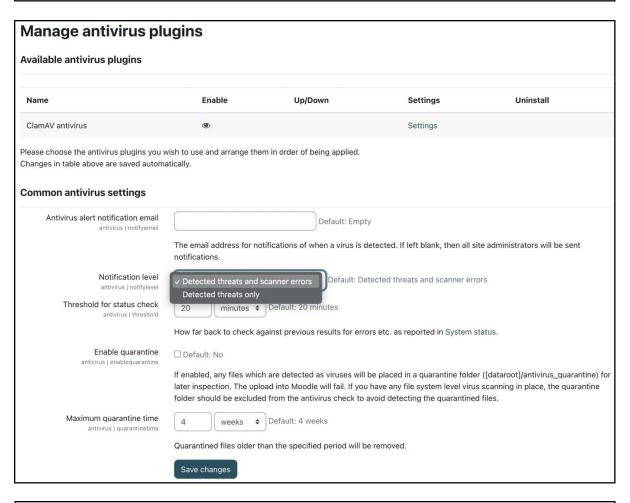
Password policy	✓ Default: Yes	
		inst the password policy as specified in the settings below. sting users until they decide to, or are required to, change in' setting is enabled.
Password length minpasswordlength	8 Default: 8 Account lockou threshol lockoutthreshol	No 👽 Default, No
Digits minpassworddigits	1 Default: 1 Account lockou observation window passwords must have at	minutes Default, 30 minutes
Lowercase letters minpasswordlower	1 Default: 1 Account lockou Passwords must have at duration	counter is reset after this time. 30 minutes Default: 30 minutes
Uppercase letters minpasswordupper	1 Default: 1 Passwords must have at least these many upp	Locked out account is automatically unlocked after this duration.
Non-alphanumeric characters minpasswordnonalphanum	Default: 1 Passwords must have at least these many non	
Consecutive identical characters maxconsecutive identchars	O Default: O Maximum time to validate password reset request check. Maximum time to validate password reset request pwresettime	30 minutes Default: 30 minutes This specifies the amount of time people have to validate a password reset request before it expires. Usually 30 minutes is a good value.
Check password on login passwordpolicycheckonlogin	Default: No If enabled, user passy fails, the user will be a after updating the passwordchangelogout	Default: No If enabled, when a password is changed, all browser sessions are terminated, apart from the one in which the new password is specified. (This setting does not affect password changes via bulk user upload.)
Password rotation limit passwordreuselimit		sword before they are allowed to reuse a password. Hashes al database table. This feature might not be compatible with

Autodetect common spam patterns

Results of searching user profiles containing:<img, fuck, casino, porn, xxx, cialis, viagra, poker, warcraft

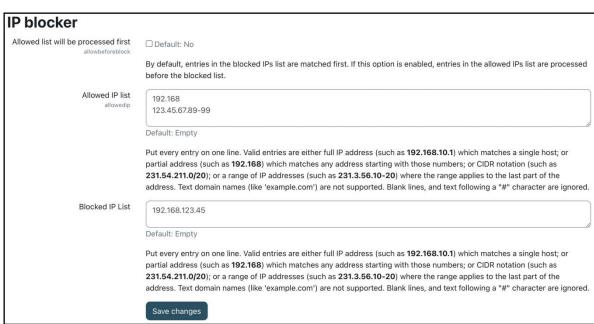
Delete all these user accounts

Allow EMBED and OBJECT tags allowobjectembed	☐ Default: No
	As a default security measure, normal users are not allowed to embed multimedia (like Flash) within texts using explicit EMBED and OBJECT tags in their HTML (although it can still be done safely using the mediaplugins filter). If you wish to allow these tags then enable this option.
Enable trusted content enabletrusttext	☐ Default: No
	By default Moodle will always thoroughly clean text that comes from users to remove any possible bad scripts, media etc that could be a security risk. The Trusted Content system is a way of giving particular users that you trust the ability to include these advanced features in their content without interference. To enable this system, you need to first enable this setting, and then grant the Trusted Content permission to a specific Moodle role. Texts created or uploaded by such users will be marked as trusted and will not be cleaned before display.





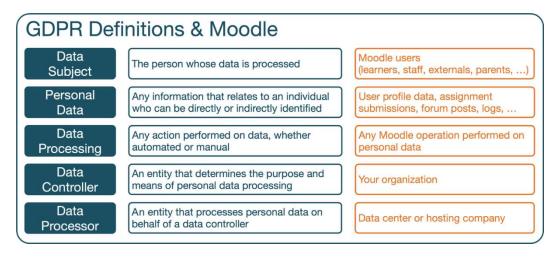
Upgrade externally-hosted content URLs to HTTPS	
This instance is still running on HTTP. You can still run this tool and external content will be changed to HTTPS, but intern content will remain on HTTP. You will need to run this script again after switching to HTTPS to convert internal content.	nal ×
Completed 100% The scan finds no issues with your content. You can proceed to upgrade any HTTP content to use HTTPS.	
Warning: After running this tool, changes cannot be reverted. It is recommended that a site backup is made before proceeding, as there is a small risk of wrong content being replaced.	×
 Confirm ☐ I understand the risks of this operation • 	
Perform conversion	

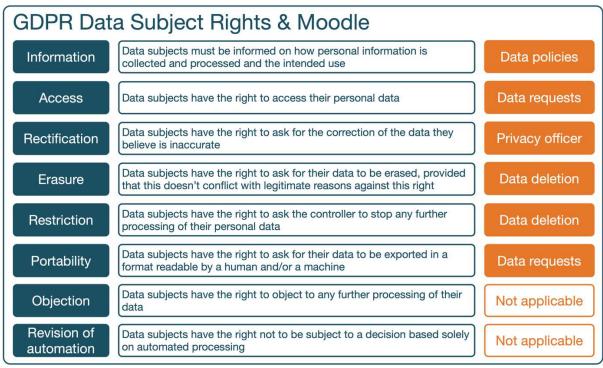


Moodle Security Best Practices					
Perform regular updates & security patches	Chapter 1				
✓ Have a disaster recovery plan	Courses I Backups & Chapter 16				
Only install trusted plugins you need	Plugins I Plugins overview				
Follow the principle of 'least privilege'	Users I Permissions & Chapter 6				
✓ Use strong passwords	General I Security I Site security settings				
✓ Use HTTPS!	General Security HTTP security				
Configure security notifications	General I Security I Notifications moodle.org/security				
Run regular security audits	Reports I Security checks				
De average d'éculles					

Be prepared for the worst!

Chapter 14: Complying with Data Protection Regulations





Privacy and policies

Contact the privacy officer

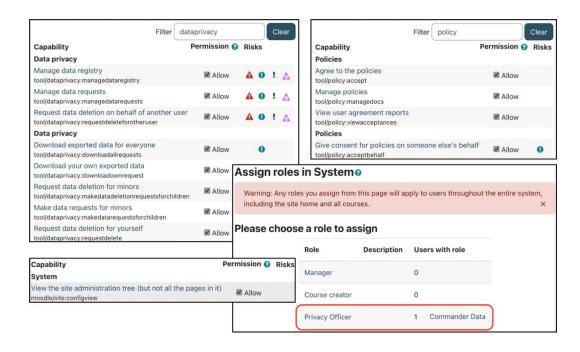
Data requests

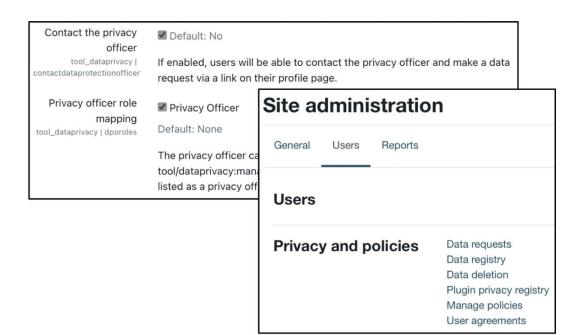
Export all of my personal data

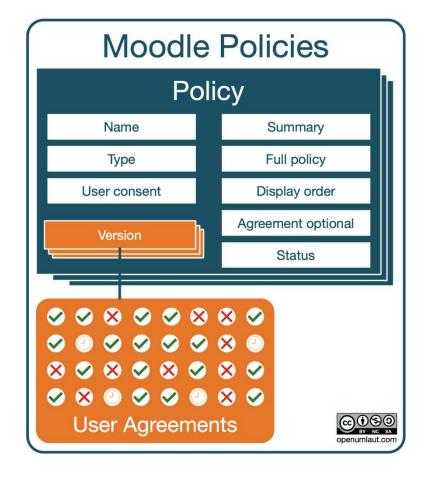
Delete my account

Data retention summary

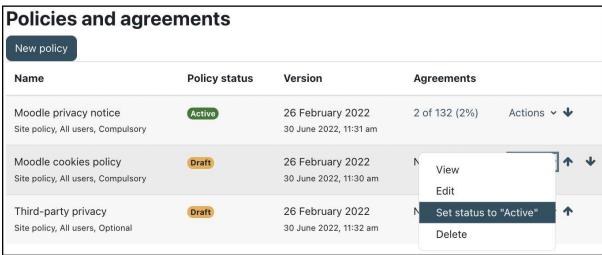
Policies and agreements



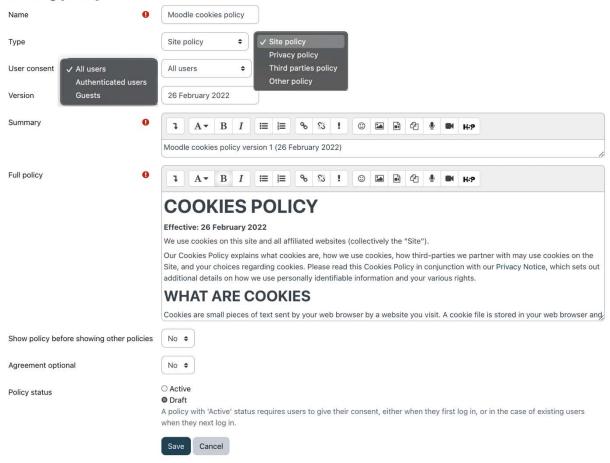








Editing policy



If you continue browsing this website, you agree to our policies: Moodle privacy notice (guests), Moodle cookies policy, Third-party privacy

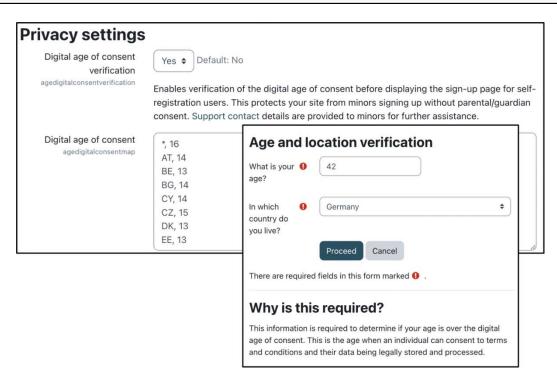
Continue

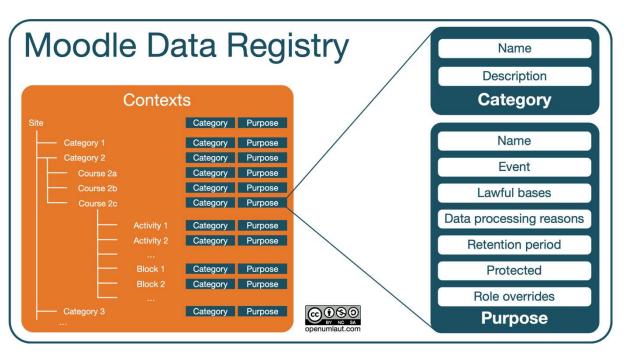


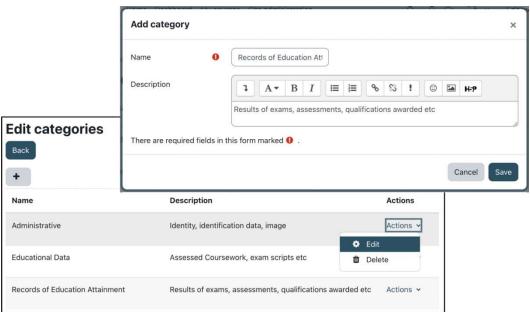
Commander Data Message

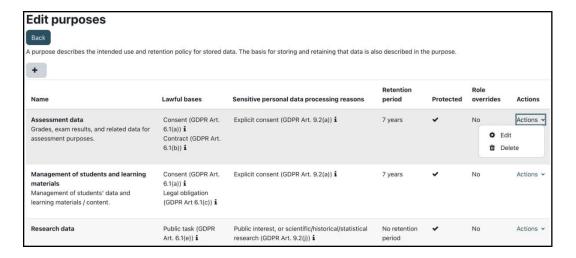
Policies and agreements

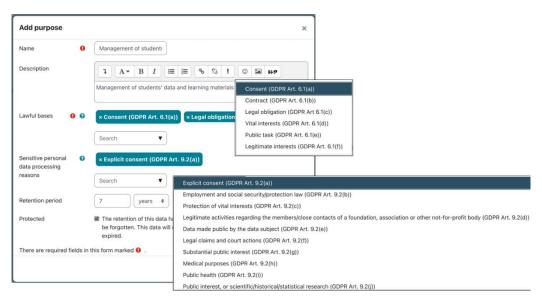
Name	Version	Response	Date	Respondent	Remarks	
Moodle privacy notice	Version 1.2 (10 June 2022) - v2 (Active)	Accepted Withdraw	1 July 2022, 11:28 am			•
Moodle cookies policy	Version 1.2 (26 February 2022) - v3	Accepted Withdraw	1 July 2022, 11:28 am			•
→ Moodle cookies policy	Version 1.2 (26 February 2022) - v2	Accepted Withdraw	1 July 2022, 10:51 am			
	26 February 2022	Accepted Withdraw	30 June 2022, 9:45 am			
Third-party privacy	26 February 2022 Active Optional	Declined Accept	1 July 2022, 10:51 am			

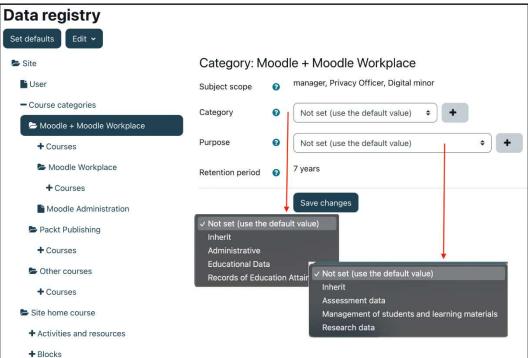






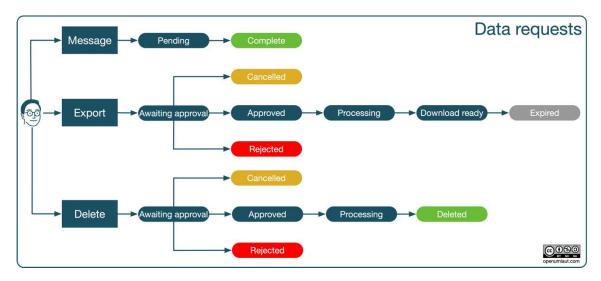


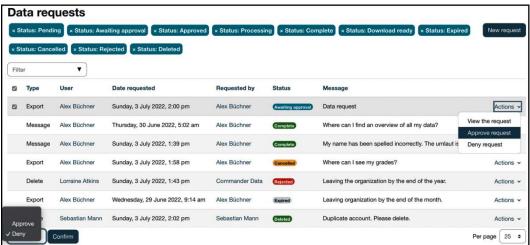


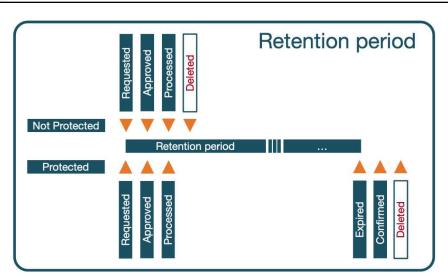


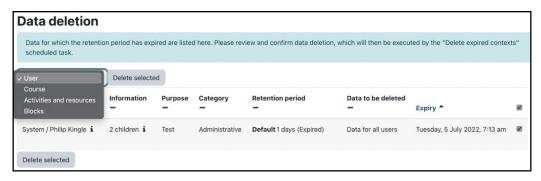
Awards

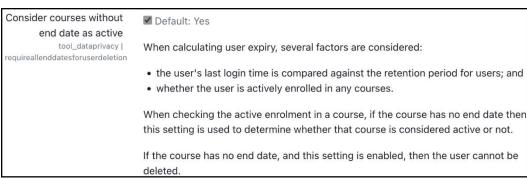






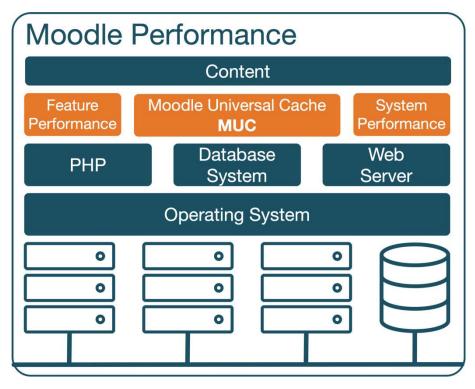




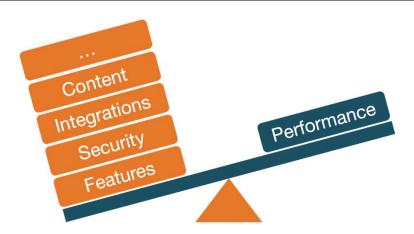




Chapter 15: Optimizing Moodle Performance

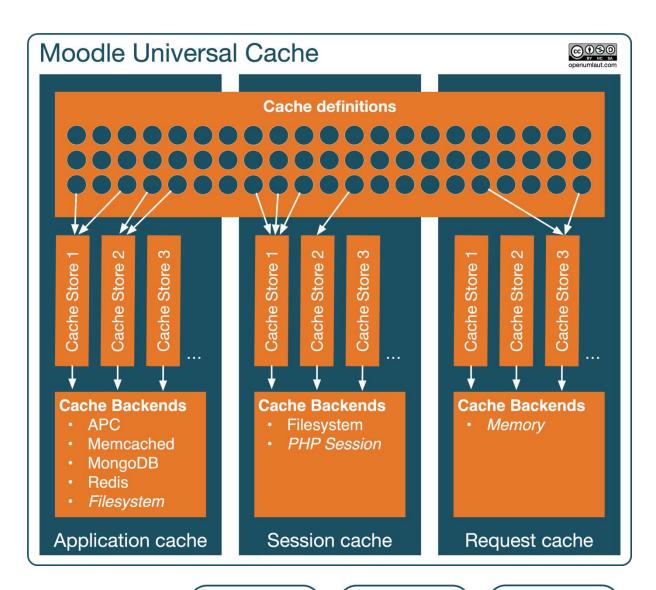


Environment Check how your server suits current and future installation requirements Moodle version 4.0 upwards Server checks					
Name	Information	Report	Plugin	Status	
php_setting	opcache.enable	PHP setting should be changed. PHP opcode caching improves performance and lowers memory requirements, OPcache extension is recommended and fully supported.		Check	

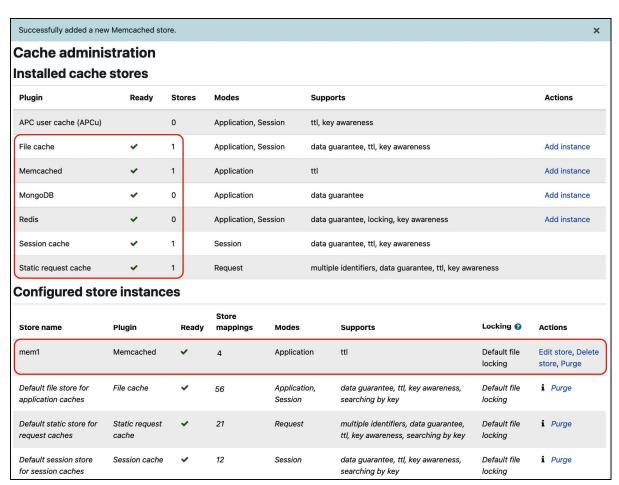


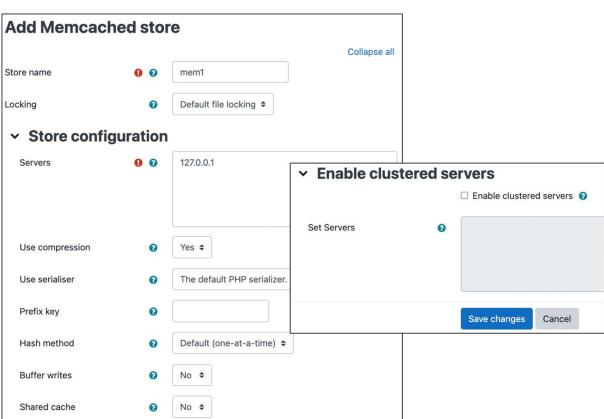
Disable grade history	■ Default: No	
Grade history lifetime gradehistorylifetime	Disable history tracking of Never delete history 1000 days ✓ 365 days 180 days 150 days	of changes in grades related tables. This may speed up the server e in database. Default: Never delete history of time you want to keep history of changes in grade related
	120 days 90 days 60 days 30 days	to keep it as long as possible. If you experience performance database space, try to set lower value.

	AJAX Method	Normal Method	Server Daemon
Refresh user list	✓	✓	✓
Disconnect timeout	✓	✓	✓
Refresh room		✓	
Update method		✓	
Max users			✓



	Application Cache	Session Cache	Request Cache
Lifetime	Persistent	Session	Request
Applicable to	All users	User	User
Performance impact	High	Medium	Low
Default cache store	Filesystem	PHP session	Memory





Definition	Mode	Component	Area	Store mappings	Sharing	Can use local store	Actions
Accumulated information about modules and sections for each course	Application	core	coursemodinfo	Default file store for application caches	Site identifier	Yes	Edit mappings, Edit sharing, Purge
Activity completion status	Application	core	completion	Default file store for application caches	Site identifier	No	Edit mappings, Edit sharing, Purge
Allowed content bank course categories for current user	Session	core	contentbank_allowed_categories	Default session store for session caches	Site identifier	No	Edit mappings, Purge
Allowed content bank courses for current user	Session	core	contentbank_allowed_courses	Default session store for session caches	Site identifier	No	Edit mappings, Purge
Allowed extensions and its supporter plugins in a content bank context	Request	core	contentbank_context_extensions	Default static store for request caches	Site identifier	No	Edit mappings, Purge

Cache store performance reporting - 100000 unique requests per operation.

Test with 1, 10, 100, 500, 1000, 5000, 10000, 50000, 100000 requests

Store requests when used as an application cache.

Plugin	Result	Set	Get - Hit	Get - Miss	Delete
APC user cache (APCu)	Invalid plugin	_	÷	-	12
File cache	Tested	13.9968	3.4031	0.4103	2.5716

Memcached	Store requests wh	nen used as a ses	sion cache.			
MongoDB	Plugin	Result	Set	Get - Hit	Get - Miss	Delete
Redis	APC user cache (APCu)	Invalid plugin	-	-	5 0	<u>,=</u> 3
Session cache	File cache	Tested	17.5921	3.4271	0.4053	2.6069
Static request cache	Memcached	Untestable	-	-	-	-
	Session cache	Tested	0.1593	0.0227	0.0119	0.0734

Store re	quests when used as	a request cach	ne.			
Plugin	Result	Set	Get - Hit	Get - Miss	Delete	
APC user cac	he (APCu) Invalid plugin	-	<u>-</u>	_	_	

 File cache
 Unsupported mode
 -</t

Purge caches

Moodle can cache themes, javascript, language strings, filtered text, rss feeds and many other pieces of calculated data. Purging these caches will delete that data from the server and force browsers to refetch data, so that you can be sure you are seeing the most up-to-date values produced by the current code. There is no danger in purging caches, but your site may appear slower for a while until the server and clients calculate new information and cache it.

Purge all caches

V	Purge	se	ected	cach	nes
		00	0000	0001	

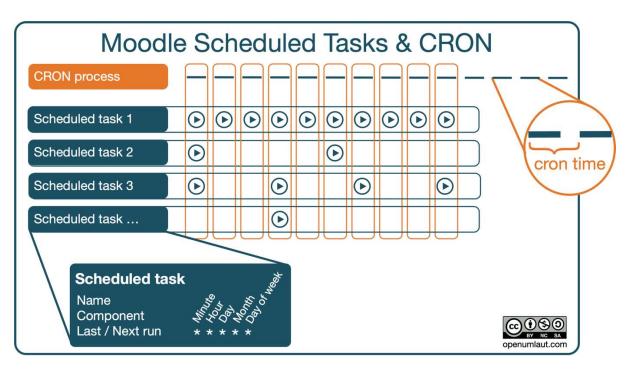
sessioncookiedomain

Save changes

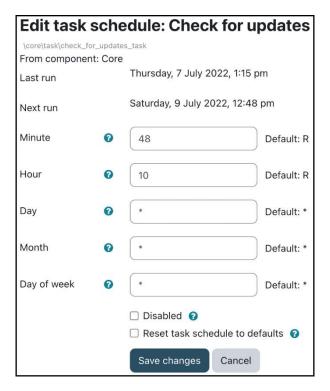
☐ Themes ☐	Language strings	☐ JavaScript	\square Templates	
☐ Text filters	✓ All MUC caches	\square All file and	miscellaneous o	caches
Purge selecte	d caches			

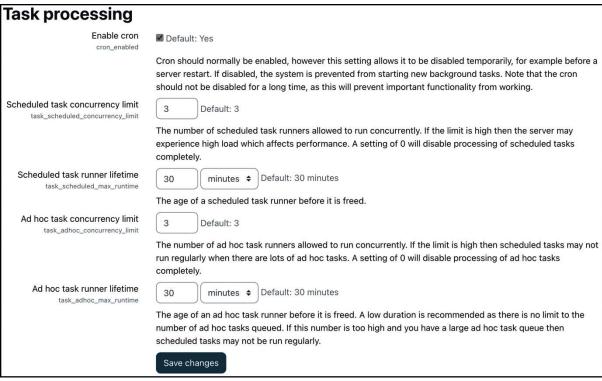
This allows you to change the domain that the Moodle cookies are available from. This is useful for Moodle customisations (e.g. authentication or enrolment plugins) that need to share Moodle session information with a web application on another subdomain. WARNING: it is strongly recommended to leave this setting at the default (empty) - an incorrect value will prevent all logins to the site.

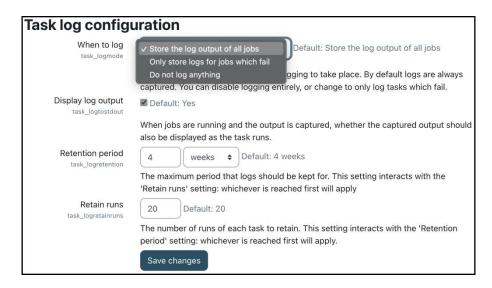
Session handling Use database for session Default: No information dbsessions If enabled, this setting will use the database to store information about current sessions. Note that changing this setting now will log out all current users (including you). If you are using MySQL please make sure that 'max_allowed_packet' in my.cnf (or my.ini) is at least 4M. Other session drivers can be configured directly in config.php, see config-dist.php for more information. This option disappears if you specify session driver in config.php file. Timeout Default: 8 hours 2 hours sessiontimeout If people logged in to this site are idle for a long time (without loading pages) then they are automatically logged out (their session is ended). This variable specifies how long this time should be. **Timeout Warning** minutes \$ Default: 20 minutes sessiontimeoutwarning If people logged in to this site are idle for a long time (without loading pages) then they are warned about their session is about to end. This variable specifies how long this time should be. Cookie prefix Default: Empty packt sessioncookie This setting customises the name of the cookie used for Moodle sessions. This is optional, and only useful to avoid cookies being confused when there is more than one copy of Moodle running within the same web site. Cookie path /openumlaut/ Default: Empty If you need to change where browsers send the Moodle cookies, you can change this setting to specify a subdirectory of your web site. Otherwise the default '/' should be fine. Cookie domain Default: Empty

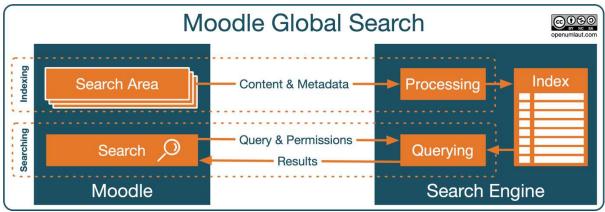


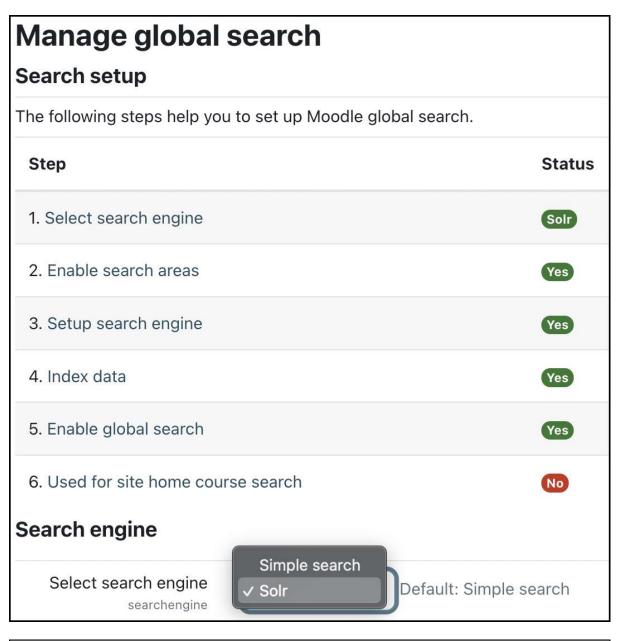
Scheduled tasks												
Name	Component	Edit	Logs	Last run	Next run	Minute	Hour	Day	Day of week	Month	Fail delay	Default
CAS users sync job auth_cas task sync_task	CAS server (SSO) Disabled auth_cas	٥	B	Never	Plugin disabled	0	0	•	٠	•	0	Yes
Unused H5P files cleanup \core\task\h5p_clean_orphaned_records_task	Core	٥	B	Never Run now	ASAP	Default:	• Default: 0		•		86400 Clear	No
$\label{eq:Download} \begin{tabular}{lll} \textbf{Download available H5P content types from h5p.org} \\ $$ \core[task]h5p_get_content_types_task $$ \end{tabular}$	Core	۰	B)	Saturday, 28 May 2022, 6:13 pm Run now	Task disabled	31	10	1	•	•	60 Clear	No
Legacy cron processing for plugins \core\task\tegacy_plugin_cron_task	Core	۰	B	Thursday, 7 July 2022, 1:15 pm Run now	ASAP	•	*	•	•		0	Yes
Process bulk caching [tool_brickfield[task]bulk_process_caches]	Accessibility toolkit tool_brickfield	۰	B	Thursday, 7 July 2022, 1:15 pm Run now	ASAP	*/1 Default: */5	**:	*	•	•	0	No
Process bulk batch accessibility checking \tool_brickfield\task\bulk_process_courses	Accessibility toolkit tool_brickfield	۰	B	Thursday, 7 July 2022, 1:15 pm Run now	ASAP	*/1 Default: */6	٠	٠	•	•	0	No
Task to check for any invalid checkids \tool_brickfield\task\checkid_validation	Accessibility toolkit tool_brickfield	۰	B	Thursday, 7 July 2022, 1:15 pm Run now	ASAP	O1 Default: 05	9	•	٠	•	0	No
Process content analysis requests \tool_brickfield\task\process_analysis_requests	Accessibility toolkit tool_brickfield	۰		Thursday, 7 July 2022, 1:15 pm Run now	ASAP	*/1 Default: */6		•	•	•	0	No

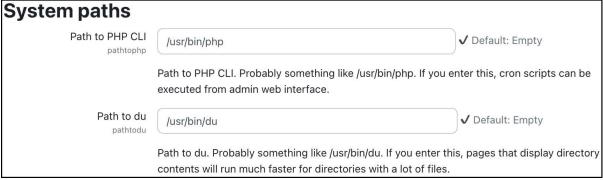




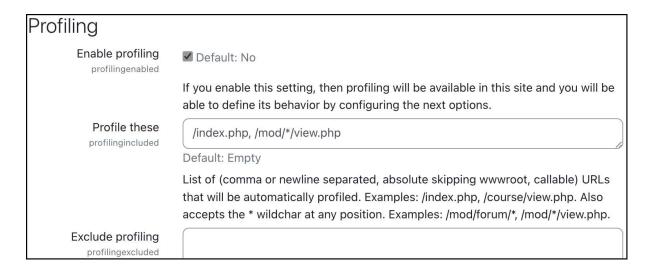








3.601	214 secs			RAM	l: 9.9	МВ				RAM	1 pea	ak: 1	8.0 MB	
Included 793 files Pieces of content filtered: 1 DB reads/writes: 2042/0 Load average: 3.33				Contexts for which filters were loaded: 2 Strings filtered: 35 DB queries time: 0.25692 secs Session (core\session\file): 6.7 KB					Filters created: 8 get_string calls: 1405 ticks: 360 user: 315sys: 11 cuser: 0 csys: 0					
Mode	Cache item		Sta	itic			Н	М	Primary store	н	М	s	1/0	
Арр	core/capabil	ities	** :	static	ассє	ıl. **	532	1	default_application	1	0	0	156.8 KB	
Ses	core/course	cat							default_session	2	0	1	-	
Req	core/course	catrecords							default_request	2	2	2		
Арр	core/course	cattree	** :	static	ассє	d. **	0	2	default_application	2	0	0	0.3 KB	
Арр	core/course	completion	** :	static	ассє	d. **	0		default_application	2	0	0	1.0 KB	
Арр	core/course	modinfo							default_application	1	0	0	1.2 KB	
Арр	core/databa	semeta	** :	static	acce	i. **	4	11	default_application	11	0	0	45.0 KB	
Арр	core/eventin	validation	**	static	acce	1. **	1	2	default_application	2	1	0	0.1 KB	
Арр	core/fontawe	esomeiconmapping	**	static	ассє	ıl. **	0	1	default_application	1	0	0	22.0 KB	
Арр	core/htmlpu	rifier							default_application	1	0	0	0.3 KB	
Арр	core/langme	nu	** :	static	ассє	el. **	5	1	default_application	1	0	0	0.3 KB	
Арр	core/license								default_application	1	0	0	2.9 KB	
Арр	core/messag	ge_processors_enable	d ** :	static	ассє	i. **	0		default_application	1	0	0	0.0 KB	
Арр	core/plugin_	functions	**	static	ассє	i. **	0	17	default_application	17	0	0	2.6 KB	
Арр	core/plugin_	_manager							default_application	3	0	0	86.7 KB	
Req	core/reposite	ories							default_request	0	20	40		
Арр	core/string		** :	static	ассє	d. **	1228	487	default_application	487	0	0	4564.9 KB	
Арр	core/yuimod	lules							default_application	3	0	0	16.2 KB	
Арр	tool_mobile/	plugininfo	**	static	acce	d. **	0		default_application	1	0	0	5.7 KB	
Арр	tool_usertou	ırs/tourdata	** :	static	ассє	ıl. **	0		default_application	1	0	0	3.8 KB	
Store r	name	Cache store	Н	М	s		1/0							
** stati	c accel. **		1770	527	0									
default	_application	cachestore_file	536	1	0	490	9.6 KB							
default	_request	cachestore_static	2	22	42		-							
default	_session	cachestore_session	2	0	1		-							
Total			2310	550	43	490	9.6 KB							



Profiling runs												
[Import]												
URL	Date ▼	Execution time	CPU time	Function calls	Memory used	Comment _						
/mod/forum/view.php >	11 Jul 2022, 13:10	999.841 ms	955.958 ms	139819	8761.672 KB							
/mod/forum/view.php ->	11 Jul 2022, 13:10	1012.329 ms	963.126 ms	139827	8761.828 KB							
/mod/forum/view.php →	11 Jul 2022, 13:10	1007.753 ms	973.422 ms	139560	8758.586 KB							
/mod/forum/view.php >	11 Jul 2022, 13:09	1246.752 ms	1133.049 ms	154488	9446.352 KB							
/index.php →	11 Jul 2022, 13:09	1001.941 ms	954.340 ms	106460	8554.750 KB							

Make JMeter test plan

This tool creates a JMeter test plan file along with the user credentials file.

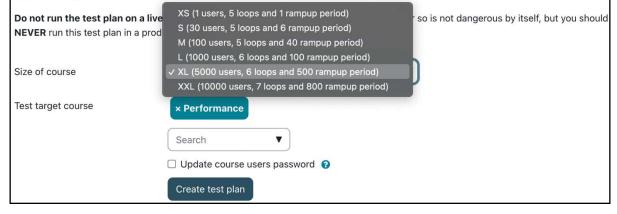
This test plan is designed to work along with https://github.com/moodlehq/moodle-performance-comparison, which makes easier to run the test plan in a specific Moodle environment, gathers information about the runs and compares the results, so you will need to download it and use it's test_runner.sh script or follow the installation and usage instructions.

You need to set a password for the course users in config.php (e.g. \$CFG->tool_generator_users_password = 'moodle';). There is no default value for this password to prevent unintended usages of the tool. You need to use the update passwords option in case your course users have other passwords or they were generated by tool_generator but without setting a \$CFG->tool_generator_users_password value.

It is part of tool_generator so it works well with the courses generated by the courses and the site generators, it can also be used with any course that contains, at least:

- Enough enrolled users (depends on the test plan size you select) with the password reset to 'moodle'
- A page module instance
- A forum module instance with at least one discussion and one reply

You might want to consider your servers capacity when running large test plans as the amount to load generated by JMeter can be specially big. The ramp up period has been adjusted according to the number of threads (users) to reduce this kind of issues but the load is still huge.



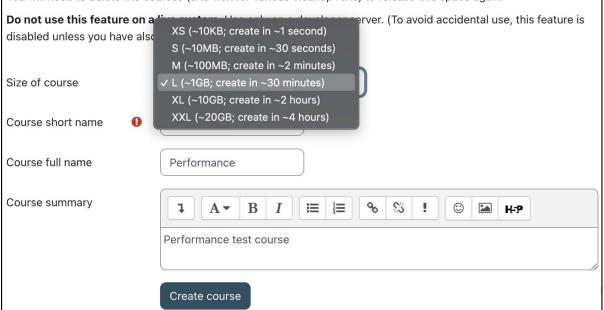
Make test course

This tool creates standard test courses that include many sections, activities, and files.

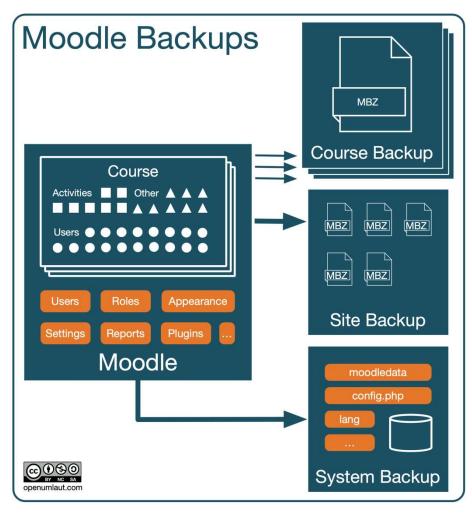
This is intended to provide a standardised measure for checking the reliability and performance of various system components (such as backup and restore).

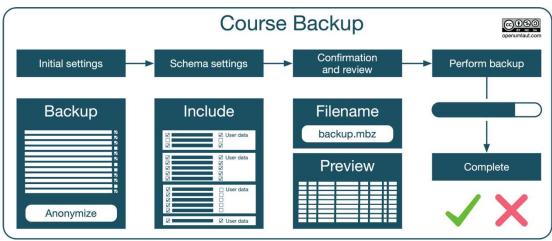
This test is important because there have been many cases previously where, faced with real-life use cases (e.g. a course with 1,000 activities), the system does not work.

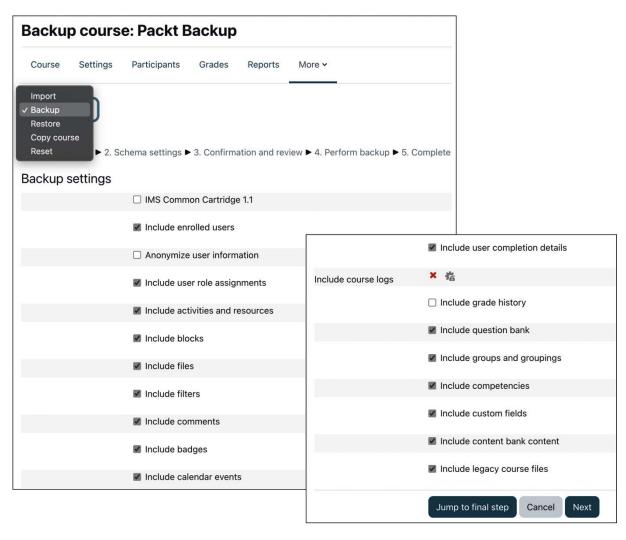
Courses created using this feature can occupy a large amount of database and filesystem space (tens of gigabytes). You will need to delete the courses (and wait for various cleanup runs) to release this space again.



Chapter 16: Avoiding Sleepless Nights – Moodle Backup and Restore

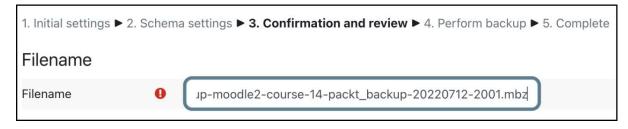


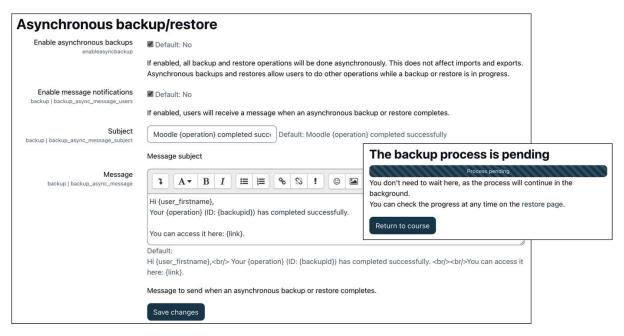




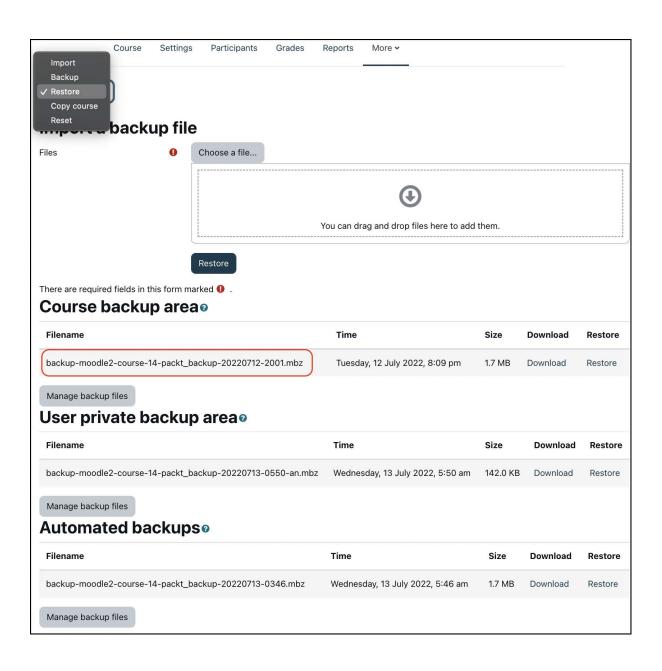
General backup setting	s	
Include users backup backup_general_users	✓ Default: Yes	☐ Locked
	Sets the default for whether to include users in backups.	
Anonymise information	☐ Default: No	Locked
backup_general_anonymize	If enabled all information pertaining to users will be anonymised by default.	
Include role assignments	✓ Default: Yes	Locked
backup_general_role_assignments	If enabled by default roles assignments will also be backed up.	
Include activities and resources	✓ Default: Yes	☐ Locked
backup backup_general_activities	Sets the default for including activities in a backup.	
Include blocks	✓ Default: Yes	

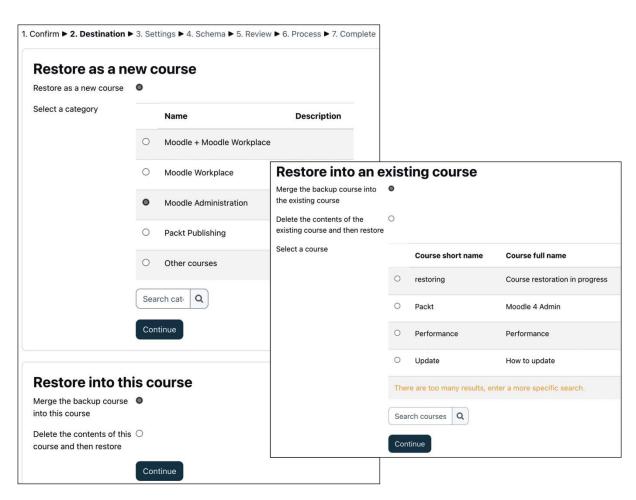
1. Initial settings ▶ 2. Schema settings ▶ 3. Confirmation and review ▶ 4. Perform backup ▶ 5. Complete					
Include:					
☑ General	✓ User data				
✓ News forum (≡)	☑ -				
☑ BBB ⑤					
▼ Topic 1	✓ User data				
✓ An assignment <a>□	M -				
✓ A chat	₩ -				
☑ A file ☐	☑ -				
☐ A video 🖺	✓ -				
☐ Topic 2	✓ User data				

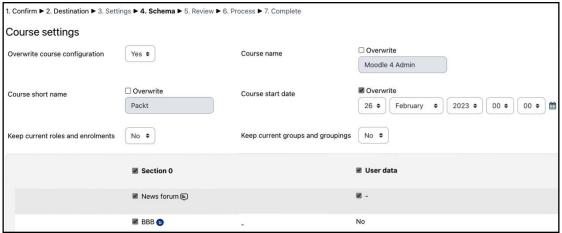


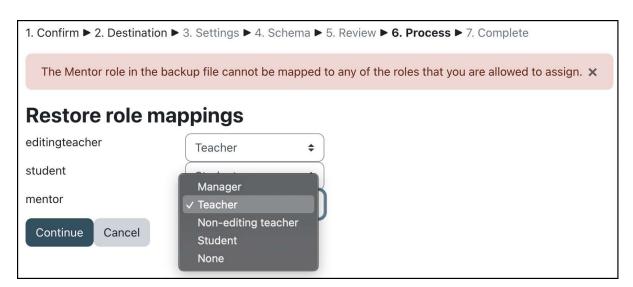


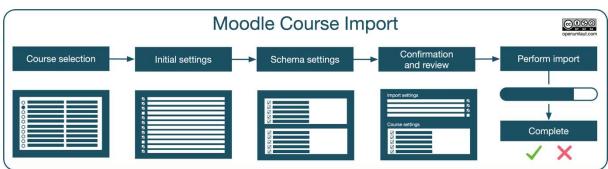












Setting	Description	
Active	Turns automatic backups on and off. Make sure that your backup is activated! The Manual option allows the execution via the CLI (refer to the command after this table).	
Schedule	Specify the days of the week on which the backup has to run.	
Execute at	Specify the time of the day the backup will be executed.	
Automated backup storage	By default, backups are stored in the course backup file areas. To store backups centrally, select Specified directory for automated backups . If you choose both locations, twice the storage will be taken up.	
Save to	If backup storage includes a directory, specify the full (absolute) path to the folder, and ensure access rights are set to writable.	
Maximum number of backups kept	Specify the number of backups to be kept. Beware that a large number will have an impact on disk usage. Older versions will be deleted automatically.	
Delete backups older than	Backups older than the specified number of days will be deleted automatically.	
Minimum number of backups kept	Backups of older or inactive courses will be removed with the previous setting. To avoid this, specify the number of backups you wish to keep.	
Use the course name in backup filename	Toggle that switches between the course ID and course name for the default backup filename.	
Skip hidden courses	If selected, hidden courses will be excluded from the backup (default).	
Skip courses not modified since	Select the number of days to exclude courses that have not been altered since.	
Skip courses not modified since previous backup	If selected, only courses that have been changed since the previous backup will be included. This is the most disk space and time-efficient setting. Make sure logging is activated in order to support this mode.	

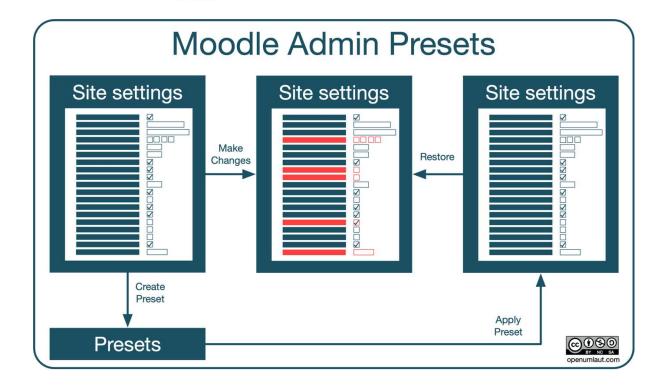
Last execution log					
Course	Time taken			Status	Next backup
Moodle Administration 4 ■	13 Jul, 05:46	-	13 Jul, 05:46	ОК	13 Jul, 22:30
Performance Ⅲ	13 Jul, 05:46	-	1 Jan, 01:00	Unfinished	12 Jul, 22:30
Course One Ⅲ	1 Jan, 01:00	-	1 Jan, 01:00	Queued	12 Jul, 22:30
Moodle Administration 3 ■	1 Jan, 01:00	-	1 Jan, 01:00	Queued	12 Jul, 22:30
Moodle Administration 2 ■	1 Jan, 01:00	-	1 Jan, 01:00	Queued	12 Jul, 22:30
Moodle Workplace : ■	1 Jan, 01:00	-	1 Jan, 01:00	Queued	12 Jul, 22:30
Course restoration in progress ≡	1 Jan, 01:00	-	1 Jan, 01:00	Automated backup pending	13 Jul, 22:30

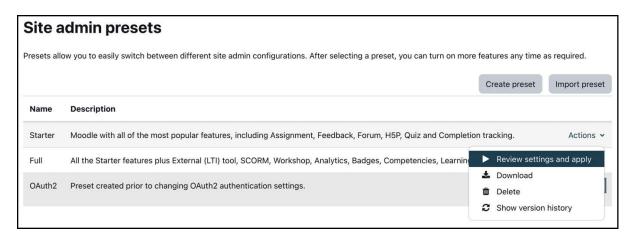
Checklist Moodle Backups					
Course backups	Configure course backup defaults and settings to be in line with your policies Courses I Backups I General backup defaults				
✓ Course imports	Configure course restore defaults and settings to be in line with your policies Courses I Backups I General restore defaults				
✓ Course imports	Configure course import defaults and settings to be in line with your policies Courses I Backups I General import defaults				
✓ Site-level backups	Schedule and configure automated backups Courses Backups Automated backup setup				
✓ Moodle backups	Ensure that archives are created automatically and regularly				
✓ Snapshots	Ensure that snapshots are created automatically and regularly				
✓ Testing	Verify backups frequently. This is not a drill!				

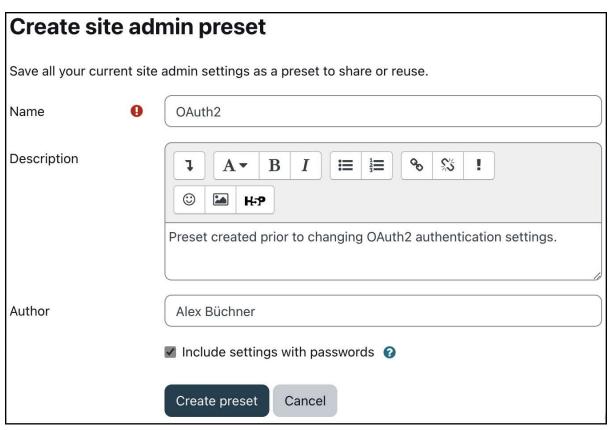
Chapter 17: Working with Moodle Admin Tools

Moodle Admin Tools Web-based Presets Database tools Command line CLI Moosh

Diversity	Version	I I min a ta II
Plugin	version	Uninstall
Acceptance testing	2022041900	Uninstall
Accessibility toolkit	2022041900	
Analytic models	2022041900	Uninstall
Availability condition management	2022041900	Uninstall
Capability overview	2022041900	Uninstall
Cohort roles management	2022041900	Uninstall
Competencies migration tool	200	







Apply site admin preset

Review the setting changes before applying this preset.

Name	Description	Moodle release	Author	Site	Created	Imported
OAuth2	Preset created prior to changing OAuth2 authentication settings.	4.1dev (Build: 20220714)	Alex Büchner	http://localhost:8888/openumlaut	Friday, 15 July 2022, 6:05 am	

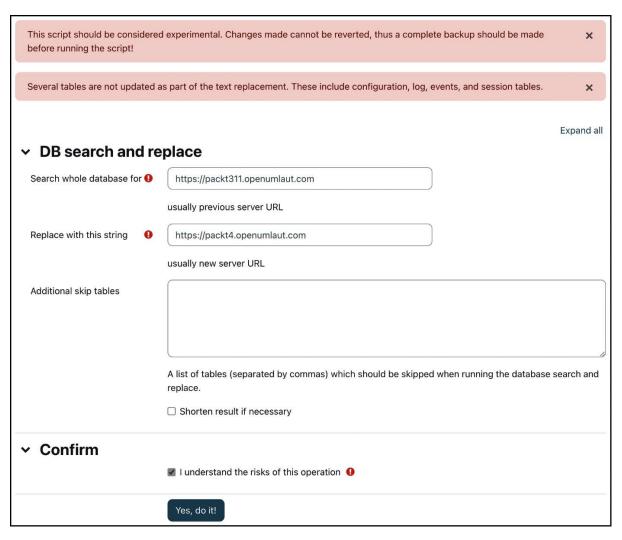
Setting changes

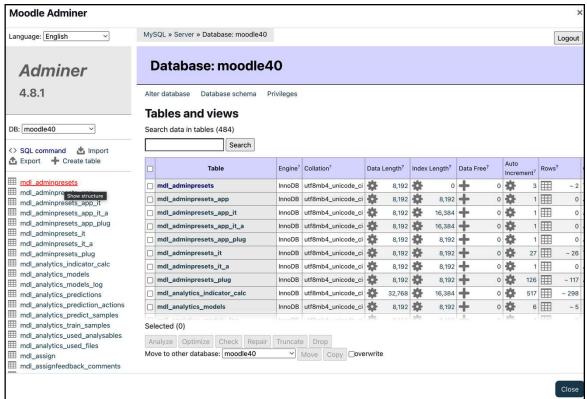
Setting name	Plugin	Current value	New value
Lock value (Email address)	auth_oauth2	Unlocked if empty	Unlocked
Lock value (First name)	auth_oauth2	Locked	Unlocked
Lock value (Surname)	auth_oauth2	Locked	Unlocked
OAuth 2	auth	Enabled	Disabled

If you change your mind after applying this preset, you can undo the setting changes via 'Show version history' in the preset actions menu.



Transfer this Moodle database to another server This script will transfer the entire contents of this database to another database server. It is often used for migration of data to different database type. Choose... Target databas Improved MySQL (native/mysqli) Aurora MySQL (native/auroramysql) Туре ✓ MariaDB (native/mariadb) PostgreSQL (native/pgsql) Database host 127.0.0.1 Database name packt Database user packt Database password 1 Tables prefix mdl_ Port Unix socket This option enables maintanance mode during and after the database migration, it → Options prevents access of all users until the migration is completed. Please note that Enable maintenance mode administrator has to manually delete \$CFG->dataroot/climaintenance.html file after updating config.php settings to resume Transfer data normal operation.



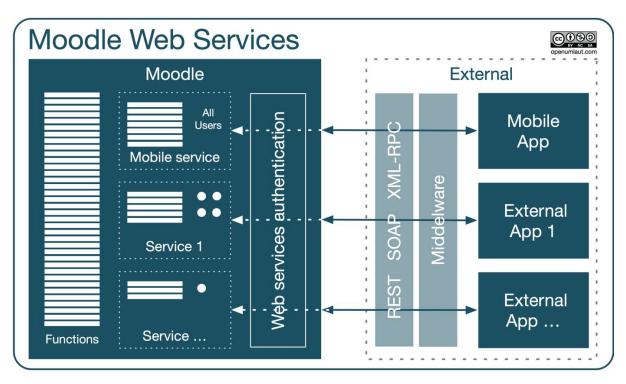


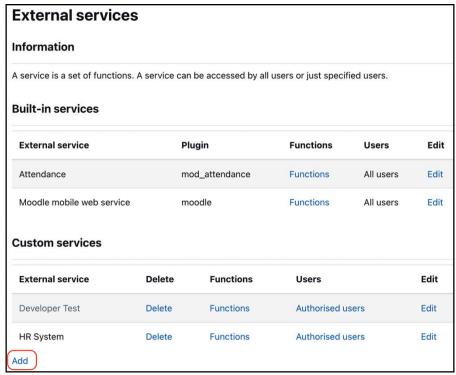
CLI Script	Description	Chapter
adhoc_task	Executes adhoc tasks.	15
automated_backups	Executes automatic backups ignoring the set schedule.	
backup	Backs up a single course to a named location.	16
cfg	Gets and sets config values.	-
check_database_schema	Validation that the current database structure matches install.xml.	-
cron	Executes the cron command.	1
dashboard_reset	Resets all dashboards.	7
fix_course_sequence	Checks and ensures that course modules and sections reference each other correctly. Only run if you experience inconsistencies.	4
fix_deleted_users	Fixes user accounts if they got deleted incorrectly. Only run if you experience inconsistencies.	5
install	Moodle installer that creates config.php and prepares the database.	1
install_database	Installs Moodle in an empty database. config.php must already exist.	1
kill_all_sessions	Kills all user sessions without warning.	15
maintenance	Enable or disable maintenance mode. Custom messages are stored in \$CFG->dataroot/climaintenance.html.	1
mysql_engine	Converts MySQL tables to a different engine.	-
purge_caches	Clears all system caches.	15
reset_password	Resets a user's password. Also works for the admin account!	5
restore_backup	Restores a .mbz file.	16
scheduled_task	Executes a scheduled task manually.	15
uninstall_plugins	Uninstalls Moodle plugins.	8
upgrade	Upgrades Moodle to a newer version.	1

```
1 # Script to kill all user sessions and clear caches
2 cd /var/www/html/moodle
3
4 # Enable maintenance message
5 echo '<h1>Sorry, maintenance in progress</h1>' > climaintenance.html
6
7 # Enable maintenance message
8 php admin/cli/maintenance.php --enable
9
10 # Kill all user sessions
11 php admin/cli/kill_all_sessions.php
12
13 # Clear all system caches
14 php admin/cli/purge_caches.php
15
16 # Disable maintenance message
17 php admin/cli/maintenance.php --disable
```

```
pi@moodle:/var/www/html/moodle $ (moosh course-list)
"id", "category", "shortname", "fullname", "visible"
"1", "0", "Home", "Home", "1"
"2", "Top/Computing/Computing Year 1", "cpp", "C++", "1"
"4", "Top/Computing", "removed course", "Removed Course", "1"
"5"
   ,"Top/Computing/Computing Year 1","Cat 2","Cat 2","1"
   ,"Top/Computing/Computing Year 1","ALGDS1","Algorithms & Data Structures I","1"
"7","Top/Computing","Test","Test","1"
"8","Top/Computing","abc","abc","1"
pi@moodle:/var/www/html/moodle $ (moosh category-list)
id
                 name
                                  idnumber
                                                   description
                                                                    parent
                                                                                     visible
                                  COMP
1
                 Computing
                                                                    Top
                                                                                     1
2
                 Computing Year 1COMP-1
                                                                     Top/Computing 1
3
                 Computing Year 2COMP-2
                                                                     Top/Computing
                                                                                     1
4
                 Computing Year 3COMP-3
                                                                     Top/Computing 0
pi@moodle:/var/www/html/moodle $ (moosh user-create testuser{1..10})
150
151
152
153
154
155
156
157
158
159
```

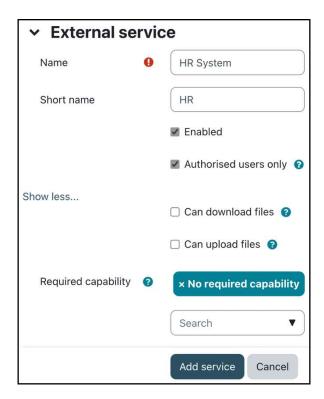
Chapter 18: Integrating External Systems Using Moodle Web Services

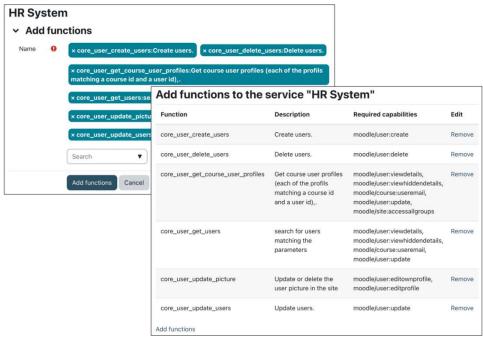


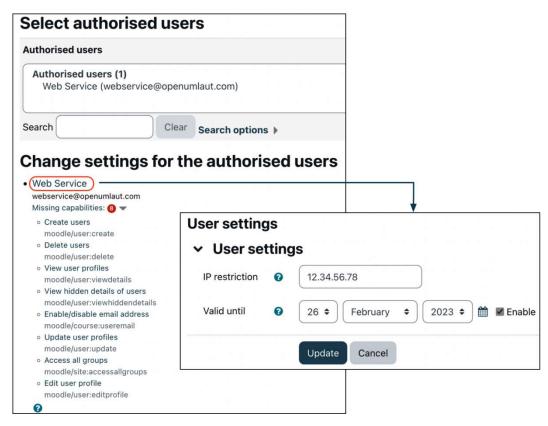


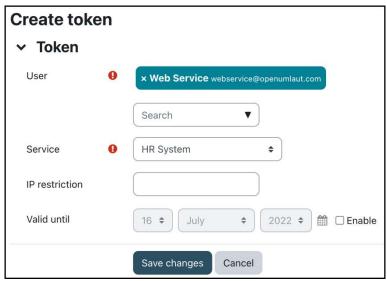
Allow an external system to control Moodle The following steps help you to set up the Moodle web services to allow an external system to interact with Moodle. This includes setting up a token (security key) authentication method.				
1. Enable web services	Yes	Web services must be enabled in Advanced features.		
2. Enable protocols	None	At least one protocol should be enabled. For security reasons, only protocols that are to be used should be enabled.		
3. Create a specific user		A web services user is required to represent the system controlling Moodle.		
4. Check user capability		The user should have appropriate capabilities according to the protocols used, for example webservice/rest:use, webservice/soap:use. To achieve this, create a web services role with protocol capabilities allowed and assign it to the web services user as a system role.		
5. Select a service		A service is a set of web service functions. You will allow the user to access to a new service. On the Add service page check 'Enable' and 'Authorised users' options. Select 'No required capability'.		
6. Add functions		Select required functions for the newly created service.		
7. Select a specific user		Add the web services user as an authorised user.		
8. Create a token for a user		Create a token for the web services user.		
9. Enable developer documentation	No	Detailed web services documentation is available for enabled protocols.		
10. Test the service		Simulate external access to the service using the web service test client. Use an enabled protocol with token authentication. WARNING: The functions that you test WILL BE EXECUTED, so be careful what you choose to test!		

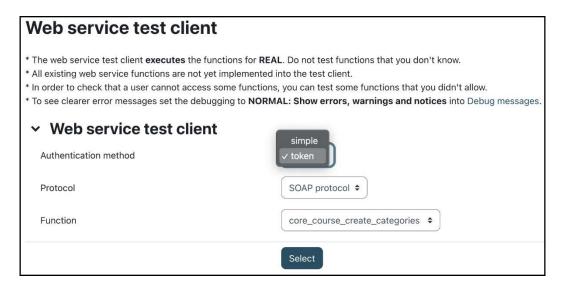
Manage protocols Active web service protocols Enable Protocol Version Settings REST protocol 2022041900 90 SOAP protocol 2022041900 0 XML-RPC protocol 2022041900 For security reasons, only protocols that are in use should be enabled. Web services Default: No documentation enablewsdocumentation Enable auto-generation of web services documentation. A user can access to his own documentation on his security keys page More details. It displays the documentation for the enabled protocols only. Save changes

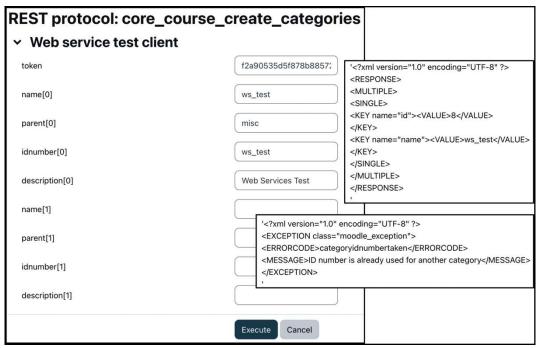










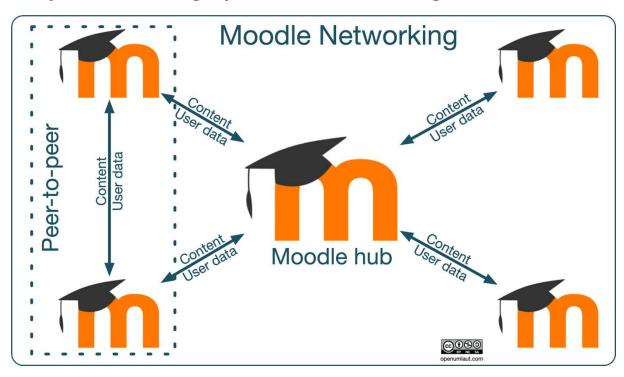


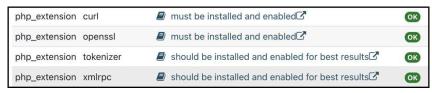
Users as clients with token

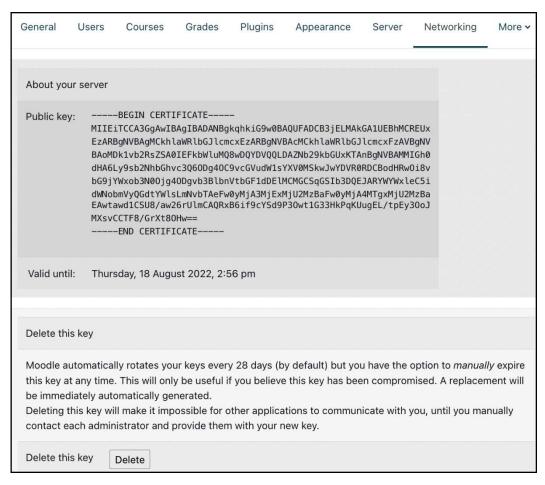
The following steps help you to set up the Moodle web service for users as clients. These steps also help to set up the recommended token (security keys) authentication method. In this use case, the user will generate their token from the security keys page via their preferences page.

Step	Status	Description
1. Enable web services	Yes	Web services must be enabled in Advanced features.
2. Enable protocols	rest soap	At least one protocol should be enabled. For security reasons, only protocols that are to be used should be enabled.
3. Select a service		A service is a set of web service functions. You will allow users to access to a new service. On the Add service page check 'Enable' and uncheck 'Authorised users' options. Select 'No required capability'.
4. Add functions		Select required functions for the newly created service.
5. Check users capability		Users should have two capabilities - webservice:createtoken and a capability matching the protocols used, for example webservice/rest:use, webservice/soap:use. To achieve this, create a web services role with the appropriate capabilities allowed and assign it to the web services user as a system role.
6. Test the service		Simulate external access to the service using the web service test client. Before doing so, log in as a user with the moodle/webservice:createtoken capability and obtain the security key (token) via the user's preferences page. You will use this token in the test client. In the test client, also choose an enabled protocol with the token authentication. WARNING: The functions that you test WILL BE EXECUTED for this user, so be careful what you choose to test!

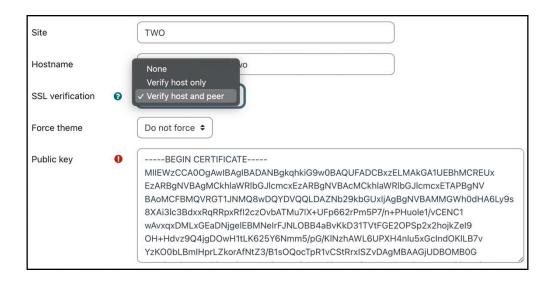
Chapter 19: Setting Up Moodle Networking



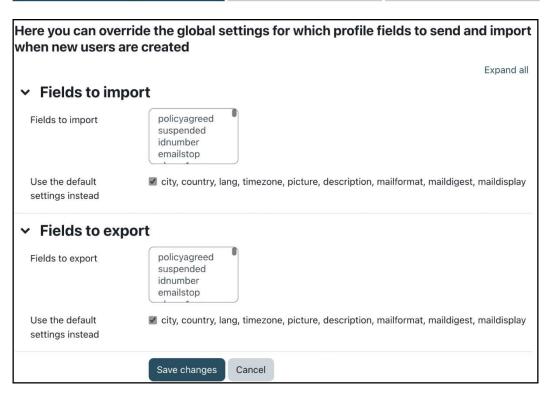


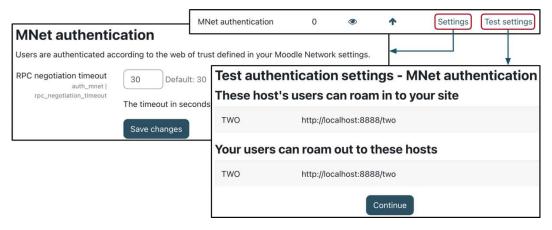


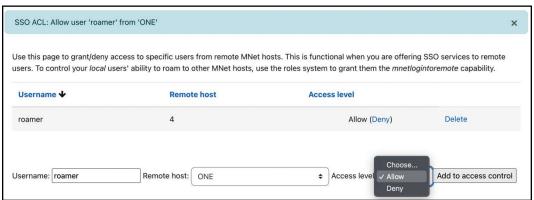


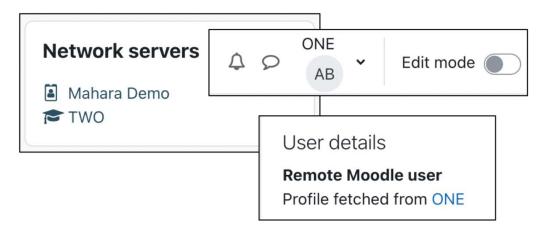


	Local users	Remote users
Publish identity provider	Allow roaming	
Subscribe service provider	Allow roaming	
Subscribe identity provider		Grant access
Publish service provider		Grant access

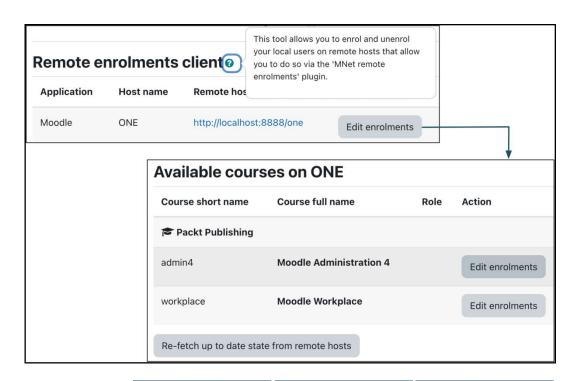








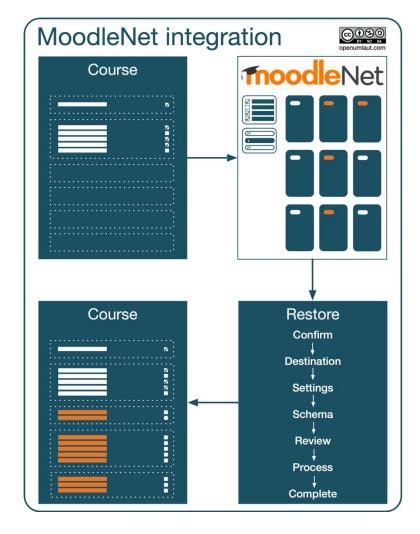


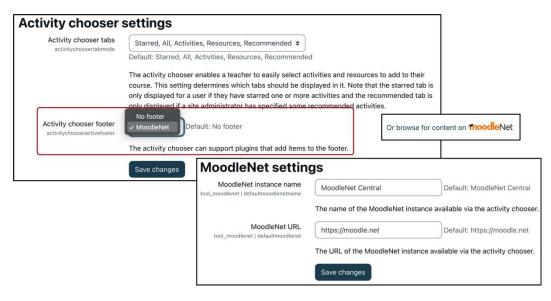


SSO (Identity Provider) SSO (Service Provider) Enrolment

Moodle Hub Subscribe Subscribe Publish & Subscribe

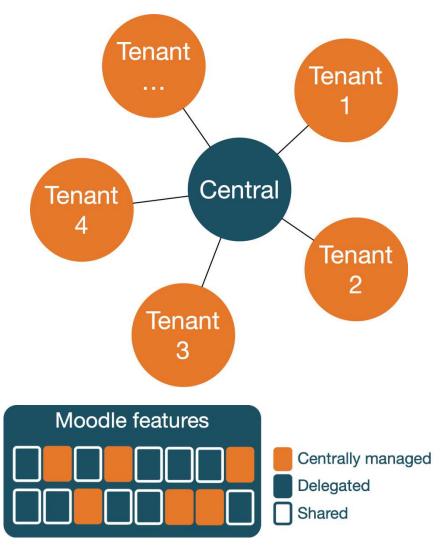
Connecting Peer Publish & Subscribe Publish & Subscribe

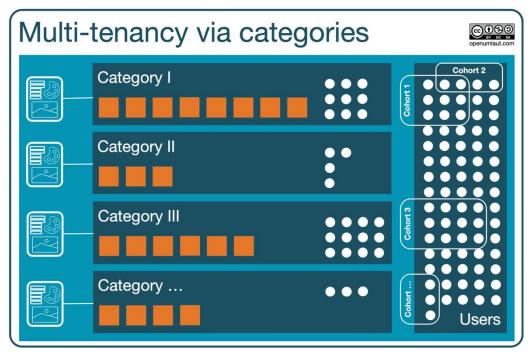


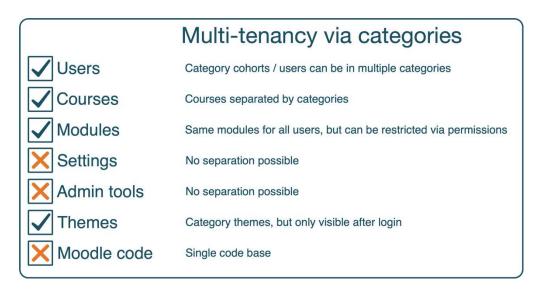


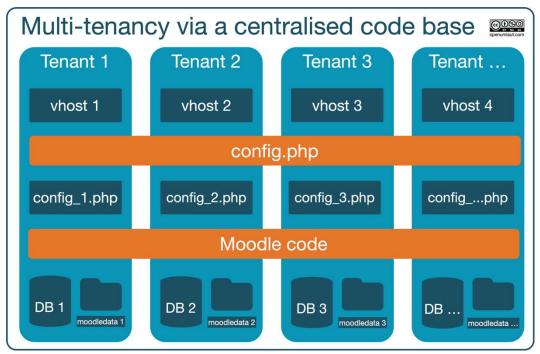
Checklist Moodle Networking			
Install curl, openssl, and xmlrpc	PHP		
✓ Enable networking	General I Advanced settings		
Generate public key	Networking I Settings		
✓ Add peers	Networking I Manage peers		
Configure peer services and profile fields	Networking I Manage peers		
Enable MNet authentication	Plugins I Authentication I Manage authentication		
✓ Allow roaming	Networking I SSO access control		
✓ Add Network servers block	Dashboard		
Configure network enrolment	Plugins I Enrolment I Manage enrol plugins		
Set up a network hub	Networking I Manage peers		

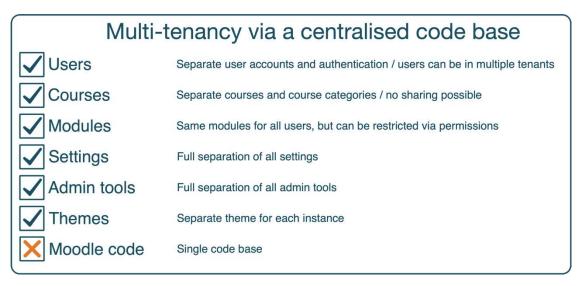
Chapter 20: Supporting Multi-Tenancy

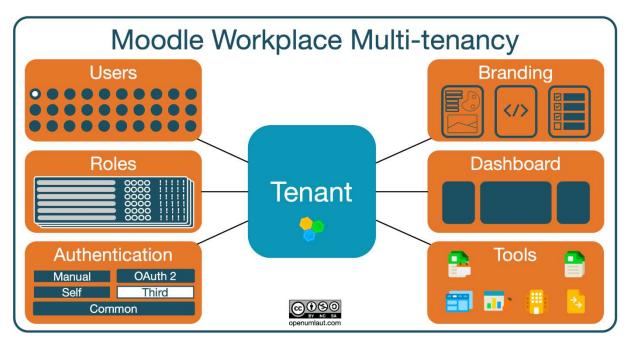


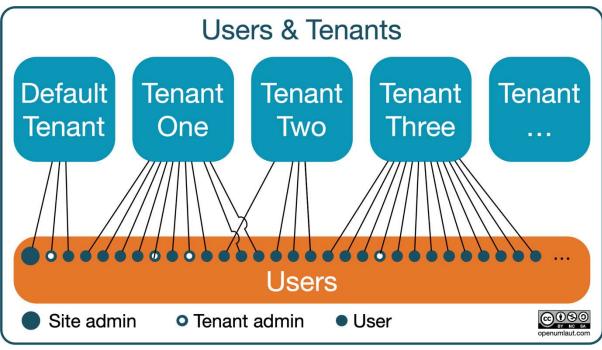












Custom reports



				Reset table prefet	rences
Name *	Report source	Time created	Time modified	Modified by	
Issued certificates Shared space	Issued certificates	Monday, 22 August 2022, 7:29 AM	Monday, 22 August 2022, 7:29 AM	Admin User	
New users 🌶	Users	Monday, 22 August 2022, 7:27 AM	Monday, 22 August 2022, 7:27 AM	Admin User	• •
New users (all) Shared space	Users	Monday, 22 August 2022, 7:13 AM	Monday, 22 August 2022, 7:29 AM	Admin User	
Seminars &	Appointments	Monday, 22 August 2022, 7:12 AM	Monday, 22 August 2022, 7:12 AM	Admin User	o ~

Multi-tenancy in Moodle Workplace		
✓ Users	Tenant users / users can only be in a single tenant	
Courses	Courses separated by tenant categories	
✓ Modules	Same modules for all users, but can be restricted via roles	
Settings	Restricted to some admin settings	
X Admin tools	Shared space for Moodle Workplace tools, but no separation of admin tools	
✓ Themes	Tenant themes and dashboards	
Moodle code	Single code base	