
KNOWLEDGE BASE ARTICLE

MCBA - Moodle Course Backup & Archive

MCBA (Moodle Course Backup & Archive) automates the process of backing up Moodle courses to a long-term archive location typically a network-attached storage (NAS) drive outside of Moodle's own file area.

AUTHOR

Paul Flanders

PUBLISHED

3 May 2026

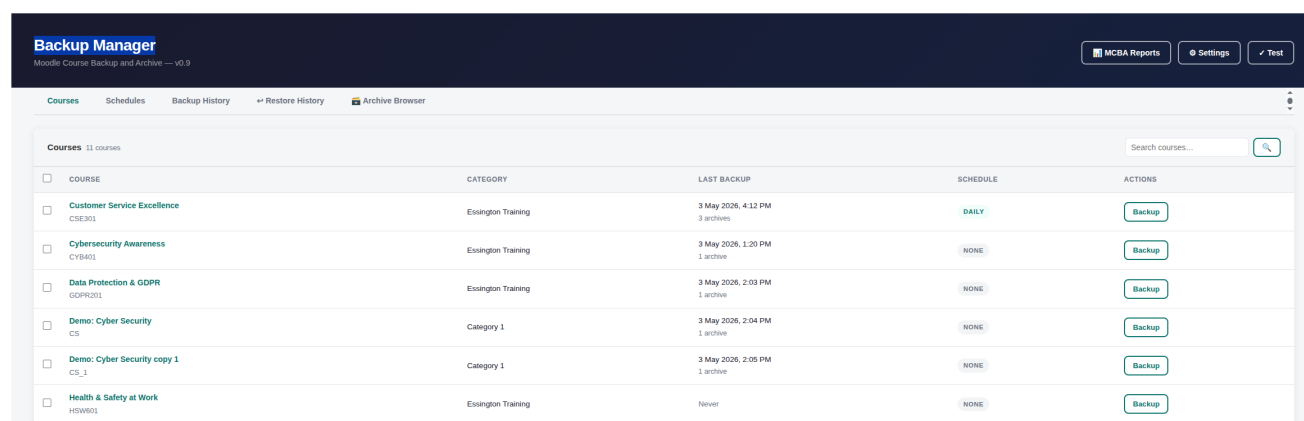
DOCUMENT

InfoHub — Knowledge, news, and updates from EssingtonITS

MCBA - Moodle Course Backup & Archive

Paul Flanders · 3 May 2026

Unlike Moodle's built-in automated backups, MCBA is designed for **archival**: creating a permanent, audited record of a course at a point in time that can be browsed, downloaded, or fully restored into a new course at any future date.



The screenshot shows the 'Backup Manager' interface with a dark blue header. The main content area has a light blue background and contains a table of courses. The table has columns for 'COURSE', 'CATEGORY', 'LAST BACKUP', 'SCHEDULE', and 'ACTIONS'. There are 11 courses listed, each with a checkbox in the 'ACTIONS' column and a 'Backup' button. The courses are: Customer Service Excellence (CSE301), Cybersecurity Awareness (CYB401), Data Protection & GDPR (GDPR201), Demo: Cyber Security (CS), Demo: Cyber Security copy 1 (CS_1), and Health & Safety at Work (HSW601). The 'LAST BACKUP' column shows the date and time of the last backup, and the 'SCHEDULE' column shows the frequency of backups (DAILY, NONE, or Never).

COURSE	CATEGORY	LAST BACKUP	SCHEDULE	ACTIONS
☐ Customer Service Excellence CSE301	Essington Training	3 May 2026, 4:12 PM 3 archives	DAILY	☐ Backup
☐ Cybersecurity Awareness CYB401	Essington Training	3 May 2026, 1:20 PM 1 archive	NONE	☐ Backup
☐ Data Protection & GDPR GDPR201	Essington Training	3 May 2026, 2:03 PM 1 archive	NONE	☐ Backup
☐ Demo: Cyber Security CS	Category 1	3 May 2026, 2:04 PM 1 archive	NONE	☐ Backup
☐ Demo: Cyber Security copy 1 CS_1	Category 1	3 May 2026, 2:05 PM 1 archive	NONE	☐ Backup
☐ Health & Safety at Work HSW601	Essington Training	Never	NONE	☐ Backup

Key capabilities

- **Scheduled backups:** Once-off, daily, weekly, or monthly, running inside a configurable overnight window.
- **Bulk backup:** Select multiple courses and queue them all in one action.
- **Archive browser:** Teachers and admins can browse every historical snapshot of a course, see file sizes and SHA-256 checksums, and trigger a restore.
- **One-click restore:** Restores an archived .mbz into a new hidden course ready for review, with a full audit trail of who triggered it.
- **Retention management:** Archives expire automatically based on configurable retention policies.
- **Reports:** Five report tabs covering disk usage, backup history, schedule health, errors, and an audit log.

- **Alerts:** Email notifications for backup failures, overdue schedules, and disk usage thresholds.

Typical workflow, pre-reset archiving

1. Before resetting or deleting a course, a teacher or admin schedules a backup via the Archive Browser or Courses tab.
 2. The backup runs automatically overnight (inside the configured window) and is saved to the NAS as a .mbz file.
 3. The archive appears in the Archive Browser, where it can be browsed, downloaded, or restored at any time.
 4. When a course needs to be recovered, a restore job is queued and runs immediately. The recovered course appears hidden in the Archive category for admin review.
-

Who can use it? Roles and permissions

MCBA uses Moodle's standard capability system. Access is granted per role in the system context.

Capability	What it allows	Default roles
<code>local/mcba:view</code>	Access the Backup Manager (Courses, Schedules, History, Restores tabs)	Manager, Course creator
<code>local/mcba:schedulebackup</code>	Create and manage backup schedules; cancel, retry, and run-now on jobs	Manager, Course creator
<code>local/mcba:viewarchives</code>	Browse the Archive Browser and Restore History tab	Manager, Course creator, Editing teacher
<code>local/mcba:restore</code>	Trigger a course restore from an archive	Manager, Course creator
<code>local/mcba:download</code>	Download .mbz archive files directly	Manager, Course creator
<code>local/mcba:viewreports</code>	Access the Reports section	Manager, Course creator
<code>local/mcba:configure</code>	Access MCBA Settings and Test Settings pages	Manager

For teachers Editing teachers are granted `local/mcba:viewarchives` by default, giving them the Archive Browser and Restore History tab. They see only archives for courses they are enrolled in with backup permissions. They cannot schedule new backups that requires `local/mcba:schedulebackup`.

Capabilities can be adjusted per role via **Site administration** → **Users** → **Permissions** → **Define roles**.

For convenience you can disable editing teachers access to the archive with the following setting

When enabled, teachers and editing teachers cannot access the Archive Browser, even if the Browse course archive history capability has been granted to their role. Only site managers and course creators retain archive access. Useful for clients who do not want teaching staff to see or restore archived course data.

Permissions

Restrict archive access to managers and course creators

local_mcba | restrict_teacher_archive_access

☒ Default: No

When enabled, teachers and editing teachers cannot access the Archive Browser, even if the Browse course archive history capability has been granted to their role. Only site managers and course creators retain archive access. Useful for clients who do not want teaching staff to see or restore archived course data.

Settings reference

Settings are at **Site administration → Plugins → Local plugins → Moodle Course Backup and Archive**, or via the ⚙ Settings button inside the Backup Manager.

General

Setting	Description	Default
Enable MCBA	Master on/off switch. When disabled, the dispatch queue halts. All data and schedules are preserved.	Enabled

Moodle Course Backup and Archive

General

ENABLE MCBA ☒ Default: Yes

local_mcba | enable

Master switch. When disabled, the dispatch queue halts and no new jobs are started. All data and schedules are preserved.

Storage

Setting	Description	Default
Archive path	Absolute path to the directory where .mbz files are written. Must exist, be writable by the web/CLI user, and be outside Moodle's webroot and dataroot.	/mnt/mcba-archive
Archive subdirectory pattern	Relative path inside the archive root, built from tokens. Controls how archives are organised into subfolders. See Filename tokens below.	{categoryidnumber}/{course shortname}
Filename pattern	Filename for each .mbz archive. Must end in .mbz . See Filename tokens below.	{courseshortname}_{date}_{time}_{type}.mbz
Archive category	Category where restored courses are placed for admin review. Select "(auto-create)" to have MCBA create an "Archive" category on the first restore.	Auto-create

Storage

ARCHIVE PATH
local_mcba | archive_path
 Default: /mnt/mcba-archive
 Absolute path to the NAS mount point where .mbz files are written (e.g. /mnt/mcba-archive). The directory must exist and be writable by the web/CLI user. This path must never be inside Moodle's dataroot or webroot.

ARCHIVE SUBDIRECTORY PATTERN
local_mcba | archive_subdir_pattern
 Default: {categoryidnumber}/{courseshortname}
 Relative subdirectory path inside the archive root, built from tokens. Available tokens: {categoryid}, {categoryidnumber}, {courseid}, {courseshortname}, {coursefullname}. All tokens are slugified (alphanumeric + hyphens only).

FILENAME PATTERN
local_mcba | filename_pattern
 Default: {courseshortname}_{date}_{time}_{type}.mbz
 Filename for each .mbz archive, built from tokens. Available tokens: {categoryid}, {categoryidnumber}, {courseid}, {courseshortname}, {coursefullname}, {date} (YYYYMMDD), {time} (HHMM), {type} (full or nodata). Must end in .mbz.

ARCHIVE CATEGORY
local_mcba | archive_category_id
 Default: (auto-create on first restore)
 Restored courses are placed in this category for admin review before reassignment. If left on "auto-create", MCBA will create an "Archive" category on the first restore.

Backup window

Setting	Description	Default
Backup window start	Server time (24-hour HH:MM) when the backup window opens.	22:00
Backup window end	Server time when the window closes. Can cross midnight — if end is earlier than start the window spans overnight (e.g. 22:00 → 05:00).	05:00
Max concurrent workers	Maximum parallel CLI backup processes. Keep at 1 unless the server has spare capacity.	1

Backup Window

BACKUP WINDOW START

local_mdba | window_start

05:00

Default: 22:00

Time (server timezone, 24-hour **HH:MM** format) when the dispatch window opens. Example: **22:00**.

BACKUP WINDOW END

local_mdba | window_end

04:00

Default: 05:00

Time (server timezone, 24-hour **HH:MM** format) when the dispatch window closes. May wrap past midnight — if end is earlier than start, the window spans midnight (e.g. **22:00 - 05:00**).

MAX CONCURRENT WORKERS

local_mdba | window_max_concurrent

1

Default: 1

Maximum number of parallel CLI backup processes the dispatcher will start in a single cron tick. Keep at 1 unless the server has headroom for concurrent backups.

Schedule defaults

Setting	Description	Default
Default retention (days)	Archives older than this are deleted by the nightly retention task. Set to 0 to never auto-delete. Individual schedules can override this.	90
Default: include users & data	When enabled, "With users & data" is pre-selected in the backup modal for new schedules.	Off

Schedule Defaults

DEFAULT RETENTION (DAYS)

local_mdba | default_retention_days

90

Default: 90

Archives older than this number of days are deleted by the nightly retention task. Set to 0 to never auto-delete by default. Individual schedules can override this value.

DEFAULT: INCLUDE USERS & DATA

local_mdba | default_with_userdata

☐ Default: No

When enabled, the "With users & data" option is pre-selected in the Schedule Backup modal for new schedules.

Alerts & notifications

Setting	Description	Default
Disk warning threshold (%)	Send a warning email when archive volume usage exceeds this percentage.	80
Disk critical threshold (%)	Send a critical alert and block new backup jobs when usage exceeds this. Must be higher than the warning threshold.	90
Alert recipients	Email addresses (one per line) that receive MCBA alerts. Leave blank to send only to the site admin.	Blank
Daily success summary email	When enabled, a daily summary of all successful backups is sent to alert recipients.	Off

Alerts & Notifications

DISK WARNING THRESHOLD (%)

80

Default: 80

local_mcba | disk_warn_threshold_pct

Send a warning alert when archive volume usage exceeds this percentage of total capacity. Must be less than the critical threshold.

DISK CRITICAL THRESHOLD (%)

90

Default: 90

local_mcba | disk_critical_threshold_pct

Send a critical alert and block new jobs from queuing when archive volume usage exceeds this percentage. Must be greater than the warning threshold.

ALERT RECIPIENTS

local_mcba | alert_recipients

paul.fanders@essingtonits.co.uk

Default: Empty

Email addresses that receive all MCBA alerts (backup failures, missed windows, disk warnings). One address per line. Leave blank to send only to the site admin.

DAILY SUCCESS SUMMARY EMAIL

local_mcba | alert_on_success_summary

☒ Default: No

When enabled, a daily summary email listing all successful backups is sent to alert recipients at 06:00.

Advanced

Setting	Description	Default
PHP CLI binary path	Absolute path to the PHP binary used to launch CLI backup workers. Must be executable by the web user.	/usr/bin/php

Advanced

PHP CLI BINARY PATH

local_mcba | cli_php_path

/usr/bin/php

Default: /usr/bin/php

Absolute path to the PHP binary used to launch CLI backup workers (e.g. /usr/bin/php). Must be executable by the web user. Used when an admin manually triggers a queue flush from the UI.

Save changes

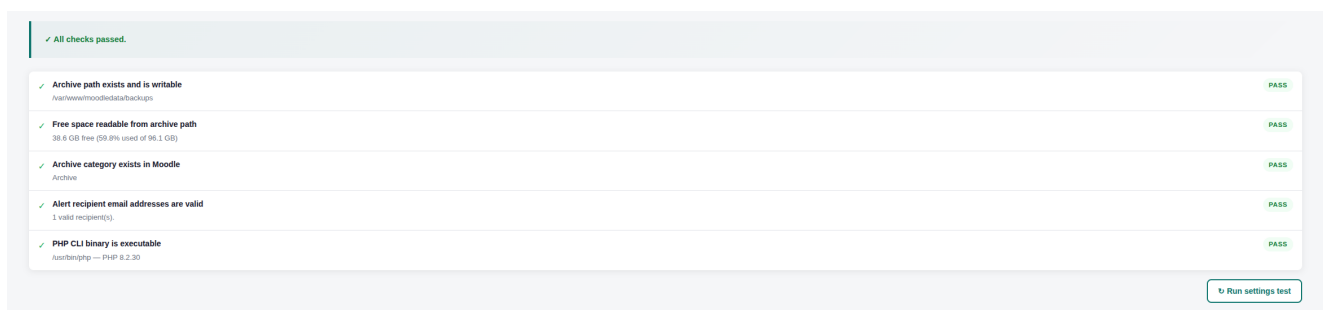
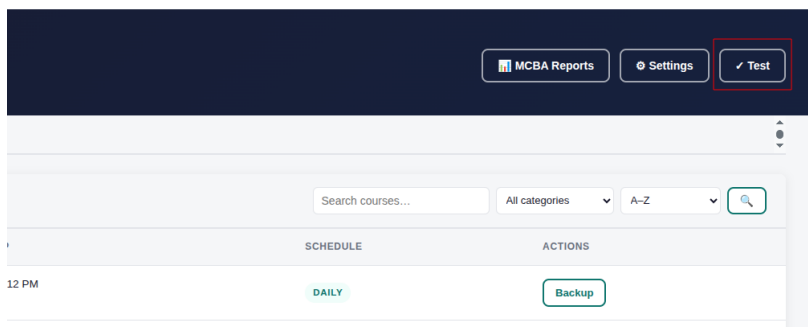
Testing your settings

Before relying on MCBA for production backups, run the built-in settings test. Inside the Backup Manager, click the ✓ **Test** button in the top-right corner.

The test checks:

- **Archive path:** Exists on disk and is writable by the web/CLI user.
- **Disk space:** Free space is readable from the archive path.
- **Archive category:** The configured restore target category exists in Moodle.
- **Alert recipients:** All email addresses are valid.
- **PHP CLI binary:** The configured path exists and is executable.

Run tests after any infrastructure change If you remount the NAS, change PHP versions, or update server paths, always re-run the test before the next scheduled backup window.



Backing up a course, single (one-off) backup

1. Go to **EssingtonITS → MCBA Backup and Archive Manager**.
2. Select the **Courses** tab and find the course (use the search box if needed).
3. Click **Backup** on the course row.
4. In the Schedule Backup modal, choose the backup type and retention, then click **Queue Backup**.
5. The job is queued as Pending and will run at the next cron tick inside the backup window.

Backup types

Type	Includes	Best for
Without users & data	Course structure, activities, resources, files. No enrolments, grades, or submissions.	Course templates, structure snapshots, most archival use cases.
With users & data	Everything above plus enrolled users, grades, quiz attempts, forum posts, completion data.	Full compliance archives, pre-deletion backups where student data must be preserved.

File size warning User-data backups can be 10-50× larger than structure-only backups for active courses. Consider disk space and retention carefully before selecting "With users & data".

Schedule Backup [X]

COURSE
Cybersecurity Awareness
CYB401

BACKUP TYPE
☒ WITHOUT USERS & DATA (SMALLER, FASTER)
☐ WITH USERS & DATA (INCLUDES ENROLMENTS & GRADES)

SCHEDULE
 Once (at next backup window) ▼

RETENTION
 Use default (90 days) ▼

NOTES (OPTIONAL)
 Optional note about this backup...

Cancel Queue Backup

CATEGORY	Essington Training	Essington Training	Essington Training	Category 1
Category 1	3 May 2026, 2:05 PM	1 archive		
Essington Training	Never			

Recurring schedules

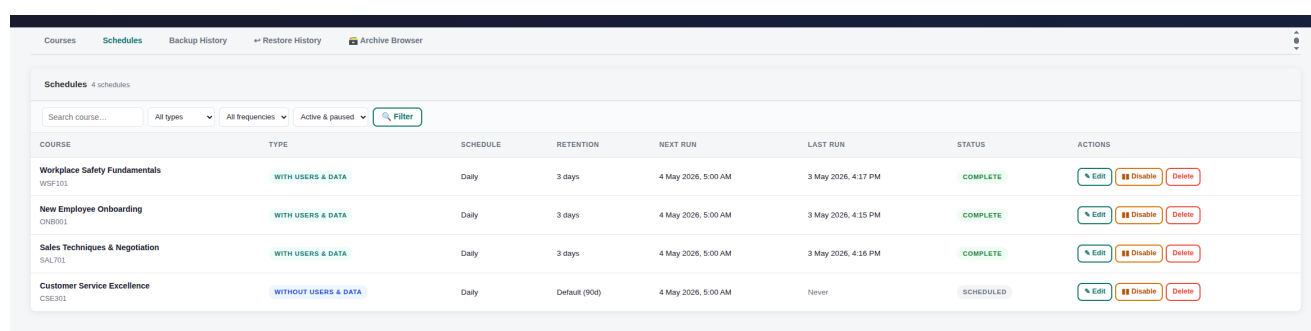
Recurring schedules automatically re-queue a backup job at a regular interval, daily, weekly, or monthly.

1. Click **Backup** on the course row in the Courses tab.
2. In the Schedule dropdown, choose **Daily**, **Weekly**, or **Monthly**.

3. For weekly: select the day of the week. For monthly: enter the day of the month (if the month is shorter, the last day of that month is used).
4. Set retention and click **Queue Backup**.

Active recurring schedules appear on the **Schedules** tab. You can disable or delete a schedule at any time existing archives are not affected.

Deleting a schedule Deleting a schedule disables it and cancels any pending jobs. It does not delete existing archives those are governed by retention settings.



The screenshot shows the 'Schedules' tab with a table of 4 schedules. The table has columns for Course, Type, Schedule, Retention, Next Run, Last Run, Status, and Actions. The first three courses are 'Workplace Safety Fundamentals', 'New Employee Onboarding', and 'Sales Techniques & Negotiation', all with a status of 'COMPLETE'. The fourth course is 'Customer Service Excellence' with a status of 'SCHEDULED'.

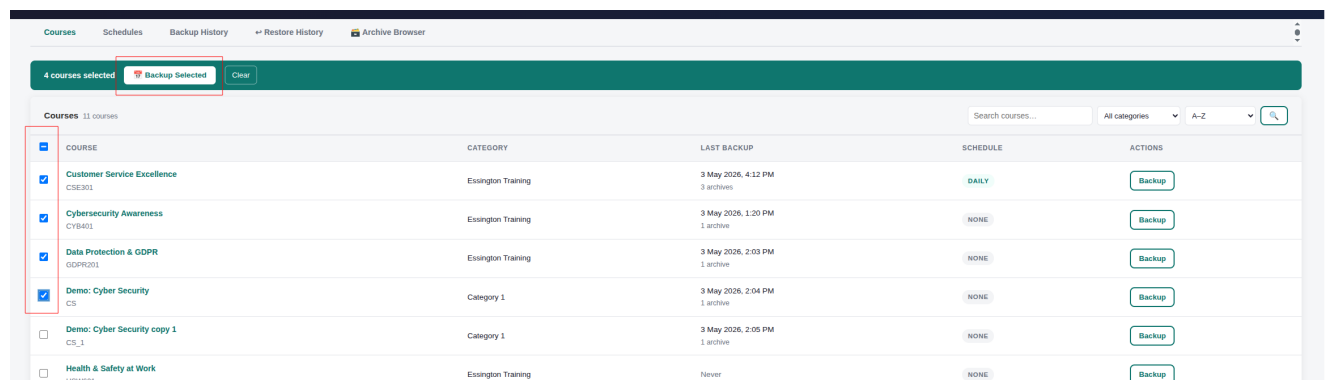
COURSE	TYPE	SCHEDULE	RETENTION	NEXT RUN	LAST RUN	STATUS	ACTIONS
Workplace Safety Fundamentals WSF101	WITH USERS & DATA	Daily	3 days	4 May 2026, 5:00 AM	3 May 2026, 4:17 PM	COMPLETE	[Edit] [Disable] [Delete]
New Employee Onboarding ONB001	WITH USERS & DATA	Daily	3 days	4 May 2026, 5:00 AM	3 May 2026, 4:15 PM	COMPLETE	[Edit] [Disable] [Delete]
Sales Techniques & Negotiation SAL701	WITH USERS & DATA	Daily	3 days	4 May 2026, 5:00 AM	3 May 2026, 4:16 PM	COMPLETE	[Edit] [Disable] [Delete]
Customer Service Excellence CSE301	WITHOUT USERS & DATA	Daily	Default (90d)	4 May 2026, 5:00 AM	Never	SCHEDULED	[Edit] [Disable] [Delete]

Bulk backup

Bulk backup lets you queue backups for multiple courses in one action, ideal at the end of a semester when many courses need archiving before a reset.

1. Go to the **Courses** tab.
2. Tick the checkbox next to each course you want to back up. Use the header checkbox to select all courses on the current page.
3. A teal action bar appears showing the selection count. Click **Backup Selected**.
4. In the Bulk Backup modal, choose backup type and retention (one set of settings applies to all selected courses).
5. Click **Queue Backups**. All selected courses are queued as individual one-off backup jobs.

Maximum 50 courses per bulk action For very large selections, split across multiple bulk actions. Jobs are queued immediately but run one at a time (or up to the Max concurrent workers setting) inside the backup window.

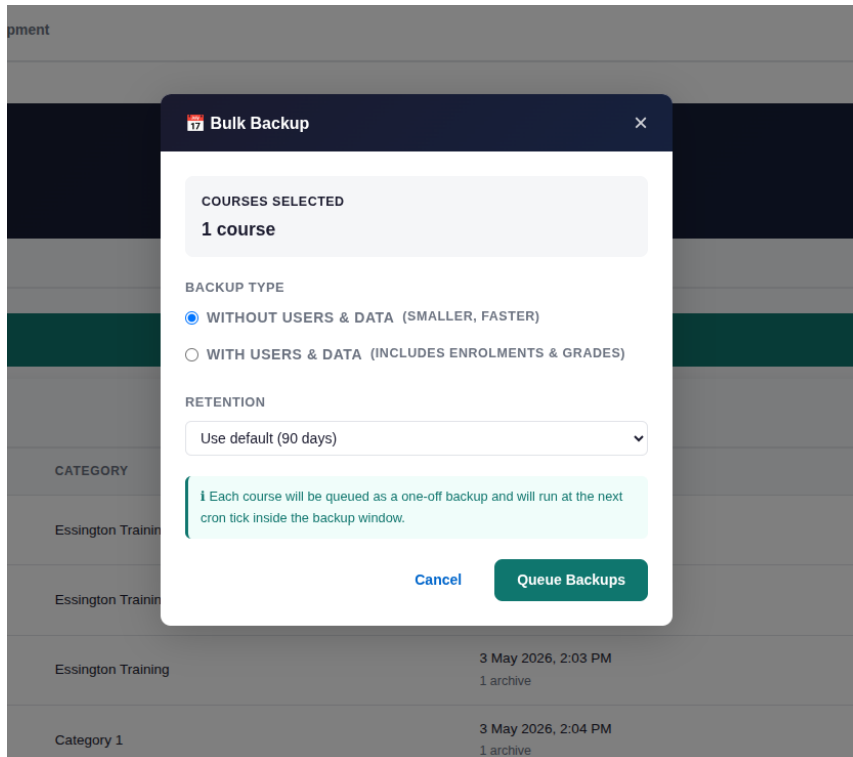


Run Now, bypass the backup window

In urgent situations you can dispatch a pending job immediately, bypassing the backup window.

1. Go to the **Backup History** tab.
2. Find the job in the **Active Jobs** table with status Pending.
3. Click ► **Run Now**. The job transitions immediately to Dispatching then Running.

Resource impact Backup jobs are CPU and I/O intensive. Running during peak hours may impact site performance. The action is audited visible in Reports → Audit Log.



The backup window

The backup window defines the hours during which MCBA is permitted to start new backup jobs, preventing backups from running during peak teaching hours.

- Each cron tick (typically every minute), the dispatch task checks whether the current server time is inside the window.
- If inside the window and slots are available, pending jobs are dispatched.
- Outside the window, jobs remain Pending until the next window opens.
- If the end time is earlier than the start time, the window spans midnight (e.g. 22:00 → 05:00).

Restore jobs always run immediately Restore operations bypass the window and are dispatched on the next cron tick regardless of the time of day.

Archive Browser

The Archive Browser provides a visual history of all backed-up courses. Navigate to **MCBA Backup Manager → Archive Browser tab**.

What you see

- A summary bar showing total archives, total stored size, and how many courses have been archived.
- A searchable, paginated list of courses. Each row is an accordion — click any course to expand it and see all historical backups for that course.

Expanding a course shows

- **Date & time** the backup was created.
- **Backup type** (with or without user data).
- **File size** on disk.
- **Expiry date** (when retention will delete the archive, or "Never").
- **SHA-256 checksum** for integrity verification.
- **Restore** and **Download** buttons (subject to your permissions).

For teachers Teachers with the `local/mcba:viewarchives` capability see only archives for courses they are enrolled in with backup permissions. Use the search box to filter by course name or shortname.

[Courses](#)
[Schedules](#)
[Backup History](#)
[↔ Restore History](#)
[Archive Browser](#)

11

3.4 MB

9

TOTAL ARCHIVES

TOTAL STORED

COURSES ARCHIVED

Workplace Safety Fundamentals WSF101 · Essington Training	1 19.2 KB Today	ARCHIVES TOTAL SIZE LAST BACKUP
Sales Techniques & Negotiation SAL701 · Essington Training	1 18.8 KB Today	ARCHIVES TOTAL SIZE LAST BACKUP
New Employee Onboarding ONB001 · Essington Training	1 18.5 KB Today	ARCHIVES TOTAL SIZE LAST BACKUP
Leadership Development LDR501 · Essington Training	1 17.3 KB Today	ARCHIVES TOTAL SIZE LAST BACKUP
Customer Service Excellence CSE301 · Essington Training	3 32.6 KB Today	ARCHIVES TOTAL SIZE LAST BACKUP

DATE	TYPE	SIZE	EXPIRES	ACTIONS
3 May 2026, 4:12 PM today	WITH USERS & DATA	17.6 KB	1 August 2026	↔ Restore
3 May 2026, 1:33 PM today	WITHOUT USERS & DATA	7.5 KB	1 August 2026	↔ Restore
3 May 2026, 1:21 PM today	WITHOUT USERS & DATA	7.5 KB	1 August 2026	↔ Restore

Restoring a course

Restoring creates a new Moodle course from an archived .mbz file. The original course is not modified.

1. Open the **Archive Browser** tab and expand the course you want to restore.
2. Find the specific archive (date/version) you need and click **↶ Restore**.
3. Review the confirmation dialog it shows the archive, original course name, and what shortname the restored course will receive.
4. Click **Confirm Restore**. The restore job is queued immediately.
5. The restore runs on the next cron tick (bypasses the backup window). Depending on archive size this may take a few minutes to over an hour.
6. When complete, the restored course appears in the Archive category. It is **hidden** and administrator must review and publish it.

After restoration

- The restored course has a generated shortname like `ORIG_restored_202501151423`.
- The course is hidden (not visible to students) until an admin sets it to visible.

- An email notification is sent to alert recipients when the restore completes.
- The restore is recorded in the **Restore History** tab with the name of the person who requested it.

Restores cannot be automatically undone Once a restore completes, the new course must be deleted manually if it is not needed. There is no automatic rollback.

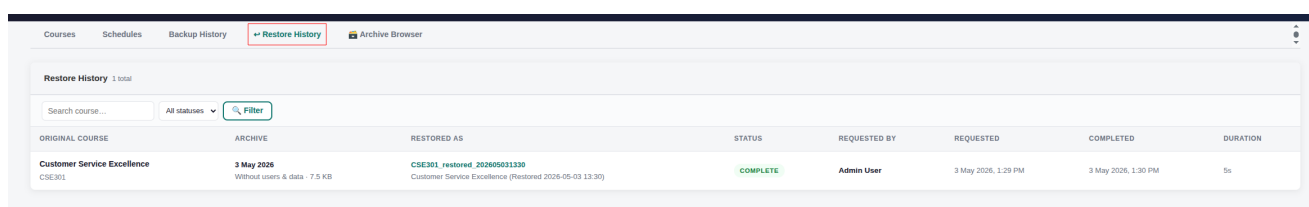
Customer Service Excellence					3	32.6 KB	Today
CSE301 - Essington Training					ARCHIVES	TOTAL SIZE	LAST BACKUP
DATE	TYPE	SIZE	EXPIRES	ACTIONS			
3 May 2026, 4:12 PM today	WITH USERS & DATA	17.6 KB	1 August 2026	↔ Restore			
3 May 2026, 1:33 PM today	WITHOUT USERS & DATA	7.5 KB	1 August 2026	↔ Restore			
3 May 2026, 1:21 PM today	WITHOUT USERS & DATA	7.5 KB	1 August 2026	↔ Restore			

Restore History

The **Restore History** tab provides a complete audit of all restore operations who triggered the restore, which archive was used, what the restored course was named, and whether it succeeded.

Column	Description
Original course	The course the archive came from (name at time of backup).
Archive	The date the archive was created and its type/size.
Restored as	The shortname and full name of the new course. Click to go to the course if it still exists.
Status	Current status of the restore job.
Requested by	The Moodle user who triggered the restore.
Requested / Completed	Timestamps for when the job was queued and when it finished.
Duration	How long the restore took to run.

Teacher access Teachers with `local/mcba:viewarchives` can see the Restore History tab, filtered to their own courses only.



The screenshot shows the Moodle interface with the 'Restore History' tab selected. The table below represents the data shown in the screenshot.

ORIGINAL COURSE	ARCHIVE	RESTORED AS	STATUS	REQUESTED BY	REQUESTED	COMPLETED	DURATION
Customer Service Excellence CSE301	3 May 2026 Without users & data - 7.5 KB	CSE301_restored_202605031330 Customer Service Excellence (Restored 2026-05-03 13:30)	COMPLETE	Admin User	3 May 2026, 1:29 PM	3 May 2026, 1:30 PM	5s

Backup History & job status

The **Backup History** tab shows all backup activity, active jobs at the top, a complete archive list, and recent failed jobs at the bottom.

Active jobs panel

Shows all jobs currently in Pending, Dispatching, or Running state. The panel **auto-refreshes every 30 seconds** while active jobs are present.

- ► **Run Now:** Dispatches a pending job immediately (bypasses backup window).
- **Cancel:** Cancels a pending job.
- **View Log:** Opens the live job log for a running or completed job.

Job status reference

Status	Meaning	What to do
Pending	Job is queued, waiting for the next cron tick within the backup window.	Normal — wait for the window, or click Run Now to dispatch immediately.
Dispatching	The cron task has claimed the job and is spawning the CLI worker process.	Transient — should resolve to Running within seconds.
Running	The CLI worker is actively executing the backup.	Normal — larger courses can take 30-90 minutes. Click View Log for progress.
Complete	Backup or restore finished successfully. An archive record exists.	No action needed.
Failed	The job encountered an error.	Check the error message. View the job log. Fix the issue, then Retry from Reports → Errors.

Courses	Schedules	Backup History	Restore History	Archive Browser
---------	-----------	----------------	-----------------	-----------------

Failed Jobs				
COURSE	TYPE	FAILED AT	ERROR	LOG
Customer Service Excellence	WITHOUT USERS & DATA	3 May 2026, 12:50 PM	Process (PID 1040945) died --- E_COMPILE_ERROR in mod_examack backup task (PHP 8.2 signature incompatibility). Fixed. Use ...	View Log

Backup History 11 archives						
Search course...	All types	Filter				
COURSE	TYPE	DATE	SIZE	EXPIRES	ACTIONS	
Workplace Safety Fundamentals WSF101	WITH USERS & DATA	3 May 2026, 4:17 PM	19.2 KB	6 May 2026	Restore	Log
Sales Techniques & Negotiation SAL701	WITH USERS & DATA	3 May 2026, 4:16 PM	18.9 KB	6 May 2026	Restore	Log
New Employee Onboarding ONB901	WITH USERS & DATA	3 May 2026, 4:15 PM	18.5 KB	6 May 2026	Restore	Log

Reports

Navigate to **Site administration → Reports → MCBA Reports**. Five tabs are available to users with the `local/mcba:viewreports` capability.

Disk Usage

Summary of archive volume capacity, usage, and archive count. Includes a line chart of disk usage over time and a bar chart of the top 20 courses by total archive size.

Backup History

Filterable, paginated list of all backup archives. Filter by course name, backup type, and date range. Includes a CSV export button.

Schedules

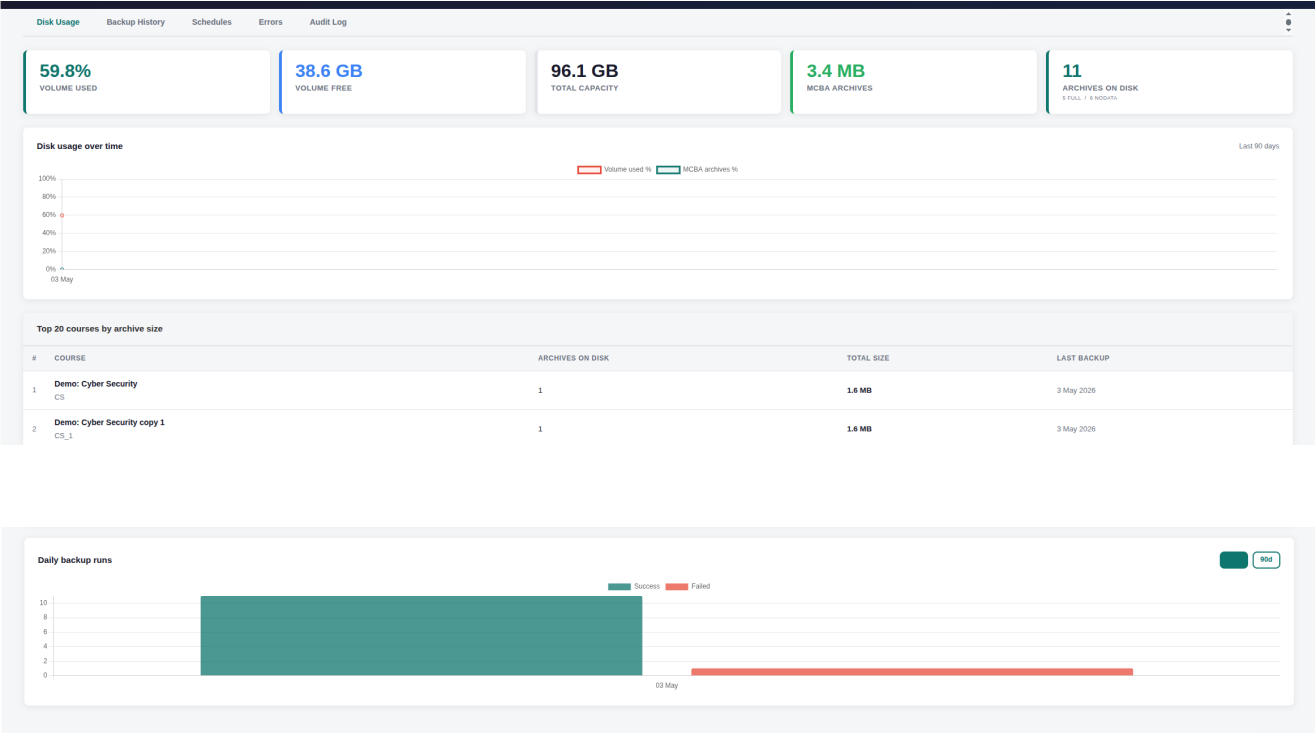
Overview of all active recurring schedules, course, frequency, last run status, and next scheduled run. Useful for auditing schedule health across the site.

Errors

List of all failed backup jobs (last 90 days by default). Each row shows the error message. Admins with `local/mcba:schedulebackup` can click ► **Retry** to re-queue the job immediately.

Audit Log

Full chronological record of all MCBA actions, schedules created/deleted, jobs queued/completed/failed, restores, cancellations, and run-now events. Filterable by action type and date.



Disk UsageBackup HistorySchedulesErrorsAudit Log

Audit Log30 entries

All actions

dd/mm/yyyy

dd/mm/yyyy

Filter

TIME	USER	ACTION	TARGET	DETAILS
3 May 2026 16:17	System	backup_complete	archive #11	courseid: 5 • jobid: 13 • type: full • filesize: 19674 • filepath: seed_orig\stl01\stl01_20260503_1617_full.mbz
3 May 2026 16:16	System	backup_complete	archive #10	courseid: 12 • jobid: 12 • type: full • filesize: 19219 • filepath: seed_orig\stl701\stl701_20260503_1616_full.mbz
3 May 2026 16:15	System	backup_complete	archive #9	courseid: 7 • jobid: 11 • type: full • filesize: 18673 • filepath: seed_orig\stl001\stl001_20260503_1615_full.mbz
3 May 2026 16:14	Admin User	schedule_edited	schedule #12	courseid: 12 • type: full • frequency: daily • next_run_at: 1777867200
3 May 2026 16:14	Admin User	schedule_edited	schedule #11	courseid: 7 • type: full • frequency: daily • next_run_at: 1777867200
3 May 2026 16:14	Admin User	schedule_edited	schedule #13	courseid: 5 • type: full • frequency: daily • next_run_at: 1777867200
3 May 2026 16:14	System	backup_complete	archive #8	courseid: 10 • jobid: 10 • type: full • filesize: 17764 • filepath: seed_orig\stl001\stl001_20260503_1614_full.mbz
3 May 2026 16:13	Admin User	schedule_created	schedule #12	courseid: 12 • type: full • frequency: once • bulk: 1 • jobid: 12
3 May 2026 16:13	Admin User	schedule_created	schedule #13	courseid: 5 • type: full • frequency: once • bulk: 1 • jobid: 13
3 May 2026 16:13	Admin User	schedule_created	schedule #10	courseid: 10 • type: full • frequency: once • bulk: 1 • jobid: 10
3 May 2026 16:13	Admin User	schedule_created	schedule #11	courseid: 7 • type: full • frequency: once • bulk: 1 • jobid: 11

Alerts & notifications

MCBA sends email alerts to configured recipients (and always the site admin) for the following events:

Alert	Trigger	Throttle
Backup failed	A backup job completes with status Failed.	Once per job — never repeats for the same job.
Schedule overdue	A recurring schedule's next run is more than 2 hours overdue with no active job.	Once per 24 hours per schedule.
Disk warning	Archive volume usage exceeds the warning threshold (default 80%).	Once per 24 hours.
Disk critical	Archive volume usage exceeds the critical threshold (default 90%). New backup jobs are blocked.	Once per 6 hours.
Restore complete	A restore job finishes successfully.	Every restore (not throttled).
Daily summary	Lists all backups completed since the last summary (if enabled in settings).	Once per 22 hours.

Filename tokens

MCBA uses token substitution to build subdirectory paths and filenames. Tokens are slugified (only alphanumeric characters and hyphens — spaces and special characters are replaced).

Token	Resolves to	Example
{courseid}	Moodle course ID (numeric).	42
{courseshortname}	Course shortname, slugified.	CYB401
{coursefullname}	Course full name, slugified.	Cybersecurity-Fundamentals
{categoryid}	Course category ID (numeric).	7
{categoryidnumber}	Category ID number field. Falls back to category name if blank.	IT-DEPT
{date}	Date in YYYYMMDD format (server time at backup start).	20250115
{time}	Time in HHMM format (server time at backup start).	2215
{type}	full or nodata depending on the backup type.	nodata

With default settings, a backup of course *CYB401* in category *IT-DEPT* produces:

```
/mnt/mcba-archive/IT-DEPT/CYB401/CYB401_20250115_2215_nodata.mbz
```

Scheduled tasks

MCBA registers four scheduled tasks visible at **Site administration** → **Server** → **Scheduled tasks**.

Task	Default schedule	Purpose
MCBA: Dispatch backup queue	Every minute	Main dispatch loop — checks the window, concurrency limit, disk threshold, enqueues due recurring schedules, spawns CLI workers, and detects zombie processes.
MCBA: Enforce archive retention	Daily at 06:00	Deletes archive files and records whose expiry date has passed.
MCBA: Sample disk usage statistics	Daily at 06:30	Records a snapshot of archive volume usage for the disk usage chart in Reports.
MCBA: Check alerts and notifications	Every 15 minutes	Checks disk thresholds, failed jobs, overdue schedules, and sends the daily summary if configured.

Moodle cron must run frequently For backup jobs to start promptly, configure system cron to run Moodle cron every minute:

```
* * * * * www-data php /path/to/moodle/admin/cli/cron.php
```

Troubleshooting

Jobs are stuck in Pending and never run

- Check whether the current server time is inside the configured backup window (Settings → Backup Window).
- Verify Moodle cron is running: Site administration → Server → Cron should show a recent last-run time.
- Check that the master switch (Settings → General → Enable MCBA) is on.
- Check the disk critical threshold, if the archive volume is over the critical percentage, new jobs are blocked. Check Reports → Disk Usage.
- Run Test Settings to confirm the archive path and PHP CLI are accessible.

A backup job failed with no error message

- Click **View Log** on the failed job (History tab or Reports → Errors). The log has detailed PHP output.
- If the log is empty or missing, the CLI worker failed to start. Check that the PHP CLI binary path is correct and executable.
- Check PHP error logs at the server level, a PHP compile-time fatal will not appear in the job log.

Backup runs but the archive file is missing

- Check that the archive path is still mounted and writable. NAS mounts can disconnect silently.
- Run Test Settings → Archive path to verify writability right now.
- Check the job log for a copy/move error after the backup completed.

A restore failed, how do I clean up?

- MCBA attempts to delete the partially-created course automatically on failure. If it could not (noted in the job log), delete the course manually from Site administration → Courses.
- The original archive is not affected by a failed restore you can retry.

The disk usage chart shows no data

The chart requires at least one sample from the `sample_diskstats` task. Run it once manually from **Site administration** → **Server** → **Scheduled tasks** → **MCBA: Sample disk usage statistics** → **Run now**.

Alert emails are not being received

- Verify Moodle's outgoing email is configured: Site administration → Server → Email → Outgoing mail configuration.
 - Check that alert recipients are valid email addresses (run Test Settings).
 - Alerts are throttled — a disk warning fires at most once per 24 hours. Check Reports → Audit Log for recent alert activity.
 - The alert check task runs every 15 minutes. If cron is not running, alerts will not fire.
-

Frequently asked questions

Does MCBA replace Moodle's built-in automated course backups?

No, they serve different purposes. Moodle's built-in backups are short-term safety nets stored within Moodle's file area. MCBA is for long-term archival to external storage with a user-facing browser and restore workflow. Both can run independently on the same site.

Can a teacher trigger a backup themselves?

Not by default. Teachers have the `local/mcba:viewarchives` capability (archive browser and restore history only). Scheduling a backup requires `local/mcba:schedulebackup`, which is a manager/course-creator function. You can grant this to editing teachers if your policy allows.

What happens if the NAS is offline when a backup is scheduled?

The backup fails when it tries to write to the archive path. The job is marked Failed with an appropriate error, and an alert email is sent. Once the NAS is remounted, retry the job from the History tab or Reports → Errors.

Can I change the archive path after backups have already been taken?

Yes, but you must physically move the existing archive files to the new path before changing the setting. The database stores paths relative to the archive root, changing the root without moving files will break existing archive links (restores and downloads for old archives will fail).

How large are the backup files?

It depends on the course. A structure-only backup might be 5-50 MB. A full backup with users, grades, and forum posts for a large cohort can be 500 MB-5 GB or more. Use the Top 20 Courses chart in Reports → Disk Usage to identify your largest archives.

How do I verify a backup file has not been corrupted?

Each archive record stores a SHA-256 checksum computed when the file was written. View it in the Archive Browser (expand a course, see the SHA-256 column). Compare against the file on disk:

```
sha256sum /mnt/mcba-archive/path/to/file.mbz
```

Can I restore an archive to the same course (overwrite it)?

No, MCBA always restores into a new course. Overwriting an existing course is not supported, to prevent accidental data loss. After restoration you can manually copy content back to the original if needed.

What is the Archive category and can I change it?

Restored courses are placed in a designated Moodle category for admin review. Select any existing category in Settings → Storage → Archive category. If left on auto-create, MCBA creates a hidden "Archive" category on the first restore. You can rename or move this category in Moodle's course management — update the setting afterwards.