Setting Up Moodle Mode Exams

e-Exam System v5

This document provides:

- The process for importing custom Moodle exam content into the e-Exam System on-board Moodle.
- Testing and preparing Moodle mode e-Exam USB sticks for duplication.

Acknowledgements

The views expressed in this document do not necessarily reflect the views of the Australian Government Office for Learning and Teaching or participating institutions.

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Setting Up Moodle Mode Exams on the e-Exam System USB

These instructions assume you have a default e-Exam System USB stick already in hand (see Demo set-up guide for how to create one).

Note: The Moodle feature is currently still in demonstration status and should not be used for production environments. Please read the 'known issues' section for additional details.

1. Create Moodle content

Create your Moodle content/quiz as you normally would. You can use any version of Moodle from any type of installation to do this be it online or offline.

Note:

- Use open media file formats where possible. This may mean converting mp3 or wav files to ogg using Audacity or converting video files to ogv. The e-exam system will not play closed file formats by default although it is possible for IT staff to add these capabilities.
- The default e-Exam Moodle does not have any additional plugins although it is possible to have these added my IT staff so be aware of this when constructing your exam.
- Remember to unhide any items/sections that might have been hidden during editing.

2. Export Moodle content

1. Export the Moodle course using the backup functionality in your Moodle system. It is recommended to:
   a. Export only the content you wish to be made available to students during the exam by de-selecting any items/sections you do not wish to include. Deselect any empty sections too.
   b. Do not export any Moodle accounts or student data.
2. You should end up with a Moodle backup file in the format .zip (Moodel 1.9) or .mbz (Moodle 2+).

3. Configure the e-Exam System USB

Configure the e-Exam USB and place the Moodle back up file onto the USB ready to import.

1. Mount the e-Exam System USB stick in your desktop operating system (OSX, Linux or Windows*). i.e. so it appears as one or more 'drives'.
   a. If the e-exam USB has been used previously, do reset to clean up by removing any temp/junk files and previous user files (an OSX commandline script 'cleanup_all.sh' will perform this task). See Demo set-up guide for manual removal instructions.
2. Copy the Moodle backup file onto the 'answers' drive (partition) of the e-Exam System USB.
3. Configure the e-Exam System USB to 'moodle' mode exam.
   a. Changing the 'examtype' setting to 'moodle' in the .config file which is located on the 'eExam' partition.
   b. Set any other configuration settings as desired (see instructions in the Demo set-up guide on how to do so).
   c. Change the background security image.
4. Unmount the e-Exam System USB.

Note: windows will only mount the first partition of a removable device so you will only see the 'answers' drive. If you only have access to windows you can use a standard bootable Linux live USB to boot your windows computer into Linux in order to undertake these operations. Alternatively you will need a new or clean (reset) e-Exam System USB already configured to use 'moodle' mode exams.

4. Login to e-Exam Moodle Administration

Import the Moodle backup file stored on the USB into the Moodle system itself.

1. Boot-up (start up) a computer using the e-Exam System USB. Refer to instructions on how to do this given the make and type of computer. E.g. Demo set-up guide.
2. Having booted into the e-Exam System you will arrive at the e-Exam System desktop and will be presented with the 'start exam' dialog.
   Do NOT fill in the dialog. Instead you need to:
3. Click on the orange Moodle Exam icon on the side bar. This will launch the web browser to the Moodle start page.
4. Login to Moodle using the administrator account: user=admin pass=This is my password1# (note the password can be changed)

5. Import your Moodle content into the e-Exam Moodle system

Having logged into Moodle Administration:

5. Click into the e-Exam Demo course link.
6. Turn editing on.
7. Go into the course administration sub-menu.
8. Select the 'Restore'.
9. Click the 'choose a file' button.
10. Click 'Browse' to find the Moodle backup file that was placed onto the answers partition and 'upload' it to the Moodle system.
11. Select the file and click 'open'.
12. Click the 'upload this file' button.
13. Click the 'restore' button.
14. Perform the import
    a. Under 'Restore into this course' choose 'delete the contents of this course and then restore'.
    b. (de-select any items/sections that are not applicable).
15. The contents from the backup file should now replace the e-Exam Demo course.

Note: The Moodle onboard the e-Exam System USB will accept files from Moodle 1.9 or 2+ with the same caveats as any contemporary version of Moodle does when restoring from older versions.

6. Check and adjust

After you have restored the course, next check all is well.

- If necessary, boot-up (start up) a computer using the e-Exam System USB and log in to Moodle with the admin account.

You can try the Moodle content/quiz using the 'switch role to' > student feature.

Things that may need to be fixed:

- Media files - re-insert media files to ensure the player tool appears correctly.
- Formatting may need to be removed. This can be the case if quizzes are originally came from Moodle 1.9 versions or were originally copied directly from Word.
- Cloze questions - the size of input boxes may need a 'dummy' answer 'xxxxxxxxxxx' worth 0% to ensure the length of each input box is the same.

When all is well switch back to the admin account:

- If you have started an 'attempt' or 'submitted' any of the items while trying them be sure to clear the attempts.
- Lastly, perform a course back-up from the e-Exam Moodle to and export the file to the answers partition. This file will be used in subsequent steps. This will also ensure you have a copy of the most recent version of the exam. Note; you may need to delete the old existing backup file first to make room.

Shut down the system.

Mount the e-Exam System USB on to a host operating system:

- Copy the latest backup file from the answers partition to a safe place (you will need it later).
- Copy the '.exam.sql' file to a safe place. This will preserve the database in its current state to allow for restoration if necessary.

7. Clean up the USB (reset)

We need to reset and tidy up in order to perform a test using the student user account (or to prepare the final version for duplication). The adjustment and initial quality testing done so far has introduced a range of new records into the database. We would like to start a fresh to ensure no problems have been introduced.

1. Mount the e-Exam System USB on to a host operating system.
   - If you have yet to do so, copy the latest moodle backup file from the answers partition to a safe place. This file should remain on the USB for now.
   - If you have yet to do so, copy the '.exam.sql' file to a safe place. This will preserve the database in its current state to allow for restoration if necessary.
2. Re-set the USB ready for testing. An OSX commandline script 'cleanup-all.sh' will perform this task by removing junk files and any user files (but it will keep the Moodle backup file – this will be removed later).
   - If you need to manually clean up (e.g. when quality testing the exam) then removing just the the .user_info and the .exam.sql file will do.
   - If this is your final round of clean-up prior to duplication the commandline script is recommended.
3. Unmount the e-Exam System USB.

The e-Exam Moodle database and the user file on the USB will now have been reset back to its default demo state.

8. Try it as a student

Using a clean (reset) e-Exam USB we will quality test it the exam with the student account. To do so we need to:

1. Import the latest (fixed/updated) Moodle backup file by following the steps in sections 'Login to Moodle Administration' and then 'Import of Moodle content onto the e-Exam Moodle' and then return here.
2. Shut down the e-Exam system.

The USB is ready to check using the student account of the e-Exam system. To do so:

1. Boot into the e-exam system.
2. When prompted at the 'start exam' dialog enter an 8 digit number and name.
3. Try the exam all the way though as a student. Be sure to submit the assessment item/quiz in Moodle.
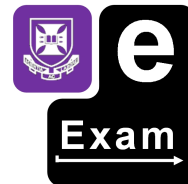4. Exit the browser/Moodle to the desktop.

Next:

- If all went well, then shut down (choose 'keep my data' if prompted) and proceed to 'prepare for duplication'.
- If problems arise with the Moodle course/quiz content go back to (see also 'known issues'):
  1. 'Login to Moodle administration'
  2. Make the necessary changes by following 'Check and adjust' (be sure to again export the updated Moodle back-up file).
  3. Continue to follow the steps until you find your way back to 'try it as a student' and again though the steps.

9. Prepare for duplication

We need to prepare a clean and final version of the e-Exam USB.

1. Clean up/reset USB by performing the steps in the section 'Clean up the USB (reset)'.

2. Import the latest (fixed/updated) Moodle backup file into the e-Exam Moodle by following the steps in sections 'Login to Moodle Administration' and then 'Import of Moodle content onto the e-Exam Moodle' and then return here.
3. Shut down the system.
4. Remove the Moodle backup file from the 'answers' partition by mounting the USB in a host operating system and deleting the file.
5. Unmount the e-Exam System USB.

The e-Exam System USB stick is now ready for duplication (create a master ISO and batch burn to multiple USBs). See the Demo Set-up Guide for details.

Known Issues

Reminder: The Moodle feature of the e-Exam system is an alpha standard feature or demo standard and should not be used for real exams. The known issues that exist as of last update are the main reasons for this status:

- The Moodle database dump file is currently viewable via a text editor. This means that a user knowledgeable of SQL dump files could potentially read the quiz contents including response options. Further work on securing the database and adding procedures/tools to remove data related to correct and incorrect responses is required.
- Attachments in quizzes fail to appear after a re-boot. This means that images, videos, sound files that are attached to quiz questions will not appear after the e-Exam system is shut down and rebooted. Further work is needed to diagnose and fix this issue. Questions without attachments will work as expected. This issue does not impact the demo Moodle quiz/exam.
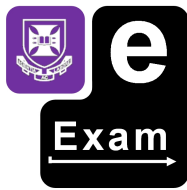
Troubleshooting

If you find the Moodle system is acting oddly after having done several rounds of editing/adjustments/rebooting you might need to re-set it to default and restore the most recent version of the Moodle course backup (you have been backing up regularly!?)

Reset to the Last Known Good Moodle Course Version.

To reset the database to the default demo and re-import the 'last known good' Moodle backup file.

1. Mount the e-Exam System USB on to a host operating system.
2. Delete .exam.sql file
3. Delete .user_info
4. Place the last known good Moodle backup file onto the answers partition.
5. Boot a computer to the e-Exam System USB and import the latest (fixed/updated) Moodle backup file by following the steps in sections 'Login to Moodle Administration' and then 'Import of Moodle content onto the e-Exam Moodle'.

Good luck :-)