# MOODLE v2.6 Upgrade Dry-run

## Upgrade moodle-dev to v2.6.2 Dry-run

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| --- | --- |
| App/Database Server : | moodle-dev.ucl.ac.uk |
| Path to code: | /data/apache/moodle-vhosts/v262 |
| Path to data directory: | /data/moodle/v262 |
| Database: | moodle\_dev\_262 |
| Date: | 23/06/2014 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Task | Who | Comments | Duration |
| 1 | * Extract mysql database dump from moodle-loadtest server using scp or sftp * Restore mysql dump on moodle\_dev**\_**262 database | Jo | $scp moodle\_live.sql [ccspsql@moodle-dev.ucl.ac.uk:/data/mysql/mysql-5.6/backup/temp](mailto:ccspsql@moodle-dev.ucl.ac.uk:/data/mysql/mysql-5.6/backup/temp)  $cd /data/ mysql/mysql-5.6/backup/temp  $mysql -umoodleuser -p  mysql>use moodle\_dev\_262  mysql>source moodle\_live.sql | 9-10 hrs |
| 2 | Prepare moodle-dev for moodle-v262 codebase   * Create new directory under /data/apache/moodle-vhosts/v262 * Checkout release tag from svn (<https://svn.ucl.ac.uk/repos/isd/moodle26/tags>) * Copy code from svn repository to /data/apache/moodle-vhosts/v262 | Jo |  | 2 hrs |
| 3 | Prepare moodle-dev for moodle-data   * Create new moodle-data directory under /data/moodle/v262 | Jo | Let moodle create its own directories based on default settings | 5 min |
| 4 | Edit config within /data/apache/moodle-vhosts/local\_settings.php | Jo | Following parameters to be changed -  $LS->dbhost ='localhost';  $LS->dbname = 'moodle\_dev\_262'; $LS->dbuser = 'moodleuser';  $LS->dbpass = ''  $LS->wwwroot = 'https://v262.moodle-dev.ucl.ac.uk';  $LS->dataroot = '/data/moodle/v262';  $LS->noemailever = true; | 10 min |
| 5 | Within browser’s address bar-> https://v262.moodle-dev.ucl.ac.uk | Jo | Moodle runs upgrade process | 1-1.5 hrs |
| 6 | Purge Cache after upgrade | Jo | Site administration->development-> Purge all Caches | 2-5 min |
| 7 | Perform post-upgrade Sanity Testing | Jo | * Create courses * Create some activities within course * Create some resources within course | 15-20 min |

## Upgrade moodle-test to v2.6.2 Dry-run

|  |  |
| --- | --- |
| App/Database Server : | moodle-test.ucl.ac.uk |
| Path to code: | /data/apache/moodle-vhosts/v262 |
| Path to data directory: | /data/moodle\_v262 |
| Database: | moodle\_test\_262 |
| Date of Upgrade: | 23/06/2014 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Task | Who | Comments | Duration |
| 1 | * Extract mysql database dump from moodle-loadtest server using scp or sftp * Restore mysql dump on moodle\_test**\_**262 database | Jo | $scp moodle\_live.sql [ccspsql@moodle-test.ucl.ac.uk:/data/mysql/mysql-5.6/backup/temp](mailto:ccspsql@moodle-test.ucl.ac.uk:/data/mysql/mysql-5.6/backup/temp)  $cd /data/ mysql/mysql-5.6/backup/temp  $mysql -umoodleuser -p  mysql>use moodle\_test\_262  mysql>source moodle\_live.sql | 9-10 hrs |
| 2 | Prepare moodle-test for moodle-v262 codebase   * Create new directory under /data/apache/moodle-vhosts/v262 * Checkout release tag from svn (<https://svn.ucl.ac.uk/repos/isd/moodle26/tags>) * Copy code from svn repository to /data/apache/moodle-vhosts/v262 | Jo |  | 2 hrs |
| 3 | Prepare moodle-test for moodle-data   * Create new moodle-data directory under /data/moodle\_v262 | Jo | Let moodle create its own directories based on default settings | 5 min |
| 4 | Edit config within /data/apache/moodle-vhosts/local\_settings.php | Jo | Following parameters to be changed -  $LS->dbhost ='localhost';  $LS->dbname = 'moodle\_test\_262'; $LS->dbuser = 'moodleuser';  $LS->dbpass =  $LS->wwwroot = 'https://v262.moodle-test.ucl.ac.uk';  $LS->dataroot = '/data/moodle\_v262';  $LS->noemailever = true; | 10 min |
| 5 | Within browser’s address bar-> https://v262.moodle-test.ucl.ac.uk | Jo | Moodle runs upgrade | 1-2 hrs |
| 6 | Purge Cache after upgrade | Jo | Site administration->development-> Purge all Caches | 2-5 min |
| 7 | Perform post-upgrade Sanity Testing | Jo | * Create courses * Create some activities within course * Create some resources within course | 15-20 min |

Issues faced during dry-run:

1. Incorrect key file for table 'mdl\_question\_attempts'; try to repair it

Issue

* Incorrect key file for table 'mdl\_question\_attempts'; try to repair it  
  ALTER TABLE mdl\_question\_attempts ADD maxfraction NUMERIC(12,7) NOT NULL DEFAULT 1 AFTER minfraction  
  Error code: ddlexecuteerror

**Stack trace:**

* line 449 of /lib/dml/moodle\_database.php: ddl\_change\_structure\_exception thrown
* line 833 of /lib/dml/mysqli\_native\_moodle\_database.php: call to moodle\_database->query\_end()
* line 88 of /lib/ddl/database\_manager.php: call to mysqli\_native\_moodle\_database->change\_database\_structure()
* line 77 of /lib/ddl/database\_manager.php: call to database\_manager->execute\_sql()
* line 538 of /lib/ddl/database\_manager.php: call to database\_manager->execute\_sql\_arr()
* line 2661 of /lib/db/upgrade.php: call to database\_manager->add\_field()
* line 1530 of /lib/upgradelib.php: call to xmldb\_main\_upgrade()
* line 356 of /admin/index.php: call to upgrade\_core()

Reason

* Due to disk issues on the moodle-test server
* /tmp partition being too small for large queries resulted in failed upgrade

[ccspmdu@moodle-test ~]$ df -kH

Filesystem Size Used Avail Use% Mounted on

tmpfs 4.2G 269M 3.9G 7% /dev/shm

Solution

* Change the mysql to write the temp files in the /data partition.

In the mysql configuration file:

tmpdir=/data/mysql/mysql-5.6

* Restart mysql on moodle-test

## Upgrade moodle-uat to v2.6.2 Dry-run

|  |  |
| --- | --- |
| App/Database Server : | moodle-uat.ucl.ac.uk |
| Path to code: | /data/apache/moodle-vhosts/v262-dryrun |
| Path to data directory: | /data/moodle247 |
| Database: | moodle\_uat\_262\_dr |
| Date of Upgrade: | 24/06/2014 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Task | Who | Comments | Duration |
| 1 | * Extract mysql database dump from moodle-loadtest server using scp or sftp * Restore mysql dump on moodle\_uat**\_**262\_dr database | Niv | $scp moodle\_live.sql [ccspsql@moodle-uat.ucl.ac.uk:/data/mysql/mysql-5.6/backup/temp](mailto:ccspsql@moodle-uat.ucl.ac.uk:/data/mysql/mysql-5.6/backup/temp)  $cd /data/ mysql/mysql-5.6/backup/temp  $mysql -umoodleuser -p  mysql>use moodle\_uat\_262\_dr  mysql>source moodle\_live.sql | 9-10 hrs |
| 2 | Prepare moodle-uat for moodle-v262 codebase   * Create new directory under /data/apache/moodle-vhosts/v262-dryrun * Checkout release tag from svn (<https://svn.ucl.ac.uk/repos/isd/moodle26/tags>) * Copy code from svn repository to /data/apache/moodle-vhosts/v262-dryrun | Niv |  | 2 hrs |
| 3 | Prepare moodle-uat for moodle-data  -/data/moodle | Niv |  | 5 min |
| 4 | Edit config within /data/apache/moodle-vhosts/local\_settings.php | Niv | Following parameters to be changed -  $LS->dbhost ='localhost';  $LS->dbname = 'moodle\_uat\_262\_dr'; $LS->dbuser = 'moodleuser';  $LS->dbpass =  $LS->wwwroot = 'https://v262-dryrun.moodle-uat.ucl.ac.uk';  $LS->dataroot = '/data/moodle247';  $LS->noemailever = true; | 10 min |
| 5 | Check config.php file for config settings. Make sure all config settings are applied correctly | Niv |  |  |
| 5 | Within browser’s address bar-> https://v262-dryrun.moodle-uat.ucl.ac.uk | Niv | Moodle runs upgrade | 1-2 hrs |
| 6 | Purge Cache after upgrade | Niv | Site administration->development-> Purge all Caches | 2-5 min |
| 7 | Perform post-upgrade Sanity Testing | Niv | * Create courses * Create some activities within course * Create some resources within course * Check cache configuration, site admin-> plugins-> caching-> configuration | 15-20 min |

Issues faced during dry-run:

1. Initial upgrade of moodle-uat from v2.4.7 to v2.6.2 on php-v5.5.10

Issue

* Cache settings stored within /data/moodle/muc/config.php conflicted with memcached php extension not being available in php-v5.5.10 after running an upgrade
* Tailing the error\_log gives this result

[ccspmdu@moodle-uat ~]$ tail -f /var/log/httpd/error\_log [Thu May 01 18:15:23 2014] [error] [client 128.40.192.116] PHP Fatal error:  Class 'Memcached' not found in /data/apache/moodle-vhosts/v262/cache/stores/memcached/lib.php on line 130

Reason

* MUC configuration was pointing at memcached cache store. Memcached extension was not installed on moodle-uat server. There was no trusted memcached extension for php-v5.5.10

Solution

* Created a new /data/moodle/muc\_v262 directory. This is to not have conflicts with old MUC config settings.
* Introduced a new config within config.php
  + $LS->altcacheconfigpath = '/data/moodle/muc\_v262';
  + $CFG->altcacheconfigpath =$LS->altcacheconfigpath;

(Moodle 2.4 introduced a new cache API. The cache API stores a configuration file within the Moodle data directory and uses that rather than the database in order to function in a stand-alone manner. Using altcacheconfigpath you can change the location where this config file is

looked for. It can either be a directory in which to store the file, or the full path to the file if you want to take full control. Either way it must be writable by the webserver)

1. Dry-run upgrade <https://v262-dryrun.moodle-uat.ucl.ac.uk/>

Issue

* Fatal error: $CFG->dataroot is not writable, admin has to fix directory permissions! Exiting.

Reason

* $CFG->dataroot = /data/moodle247

[ccspmdu@moodle-uat data]$ ls -lt

total 220

drwxrwxr-x 5052 ccspwww ccsp 118784 Jun 19 09:58 moodle

drwxr-xr-x 4311 ccspwww root 69632 Jun 18 14:55 moodle247

Solution

* Change the permissions on /data/moodle247

$ chmod 0775 moodle247

1. Cannot create temp directory error

Issue

## Language import utility: en\_us Cannot create temp directory

* [error] [client 128.40.192.116] Default exception handler: Cannot create temp directory Debug: en\_us\nError code: cannotcreatetempdir\n\* line 794 of /lib/componentlib.class.php: lang\_installer\_exception thrown\n\* line 649 of /lib/componentlib.class.php: call to lang\_installer->install\_language\_pack()\n\* line 45 of /admin/tool/langimport/lib.php: call to lang\_installer->run()\n\* line 1436 of /lib/upgradelib.php: call to tool\_langimport\_preupgrade\_update()\n\* line 1517 of /lib/upgradelib.php: call to upgrade\_language\_pack()\n\* line 356 of /admin/index.php: call to upgrade\_core()\n, referer: <https://v262-dryrun.moodle-uat.ucl.ac.uk/admin/index.php?confirmupgrade=1&confirmrelease=1&cache=0>

Reason

* Moodle didn’t have permissions to create directory within /data/moodle247/temp
* The ownership on those files was ‘ccspwww’

Solution

* Change ownership of subdirectories within /data/moodle247/ to ‘ccspmdu’

1. Purge caches stops apache process and returns no data

Issue

* Site admin->development->purge caches. Once the script runs no data is returned back from server. Error as below,

[ccspmdl@moodle-f htdocs]$ tail -f /var/log/httpd/error\_log

[Mon Jun 30 16:44:29 2014] [notice] child pid 5046 exit signal Bus error (7)

Reason

* The issue seems to be, due to mappings to memcached server. If there is no memcached mapping configured within site admin->plugins->cache->configuration for any definitions, purge caches functionality seem to work fine.

Solution

* Setting all mappings to default applications other than memcached store admin->plugins->cache->configuration
* EnableMMAP off within httpd.conf : Yet to try this solution

## Upgrade moodle-loadtest to v2.6.2 Dry-run

|  |  |
| --- | --- |
| SLB Farm name: | moodle-loadtest.ucl.ac.uk |
| App Server : | moodle-d.ucl.ac.uk , moodle-e.ucl.ac.uk, moodle-f.ucl.ac.uk |
| Database Server: | moodle-db-a.ucl.ac.uk |
| Data Server: | moodle-nfs-a.ucl.ac.uk |
| Path to code: | /data/htdocs /moodle |
| Path to data directory: | /data/moodle |
| Database: | moodle-lt-v262-dr |
| Date of Upgrade: | 26/06/2014 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Prepare moodle-loadtest.ucla.c.uk for v247 | | | | |
| 1 | * Extract mysql database dump from moodle-db-a server using scp or sftp * Restore mysql dump on moodle-lt**-**v262-dr database | Niv | $scp moodle\_live.sql [ccspsql@moodle-db-a.ucl.ac.uk:/data/mysql/backup/](mailto:ccspsql@moodle-db-a.ucl.ac.uk:/data/mysql/backup/)  $cd /data/mysql/backup/  $mysql -umoodleuser -p  mysql>use moodle-lt**-**v262-dr  mysql>source moodle\_live.sql | 6-7 hrs |
|  | Create symbolic link on moodle-d/e/f | Niv | $ln -s /data/apache/htdocs/moodle\_v247-dr /data/apache/htdocs/moodle-dryrun  Note- if you want to delete symbolic link  $unlink moodle\_dry-run | 15 mins |
|  | Prepare v247 codebase on moodle-d/e/f:   * Copy v247 live code from moodlevm-a/b/c to /data/apache/htdocs/moodle\_v247-dr on moodle-d/e/f * Create local\_settings.php from local\_setting\_template.php and edit related settings * Chmod 0755 filter/tex/mimetex.linux | Niv | Following parameters to be changed in local\_settings.php -  $LS->dbhost ='moodle-db-a.ucl.ac.uk';  $LS->dbname = ‘moodle-lt-v262-dr';  $LS->dbuser = 'moodleuser';  $LS->dbpass =  $LS->wwwroot = 'https:/dry-run.moodle-loadtest.ucl.ac.uk';  $LS->dataroot = '/moodlefs';  $LS->noemailever = true; | 45 mins |
|  | * Check that we have fully functional mirror live v247 site, on moodle-loadtest environment | Niv | * <https://dry-run.moodle-loadtest.ucl.ac.uk> * Check Site administration->Notifications * It should be version 2.4.7 build | 10 min |
|  | * Enable maintenance mode on current moodle-dr.moodle-loadtest.ucl.ac.uk | Niv | * Site administration->Server -> Maintenance mode * Set ‘Maintenance mode’ to ‘enable’ | 2 min |
|  | * Enable .htaccess\_maint on moodle-d/e/f | Niv | * Rename .htaccess as .htaccess\_old   Rename .htaccess\_maint as .htaccess |  |
|  | * Check that we have maintenance mode enabled and login is redirected as per .htaccess at root level | Niv | * <https://dry-run.moodle-loadtest.ucl.ac.uk> * Maintenance mode message should be displayed |  |
| Now start upgrading v247 database using latest v262 codebase | | | | |
|  | Prepare v262 trunk code/release tag (ucl\_v2.6.2\_scp7087\_20140630) on moodle-d/e/f (<https://svn.ucl.ac.uk/repos/isd/moodle26/trunk> ):   * Copy svn v262 trunk code/release tag to /data/apache/htdocs/moodle\_v262-dr * Create local\_settings.php from local\_setting\_template.php and edit related settings * Chmod 0755 filter/tex/mimetex.linux | Niv | Following parameters to be changed in local\_settings.php -  $LS->dbhost = 'moodle-db-a.ucl.ac.uk';  $LS->dbname = ‘moodle-lt-v262-dr';  $LS->dbuser = 'moodleuser';  $LS->dbpass =  $LS->wwwroot = 'https://dry-run.moodle-loadtest.ucl.ac.uk';  $LS->dataroot = '/moodlefs';  $LS->noemailever = true; |  |
|  | Enable .htaccess\_maint  path-/data/apache/htdocs/moodle\_v262-dr | Niv | * Rename .htaccess as .htaccess\_old * Rename .htaccess\_maint as .htaccess |  |
|  | Connect to moodle-db-a and cleanup DB Truncate the mdl\_log table | Niv | TRUNCATE TABLE mdl\_log; | 10 mins |
|  | Enable v262 Release tag on moodle-f | Niv | $ln -s /data/apache/htdocs/moodle\_v262-dr /data/apache/htdocs/moodle\_dry-run  Note- if you want to delete symbolic link  $unlink moodle\_dry-run |  |
|  | Tail php error log | Niv | * tail –f /var/log/httpd/error\_log |  |
|  | Start upgrade from web browser | Niv | * <https://dry-run.moodle-loadtest.ucl.ac.uk> | 1.5 hrs |
| Post Upgrade tasks | | | | |
|  | Purge cache after upgrade |  | Site administration->development-> Purge all Caches | Failed |
|  | Post upgrade Sanity Testing | Niv | * Create courses * Create some activities within course * Create some resources within course * Check cache configuration, site admin-> plugins-> caching-> configuration |  |
|  | * Enable v262 code on moodle-d/e * Restart apache on all 3 web servers | Niv | * $ln -s /data/apache/htdocs/moodle\_v262-dr /data/apache/htdocs/moodle\_dry-run * Note- if you want to delete symbolic link   $unlink moodle\_dry-run |  |
|  | Check if the <https://dry-run.moodle-loadtest.ucl.ac.uk> points to right code and db | Niv | * <https://dry-run.moodle-loadtest.ucl.ac.uk> |  |
|  | Disable .htaccess\_maint | Niv | * Rename .htacess to .htaccess\_maint * Rename .htaccess\_old to .htaccess |  |
|  | Disable maintenance mode | Niv | * <https://dry-run.moodle-loadtest.ucl.ac.uk/admin> * Login as admin * Site admin-> Server -> Maintenance mode -> disable |  |

Issues faced during dry-run:

1. Purge caches stops apache process and returns no data

Issue

* Site admin->development->purge caches. Once the script runs no data is returned back from server. Error as below,

[ccspmdl@moodle-f htdocs]$ tail -f /var/log/httpd/error\_log

[Mon Jun 30 16:44:29 2014] [notice] child pid 5046 exit signal Bus error (7)

Reason

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Solution

* Setting all mappings to default applications other than memcached store. site admin->plugins->cache->configuration
* EnableMMAP off within httpd.conf : Yet to try this solution