Create an auxiliary view to simplify the query to retrieve the log
This view could also be replaced by including the `SELECT` directly in the next query.

Get all enrolled users in the courses of interest and their assigned roles in the given context.
If a user is enrolled in more than one course, we create a list containing each course where the user is enrolled, and in the same manner, a list with each assigned role.

Specify the database where the view shall be created. Default is no database asigned.

```
CREATE VIEW bitnami_moodle.relevant_user_enrollments
AS
SELECT ra.userid,
    GROUP_CONCAT(c.id SEPARATOR ', ') AS courses,
    GROUP_CONCAT(r.shortname SEPARATOR ', ') AS roles
FROM mdl_course c
    LEFT OUTER JOIN mdl_context cx ON c.id = cx.instanceid
    LEFT OUTER JOIN mdl_role_assignments ra ON cx.id = ra.contextid
    LEFT OUTER JOIN mdl_role r on r.id = ra.roleid
WHERE c.id IN (2,3,4) AND cx.contextlevel = 50
GROUP BY ra.userid;
```

Users will very likely be enrolled in more than one course. Therefore, the courses are stored in a comma separated list The same applies for the different roles that the users might have in these courses

Moodle contextlevel 50 = courses

Courses of interest
having IDs 2, 3, and 4

Example output for query:
`SELECT * FROM relevant_user_enrollments;`

```
+--------+---------+--------------------------------+
| userid | courses | roles                          |
+--------+---------+--------------------------------+
|      2 | 2       | editingteacher                 |
|      3 | 2       | student                        |
|      4 | 4       | student                        |
|      5 | 3       | editingteacher                 |
|      6 | 3       | editingteacher                 |
|     11 | 3       | student                        |
|     76 | 3       | student                        |
|     77 | 3, 4    | editingteacher, editingteacher |
|     78 | 4       | student                        |
```

Get the full log for users enrolled in one of the courses of interest

The full log is fetched to allow coherent mapping of hashing of userids. The log is augmented with meta information about the roles of the users involved in an event.

```
SELECT log.action, log.target, log.crud,
    log.contextlevel, log.edulevel, log.eventname,
    SHA2(log.userid + @randomVal, 224) AS userid,
    ue.roles AS userrole, ue.courses AS usercourseenrollments,
    SHA2(log.relateduserid + @randomVal, 224) AS relateduserid,
    rue.roles AS relateduserrole, rue.courses AS relatedusercourseenrollments,
    log.courseid, log.timecreated
FROM mdl_logstore_standard_log log
    LEFT OUTER JOIN bitnami_moodle.relevant_user_enrollments ue ON ue.userid = log.userid
    LEFT OUTER JOIN bitnami_moodle.relevant_user_enrollments rue ON rue.userid = log.relateduserid
WHERE log.userid IN (SELECT userid FROM bitnami_moodle.relevant_user_enrollments)
    AND
    (log.courseid IN (0,1) OR log.courseid IN (2,3,4));
```

Hash the userid adding a random value before hashing.

Only conside
least one of t

Courses of interest
having IDs 2, 3, and 4

Course IDs of
frontpage/dashboard and system
in order to not lose these events

Example output for aboves query

```
+---------+-------------+------+-------------+----------+--------------------------------+------------------
| action  | target      | crud | contextlevel | edulevel | eventname                      | userid
```

.

er users enrolled in at
the courses of interest

```
--------------------------------------+----------------+----------------------+---------------------------------------
                                      | userrole       | usercoursenrollments | relateduserid
```

```
-------------------+--------------------------------+-----------------------------+----------+-------------+
                   | relateduserrole                | relatedusercoursenrollments | courseid | timecreated |
| created | config_log   | c    |           10 |         0 | \core\event\config_log_created | 52f93bc42c65898470a
| sent    | notification | c    |           10 |         0 | \core\event\notification_sent  | 52f93bc42c65898470a
| failed  | email        | c    |           10 |         0 | \core\event\email_failed       | 52f93bc42c65898470a
| sent    | notification | c    |           10 |         0 | \core\event\notification_sent  | 52f93bc42c65898470a
| failed  | email        | c    |           10 |         0 | \core\event\email_failed       | 52f93bc42c65898470a
```

Get course grades for requested courses

Only the grades on course level are considered, which means single grades for assignments or quizzes are ignored.

```
SELECT c.id AS courseid, SHA2(gg.userid + @randomVal, 224) AS userid,
    gg.finalgrade, gg.rawgrademax, gg.rawgrademin, gg.rawgrade, gg.timemodified
FROM mdl_grade_items AS gi
    INNER JOIN mdl_course c ON c.id = gi.courseid
    LEFT JOIN mdl_grade_grades AS gg ON gg.itemid = gi.id
    INNER JOIN mdl_user AS mu ON gg.userid = mu.id
WHERE gi.itemtype = 'course' AND c.id IN (2,3,4);
```

Courses of interest having IDs 2, 3, and 4

Filter for course grades only

Example output for aboves query

```
+----------+----------------------------------------------------------+------------+-------------+-------------+
| courseid | userid                                                   | finalgrade | rawgrademax | rawgrademin |
+----------+----------------------------------------------------------+------------+-------------+-------------+
|        2 | 20459fe18d639e7e50b2749171b8e505bda8ccdf726f5dd74538f7bb |  101.25000 |   110.00000 |     0.00000 |
|        3 | 57db4ceab94d4dcb1c1d84d06d8eb8bcd984e8b859d459423cb68f83 |   89.26667 |   100.00000 |     0.00000 |
|        3 | c5089ccd4c1ceb4fe3eb44dfe337958cc0cbeccd1fbf48610863019c |   80.60000 |   100.00000 |     0.00000 |
|        3 | d174a55ab8d551f3388e7861b0f0cb47a84162178e8562bcc8d3369e |   80.26667 |   100.00000 |     0.00000 |
|        3 | e4b12f895d30c19e7e9115df32c92d1526ad72ac64037f943f5841fd |   83.26667 |   100.00000 |     0.00000 |
+----------+----------------------------------------------------------+------------+-------------+-------------+
```

Clean up the database

Delete the view that has been created earlier on.

```
DROP VIEW bitnami_moodle.relevant_user_enrollments;
```

```
-------------------------------------------------+----------------+-----------------------------+-----------------------------------------
d49f859469ff2d816c3d71661cf858563744f | editingteacher | 2                           | NULL
d49f859469ff2d816c3d71661cf858563744f | editingteacher | 2                           | 49b425e16492f06c503ede4ec4bd08174f79150
d49f859469ff2d816c3d71661cf858563744f | editingteacher | 2                           | 1bb6edbfbd42ad14f393eb1a41dfa00ae563767
d49f859469ff2d816c3d71661cf858563744f | editingteacher | 2                           | 1bb6edbfbd42ad14f393eb1a41dfa00ae563767
d49f859469ff2d816c3d71661cf858563744f | editingteacher | 2                           | 36c4c51c91b2ad99ed04fbebe281ec42e1d0384
```

```
----------+--------------+
 rawgrade | timemodified |
----------+--------------+
     NULL |   1643884919 |
     NULL |   1620667738 |
     NULL |   1620667737 |
     NULL |   1620667737 |
     NULL |   1620667738 |
----------+--------------+
-------------------+---------------------------------+--------------------------------+----------+-------------+
                   | NULL                            | NULL                           |        0 |  1640522992 |
0d314a3068d2a42f75 | student                         | 4                              |        0 |  1640782738 |
7b8975776f65e440cc | student                         | 4                              |        0 |  1640784783 |
7b8975776f65e440cc | student                         | 4                              |        0 |  1640784783 |
40b0f1e2b74cf87797 | editingteacher, editingteacher  | 4, 3                           |        0 |  1643279810 |
```