JMeter Quiz Test Plan

1. Summary

This is a JMeter test plan file (JMX file) for simulating the behavior of simultaneous quiz on the Moodle. By default, the start time range for students is 5 seconds, and the range for sending responses is 60 seconds.

2. Requirements

- Apache JMeter
- Oracle Java Runtime (or Open JDK) 8.0 or later version.
- Non Windows PC (ex. Linux, macOS, etc.) for JMeter Client.

3. Installation

3.1 Download files from GitHub repository

At first, download the test plan file (jmx file), user list (csv file), and Moodle course bakcup file (mbz file).

3.2 Restore sample course

Please restore the course backup file to your Moodle site. We recommend using a Moodle site for testing. After the restore, write down a course ID of the sample course and a module ID of quiz.

(Course ID)
https://localhost.localdomain/moodle/course/view.php?id=32

(Module ID)
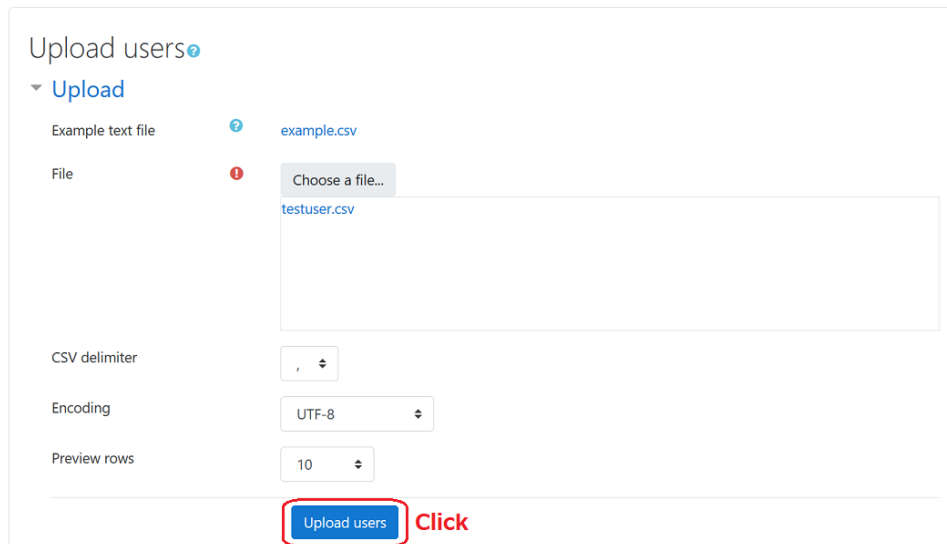http://localhost.localdomain/moodle/mod/quiz/view.php?id=94

3.3 Create Moodle users

Next, create Moodle users by using the CSV file. Before the uploading of users, you can change

the contents of the CSV file (username, fullname, password, email address).

Please visit "Site administration" > "Users" > "Accounts" > ""Upload users".
Then, drag and drop the CSV file to the file uploading area, and click "Upload users" button.
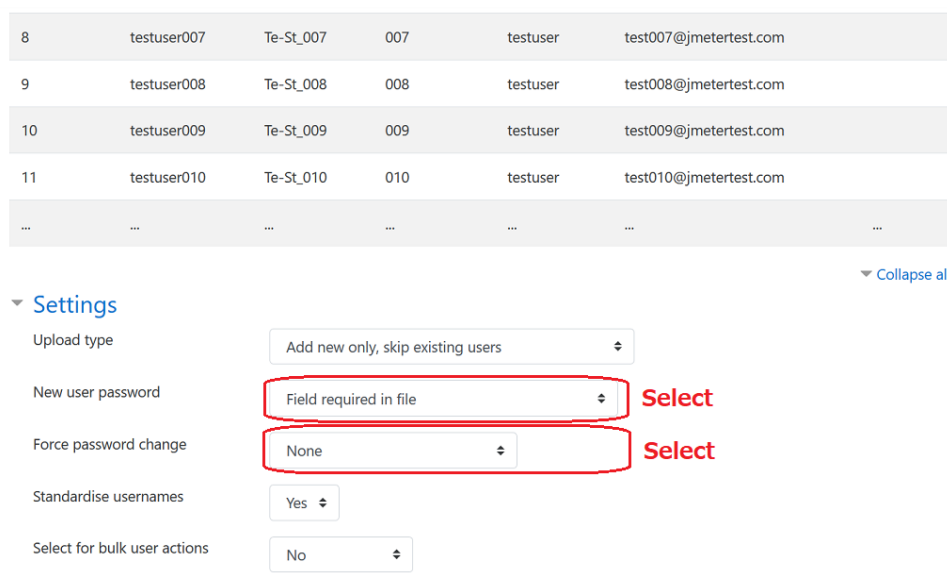
Next, you should choose the "Field required in file" for "New user password", and "None" for "Force password change".

Next, click "Upload users" button is placed bottom of screen.

After uploading results are printed, click "Continue" button.

After the uploading, please visit the sample course, and enroll the users to the sample course. In order to enroll many students at once, please visit "Course administration" > "Users" > "Enroll method". And, please click human icon.

3.4 Configuration of parameters

Please open the test plan file on the Apache JMeter. Then, you sould change the parameters ("scheme", "servername", "port", "roodir", "courseid", and "cmid") according to your environment.
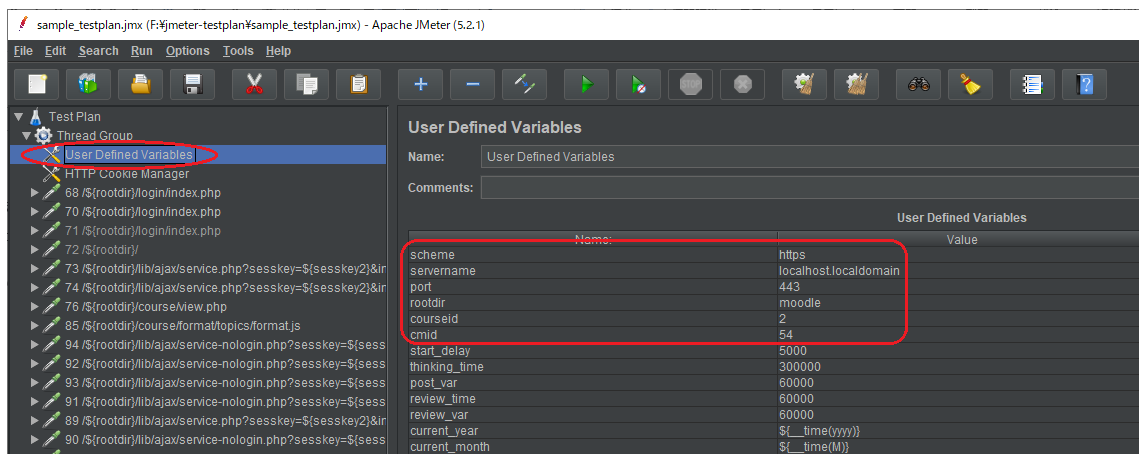
The "scheme" is communication protocol (http or https). The "port" value is usually 80 (http) or 443 (https). The "rootdir" is the path (without slash of top) of your moodle site. After the setting, please save the test plan file.

4. Execution of load test

At first, you should place the test plan file and CSV file into same directory.

Next, please execute the Apache JMeter using the sample test plan. For example, enter the following to execute the JMeter. Note that, "#" is a command prompt.

```
# jmeter -n -t sample_testplan.jmx -l report.jtl -Jclient=100 -Jloop=1
```
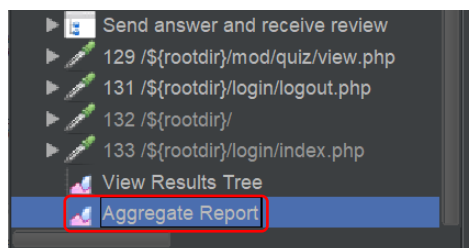
Here, "sample_testplan.jmx" is test plan file. And, results of load test are written in "report.jtl".

The "client" is a number of client (number of JMeter's thread), and the "loop" is a loop count of the load test.

After starting the load test, wait until the command prompt appears again.

5. View result of load test

At first, open the test plan file using the JMeter. Next, please click "Aggregate Report" in the test plan.

Then, please click a file selection button.

Next, please see row of "Send answer and receive review". This row present response time

about transmission of answer of quiz and receive of review from your Moodle server.

91 /moodle/lib/ajax/service-nologi...	1	21	21	21	21
89 /moodle/lib/ajax/service.php?s...	1	32	32	32	32
90 /moodle/lib/ajax/service-nologi...	1	21	21	21	21
99 /moodle/lib/ajax/service.php?s...	1	35	35	35	35
Start quiz	10	749	667	1221	1221
Send answer and receive review	10	952	757	1417	1417
129 /moodle/mod/quiz/view.php	10	292	238	385	385
131 /moodle/login/logout.php	10	167	155	196	196
TOTAL	190	208	40	662	893

Remarks

- Don't save the test plan file after you see the result of load test.
- Before you open another result file (jtl file), you should clear current reports.
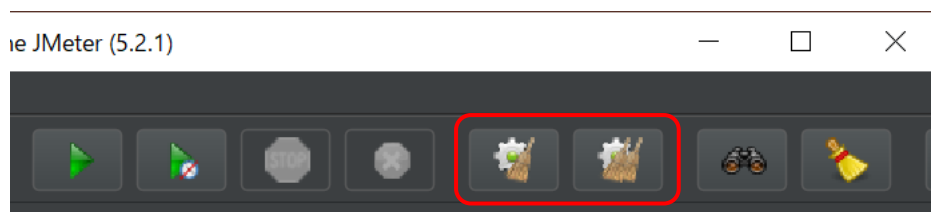
Click either button to clear current report

- The JMeter does not interpret or display received web pages. In actual operating environments, the time required for interpreting and displaying web pages is added.