
Performance testing?

Posted by wguthrie - 2006/10/13 02:13

I saw on the phorum where someone asked about performance of PHPSurveyor. I am starting this thread to get any performance data anyone has. Please list your server configuration/architecture (if possible). I am really interested in hits/minute or anything of the like.

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Re:Performance testing?

Posted by c_schmitz - 2006/10/13 02:16

Hi!

PHPSurveyor has been used on a single machine to successfully collect 50,000 responses in 24 hours. The survey consisted of estimated 8-12 questions with accroding branching. Unfortunatley I don't have information on the machine specs.

Regards

Carsten

Post edited by: c_schmitz, at: 2006/10/12 17:18

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Re:Performance testing?

Posted by swales - 2006/11/28 04:11

What is the performance??? good question.. However that can be a tough one to answer. The hardware, web server, php version, etc will all factor into that. But recently I have begun to work on the performance tuning of PHPSurveyor. I can share some of my experiences.

On a small 1.8Ghz Pentium with 1GB Ram running Windows 2000, IIS, PHP 5.2.0, MySQL 5.0.24a I was able to achieve 2 transactions per second on a survey with 60 questions (about 10 per page). The response times were < 5 seconds. Of course the more load I pushed the slower the response time. So the 'best' performance was 2 TPS with a < 5 sec response time.

This got me looking into how to 'tune' the system. With just a few tweaks to the code and a few indexes added to the database I was able to double the performance. Now at 4 transactions per second I can see that there are still alot of un-tuned areas.

So far the focus has been on features, which are comming along very nicely, but expect to see MAJOR performance increases in the next release.

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Re:Performance testing?

Posted by Youssef51 - 2006/11/29 02:53

Excellent!

Greatly looking forward to your performance improvements.

Would you be so kind as to share with us your current performance modifications? What are you looking at specifically in the source PHP? What kind of tuning are you doing?

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Re:Performance testing?

Posted by swales - 2006/11/30 00:15

I began by profiling a survey. I started by going to the welcome page and seeing what functions were being called and how long those took. The first routine that stood out was the `templatereplace()` function. This routine does alot of `str_replace` function calls... even if what was in the `str_replace` did not exist in the template. So I changed those calls to do a `strpos` before the `str_replace`. This successfully improved performance by over 40% in this routine.

I then continued searching for other areas where code was being run where it really did not need to be. Another example was `CreateFieldMap()`. This function takes considerable amount of time and was being called multiple times on the same page request.

I also began working on the SQL statements. The `buildsessionsurvey()` function had a query that was run, and then for each record another query was run. On a 60 question survey this would result in 61 queries being run. I changed it to be 1 query that includes a sub-select. Performance improved by almost 20%.

There are also many issues with the indecies... they simply don't exist. Currently I am working on doing SQL Explains for the most common statements and adding those indecies (as well as improving the SQL statements).

If you are interested in trying the tuning... please download the Alpha108a2 code and compare it against the Alpha108a3 (tuned) code.

I have also been careful to include the tuning in the latest development version.

Here is the log I have been keeping concerning the changes.

Optimized Routines

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11/10/06 - `templatereplace()` - common.php - 49%
Use of `strpos()` and if statements to limit executing lines.

11/13/06 - `createinsertquery()` - save.php - 31%
Changed `arraySearchByKey` call to include last parameter (1), which stops looking in array after finding a match.

11/13/06 - `createfieldmap()` - common.php - 88%
Store fieldmap as a global array so it is only create once per page. Significant improvement in performance when submitting and detailed email notification turned on. (16 sec vs. 2 sec)

11/13/06 - `returnquestiontitlefromfieldcode()` - common.php - 37%
Changed `arraySearchByKey` call to include last parameter (1), which stops looking in array after finding a match.

11/13/06 - `getextendedanswer()` - common.php - 36%
Changed `arraySearchByKey` call to include last parameter (1), which stops looking in array after finding a match.

11/20/06 - `buildsessionsurvey()` - index.php - 17%
Changed query to include sub-select which checks if conditions exist. Reduced number of individual queries that were being run (1 for each row in original query).

11/27/06 - group.php, question.php, survey.php - Call to `templatereplace()` - 41%
Each template file was sent to `templatereplace` a line at a time, now the whole file is sent at once.

11/28/06 - `buildsurveyssession()` - index.php - Optimized queries

Bug Fixes

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1. qanda.php - Fixed bug so multiple date fields on same page work correctly.
2. importsurvey.php - Allows the surveyid to stay the same during import if unused.

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Re:Performance testing?

Posted by zimi - 2007/03/12 05:09

I noticed if you change "phpalfa_survey_XXXX" table type from the ISAM to InnoDB the overall performance improves significantly. The reason is that ISAM table engine during an update locks whole table, whereas InnoDB locks just one

row. Now image a situation when you have 20 concurrent users filling in the same survey (updates are done after each question), then you end up in a situation that you are waiting until the data table is released. It produces quite significant delays.

I would suggest to update the table creation script in activation.php file. Instead of TYPE=ISAM should be TYPE=InnoDB.

Regards,
Zimi

Re:Performance testing?

Posted by machaven - 2007/03/12 08:00

Hi, thanks for the advice. I have added type table storage engine as an option in config.php. This will be in the next release.

Re:Performance testing?

Posted by Youssef51 - 2007/03/12 22:40

What happens if your host has disabled Innodb support on your rented MySQL database?

Mine has.

Don't know why.

Re:Performance testing?

Posted by machaven - 2007/03/12 23:57

Then you run with type ISAM?

Re:Performance testing?

Posted by Youssef51 - 2007/03/13 00:10

Sounds good!

Excuse the foolish post. I posted before I saw your solution as part of config.php.

Re:Performance testing?

Posted by JanWillem - 2008/09/17 09:51

Never had any performance issues with limesurvey or phpsurveyor. It is simply not an issue. What is much more difficult is to find people who like to take part in a survey.

The main requirement for a system running limesurvey is low energy consumption since it will probably be running 24/7. For this reason I've been running phpsurveyor during some years on a pentium 200 MHZ box. It consumed a decent 45 watts. Performance was great. A nice choice now is to use a mac mini, eventually running linux if you like, since these machines are very energy efficient.

If you are running Windows you might see a less good performance due to the activity of the virus scanner.

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Re:Performance testing?

Posted by Mazi - 2008/09/17 10:52

Thanks for sharing your experience with us!

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Re:Performance testing?

Posted by maxzomborszki - 2008/12/10 12:40

Performance might of course be a problem for some that have many respondents that repond in a short time period. For others this is not an issue, as some has stated. Not only LimeSurvey might be the bottleneck I can imagine. The database engine may also have its shortcomings.

Has anyone experience of using LimeSurvey together with MySQL vs PostgreSQL?

A former colleague had a huge performance problem with a database that had extremely many concurrent users. Switching from MySQL to PostgreSQL solved the problem for him, but these two databases has different strengths and weaknessess so I am interested in hearing if anyone has experience with these two in conjunction with LimeSurvey.

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Re:Performance testing?

Posted by Joe - 2008/12/11 10:53

I may share some experience in this thread too. I had some real serious trouble with a survey that did heavily depend on conditions (LS-version 1.53). Switching from one group to the next group caused a processor load of 100% for a few seconds on a pentium 3/700. The program causing the load was the apache server. During this time the server was completely locked.

After I reduced the number of conditions by using a smarter survey layout the load got better. Yet I had to move to a stronger server to get an acceptable loadtime.

But as I said: The survey in question had about 600 questions, more than 10 groups and at least two third of the questions depended on one or more conditions.

As at the time postgres support was not yet available I can not say whether this would have made any difference. But I doubt it because conditions have an impact on the group and page and therefore the page building process of the apache. Though the database may affect the loadtime if many users work at the same time on a survey.

Ciao
Joe

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