

wQuiz

Administrator Guide

Version 0.3.2

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Available from: PenguinTutor www.penguintutor.com



Introduction

The wQuiz program is a customisable program designed for running interactive quizzes over the Internet. The program was first designed for use on the www.firstaidquiz.com web site, but has since been made updated to make it more flexible and made available to the public.

The quiz engine is written in perl and designed for use on a Linux server with the Apache server, and a MySQL back-end. The quiz should work with other operating systems, web servers, and databases, but I am unable to give any support or advice on variations of this.

The test system is based on Ubuntu Linux 5.10, Perl 5.8.7, MySQL 4.0.24, running on a intel based server.

The latest release of the source code is available from: <http://www.penguintutor.com>
During development CVS snapshots are available from the SVN repository available at: <http://code.google.com/p/wquiz/> . Unless you are wanting to help with development, or want a feature only included in the development snapshot it is recommended that you only use the release versions.

You can see examples of the program in use at: <http://www.penguintutor.com> or <http://www.firstaidquiz.com> .

License / Legal Information

The source code is released as Open Source under the GPL License. Terms of the license are available at: <http://www.gnu.org/licenses/licenses.html#GPL> and should be contained in a file gpl.txt in the docs directory.

The license applies to the source code, and documentation, but does allow you to create their own custom templates, which you can retain copyright of.

I would be grateful if you provided a link to the www.penguintutor.com site from your quiz, or from elsewhere on your site to acknowledge the work that has gone in to creating the quiz. The supplied sample templates include this already. This is not a condition for use, so if you do not want to then there is no obligation to do so. I would also like to hear about any sites that do use my quiz, which you can post at: <http://www.penguintutor.com/forum/> , again this is voluntary.

This is provided as “free” software and comes with no warranty, or guaranteed support. If you do not agree with the conditions, including the full GPL license then you should not use this software.

Installation or Upgrade

The recommend way to install or upgrade the software is to follow the text file install.txt or upgrade.txt as appropriate. These are contained in the docs directory of the source code. Details of how to install the program manually are provided in Appendix A.

After following the instructions in install.txt then you should continue to read this guide for details of how to customise the quiz to your needs.

The Configuration File – quiz.cfg

The configuration for the quiz is contained in a single configuration file called quiz.cfg. This is stored in the main directory in the same place as the normal quiz perl files are contained. The syntax of the file is important, and any errors will prevent the quiz from working. Care should be taken whenever any changes are made to the file. It is also recommended that a backup is made before editing the file, so that it can be restored in the event of any problems.

This is a perl format file so it needs a semi-colon ';' at the end of each line. All lines beginning with a hash character '#' are comments.

There is another quiz.cfg file in the admin directory. This points directly at the standard quiz.cfg file and should not be edited.

The installation includes a sample quiz.cfg file which is stored in the sample directory.

The configuration file holds some important user and database information. The apache daemon needs to be able to read the file, but other than that it is recommended that you restrict those who can read the file.

Essential Information

The essential information section contains a number of parameters that will need to be changed to match your set-up.

\$dbname

This should be correct for most systems using the mysql database.

If you want to use a different database name to "quiz" then change that part of the string. e.g. if you want your database to be "myquiz" change the entry to: \$dbname="DBI:mysql:myquiz:localhost"; Some hosting companies may include your username in the database name, so you may have to use username_quiz in that part of the dbname field.

If you are using a different server name then change the localhost value to the IP address of the server (and if not using the default mysql port number append with :portnumber). You can change the database type by replacing mysql with an alternative perl database engine type, but if so the install script may not work.

\$dbuser

Set this to the username with access to the database.

If you are installing the application, and you want to let the install script create the database for you then this will need sufficient permission to create a new database (which can be changed to a user

with lower privilege later if required).

Other than the install script (where admin rights may be necessary) the user will just need update access to the tables, used in this install.

\$dbpass

The password to go with the above username

\$dbtable

This is the name of the table used to hold the questions. This should be unique to each install

\$dbsessiontable

This should be the same as \$dbtable followed by `_session`

\$dbactivetable

This should be the same as \$dbtable followed by `_active`

\$dbsettingsnumtable

This should be the same as \$dbtable followed by `_settings_num`

\$adminuser

The username to logon to administer the quizzes with. This is not configured anywhere else.

\$adminpass

The password for the above user. It is very important that this is changed as the default password is available to anyone. The password is stored as plain text.

\$adminsessiontimeout

The value in minutes for a admin session to remain logged in for. After the admin session has been inactive for this number of minutes the administrator will need to log back in to continue in administrator mode. The default value is 240, which gives a 4 hour session timeout.

\$sessionexpiry

This is the number of minutes before a regular quiz session will be flagged as inactive. A user can still continue their session after this time until the database clean-up is next performed. It should be seen as the minimum time a session will be allowed to stay unused before it can be deleted. This is configured in seconds, and has a default value of 14400, which is 4 hours.

\$sessionsbeforecleanup

This lists the number of times that quiz sessions have to complete before the clean-up is performed. This is to reduce the load put on the database through clean-up operations, and to improved

performance as the database tables are locked during the clean-up operation.

Log Files

The log files need to be set to a directory that the server has write permission to. This should be a directory which is not available to the public, or that has access restrictions placed on it.

\$loginlogfile

This contains an entry for every login to the quiz, including the offline quiz. The entries in the log are separated by a colon. They are:

```
Date & Time : quiz : IP Address of user : Username : Session ID
```

For the offline quiz, the username is set to “offline”, and the session id is normally shorter than the other entries.

\$scorelogfile

This holds the result of all the users sessions. This is used to see how difficult the users are finding the questions. The entries in the log are separated by a colon. They are:

```
Date & Time : quiz : IP Address of the user : Session ID : Number of correct  
answers : Number of questions in the quiz
```

\$errorlogfile

Any errors are logged in this file. The format of the log is as follows:

```
Date & Time : IP Address of the user : Severity : "Free Text Error Message"
```

The actual error message given, depends upon the part of the code that was involved in the error.

Offline Mode

The offline mode can be enabled or disabled. A risk in enabling the offline mode is that it could be used for cheating, and it could be used to make it easier for people to copy the questions. The following entries are required to use the offline mode.

\$offlinequiz

This is set to 0 to disable the offline mode, or 1 to enable it. If this is enabled then the next entry is mandatory.

\$offlinecountfile

This needs to point at a file that exists and has a single integer number. The apache daemon will need write access to the file.

This file is used to ensure that when using the offline quiz that each user is given a unique session.

Administrator Details

These details are required for the automatic notification of problems with the quiz engine.

\$mailerror

This is used to set the type of errors to email on. The email notification can be disabled by setting the value to 0. 1 is used for critical messages, 3 is used for major messages, 4 for warnings and 5 for debug messages. The sample config file has the messages set to 4, but you may prefer to set the value at 3 depending upon the number of messages received.

\$smtpserver

The address of the smtp server used to send out email notifications. SMTP Authentication is not currently supported.

\$hellostring

This should be set to the domain of the server. It is the hellostring used in the smtp handshake. The smtp protocol requires that the mails should still be sent even if this isn't correct.

\$adminemail

This is the email address to send notifications to.

\$fromemail

This is the email address that the notifications will come from.

Active Security

This is used for the Anti-DOS (Denial of Service) feature. In the event that someone attempts to overload the server by issuing repeated requests then the source IP address will be blocked for a period of time. This only provides a basic level of protection, but has helped to protect some servers from attack.

\$activesecstatus

This is used to enable or disable the active-DOS feature. Setting to 0 will disable the feature, 1 will enable it.

\$seccache

This needs to refer to a file that the apache daemon can read and write to.

\$seclogfile

This needs to refer to a file that the apache daemon can read and write to. It creates a log of any users blocked by the active security feature. It will log the time of the attempt (in unix date format), and the IP address of the source.

\$denyfile

This needs to refer to a file that the apache daemon can read and write to. It contains a list of IP addresses that are being blocked as a result of the active security feature.

Header and Footer Files

The header and footer files allow some html code to be inserted into the templates. These are typically used where you want to maintain a menu separately from the html templates. By updating the menu in the appropriate file then it can be updated across the entire quiz templates.

\$headerfile

This is typically used for a top menu, or could be used for a side menu. The file should either be an absolute file name, from the top of the filesystem, or a relative file name from the quiz directory.

\$footerfile

This is typically used for a footer or bottom menu, or could be used for a side menu. The file should either be an absolute file name, from the top of the filesystem, or a relative file name from the quiz directory.

Formatting Options

These options affect the way that the quiz is formatted in the browser.

\$answercols

This sets the number of columns to display when viewing the results.

Alternative Style Sheets

There is currently support for alternative style sheets. This may be dropped in future versions, so if you implement this please post to the [PenguinTutor Forum](#). If this is used by others then it will be kept, but if not may be dropped.

@csscategories

A list of different css categories.

%cssfile

A list of the different files, one per category.

These should be “category” => “filename/url”, separating each pair by commas.

%cssextra

A list, one per category that provides html code to be inserted. This is used to allow users to click on a link and change style sheet.

This should be “category”=> “html text”

%cssindex

This is used to provide different links to the index page at the end of the quiz. Using this alternative

pages can be used for different styles.
This should be “category” => “url”

@ignoreboterrors

This is a list that can be used to exclude robots from giving errors. You should probably use robots.txt rather than this, but it can be used for any web robots that don't obey the robots.txt file. This may be dropped in future.

Note this only affects email notification, and the error message given to the robot. It does not block users from using the quiz.

Quiz Specific Configuration

The final section provides the individual configuration for the specific quiz. This will need to be customised for each quiz. This may be moved to a separate database configuration table in future, but migration instructions will be provided.

@category

List of all the current quizzes. A quiz can be temporarily removed by excluding it from this array.

@allowedcategory

A list of all the quizzes allowed, current or future. This must include all the entries from @category, but also any others that are being created.

%quiznames

A list associating the quizname (as defined in @category), with a user friendly title.

%numquestions

The number of questions for each quiz. There must be at least one more question in the database than the number specified here.

%quizintro

Some text, or html that is shown at the start of the quiz. This should give some summary details about the quiz.

Template Files

The quiz requires 10 template files, which create the look and feel for the quiz. These are stored in the templates directory. There are samples provided in the samples/templates directory which can be customised to fit in with your site or you can create the templates from scratch.

The templates are just html or xhtml files, and are named with extension .html. The files are plain html with some variables listed using `%%variable%%`. The variable information will be replaced with the text from the program. Listed below are the different template files and the variables that can be used.

It is not necessary to use all the variables in each template file. If you miss some of the variables then it may prevent a certain feature being available.

index.html

This is used by the first page of the site. It should present a list of the different quizzes, and ask for the user name, before posting the information to the details.pl page.

The following variables are supported: `%%css%%`; `%%cssextra%%`; `%%cssurl%%`; `%%footer%%`; `%%header%%`; `%%index%%`; `%%quiznames%%`; `%%urlextra%%`.

details.html

Provides information about the quiz before allowing the user to start answering the questions.

The following variables are supported: `%%css%%`; `%%footer%%`; `%%header%%`; `%%index%%`; `%%info%%`; `%%numquestions%%`; `%%urlextra%%`; `%%urlstring%%`.

question.html

Displays the question to the user.

The following variables are supported: `%%css%%`; `%%footer%%`; `%%header%%`; `%%image%%`; `%%index%%`; `%%numquestions%%`; `%%questiontext%%`; `%%question_num%%`; `%%quizname%%`; `%%urlback%%`; `%%urlcheck%%`; `%%urlextra%%`; `%%urlnext%%`; `%%username%%`.

check.html

Provides a display of all the question numbers, and whether they have been answered. Gives the user the opportunity to revisit any questions before having the quiz marked.

The following variables are supported: `%%checks%%`; `%%css%%`; `%%footer%%`; `%%header%%`; `%%index%%`; `%%quizname%%`; `%%urlextra%%`; `%%urlstring%%`; `%%username%%`.

score.html

After marking shows the results of the quiz.

The following variables are supported: `%%answers%%`; `%%css%%`; `%%footer%%`; `%%header%%`; `%%index%%`; `%%numquestions%%`; `%%percentage%%`; `%%quizname%%`; `%%score%%`; `%%urlstring%%`; `%%urlextra%%`; `%%username%%`.

review.html

Used to review individual questions. Shows the question and the result.

The following variables are supported: `%%correctanswer%%`; `%%css%%`; `%%footer%%`; `%%givenanswer%%`; `%%header%%`; `%%image%%`; `%%index%%`; `%%numquestions%%`; `%%questiontext%%`; `%%question_num%%`; `%%quizname%%`; `%%ref%%`; `%%status%%`; `%%urlback%%`; `%%urlextra%%`; `%%urlnext%%`; `%%urlscore%%`; `%%username%%`.

help.html

Displays the user help page.

The following variables are supported: %%css%%; %%footer%%; %%header%%; %%helptext%%; %%index%%; %%menu%%; %%version%%.

offline.html

This is the off-line equivalent of index.html. It provides a welcome page and selection menu for the off-line quiz. This is not required if the off-line quiz is disabled.

The following variables are supported: %%footer%%; %%header%%; %%index%%; %%quiznames%%; %%style%%.

offlinequestions.html

This is for the off-line quiz, it is not required if the off-line quiz is disabled.. It displays the list of questions, in a printable format.

The following variables are supported: %%footer%%; %%header%%; %%index%%; %%questions%%; %%quizname%%; %%serial%%; %%style%%; %%urlstring%%

offlineanswers.html

This is for the off-line quiz, it is not required if the off-line quiz is disabled.. It displays the answers in a printable format.

The following variables are supported: %%footer%%; %%header%%; %%index%%; %%questions%%; %%quizname%%; %%serial%%; %%style%%; %%urlstring%%

Template Variables

%%answers%%

This variable gives a list of the results from the completion of the quiz. Each entry will be a link to connect to the review question page.

Available in: score.html

%%checks%%

This lists the questions and states whether they have been answered or not. The answers are provided as links to the relevant question page, so that the user can review or change their answer before the exam is marked.

Available in: check.html

%%correctanswer%%

This is used when reviewing the question to display the correct answer.

Available in: review.html

%%css%%

This is used to link to the CSS style sheet. It should normally be used in a stylesheet “link” tag.
Available in: index.html; details.html; question.html; check.html; score.html; review.html; help.html

%%cssextra%%

This provides the CSS Extra text, normally used to allow the user to change style sheets before starting the quiz.
Available in: index.html

%%cssurl%%

This gives the name of the style.
Available in: index.html;

%%footer%%

This embeds a copy of the footer file, as specified in the quiz.cfg file.
Available in: index.html; details.html; question.html; check.html; score.html; review.html; help.html; offline.html; offlinequestions.html; offlineanswers.html

%%givenanswer%%

This is used when reviewing an answered question, providing the answer that the user had provided.
Available in: review.html

%%header%%

This embeds a copy of the header file, as specified in the quiz.cfg file.
Available in: index.html; details.html; question.html; check.html; score.html; review.html; help.html; offline.html; offlinequestions.html; offlineanswers.html

%%helptext%%

This provides the html text of the context sensitive help page.
Available in: help.html

%%image%%

If images are available in the quiz, then this will embed the image into the html. If images are not defined then it will instead just place an empty string.
Available in: question.html; review.html

%%index%%

The %%index%% variable provides a link to the index page. Used when providing alternative index pages in quiz.cfg.
Available in: index.html; question.html; check.html; score.html; review.html; help.html;

offline.html; offlinequestions.html; offlineanswers.html

%%info%%

Provides the summary information about the quiz.

Available in: details.html

%%menu%%

Gives the menu for the help page. Allows the user to select another page to the default context sensitive help.

Available in: help.html

%%numquestions%%

Displays the number of questions in the current quiz.

Available in: details.html; question.html; score.html; review.html

%%percentage%%

The approximate percentage of the questions answered correctly.

Available in: score.html

%%questions%%

This differs depending upon the page it is called from. If used in offlinequestions.html, then it provides a list of all the questions. If used in offlineanswers.html, then it provides a list of all the correct answers.

Available in: offlinequestions.html; offlineanswers.html

%%questiontext%%

Provides the question text to the user.

Available in: question.html; review.html

%%question_num%%

Gives the number of the question currently being answered / reviewed. This is relative within the quiz, not the question reference number (see %%ref%%).

Available in: question.html; review.html

%%quizname%%

This gives the name of the currently selected quiz.

Available in: details.html; question.html; check.html; score.html; review.html; offlinequestions.html; offlineanswers.html

%%quiznames%%

This gives a list of all available quizzes as <option> tags.

Available in: index.html; offline.html

%%ref%%

The %%ref%% variable gives the individual question reference number, as used in the question administration panel. This is used to give the user a reference number for the question so that they can report incorrect questions.

Available in: review.html

%%score%%

Gives the number of questions answered correctly.

Available in: score.html

%%serial%%

Provides a unique serial number to tie together the off-line questions, with the corresponding off-line answers.

Available in: offlinequestions.html; offlineanswers.html

%%status%%

Gives details of whether the question was answered correctly or not.

Available in: review.html

%%style%%

Provides details of the requested style.

Available in: offline.html; offlinequestions.html; offlineanswers.html

%%urlback%%

Gives a html link to the previous question.

Available in: question.html; review.html

%%urlcheck%%

Gives a html link to the check page.

Available in: question.html

%%urlextra%%

Gives additional information to be added to a url string, so that the relevant information is maintained (e.g. style). It is used by adding the %%urlextra%% variable to the end of a href entry.

Available in: index.html; details.html; question.html; check.html; score.html; review.html

%%urlnext%%

Gives a html link to the next question.

Available in: question.html; review.html

%%urlscore%%

Gives the link to the score page

Available in: review.html

%%urlstring%%

Provides the string to add to the end of a page url (same as urlextra, but is prefixed with a ?)

Available in: details.html; check.html; score.html; offlinequestions.html; offlineanswers.html

%%username%%

Provides the name of the user, or “Anonymous” if no name has been provided.

Available in: details.html; question.html; check.html; score.html; review.html

%%version%%

Gives the version of the quiz engine.

Available in: help.html

Administration Interface

The administration interface is available from the admin directory in the installation, e.g. /quiz/admin/index.pl

The administration tools provide a web interface that allows you to manage the questions. Although it is possible to customise the administration interface by updating the admin/templates files, it is not recommended, as these are overwritten whenever a new version is installed.

Login Page

wQuiz

Quiz Administration

Login

Please login:

Username:	<input type="text"/>	
Password:	<input type="password"/>	<input type="button" value="Login"/>



Web Perl Quiz created by Stewart Watkiss
Available from PenguinTutor.com.

Before you are allowed to update any of the questions you first need to login. To login you require the admin username and password as specified in the quiz.cfg file.

Quiz Administration Page

After successfully logging onto through the administration page click on “manage questions”. The Manage Quiz option, is for future use, and is not yet implemented.

wQuiz

[Logout](#)

Quiz Administration

Tasks:

- [Manage Quizzes \(Not Available\)](#)
- [Manage Questions](#)



Web Perl Quiz created by Stewart Watkiss
Available from PenguinTutor.com.

Manage Questions

The manage questions page will list any existing questions.

wQuiz

[Logout](#)

[Admin Index](#)

Quiz Administration

Manage Questions

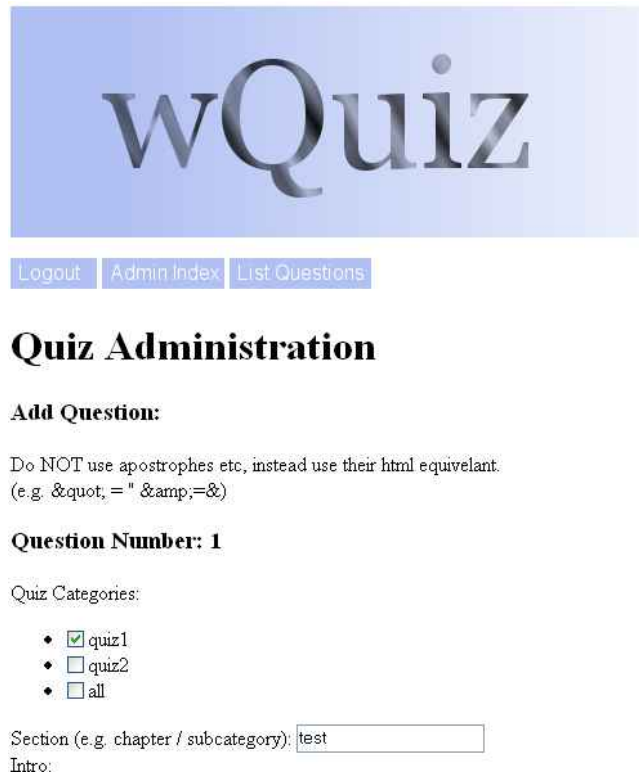
[Add a new question](#)

Question (Test)	Summary (Edit)	Type	Quiz	C
1	Answer is "text"	text	quiz1	200
2	Answer is 42	number	quiz1,all	200
3	Case Sensitive "Text"	TEXT	quiz1,all	200
4	Telephone	text	quiz1,all	200
5	Question number 5	number	quiz1,all	200
6	This is number 6	radio	quiz1,all	200
7	This is a text question. It could be case sens...	text	quiz2	200

New questions can be added by clicking on “Add a new question”. To edit an existing question, click on the Summary field. To test a question click on the question number.

Add / Edit Question

Adding and editing a question will take you to a page with the question details. For an existing question (edit) then this will have the current information already filled in. For a new question then all fields will be blank.



The screenshot shows the 'wQuiz' administration page. At the top, there is a blue header with the 'wQuiz' logo. Below the header are three navigation links: 'Logout', 'Admin Index', and 'List Questions'. The main heading is 'Quiz Administration'. Underneath, there is a section for 'Add Question:' with a warning: 'Do NOT use apostrophes etc, instead use their html equivalent. (e.g. " = " &= &')'. Below this is a 'Question Number: 1' field. The 'Quiz Categories:' section contains three radio buttons: 'quiz1' (checked), 'quiz2', and 'all'. The 'Section (e.g. chapter / subcategory):' field contains the text 'test'. The 'Intro:' field is empty.

Quiz Categories

Select the quiz or quizzes that this applies to.

Section

This is a chapter, or subcategory. Currently this is a freeform text, but future versions may limit the choice of sections. This is currently made available to the administrator only.

Intro

This is the text part of the question. Normally this will ask the user a question, for them to respond to. The entry can be plain text, or html encoded text. If implementing a picture only question this could be left blank.

Input

For a text or number field then this should contain any pre or post text, as well as an initial value. This must be in the format: pre,current,post . If there is no information to display (normal) then enter two commas ,, .

For radio or checkbox question then this should list all the options separated by commas. If you want to include a comma in the answer then it needs to be entered as html (i.e. ,).

Question Type

The type of question.

- text – case insensitive text question
- TEXT – case sensitive text question
- number – either in range or as a single number
- radio – user can select one of the options
- checkbox – user can select multiple options

Answer

This should supply the correct answer, in computer readable format. If the answer is to be a number, then it should be entered as min,max (or a single number), text should be entered as a perl regular expression, but without the '/' characters. For a radio then this should be a single number which matches the appropriate option (start counting at 0). For a checkbox then this should be a list of the correct answers without any separator. e.g. 03 for the 1st (0), and 4th (3) answer.

Reason

This is the answer in human readable format. The recommended convention is to give a full explanation about the answer, but surround the actual words that match the answer with tags.

Reference

This is free text to display information for question verification. It is not currently shown to the user, but that may be a feature of future versions.

Hint

This is reserved for future use. It has no affect on the current version of the quiz.

Image

Provide a url to any image to display alongside the question.

Comment

The comment will not be shown to the user. This is for administrative reference only.

Contributor

Record details of the person that had submitted the question. Not currently displayed to the user.


Contributor Email

Email address for the contributor. Will not be shown to the users.

Clicking Save, will update the question in the database, and return a summary about the question. Clicking on List Questions will then go back to the list of questions where more questions can be added if required.

Test Question

The question can be tested by clicking on the question number from the list question screen.



testquiz

Name: testing Question: 1 / 1

Question Image

This is a multiple choice question. Select **one** option only.

Option 1

Option 2

Option 3

Option 4

The template loaded will be the main quiz template. If relative paths are used for images then these may not display correctly. Clicking on answer will test the question and tell you if you answered it correctly or not. It will not attempt to update the with the answer details. This is therefore not a comprehensive test, but can be used to check the logic of a question.

More Information

For more information, or a copy of the source code go to: www.PenguinTutor.com

Appendix A – Manual Installation

The installation instructions are provided in the docs directory. These instructions provide an alternative if there is a problem following the installation, or you'd rather create the database and tables manually. This also provides details of the tables if you want to use a different backend database. Although you may also need to make additional changes to the code (not provided).

The database and tables can be created manually using the command line mysql client or a GUI based interface such as phpmyadmin or the MySQL query browser. You will need the appropriate permissions to make the updates to the database.

First create the database (e.g. create database quiz)
and select the database as your active database (use quiz).

Then issue the following commands to add the tables:

- create table *quizname* (question int primary key auto_increment, quiz varchar(254) NOT NULL, section varchar(254) NOT NULL, intro TEXT NOT NULL, input TEXT NOT NULL, type varchar(10) NOT NULL, answer varchar(100) NOT NULL, reason TEXT NOT NULL, reference varchar(100) NOT NULL, hint varchar(254) NOT NULL, image varchar(200) NOT NULL, comments varchar(200) NOT NULL, qfrom varchar(50) NOT NULL, email varchar(50) NOT NULL, created date NOT NULL, reviewed date NOT NULL);
- create table *quizname_session* (session_id varchar(254) primary key, startsession datetime NOT NULL, quizname varchar(254) not null, status int not null, name varchar(254) not null);
- create table *quizname_active* (session_id varchar(254), qnum int not null, question int not null, answer varchar(254) not null, PRIMARY KEY (session_id , qnum));
- create table *quizname_settings_num* (settingkey char(25) primary key, settingvalue int not null);

You will also need to copy and customise the templates and update the quiz.cfg file as described in this document.

