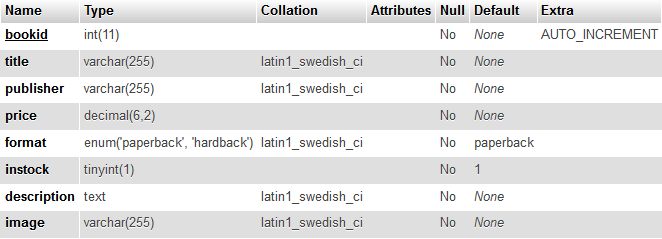
# PHP and MySQL

## EXERCISE 2: PHPMyAdmin

The example we did above should have given you some idea about how PHP can be used to take data stored in a database and display it nicely formatted in HTML. In comparison to real life websites it is of trivial complexity though. A news website would perform many, many queries and construct a whole web page with the results. PHPMyAdmin is a web application written in PHP that allows the complete management of a MySQL database server through a website. This may be slightly confusing, using PHP to create a MySQL database to then use PHP to display it on a website, but it does make sense. Creating and managing database tables on the command line is not easy, PHPMyAdmin provides a UI to do so much more easily.

Log in to PHPMyAdmin on Daydream using your username and student number as the password. Inspect the table “demotable” you should already have there. Now use PHPMyAdmin to create another table called “books” according to the following specification:



Although you can create tables and insert rows with PHPMyAdmin it is often useful to be able to import data into tables more quickly, especially for doing exercises. Add the following function to **dbutils.php** to allow us to load plain text data files into database tables:

|  |
| --- |
| function importTable( $pdo, $table, $file) {  $data = file( $file, FILE\_IGNORE\_NEW\_LINES);  $numLines = count( $data);  $columns = explode("\t",$data[0]);  for( $i = 1; $i < $numLines; $i++) {  $values = explode("\t", $data[$i]);  $sql = "INSERT INTO `$table` SET ";  for( $j = 0; $j < count( $columns); $j++) {  if ( $j > 0) {  $sql .= ", ";  }  $sql .= "`".$columns[$j]."`=";  // permit specifying NULL values with the word NULL  if ( $values[$j] == 'NULL') {  $sql .= "NULL";  } else {  $sql .= "'".$values[$j]."'";  }  }  $pdo->exec( $sql);  }  print ($numLines - 1)." rows imported into table $table.";  } |

Then copy the following, paste it into NotePad++ and save it with the file name “books.txt”.

|  |
| --- |
| bookid title publisher price format instock description image  1 War and Peace New English Library 12.99 paperback 1 War and Peace is a vast epic centred on Napoleons war with Russia. While it expresses Tolstoys view that history is an inexorable process which man cannot influence, he peoples his great novel with a cast of over five hundred characters. Three of these, the artless and delightful Natasha Rostov, the world-weary Prince Andrew Bolkonsky and the idealistic Pierre Bezukhov illustrate Tolstoys philosophy in this novel of unquestioned mastery. This translation is one which received Tolstoys approval. warandpeace.jpg  2 Anna Karenina New English Library 11.99 paperback 1 Anna Karenina is one of the most loved and memorable heroines of literature. Her overwhelming charm dominates a novel of unparalleled richness and density. Tolstoy considered this book to be his first real attempt at a novel form, and it addresses the very nature of society at all levels,- of destiny, death, human relationships and the irreconcilable contradictions of existence. It ends tragically, and there is much that evokes despair, yet set beside this is an abounding joy in lifes many ephemeral pleasures, and a profusion of comic relief. annakarenina.jpg  3 Doctor Who and the Pyramids of Mars Target 7.99 paperback 1 The mind of Sutekh the Destroyer is consumed with jealousy and hatred. Convinced that all living things are his mortal enemy, he is determined to annihilate all forms of life throughout the universe. Imprisoned at the heart of an Egyptian pyramid, the force of this maniacal evil has been paralysed for centuries. But now, after thousands upon thousands of years of long captivity, the moment of deliverance has arrived. Sutekhs vicious megalomania is about to be unleashed upon the world - unless the Doctor succeeds in outwitting a mind so powerful it can force him to his knees and torture him at a glance... drwho.jpg |

Upload books.txt to the server in the same place as **dbtest.php** and then add the following lines to **dbtest.php**:

importTable( $pdo, 'books', 'books.txt');

htmlTable( $pdo, 'books');

View **dbtest.php** in a web browser and you should see a message saying 3 rows were inserted before the table of books is printed. Refresh the page and you will see an error, because you can’t import the same rows into the same ID numbers again. To get rid of this comment out the importTable call with two slashes:

//importTable( $pdo, 'books', 'books.txt');

Now go and browse the books table in PHPMyAdmin to see that the rows are there. Using PHPMyAdmin’s insert function, add a row to the table with the following data:

|  |  |
| --- | --- |
| bookid | leave blank |
| title | Damiano |
| publisher | Bantam Books |
| price | 5.99 |
| format | paperback |
| instock | 0 |
| description | The story of Damiano Dalstrego. |
| image | damiano.jpg |

Make sure this appears as expected when viewing **dbtest.php**.

Now create a new file called books.php and put the following code into it:

|  |
| --- |
| <?php  require\_once "lib/dbutils.php";  ?>  <html>  <body>  <h2 align="center">Books</h2>  <table border="1" width="100%">  <tr>  <td width="10%" align="center"><big><b>Book id </b></big></td>  <td width="30%" align="center"><big><b>Title</b></big></td>  <td width="20%" align="center"><big><b>Publisher</b></big></td>  <td width="20%" align="center"><big><b>Price</b></big></td>  <td width="20%" align="center"><big><b>In stock</b></big></td>  </tr>  <?php  $pdo = connect();  $results = $pdo->query("SELECT \* FROM books", PDO::FETCH\_ASSOC);  foreach( $results as $row) {  print("<tr>");  print("<td>".$row['bookid']."</td>");  print("<td>".$row['title']."</td>");  print("<td>".$row['publisher']."</td>");  print("<td>".$row['price']."</td>");  print("<td>".$row['instock']."</td>");  print("</tr>");  };  ?>  </table>  </body>  </html> |

This script lists all books in the database in an HTML table, rather like the call to ***htmlTable( $pdo, 'books');*** did in your main demonstration page. Unlike that function, however, the column headings are hardcoded here in the HTML and each element of the results are printed out ‘manually’ rather than looping through the results row.

This does not print out all the columns in the table, but this is intentional as this is only as list.

Create another new file called bookview.php and put the following code in it:

|  |
| --- |
| <?php  require\_once "lib/dbutils.php";  ?>  <html>  <body>  <?php  $pdo = connect();  $results = $pdo->query("SELECT \* FROM books WHERE bookid=".$\_REQUEST['bookid']);  foreach( $results as $row) {  print("<tr>");  print("<h1>".$row['title']."</h1>");  print("<table><tr>");  print("<td valign='top'><img src=''></td>");  print("<td>".$row['description']."</td>");  print("</tr></table>");  print("<ul>");  print("<li>Publisher: ".$row['publisher']."</li>");  if ( $row['instock'] == 1) {  print("<li>In stock: Yes</li>");  } else {  print("<li>In stock: No</li>");  }  print("</ul>");  print("<p><big><strong>PRICE: &pound;".$row['price']."</strong></big></p>");  }  ?>  <p><a href="books.php">Back to list</a></p>  </body>  </html> |

This prints out details of a single book. It requires a parameter in the URL which identifies the book to display, for example “…bookview.php?bookid=1”.

Using these two files carry out the following tasks:

* Make the list in books.php print out Yes or No dependent on whether the instock value is 1 or 0 – look at the code in bookview.php to see how to achieve this.
* Make the title of the book listed in books.php be a link to the bookview.php script which has the correct bookid number to display the full details about the book.
* Download the images in the archive on moodle and save them in your existing images folder. Then fix bookview.php so that it displays those images corectly.
* Replace the unnecessary book id column in the books.php list with a column which shows a small fixed-size image of the book which can be clicked to go to the details page.

|  |
| --- |
| **EXERCISE 2: PHPMyAdmin** |
| ***Required in your report (basic exercise).*** |
| * Give a screenshot of browsing the book table in PHPMyAdmin * A clickable link to dbtest.php in your daydream account. * A clickable link to books.php which should also link to bookview.php. * Your completed code for books.php and bookview.php. * Reflection on the tasks and all activities involved. |
| ***Extended Tasks*** |
| * Experiment with changing the structure of an existing database table – add an author field to the book table and modify your scripts to work with it. * Critique PHPMyAdmin – is it suitable to use as the backend for a database driven site? That is, could you build the catalogue page for a shop and tell the staff to use phpMyAdmin to keep the stock list updated? If its not suitable for that kind of job, explain why and say what it *is* useful for. |
| *Original additional work:*  *Investigate and experiment with any related subject matter that interests you.* |