

Technical Assignment

WORKING WITH REST WEB SERVICE

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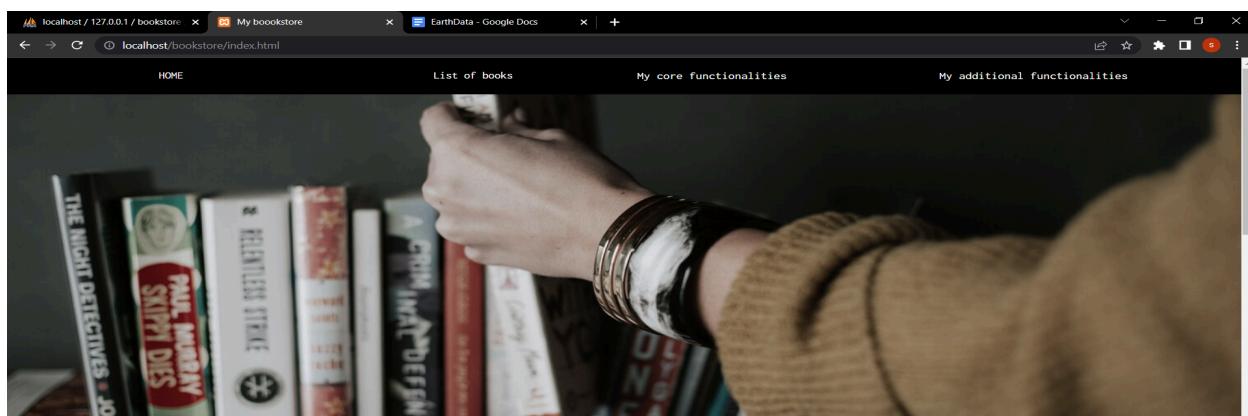
Introduction

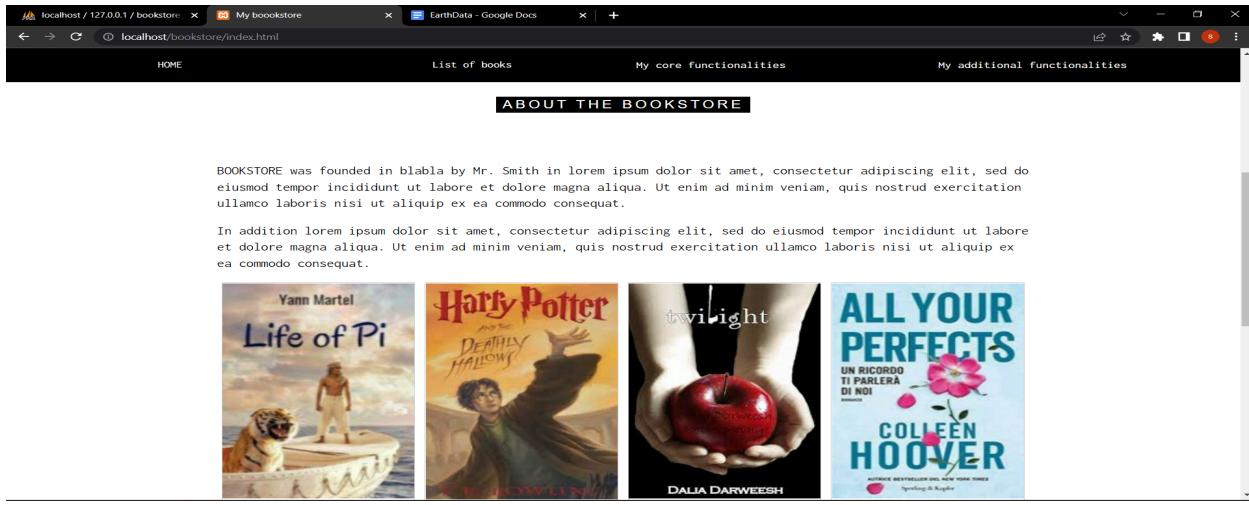
We developed a RESTful Web Service (API) using PHP that provides detailed book information—such as title, author, publication year, description, language, ISBN, reviews, category, and bestseller status—in JSON format. The data is stored in a MySQL database named 'bookstore,' with a 'book' table specifically created for managing and retrieving book details as needed.

Homepage layout:

We have used HTML and CSS to build our web application. Our homepage consists of a navbar, header, footer, and gallery boxes that contain images.

Screenshot of our homepage





Code for homepage:

index.html - bookstore - Visual Studio Code

```

File Edit Selection View Go Run Terminal Help
index.html - bookstore - Visual Studio Code

EXPLORER index.html ...
BOOKSTORE
  assets
    # style.css
    > img
    > vendor
  forms
    additionfunctionalit...
    as.php
    bookcategory.php
    bookfunction.php
    core.php
    create.php
    db.php
    deleteprocess.php
  index.html
    listofbooks.php
    paging.js
    searchbyauthor.php
    searchbycategoryand...
    searchbypubyear.php
    searchbypubyearand...
    searchbytitle.php
  OUTLINE
  TIMELINE
  MYSQL
  0 □ Connect

<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>My bookstore</title>
  </head>
  <body>
    <div class="w3-sand w3-white w3-large">
      <!-- About Container -->
      <div class="w3-container" id="about">
        <h5>ABOUT THE BOOKSTORE</h5>
        <p>BOOKSTORE was founded in blabla by Mr. Smith in lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</p>
        <p>In addition lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.</p>
        <div class="responsive">
          <div class="gallery">
            <a href="#" target="_blank"></a>
            <div class="desc">Life of Pi by Yann Martel</div>
          </div>
        </div>
        <div class="responsive">
          <div class="gallery">
            <a href="#" target="_blank"></a>
            <div class="desc">Harry Potter and the Deathly Hallows</div>
          </div>
        </div>
        <div class="responsive">
          <div class="gallery">
            <a href="#" target="_blank"></a>
            <div class="desc">Twilight by Stephenie Meyer</div>
          </div>
        </div>
      </div>
    </div>
  </body>
</html>

```

Ln 153, Col 1 Spaces: 2 UTF-8 CR LF HTML ⚙

Database

We have used “phpMyAdmin” to create our database connection and database table.

Screenshot of our database table “book” in phpMyAdmin

The screenshot shows the phpMyAdmin interface with the 'bookstore' database selected. The 'book' table is currently viewed. The table structure includes columns: Id, title, best_seller, authors, pub_year, description, language, ISBN, reviews, and category. The data grid displays 10 rows of book information, such as 'All your perfects' by Colleen Hoover and 'Life Of Pi' by Yann Martel. The left sidebar shows the database schema with tables like 'book', 'books', and 'information_schema'.

	Id	title	best_seller	authors	pub_year	description	language	ISBN	reviews	category
10	10	All your perfects	yes	Colleen Hoover	2018	All Your Perfects is a profound novel about a dams...	English	123456	5	Romance
11	11	People We Meet On Vacation	yes	Emily Henry	2022	People We Meet on Vacation is a collection of in-j...	English	9876	4	romance
12	12	Nura And The Immortal Palace	yes	M.T.Khan	2022	Nura and The Immortal Palace is a heartwarming sto...	English	3487483	4	Fiction
13	13	Ordinary Grace	no	William Kent Krueger	2013	Ordinary Grace is about a boy standing at the door...	English	4777654	4	Young adult
14	14	Life Of Pi	yes	Yann Martel	2001	Life of Pi is about the protagonist, a Tamil boy f...	English	7645444	3	Adventure
15	15	A Tales Of Two Cities	yes	Charles Dickens	1859	The novel tells the story of the French Doctor Man...	English	7900000	3	Historical
16	16	Luckiest Girl Alive	yes	Jessica Knoll	2015	The novel follows a young woman who has sought to ...	English	68988	3	Mystery
17	17	Half Way To The Grave	yes	Jeaniene Frost	2007	Half-vampire Catherine Crawford is going after th...	English	786565	4	Fantasy
18	18	Big Boned	yes	Jo Watson	2021	A story of body-positivity and self-love, perfect...	English	799000	3	Fiction
24	24	C	yes	J. K. Rowling	1997	magic	English	999	5	Fiction

After creating our database table, we made the `db.php` file which contains all the connections of our database in visual studio code.

Screenshot of db.php file

```

<?php
    DEFINE ('DB_USER', 'root');
    DEFINE ('DB_PASSWORD', '');
    DEFINE ('DB_HOST', 'localhost');
    DEFINE ('DB_NAME', 'bookstore');

    $conn = mysqli_connect (DB_HOST, DB_USER, DB_PASSWORD, DB_NAME) OR die ('Could not connect to MySQL: ' . mysqli_connect_error());

    function dbQuery($sql) {
        global $conn;
        $result = mysqli_query($conn, $sql) or die(mysqli_error($conn));
        return $result;
    }

    function getAlldetails($title){
        $conn = mysqli_connect (DB_HOST, DB_USER, DB_PASSWORD, DB_NAME) OR die ('Could not connect to MySQL: ' . mysqli_connect_error());
        // $conn is for opening the connection and hold connection to database named bookstore using the define constant in line 1-4

        $title = strtolower($title); //convert title to lower case
        $query = "select * from book where title='".$title."'";
        $result = mysqli_query($conn, $query);
        $book_details = null; //assign $book_details to null

        if($result){
            //The while loop through the result set. If there is result. It loop through it row by row and extract the result set and return $book_details,If
            while($row=mysqli_fetch_array($result)){
                $book_details['title']=$row['title'];
                $book_details['best_seller']=$row['best_seller'];
                $book_details['authors']=$row['authors'];
                $book_details['pub_year']=$row['pub_year'];
                $book_details['description']=$row['description'];
                $book_details['language']=$row['language'];
                $book_details['ISBN']=$row['ISBN'];
            }
        }
        return $book_details;
    }

```

```

        }
    }

    function getauthors($authors){
        $conn = mysqli_connect (DB_HOST, DB_USER, DB_PASSWORD, DB_NAME) OR die ('Could not connect to MySQL: ' . mysqli_connect_error());
        // $conn is for opening the connection and hold connection to database named bookstore using the define constant in line 1-4

        $authors = strtolower($authors); //convert author to lower case
        $query = "select * from book where authors='".$authors."'";
        $result = mysqli_query($conn, $query);
        $book_details = null; //assign $book_details to null

        if($result){
            //The while loop through the result set. If there is result. It loop through it row by row and extract the result set and return $book_details
            while($row=mysqli_fetch_array($result)){
                $book_details['title']=$row['title'];
                $book_details['best_seller']=$row['best_seller'];
                $book_details['authors']=$row['authors'];
                $book_details['pub_year']=$row['pub_year'];
                $book_details['description']=$row['description'];
                $book_details['language']=$row['language'];
                $book_details['ISBN']=$row['ISBN'];
                $book_details['reviews']=$row['reviews'];

                $book_details['category']=$row['category'];
            }
        }
        return $book_details;
    }

    function getcategor($categor){
        $conn = mysqli_connect (DB_HOST, DB_USER, DB_PASSWORD, DB_NAME) OR die ('Could not connect to MySQL: ' . mysqli_connect_error());
        // $conn is for opening the connection and hold connection to database named bookstore using the define constant in line 1-4
    }

```

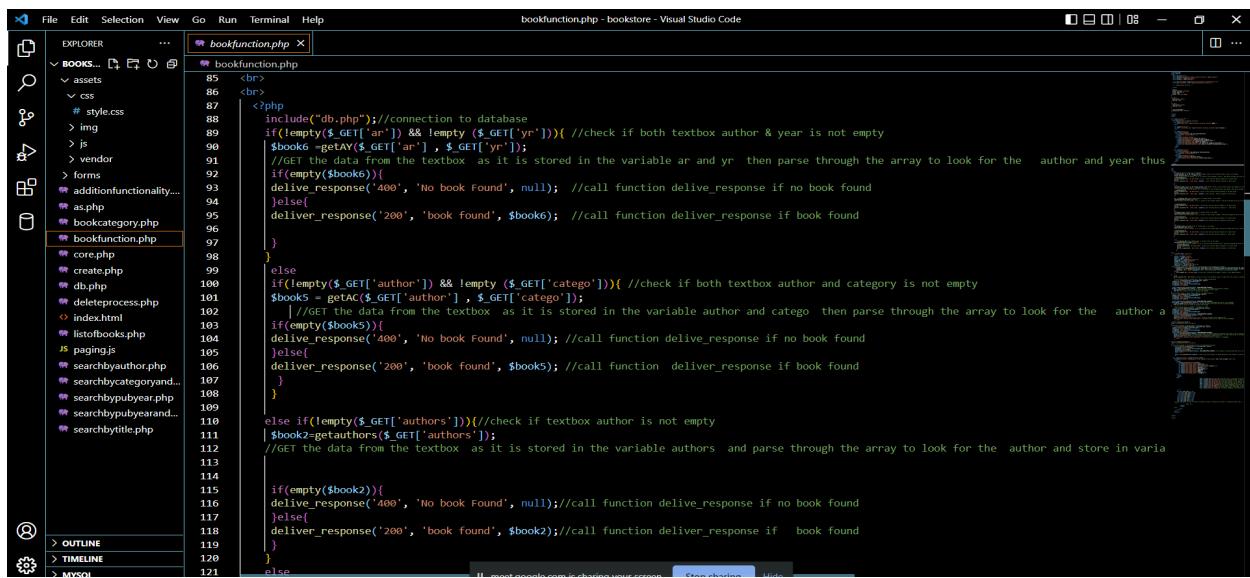
Core functionalities

Our core functionalities are as follows:

1. Get book(s) information by title
2. Get book(s) information by the author
3. Get book(s) information by publication year
4. Get book(s) information by category
5. Get book information by author and category
6. Get book information by author and publication year

Firstly to implement our core functionalities, we have created a `bookfunction.php` file consisting of the database connection. The `bookfunction.php` also delivers a response upon clicking the submit button of our core functionalities form

Code for `bookfunction.php`



```
bookfunction.php - bookstore - Visual Studio Code
File Edit Selection View Go Run Terminal Help
bookfunction.php
85 <?php
86 <br>
87 <?php
88 //connection to database
89 if((empty($_GET['ar'])) && empty($_GET['yr'])){ //check if both textbox author & year is not empty
90 $books = getAV($_GET['ar'] , $_GET['yr']);
91 //GET the data from the textbox as it is stored in the variable ar and yr then parse through the array to look for the author and year thus
92 if(empty($books)){
93 deliver_response('400', 'No book Found', null); //call function deliver_response if no book found
94 }else{
95 deliver_response('200', 'book found', $books); //call function deliver_response if book found
96 }
97 }
98 }
99 else{
100 if(empty($_GET['author']) && empty($_GET['catego'])){//check if both textbox author and category is not empty
101 $books = getAC($_GET['author'] , $_GET['catego']);
102 //GET the data from the textbox as it is stored in the variable author and catego then parse through the array to look for the author and category thus
103 if(empty($books)){
104 deliver_response('400', 'No book Found', null); //call function deliver_response if no book found
105 }else{
106 deliver_response('200', 'book found', $books); //call function deliver_response if book found
107 }
108 }
109 else if(empty($_GET['authors'])){ //check if textbox author is not empty
110 $book2= getauthors($_GET['authors']);
111 //GET the data from the textbox as it is stored in the variable authors and parse through the array to look for the author and store in varia
112 if(empty($book2)){
113 deliver_response('400', 'No book Found', null); //call function deliver_response if no book found
114 }else{
115 deliver_response('200', 'book found', $book2); //call function deliver_response if book found
116 }
117 }
118 }
119 }
120 }
121 else
```

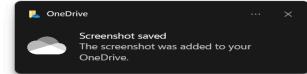
Get a book by title

The screenshot shows a web browser window with three tabs open. The active tab is titled "localhost/bookstore/searchbytitle" and contains a search form. The form has a header "Search by book title" and a text input field containing the text "All your perfects". Below the input field is a "Submit" button.

As we can see in the picture above we are searching for a book by its title

The screenshot shows a web browser window with three tabs open. The active tab is titled "localhost/bookfunction" and displays the results of a book search. The results are presented in a table with columns: title, best_seller, authors, pub_year, description, language, ISBN, Reviews, and category. There is one row of data for the book "All your perfects" by Colleen Hoover, published in 2018. The description for the book is: "All Your Perfects is a profound novel about a damaged couple whose potential future hinges on promises made in the past."

title	best_seller	authors	pub_year	description	language	ISBN	Reviews	category
All your perfects	yes	Colleen Hoover	2018	All Your Perfects is a profound novel about a damaged couple whose potential future hinges on promises made in the past.	English	123456	5	Romance



Implementation of get book by title



The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer (Left):** Shows a tree view of the project structure under the "BOOKSTORE" folder, including assets, css, img, js, vendor, forms, additionfunctionality..., as.php, bookcategory.php, bookfunction.php, core.php, create.php, db.php, deleteprocess.php, index.html, listofbooks.php, JS, paging.js, searchbyauthor.php, searchbycategoryand..., searchbypubyear.php, searchbypubyearand..., and searchbytitle.php.
- Code Editor (Center):** The "searchbytitle.php" file is open. The code is a PHP script with HTML and CSS. It includes a navigation bar with links to "create.php" and "additionfunctionality.php". Below this is a search form with a placeholder "Search your books by title". The code uses W3.CSS classes like "w3-container", "w3-content", "w3-center", and "w3-padding-64".
- Status Bar (Top):** "searchbytitle.php - bookstore - Visual Studio Code"
- Activity Bar (Bottom):** Includes icons for Find, Replace, Timeline, and Outline.

For this functionality, we have created a `searchbytitle.php` file, linking our `bookfunction.php` file.

Get a book by author

localhost/bookstore/searchbyauthor x localhost / 127.0.0.1 / bookstore x EarthData - Google Docs x | +

localhost/bookstore/searchbyauthor.php

HOME List of books My core functionalities My additional functionalities

Search your books by author

Search by book author

Emily Henry

Submit

Here we are searching for a book by its author

localhost/bookfunction x localhost / 127.0.0.1 / bookstore x EarthData - Google Docs x | +

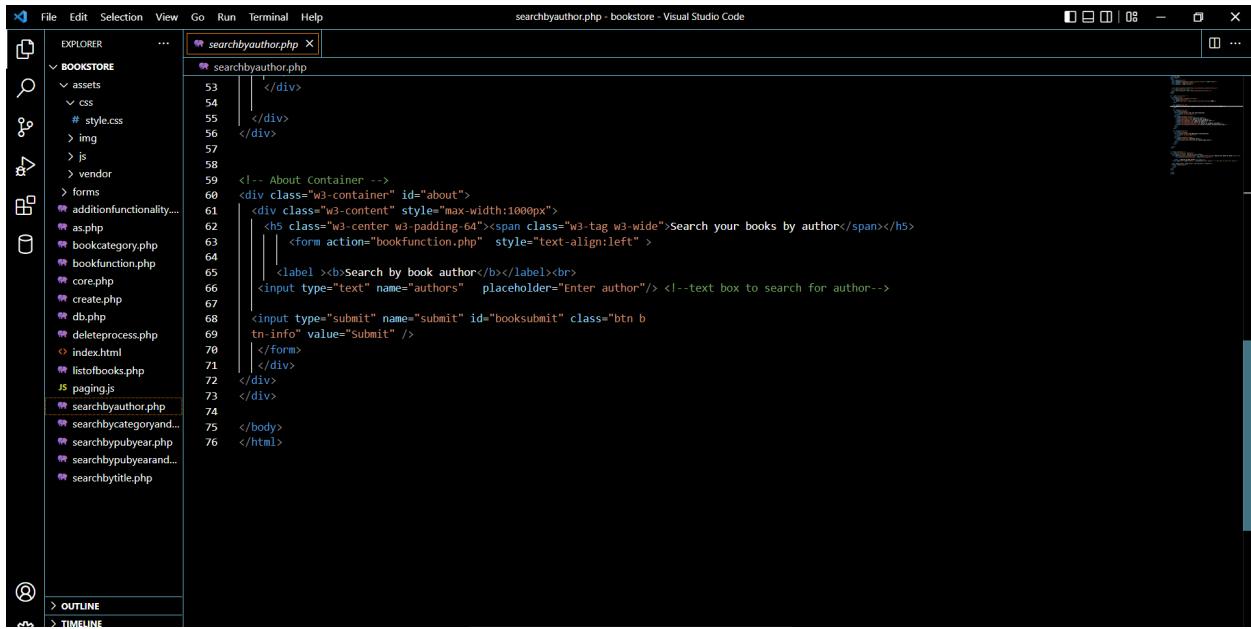
localhost/bookfunction.php?authors=Emily+Henry&submit=Submit

HOME List of books My core functionalities My additional functionalities

Your list of books

title	best_seller	authors	pub_year	description	language	ISBN	Reviews	category
People We Meet On Vacation	yes	Emily Henry	2022	People We Meet on Vacation is a collection of in-joke travel memories. It's equal parts hilarious and shockingly tender.	English	9876	4	romance

Implementation of get book by author



```
53 |     </div>
54 |   </div>
55 | </div>
56 |
57 |
58 | <!-- About Container -->
59 | <div class="w3-container" id="about">
60 |   <div class="w3-content" style="max-width:1000px">
61 |     <h5 class="w3-center w3-padding-64"><span class="w3-tag w3-wide">Search your books by author</span></h5>
62 |     <form action="bookfunction.php" style="text-align:left" >
63 |       <label><b>Search by book author</b></label><br>
64 |       <input type="text" name="authors" placeholder="Enter author"/> <!--text box to search for author-->
65 |       <input type="submit" name="submit" id="booksubmit" class="btn btn-info" value="Submit" />
66 |     </form>
67 |   </div>
68 | </div>
69 | </div>
70 | </div>
71 | </div>
72 | </div>
73 | </div>
74 |
75 | </body>
76 | </html>
```

For this functionality, we have created a [searchbyauthor.php](#) file, in which we have linked our [bookfunction.php](#) file.

```
<form action="bookfunction.php" style="text-align:left" >
```

Get a book by publication year

localhost/bookstore/searchbypubyear.php

HOME List of books My core functionalities My additional functionalities

Search your books by year

Search by publication year

2022

Submit

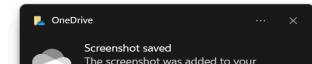
Here we are searching for a book by its publication year

localhost/bookfunction.php?yea=2022&submit=Submit

HOME List of books My core functionalities My additional functionalities

Your list of books

title	best_seller	authors	pub_year	description	language	ISBN	Reviews	category
Nura And The Immortal Palace	yes	M.T.Khan	2022	Nura and The Immortal Palace is a heartwarming story about friendship, magic, and child poverty and labor.	English	3487483	4	Fiction



Implementation of get book by publication year

```

1<!-- About Container -->
2<div class="w3-container" id="about">
3    <div class="w3-content" style="max-width:1000px">
4        <h5 class="w3-center w3-padding-64"><span class="w3-tag w3-wide">Search your books by year</span></h5>
5        <form action="bookfunction.php" style="text-align:left" >
6            <label>Search by publication year</label><br>
7            <input type="text" name="yea" placeholder="Enter year"/><br><!--text box to search for year-->
8            <br>
9            <input type="submit" name="submit" id="booksubmit" class="btn b
10             tn-info" value="Submit" />
11        </form>
12    </div>
13</div>
14</div>
15</body>
16</html>

```

For get book by publication year functionality, we have created a [searchbypubyear.php](#) file, in which we have linked our [bookfunction.php](#) file.

```
<form action="bookfunction.php" style="text-align:left" >
```

Get a book by category

A screenshot of a web browser window. The address bar shows the URL `localhost/bookstore/bookcategory.php`. The page has a dark header with tabs for "HOME", "List of books", "My core functionalities", and "My additional functionalities". Below the header is a search bar with the placeholder text "Search your book by category". A text input field contains the word "fiction". A black "Submit" button is positioned below the search bar.

Here we are searching for a book in the category of fiction

A screenshot of a web browser window. The address bar shows the URL `localhost/bookstore/bookfunction.php?category=fiction&submit=Submit`. The page has a dark header with tabs for "HOME", "List of books", "My core functionalities", and "My additional functionalities". Below the header is a heading "Your list of books". A table displays the results:

title	best_seller	authors	pub_year	description	language	ISBN	Reviews	category
C	yes	J. K. Rowling	1997	magic	English	999	5	Fiction

Implementation of get book by a category

```

bookcategory.php
41 | </div>
42 | </div>
43 |
44 | <div class="w3-col s3">
45 |   <div class="dropdown">
46 |     <button class="dropdownbtn">My additional functionalities
47 |       <i class="fa fa-caret-down"></i>
48 |     </button>
49 |     <div class="dropdown-content">
50 |       <a href="create.php"> Add books here</a>
51 |       <a href="additionfunctionality.php">Delete books here</a>
52 |     </div>
53 |   </div>
54 | </div>
55 |
56 | </div>
57 | </div>
58 |
59 | <!-- About Container -->
60 | <div class="w3-container" id="about">
61 |   <div class="w3-content" style="max-width:1000px">
62 |     <h5 class="w3-center w3-padding-64"><span class="w3-tag w3-wide">Search your book by category</span></h5>
63 |     <form action="bookfunction.php" style="text-align:left" >
64 |       <label ><b>Search by book category</b></label><br>
65 |       <input type="text" name="category" placeholder="Enter category"/><br><!--text box to search for category-->
66 |
67 |       <br>
68 |       <input type="submit" name="submit" id="booksubmit" class="btn btn-info" value="Submit" />
69 |     </form>
70 |   </div>
71 | </div>
72 | </div>
73 | </div>
74 | </div>
75 |
76 | </body>
77 | </html>

```

In 12, Col 65 (62 selected) Spaces: 2 UTF-8 CRLF PHP ⚙️

For this core functionality, we have created a [bookcategory.php](#) file and linked our [bookfunction.php](#) file as well.

```
<form action="bookfunction.php" style="text-align:left" >
```

Get a book by author and category

The screenshot shows a web browser window with three tabs open: 'localhost/bookstore/searchbycat' (active), 'localhost / 127.0.0.1 / bookstore', and 'EarthData - Google Docs'. The main content area has a dark header with navigation links: 'HOME', 'List of books', 'My core functionalities', and 'My additional functionalities'. Below the header is a search bar with the placeholder 'Search your books by category and authors'. Underneath the search bar is a section titled 'Search by book category & author' containing two input fields: one for 'fiction' and another for 'J. K. Rowling'. A 'Submit' button is located at the bottom of this section.

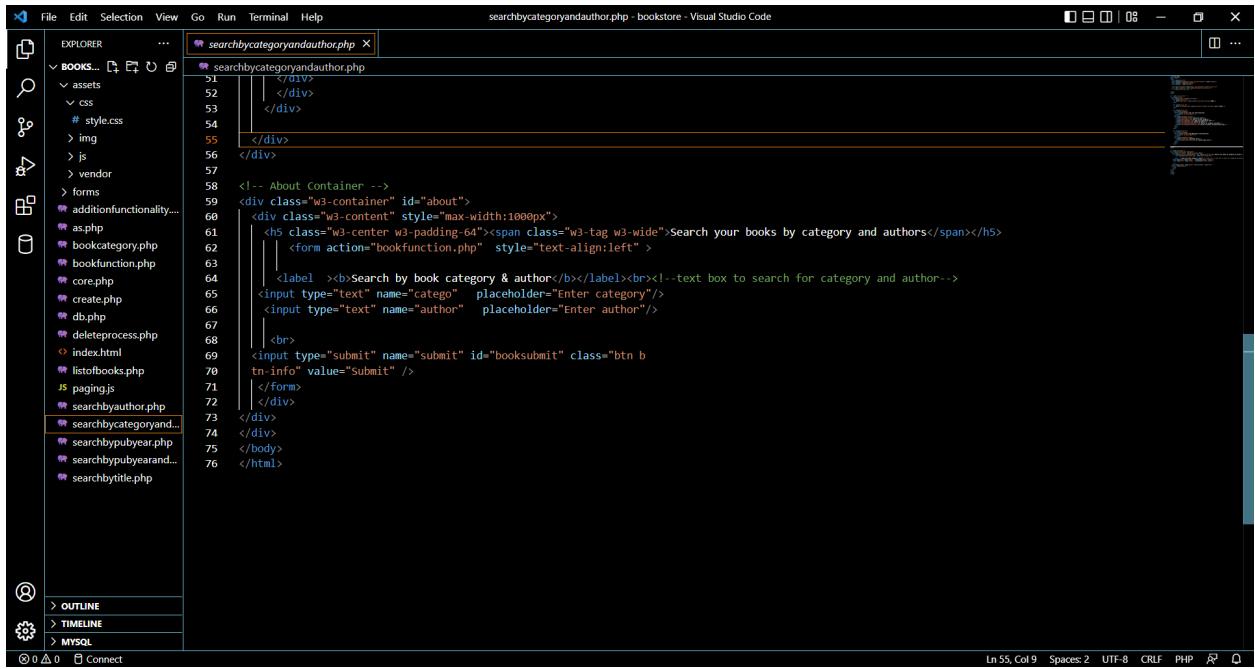
Here, we are searching for a book by its category and author and as we can see the result is displayed in a table

The screenshot shows a web browser window with three tabs open: 'localhost/bookstore/bookfunction' (active), 'localhost / 127.0.0.1 / bookstore', and 'EarthData - Google Docs'. The main content area has a dark header with navigation links: 'HOME', 'List of books', 'My core functionalities', and 'My additional functionalities'. Below the header is a section titled 'Your list of books' containing a table with the following data:

title	best_seller	authors	pub_year	description	language	ISBN	Reviews	category
C	yes	J. K. Rowling	1997	magic	English	999	5	Fiction

A OneDrive notification bubble is visible in the bottom right corner, stating 'Screenshot saved' and 'The screenshot was added to your OneDrive.'

Implementation of get book by its author and category



```
searchbycategoryandauthor.php
51 |     </div>
52 |     </div>
53 |   </div>
54 |   </div>
55 | </div>
56 | </div>
57 |
58 <!-- About Container -->
59 <div class="w3-container" id="about">
60   <div class="w3-content" style="max-width:1000px">
61     <h5 class="w3-center w3-padding-64"><span class="w3-tag w3-wide">Search your books by category and authors</span></h5>
62     <form action="bookfunction.php" style="text-align:left" >
63       <label><b>Search by book category & author:</b></label><br><!-- text box to search for category and author-->
64       <input type="text" name="category" placeholder="Enter category"/>
65       <input type="text" name="author" placeholder="Enter author"/>
66       <br>
67       <input type="submit" name="submit" id="booksubmit" class="btn btn-info" value="Submit" />
68     </form>
69   </div>
70 </div>
71 </div>
72 </div>
73 </div>
74 </div>
75 </body>
76 </html>
```

Here for this functionality, we have created a [searchbycategoryandauthor.php](#) file and linked our [bookfunction.php](#) to it.

```
<form action="bookfunction.php" style="text-align:left" >
```

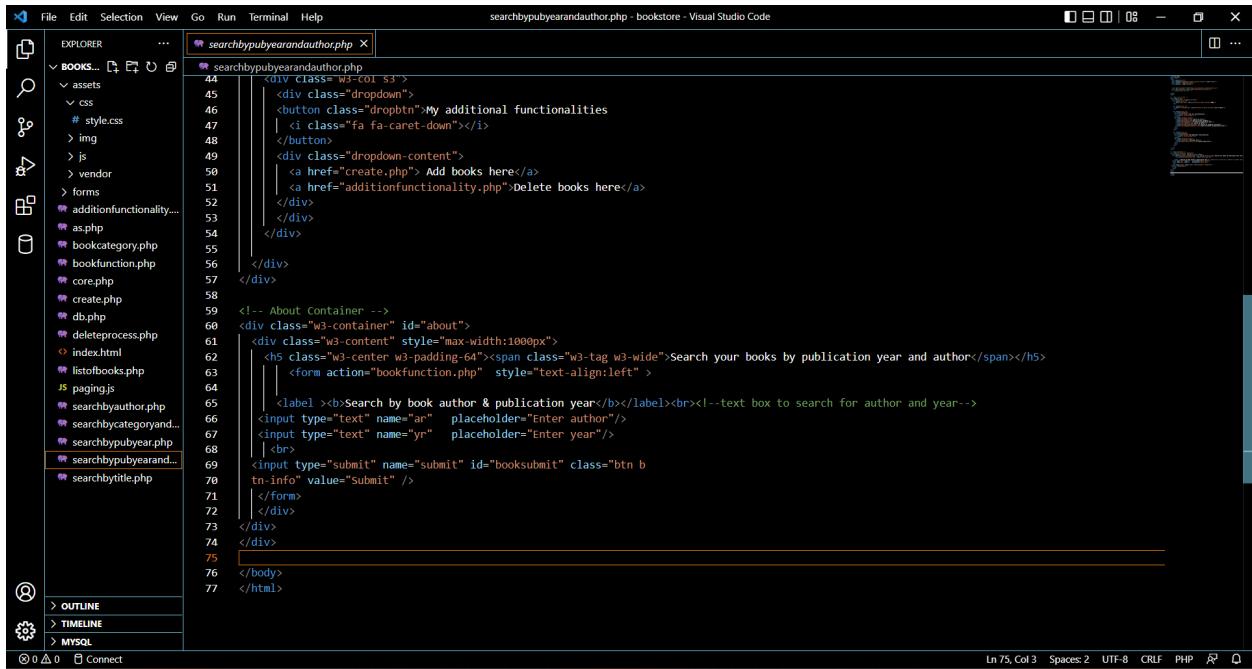
Get a book by author and publication year

The screenshot shows a web browser window with three tabs open. The active tab is titled "localhost/bookstore/searchbypubyearandauthor.php". The page has a dark header with navigation links: "HOME", "List of books", "My core functionalities", and "My additional functionalities". Below the header is a search bar with the placeholder text "Search your books by publication year and author". Underneath the search bar is a section titled "Search by book author & publication year" containing two input fields: one for "William Kent Krueger" and another for "2013". A "Submit" button is located below these fields.

Here, we are searching for a book by its category and publication year and the result is displayed in a table.

The screenshot shows a web browser window with three tabs open. The active tab is titled "localhost/bookfunction.php?ar=William+Kent+Krueger&syn=2013&submit=Submit". The page has a dark header with navigation links: "HOME", "List of books", "My core functionalities", and "My additional functionalities". Below the header is a section titled "Your list of books" which displays a table of search results. The table has columns for title, best_seller, authors, pub_year, description, language, ISBN, Reviews, and category. One row is shown, corresponding to the search parameters: "Ordinary Grace" by William Kent Krueger, published in 2013. The description for the book is: "Ordinary Grace is about a boy standing at the door of his young manhood, trying to understand a world that seems to be falling apart around him." The book is listed as having 4 reviews and is categorized as "Young adult".

Implementation of get book by its author and publication year



```

File Edit Selection View Go Run Terminal Help
searchbypubyearandauthor.php - bookstore - Visual Studio Code
EXPLORER ... searchbypubyearandauthor.php
BOOKS... assets # style.css img vendor forms additionfunctionality... as.php bookcategory.php bookfunction.php core.php create.php db.php deleteprocess.php indexHTML listofbooks.php paging.js searchbyauthor.php searchbycategoryand... searchbypubyear.php searchbypubyearand... searchbytitle.php
44 <div class="w3-col s3">
45 | <div class="dropdown">
46 | | <button class="dropbtn">My additional functionalities
47 | | | <i class="fa fa-caret-down"></i>
48 | | </button>
49 | | <div class="dropdown-content">
50 | | | <a href="create.php"> Add books here</a>
51 | | | <a href="additionfunctionality.php">Delete books here</a>
52 | | </div>
53 | </div>
54 | </div>
55 </div>
56 </div>
57 </div>
58 <!-- About Container -->
59 <div class="w3-container" id="about">
60 | <div class="w3-content" style="max-width:1000px">
61 | | <h5 class="w3-center w3-padding-64"><span class="w3-tag w3-wide">Search your books by publication year and author</span></h5>
62 | | | <form action="bookfunction.php" style="text-align:left" >
63 | | | | <label>Search by book author & publication year</label><br><!--text box to search for author and year-->
64 | | | | <input type="text" name="ar" placeholder="Enter author"/>
65 | | | | <input type="text" name="yr" placeholder="Enter year"/>
66 | | | | <br>
67 | | | | <input type="submit" name="submit" id="booksubmit" class="btn b
68 | | | | tn-info" value="Submit" />
69 | | | </form>
70 | | </div>
71 | </div>
72 | </div>
73 </body>
74 </html>
75
76
77

```

Ln 75, Col 3 Spaces: 2 UTF-8 CRLF PHP ⚡

For our last core functionality, we have created a [searchbypubyearandauthor.php](#) file and linked our [bookfunction.php](#) to it.

```
<form action="bookfunction.php" style="text-align:left" >
```

Additional functionalities

My additional functionalities are as follows:

1. View a list of books
2. Add books
3. Delete books

For our additional functionalities, we have created a `bookfunction.php` file consisting of the database connection. The `bookfunction.php` also delivers a response upon clicking the submit button of our core functionalities form.

Code for bookfunction.php

```
bookfunction.php - bookstore - Visual Studio Code
File Edit Selection View Go Run Terminal Help
bookfunction.php
157 else
158 | if(isset($_POST['submit'])){
159 {
160     $title = $_POST['title'];
161     $author = $_POST['author'];
162     $year = $_POST['year'];
163     $description = $_POST['description'];
164     $language = $_POST['language'];
165     $ISBN = $_POST['ISBN'];
166     $reviews = $_POST['reviews'];
167     $best_seller = $_POST['best_seller'];
168     $category = $_POST['category'];
169 //the code above get value from the text box and assign to each respective variable
170     if(empty($title) && empty($author) && empty($year) && empty($description) && empty($language) && empty($ISBN) && empty($reviews) && empty($best_seller) && empty($category)){
171         $bookpost = insertBook($title,$author,$year,$description,$language,$ISBN,$reviews,$best_seller,$category);
172         Eresponse('200', 'Added',$bookpost); //call function Eresponse if details is successfully added
173     }else{
174         error_added('200', 'No Book Added',null); //call function error_added if detail is not added properly
175     }
176 }
177 else{
178     error_response('500', 'Bad Request',null); //if any of the textbox search is empty thus the inside if statement will not executed and therefore
179 }
180 //the function below is called when a book is added successfully
181 function Eresponse($status, $statusMessage, $data){
182     header("HTTP/1.1 $status $statusMessage");
183     $response[$status]=$status;
184     $response[$status_message]=$statusMessage;
185     $response[$data]=$data;
186
187     $json_response=json_encode($response, JSON_UNESCAPED_SLASHES);
188     $create = json_decode($json_response, true); //response is decoded and stored in $create
189     $b=$create["data"]; // $b is used to store the value retrive in data
190     echo $b; // $b is echo on screen to display the message
191 }
192 //the function below is called when a book is not added properly.
193 function error_added($status, $statusMessage, $data){
```

View a list of books functionality

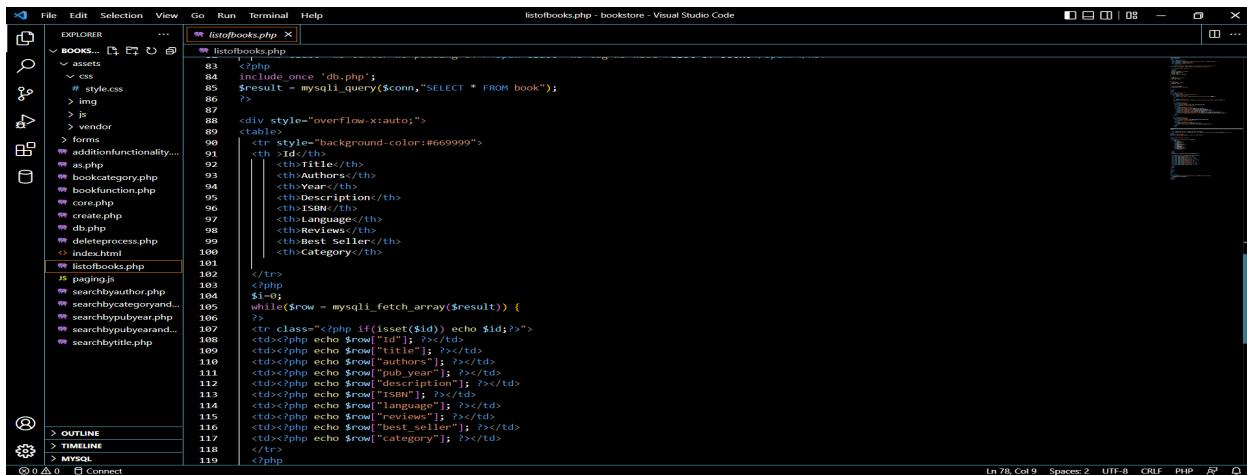
As we can see all our books are being displayed on a table

List of books									
ID	Title	Authors	Year	Description	ISBN	Language	Reviews	Best Seller	Category
10	All your perfects	Colleen Hoover	2018	All Your Perfects is a profound novel about a damaged couple whose potential future hinges on promises made in the past.	123456	English	5	yes	Romance
11	People We Meet On Vacation	Emily Henry	2022	People We Meet on Vacation is a collection of in-joke travel memories. It's equal parts hilarious and shockingly tender.	9876	English	4	yes	romance
12	Nura And The Immortal Palace	M.T.Khan	2022	Nura and The Immortal Palace is a heartwarming story about friendship, magic, and child poverty and labor.	3487483	English	4	yes	Fiction

List of books									
My core functionalities									
16	Luckiest Girl Alive	Jessica Knoll	2015	The novel follows a young woman who has sought to reinvent herself in her adult life, following a series of horrifying events during her teenage years.	68988	English	3	yes	Mystery
17	Half Way To The Grave	Jeaniene Frost	2007	Half-vampire Catherine Crawfield is going after the undead with a vengeance.	786565	English	4	yes	Fantasy
18	Big Boned	Jo Watson	2021	A story of body-positivity and self-love, perfect for fans of Dumplin' and The Upside of Unrequited.	799000	English	3	yes	Fiction
24	C	J. K. Rowling	1997	magic	999	English	5	yes	Fiction

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Implementation of view books



```
<?php
include_once 'db.php';
$result = mysqli_query($conn,"SELECT * FROM book");
?>

<div style="overflow-x:auto;">
<table>
<thead>
|  |
| --- |

```

To implement this functionality, we have created a [listofbooks.php](#) file and added our database connection that would fetch data from our database table “book” and display it in our HTML table which we can create in this PHP file

Code of our database connection

```
<?php

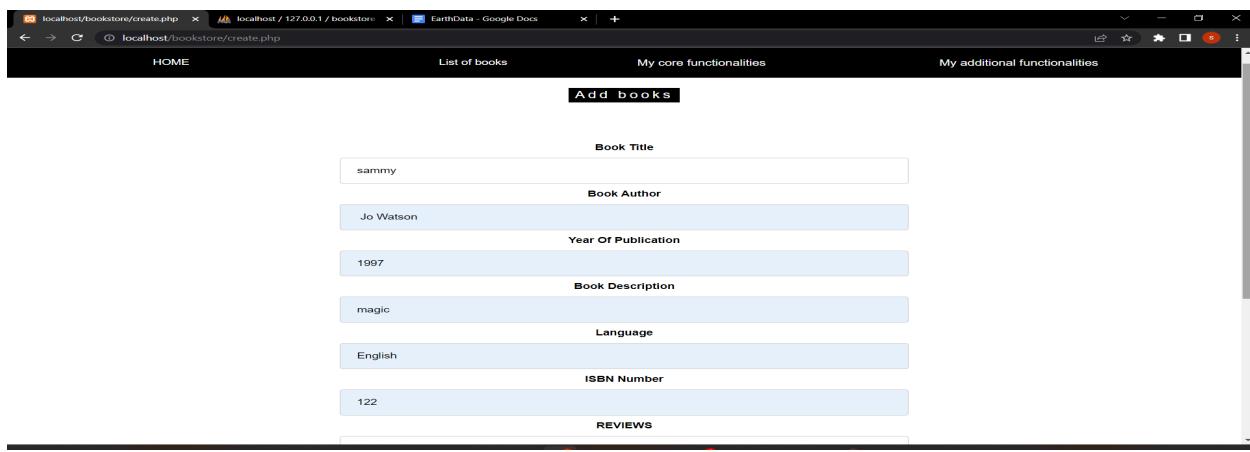
include_once 'db.php';

$result = mysqli_query($conn,"SELECT * FROM book");

?>
```

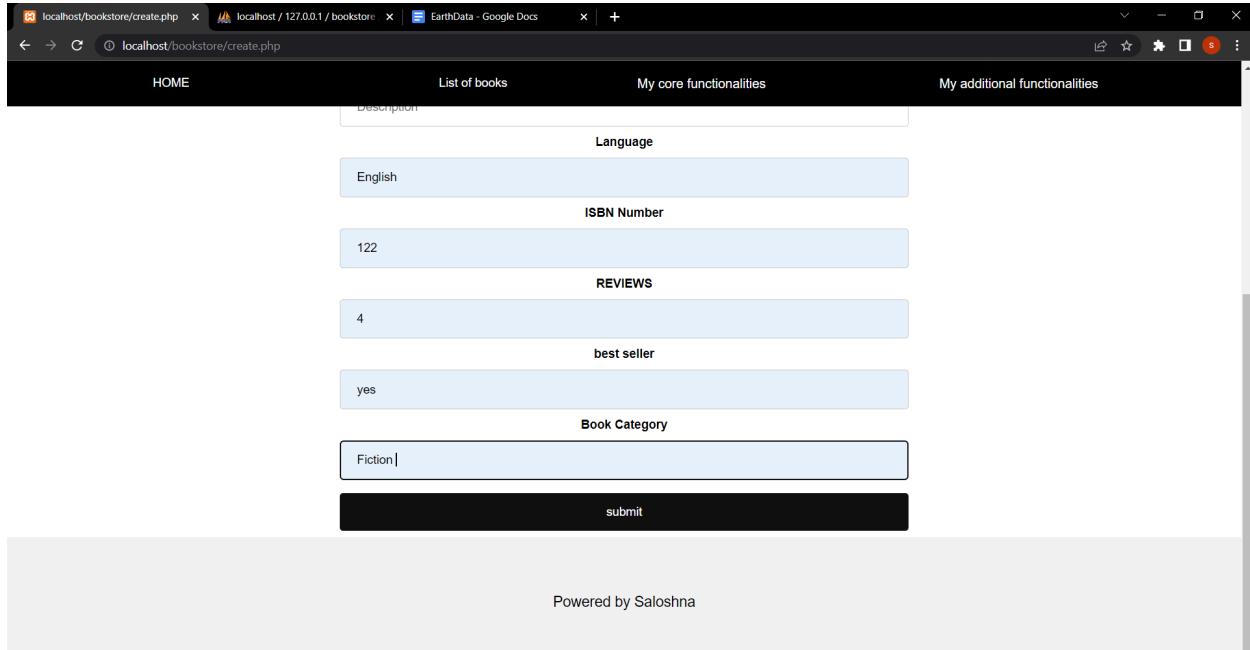
Add book functionality

To implement this functionality, we have created a [create.php](#) file. We created a form using HTML and CSS in this file.



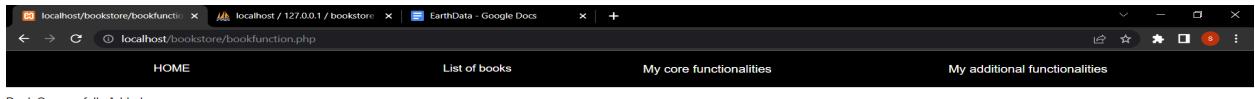
The screenshot shows a browser window with the URL localhost/bookstore/create.php. The page has a dark header with tabs for "HOME", "List of books", "My core functionalities", and "My additional functionalities". A "Add books" button is at the top. Below it is a form with the following fields:

- Book Title: sammy
- Book Author: Jo Watson
- Year Of Publication: 1997
- Book Description: magic
- Language: English
- ISBN Number: 122
- REVIEWS: (empty)



The screenshot shows the same browser window after the form has been submitted. The fields are mostly empty except for the "Book Category" field, which contains "Fiction". A "submit" button is at the bottom. At the bottom of the page, there is a footer with the text "Powered by Saloshna".

After submitting the form, we are redirected to another page [bookfuction.php](#)

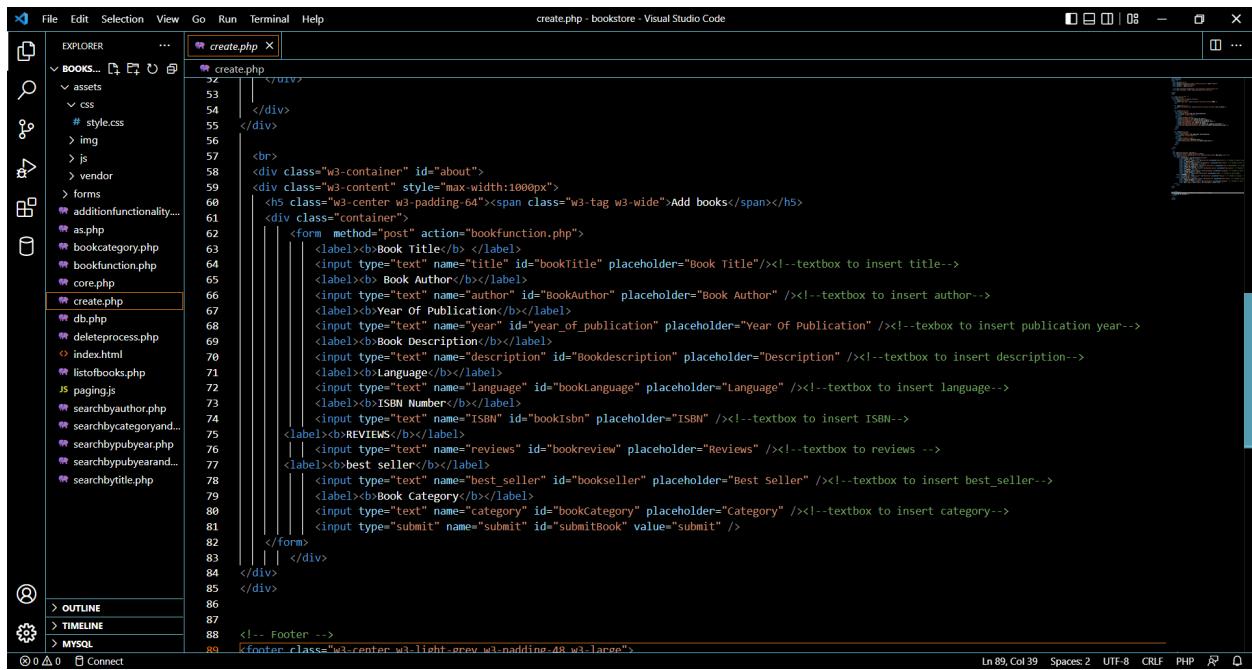


After adding the new book, our table is updated as well

HOME		List of books		My core functionalities			My additional functionalities		
16	Luckiest Girl Alive	Jessica Knoll	2015	reinvent herself in her adult life, following a series of horrifying events during her teenage years.	68988	English	3	yes	Mystery
17	Half Way To The Grave	Jeaniene Frost	2007	Half-vampire Catherine Crawfield is going after the undead with a vengeance.	786565	English	4	yes	Fantasy
18	Big Boned	Jo Watson	2021	A story of body-positivity and self-love, perfect for fans of Dumplin' and The Upside of Unrequited.	799000	English	3	yes	Fiction
24	C	J. K. Rowling	1997	magic	999	English	5	yes	Fiction
25	sammy	Jo Watson	1997	magic	122	English	5	yes	fiction

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Implementation of add book



```
<?php
// Book Title
// Book Author
// Year Of Publication
// Book Description
// Book Language
// ISBN Number
// REVIEWS
// Book Category
// Best Seller
// Category
// Submit Book
// Footer
// Header
```

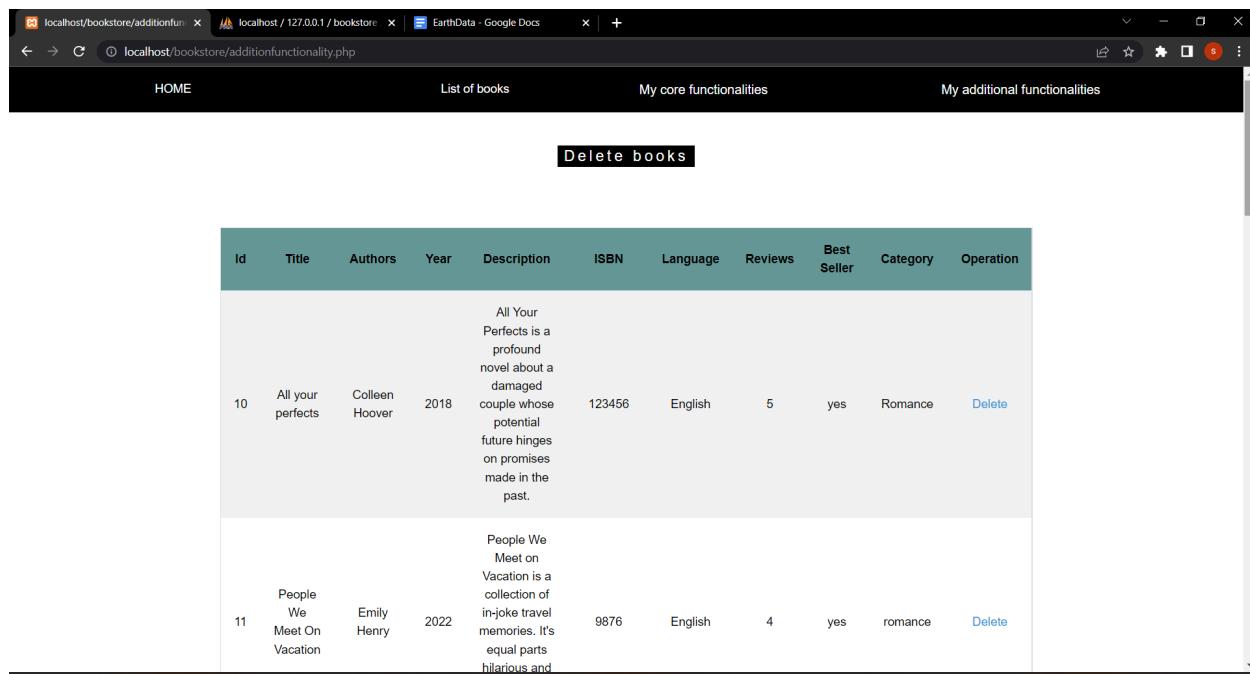
The screenshot shows the Visual Studio Code interface with the 'create.php' file open. The code implements a form for adding a book, linking to 'bookfunction.php'. The code includes fields for title, author, year, description, language, ISBN, reviews, category, and best seller status.

To implement this functionality, we have linked our [bookfunction.php](#) file as well

```
<form method="post" action="bookfunction.php">
```

Delete book functionality

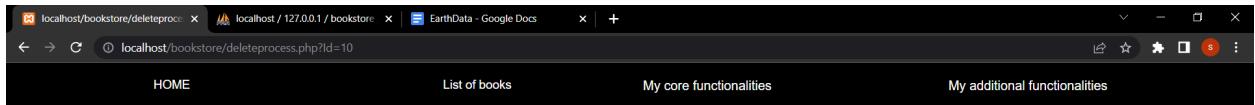
To implement our final additional functionality, firstly, we have created an [additionfunctionality.php](#) file. In the file, we have created our delete table. Then we made another PHP file [deleteprocess.php](#) which contains the code to delete data from the table. To delete the data from the table, we link our [deleteprocess.php](#) to our [additionfunctionality.php](#).



The screenshot shows a web browser window with the URL localhost/bookstore/additionfunctionality.php. The page title is "List of books". The content area displays a table of books with the following data:

ID	Title	Authors	Year	Description	ISBN	Language	Reviews	Best Seller	Category	Operation
10	All your perfects	Colleen Hoover	2018	All Your Perfects is a profound novel about a damaged couple whose potential future hinges on promises made in the past.	123456	English	5	yes	Romance	Delete
11	People We Meet On Vacation	Emily Henry	2022	People We Meet on Vacation is a collection of in-joke travel memories. It's equal parts hilarious and	9876	English	4	yes	romance	Delete

Here is our delete table, upon clicking the delete button, the selected record is deleted.

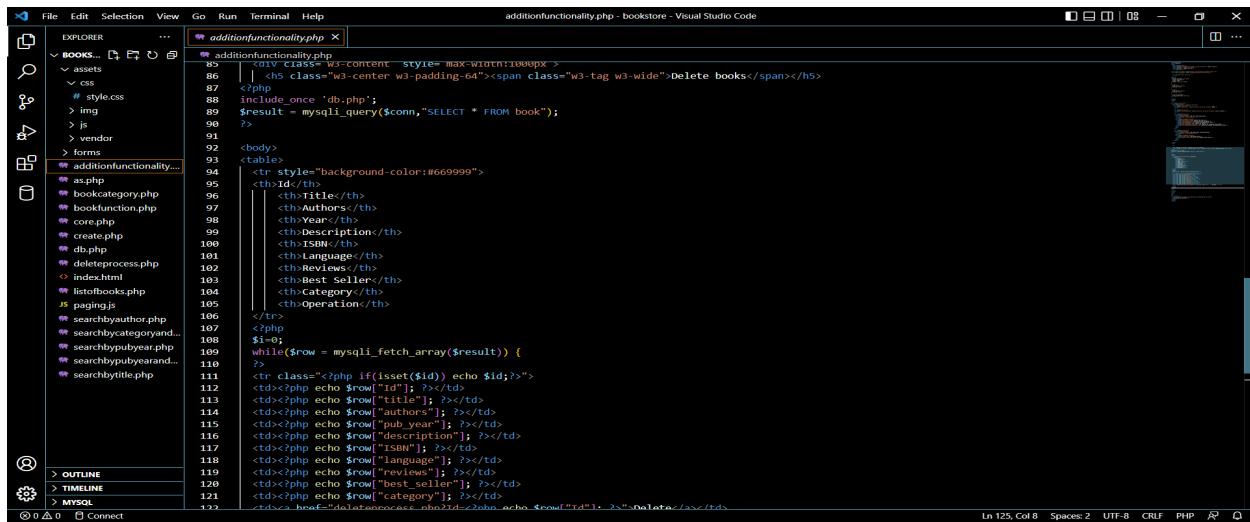


After deleting, we will be redirected to a page like this and the table will be updated as well.

A screenshot of a web browser window showing a table of books. The table has columns: Id, Title, Authors, Year, Description, ISBN, Language, Reviews, Best Seller, and Category. The table contains three rows of data.

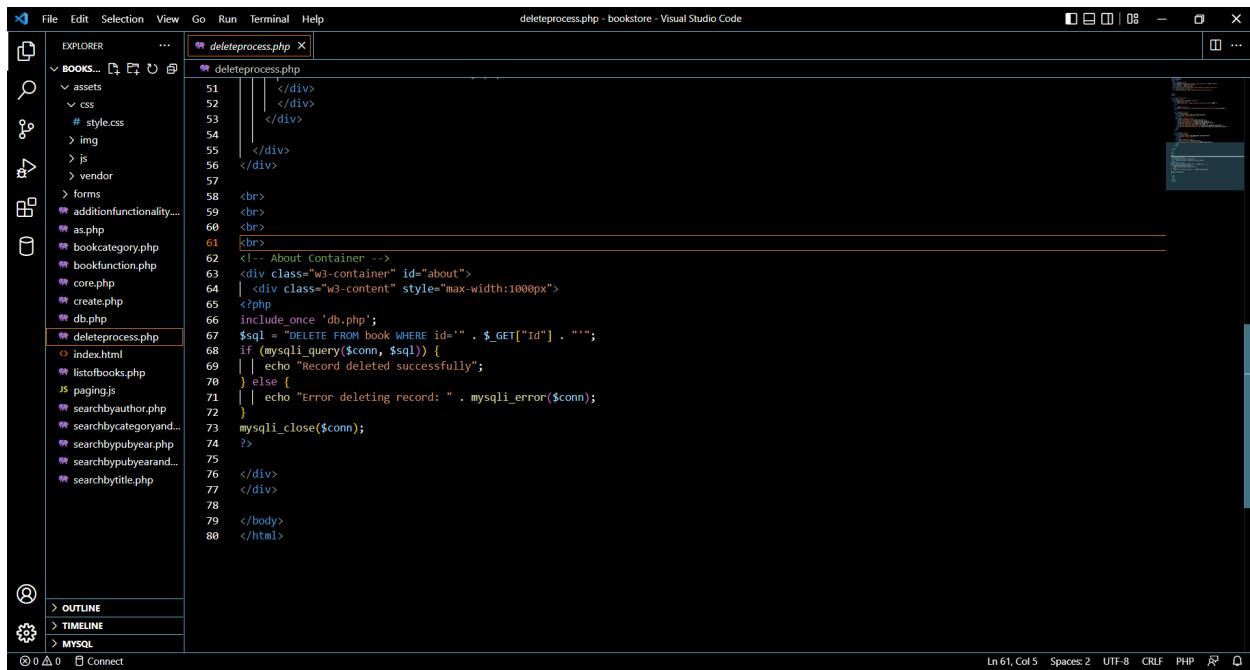
ID	Title	Authors	Year	Description	ISBN	Language	Reviews	Best Seller	Category
11	People We Meet on Vacation	Emily Henry	2022	People We Meet on Vacation is a collection of in-joke travel memories. It's equal parts hilarious and shockingly tender.	9876	English	4	yes	romance
12	Nura And The Immortal Palace	M.T.Khan	2022	Nura and The Immortal Palace is a heartwarming story about friendship, magic, and child poverty and labor.	3487483	English	4	yes	Fiction
13	Ordinary Grace	William Kent Krueger	2013	Ordinary Grace is about a boy standing at the door of his young manhood, trying to understand a world that seems to be falling apart around him.	4777654	English	4	no	Young adult

Implementation of delete book



The screenshot shows the Visual Studio Code interface with the file `additionfunctionality.php` open. The code implements a table-based view for displaying books. It includes a header section with a title and a table with columns for Title, Authors, Year, Description, ISBN, Language, and Best Seller. The table rows are populated using a while loop that fetches data from a MySQL database using `mysqli_fetch_array`. The code uses PHP's echo statement to output the table rows.

```
<div class="w3-content" style="max-width:1000px">
    <h5 class="w3-center w3-padding-64">Delete books</span></h5>
    <?php
        include_once 'db.php';
        $result = mysqli_query($conn, "SELECT * FROM book");
    ?>
    <table>
        <tr style="background-color:#669999">
            <th></th>
            <th>Title</th>
            <th>Authors</th>
            <th>Year</th>
            <th>Description</th>
            <th>ISBN</th>
            <th>Language</th>
            <th>Best Seller</th>
            <th>Category</th>
            <th>Operation</th>
        </tr>
        <?php
            $i=0;
            while($row = mysqli_fetch_array($result)) {
                <tr class="<?php if($i%2==0) echo "#cccccc"; ?>">
                    <td><?php echo $row["id"]; ?></td>
                    <td><?php echo $row["title"]; ?></td>
                    <td><?php echo $row["authors"]; ?></td>
                    <td><?php echo $row["pub_year"]; ?></td>
                    <td><?php echo $row["description"]; ?></td>
                    <td><?php echo $row["isbn"]; ?></td>
                    <td><?php echo $row["language"]; ?></td>
                    <td><?php echo $row["reviews"]; ?></td>
                    <td><?php echo $row["best_seller"]; ?></td>
                    <td><?php echo $row["category"]; ?></td>
                </tr>
            <?php
                $i++;
            }
        </table>
        <a href="AddFunctionality.php?Id=><?php echo $row["id"]; ?>">Delete</a>
    </div>
```



The screenshot shows the Visual Studio Code interface with the file `deleteprocess.php` open. This script handles the deletion of a book record from the database. It starts by including the database connection file. It then constructs a SQL DELETE query with the ID from the URL. If the query is successful, it outputs a message indicating success; otherwise, it outputs an error message. Finally, it closes the database connection.

```
<!-- About Container -->
<div class="w3-container" id="about">
    <div class="w3-content" style="max-width:1000px">
        <?php
            include_once 'db.php';
            $sql = "DELETE FROM book WHERE id='$_GET[\"Id\"]'";
            if (mysqli_query($conn, $sql)) {
                | | echo "Record deleted successfully";
            } else {
                | | echo "Error deleting record: " . mysqli_error($conn);
            }
            mysqli_close($conn);
        ?>
    </div>
    </div>
</body>
</html>
```

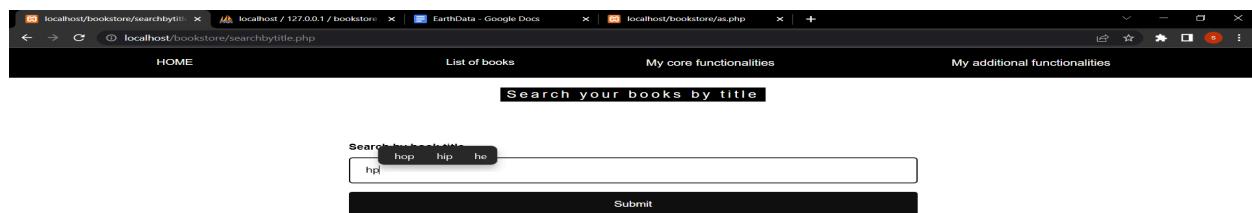
JSON format

Also, we have created an [as.php](#) file which will take data from our database table and output them in a JSON format. To run this file, we must copy its path and paste it into the web browser.

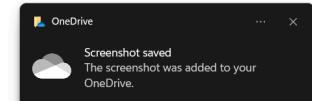
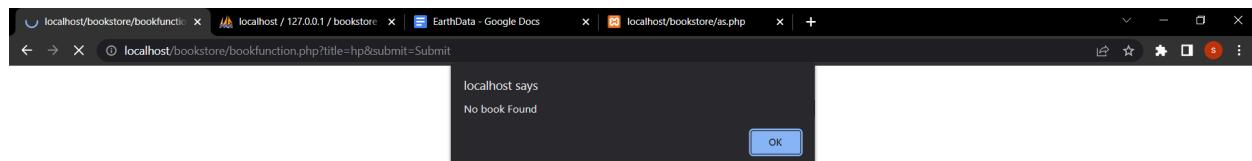


```
[{"id": "11", "title": "People We Meet On Vacation", "authors": "Emily Henry", "pub_year": "2022", "description": "People We Meet on Vacation is a collection of in-joke travel memories. It's equal parts hilarious and shockingly tender.", "language": "English", "ISBN": "98761", "reviews": "4", "best_seller": "yes", "category": "romance"}, {"id": "12", "title": "Nura And The Immortal Palace", "authors": "M.T.Khan", "pub_year": "2022", "description": "Nura and The Immortal Palace is a heartwarming story about friendship, magic, and child poverty and labor.", "language": "English", "ISBN": "3487483", "reviews": "4", "best_seller": "yes", "category": "Fiction"}, {"id": "13", "title": "Ordinary Grace", "authors": "William Kent Krueger", "pub_year": "2013", "description": "Ordinary Grace is about a boy standing at the door of his young manhood, trying to understand a world that seems to be falling apart around him."}, {"language": "English", "ISBN": "4777654", "reviews": "4", "best_seller": "no", "category": "Young adult"}, {"id": "14", "title": "Life Of Pi", "authors": "Yann Martel", "pub_year": "2001", "description": "Life of Pi is about the protagonist, a Tamil boy from Pondicherry, who explores issues of spirituality and practicality from an early age."}, {"language": "English", "ISBN": "76454444", "reviews": "3", "best_seller": "yes", "category": "Adventure"}, {"id": "15", "title": "A Tales Of Two Cities", "authors": "Charles Dickens", "pub_year": "1859", "description": "The novel tells the story of the French Doctor Manette, his 18-year-long imprisonment in the Bastille in Paris, and his release to live in London with his daughter Lucie whom he had never met."}, {"language": "English", "ISBN": "7900000", "reviews": "3", "best_seller": "yes", "category": "Historical"}, {"id": "16", "title": "Luckiest Girl Alive", "authors": "Jessica Knoll", "pub_year": "2015", "description": "The novel follows a young woman who has sought to reinvent herself in her adult life, following a series of horrifying events during her teenage years."}, {"language": "English", "ISBN": "68988", "reviews": "3", "best_seller": "yes", "category": "Mystery"}, {"id": "17", "title": "Half Way To The Grave", "authors": "Jeaniene Frost", "pub_year": "2007", "description": "Half-vampire Catherine Cravath is going after the undead with a vengeance."}, {"language": "English", "ISBN": "786565", "reviews": "4", "best_seller": "yes", "category": "Fantasy"}, {"id": "18", "title": "Big Boned", "authors": "Jo Watson", "pub_year": "2021", "description": "A story of body-positivity and self-love, perfect for fans of Dumplin' and The Upside of Unrequited."}, {"language": "English", "ISBN": "799000", "reviews": "3", "best_seller": "yes", "category": "Fiction"}, {"id": "24", "title": "C", "authors": "J. K. Rowling", "pub_year": "1997", "description": "description"}, {"language": "English", "ISBN": "999", "reviews": "5", "best_seller": "yes", "category": "Fiction"}, {"id": "25", "title": "Sammy", "authors": "Jo Watson", "pub_year": "1997", "description": "magic"}, {"language": "English", "ISBN": "122", "reviews": "5", "best_seller": "yes", "category": "fiction"}]
```

Testing



Here we have input a title that is not present in our database table



Here we have submitted an empty form

localhost/bookstore/create.php

localhost / 127.0.0.1 / bookstore

EarthData - Google Docs

localhost/bookstore/as.php

localhost/bookstore/create.php

HOME List of books My core functionalities My additional functionalities

Book Description

Description

Language

ISBN Number

ISBN

REVIEWS

Reviews

best seller

Best Seller

Book Category

Category

submit

Powered by Saloshna

localhost/bookstore/bookfunction.php

localhost / 127.0.0.1 / bookstore

EarthData - Google Docs

localhost/bookstore/as.php

localhost/bookstore/bookfunction.php

HOME List of books My core functionalities My additional functionalities

No Book Added



It displays a message indicating that no book has been added when the form is submitted without any information

Conclusion

We successfully developed the 'bookstore' web application, implementing all essential functionalities.