***Countries Portal***

***Documentation***

For the solution in the index.php I load the data from the countries table in the database. This is done by using the class CountryDB which has the name, localhost, password and user fields which are mandatory for making a connection to the database. Everytime an instance of the CountryDB class is made, a connection to the database is made also, beacause of invoking the constructor. Then I use the methods written in the CountryDB and in the mysqli class, because CountryDB extends it so all functionalities could be used.

The database name is countriescities. It consists of two tables : countries, cities  
  
**countries** table:

id - INT NOT NULL AUTO INCREMENT PRIMARY KEY

name - VARCHAR NOT NULL

cities table:

id - INT NOT NULL AUTO INCREMENT PRIMARY KEY

name - VARCHAR NOT NULL

countryID - INT NOT NULL FOREIGN KEY REFERENCES countries( id )

population - INT NOT NULL

CODE:

**db.php** - the file that contains all of the methods used in the project:

public static function getInstance()

public function \_\_clone()

public function \_\_wakeup()

public function \_\_construct()

public function get\_all\_countries() - *SELECT query for extracting all data from countries table sorted in ASCENDING order by their name*

public function get\_all\_cities\_by\_countryID($countryID) *- SELECT query for extracting all data from cities table for a given criteria and sorted in DESCENDING order by population*

public function add\_city($name,$countryID,$population) - *INSERT INTO query for adding a record to the cities table*

public function check\_if\_city\_exists($name,$countryID,$population) - *boolean function that SELECT query for taking the record with given parameters from the database and then checks it's row number if it is 0 then there is no such city*

<?php

// CountryDB is a class which consists all functions that are used

class CountryDB extends mysqli{

private static $instance=null;

private $user="root";

private $pass="";

private $dbName="countriescities";

private $dbHost="localhost";

public static function getInstance(){

if(!self::$instance instanceof self){

self::$instance=new self;

}

return self::$instance;

}

public function \_\_clone() {

trigger\_error('Clone is not allowed',E\_USER\_ERROR);

}

public function \_\_wakeup() {

trigger\_error('Deserializing is not allowed',E\_USER\_ERROR);

}

public function \_\_construct() {

parent::\_\_construct($this->dbHost,$this->user,$this->pass,$this->dbName);

if(mysqli\_connect\_error()){

exit('Connect error ('. mysqli\_connect\_errno()) .')'.mysqli\_connect\_error();

}

parent::set\_charset('utf-8');

}

//SELECT query for extracting all data from countries table sorted in ASCENDING order by their name

public function get\_all\_countries(){

$query="SELECT \* FROM Countries ORDER BY name ASC";

return $this->query($query);

}

//SELECT query for extracting all data from cities table for a given criteria and sorted in DESCENDING order by population

public function get\_all\_cities\_by\_countryID($countryID){

$query="SELECT \* FROM Cities WHERE countryID='".$countryID."'ORDER BY population DESC";

return $this->query($query);

}

//INSERT INTO query for adding a record to the cities table

public function add\_city($name,$countryID,$population){

$name= $this->real\_escape\_string($name);

$population= $this->real\_escape\_string($population);

$query="INSERT INTO cities (name,countryID,population)".

"VALUES ('".$name."',".$countryID.",".$population.")";

$this->query($query);

}

//boolean function that SELECT query for taking the record with given parameters from the database

//and then checks it's row number if it is 0 then there is no such city

public function check\_if\_city\_exists($name,$countryID,$population){

$name= $this->real\_escape\_string($name);

$population= $this->real\_escape\_string($population);

$query="SELECT \* FROM cities WHERE name='".$name."' AND countryID=".$countryID." AND population=".$population;

$result= $this->query($query);

$num= mysqli\_num\_rows($result);

if($num<1){

return false;

}

return true;

}

//DELETE query for deleting a row in the cities table by given countryID

public function delete\_city($cityID){

$sqlQuery="DELETE FROM cities WHERE id = ".$cityID;

$this->query($sqlQuery);

}

}

?>

**index.php** - the file that contains the main page of the project

<?php require\_once ("./includes/db.php");?>

<html>

<head>

<style>

table {

border-collapse: collapse;

align:center;

width: 30%;

margin-left:auto;

margin-right:auto

}

th, td {

padding: 5px;

text-align: center;

border-bottom: 1px solid #ddd;

}

tr:hover{background-color:#f5f5f5}

</style>

<meta charset="UTF-8">

<title></title>

</head>

<body>

<table border="black">

<th>Country</th>

<th>Cities</th>

<?php

$result= CountryDB::getInstance()->get\_all\_countries();

while($row = mysqli\_fetch\_array($result)):

$countryID=$row['id'];

echo "<tr><td>".$row['name']."</td>";

?>

<td>

<form name="viewCities" action="viewCities.php" method="GET">

<input type="hidden" name="countryID" value="<?php echo $countryID; ?>">

<input type="submit" name="viewCities" value="View Cities">

</form>

</td>

<?php

echo "</tr>\n";

endwhile;

mysqli\_free\_result($result);

?>

<tr><td colspan="2"><form name="addCity" action="addCity.php" method="GET" >

<input type="submit" name="addCity" value="Add City">

</form></td></tr>

</table>

</body>

</html>

**viewCities.php** - the file that displays all of the cities for the given country

<?php

//reference to the db.php so all of the functions could be used

require\_once ("./includes/db.php");

?>

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<?php

//getting countryID from the form that is in index.php

$countryID=$\_GET['countryID'];

//getting all cities which are connected to the given country

$citiesResult= CountryDB::getInstance()-> get\_all\_cities\_by\_countryID($countryID);

//checking if the query has rows. If $num has value 0 then there are no cities connected to the country

$num= mysqli\_num\_rows($citiesResult);

if($num<1){

//Output to tell the user that there are no cities from this country

echo "<tr><td colspan=2>No cities added</td></tr>";

}

else{

//extracting the cities for the given country and storing them in a table

echo "<tr><th>City</th><th>Population</th></tr>";

while($row= mysqli\_fetch\_array($citiesResult)):

echo "<tr><td>".$row['name']."</td>";

echo "<td>".$row['population']."</td>";

?>

<?php

echo "</tr>";

endwhile;

}

mysqli\_free\_result($citiesResult);

?>

<tr><td colspan="2">

<form name="backToMainPage" action="index.php">

<input type="submit" value="Back To Main Page"/>

</form>

</td></tr>

</table>

</body>

</html>

**addCity.php** - the file that contains the form for adding a city in the database

<?php

require\_once ("./includes/db.php");

$cityIsEmpty=false;

$countryIsEmpty=false;

$populationIsEmpty=false;

$existSuchCity=false;

if($\_SERVER['REQUEST\_METHOD']=="POST"){

//check if city filed in the form is empty

if($\_POST['city']==""){

$cityIsEmpty=true;

}

//check if country filed in the form is empty

if($\_POST['country']==""){

$countryIsEmpty=true;

}

//check if population filed in the form is empty

if($\_POST['population']==""){

$populationIsEmpty=true;

}

//if all fields in the form are filled we should proceed to the next check before adding the record to the databse

if(!$cityIsEmpty && !$countryIsEmpty && !$populationIsEmpty){

$city=$\_POST['city'];

$country=$\_POST['country'];

$population=$\_POST['population'];

//boolean variable for checking the existence of city with given parameters

$existSuchCity=CountryDB::getInstance()->check\_if\_city\_exists($city,$country,$population);

//add the city to the database and return back to the main page(index.php) if the boolean has value FALSE

if(!$existSuchCity){

CountryDB::getInstance()->add\_city($city,$country,$population);

header('Location: index.php');

exit;

}

}

}

?>

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</head>

<body><table>

<form name="addCity" action="addCity.php" method="POST">

<tr>

<td>City:</td> <td><input type="text" name="city" value="">

<?php

//notifying the user that he did not enter text in the city field

if($cityIsEmpty)

echo "Please enter City";

?>

</td>

</tr>

<tr>

<td>Country:</td> <td><select name="country">

<option value="">Select country</option>

<?php

//getting the countries data with a SELECT query

$countriesResult= CountryDB::getInstance()->get\_all\_countries();

//getting one record from the above SELECT query and proceeding it's values to the variables

while($row = mysqli\_fetch\_array($countriesResult)):

$countryID=$row['id'];

$countryName=$row['name'];

?>

<option value="<?php echo $countryID;?>"><?php echo $countryName ;?></option>

<?php

endwhile;

?>

</select>

<?php

//notifying the user that he did not select any of the given values from the dropdown menu

if($countryIsEmpty)

echo "Please select Country";

?>

</td>

</tr>

<tr>

<td>Population:</td> <td><input type="text" name="population" value="">

<?php

//notifying the user that he did not enter text in the population field

if($populationIsEmpty)

echo "Please enter Population";

?>

</td>

</tr>

<tr>

<td colspan="2"><input type="submit" name="addCity" value="Add City">

</td>

</tr>

<?php

//notifying the user that he there is an existing city with the given parameters

if($existSuchCity){

echo "<tr><td colspan=2>This city exist</td></tr>";

}

?>

</form>

</table>

<table>

<tr>

<td>

<form name="back" action="index.php">

<input type="submit" value="Main page">

</form>

</td>

</tr>

</table>

</body>

</html>