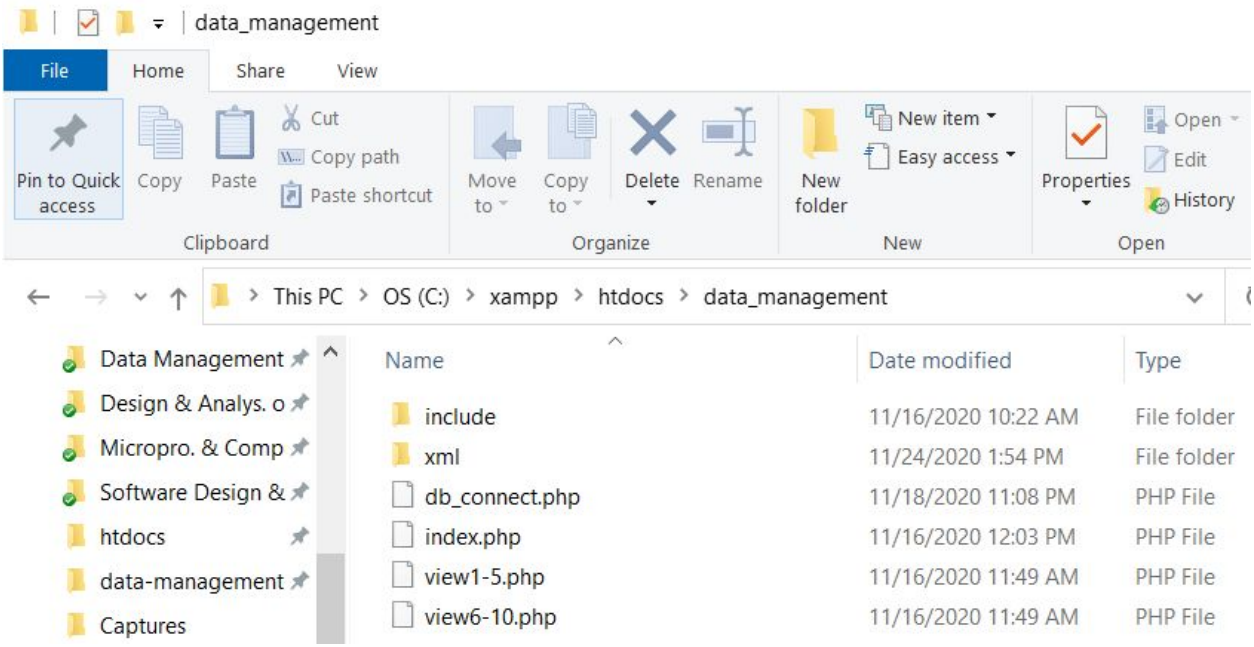
PHP and SQL

To begin, download and extract the “project_data.zip” folder.

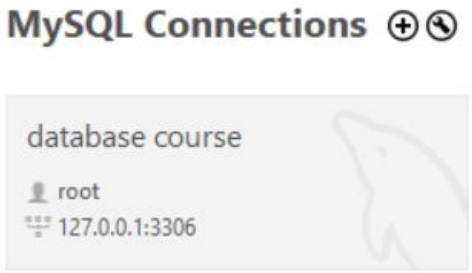
Navigating out of the db folder, we can see the php files used for the web implementation. To run these files, turn on xampp server, MySQL server, and move the php files to your xampp www directory.

To view the website, open up Google Chrome and type
http://localhost/[FOLDER_NAME]/index.php

[FOLDER_NAME] is the name of the folder inside the www folder where the php files are stored, in this case we have chosen “data_management”



To successfully establish connection between php and MySQL, make sure that the correct address is used(127.0.0.1:3306), also filled with the correct username, password and the desired schema. In this case is “homework_share”.



db_connect.php | index.php | view1-5.php | view6-10.php

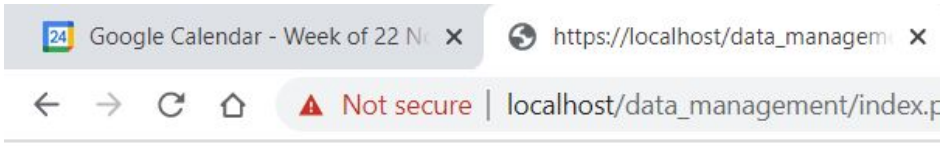
```php
<?php

$dbServername = "127.0.0.1:3306";
$dbUsername = "root";
$dbPassword = "root";
$dbName = "homework_share";

$conn = mysqli_connect($dbServername,$dbUsername,$dbPassword,$dbName);
if (!$conn) {
    die('Could not connect: ' . mysqli_error());
print "success";

?>
```

We want to start in index.php, which shows the content of the database in table format. It established a connection with the MySQL Workbench, and fetched the result by sending sql queries. Thus, the link would be http://localhost/data_management/index.php .Here, we can see the contents of the data in table format, as well as a title.



hi there, ready for project?

main tables

schools

School_no	School_name
1	UOIT
2	UofT
3	UBC
4	Mac
5	Queen
6	Western

students

Id	Fname	Lname	School_no
101	Ana	Lincoln	3
102	Antonio	Wang	2
103	Thomas	Devon	5
104	Christina	Cruz	1
105	Hanna	Rodriguez	6
106	Yang	Pontes	3

tutor

Tutor_id	Name	Rate	Company
201	Janete Limeira	15	Aplus
202	Hari Kumar	12	Aplus
203	Palle Ibsen	16	Excellent
204	Paul Henriot	15	Easypass
205	Liu Wong	13	Easypass

To navigate to the other views, scroll to the bottom of the index.php page and select the appropriate link at the bottom.

6	103	Physics

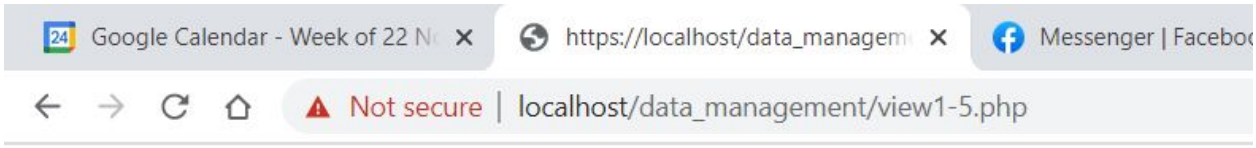
works_on

Tutor_id	Question_id	Hours
201	3	3
202	1	4
202	2	2
205	4	3
205	5	2
206	6	2

View 1 to 5

View 6 to 10

View 1 to 5 displays the first 5 views:



View 1:List all tutors who has a job, the question_id they work on, and the income.

Name	Question_id	Rate * Hours
Janete Limeira	3	45
Hari Kumar	1	48
Hari Kumar	2	24
Liu Wong	4	39
Liu Wong	5	26
Matti Karttunen	6	28

View 2:List the tutor's name and rate who earn more than any tutor who is from Easypass company.

Name	Rate
Janete Limeira	15
Palle Ibsen	16
Paul Henriot	15
Matti Karttunen	14

View 3:List students who asked questions on Calculus.

Id	Fname	Lname	School_no	Question_id	Stu_id	Subject
101	Ana	Lincoln	3	1	101	Calculus
105	Hanna	Rodriguez	6	5	105	Calculus

View 4:Show all correlation between students and school names..

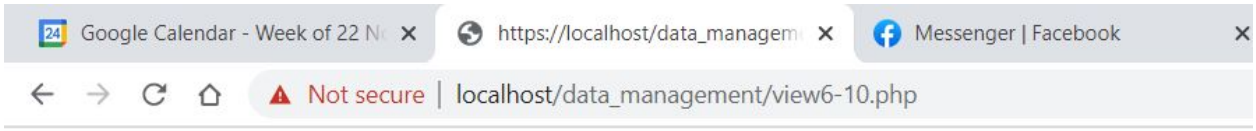
Fname	Lname	School_name
Ana	Lincoln	UBC
Antonio	Wang	UofT
Thomas	Devon	Queen
Christina	Cruz	UOIT
Hanna	Rodriguez	Western
Yang	Pontes	UBC
		Mac

View 5:List students who either attend Western, or asked questions on Chemistry.

Fname	Lname
Hanna	Rodriguez
Christina	Cruz

Back to main

View 6-10 displays views 6 through 10:



View 6: statistical analysis on tutor's rate.

sum(rate)	max(rate)	min(rate)	avg(rate)
85	16	12	14.1667

View 7: list the number of tutor comes from each company

count	Company
2	Aplus
1	Excellent
3	Easypass

View 8: list the number of students from each school

count	School_name
1	UOIT
1	UofT
2	UBC
1	Queen
1	Western

View 9: list the students who are not from UOIT

Id	Fname	Lname	School_no
101	Ana	Lincoln	3
102	Antonio	Wang	2
103	Thomas	Devon	5
105	Hanna	Rodriguez	6
106	Yang	Pontes	3

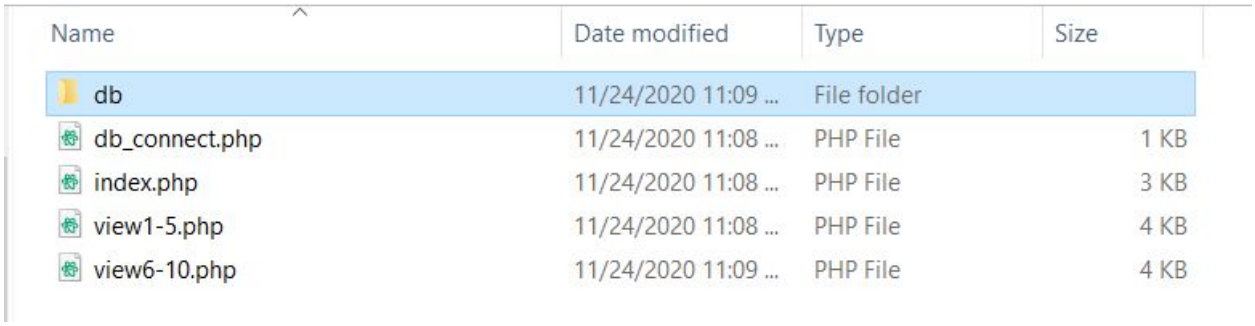
View 10: list the students who hasn't asked questions.

Fname	Lname
Yang	Pontes

Back to main

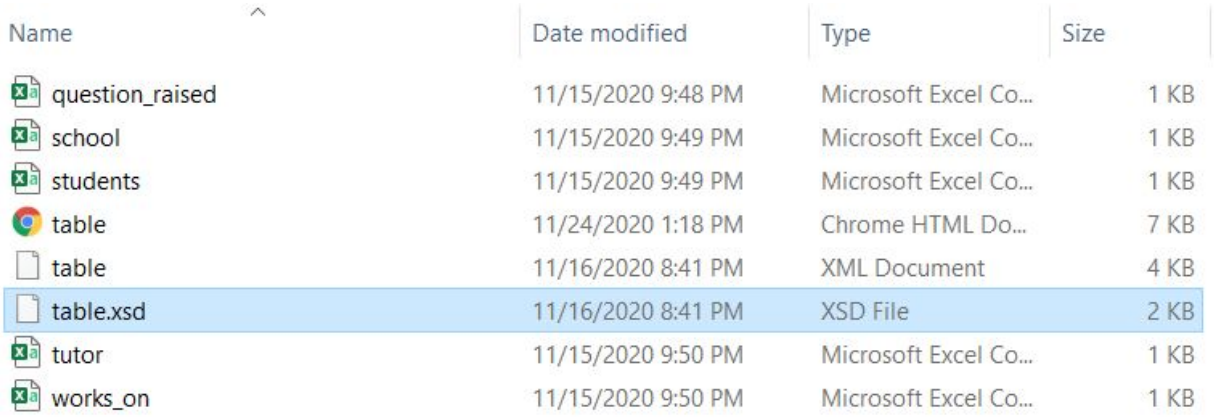
XML

Upon opening the extracted folder, you should see this directory:



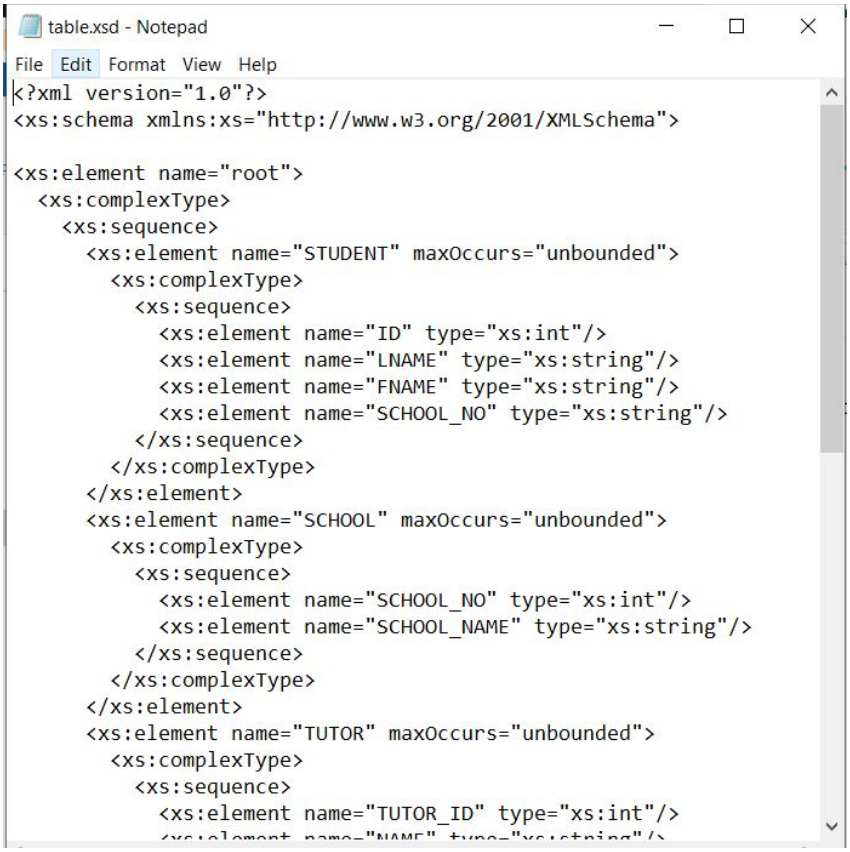
Name	Date modified	Type	Size
db	11/24/2020 11:09 ...	File folder	
db_connect.php	11/24/2020 11:08 ...	PHP File	1 KB
index.php	11/24/2020 11:08 ...	PHP File	3 KB
view1-5.php	11/24/2020 11:08 ...	PHP File	4 KB
view6-10.php	11/24/2020 11:09 ...	PHP File	4 KB

Navigate into the highlighted db folder, and open the highlighted table.xsd file using your desired text editor (ie. notepad) to view the relational schema.



Name	Date modified	Type	Size
question_raised	11/15/2020 9:48 PM	Microsoft Excel Co...	1 KB
school	11/15/2020 9:49 PM	Microsoft Excel Co...	1 KB
students	11/15/2020 9:49 PM	Microsoft Excel Co...	1 KB
table	11/24/2020 1:18 PM	Chrome HTML Do...	7 KB
table	11/16/2020 8:41 PM	XML Document	4 KB
table.xsd	11/16/2020 8:41 PM	XSD File	2 KB
tutor	11/15/2020 9:50 PM	Microsoft Excel Co...	1 KB
works_on	11/15/2020 9:50 PM	Microsoft Excel Co...	1 KB

Here, you can see the relational schema used to define the elements of the table.xml file. Later, we will go through the xml and csv files that store the database data.



The csv files in this folder are outputs from the database in MySQL Workbench. You can choose to import this into your own MySQL application for modification, view and further usage.

You can open up any csv file (using your desired viewer, ie. Microsoft Excel) with the same name as a table within the relational schema to see the relevant data in table format, with elements corresponding to the ones in the relational schema.

For example, here are the contents of school.csv. There is a column for School_no and School_name, corresponding to the above schema.

School_no	School_name
1	UOIT
2	UofT
3	UBC
4	Mac
5	Queen
6	Western

The table.xml file can be opened with your desired text editor (ie. Notepad). Here, the data of the database complies to the structure defined in the aforementioned xml file.

table.xml.xml - Notepad

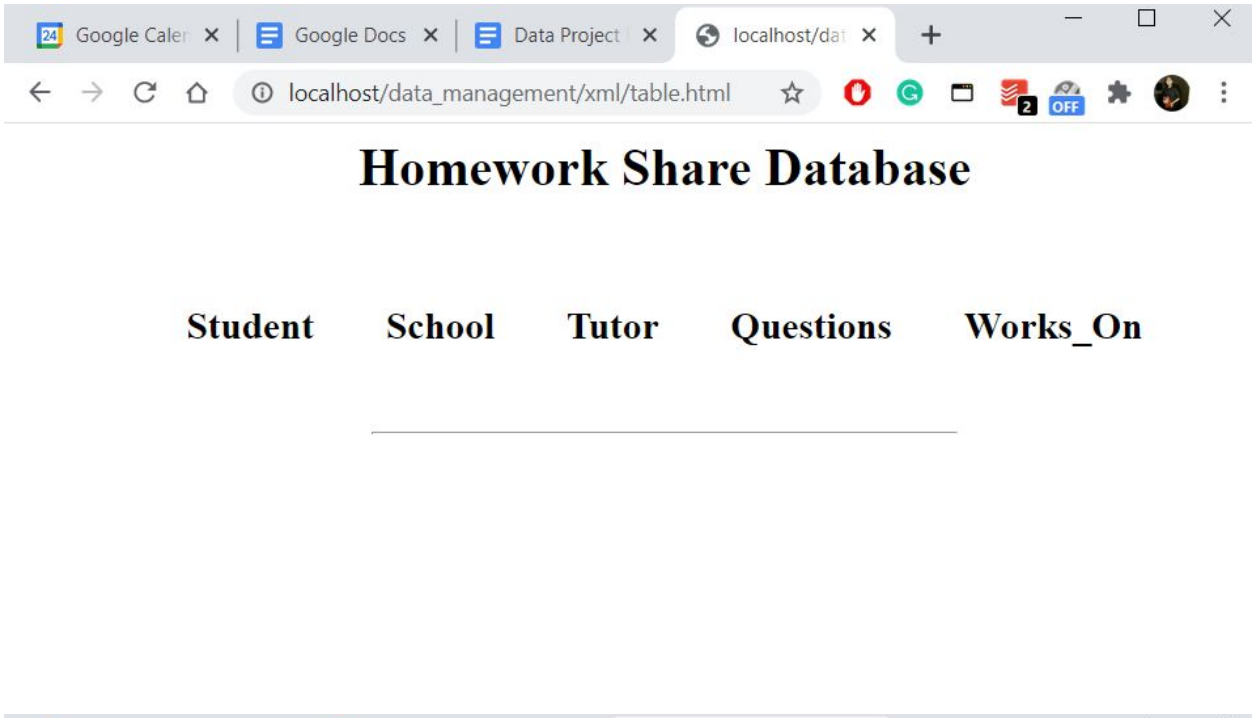
File Edit Format View Help

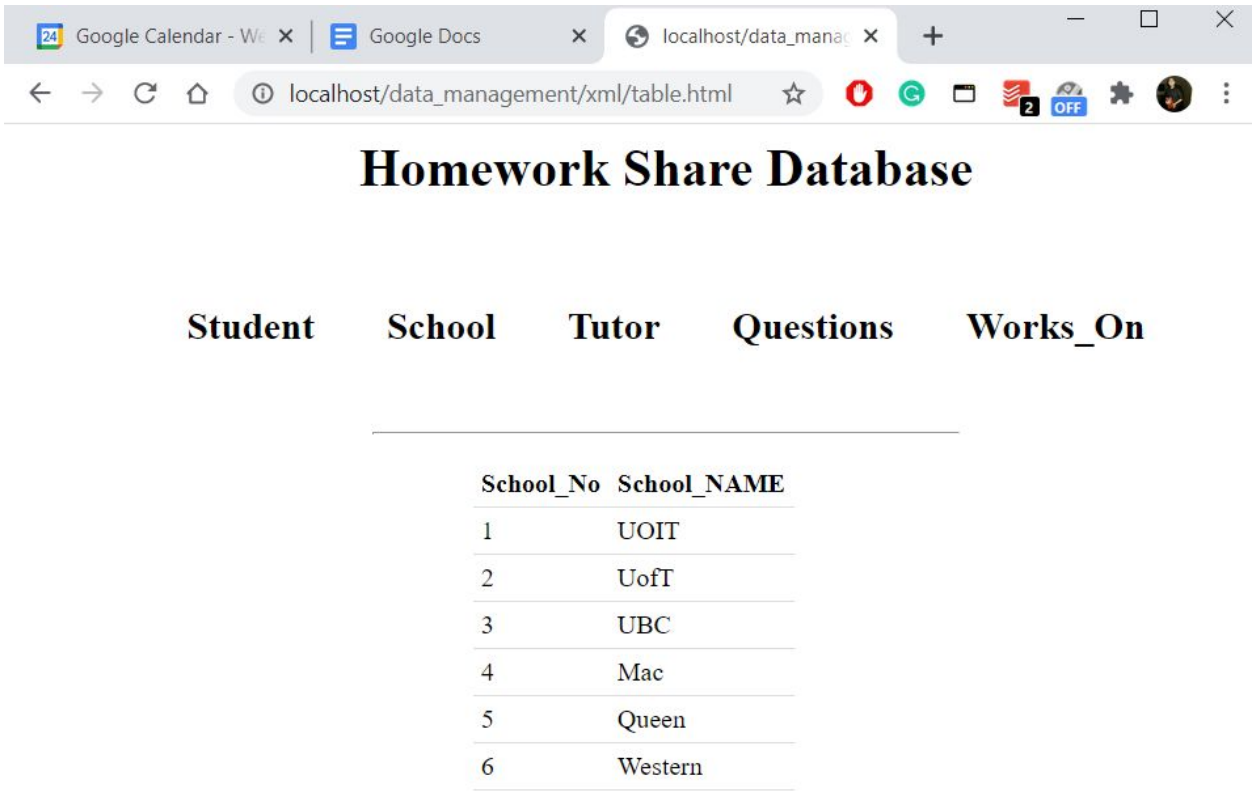
```
<?xml version="1.0" encoding="UTF-8"?>
<root
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="/table.xsd">
  <STUDENT>
    <ID>101</ID>
    <FNAME>Ana</FNAME>
    <LNAME>Lincole</LNAME>
    <SCHOOL_NO>3</SCHOOL_NO>
  </STUDENT>
  <STUDENT>
    <ID>102</ID>
    <FNAME>Antonio</FNAME>
    <LNAME>Wang</LNAME>
    <SCHOOL_NO>2</SCHOOL_NO>
  </STUDENT>
  <STUDENT>
    <ID>103</ID>
    <FNAME>Thomas</FNAME>
    <LNAME>Devon</LNAME>
    <SCHOOL_NO>5</SCHOOL_NO>
  </STUDENT>
  <STUDENT>
    <ID>104</ID>
    <FNAME>Christina</FNAME>
    <LNAME>Cruz</LNAME>
    <SCHOOL_NO>1</SCHOOL_NO>
  </STUDENT>
```

Another web page is created to read data from the xml data file. When loading the table.html on the server, ensure that table.xsd and table.xml are placed in the same directory. We are trying to interact with the data with a different approach from the MySQL and PHP.

table	11/24/2020 1:18 PM	Chrome HTML Do...	7 KB
table	11/16/2020 8:41 PM	XML Document	4 KB
table.xsd	11/16/2020 8:41 PM	XSD File	2 KB

The homepage shows the title of five tables, upon clicking any one, for example, School, a table with populated data appears on the page.





By looking into the html source code, you can find out that here we implement the xml type of data file, instead of MySQL.