



Introduction to Database

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Section: C

Project Name: Udvash HR Management System

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Udvash HR Management System

Introduction:

Udvash, a renowned coaching centre in Bangladesh where they teach many students not only academic lessons but also help in many universities admission tests. In Udvash HR management system, it helps the User of the system to maintain the details of students and teachers. In our project that is UDVASH HR MANAGEMENT SYSTEM was created by the concept of DBMS. So the main purpose of our project is to know about the basic concept of Database Management System and to understand how it is implemented in real life scenarios.

Case Study:

“UDVASH” is a renowned coaching centre. The Users of Udvash wants to create a database to store and manage information about the coaching. The User’s user id, user name, user joining date, user address will be stored in the database. The users has usertype to manage the system of the coaching Centre. The name and contact details (name, address, phone no. etc.) of the users along with their salary will be stored. They will have a unique id no. The users has the user credentials. The information about user credential those are username, user password with the unique Username of the user credentials will be recorded in the database. The users manage the students of the coaching center. They will have a unique id no. Their name, address, phone no., date of birth will be stored. The users manage teachers of the coaching. Teachers will have a unique id no. Their name, phone no, salary will be stored in the database. All the above information will be stored in the database.

ER-Diagram

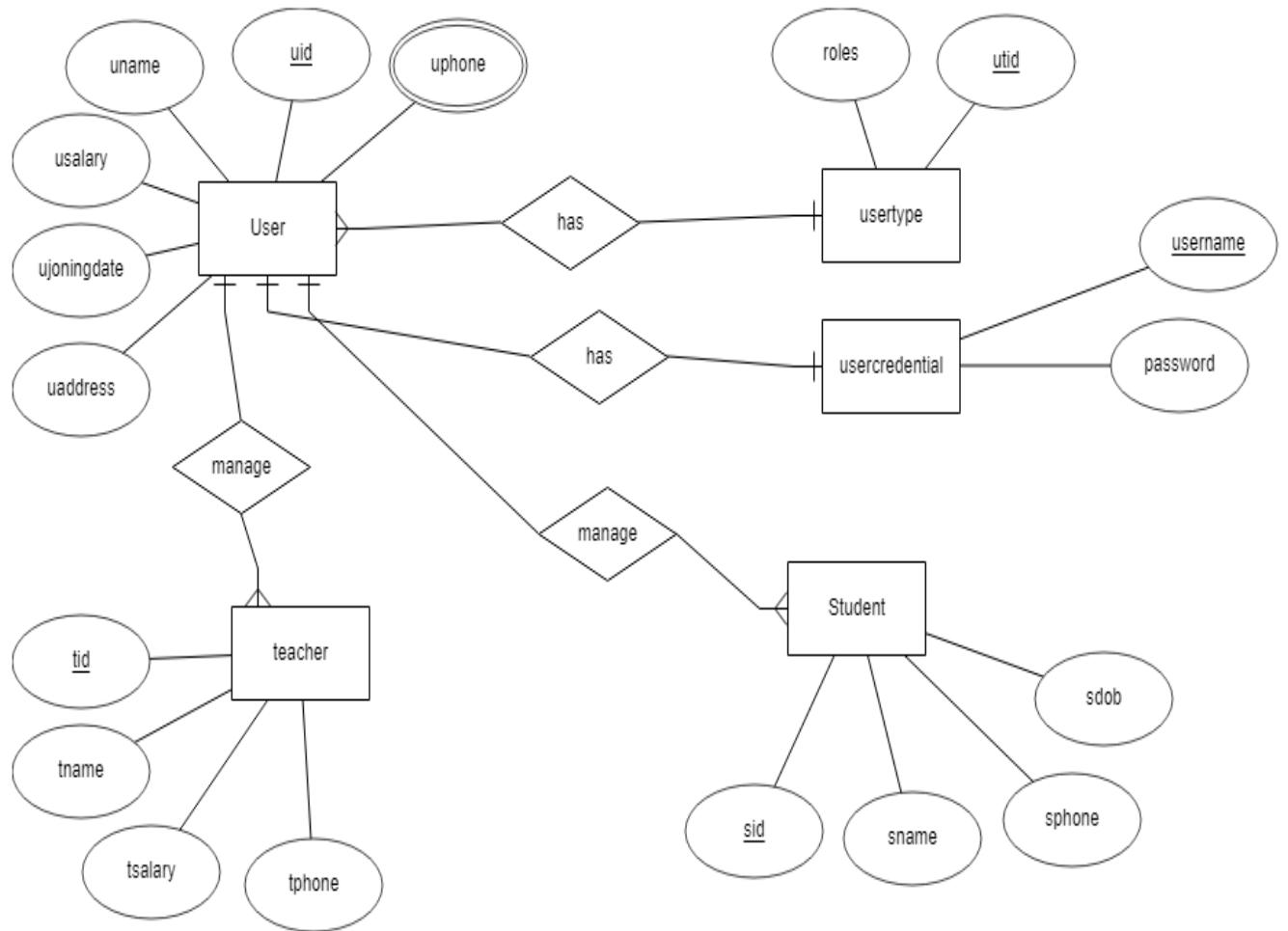


Figure: ER-Diagram of Udvash HR Management System

Normalization:

1NF:

1. UserPhone: uphone,uid
2. User has usertype: (uid , uname, usalary, ujoiningdate, uaddress, uphone, roles, utid)
3. User has usercredential:(uid , uname, usalary, ujoiningdate, uaddress, uphone, username,password)
4. User manage teacher: (uid , uname, usalary, ujoiningdate, uaddress, uphone, tid , tname, tsalary, tphone,)
5. User manage student : (uid , uname, usalary, ujoiningdate, uaddress, uphone, sid , sname, sphone, sdob)

2NF:

1. UserPhone: uphone,uid
2. User: uid , uname, usalary, ujoiningdate, uaddress, utid
3. Usertype: roles, utid
4. Usercredential: username, password, uid
5. teacher: tid , tname, tsalary, tphone, uid
6. student : sid , sname, sphone, sdob, uid

3NF: No transitive dependency. So, 3NF will be same as 2NF.

1. UserPhone: uphone,uid
2. User: uid , uname, usalary, ujoiningdate, uaddress, utid
3. Usertype: roles, utid
4. Usercredential: username, password, uid
5. teacher: tid , tname, tsalary, tphone, uid
6. student : sid , sname, sphone, sdob, uid

FINAL TABLE:

1. **User-Phone** : uphone,uid
2. **User** : uid , uname, usalary, ujoiningdate, uaddress, utid
3. **User-type** : roles, utid
4. **User-credential** : username, password, uid
5. **Teacher Table**: tid , tname, tsalary, tphone, uid
6. **Student Table**: sid , sname, sphone, sdob, uid

TABLE CREATE

1. Usertype:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables. The main area displays the 'usertype' table with the following data:

utid	role
1	Owner
2	CEO
3	Manager
4	employee

Below the table, there are buttons for 'Edit', 'Copy', 'Delete', and 'Export'. The status bar at the bottom indicates the current time as 2:11 PM on 9/6/2020.

2.User:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases (information_schema, mysql, performance_schema, phpmysqladmin, tasnim, test, uhrms) and tables (Tables, New, student, teacher, user, usercredential, userphone, usertype). The 'user' table is selected in the 'uhrms' database. The table structure includes columns: uid, uname, usalary, ujoiningdate, uaddress, and utid. The data grid shows five rows of user information.

uid	uname	usalary	ujoiningdate	uaddress	utid
101	Tasnim	20000	2020-09-01	Uttara, Dhaka	3
102	Rupa	10000	2020-09-03	Dhanmondi, Dhaka	3
103	Babu	30000	2020-08-01	Uttara, Dhaka	2
104	Toma	50000	2020-07-01	Gulshan, Dhaka	1
105	Fatin	15000	2020-08-04	Uttara, Dhaka	4

3.userphone:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables. The 'userphone' table is selected in the 'uhrms' database. A warning message states: "Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available." The table structure includes columns: uphone and uid. The data grid shows five rows of userphone information.

uphone	uid
159898589	101
139898589	101
16595888	102
17986548	103
13545468	104
13545468	105

4.usercredential:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases (information_schema, mysql, performance_schema, phpmyadmin, tasnim, test, uhrms) and tables (New, student, teacher, user, usercredential, userphone, usertype). The 'usercredential' table is selected, displaying 5 rows. The columns are username, password, and uid. The data is as follows:

username	password	uid
efgh	22556	102
ijklm	5555	103
mfjdr	4776678	105
nopqr	664586	104
simu	3456555	101

Below the table, there are buttons for Edit, Copy, Delete, and Export.

5.teacher:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables. The 'teacher' table is selected, displaying 4 rows. The columns are tid, tname, tsalary, tphone, and uid. The data is as follows:

tid	tname	tsalary	tphone	uid
201	Tanha	20000	1687954	101
202	Sara	15000	16848625	102
203	Ahsan	12000	17549628	103
204	Nishat	15000	13554965	105

Below the table, there are buttons for Edit, Copy, Delete, and Export.

6.student:

The screenshot shows the phpMyAdmin interface for a database named 'uhrms'. The left sidebar displays the database structure, including tables like 'student', 'teacher', 'user', etc. The main area is titled 'Table: student' and shows the results of the query 'SELECT * FROM `student`'. The results are presented in a grid format with columns: sid, sname, sphone, sdob, uid. There are 5 total rows. At the bottom of the results grid, there are buttons for 'Check all', 'With selected:', and actions like 'Edit', 'Copy', 'Delete', 'Export'.

	sid	sname	sphone	sdob	uid
<input type="checkbox"/>	301	Riju	135554455	1999-11-03	101
<input type="checkbox"/>	302	Rahul	17555886	1999-11-01	102
<input type="checkbox"/>	303	Rohan	16544555	1999-11-10	103
<input type="checkbox"/>	304	Tanisha	19542655	1999-11-11	104
<input type="checkbox"/>	305	Sumi	154863545	1999-11-15	105

Table insertion

1. User type:

The screenshot shows the phpMyAdmin interface for a database named 'abcd'. The left sidebar lists various databases and tables, including 'userstype' which is currently selected. The main area displays the 'Structure' tab for the 'userstype' table, which has two columns: 'utid' and 'role'. Below the structure, the SQL query 'INSERT INTO `usertype` (`utid`, `role`) VALUES ('1', 'Owner');' is shown, along with its execution result: '1 row inserted.' A message bar at the top indicates '1 row inserted.' The status bar at the bottom right shows the date and time as '9/6/2020 2:06 AM'.

The screenshot shows the phpMyAdmin interface for the 'abcd' database. The left sidebar lists various tables and databases. The main area shows the 'userstype' table with a success message: '1 row inserted.' Below it is a SQL query window containing:

```
INSERT INTO `userstype` (`utid`, `role`) VALUES ('2', 'CEO');
```

The right panel displays the columns 'utid' and 'role'. Below the query window are several buttons: SELECT*, SELECT, INSERT, UPDATE, DELETE, Clear, Format, and Get auto-saved query.

2. User:

The screenshot shows the phpMyAdmin interface for the 'abcd' database. The left sidebar lists various tables and databases. The main area shows the 'user' table with a success message: '1 row inserted.' Below it is a SQL query window containing:

```
INSERT INTO `user` (`uid`, `uname`, `usalary`, `ujoiningdate`, `uaddress`, `uphone`, `utid`) VALUES ('101', 'Tasnim', '20000', '2020-09-01', 'Uttara, Dhaka', '013545468', '3');
```

The right panel displays the columns 'uid', 'uname', 'usalary', 'ujoiningdate', 'uaddress', 'uphone', and 'utid'. Below the query window are several buttons: SELECT*, SELECT, INSERT, UPDATE, DELETE, Clear, Format, and Get auto-saved query.

3. User phone:

The screenshot shows two separate sessions of the phpMyAdmin interface, both connected to the same database (abcd) and table (user). Each session has a green status bar at the top indicating "1 row inserted".

Session 1 (Top):

- SQL Query: `INSERT INTO `user` (`uid`, `uname`, `usalary`, `ujoiningdate`, `uaddress`, `uphone`, `utid`) VALUES ('102', 'Rupa', '10000', '2020-09-03', 'Dhanmondi, Dhaka', '017986548', '3');`
- Columns: uid, uname, usalary, ujoiningdate, uaddress, uphone, utid

Session 2 (Bottom):

- SQL Query: `INSERT INTO `user` (`uid`, `uname`, `usalary`, `ujoiningdate`, `uaddress`, `uphone`, `utid`) VALUES ('102', 'Rupa', '10000', '2020-09-03', 'Dhanmondi, Dhaka', '017986548', '3');`
- Columns: uid, uname, usalary, ujoiningdate, uaddress, uphone, utid

Both sessions show the same SQL query being run, resulting in one row being inserted into the 'user' table.

localhost / 127.0.0.1 / al ×

localhost/phpmyadmin/tbl_change.php?db=abcd&table=userphone

phpMyAdmin

Recent Favorites

Server: 127.0.0.1 » Database: abcd » Table: userphone

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

1 row inserted.

INSERT INTO `userphone` (`uphone`, `uid`) VALUES ('016595888', '102');

[Edit inline] [Edit] [Create PHP code]

Run SQL query/queries on table abcd.userphone:

1 INSERT INTO `userphone` (`uphone`, `uid`) VALUES ('016595888', '102');

Columns

uphone
uid

SELECT * SELECT INSERT UPDATE DELETE Clear Format Get auto-saved query

Bind parameters

Bookmark this SQL query:

Activate Windows Go to Settings to activate Windows.

2:33 AM 9/6/2020 Go

Type here to search

localhost / 127.0.0.1 / al ×

localhost/phpmyadmin/tbl_change.php?db=abcd&table=userphone

phpMyAdmin

Recent Favorites

Server: 127.0.0.1 » Database: abcd » Table: userphone

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

1 row inserted.

INSERT INTO `userphone` (`uphone`, `uid`) VALUES ('017986548', '103');

[Edit inline] [Edit] [Create PHP code]

Run SQL query/queries on table abcd.userphone:

1 INSERT INTO `userphone` (`uphone`, `uid`) VALUES ('017986548', '103');

Columns

uphone
uid

SELECT * SELECT INSERT UPDATE DELETE Clear Format Get auto-saved query

Bind parameters

Bookmark this SQL query:

Activate Windows Go to Settings to activate Windows.

2:38 AM 9/6/2020 Go

Type here to search

The screenshot shows the phpMyAdmin interface for a database named 'abcd'. The left sidebar lists various databases and tables, including 'userphone' which is currently selected. The main area displays a SQL query: `INSERT INTO `userphone` (`uphone`, `uid`) VALUES ('013545468', '104');`. A green message bar at the top indicates '1 row inserted.' Below the query, there are several buttons: SELECT*, SELECT, INSERT, UPDATE, DELETE, Clear, Format, and Get auto-saved query. To the right, a 'Columns' panel shows the structure of the 'userphone' table with columns 'uphone' and 'uid'. The status bar at the bottom shows the date and time as 9/6/2020 2:50 AM.

4. User credential:

This screenshot shows the phpMyAdmin interface for the same database 'abcd'. The 'usercredential' table is selected in the sidebar. The SQL query entered is: `INSERT INTO `usercredential` (`username`, `password`, `uid`) VALUES ('abcd', '123456', '101');`. A green message bar at the top indicates '1 row inserted.' The interface includes standard query navigation buttons (SELECT*, SELECT, INSERT, etc.) and a 'Columns' panel on the right showing the 'usercredential' table's columns: 'username', 'password', and 'uid'. The status bar at the bottom shows the date and time as 9/6/2020 2:53 AM.

localhost / 127.0.0.1 / al × +

localhost/phpmyadmin/tbl_change.php?db=abcd&table=usercredential

phpMyAdmin

Server: 127.0.0.1 » Database: abcd » Table: usercredential

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Recent Favorites

New abcd New student teacher user usercredential userphone usertype information_schema mysql onlineedu Tables New batch batchstudent branch ceo employee employeebranch employeestudent manager owner student

Run SQL query/queries on table abcd.usercredential:

```
1 INSERT INTO `usercredential` (`username`, `password`, `uid`) VALUES ('efgh', '22556', '102');
```

[Edit inline] [Edit] [Create PHP code]

Columns

username	password	uid

SELECT * SELECT INSERT UPDATE DELETE Clear Format Get auto-saved query

Bind parameters

Bookmark this SQL query:

Activate Windows Go to Settings to activate Windows.

Console Show this query here again Retain query box Rollback when finished Enable foreign key checks

253 AM 9/6/2020 Go

localhost / 127.0.0.1 / al × +

localhost/phpmyadmin/tbl_change.php?db=abcd&table=usercredential

phpMyAdmin

Server: 127.0.0.1 » Database: abcd » Table: usercredential

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Recent Favorites

New abcd New student teacher user usercredential userphone usertype information_schema mysql onlineedu Tables New batch batchstudent branch ceo employee employeebranch employeestudent manager owner student

Run SQL query/queries on table abcd.usercredential:

```
1 INSERT INTO `usercredential` (`username`, `password`, `uid`) VALUES ('ijklm', '5555', '103');
```

[Edit inline] [Edit] [Create PHP code]

Columns

username	password	uid

SELECT * SELECT INSERT UPDATE DELETE Clear Format Get auto-saved query

Bind parameters

Bookmark this SQL query:

Activate Windows Go to Settings to activate Windows.

Console Show this query here again Retain query box Rollback when finished Enable foreign key checks

254 AM 9/6/2020 Go

5. Teacher:

The screenshot shows the phpMyAdmin interface for a database named 'abcd'. The 'teacher' table is selected. A success message '1 row inserted.' is displayed above the SQL query history. The SQL query entered is:

```
INSERT INTO `teacher` (`tid`, `tname`, `tsalary`, `tphone`, `uid`) VALUES ('201', 'Tanha', '20000', '01687954', '101');
```

The right panel shows the columns: tid, tname, tsalary, tphone, uid. Below the query history are various SQL command buttons: SELECT*, SELECT, INSERT, UPDATE, DELETE, Clear, Format, Get auto-saved query, and Bind parameters.

This screenshot is identical to the one above, showing the same successful insertion of a teacher record. The SQL query entered is:

```
INSERT INTO `teacher` (`tid`, `tname`, `tsalary`, `tphone`, `uid`) VALUES ('201', 'Tanha', '20000', '01687954', '101');
```

The right panel shows the columns: tid, tname, tsalary, tphone, uid. Below the query history are various SQL command buttons: SELECT*, SELECT, INSERT, UPDATE, DELETE, Clear, Format, Get auto-saved query, and Bind parameters.

6. Student:

The image shows two separate sessions of the phpMyAdmin interface, both connected to the same database (abcd) and table (student). Each session displays a successful insertion of a new student record.

Session 1 (Top):

- Query: `INSERT INTO `student` (`sid`, `sname`, `sphone`, `sdob`, `uid`) VALUES ('301', 'Riju', '0135554455', '1999-11-03', '101');`
- Result: 1 row inserted.
- Columns: sid, sname, sphone, sdob, uid

Session 2 (Bottom):

- Query: `INSERT INTO `student` (`sid`, `sname`, `sphone`, `sdob`, `uid`) VALUES ('302', 'Rahul', '017555886', '1999-11-01', '102');`
- Result: 1 row inserted.
- Columns: sid, sname, sphone, sdob, uid

localhost / 127.0.0.1 / al × +

localhost/phpmyadmin/tbl_change.php?db=abcd&table=student

phpMyAdmin

Recent Favorites

Server: 127.0.0.1 » Database: abcd » Table: student

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

1 row inserted.

INSERT INTO `student` (`sid`, `sname`, `sphone`, `sdob`, `uid`) VALUES ('304', 'Tanisha', '019542655', '1999-11-11', '104');

[Edit inline] [Edit] [Create PHP code]

Run SQL query/queries on table abcd.student:

1 INSERT INTO `student` (`sid`, `sname`, `sphone`, `sdob`, `uid`) VALUES ('304', 'Tanisha', '019542655', '1999-11-11', '104');

Columns

sid
sname
sphone
sdob
uid

SELECT * SELECT INSERT UPDATE DELETE Clear Format Get auto-saved query

Bind parameters

Bookmark this SQL query:

Console Show this query here again Retain query box Rollback when finished Enable foreign key checks

Activate Windows Go

Type here to search

305 AM 9/6/2020

The screenshot shows the phpMyAdmin interface for a MySQL database named 'abcd'. The 'student' table is selected. A success message '1 row inserted.' is displayed above the SQL query history. The query itself is: 'INSERT INTO `student` (`sid`, `sname`, `sphone`, `sdob`, `uid`) VALUES ('304', 'Tanisha', '019542655', '1999-11-11', '104);'. Below the query, there's a 'Columns' panel listing 'sid', 'sname', 'sphone', 'sdob', and 'uid'. At the bottom, there are several buttons for interacting with the query: 'SELECT *', 'SELECT', 'INSERT', 'UPDATE', 'DELETE', 'Clear', 'Format', and 'Get auto-saved query'. There's also a checkbox for 'Bind parameters'. The status bar at the bottom right shows the date and time: '305 AM 9/6/2020'.

QUERY

SUB QUERY:

1. Display the id, name and salary for all teachers where salary is more than the average salary .

The screenshot shows the phpMyAdmin interface for a MySQL database named 'uhrms'. The 'teacher' table is selected. A query has been run in the SQL tab:

```
select tid,tname,tsalary from teacher where tsalary>(select AVG/tsalary) from teacher)
```

The results show one row:

tid	tname	tsalary
201	Tanha	20000

Below the results, there is a 'Query results operations' section with options like Print, Copy to clipboard, Export, Display chart, and Create view.

```
select tid,tname,tsalary from teacher where tsalary>(select AVG(tsalary) from teacher)
```

2. Display the id and name for all student who id more than user id 101.

A screenshot of the phpMyAdmin interface. The left sidebar shows a tree view of databases and tables, with 'uhrms' selected. The main area shows the 'student' table with the following data:

	sid	sname
<input type="checkbox"/>	302	Rahul
<input type="checkbox"/>	303	Rohan
<input type="checkbox"/>	304	Tanisha
<input type="checkbox"/>	305	Sumi

The status bar at the bottom right shows the time as 10:13 AM and the date as 9/6/2020.

SELECT sid,sname FROM student WHERE sid>(SELECT sid FROM student WHERE uid=101);

3.

A screenshot of the phpMyAdmin interface. The left sidebar shows a tree view of databases and tables, with 'uhrms' selected. The main area shows the 'user' table with the following data:

	Numberofuser
	5

The status bar at the bottom right shows the time as 10:24 AM and the date as 9/6/2020.

SELECT COUNT(usalary) AS NumberOfuser FROM user

4.

The screenshot shows the phpMyAdmin interface for a database named 'uhrms'. The 'user' table is selected. A query has been run: `SELECT uname,usalary FROM user WHERE usalary BETWEEN 10000 AND 30000`. The results show five rows:

uname	usalary
Tasnim	20000
Rupa	10000
Babu	30000
Toma	50000
Fatin	15000

`SELECT uname,usalary, FROM user, WHERE usalary BETWEEN 10000 AND 300000`

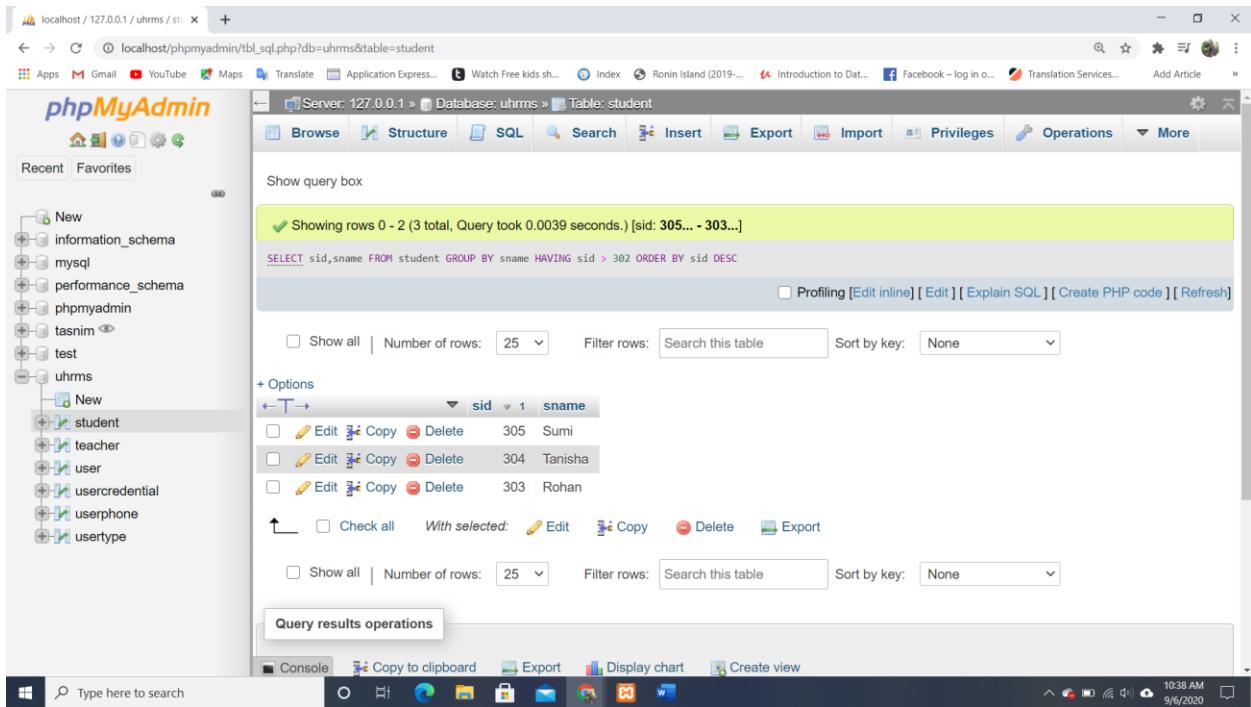
5.

The screenshot shows the phpMyAdmin interface for a database named 'uhrms'. The 'user' table is selected. A query has been run: `SELECT uid,uname FROM user WHERE uname LIKE 'T%'`. The results show two rows:

uid	uname
101	Tasnim
104	Toma

`SELECT uid,uname,FROM user ,WHERE uname LIKE 'T%';`

6.

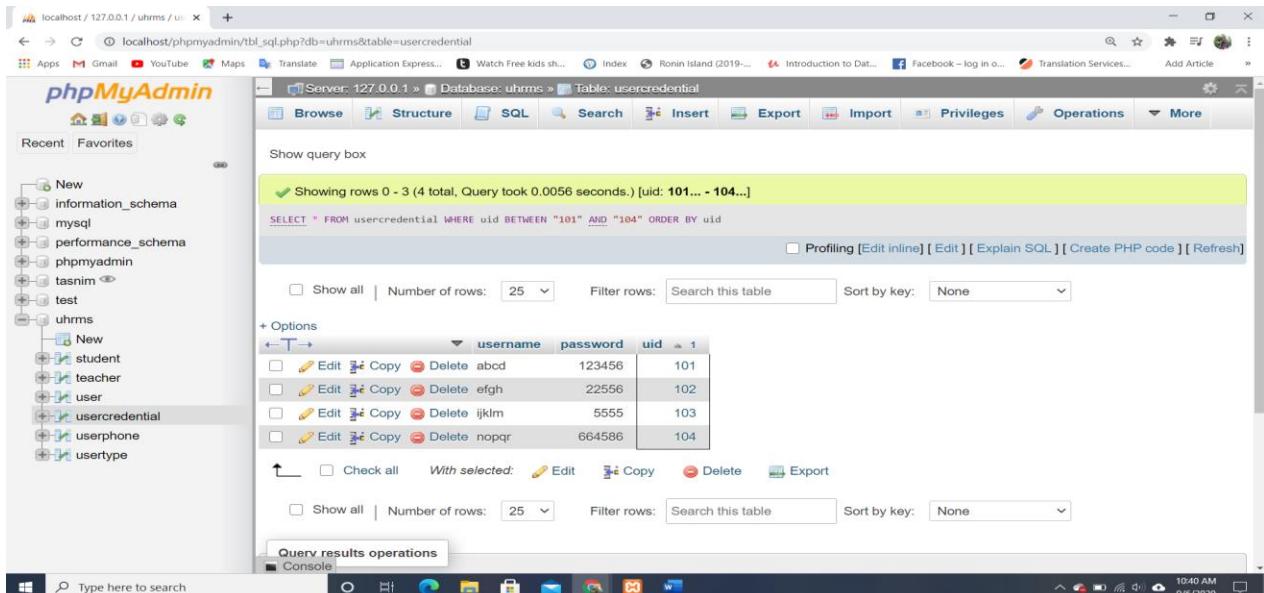


The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables, with 'student' selected. The main area displays the results of the query: 'SELECT sid,sname FROM student GROUP BY sname HAVING sid > 302 ORDER BY sid DESC'. The results show three rows: Sumi (sid 305), Tanisha (sid 304), and Rohan (sid 303). Below the table are buttons for 'Edit', 'Copy', 'Delete', and 'Export'.

sid	sname
305	Sumi
304	Tanisha
303	Rohan

```
SELECT sid,sname
FROM student
GROUP BY sname
HAVING sid > 302
ORDER BY sid DESC
```

7.



The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables, with 'usercredential' selected. The main area displays the results of the query: 'SELECT * FROM usercredential WHERE uid BETWEEN "101" AND "104" ORDER BY uid'. The results show four rows with uid values 101, 102, 103, and 104, each associated with a different password.

uid	username	password
101	abcd	123456
102	efgh	22556
103	ijklm	5555
104	nopqr	664586

```
SELECT * FROM usercredential  
WHERE uid BETWEEN "101" AND "104"  
ORDER BY uid;
```

Group Functions:

8. Find the maximum salary of the teacher.

The screenshot shows the phpMyAdmin interface on a Windows desktop. The browser address bar indicates the connection is to localhost:127.0.0.1/uhrms. The phpMyAdmin sidebar lists databases like information_schema, mysql, performance_schema, phpmyadmin, tasnim, test, and uhrms, with 'teacher' selected. The main SQL tab displays the query: 'select max(tsalary) from teacher'. The results show a single row with 'max(tsalary)' set to 20000. Below the results, there are options for printing or exporting the data. The taskbar at the bottom shows various open applications, and the system tray shows the date and time as 10:44 AM 9/6/2020.

```
select max(tsalary) from teacher
```

max(tsalary)
20000

select max(tsalary) from teacher

9. Find the average salary of the user according to user id.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables, with 'user' selected. The main area displays the results of the query: 'select avg(usalary)from user group by uid'. The results show a single row with the value 20000. Below the results, there are two rows of data: 10000 and 30000, which appear to be part of a larger table or a previous query.

avg(usalary)
20000
10000
30000
50000
15000

select avg(usalary)from user group by uid;

10. Find the average salary of the teacher according to teacher name.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables, with 'teacher' selected. The main area displays the results of the query: 'SELECT AVG(tsalary) FROM teacher GROUP BY tname'. The results show three rows with values 12000, 15000, and 15000. Below the results, there is a row of data: 20000, which appears to be part of a larger table or a previous query.

AVG(tsalary)
12000
15000
15000
20000

SELECT AVG(tsalary) FROM teacher GROUP BY tname;

11. Find the min salary of the user according to user name.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The 'user' table is selected. A message in the top right says: "Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available." Below it, a green message says: "Showing rows 0 - 4 (5 total, Query took 0.0026 seconds.)". The SQL query shown is: "SELECT min(usalary) FROM user GROUP BY uname". The results table shows the following data:

min(usalary)
30000
15000
10000
20000
50000

SELECT min(salary) FROM user GROUP BY uname;

12. ORDER FUNCTION:

Display the teacher id of the teacher and order the result by ascending order.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The 'teacher' table is selected. A message in the top right says: "Showing rows 0 - 3 (4 total, Query took 0.0022 seconds.) [tid: 201... - 204...]" Below it, a green message says: "SELECT * FROM teacher ORDER BY tid ASC". The results table shows the following data:

tid	tname	tsalary	tphone	uid
201	Tanha	20000	1687954	101
202	Sara	15000	16848625	102
203	Ahsan	12000	17549628	103
204	Nishat	15000	13554965	105

SELECT * FROM teacher ORDER BY tid ASC;

13. Display the teacher id of the teacher and order by descending order.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The 'teacher' table is selected. The results of the query 'SELECT * FROM teacher ORDER BY tid DESC' are displayed, showing four rows of data:

tid	tname	tsalary	tphone	uid
204	Nishat	15000	13554965	105
203	Ahsan	12000	17549628	103
202	Sara	15000	16848625	102
201	Tanha	20000	1687954	101

`SELECT * FROM teacher ORDER BY tid DESC`

14. Update:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. An UPDATE query is run on the 'usercredential' table:

```
UPDATE usercredential SET username='simu',password=3456555 WHERE uid=101
```

The result is shown as '1 row affected.'

`UPDATE usercredential,SET username='simu',password=3456555,WHERE uid=101;`

15.IN:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables, with 'student' selected. The main area displays the 'student' table with two rows selected: 302 (Rahul) and 303 (Rohan). The SQL query at the top is: `SELECT sid,sname,sphone,FROM student,WHERE sid IN (302,303)`. The results show the columns sid, sname, and sphone.

sid	sname	sphone
302	Rahul	17555886
303	Rohan	16544555

`SELECT sid,sname,sphone,FROM student,WHERE sid IN (302,303);`

16.SUM:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables, with 'teacher' selected. The main area displays the 'teacher' table. A warning message states: "Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available." The SQL query at the top is: `SELECT SUM(tsalary) FROM teacher`. The results show the sum of tsalary as 62000.

SUM(tsalary)
62000

`SELECT SUM(tsalary) FROM teacher;`

17. INNER JOINING:

The screenshot shows the phpMyAdmin interface for a database named 'uhrms'. The 'teacher' table is selected. A query has been run: `SELECT tid,sid FROM teacher INNER JOIN student ON teacher.tid = student.sid;`. The results show zero rows, indicating an empty result set. The interface includes a sidebar with databases like 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', 'tasnim', 'test', and 'uhrms'. The 'uhrms' database contains tables 'New', 'student', 'teacher', 'user', 'usercredential', 'userphone', and 'usertype'. The top navigation bar includes links for 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', 'Operations', and 'More'.

```
SELECT tid,sid  
FROM teacher  
INNER JOIN student  
ON teacher.tid = student.sid;
```

18. LEFT JOIN:

The screenshot shows the phpMyAdmin interface for a database named 'uhrms'. The 'usertype' table is selected. A query has been run: `SELECT role,uid FROM usertype LEFT JOIN user ON usertype.role = user.uid;`. The results show 4 rows. The interface includes a sidebar with databases like 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', 'tasnim', 'test', and 'uhrms'. The 'uhrms' database contains tables 'New', 'student', 'teacher', 'user', 'usercredential', 'userphone', and 'usertype'. The top navigation bar includes links for 'Browse', 'Structure', 'SQL', 'Search', 'Insert', 'Export', 'Import', 'Privileges', 'Operations', and 'More'.

```
SELECT role,uid  
FROM usertype  
LEFT JOIN user  
ON usertype.role = user.uid;
```

19. RIGHT JOIN:

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The 'student' table is selected. A query is run:

```
SELECT sname,tid
FROM student
RIGHT JOIN teacher
ON student.sname = teacher.tid;
```

The results show four rows:

sname	tid
NULL	201
NULL	202
NULL	203
NULL	204

```
SELECT sname,tid
FROM student
RIGHT JOIN teacher
ON student.sname = teacher.tid;
```

20.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. A query is run:

```
select t.tname,t.tid,u.uid from teacher t,user u where t.uid=u.uid
```

The results show four rows:

tname	tid	uid
Tanha	201	101
Sara	202	102
Ahsan	203	103
Nishat	204	105

```
select t.tname,t.tid,u.uid from teacher t,user u where t.uid=u.uid
```

21.view:

The screenshot shows the phpMyAdmin interface for a database named 'uhrms'. The left sidebar lists databases (information_schema, mysql, performance_schema, phpmyadmin, tasnim, test, uhrms) and tables (student, teacher, user, usercredential, userphone, usertype). The 'Views' section is also visible. The main panel is titled 'Table: student' and contains a SQL query box with the following content:

```
create view student_view as select sid,sname,sphone,sdob from student
```

Below the query box, there are links for [Edit inline], [Edit], and [Create PHP code]. The status bar at the bottom indicates the query took 0.0030 seconds.

22.

The screenshot shows the phpMyAdmin interface for a database named 'uhrms'. The left sidebar lists databases (information_schema, mysql, performance_schema, phpmyadmin, tasnim, test, uhrms) and tables (student, teacher, user, usercredential, userphone, usertype). The 'Views' section is also visible. The main panel is titled 'Table: usercredential' and contains a SQL query box with the following content:

```
create view usercredential_view as select username,password,uid from usercredential
```

Below the query box, there are links for [Edit inline], [Edit], and [Create PHP code]. The status bar at the bottom indicates the query took 0.0029 seconds.

23.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases (information_schema, mysql, performance_schema, phpmyadmin, tasnim, test, uhrms) and tables (New, student, teacher, user, usercredential, userphone, usertype). The 'teacher' table is selected. The main area displays a SQL query: `create view teacher_view as select tid , tname, tsalary from teacher`. A green message bar at the top indicates: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0046 seconds.)". Below the message are links for [Edit inline], [Edit], and [Create PHP code]. The bottom status bar shows the date and time: 9/6/2020 2:02 PM.

24.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables, with 'user' being the selected table. The main area displays a SQL query: `create view user_view as select uid , uname, usalary, ujoiningdate, uaddress from user`. A green message bar at the top indicates: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0038 seconds.)". Below the message are links for [Edit inline], [Edit], and [Create PHP code]. The bottom status bar shows the date and time: 9/6/2020 2:04 PM.

25.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases (information_schema, mysql, performance_schema, phpmyadmin, tasnim, test, uhrms) and tables (New, student, teacher, user, usercredential, userphone, usertype). The 'userphone' table is selected. The main area displays a SQL query: 'create view userphone_view as select uphone,uid from userphone'. A green message bar at the top indicates: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0045 seconds.)'. Below the message is a link '[Edit inline]'. The bottom status bar shows the date and time: '205 PM 9/6/2020'.

26.

The screenshot shows the phpMyAdmin interface for the 'uhrms' database. The left sidebar lists databases and tables, with 'usertype' selected. The main area displays a SQL query: 'create view usertype_view as select role, utid from usertype'. A green message bar at the top indicates: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0045 seconds.)'. Below the message is a link '[Edit inline]'. The bottom status bar shows the date and time: '206 PM 9/6/2020'.

uhrms

student

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
sid (<i>Primary</i>)	int(12)	No				
sname	varchar(25)	No				
sphone	int(11)	No				
sdob	date	No				
uid	int(12)	No		user -> uid		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	sid	5	A	No	
uid	BTREE	No	No	uid	5	A	No	

student_view

Table comments: *VIEW*

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
sid	int(12)	No				
sname	varchar(25)	No				
sphone	int(11)	No				
sdob	date	No				

teacher

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
tid (<i>Primary</i>)	int(12)	No				
tname	varchar(25)	No				
tsalary	float	No				
tphone	int(11)	No				
uid	int(12)	No		user -> uid		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	tid	4	A	No	

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
uid	BTREE	No	No	uid	4	A	No	

teacher_view

Table comments: *VIEW*

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
tid	int(12)	No				
tname	varchar(25)	No				
tsalary	float	No				

user

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
uid (<i>Primary</i>)	int(12)	No				
uname	varchar(22)	No				
usalary	float	No				
ujoiningdate	date	No				
uaddress	varchar(100)	No				
utid	int(10)	No		usertype -> utid		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	uid	5	A	No	
utid	BTREE	No	No	utid	5	A	No	

usercredential

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
username (<i>Primary</i>)	varchar(25)	No				
password	int(15)	No				
uid	int(12)	No		user -> uid		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	username	5	A	No	
uid	BTREE	No	No	uid	5	A	No	

usercredential_view

Table comments: *VIEW*

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
username	varchar(25)	No				
password	int(15)	No				
uid	int(12)	No				

userphone

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
uphone	int(11)	No				
uid	int(12)	No		user -> uid		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
uid	BTREE	No	No	uid	6	A	No	

userphone_view

Table comments: *VIEW*

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
uphone	int(11)	No				
uid	int(12)	No				

usertype

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
utid (<i>Primary</i>)	int(10)	No				
role	varchar(25)	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	utid	4	A	No	

usertype_view

Table comments: *VIEW*

9/6/2020

Print view - phpMyAdmin 5.0.2

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
role	varchar(25)	No				
utid	int(10)	No				

user_view

Table comments: *VIEW*

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
uid	int(12)	No				
uname	varchar(22)	No				
usalary	float	No				
ujoiningdate	date	No				
uaddress	varchar(100)	No				

Conclusion

The database management system of “Udvash HR Management System” is designed for the easy supervision of Udvash. The database management system increases the flexibility of the uses. From this system, authority can easily check or manipulate any type of data with real peed. Paper work and manual work is reduced. The main purpose of the database system is to computerize the process of accessing the data and sorting data as well as reduced time consumption.

Thank You