

# CS 4604: Introduction to Database Management Systems

**HTML and PHP**

Virginia Tech CS 4604 Sprint 2021

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# 1. Introduction to HTML

# 1. Basic HTML

- Create a simple web page

```
<html>  
<title> ..... </title>  
<body>  
.....  
<a> ..... </a>  
.....  
</body>  
</html>
```

# 1.1 How to create a hyperlink

- Create a hyperlink:

```
<a href="index.php"> index </a>
```

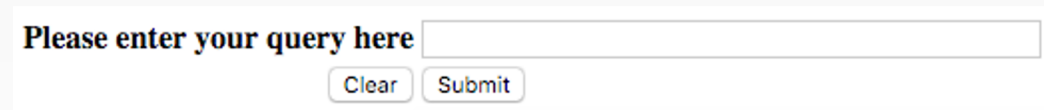
[index](#)

- When you click this hyperlink, you will go to “index.php”

## 1.2 How to deliver the query

- Create a form :

```
<FORM METHOD=POST ACTION="queryresult.php">  
<input type=text size=150 maxlength=1000 name="query">  
<input type=reset value="Clear">  
<input type=submit value="Submit">  
</FORM>
```



Please enter your query here

- “action” means that it will send this form’s data to “queryresult.php”, when you submit this form.
- “method” means how to send this form’s data.
- There are some types you can choose.
- For more information, please go to <http://www.w3schools.com/html/>

## 1.3 How to output the result of query in a table

- How to create a table in html?

```
<table>
<tr><td>Tom</td><td>Jerry</td></tr>
<tr><td>Book</td><td>Paper</td></tr>
.....
</table>
```

- `<table></table>` creates a table.
- `<tr></tr>` creates a row in a table.
- `<td></td>` creates a column in a row.
- Run the above code and get:

Tom	Jerry
Book	Paper

## 2. Introduction to PHP

## 2.1 Basic PHP

- A simple php example

```
<?php  
Echo "hello world!";  
?>
```

- How to embed php into html:

```
<html>  
<body><?php          echo "hello world!";          ?></body>  
</html>
```

echo is a print function.

- How to embed html into php:

```
<html>  
<body><?php  
echo ' <b>hello world!</b> ' ;  
?></body>  
</html>
```



## 2.2 Variables in PHP

- Use “\$” to define a variable.

```
$s = “hello world”;
```

- Variable types:

```
String      $s=“database”;
```

```
Integer     $i=1;
```

```
Double     $d=6.66;
```

```
Boolean    $b=false
```

```
Array     $arr[0] = 1; $arr[1] = 2; .....
```

## 2.3 Loop and control statements

- if ... else ...

```
if(expression) {statement1;} else { statement2; ... }
```

- While

```
while(expression) {statement; ...}
```

- do ... while ...

```
do {statement; ...} while(expression)
```

- for

```
for(expression1; expression2; expression) {statement; ...}
```

## 1.2 How to deliver the query (REMINDER)

- Create a form :

```
<FORM METHOD=POST ACTION="queryresult.php">  
<input type=text size=150 maxlength=1000 name="query">  
<input type="text" name="Search">  
<input type=reset value="Clear">  
<input type=submit value="Submit">  
</FORM>
```

Please enter your query here

Clear

Submit

- “action” means that it will send this form’s data to “queryresult.php”, when you submit this form.
- “method” means how to send this form’s data.
- There are some types you can choose.
- For more information, please go to <http://www.w3schools.com/html/>

## 2.4 How to get the value delivered by “form”

- “POST” and “GET” methods:

First please recall the “form” in html:

```
<FORM METHOD=POST ACTION="queryresult.php">  
<input type="text" name="Search">
```

.....

In “queryresult.php”, you can use POST method to get the value of  
“Search” === the input SQL query string

```
$temp = $_POST['Search'];
```

Also you can use the GET method in the same way:

```
$temp = $_GET['Search'];
```

## 2.5 How to connect to database server

- Connect to postgresql:  
`pg_connect("dbname=? user=? Password=?");`
- Make sure you do error / exception handling
- E.g. what happens if the connection or query fails?

For example, we can use this to connect our postgresql server:

```
$dbconnect = pg_connect("dbname=your_database  
user=your_username password=your_password") or  
die('fail to connect:'.pg_last_error());
```

## 2.6 How to run and get the result of query

- Run query:

```
$query="select ... from ... where ...";  
$queryresult = pg_query($query) or die("query  
failed:".pg_last_error());
```

- More postgresql functions in PHP:
  - pg\_fetch\_array                      Fetch a row as an array.
  - pg\_free\_result(\$queryresult);      Free result memory.
  - pg\_close(\$dbconn);                  Close a postgresql connection.

## 2.6 How to run and get the result of query (Contd.)

- You can check the following link to get more functions:  
<http://us2.php.net/manual/en/ref.pgsq1.php>

# Something is not covered

- You may create a nicer web page.
- For each output of query, you need to display each column name (attribute name).
- Please read the project 3 carefully, and get more details.
  - Queries, grades, demo schedule, submission policy, and etc.



## More information about HTML & PHP

- [https://github.com/VTCourses/PHP\\_tutorial](https://github.com/VTCourses/PHP_tutorial)
- <http://www.w3schools.com/html/DEFAULT.asp>
- <http://www.php.net/>
- <http://us2.php.net/manual/en/index.php>
- eBooks: Search <https://lib.vt.edu/>

- Monjura Afrin Rumi (mrumi@vt.edu):
  - FilmFanatic
  - PHP on Windows
  
- Hongjie Chen (Jeffchan@vt.edu):
  - TooManyGames and Travel Lover
  - PHP on Mac / Linux
  
- All of us will hold the usual office hours.