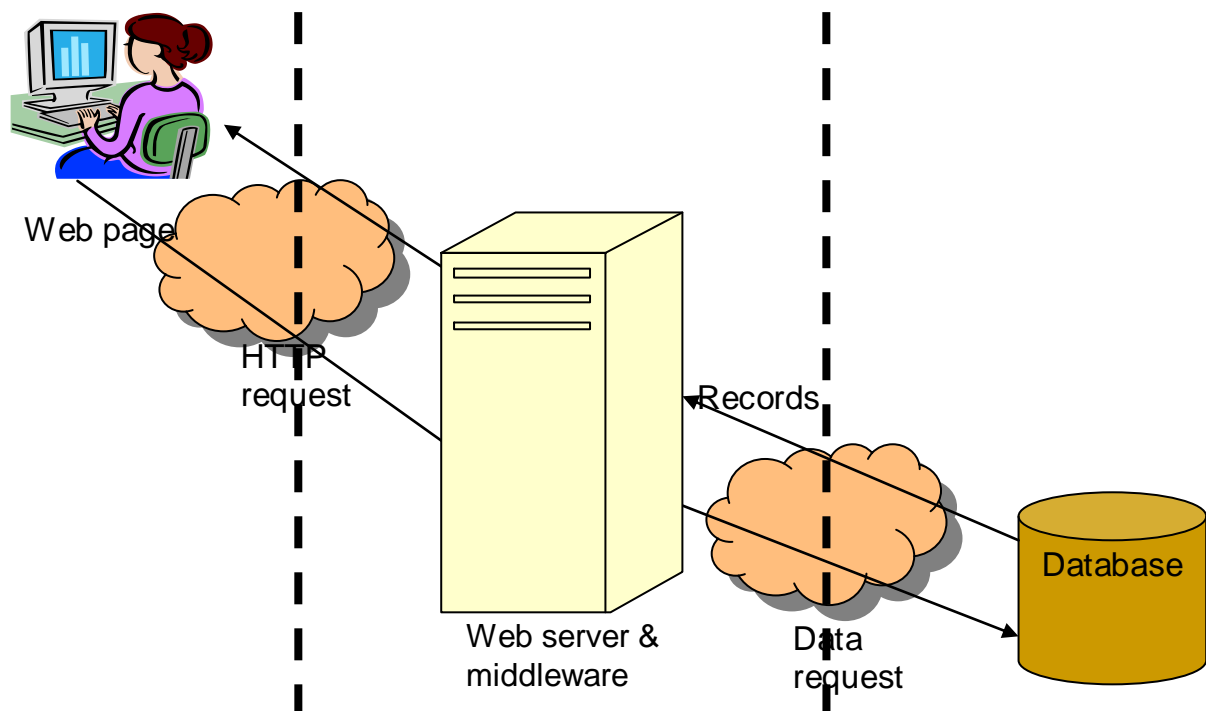## introduction

3-tier Application Environment

- User interaction is separated from the database through a middleware that act as a connector.
- **Client :** Used to display the interface of the application. The interface downloaded form the server. Some logical operations done here. Eg: Web Browsers (IE, Firefox, Opera, Safari, etc)
- **Web Server+Middleware :** Store and host the interface. Provide the interface to the client. Most operations are on data retrieval and manipulations. Eg: Apache + PHP, IIS + ASP.
- **Database server :** Store and host data/records. Receive request and send the data/record to the web server. Eg : MySQL, SQL Server, PostgreSQL, etc…

Web page

HTTP request

Records

Web server & middleware

Data request

Database

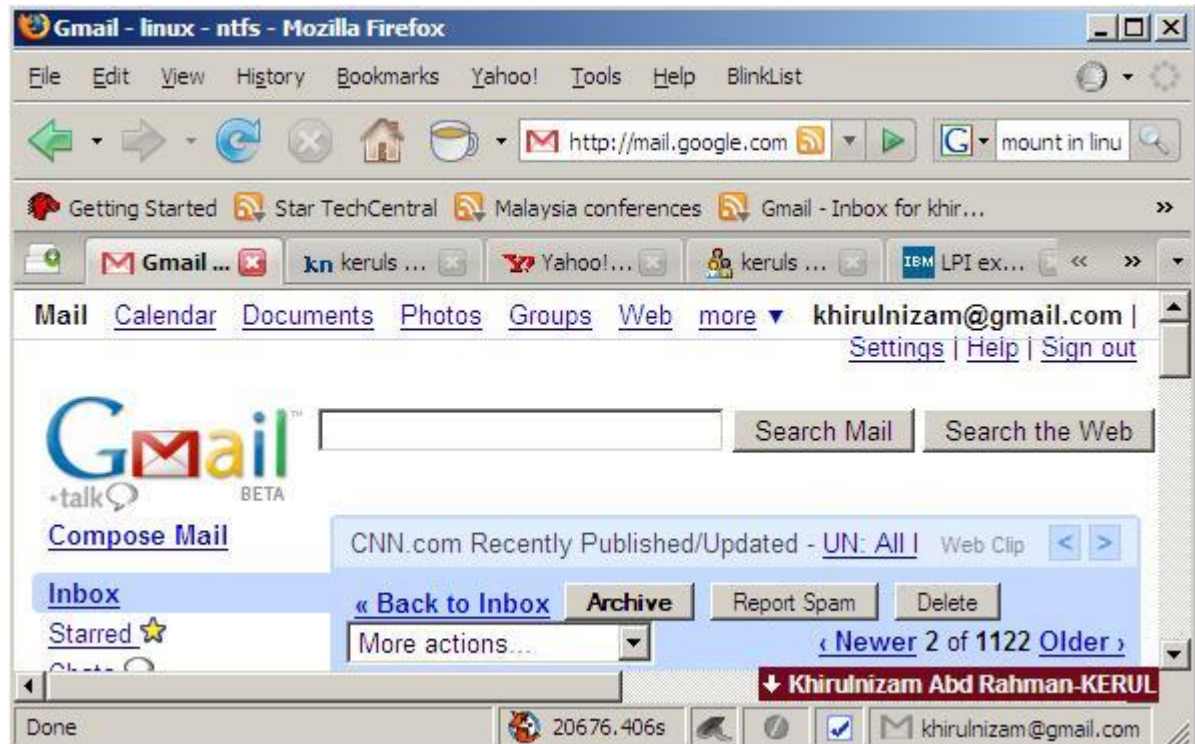**What is dynamic website / active server pages?**

Web site that provide web pages that the content may change with regard to the change of the variables, such as users, browsers, geography, records in the database, etc…

What is a web server?

- Program / computer application that receive request from the browsers.
- Provide documents to requesting browsers.
- It's a slave program that only acts if a browser request.
- Example of web servers;
  - Apache
  - IIS
  - Xitami
  - Apache Tomcat
  - ColdFusion

What is a web browser?
- Applications that act as clients on the web.
- Request document from the web server.
- The server locates the document.
- The server sends the document to the web browser.

- Examples of web browsers;

  o Google Chrome.

  o Firefox from Mozilla.

  o Safari from Apple Inc.

  o Opera.

What is server-side scripting?
- The script embedded inside the HTML page, interpreted and executed inside the server (the web server) and the result/output of the execution is sent to the browser.
- The script interpreted and executed inside the server.
- The script won't be sent to the client.
- Example: PHP, ASP .NET, ASP, JSP, Perl, Phyton, etc…

What is client-side scripting?
- The script embedded inside the HTML page, downloaded with the HTML page and executed on the client (browser).
- JavaScript (EcmaScript), VBScript, Jscript.

What is web programming?
- Combination of server-side and client-side to develop a dynamic website. The application is deployed in the web environment and can be access by multiple concurrent users.

Exercise 1
1. What are the advantages and disadvantages of developing a web based application? List and explain five advantages and five disadvantages.
2. Differentiate between server-side and client-side scripting. Explain five items.

A:. INTRO TO PHP

What is PHP?
- PHP stands for PHP Hypertext Preprocessor.
- Used to develop dynamic website
- It is a server-side language.
- The PHP script embedded in the web page.
- The script is run (interpreted) on your web server, and the output from the process is inserted to the web page as a part of the content before transmitted to the browser.
- The script won't be sent to the browser which request the web page, so the script is not visible to the users.
- It supports many database management system (Oracle, Postgre, DB2, Microsoft SQL Server, etc).
- And it's free and powerful, that's why PHP is very popular.

B:. THE PHP DEVELOPMENT TOOLS

by apachefriends.org

The text will refer the XAMPP compilation tools for web development using

Apache as the web server, PHP as

the server script interpreter and MySQL as the database server. These three major tools are provided in the XAMPP and available for you in a single installation.

Installing XAMPP as the development tool.
- Developed by a group of volunteer programmer as a tool to develop web application using os/fs on Windows.
- * in latest Linux distribution, Apache web server, MySQL database, and PHP interpreter are installed as default for the server edition.

- Before this, developer has to download and install 3 major applications for developing web application using os/fs tools.
- (Apache web server, MySQL database, and PHP interpreter)
- phpDev combines three of them (plus few aditional software) in one installation.
- download this compilation at http://www.apachefriends.org/en/xampp-windows.html **...APACHE FRIENDS...**

Running XAMPP

- After you downloaded and installed XAMPP for Windows on your system, turn on all the server needed by clicking the
  ### Start>Programs>XAMPP>Control Server Panel

***Pls stop the IIS service if you have installed it. Because Apache server is using port 80 by default (similar as IIS).

- After that, start the Apache server to use the web server application.
- If you need to use MySQL, start the MySQL service.
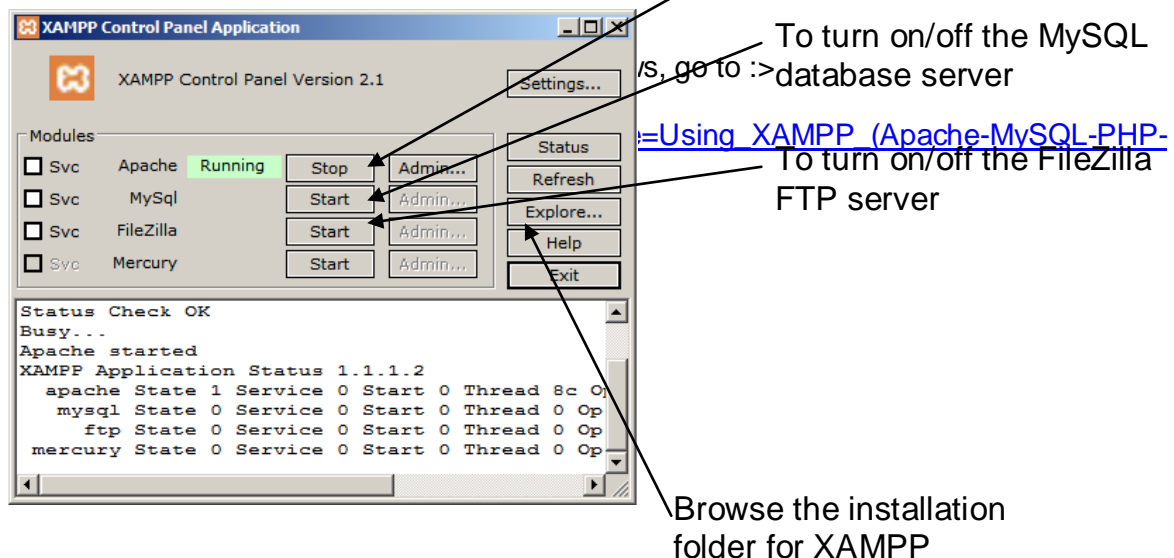- The testing page will appear (if the installation succeed).
- The web root is
  ### c:\Program Files\xampp\htdocs\
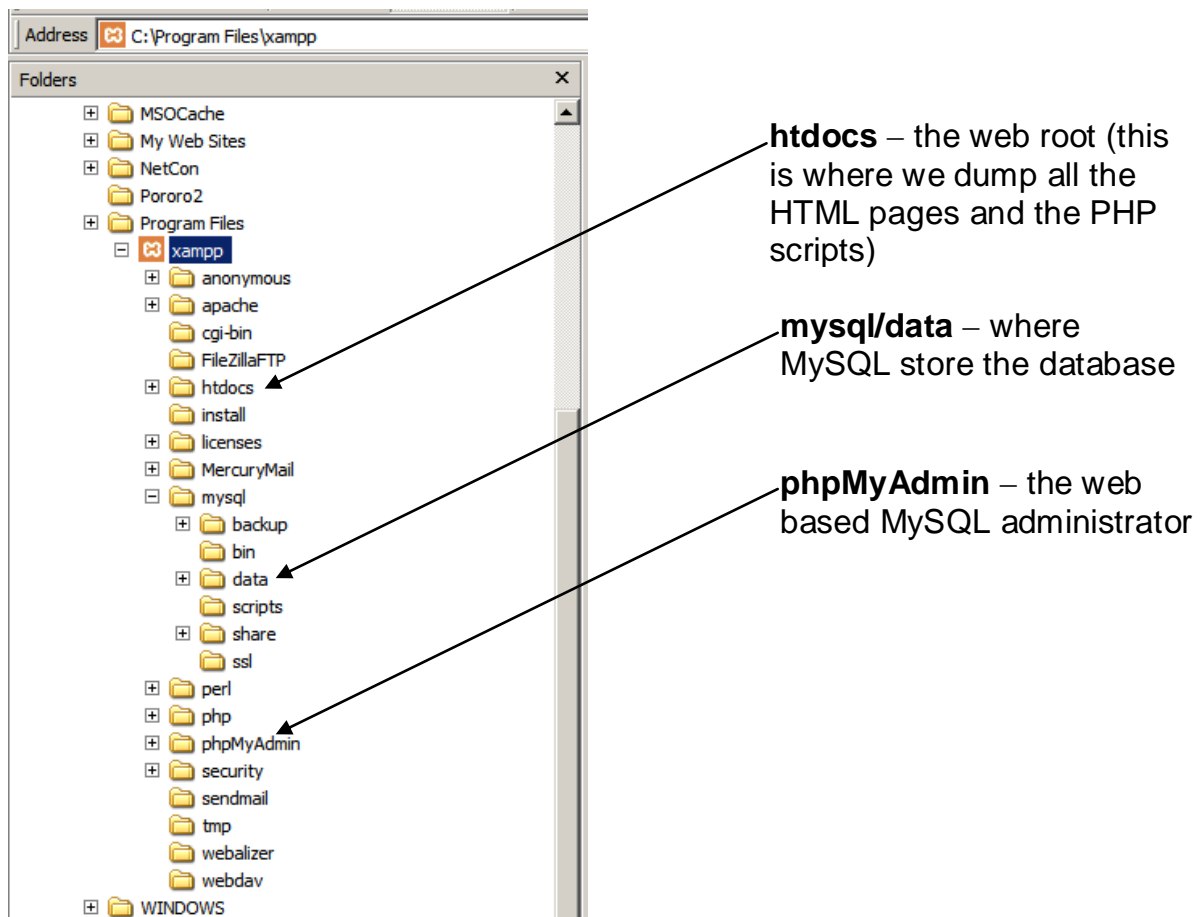- Save all your php files inside
  ### c:\Program Files\xampp\htdocs\yourFolder\
to create your own web application project.

XAMPP Control Server Panel

To turn on/off the Apache web server

To turn on/off the MySQL database server

To turn on/off the FileZilla FTP server

Browse the installation folder for XAMPP

=Using_XAMPP_(Apache-MySQL-PHP-

XAMPP application folder

htdocs – the web root (this is where we dump all the HTML pages and the PHP scripts)

mysql/data – where MySQL store the database

phpMyAdmin – the web based MySQL administrator

C:.   TESTING YOUR FIRST PHP SCRIPT

Inserting PHP script inside HTML document.
The script below will display today's date as available in the computer system.

```
<html>
<head><title>Today's Date</title></head>
<body>
Today's Date (according to this Web server) is <br>
<?php
     echo( date("d/m/y") );
?>
</body>
</html>
```
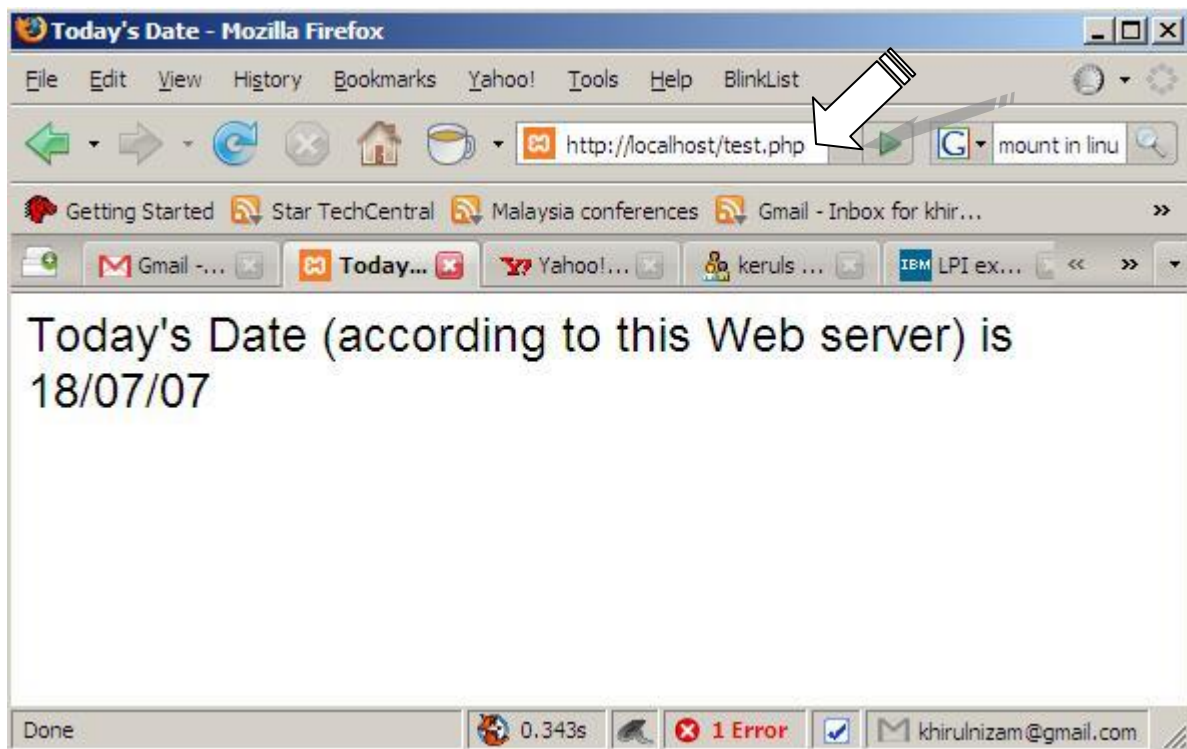
- Use your favorite web page editor such as Dreamweaver , or Notepad, or PHPDev (phpdev.org), or Eclipse for PHP (easyeclipse.org). From my own experience, FrontPage doesn't support server side scripts very good. If you need to do PHP development under Visual Studio, there is a PHP plugin you can download from .
- Save the file inside the webroot of your web server as **test.php**. In this case, we are using the XAMPP compilation. So by default the webroot is in
       c:/Program Files/Xampp/htdocs

Output:
Go to your favorite web browser and type the address of your localhost plus the filename in the address box. It would be;
       http://localhost/test.php

References :

- Sebesta, Robert W. 2003. *Programming the World Wide Web*. Pearson Education, Inc.
- http://wikipedia.org
- http://apachefriends.org
- http://dhost.info/kerul/webdev/