

## ***Lecture notes:***

### **Website:**

Webpage is a document, commonly written in HTML, that is viewed in an Internet browser. A web page can be accessed by entering a URL address into a browser's address bar. A web page may contain text, graphics, and hyperlinks to other web pages and files.

### **Introduction to web servers:**

#### **What is web?**

- ✓ A collection of cross-linked “websites” which uses URI.
- ✓ The consistent use of URIs to represent resources.
- ✓ HTTP, HTML, and everything built around them(web)
- ✓ Which provides to invoke the data across universally over the net

#### **What is server?**

A server is a **computer or device** on a network that manages network resources.

Most servers are dedicated. This means that they perform only one task rather than multiple tasks on multiprocessing operating systems, however, a single computer can execute several programs at once

#### **What is web server?**

- ✓ A Web server is a **program** that generates and transmits responses to **client requests** for Web resources.
- ✓ Handling a client request consists of **several key steps**:
  - ? Parsing the request message

- ☐ Checking that the request is authorized
  - ☐ Associating the URL in the request with a file name
  - ☐ Constructing the response message
  - Transmitting the response message to the requesting client
- ☐ The server can generate the response message in a variety of ways:
- ☐ The server simply retrieves the file associated with the URL and returns the contents to the client.
  - ☐ The server may invoke a script that communicates with other servers or a back-end database to construct the response message.

### Web Site VS Web Server?

- ☐ **Web site** and **Web server** are different:
- ☐ A **Web site** consists of a collection of Web pages associated with a particular hostname.
- ☐ A **Web server** is a program to satisfy client requests for Web resources.

### Types of Web Servers:

1. Apache Web Server
2. IIS Server
3. Xampp Server
4. WAMP Server

### Apache Web Server:

#### Introduction:

- ☐ Apache Web server is the most commonly used http server today. About 80% of all websites and Intranets use Apache web server to deliver their content to requesting Browsers.
- ☐ Server side programming languages such as PHP, Perl, Python, Java and many others

❑ The name "**Apache**" derives from the word "**patchy**" that the Apache developers used to describe early versions of their software.

❑ The Apache Web server provides a full range of Web server features, including CGI, SSL, and virtual domains. Apache also supports plug-in modules for extensibility. Apache is reliable, free, and relatively easy to configure.

❑ Apache is free software distributed by the **Apache Software Foundation**. The Apache Software Foundation promotes various free and open source advanced Web technologies.

✓ It can be downloaded and used completely free of cost. The first version of **Apache web server**, based on the NCSA httpd Web server, was developed in 1995.

❑ Apache is developed and maintained by an open community of developers under the auspices of the **Apache Software Foundation**.

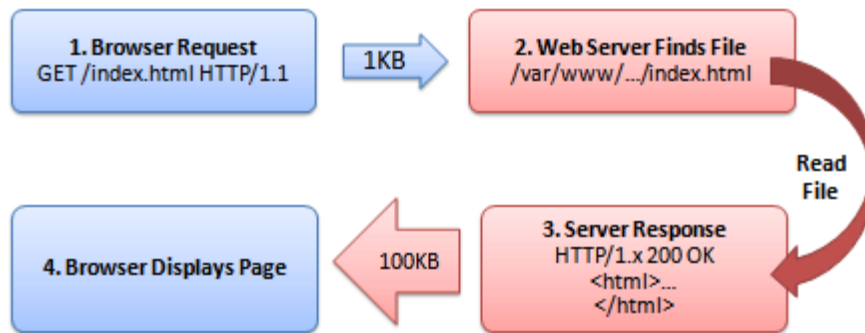
### The Internet's Request / Response Way Of Working

❑ Here's the **Internet's Request / Response** paradigm works.

❑ Whenever a Browser makes an http request such as: `http://www.google.com/index.html` the following happens:

<b>http</b>	This is the protocol used for communication between the Browser and the Web server. Since the Browser initiated the communication it has the privilege of setting the communication protocol.
<b>://</b>	This is a separator that separates the protocol from the URL.
<b>www.google.com</b>	This will be translated into a <b>name:value</b> pair i.e. ip:URL by DNS servers. Hence this will translate to an <b>ip74.86.170.172:www.google.com</b>

## HTTP Request and Response



### XAMPP

XAMPP is an Apache server distribution which has MySQL, PHP, PERL, and some other softwares like phpMyAdmin. It's extremely useful software which can be used to test a website locally on a personal computer. Generally, people who use content management systems based mainly on PHP and MySQL like WordPress, Drupal, Joomla, or ownCloud to run their blogs and websites find XAMPP to be very useful to comfortably run a local server. So, in this guide we will show you how to install XAMPP on Windows.

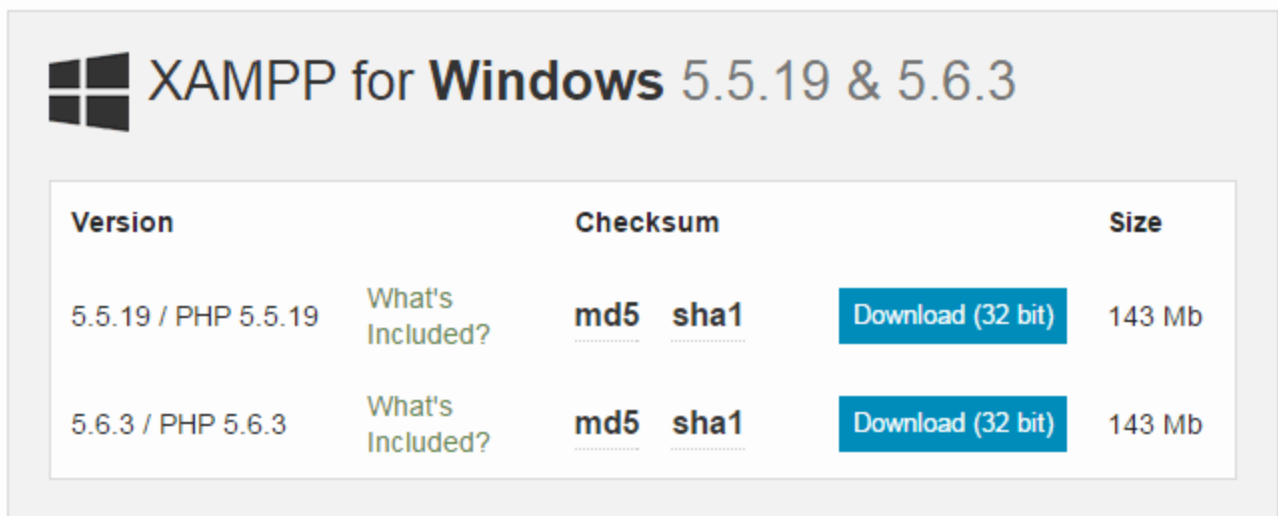
From the term XAMPP, you can see that X denotes cross platform (Operating systems like Windows, Mac OS X, Linus, and Solaris), A denotes Apache server, M stands for MySQL, P stands for PHP, and the last P is for PERL.

1) To install XAMPP in windows 7, first you need to download the XAMPP installer for windows. To download the XAMPP installer for windows, visit the URL <https://www.apachefriends.org/download.html>.

This page shows the latest version of XAMPP for windows. It also shows the versions of Apache, PHP, MySQL, and other softwares included in this version of XAMPP.

2) Now, go to the "Download" section in the page. Here, you will see XAMPP for Windows, Linux, and Mac OS X. We can easily download the XAMPP installer for Windows.

3) Click on the Download link to download XAMPP as shown below.

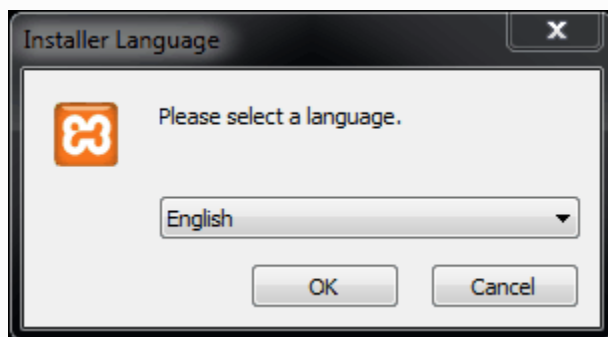


**XAMPP for Windows 5.5.19 & 5.6.3**

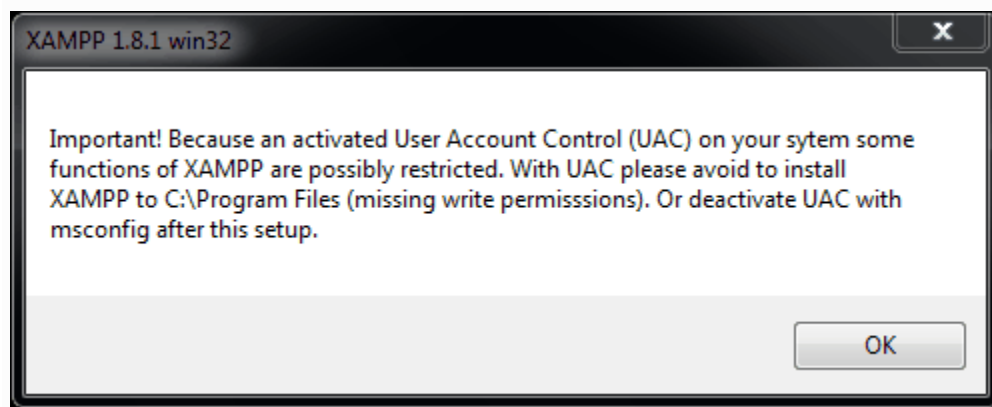
Version		Checksum		Size
5.5.19 / PHP 5.5.19	<a href="#">What's Included?</a>	md5 sha1	<a href="#">Download (32 bit)</a>	143 Mb
5.6.3 / PHP 5.6.3	<a href="#">What's Included?</a>	md5 sha1	<a href="#">Download (32 bit)</a>	143 Mb

4) After downloading the installer, double click on the executable(.exe) file to start the XAMPP installation process. Click Yes, if User Account Control dialog box appears.

Select your language in the dialog box then click OK.



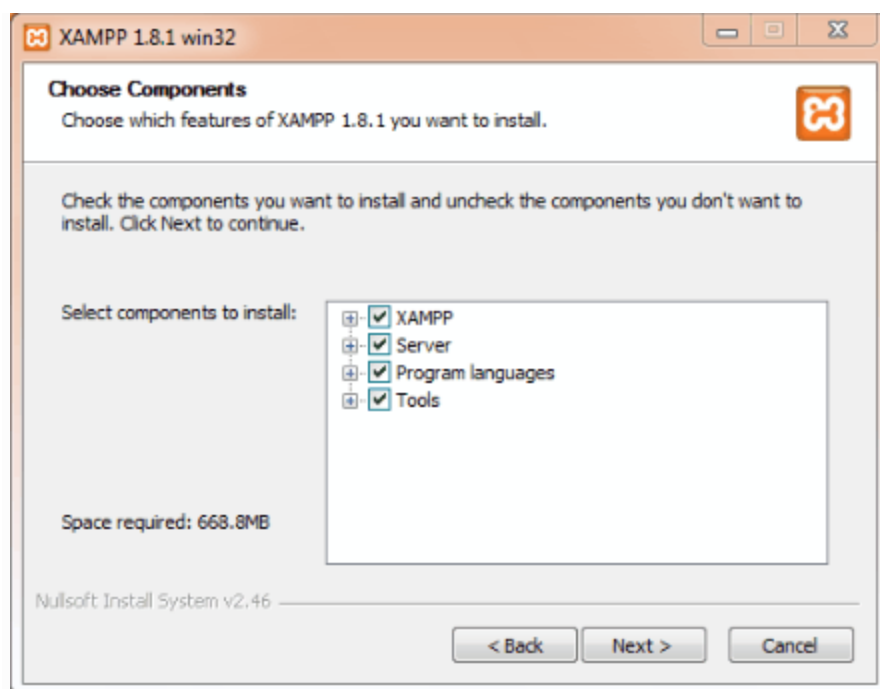
5) This dialog box below shows that you should avoid installing XAMPP to C:\Program Files. Click OK.



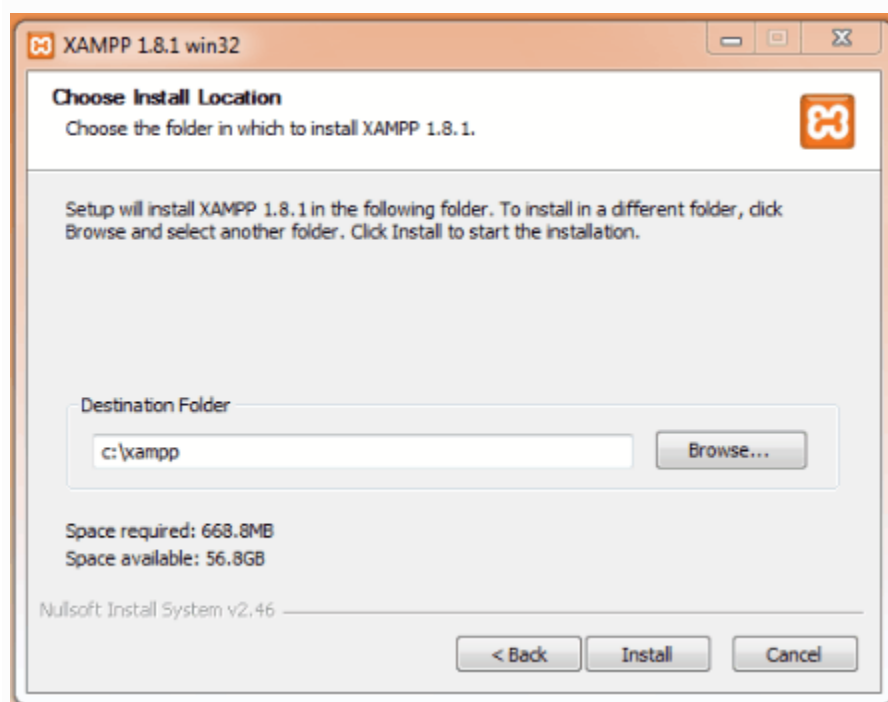
Click Next.



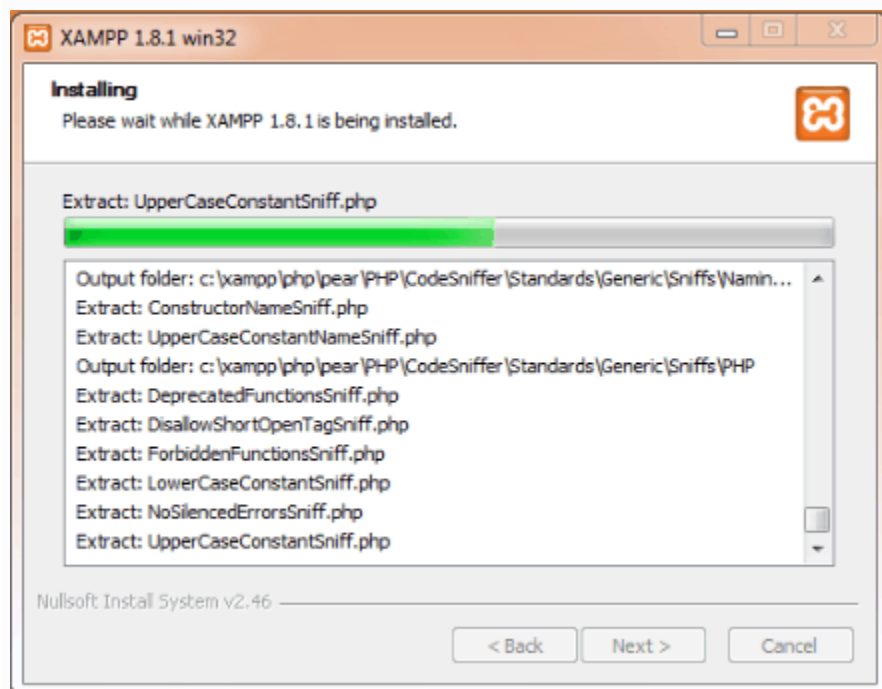
6) Verify that all the checkboxes are checked, then click Next.



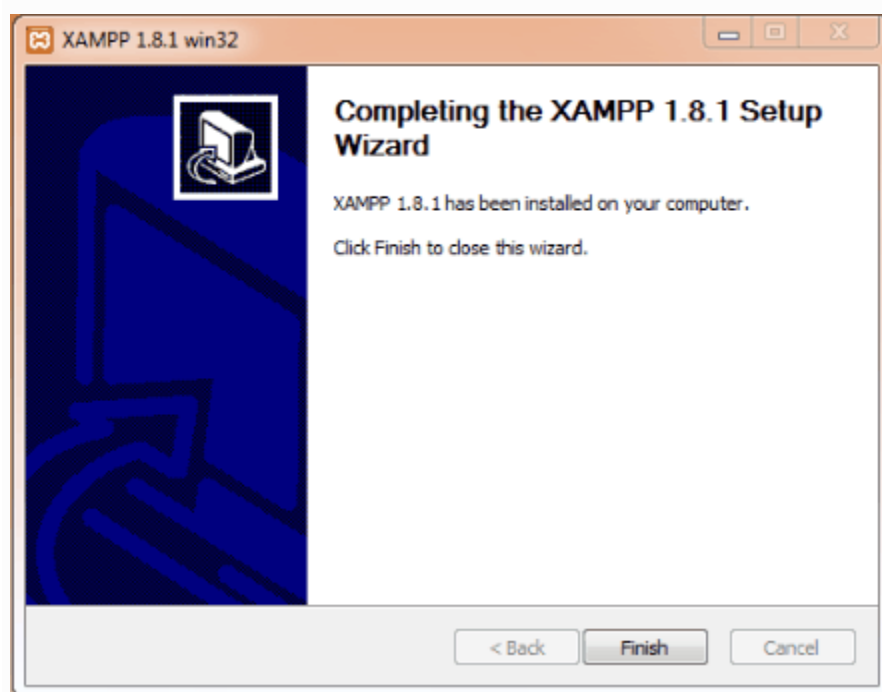
Verify that the Destination Folder is set to C:\xampp, then click Install.



7) You will see the installation progresses. Wait for the process to complete.



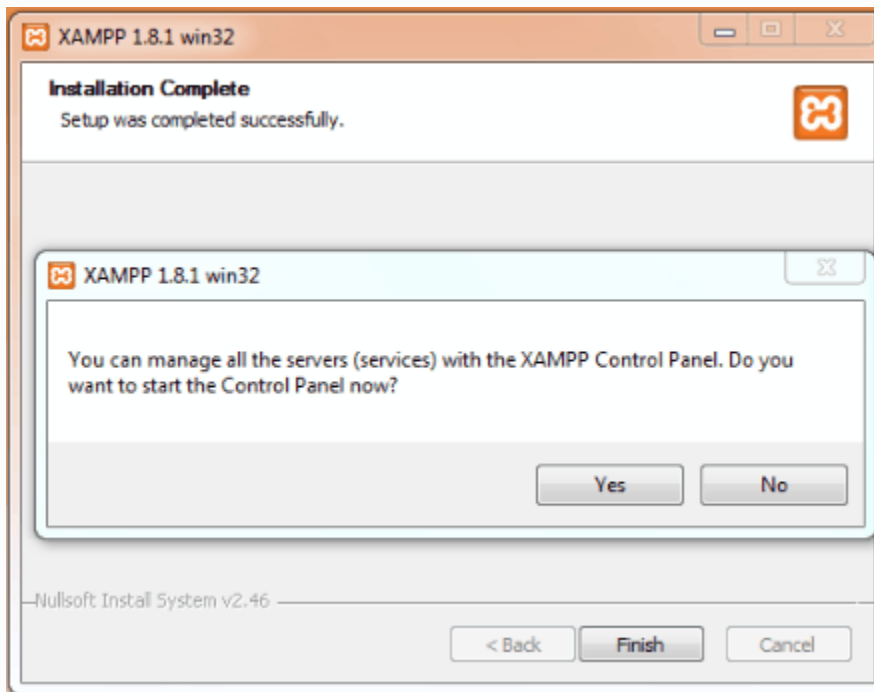
8) Click Finish to finish the installation process.





9) The dialog box asks: Do you want to start the Control Panel now?

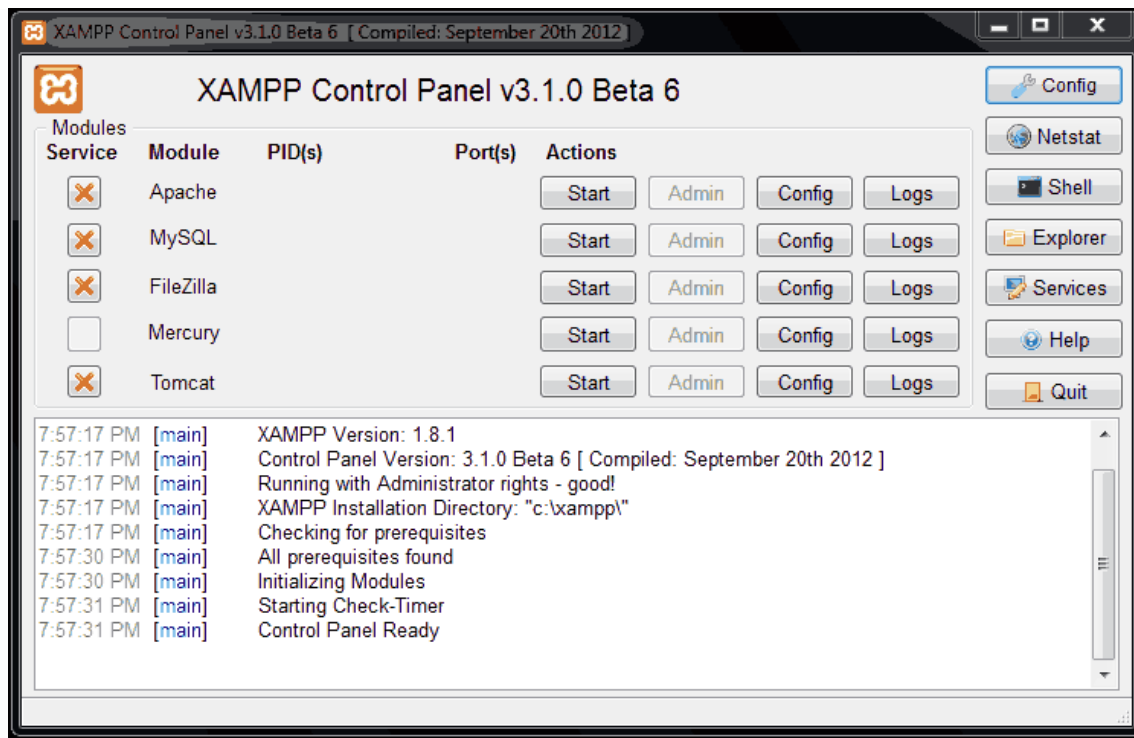
You can choose to start the Control Panel now. Clicking Yes will directly open the XAMPP control panel. Please see the Note below to know how to start XAMPP Control Panel.



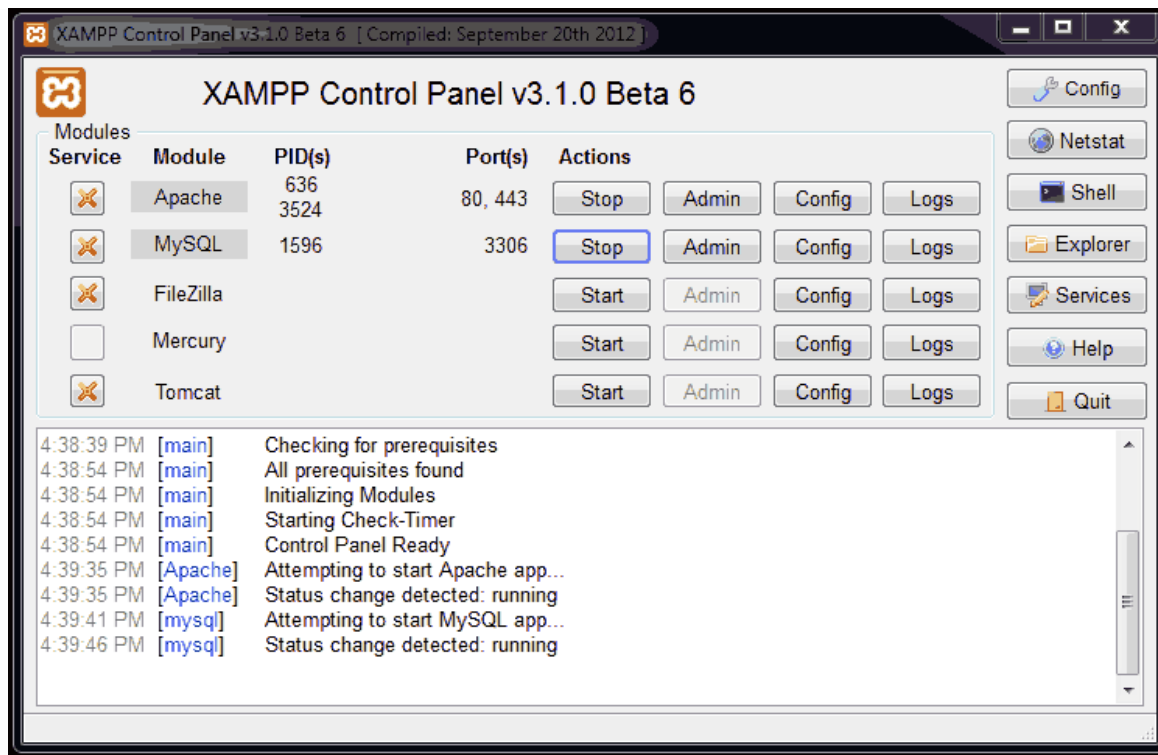
The installation is complete.

**Note:** If you want to start XAMPP Control Panel next time, right-click on the XAMPP icon found in the desktop or in the start menu, then select "Run as administrator". Click "Yes" on the "User Account Control" popup.

10) If the XAMPP control panel is not already started, find the XAMPP control panel in the start menu or the its desktop icon, right click on it and select "Run as administrator". Click "Yes" on the "User Account Control" popup, and wait for the XAMPP control panel to start. You will see the XAMPP control panel running.



11) Click on the Start button next to Apache, and wait for apache to start. After the Apache has started, click on the Start button next to MySQL. Wait for MySQL to start. Both Apache and MySQL are running now.



12) Now, open your web browser like Mozilla Firefox or Chrome.

Type "localhost" in the address bar and click enter. The browser will be redirected to "localhost/xampp/splash.php". The browser should display the page shown below.



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