Kampala International University

Study Unit 6: INTRODUCTION OF BOOTSTRAP, PHP, CMS

Outline

Students will learn More CSS HTML layout with different Browsers and conflict.
- ➢ Introduction to Bootstrap
- ➢ What is PHP
- ➢ Installation xampp server at Local Machine.
- ➢ Introduction to CMS(Content Management Systems) and Framework
- ➢ Installation WordPress
- ➢ Theme Installation in WordPress.

Learning Outcomes of Study Unit 6

Upon completion of this study unit, you should be able to learn more basic HTML with div and CSS with id and classes in practice.

1. Introduction to Bootstrap
2. What is PHP
3. Installation xampp server at Local Machine.
4. Introduction to CMS(Content Management Systems) and Framework
5. Installation WordPress
6. Theme Installation in WordPress.

1.1: Bootstrap

Outline

- **Bootstrap(**https://getbootstrap.com/**)**
- PHP(https://www.w3schools.com/php/default.asp)
- Wordpress(Introduction)

What is Bootstrap?

Bootstrap is the most popular **CSS Framework** for developing responsive and mobile-first websites.

Bootstrap 4 is the newest version of Bootstrap.

<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">

  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js"></script>

  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></script>

```html
<div class="jumbotron text-center">
  <h1>My First Bootstrap Page</h1>
  <p>Resize this page to see the responsive effect!</p>
</div>

<div class="container-fluid">
  <div class="row">
    <div class="col-sm-4">
      <h2>London</h2>
      <p>London is the capital city of England.</p>
      <p>It is the most populous city in the United Kingdom,
      with a metropolitan area of over 13 million inhabitants.</p>
    </div>
    <div class="col-sm-4">
      <h2>Paris</h2>
      <p>Paris is the capital of France.</p>
      <p>The Paris area is one of the largest population centers in Europe,
      with more than 12 million inhabitants.</p>
    </div>
    <div class="col-sm-4">
      <h2>Tokyo</h2>
      <p>Tokyo is the capital of Japan.</p>
      <p>It is the center of the Greater Tokyo Area,
      and the most populous metropolitan area in the world.</p>
    </div>
  </div>
</div>
```

My First Bootstrap Page

Resize this page to see the responsive effect!

London

London is the most populous city in the United Kingdom, with a metropolitan area of over 13 million inhabitants.

Paris

The Paris area is one of the largest population centers in Europe, ith more than 12 million inhabitants.

Tokyo

Tokyo is the cen and the most p world.

Browser Support

Bootstrap 4 is the newest version of Bootstrap.

Bootstrap 4 supports all major browsers except Internet Explorer 9.

If you require support for IE9 or IE8, you must use Bootstrap 3.

Bootstrap Containers

The container class is one of the most important Bootstrap classes.

It provides margins, padding, alignments, and more, to HTML elements.

Example

```
<div class="container">
    <h1>This is a paragraph</h1>
    <p>This is a paragraph</p>
    <p>This is a paragraph</p>
    <p>This is a paragraph</p>
    <p>This is a paragraph</p>
</div>
```

Without a Container

The container class is one of the most important Bootstrap classes.

It provides margins, padding, alignments, and more, to HTML elements.

With a Container

The container class is one of the most important Bootstrap classes.

It provides margins, padding, alignments, and more, to HTML elements.

Bootstrap Colors

```
<div class="container bg-primary text-white py-4">
<p>London is the most populous                                        city
in the United Kingdom, with a
metropolitan area of over 9 million inhabitants.</p>
</div>
```

```
<div class="container bg-success text-white py-4">
<p>London is the most populous city in the United Kingdom, with a metropolitan area of over 9 million
inhabitants.</p>
```

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Bootstrap Example</title>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.3/css/bootstrap.min.css">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.3/umd/popper.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.1.3/js/bootstrap.min.js"></script>
</head>
<body>
|
<div class="container">
  <p class="text-muted">This text is muted.</p>
  <p class="text-primary">This text is important.</p>
  <p class="text-success">This text indicates success.</p>
  <p class="text-info">This text represents some informat
```

This text is muted.

This text is important.

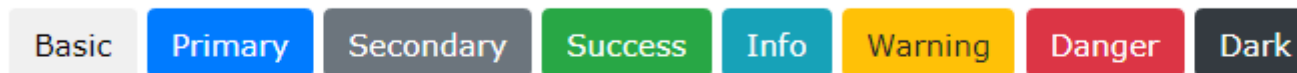# Responsive Columns:

```html
<div class="row">
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-4">.col-sm-4</div>
</div>
```

. col-sm-4	. col-sm-4	. col-sm-4

Bootstrap Buttons

Bootstrap provides different styles of buttons:

| Basic | Primary | Secondary | Success | Info | Warning | Danger | Dark |

Example

```html
<button type="button" class="btn">Basic</button>
<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-secondary">Secondary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-dark">Dark</button>
```

Bootstrap Grid System

Bootstrap's grid system allows up to 12 columns across the page.

If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:

span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1	span 1
span 4				span 4				span 4			
span 4				span 8							
span 6						span 6					
span 12											

Grid Classes

The Bootstrap grid system has four classes:

- xs (for phones - screens less than 768px wide)
- sm (for tablets - screens equal to or greater than 768px wide)
- md (for small laptops - screens equal to or greater than 992px wide)
- lg (for laptops and desktops - screens equal to or gr **Basic Structure of a Bootstrap Grid**

The classes above can be combined to

create more dynamic and flexible layouts.

The following is a basic structure of a Bootstrap grid:

```
<div class="row">
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
</div>
<div class="row">
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
  <div class="col-*-*"></div>
</div>
<div class="row">
  ...
</div>
```

First; create a row (`<div class="row">`).
Then, add the desired number of columns (tags with appro   should always add up to 12 for each row.

Three Equal Columns

.col-sm-4	.col-sm-4	.col-sm-4

The following example shows how to get a three equal-width columns starting at tablets and scaling to large desktops. On mobile phones or screens that are less than 768px wide, the columns will automatically stack:

Example

```html
<div class="row">
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-4">.col-sm-4</div>
</div>
```

Mixed: Mobile, Tablet And Desktop

Example

```html
<div class="row">
  <div class="col-xs-7 col-sm-6 col-lg-8">.col-xs-7 .col-sm-6 .col-lg-8</div>
  <div class="col-xs-5 col-sm-6 col-lg-4">.col-xs-5 .col-sm-6 .col-lg-4</div>
</div>

<div class="row">
  <div class="col-xs-6 col-sm-8 col-lg-10">.col-xs-6 .col-sm-8 .col-lg-10</div>
  <div class="col-xs-6 col-sm-4 col-lg-2">.col-xs-6 .col-sm-4 .col-lg-2</div>
</div>
```

Two Unequal Columns

.col-sm-4	.col-sm-8

The following example shows how to get two various-width columns starting at tablets and scaling to large desktops:

Example

```
<div class="row">
  <div class="col-sm-4">.col-sm-4</div>
  <div class="col-sm-8">.col-sm-8</div>
</div>
```

Why PHP?

There are many other options for server-side languages: Ruby on Rails, JSP, ASP.NET, etc.

Why choose PHP? **Free and open source**: anyone can run a PHP enabled server free of charge

Compatibility: supported by most popular web servers
Simplicity: lots of built-in functionality; familiar syntax
Availability: already installed on most commercial web hosts

What is PHP?

- PHP is an acronym for "PHP: Hypertext Preprocessor"
- PHP is a widely-used, open source scripting language
- PHP scripts are executed on the server
- PHP is free to download and use

PHP is an amazing and popular language!

It is powerful enough to be at the core of the biggest blogging system on the web (WordPress)!
It is deep enough to run the largest social network (Facebook)!
It is also easy enough to be a beginner's first server side language!

What is a PHP File?

- PHP files can contain text, HTML, CSS, JavaScript, and PHP code
- PHP code is executed on the server, and the result is returned to the browser as plain HTML
- PHP files have extension ".php"

What Can PHP Do?

1. PHP can generate dynamic page content
2. PHP can create, open, read, write, delete, and close files on the server
3. PHP can collect form data
4. PHP can send and receive cookies
5. PHP can add, delete, modify data in your database
6. PHP can be used to control user-access
7. PHP can encrypt data

With PHP you are not limited to output HTML. You can output images, PDF files, and even Flash movies. You can also output any text, such as XHTML and XML.

Why PHP?

1. PHP runs on various platforms (Windows, Linux, Unix, Mac OS X, etc.)
2. PHP is compatible with almost all servers used today (Apache, IIS, etc.)
3. PHP supports a wide range of databases
4. PHP is free. Download it from the official PHP resource: www.php.net
5. PHP is easy to learn and runs efficiently on the server side

What's new in PHP 7

- PHP 7 is much faster than the previous popular stable release (PHP 5.6)
- PHP 7 has improved Error Handling
- PHP 7 supports stricter Type Declarations for function arguments
- PHP 7 supports new operators (like the spaceship operator: `<=>`)

PHP Syntax

A PHP script is executed on the server, and the plain HTML result is sent back to the browser.

Basic PHP Syntax

A PHP script can be placed anywhere in the document.

A PHP script starts with `<?php` and ends with `?>`:

```
<?php
// PHP code goes here
?>
```

The default file extension for PHP files is "`.php`".

A PHP file normally contains HTML tags, and some PHP scripting code.

Below, we have an example of a simple PHP file, with a PHP script that uses a built-in PHP function "`echo`" to output the text "Hello World!" on a web page:

```
<!DOCTYPE html>
<html>
<body>

<h1>My first PHP page</h1>

<?php
echo "Hello World!";
?>

</body>
</html>
```

My first PHP page

Hello World!

Hello World!
Hello World!
Hello World!

```
<!DOCTYPE html>
<html>
<body>


<?php
ECHO "Hello World!<br>";
echo "Hello World!<br>";
EcHo "Hello World!<br>";
?>


</body>
</html>
```

Note: However; all variable names are case-sensitive!

```
<!DOCTYPE html>
<html>
<body>

<?php
$color = "red";
echo "My car is " . $color . "<br>";
echo "My house is " . $COLOR . "<br>";
echo "My boat is " . $coLOR . "<br>";
?>

</body>
</html>
```

```
My car is red
My house is
My boat is
```

Lifecyle of PHP Web Request
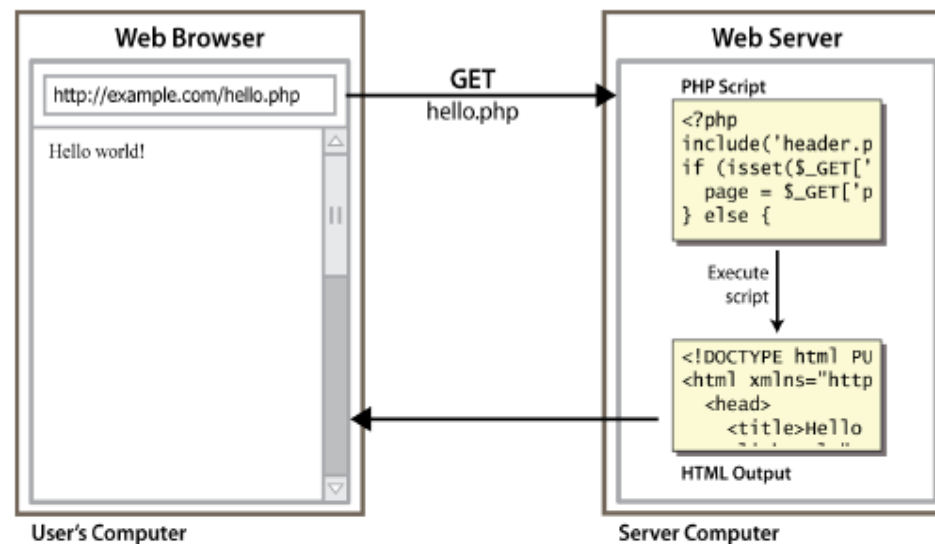
- Browser requests an HTML file (**static content**): server just sends that file
- Browser requests a PHP file (**dynamic content**): server reads it, runs any script code inside it, then sends result across the network
  - Script produces output as the response sent back

Installation of System Requirements

If a user has adequate knowledge about the installation process, all the requirements can be installed one by one separately before proceeding to Mantis.

Alternatively, there are many all-in-one packages available, having all the requirements and can be automatically installed in the system by exe file. Here, we will take the help of XAMPP to install pre-requisites easily.

Step 1 − Go to https://www.apachefriends.org/index.html and click XAMPP for Windows as shown in the following screenshot.

Step 2 − A pop-up will display to save the file. Click Save File. It will start downloading the file.

Step 3 − Run the **.exe** file to run the installation wizard. After clicking the **.exe** file, XAMPP Setup wizard displays. Click Next.

The following screenshot shows the XAMPP setup wizard.
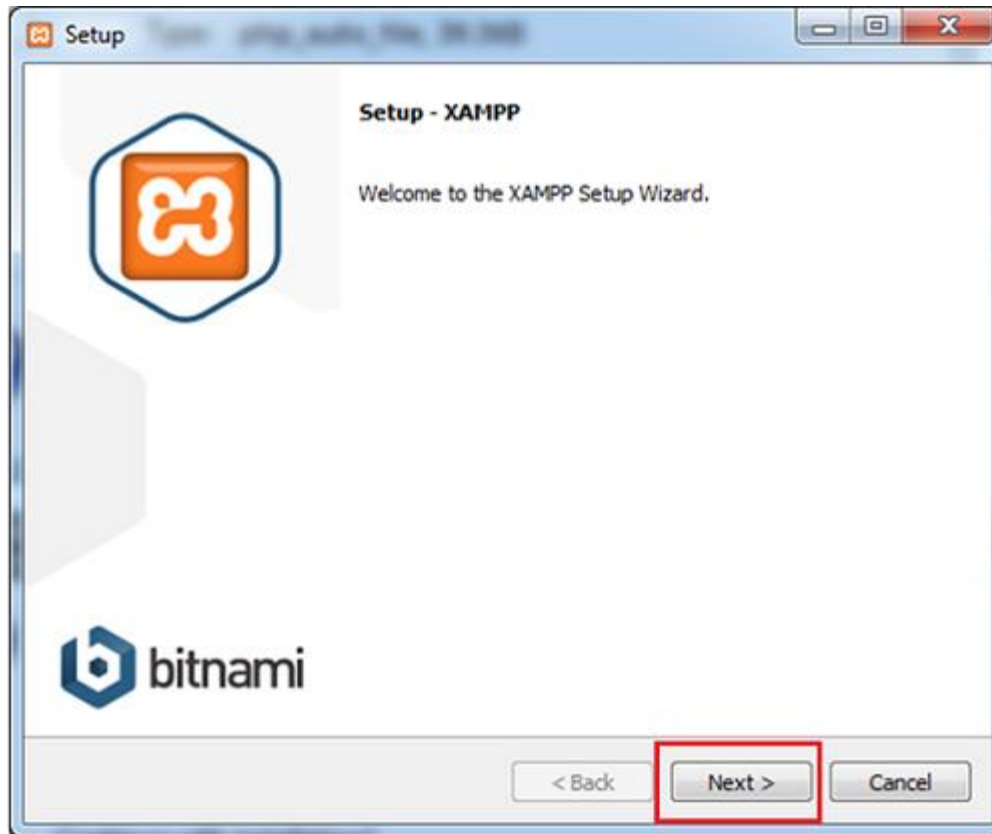
Step 4 − The next wizard displays all the component files that will install as shown in the following screenshot. Click Next after making a selection of components.
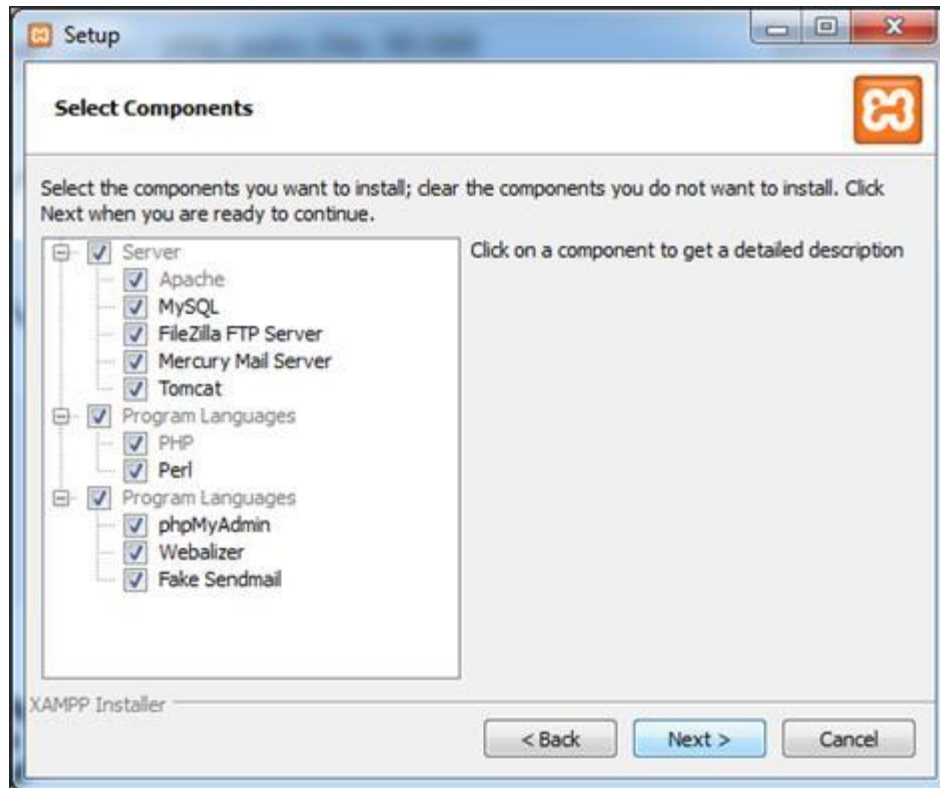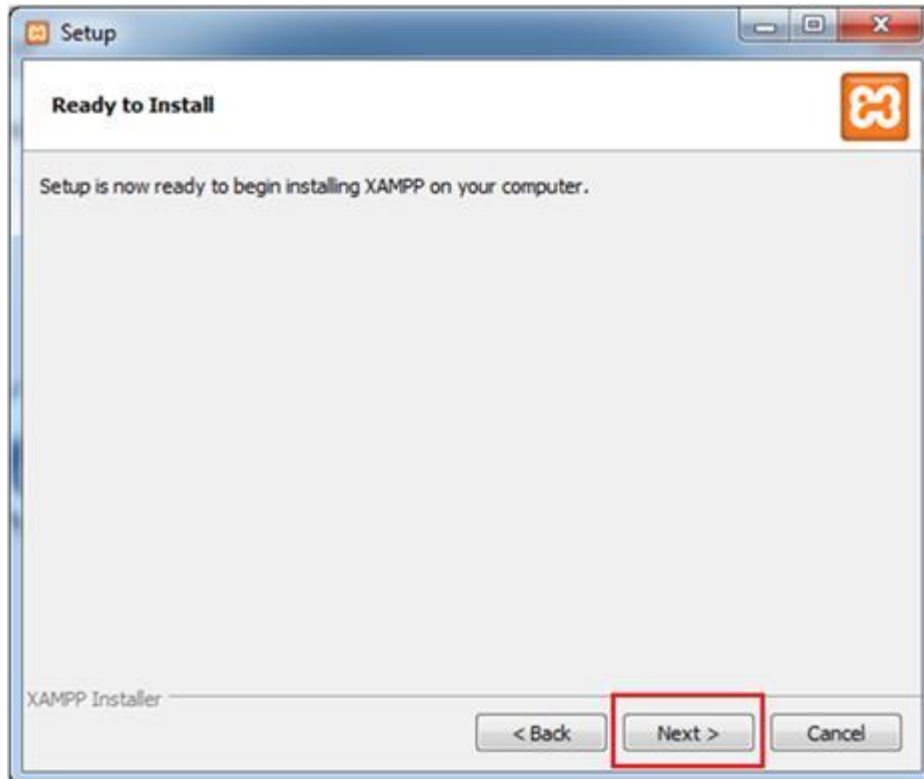
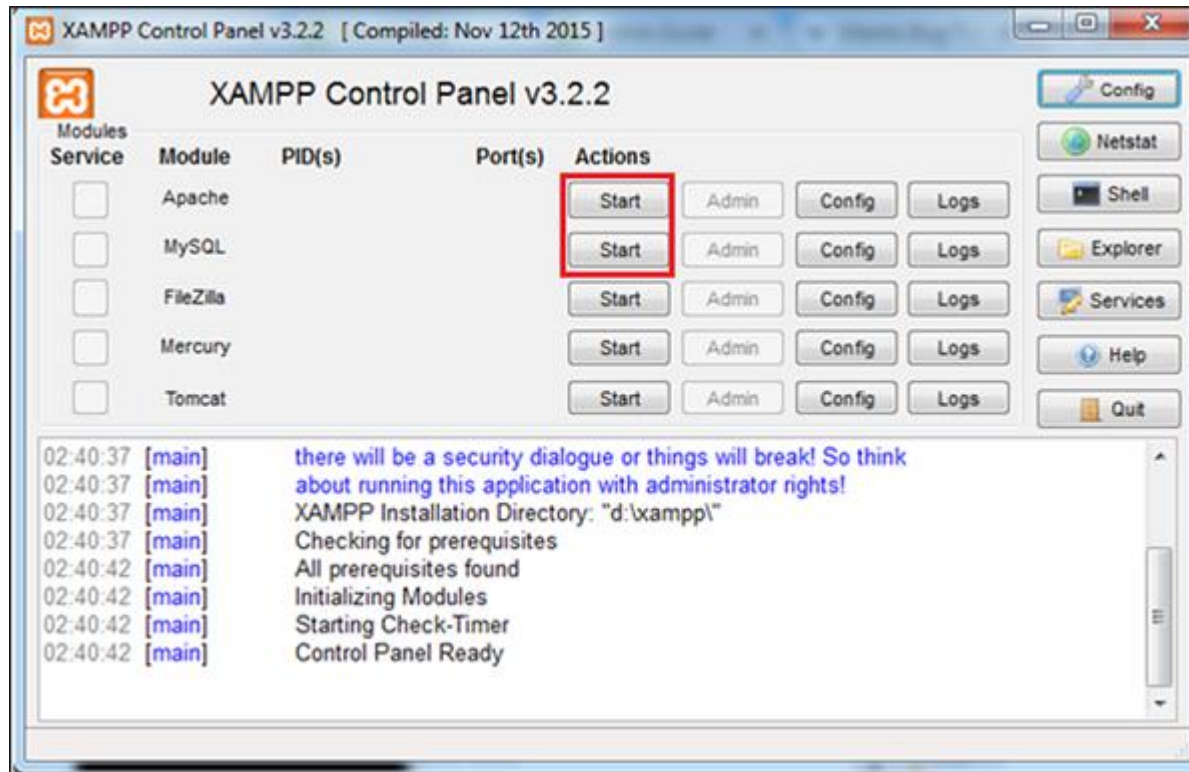**Step 5** − Provide a folder name where XAMPP will be installed and click Next.
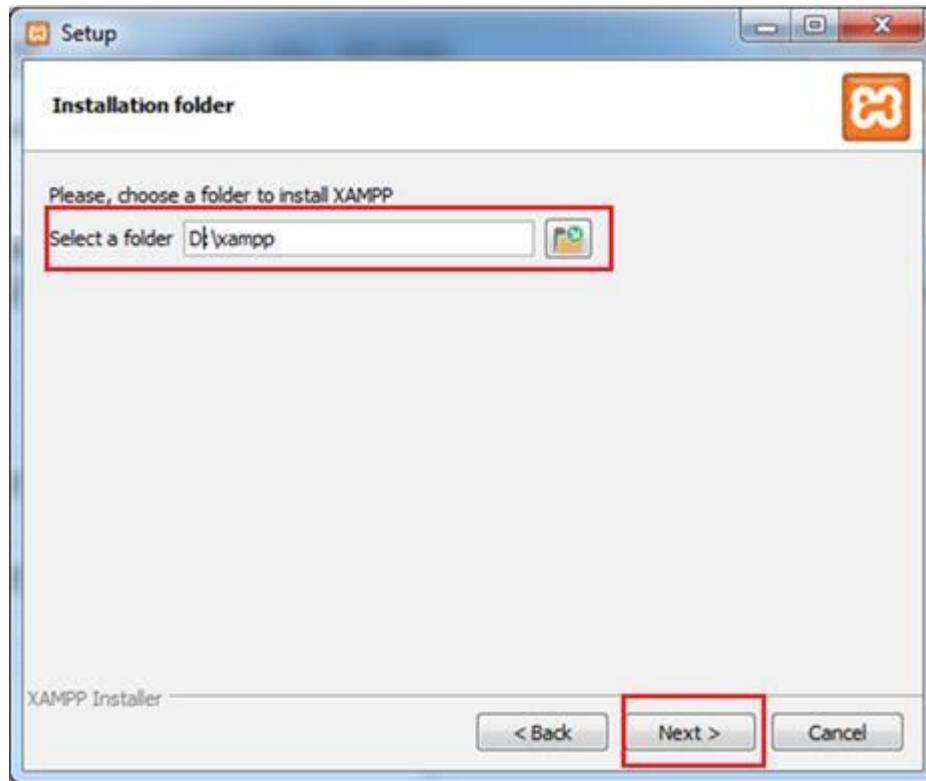
Ready to Install wizard is displayed.

Step 6 − Click Next to start the installation.

Step 7 − After successful installation, it will ask to start the control panel. Check the checkbox and click Finish. It will open the XAMPP control panel as displayed in the following screenshot.

Step 8 − Click the Start button for Apache and MySQL, required for Mantis as shown in the above screenshot.

Step 9 − To verify whether all the pre-requisites such as Apache, PHP, and MySQL is installed properly, navigate to any of the browser, type **http://localhost** and press Enter. It will display the dashboard of XAMPP. Click phpAdmin at the right top corner as shown in the following screenshot.

The next screenshot will display General Settings, Application Settings, Details of Database, Web Server, and phpMyAdmin.
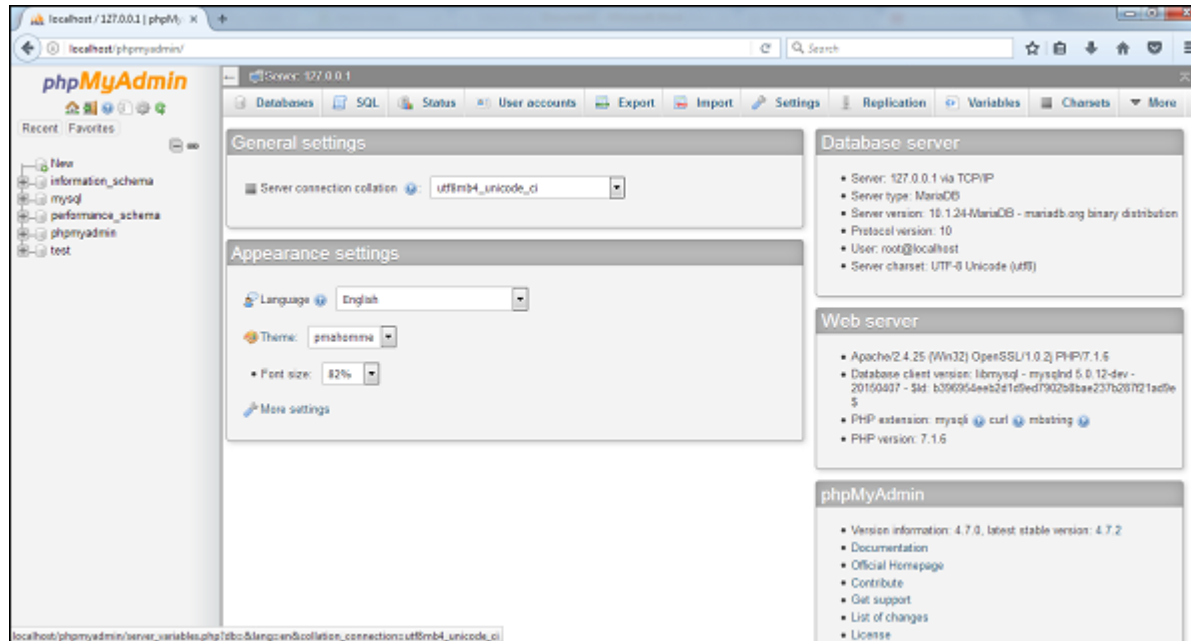
If the installation is not proper, this page won't be displayed. Till this point, all the pre-requisites are successfully installed in the system.

WordPress(CMS)

Introduction to Content Management System (CMS)

Content development has become a sensational means of sharing information over the internet. Even the non-technical users got the ability to publish content easily and quickly on the World Wide Web. It is all possible because of the easy-use of content management tools available and is widely used by firms, news organizations, educational institutions, and other businesses. In this chapter, you will learn about the concept of CMS and why it is widely accepted in the market.

What Is Content Management System?

Content Management System (CMS) can be defined as a tool or software program containing a set of interrelated programs used for creating and managing different digital or online content. Some famous examples of CMS software are **Joomla**, **Drupal**, **WordPress** etc.

Features of Content Management System

1. **User Management**: This permits the management of user information like the roles of different users allotted to work simultaneously, such as creating or deleting the user, change the username, password, and other related information.

2. **Theme System**: This allows us to modify the site view as well as functionality using stylesheets, images, and templates.

3. **Extending Plugins:** Different plugins are offered, which gives custom functionalities and features to create the CMS site.

4. **Search Engine Optimization**: It is embedded with a lot of search engine optimization (SEO) tools making content SEO more straightforward.

5. **Media Management**: is used for managing the media files and folder, with uploading media contents easy and effortless.

6. **Multilingual**: Translation of the language, as preferred by the user, is possible through CMS.

Advantages of Content Management System

- Most of the CMS is open source and is available for free.

- Easy and quick uploading of media files can be done.

- Several SEO tools make on-site SEO simpler.

- Easy customization is possible as per the need of the user.
- It can modify CSS files as per the design needed by the user.
- Many templates and plugins are available for free. Customization of plugins is also possible.
- Content editing is also more comfortable as it uses the WYSIWYG editor.

Disadvantages of Content Management System

- CMS software needs a time-to-time update, and hence the user needs to look out for an updated version.
- The use of different plugins can make your website heavy and challenging to run.
- CMS hosting is quite expansive.
- PHP knowledge is required to modify or change the WordPress website.

Download WordPress

When you open the link https://wordpress.org/download/ ⧉ , you will get to see a screen as the following snapshot −
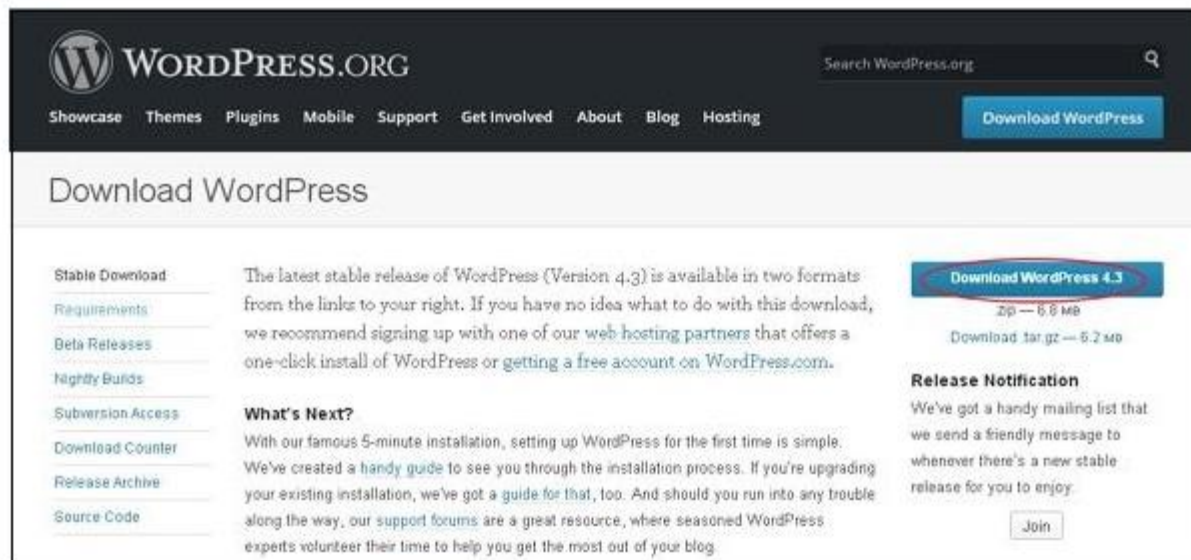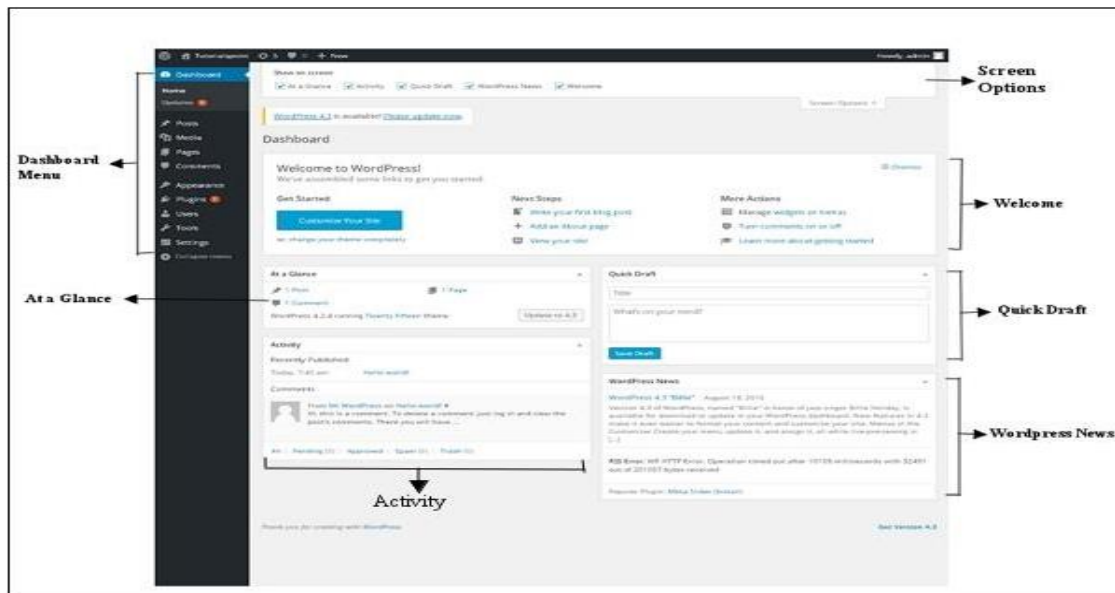

WordPress - Dashboard

The WordPress Dashboard is a first screen which will be seen when you log into the administration area of your blog which will display the overview of the website. It is a collection of gadgets that provide information and provide an overview of what's

happening with your blog. You can customize your needs by using some quick links such as writing quick draft, replying to latest comment, etc.

Dashboard can be categorized as shown in the following snapshot. Each of these categories are discussed in the following sections −

The WordPress Dashboard provides navigation menu that contains some menu options such as posts, media library, pages, comments, appearance options, plugins, users, tools and settings on the left side.

The dashboard contains different types of widgets which can be shown or hidden on some screens. It contains check boxes to show or hide screen options and also allows us to customize sections on the admin screen.

It includes the **Customize Your Site** button which allows customizing your WordPress theme. The center column provides some of the useful links such as creating a blog post, creating a page and view the front end of your website. Last column contains links to widgets, menus, settings related to comments and also a link to the **First Steps With WordPress** page in the WordPress codex.

The **Quick Draft** is a mini post editor which allows writing, saving and publishing a post from admin dashboard. It includes the title for the draft, some notes about the draft and save it as a Draft.

The **WordPress News** widget displays the latest news such as latest software version, updates, alerts, news regarding the software etc. from the official WordPress blog.

The **Activity** widget includes latest comments on your blog, recent posts and recently published posts. It allows you to approve, disapprove, reply, edit, or delete a comment. It also allows you to move a comment to spam.

This section gives an overview of your blog's posts, number of published posts and pages, and number of comments. When you click on these links, you will be taken to the respective screen. It displays the current version of running WordPress along with the currently running theme on the site.
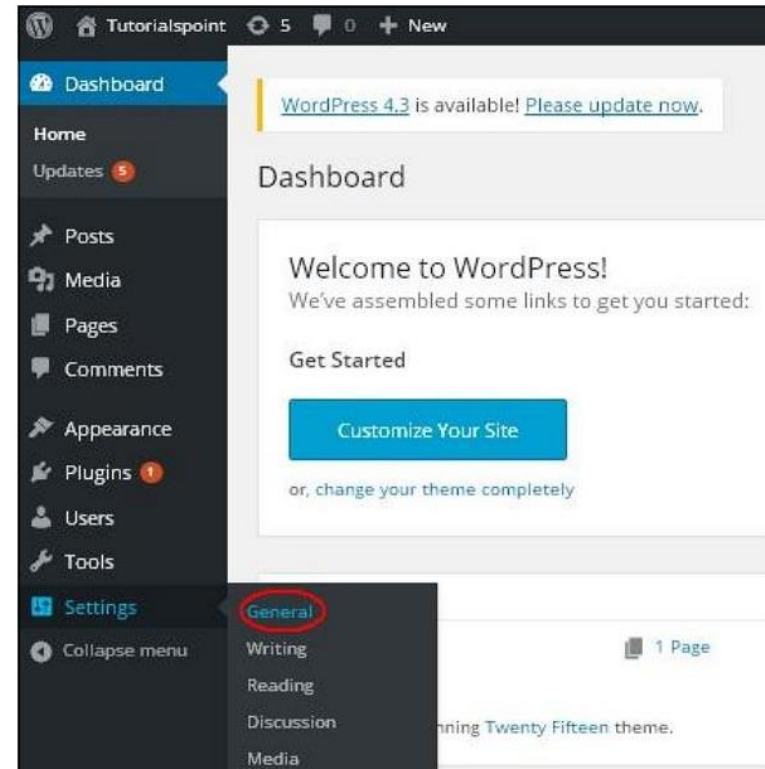
WordPress - General Setting

In this chapter, we will study about **General Settings** in
WordPress. WordPress general setting is used to
set the basic configuration settings for your site.
In the setting administration screen, it is a default setting screen.
Following are the steps to access the general settings −

Step 1 − Click on **Settings** → **General** option in WordPress.

Self-Review Questions (SRQ) For Study Session 6

Now that you have completed this study unit, you can assess how well you have achieved its Learning Outcomes by answering these questions. Write your answers in your Study Diary and discuss them with your Tutor at the next Study Support Meeting or Online interactive sessions. You can also check your answers at the Self-Review Answers section which is located at the end of this Module.

1: what is Bootstrap? Describe its Grid system with examples?
2: what is PHP? What can we do with PHP? Describe the lifecycle of PHP web request.
3: what is Content Management System? Describe Features of CMS and advantages and disadvantages.
4: what is xampp server? Why we use it .

Self-Review Answers (SRA) for Study Unit 6

1: See above slides and following links.

References and Additional Reading Materials

- For Bootstrap (responsive layout) https://getbootstrap.com/
- For PHP https://www.w3schools.com/php/DEFAULT.asp
- For wordpress installation https://www.wpbeginner.com/wp-tutorials/how-to-create-a-local-wordpress-site-using-xampp/
- https://www.wpbeginner.com/how-to-install-wordpress/