

Unit 3.2 - Content Management System

Joomla

Introduction To CMS

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, TYPO3, etc. The typical use of CMSes are in two areas:

Enterprise Content Management (ECM) and
Web Content Management (WCM)

In the majority of the cases, it can support many users, letting them work in the association. For example, WordPress makes it possible to create many administrative users, where each one has different privileges hence making the work progress in parallel. Content management systems also comprise of text as well as the layout and design features like the facility to upload multimedia content like photos, videos, audio, maps, or even any source code.

Introduction to Joomla

Joomla is a free and open source content management system (CMS) to build websites and powerful online applications. With powerful core features, ease of use and extensibility, Joomla has become one of the most popular web site software.

CMS stands for content management system, the software keeps track of every piece of content on your web site. Content can be simple text, photos, music, video ... It is easy to you that does not require any technical skill or knowledge.

Joomla extensions extend the functionality of Joomla websites. There are 5 types of extensions: components, modules, plugins, templates, and languages. Each of these extensions handles a specific function.

- **Templates** - Templates determine the layout, style or look and feel and layout of a site.
- **Components** - the largest and most complex extensions. Most components have two parts: a site part and an administrator part. Every time a Joomla page loads, one component is called to render the main page body.

- **Plugins** - are advanced extensions to be registered to handle that event execute. For example, a plugin could be used to block user-submitted articles and filter text.
- **Modules** - render pages in Joomla. They are linked to Joomla components to display new content. Joomla modules look like boxes, such as the search or login module.
- **Languages** - are very simple extensions that can either be used as a core part or as an extension.

Download & Installation

Before installation, we need to have at least a web server, PHP and MySQL database installed and configured in a computer. To have all three of them together, we can use XAMPP, it can be downloaded and installed on Windows or Linux machines.

<https://www.apachefriends.org/download.html>

Once XAMPP installed, from the control panel, start Apache and MySQL servers. Then create a database in MySQL using phpmyadmin from something like <http://localhost/phpmyadmin> or maybe different as per the installation.

Now assumed the database name is; swastik_joomla and MySQL username is root and password is empty (").

Now as per Joomla's official documentation at joomla.org, here is the list of steps to install and configure Joomla.

1. Download the Joomla! 3.0.x full package at <https://www.joomla.org/download.html>
2. Create a new folder entitled "Joomla30" in folder "htdocs" in XAMPP folder. Normally it will be located at "C:\xampp\htdocs"
3. Unpack the downloaded package file into the folder "Joomla30"
4. Go to the URL "http://localhost/Joomla30"
5. Follow all steps in Joomla! installation:
 - Step 1. Main Configuration
 - Select Language: Choose your own language in the drop-down menu, for example, "English (United States)"
 - Site Name: Enter the name of your site
 - Description: Enter the description of your site
 - Site Offline: Choose status for your website when you access to your site: Click "Yes" for "offline" and "No" for "online"
 - Admin Email: Enter your valid email address you want to use for your site
 - Admin Username: Enter "admin" as default
 - Admin Password: Enter your own password
 - Confirm Admin Password: Re-type your password
 - Click "Next" to continue Step 2

- Step 2. Database Configuration
 - Database Type: Select MySQLi
 - Host Name: Enter "localhost"
 - Username: Enter "root"
 - Password: let it blank
 - Database Name: enter the name of the database you created "Joomla30"
 - Table Prefix: let it generate automatically
 - Old Database Process: Click "Backup" to backup tables from former Joomla! installation, or "Remove" to delete these tables
 - Click "Next" to continue Step 3
- Step 3. Overview
 - Finalization: You can choose installing sample data or not, by clicking on corresponding selection.
 - Overview: This step is to review all information you configured in step 1. After checking, you click "Install".
 - When installation finishes, you just need to click the button "Remove installation folder" button to complete the installation process. After that, you can either click on "Site" to see your newly created or "Administrator" to access the administration area.

Now you have your first Joomla! site installed successfully! It's not too hard, right? If you have any trouble with the installation process, you can try in the following sources for the answer:

Handling Joomla Backend

The Administrator application, also known as the Back-end, Admin Panel or Control Panel, is the interface where administrators and other site officials with appropriate privileges can manipulate the look of a Joomla! powered website.

There are many tasks which can be done with the administrator interface. You can set up how your website looks with the Template Manager or completely change a web site's look by changing the template to another template. You can also add new extensions such as components, languages, modules, and plugins. Many of these are found on the Joomla! Extension Directory (JED).

The Back-end of a Joomla! site is used to manage the content, appearance and functionality of the site. It is not seen by visitors to the 'Front-end' and you can only login to it if you have appropriate permissions. It is here too that the basis of a new site is created.

Administrator Back-end permissions:

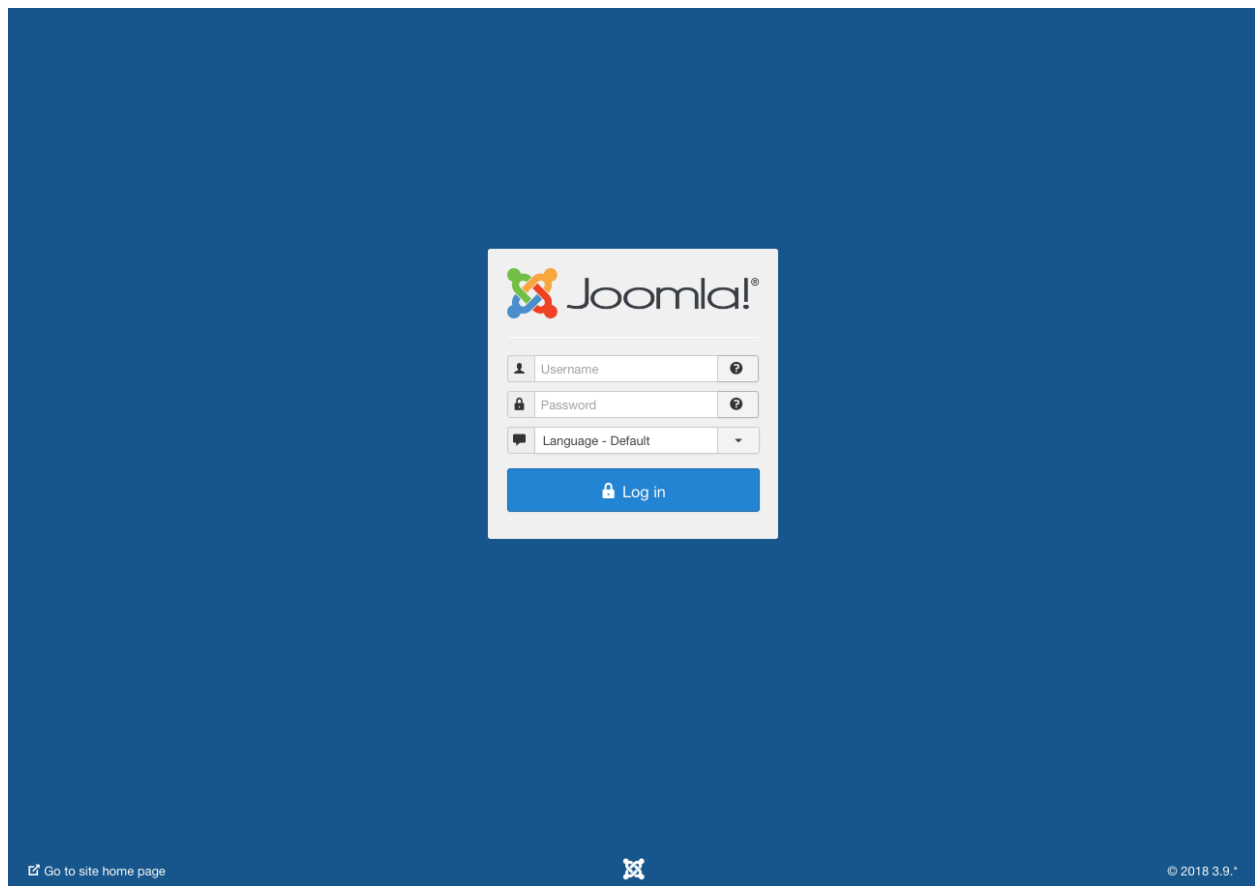
There are three levels of users who have access to the Back-end. They are important because they have site-wide permissions to alter content and other things.

- **Super Administrators:** They can do anything and in particular they can alter configurations and install new extensions.
- **Administrators:** They can do most things, apart from installing extensions, altering site-wide configurations. They cannot alter the Super administrator user accounts.
- **Managers:** They can login to these pages but are limited to the main menu and managing the content.

How to log in

The Administrator interface (application) can be reached by appending the word administrator to the URL of your site. For example, if you usually access your website on:

<https://www.example.com/> → then go to <https://www.example.com/administrator> to access the Administrator panel



- Enter your username and password into the relevant fields. If required, select your preferred language from the drop-down list.
- Now click the Login button and if you are logged in successfully you should see the Administrator control panel screen which looks similar to this:

The screenshot displays the Joomla! Administrator Control Panel. The top navigation bar includes menus for System, Users, Menus, Content, Components, Extensions, and Help, along with the Joomla! logo and version 3.9.*. The left sidebar contains a 'Control Panel' header and a list of management categories: CONTENT (New Article, Articles, Categories, Media), STRUCTURE (Menu(s), Modules), USERS (Users, No Urgent Requests), CONFIGURATION (Global, Templates, Language(s)), EXTENSIONS (Install Extensions), and MAINTENANCE (Joomla is up to date, All extensions are up to date).

The main content area is divided into several sections:

- RECENTLY ADDED ARTICLES:** A list of five articles, each with a green checkmark icon, a title in English (e.g., 'About your home page (en-GB)', 'Welcome to your blog (en-GB)', 'Working on Your Site (en-GB)', 'About (en-GB)', 'Your Template (en-GB)'), the author 'Super User', and a timestamp '2018-11-17 08:10'.
- PRIVACY DASHBOARD:** A table showing request types and their status.

Request Type	Status	# of Requests
Remove	Invalid	1
1 Total Request	0 Active Requests	
- SITE INFORMATION (EN-GB):** A table providing system details.

OS	Linux I
PHP	7.1.24
MySQLi	5.7.18-cll-lve
Time	20:50
Caching	Disabled
Gzip	Disabled
Users	3
Articles	10
- LOGGED-IN USERS:** A list showing one active user: 'Super User Administration' with a timestamp '2018-12-01 20:50'.

The bottom status bar shows 'Multilingual Status', 'View Site', '0 Visitors', '1 Administrator', '0 Messages', and a 'Log out' button. The footer indicates 'Joomla! 3.9.1 - © 2018 3.9.*'.

Customization In Joomla

From the administrator panel, we can customize the Joomla backend and frontend. By installing extensions, by modifying the template directly from the backend, we can change and customize the whole website.

Introduction to Extensions

Joomla Framework

The Joomla Framework contains the collection of open-source software libraries/packages, on which Joomla content management system is built on. There is no need to install the Joomla Framework to use the CMS or vice-versa. Joomla Framework provides a group of files which is

useful to create both web and command-line applications. It breaks the framework into single modular packages, and further, it helps each package to develop more easily.

Components

Components are referred to as mini-applications which contain two parts:

- Administrator
- Site

Whenever a page is loaded, the component is called to render the body of the main page. The Administrator part manages the different aspects of the component, and the site part helps in rendering the page when any site visitor makes a request. Components are known as the important functional units of Joomla.

Modules

Modules can be defined as the lightweight extensions used to render pages in Joomla. They are used to display new data from the component. They can stand on its own and are managed by the 'Module Manager', which is itself a component. They look like boxes, such as the login module. They also help to display the new content and images when the module is linked to Joomla components.

Plugin

The Plugin can be explained as a very flexible and powerful Joomla extension, used to extend the framework. Plugins are few codes that execute on occasion of specific event triggers. It is generally used to format the output of a component or module when a page is developed. The plugin functions which are associated with an event are commonly executed in a sequence whenever a particular event occurs.

Templates

Templates are used to manage the look of the Joomla websites. There are basically two types of templates available; Front-end and Back-end. The Front-end template is a way to manage the look of the website, which is seen by the users. The Back-end template is used to manage or control the functions by the administrator. Templates are the easiest way to build or customize the site. They are used to add maximum flexibility to make your site look attractive.

Installation and Use of Extensions in Joomla

Template Development In Joomla

Artiseer (IDE)

Module Development In Joomla

Component Development In Joomla

Introduction to MVC

Wordpress

Introduction to Wordpress

Downloading & Installation

Theme Integration

Creating Pages

Managing Posts

Managing Widgets