



WEBSITE FRAMEWORKS – I (JOOMLA)

Unit -1 Introduction to Joomla CMS

Introduction to Joomla



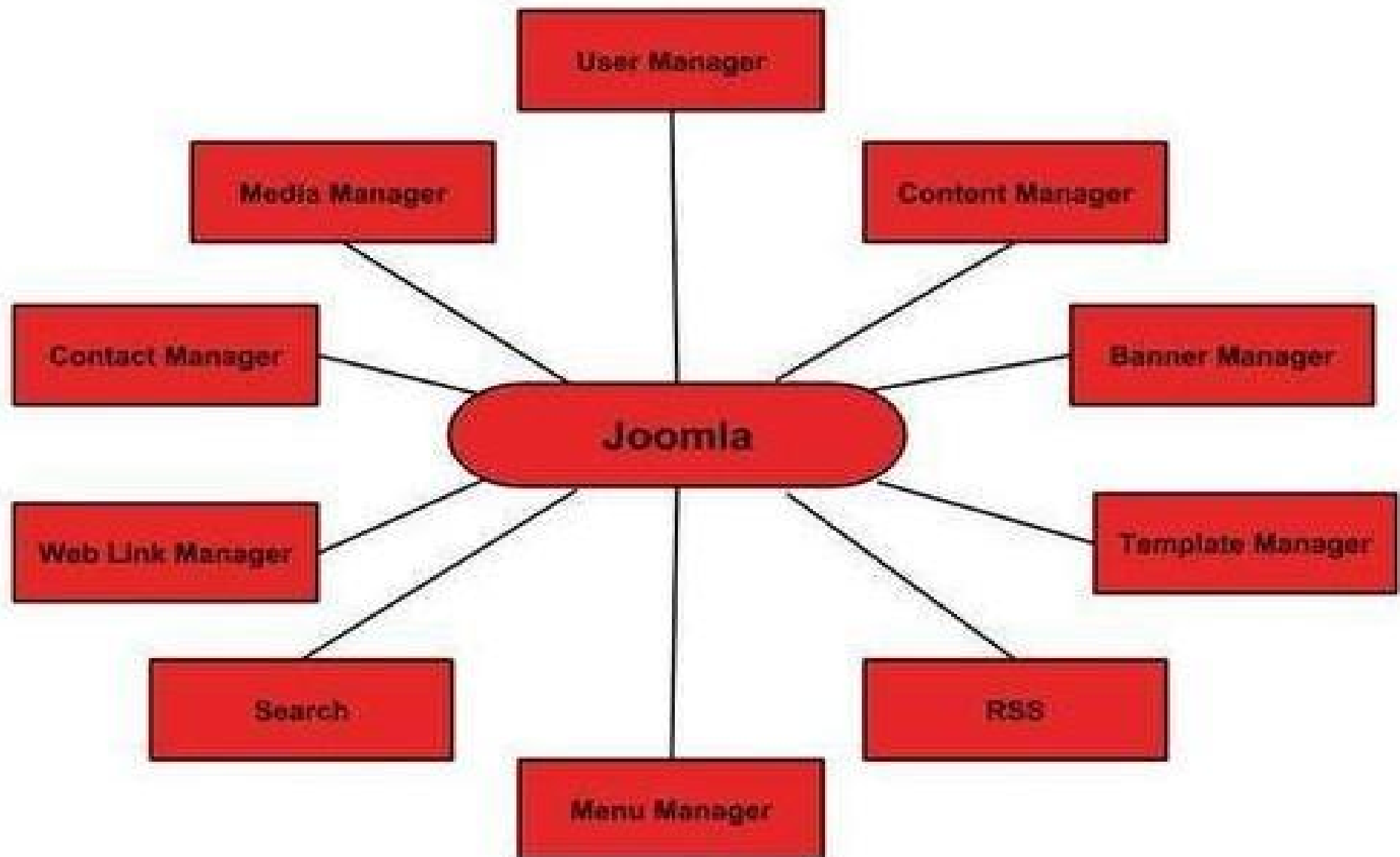
- A free open source **PHP framework** that allows to build web sites and powerful online applications.
- Joomla is **written in php for managing content** on the web and **uses a mysql database to store the content**.
- It is free and extendable which is separated into front-end templates and back-end templates (administrator).
- Joomla is developed using PHP, Object Oriented Programming, software design patterns and MySQL (used for storing the data).
- **Note : A PHP Framework is a basic platform that allows us to develop web applications.**
- In other words, it **provides structure**.

A Brief History



- Joomla is based on **Mambo CMS** which was developed by an Australian company in 2001 and initially released on August 17, 2005.
- The official version of Joomla 1.0 was released on September 22, 2005.
- The latest version of Joomla is 4.1.5

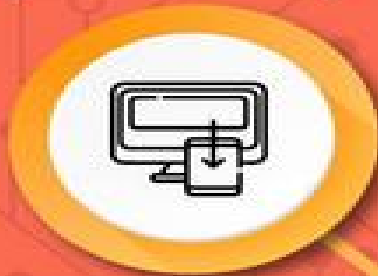
Features of Joomla





Great Features of Joomla

Responsive Layout



Fortified Security



User-friendly Interface



SEO Microdata



Google Recaptcha



Cloud Storage



Features of Joomla



- **User Manager** – It allows managing the user information such as permission to edit, access, publish, create or delete the user, change the password and languages. The main part of the user manager is Authentication.
- **Content Manager** – It allows managing the content using WYSIWYG (What You Say Is What You Get) editor to create or edit the content in a very simple way.
- **Banner Manager** – It is used to add or edit the banners on the website.
- **Template Manager** – It manages the designs that are used on the website. The templates can be implemented without changing the content structure within a few seconds.
- **Media Manager** – It is the tool for managing the media files and folder in which you can easily upload, organize and manage your media files into your article editor tool.
- **Contact Manager** – It allows to add contacts, managing the contact information of the particular users.

Features of Joomla



- **Web Link Manager** – The link resource is provided for user of the site and can be sorted into categories.
- **Search** – It allows users to search the appropriate information on the site. You can use smart indexing, advanced search options, auto suggest searches to make Joomla search best.
- **Menu Manager** – It allows to create menus and menu items and can be managed subsequently. You can put menu in any style and in multiple places
- **RSS** – It stands for Really Simple Syndication which helps your site contents and RSS files to be automatically updated.

Advantages of Joomla



- It is an **open source platform** and available for free.
- Joomla is designed to be **easy to install** and set up even if you're not an advanced user.
- Since Joomla is so **easy to use**, as a web designer or developer, you can quickly build sites for your clients. With minimal instructions to the clients, clients can easily manage their sites on their own.
- It is very **easy to edit the content** as it uses WYSIWYG editor (allows the user to directly manipulate the layout of the document without having a layout command).
- It ensures the **safety of data** content and doesn't allow anyone to edit the data.
- By default, Joomla is **compatible with all browsers**. The templates are very **flexible** to use.
- Media files can be **uploaded easily** in the article editor tool.
- Provides **easy menu creation tool**.

Disadvantages of Joomla



- It gives **compatibility** **problem** while installing several modules, extensions and plugins simultaneously.
- **Plugins and modules are not free** in Joomla.
- **Development is too difficult to handle** when you want to change the layout.
- Joomla is **not much SEO** (Search Engine Optimization) friendly.
It makes website heavy to load and run.

Real World Examples of Joomla



- Corporate web sites or portals
- Corporate intranets and extranets
- Online magazines, newspapers, and publications
- E-commerce and online reservations
- Government applications
- Small business websites
- Non-profit and organizational web sites
- Community-based portals
- School and religious web sites
- Personal or family homepages

Joomla as CMS



- Joomla is an **open source Content Management System (CMS)**, that enables you to easily create and manage the contents of a website.

Content Management System



- A Content Management System (CMS) is a **software tool** that is installed on a server.
- A WCMS (Web Content Management System) enables you to publish pages on a website and to **manage the website's features, content and users through an easy-to-use browser based interface.**
- Managing content refers to creating, editing, archiving, publishing, collaborating on, reporting, distributing website content, data and information.
- Content in a CMS is typically stored in a database and displayed in a presentation layer based on a set of templates.

CMS Examples



“When you are planning to build a new blog or a website for business or have a corporate presenece.

The hassles of coding using HTML pages and using CSS are things of the past.”

“Life’s simpler just purchase web hosting services and start using the CMS, in no time the website has a fresh and polished look”

CMS Examples

- Joomla
- Drupal
- Wordpress
- Magento
- ExpressionEngine
- SilverStripe

Advantages of CMS



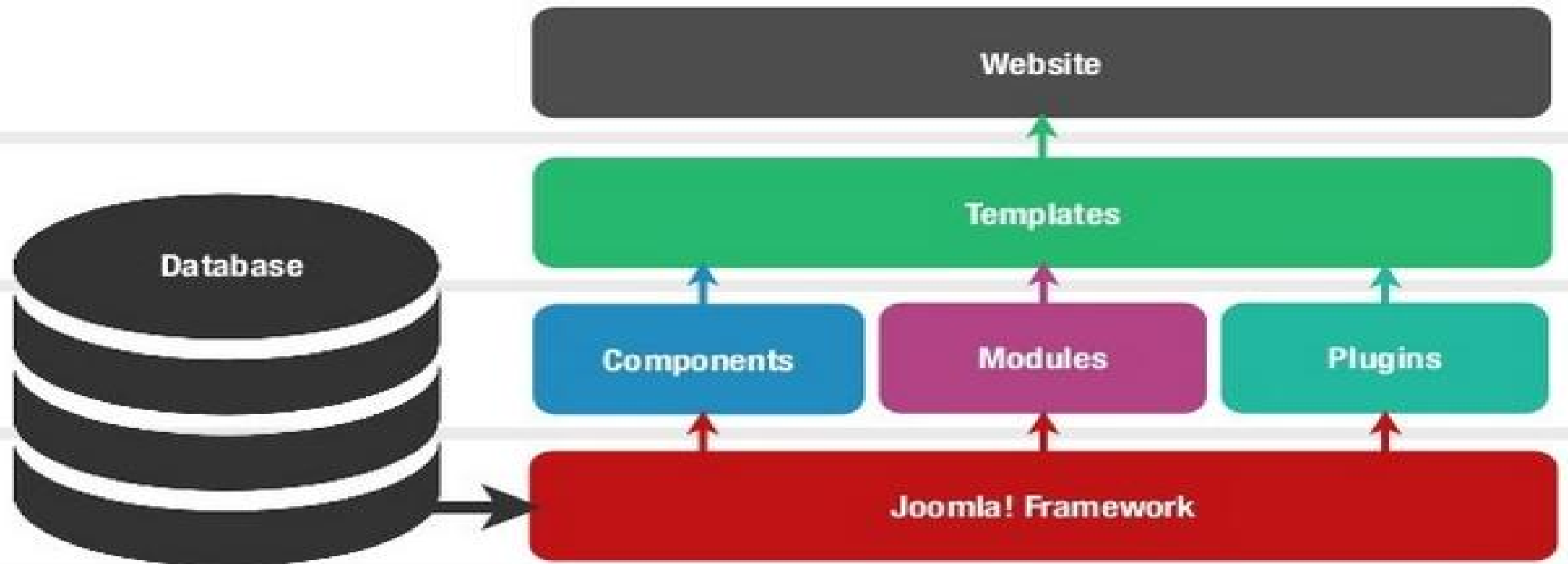
- **Faster development time**, as it allows for quicker website design, as well as solutions to many of the development problems that can come up.
- **Cheaper overall cost.**
- **Reduced** web administration and web development **expenses.**
- **No need to learn or write code.**
- Choose from a wide variety of templates.
- **Simple interfaces** and easy to use.
- **Straightforward process** of creating and publishing content.
- CMS developers can assist with the initial design and then hand it over to the website owner with no further involvement necessary.

Joomla Architecture



Joomla! CMS Architecture

Lets take a look under the hood



Joomla Architecture



- **Database** – Database is a collection of data and can be stored, manipulated and organized in a particular manner. The database stores the user information, content and many more required data of the site.
- **Joomla Framework** – Framework is a collection of open source software, where the Joomla CMS is built.
- **Components** – Components are considered as **mini applications**. It consists of two parts i.e. **Administrator and Site**. Whenever a page gets loaded, component is been called to render the body of main page.

Joomla Architecture



- **Modules** – Modules is an extension which is used to render the pages in Joomla. **It is also used to display the new data from the component.** It frequently **looks like boxes such as login module.**
- **Plugin** – This is also a kind of Joomla extension, it is very flexible and powerful for extending the framework.
- **Templates** – Template determines the look of the Joomla website. There are two types of templates used i.e. **Front-end and Back-end.** The **Back-end template** is used to control the functions by the **administrator** where-as the **Front-end template** is a way to present the **website to users.**

Joomla Architecture



Joomla!

TEMPLATE

Home Sample Sites Joomla.org



Joomla! COMPONENT

Congratulations! You have a Joomla! site! Joomla makes it easy to build a website just the way you want it and keep it simple to update and maintain.

Joomla is a flexible and powerful platform, whether you are building a small site for yourself or a huge site with hundreds of thousands of visitors. Joomla is open source, which means you can make it work just the way you want it to.

The content in this installation of Joomla has been designed to give you an in depth tour of Joomla's features.

Beginners

If this is your first Joomla! site or your first web site, you have come to the right place. Joomla will help you get your website up and running quickly and easily.

Start off using your site by logging in using the administrator account you created when you installed Joomla.

Read more: Beginners

Upgraders

If you are an experienced Joomla! user, this Joomla site will seem very familiar but also very different. The biggest change is the new administrator interface and the adoption of responsive design. Hundreds of other improvements have been made.

Professionals

Joomla! 3 continues development of the Joomla Platform and CMS as a powerful and flexible way to bring your vision of the web to reality. With the new administrator interface and adoption of Twitter Bootstrap, the ability to control its look and the management of extensions is now complete.

Read more: Professionals

PLUGIN

About Joomla!

- Getting Started
- Using Joomla!
- The Joomla! Project
- The Joomla! Community

MODULES

This Site

- Home
- Site Map
- Login
- Sample Sites
- Site Administrator
- Example Pages

Login Form

☐ Remember Me

Log in

[Create an account](#)

[Forgot your username?](#)

[Forgot your password?](#)

CASSIOPEIA

[Blog](#) [Help](#) [Login](#) [Sample Layouts](#) [Typography](#)

You are here: [Home](#) / [Blog](#)

Blog



[Welcome to your blog](#)

Details

Written by: Joomla
 Category: [Blog](#)
 Published: 28 November 2020
 Hits: 0

[Millions](#) [Love](#) [Joomla V4](#) [New Feature Workflow](#)

This is a sample blog posting.

If you log in to the site (the Author Login link is on the very bottom of this page) you will be able



[About your home page](#)

Details

Written by: Joomla
 Category: [Blog](#)
 Published: 28 November 2020
 Hits: 1

[Millions](#) [Love](#) [Joomla V4](#) [New Feature Workflow](#)

Your home page is set to display the four most recent articles from the blog category in a column. Then there are links to the next two

Main Menu

[Home](#)

[My Blog](#)

Login Form



☐ Remember Me



Web Authentication

Joomla Installation: System Requirement



- PHP
- MySql
- Apache
- Joomla Package : Download Joomla 4.0.3 from <https://downloads.joomla.org/> and copy the folder into /var/www/html folder and extract it.

Exploring the Joomla Environment



- Front End
- BackEnd

Front End



- The front end is the **interface that is seen by the visitors or users** to the site.
- The front end is the target for output and the place where your visitors access the site's content and functionality.
- Following are the components of Front End:
 - Template
 - Article
 - Modules
 - Plugins

Front End



- **Template :**

- The container for all the output on the page.
- A template is a type of Joomla! extension that changes the way your site looks.
- There are two types of templates used by the Joomla! CMS:

- Front End

- Back End

- The **Front-end Template** controls the way your website is presented to the user viewing the website's content.

- The **Back-end Template** controls the way your website's administrative tasks are presented for controlling management functions by a Joomla Administrator.

- These would include common tasks such as: user, menu, article, category, module, component, plugin and template management.

Front End



- **Article :**

- An Article is a piece of content consisting of text (HTML), possibly with links to other resources (for example, images).
- Articles are the basic units of information in the content system and the bottom level in the content hierarchy.
- Each Article is in exactly one Category.
- A Category can be in another Category making it a sub Category.
- It is also possible to have Uncategorised Articles.
- These articles exist without being associated with any Category

Front End



- **Modules**

- Provide output and functionality in secondary content areas.

Modules are lightweight and flexible extensions used for page rendering. These modules are often “boxes” arranged around a component.

- A well-known example is the **login module**.

Modules are assigned per menu item, so you can decide to show or hide. (E.g. the login module depending on which page (menu item) the user is currently on.)

- **Plugins** : Enhance the functionality of your articles, components and modules.

Front End



- **Plugins :**

- Enhance the functionality of your articles, components and modules.
- Plugins can be used to make third party extensions extensible and powerful
- Most plugins consist of just a single code file but to correctly install the plugin code it must be packaged into an installation file which can be processed by the Joomla! installer

Back end



- The Back end of Joomla site is the **administration interface** where the majority of the site management activities occur.
- Admin system is controlled by a login form.
By default, the admin login page is located at *localhost/Joomla/administrator*)
- Three primary types of interfaces are in the admin system:
 - Control Panel
 - Manager Pages
 - Workspace Pages

Home Dashboard

Joomla 4's new dashboard has quick access icon modules such as Site, System, Notifications, Last Actions, and more. These modules are customizable so you can control the quick access icons that you want to display on your dashboard and make the organization of your dashboard fit your needs.

The main menu is on the right side:

- Content:** Article management, Category management, Featured Articles, Fields, Media, Site Modules, Administrator Modules
- Menus:** Administration of Menu Items, Control of menu positions
- Components:** Administration of installed components
- Users:** User manager and user groups, access levels, and others

Control Panel



- The Control panel is designed to provide administrators with quick access to the most frequently used tasks and tools as well as user information.
- The Control Panel provides access to many default Joomla! functions and features by interacting with a drop down menu bar, general notification area, and clickable icons.

Control Panel



- The whole Control Panel is roughly divided into three sections:-
 - Control icons are in the main part of the screen
 - Menus are along the top
 - Site Information is to the right
- This provides administrators with a quick way to access the most frequently used tasks to manage the whole web site.

Control Panel



Article Manager and Add New Article

- The Article Manager is where you can add and manage all the articles for your web site. You can publish, unpublish, edit, archive and much else.
- Section Manager
 - The Section Manager is the place where you can edit existing Sections and create new ones.
- Category Manager
 - The Category Manager is where you can edit existing Categories and create new ones. Articles in Joomla! are organized into Sections and Categories. Categories are the second level of organization underneath Sections. Every Section contains one or more Categories.

Control Panel



- Media Manager
 - The Media Manager is a tool for uploading or deleting files in the /images/ directory on your web server.
 - You can upload new files, delete existing ones and create sub-directories.
- Menu Manager
 - The Menu Manager allows you add and alter Joomla!'s menus.
- User Manager
 - This allows you to look at a list of users and sort them in different ways. You can also edit and create users.

Control Panel



- Language Manager
 - You can set the default Language for both the Front-end and Back-end of your Joomla! web site in Language Manager
- Global Configuration (available to Super-Administrators)
 - The Global Configuration Manager allows you to configure the Joomla! site with various settings.

Control Panel



localhost/Joomla/administrator/index.php?option=com_cpanel&view=cpanel&dashboard=system

Joomla! System Dashboard

4.0.4 4 Post Installation Messages FCAIT User Menu

- Toggle Menu
- Home Dashboard
- Content
- Menus
- Components
- Users
- System
- Help

Setup

- [Global Configuration](#)

Install

- [Extensions](#)
- [Discover](#) ✓
- [Languages](#)

Templates

- [Site Templates](#)
- [Site Template Styles](#)
- [Administrator Templates](#)

Maintenance

- [Clear Cache](#)
- [Database](#) ✓
- [Global Check-in](#) 1

Manage

- [Extensions](#)
- [Languages](#)
- [Content Languages](#)
- [Language Overrides](#)
- [Plugins](#)
- [Redirects](#)

Information

- [Warnings](#) 3
- [Installation Messages](#) 4
- [System Information](#)

Update

- [Joomla](#) ✓
- [Extensions](#) ✓
- [Update Sites](#)

User Permissions

- [Groups](#)
- [Access Levels](#)

localhost/Joomla/administrator/index.php?option=com_installer&view=languages

Manager Pages



- Manager pages are designed to handle large numbers of items and to display key information.
- Click on any of the manager links in the shortcut icons on the Control Panel or use the links under the main admin navigation bar.

Manager Pages

The screenshot displays the Joomla! administrator interface. The top navigation bar includes the Joomla! logo, the title "Home Dashboard", the version "4.0.4", a notification bell with "4" messages, a "Post Installation Messages" button, an "FCAIT" button, and a "User Menu" dropdown. The left sidebar contains a "Toggle Menu" button and a list of menu items: "Home Dashboard", "Content", "Menus", "Components", "Users", "System", and "Help". The main content area is divided into several sections: "Site" (containing Users, Articles, Article Categories, Media, Modules, and Plugins), "System" (containing Global Checkin, Cache, and Global Configuration), "Sample Data" (containing Blog Sample Data with an "Install" button), and "Notifications" (containing four status messages: "Joomla is up to date.", "Extensions are up to date.", "Overrides are up to date.", and "No urgent privacy requests.").

localhost/Joomla/administrator/index.php

Joomla!

Home Dashboard

4.0.4

4 Post Installation Messages

FCAIT

User Menu

Toggle Menu

Home Dashboard

Content

Menus

Components

Users

System

Help

Site

Users

Articles

Article Categories

Media

Modules

Plugins

System

Global Checkin

Cache

Global Configuration

Sample Data

Blog Sample Data

Install

Sample data which will set up a blog site with articles, tags, custom fields and a workflow

Notifications

Joomla is up to date.

Extensions are up to date.

Overrides are up to date.

No urgent privacy requests.

Workspace Pages



Workspace page displays following elements:

- A toolbar
- The Primary information fields
- A text field
- Parameter fields

Workspace Pages

The screenshot shows the Joomla! administrator interface for creating a new article. The browser address bar displays the URL: `localhost/Joomla/administrator/index.php?option=com_content&view=article&layout=edit`. The Joomla! logo and version 4.0.4 are visible in the top left. The page title is "Articles: New".

At the top, there are buttons for "Save", "Save & Close", and "Cancel", along with a "Help" button. Below these, the "Title *" field is empty, with a tooltip that says "Please fill out this field." The "Alias" field is set to "Auto-generate from title", with a note stating "The Alias will be used as part of the URL."

The main content area has tabs for "Content", "Images and Links", "Options", "Publishing", "Configure Edit Screen", and "Permissions". The "Content" tab is active, showing the "Article Text" editor. The editor includes a menu bar with "Edit", "Insert", "View", "Format", "Table", and "Tools". Below the menu bar, there is a toolbar with icons for bold, italic, underline, strikethrough, bulleted list, numbered list, indent, and outdent, followed by a "Paragraph" dropdown menu and an ellipsis icon.

On the right side, there are settings for "Status" (set to "Published"), "Category *" (set to "Uncategorised"), "Featured" (set to "No"), and "Access".

Toggle Menu

- The toggle button is an attractive way to display content like menu, button, search, etc. in the header on the desktop view. It is specially designed for desktop screens and it works similar to the mobile hamburger button.

System Modules

- What are modules in Joomla?
- Joomla! modules are lightweight extensions or “widgets” that can be inserted into a page to display specific types of pre-configured content. Typical examples include the login module, latest news module and banner module.