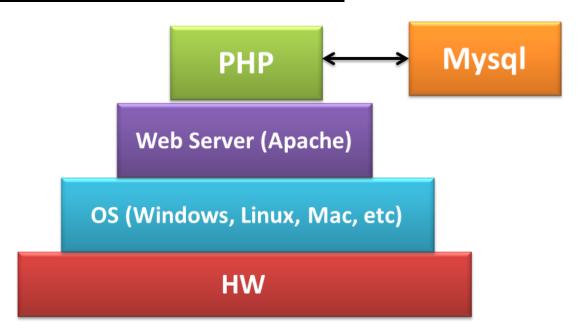
Module – 4

- 1. How Databases are used in Web Server
- 2. How database connection is implemented
- 3. How SQL Statements are executed from PHP script
 - > Select
 - > Insert
 - Delete
 - ➤ Update
- 4. Define Domain Name Registration
- 5. Define Domain Name Registration
- 6. Explain File Uploading Procedure
- 7. Explain Web Hosting
- 8. List different Content Management tools
- 9. List advantages of Content management System
- 10. Joomla
 - 1) Joomla! Core Features
 - 2) Content Structure
 - 3) Template
 - 4) Permissions in Joomla
 - 5) Top 5 Text Editors for Joomla
 - 6) Module in Joomla
 - 7) Menu Links
 - 8) Component

1. How Databases are used in Web Server



- A user's web browser issues an HTTP request for a particular web page. For example, the
 user might have requested a search for all the books written by Michael Morgan at Book-ORama, using an HTML form. The search results page is called results.php.
- 2. The web server receives the request for results.php, retrieves the file, and passes it to the PHP engine for processing.
- 3. The PHP engine begins parsing the script. Inside the script is a command to connect to the database and execute a query (perform the search for books). PHP opens a connection to the MySQL server and sends on the appropriate query.
- 4. The MySQL server receives the database query, processes it, and sends the results— a list of books—back to the PHP engine.
- 5. The PHP engine finishes running the script. This usually involves formatting the query results nicely in HTML. It then returns the resulting HTML to the web server.
- 6. The web server passes the HTML back to the browser, where the user can see the list of books she requested.

2. How database connection is implemented

```
<?php
$server = "localhost";
$user name = "root";
$password = "root";
$db = "student";
$db connect=mysql connect($server,$user name,$password);
$db found=mysql select db($db, $db connect);
if($db_found)
{
echo "Database Found";
mysql close($db connect);
}
else
echo "Database NOT Found";
}
?>
```

3. How SQL Statements are executed from PHP script

- With PHP, you can connect to and manipulate databases.
- MySQL is the most popular database system used with PHP.
- MySQL is a database system that runs on a server
- MySQL is ideal for both small and large applications
- MySQL is very fast, reliable, and easy to use
- MySQL uses standard SQL
- MySQL is free to download and use

> Create Database "college"

```
<?php
$server = "localhost";
$user name = "root";
$password = "root";
$db connect=mysqli connect($server,$user name,$password);
if ($db_connect) {
$sql = "CREATE DATABASE college";
if (mysqli query($db connect, $sql)) {
echo "Database created successfully";
else {
echo "Error creating database: ";}
}
?>
```

Create Table "S5ct"

```
<?php
$servername = "localhost";
$username = "root";
$password = "root";
$dbname = "college";
$conn = mysqli connect($servername, $username, $password,
$dbname);
if (!$conn) {
    die("Connection failed: " . mysqli_connect_error());
```

```
$sql = "CREATE TABLE s5ct (
rollno INT(6) AUTO_INCREMENT PRIMARY KEY,
firstname VARCHAR(30) NOT NULL,
lastname VARCHAR(30) NOT NULL,
email VARCHAR(50)
)";
if (mysqli_query($conn, $sql)) {
   echo "Table s5ct created successfully";
} else {
   echo "Error creating table: " . mysqli_error($conn);
}
mysqli_close($conn);
?>
```

➤ Insert into table "S5ct"

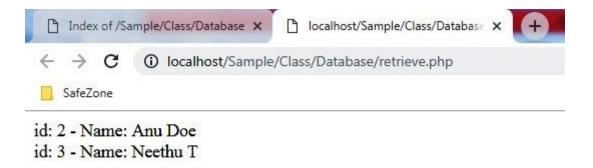
```
<?php
$servername = "localhost";
$database = "college";
$username = "root";
$password = "root";
$conn = mysqli_connect($servername, $username, $password,
$database);
if (!$conn) {
        die("Connection failed: " . mysqli_connect_error());
}
echo "Connected successfully";

$sql = "INSERT INTO s5ct(id, firstname, lastname, email) VALUES
(1,'Anu','R','anu@gmail.com') ";
if (mysqli_query($conn, $sql)) {
        echo "New record created successfully";</pre>
```

```
} else {
      echo "Error: " . $sql . "<br>" . mysqli error($conn);
mysqli close($conn);
?>
```

> Retrieve from table "S5ct"

```
<?php
$servername = "localhost";
$username = "root";
$password = "root";
$dbname = "college";
$conn = mysqli connect($servername, $username, $password,
$dbname);
if (!$conn) {
   die("Connection failed: " . mysqli_connect_error());
}
$sql = "SELECT id, firstname, lastname FROM s5ct";
$result = mysqli query($conn, $sql);
if (mysqli num rows($result) > 0) {
        while($row = mysqli fetch assoc($result)) {
        echo "id: " . $row["id"]. " - Name: " .
$row["firstname"]. " " . $row["lastname"]. "<br>";
} else {
   echo "0 results";
mysqli close($conn);
?>
```



➤ Delete from table "S5ct"

```
<?php
$servername = "localhost";
$username = "root";
$password = "root";
$dbname = "college";
$conn = mysqli connect($servername, $username, $password,
$dbname);
if (!$conn) {
   die("Connection failed: " . mysqli connect error());
}
$sql = "DELETE FROM s5ct WHERE id=3";
if (mysqli query($conn, $sql)) {
    echo "Record deleted successfully";
} else {
    echo "Error deleting record: " . mysqli error($conn);
mysqli close($conn);
?>
```

➤ Update into table "S5ct"

```
<?php
$servername = "localhost";
$username = "root";
$password = "root";
$dbname = "college";
$conn = mysqli connect($servername, $username, $password,
$dbname);
if (!$conn) {
   die("Connection failed: " . mysqli_connect_error());
}
$sql = "UPDATE s5ct SET lastname='Doe' WHERE id=2";
if (mysqli query($conn, $sql)) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . mysqli_error($conn);
}
mysqli close($conn);
?>
```

| Function | Definition |
|-----------------------------------|--|
| mysql_connect() | Opens a new connection to the MySQL server. |
| mysqli_select_db() | Used to change the default database for the connection. |
| mysqli_close() | Closes opened database connection |
| mysqli_query() | Performs a query against the database |
| <pre>mysqli_connect_error()</pre> | Returns the error description from the connection error |
| mysqli_error() | Returns the last error description for the most recent function call |
| <pre>mysqli_fetch_assoc()</pre> | Fetches a result row as an associative array |
| mysqli_num_rows() | Returns the number of rows in a result set |
| die() | Prints the message written inside the braces and exits the current |
| | script. |

4. Define Domain Name Registration

> Importance of a Domain Name

- If you ever change your web host (the actual physical location of your website files), your domain name goes with you.
- If you are a business, a domain name gives you credibility.
- If you get a domain name that describes your company's business or name, people can remember the name easily
- If you want good sponsors (advertisers) for your website, a domain name is usually helpful.
- Domain Name Assigned by <u>ICANN (Internet Cooperation for Assigned Names and Numbers)</u>

Domain Name Registration

- Domain Name Assigned by <u>ICANN (Internet Cooperation for Assigned Names and Numbers)</u>
- Getting a domain name involves registering the name you want with an organization called ICANN through a domain name registrar.
- For example, if you choose a name like "example.com", you will have to go to a registrar, pay a registration fee that costs around US\$10 to US\$35 for that name.

- That will give you the right to the name for a year, and you will have to renew it annually for (usually) the same amount per annum.
- Some web hosts will register it and pay for the name for free

Step By Step Instructions for Domain Name Registration

 Registering your domain name is the first step in establishing your online presence and reaching visitors.

Step 1:

The first and the most important thing to find out is whether the name you have shortlisted is available or is taken by someone else. In order to check domain availability you can do a domain search with a domain registrar. If the domain name is available for registration you can then move forward to claim it.

Step 2:

The next thing to do is to find a registrar. Before making a choice it is always advised to do a quick research on different registrars. One can search from a number of options and see who offers the best price for registration. Registrars nowadays also offer different add on services in order to lure customers, so one can make a choice accordingly.

<u>Step 3:</u>

Once you have shortlisted the registrar you need to do a search for the domain on the registrar's website. If the domain is still available for registration you can proceed further with the registration process. Click on add to cart, and proceed through the checkout process.

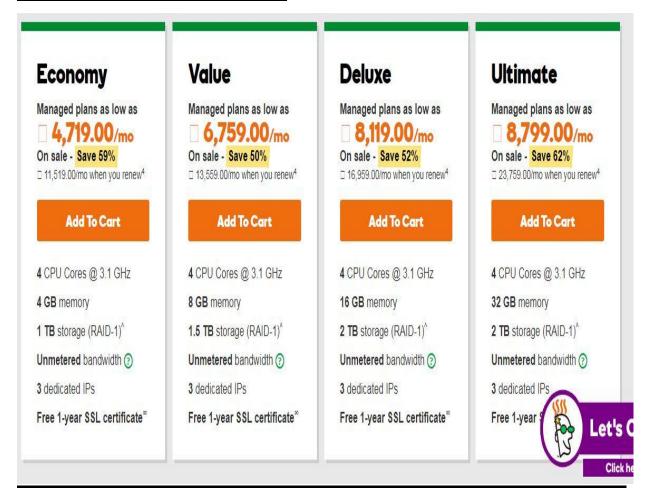
Step 4:

The only thing that is left to do is to make the payment for registration to the registrar.

List of Domain Name Registrars

- ✓ GoDaddy
- ✓ 1&1 Internet
- ✓ Namecheap
- ✓ Dotster.com

5. Describe Server Space Hiring



- Server is a just a computer
- Server is capable of service request from client
- Server is process the client request.
- Give response back to client.
- The incoming request from client, processing and response back to client these are the main things server do.
- If we select the server can do the above processes well.
- So we select a server or hire a server, we check the specification of our server system
- These are listed below
 - Reviewing Web Hosts
 - No. of web site can host
 - By Hosting Type
 - Bandwidth / Traffic

- Formula: Visitors per Month x Page Size x Pages per Visit = Bandwidth Needed
- Eg: 10,000 Visits x 1MB Per Page x 2 Pages per Visit = 20GB of Bandwidth
- Storage Size
- Number of cores, or CPUs
- Processor power
- Security

6. Explain File Uploading Procedure

- The file uploading procedure is transferring local host (our system) web site file to remote host (server)
- FTP (File Transfer Protocol) is the secure way for transferring local host to remote host
- One of the advantage of using FTP, we can upload multiple file at a time.
- FTP is using the port number 21.

Step 1:

Download and Install FileZilla Software and install on your Computer.

Step 2:

• Open FileZilla software and set up a Connection to your web host

Step 3:

• Enter connection Details and press connect

Host name=107.180.51.106

Port number=21

Server type=FTP-File Transfer Protocol

User name=abcd

Password=12345

Step 4:

• If connection successful server list the server directory files into the software

Step 5:

• Open public_html file from the server directory

Step 6:

• Select the files that want to upload into server and press right button.

Step 7:

• From the list we select upload option

Step 8:

• If file transfer success, display the file is upload successfully

Step 9:

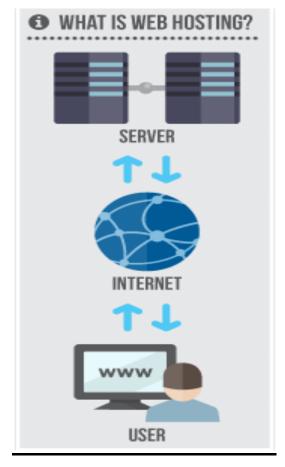
• Uploaded file that we can see from server directory files

Step 10:

• File transferred from local host to remote host successfully.

7. Explain Web Hosting

- Web hosting is the service that makes your website available to be viewed by others on the Internet.
- A web host provides space on its server, so that other computers around the world can access your website by means of a network or modem.
- There are literally thousands of web hosting services available today, ranging from free services with limited options to expensive, specialized business web hosting services.
- Which option you choose depends primarily on how you plan to use your website and how much you want to spend.
- A web host is just a computer!



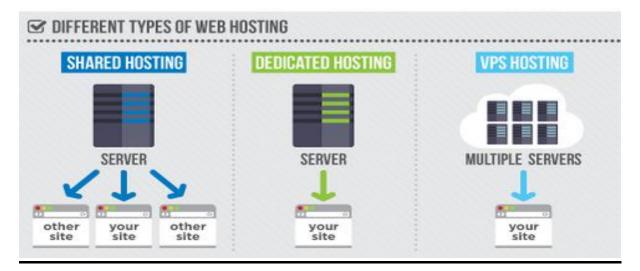
> Self-Hosting vs Professional Hosting

- Self-Hosting is hosting our web site into our local computer
- Professional hosting is hosting our website into remote system (server or other powerful system)

| Self-Hosting | Professional Web Hosting |
|-----------------------------|-------------------------------------|
| Power outages | ₩ Redundant power supplies |
| ← Slow connection | . Ultra-fast, stable connection |
| (P) Dynamic IP Address | (P) Static IP Address |
| Hardware maintenance on you | Hardware maintenance by expert team |

> Types of Hosting

- 1) Shared Hosting
- 2) Dedicated Hosting
- 3) VPS Hosting



1) Shared Hosting

- Most common option for small businesses, individuals, and even some popular websites.
- Shared hosting is many websites hosting on a single server.
- The advantage to using shared hosting is it makes it extremely cheap because of the shared resources.

2) Dedicated Hosting

- Dedicated hosting consists of a single server that hosts a single website.
- Dedicated server is that the entire computer is focused on giving your website the best possible performance.

3) VPS Hosting (Cloud)

- VPS stands for "Virtual Private Server."
- VPS has a huge amount of computing resources
- a computer with thousands of processors, terabytes of RAM, and unlimited hard drive space.



Choosing a Host

- Reviewing Web Hosts
- No. of web site can host
- By Hosting Type
- Bandwidth / Traffic
 - Formula: Visitors per Month x Page Size x Pages per Visit = Bandwidth
 Needed
 - Eg: 10,000 Visits x 1MB Per Page x 2 Pages per Visit = 20GB of Bandwidth
- Storage Size
- Number of cores, or CPUs
- Processor power
- Security

8. <u>List different Content Management tools</u>

- Joomla
- Drupal
- Magento
- WordPress
- Apache Roller
- Blosxom
- django CMS
- Alchemy CMS
- Mura CMS

9. <u>List advantages of Content Management System</u>

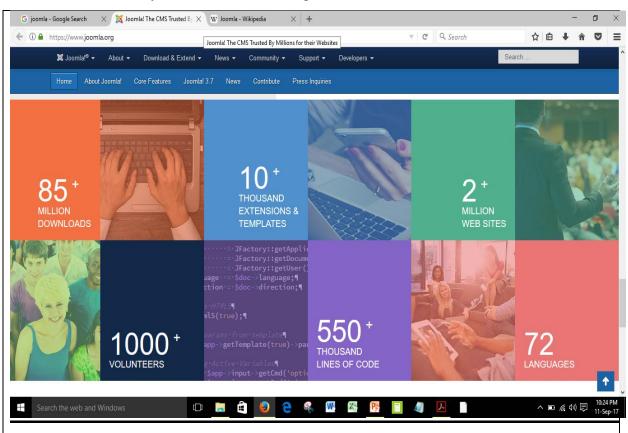
- It's easy for the non-technically minded:-Not all users have the same comfort level with technology, but the basic CMS functions of writing and publishing content, and slightly more advanced ones of adding media are usually easy for everyone to grasp. In fact, anyone who can use word-processing software can use a CMS for the basic functions so you don't even have to spend much time on training.
- It allows multiple users:-In a business, there are many people who can have input into your website, from those who add product pages to those who produce blog posts

for your content marketing efforts. A CMS makes it easy to manage roles and publishing permissions for all these users so that only those you allow can publish content and content only goes live when you're ready.

- **Design changes are simple:** If you want to change the site design, a CMS makes the process easy. That's because the content and design are in separate virtual boxes, so you can make design changes while keeping the site functional. Another advantage is the ability to make a change in your administrative dashboard and have it automatically propagate to the entire site.
- It helps you manage content: This may seem obvious, but for some businesses, content management is not just about publishing content but about being able to remove it when it's out of date. If you are running a Thanksgiving or Christmas promotion, then even before the season ends, you will want to remove and change it. With a CMS this is as simple as unpublishing the content all menus and links update automatically, so that your customers continue to have a good experience of the site. And if you want to include customized content such as countdown calendars and lists, the CMS can be configured to allow this.
- You're in control: All of this adds up to the biggest advantage of a CMS. Instead of being reliant on an external vendor, with a CMS you are in control, with the ability to assign tasks and roles and to check progress at any time. That puts you in the driving seat when it comes to this important business tool.
- Quick and easy page management
- Workflow management
- Database-driven
- Shared resources
- Mobile ready
- Remote access
- Security
- Search engine-friendly
- Updates

10. Joomla

- Joomla! is an award-winning content management system (CMS), which enables you to build Web sites and powerful online applications.
- Many aspects, including its ease-of-use and extensibility, have made Joomla! the most popular Web site software available.
- Best of all, Joomla! is an open source solution that is freely available to everyone.
- Joomla is a free and open-source content management system (CMS) for publishing web content.
- Joomla! is written in PHP, uses object-oriented programming (OOP) techniques
- Stores data in a MySQL, MS SQL or PostgreSQL database.



Real world examples

- Corporate Web sites or portals
- Corporate intranets and extranets
- Online magazines, newspapers, and publications
- E-commerce and online reservations
- Government applications
- Small business Web sites

- Non-profit and organizational Web sites
- Community-based portals
- School and church Web sites
- Personal or family homepages

1) Joomla! Core Features

Multilingual

Joomla! is the most popular and widely supported open source multilingual CMS platform in the world, offering over 65 languages. Webmasters and content creators can create websites to be presented in multiple languages, without ever needing to step outside of the options available in the Joomla! core software. This is a big step forward and represents a set of capabilities that can make websites much more accessible, reaching out to a much larger audience.

• Well Supported

Our worldwide, enthusiastic community is filled with individuals, and teams of world class developers and business consultants who actively help at no cost in the forums. There are thousands of professional Joomla! service providers throughout the world who can help build, maintain and market your Joomla! projects. The Joomla! community has a vetted directory of just some of these providers at the Joomla! Resources Directory.

• Easy Updates

One of the big challenges with any software is keeping it up to date. Fortunately, Joomla! has a "One Click Version Update" feature to make this process super easy for users of any skill level.

• Integrated Help System

Joomla! has an in-app contextual help system to help every level of user to operate their Joomla. Most pages have a help button in the top right, helping you fully understand all options on that page. There is also a glossary explaining the terms in plain English, a version checker makes sure you're using the latest version, a system information tool helps you troubleshoot. If all else fails, links to a wealth of online resources for additional help and support are available, such as Joomla! Documentation and User Forum.

• Contact Management

Not enough with just one contact form on your site. The contacts component allows you to add several contacts, departments and categories, and extend the basic contact information with miscellaneous information and an image. Easily set up a contact form for each contact you create and allow access to the public or just to some registered users, or create a listing of these contacts.

• Search better, Search Smarter

With the built in search and smart search, your website visitors will be able to quickly and easily find the appropriate information on your site. And even more, thanks to the statistics you can analyze your visitors needs and streamline your content even better to serve them. You have the ability to use the included smart indexing, advanced search options, auto suggest searches - making Joomla! search the best in class right out of the box.

• Media Manager

The Media Manager is the tool for easily uploading, organizing and managing your media files and folders. You can even handle more types of files, thanks to the configurable MIME settings. The Media Manager is integrated into the Article Editor so you can access images and all other media files for easy usage and enhancement of your written content.

• Banner Management

With the banner manager you have the possibility to easily add advertising and monetize your website. The tool allows you to create clients and campaigns, to add as many banners as you need, even custom codes, to set impression numbers, track the clicks and much more

• Nested categorization

When you are managing content, organization is a key requirement. Being able to create categories with nesting and no limits on depth is a great plus in helping manage large websites.

• Frontend Editing

Editing content should be easy and fast. You are reading through your site's content and see a change you need to make. No need to login to the administrative section any more for simple edits of content and modules. Simply click and edit from the frontend.

• Content Versioning

You will never again lose a previous important version of your article and other changes on your site. You are now able to track exactly who made what changes, when, and, if a version note was entered, why the item got edited. Then if needed you can revert to any previous version.

Menu Manager

The Menu Manager allows you to create as many menus and menu items as you need. You can structure your menu hierarchy (and nested menu items) completely independent of your content structure. Put one menu in multiple places and in any style you want; use rollovers, dropdown, flyouts and just about any other navigation system you can think of. Also automatic breadcrumbs are generated to help navigate your site users.

Powerful Extensibility

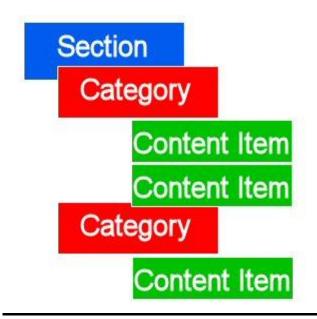
The Joomla! core is just the beginning, the real power is in the way you can customize Joomla. Over 7,500 extensions are available to extend your website and broaden its functionality. Visit the Joomla! Extensions Directory or use the Joomla! extension finder built right into Joomla! to see thousands of ways to enhance Joomla! to suit your needs.

• Content Management

Joomla's flexible category system of articles makes organizing your content a snap. You can organize your content any way you want and not necessarily how it will be on your Web site. Your users can rate articles or e-mail them to a friend. Administrators can archive content for safekeeping, hiding it from site visitors.

2) <u>Content Structure</u>

- a) Joomla Sections
- b) Joomla Categories
- c) Joomla Content Item



a) Joomla Sections

- The section part of Joomla can be look at as the main parts of a Book.
- Like for example an Atlas, the Section are the Continents

b) Joomla Categories

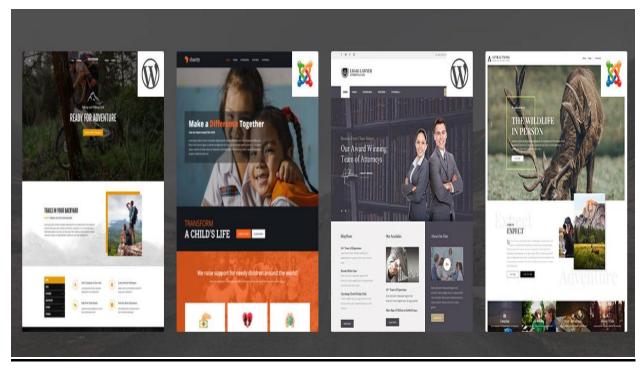
- The categories in Joomla can be classified as the Chapters of a Book
- In the Atlas example, these are the country's in each of the continents

c) Joomla Content Item

- The Joomla Content items are the pages in a book, each containing information to make a Chapter.
- In the Atlas example, these could be pages that describe the Geological and Social economics of a Country.

3) Template

- A web template system is used in web publishing.
- web designers and developers to work with web templates for the automatic generation of custom web pages
- A website template (or web template) is a pre-designed webpage, or set of HTML webpages that anyone can use to "plug-in" their own text content and images into to create a website.
- Usually built with HTML and CSS code, website templates allow anyone to setup a website without having to hire a professional web developer.
- Each design is a self-contained (or standalone) downloadable complete website.



4) Permissions in Joomla

• There are different levels of permissions for doing things in a Joomla! Web site.

- Which users can gain access to what parts of the website?
 - Eg: will a given Menu Item be visible for a given user?
- What actions a user can perform?
 - Eg: can a user edit or publish an article?
- Users are grouped together in groups.
- Front-end:- is the web site you can see.
- Back-end is the Administrators section of the Web site.
- **Lists Groups And Associated Permissions**

Front-end Groups

- These groups can only use the front-end of the website.
 - Guest
 - Can view the parts of the Site
 - Registered
 - Can view Articles which have been given Registered Permissions
 - Author
 - Create new articles but cannot publish articles
 - Editor
 - Can edit all articles, even those that are not published
 - Publisher
 - Can publish articles

Back-end Groups

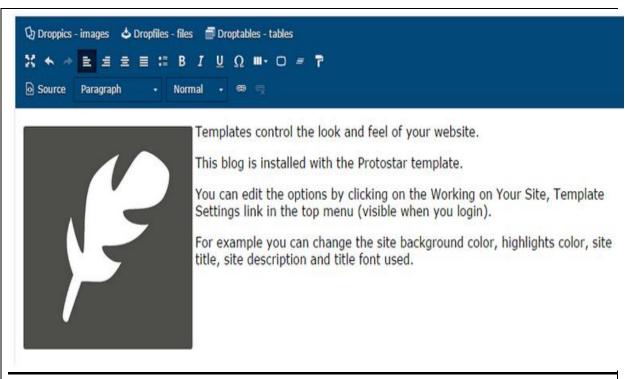
- These groups allow you to log into the Administrator Back-end
 - Manager
 - Can create new users, Can install extensions
 - Overall management
 - Administrator
 - Can create new users, Can install extensions
 - Super-Administrator
 - Can change site template, Can change global configuration

5) Top 5 Text Editors for Joomla

1) **DropEditor:** - DropEditor is one of the most innovative editors on the Joomla market. The editor is free and optionally can be upgraded to advanced image/Files/Tables manager and support.

Features:

- Advanced image manager
- Advanced file manager
- Custom columns manager: column creation with custom size
- Automatic summary: summary based on article titles level
- Button creation tool: create, save and reuse buttons
- Template saving: save the HTML structure of your content and reuse it

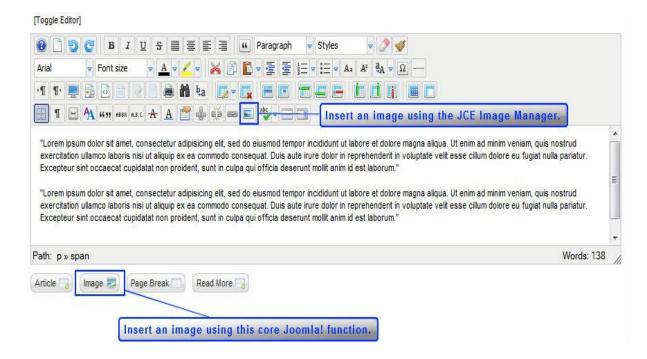


2) **JCE: -** JCE is one of the oldest editor for Joomla, it exists since Joomla 1.0. This is a more classical text editor but the structure is rock solid and it's highly maintained.

Features:

- Office-like usage and formatting not to be lost
- Image manager allows you to: upload, rename, delete, copy &paste, insert them into your articles
- Link manager give shortcut to Joomla categories, articles and menus

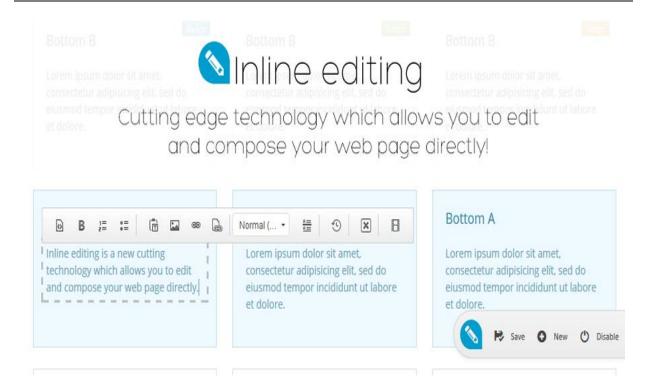
- Syntax highlighting in HTML edition
- Spellchecker tool using your browser's Spellchecker
- Lightbox tool for images



3) ARK Editor: - ARK Editor has the particularity of allowing inline edition of your content. You don't need to open your content on a dedicated page to edit it, even from frontend, just click on it and edit. The editor is free and optionally can be upgraded with a plugin set like advanced file, media manager, a dedicated media folder for users and support.

Features:

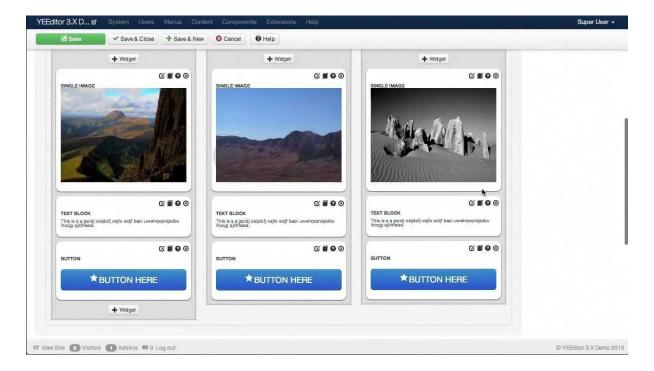
- Inline editing
- Image uploader and manager
- Content versioning
- Word copy/paste tool
- Link manager for make easy link to articles, menus or components
- Typography package



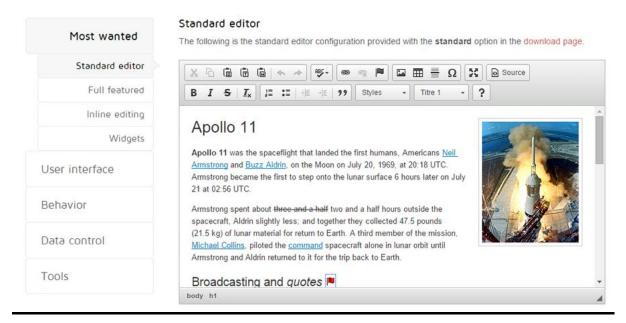
4) **YEEditor:** - YEEditor is between an editor and a content builder, means that you can build a layout inside your page content. And of course you can call a text edition interface in the blocks.

Features:

- Drag'n drop layout builder
- Responsive grid layout
- Call editor
- Module insertion
- Media player
- Google map widget
- Custom HTML/CSS/JS code insertion

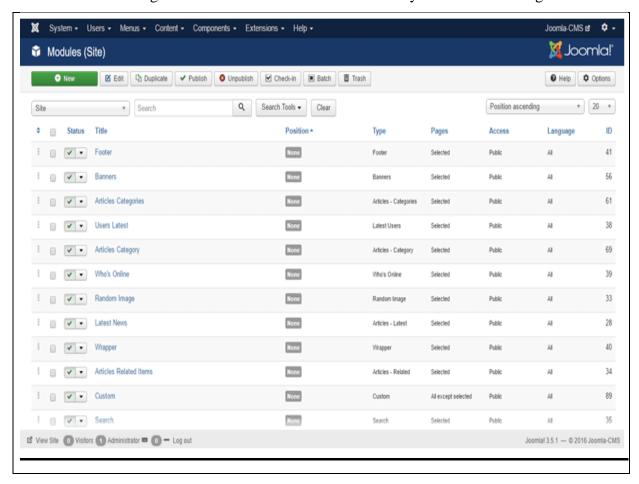


- 5) **CKEditor:** CKEditor is also one of the oldest editor for Joomla too, it has been developed sine years. This is a more classical editor than the previous one, but if you need to start fast, you'll enjoy to see that you know the major part of the tools inside Features:
 - Configuration integrated with Joomla! administration pages with custom edition profiles
 - Drag'n drop tool to make it available in edition toolbar
 - Paste from Word feature
 - Tool to style your content
 - XHTML valid code generation control
 - Bad formatting filtering
 - Full accessibility support for the entire interface



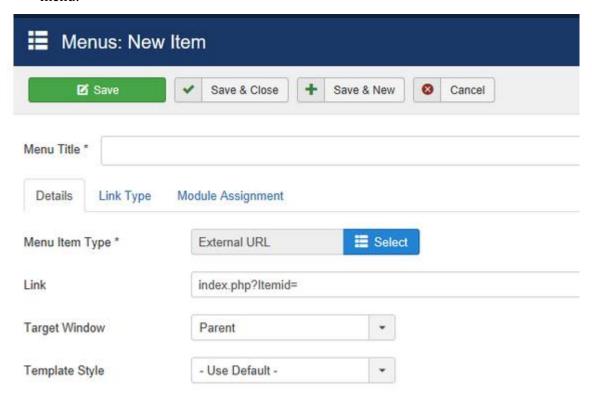
6) Module in Joomla

- Modules are lightweight and flexible extensions used for page rendering
- A well-known example is the login module
- Modules are managed in the Joomla! Administrator view by the Module Manager.



7) Menu Links

 Used to create a link to a website separate from your current Joomla! installation in a menu.



- Menu Title: The title that will display for this menu item.
- Menu Item Type: The Menu Item Type selected when this menu item was created. This
 can be one of the core menu item types or a menu item type provided by an installed
 extension.
- Link. The full URL of the web page address using which includes the http:// prefix.

Examples: http://www.thedomainname.com or http://www.thedomainname.com/morehelp.html

• **Menu:** Shows which menu the link will appear in.

8) Component

- A component is a kind of Joomla! extension.
- Components are the main functional units of Joomla!; they can be seen as miniapplications.
- An easy analogy would be that Joomla! is the operating system and the components are desktop applications.
- Created by a component, content is usually displayed in the center of the main content area of a template (depending on the template).
- Most components have two main parts: an administrator part and a site part.
- The site part is what is used to render pages of your site when they are requested by your site visitors during normal site operation.
- The administrator part provides an interface to configure and manage different aspects of the component and is accessible through the Joomla! administrator application.