



# Drupal

Content-Management Framework

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## About the Tutorial

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Drupal is a free and open source **Content Management System** (CMS) that allows organizing, managing and publishing your content. This reliable and secure CMS is built on PHP based environment and powers millions of applications and websites. . This tutorial will teach you the basics of Drupal using which you can create a blog or a website with ease.

## Audience

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This tutorial has been prepared for anyone who has a basic knowledge of HTML and CSS and has an urge to develop websites. After completing this tutorial, you will find yourself at a moderate level of expertise in developing websites using Drupal.

## Prerequisites

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Before you start proceeding with this tutorial, we are assuming that you are already aware of the basics of HTML and CSS. If you are not aware of these concepts, then we suggest you to go through our short tutorials on HTML and CSS.

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# Part 1: Basics

# 1. OVERVIEW

Drupal is a free and open source Content Management System (CMS) that allows organizing, managing and publishing your content. It is built on PHP based environments. This is carried out under GNU i.e. General Public License, which means everyone has the freedom of downloading and sharing it with others. Drupal is used on million sites such as WhiteHouse.gov, World Economic Forum, Stanford University, Examiner.com and many more.

## What is Content Management System?

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The Content Management System (CMS) is a software which stores all the data of your content (such as text, photos, music, documents, etc.) and is made available on your website. A CMS helps in editing, publishing and modifying the content of the website.

## History

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The standard release of Drupal known as Drupal core was developed by Dries Buytaerti in January 2001. It is considered as a leading CMS in variety of industries.

## Why to Use Drupal?

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If you are developing a website with content management system, Drupal CMS is very flexible than any other CMS. Drupal is very powerful and can be used for building large, complex sites. It is PHP based template and allows non-technical users to add and edit the content without any HTML or Web design knowledge. Using Drupal CMS, it is easy to interact with other sites or technologies as Drupal can handle complex forms and workflows. It is available with more than 16000 modules which can be addressed with Drupal core and add-on modules.

## Features

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- Drupal makes it easy to create and manage your site.
- Drupal translates anything in the system with built-in user interfaces.
- Drupal connects your website to other sites and services using feeds, search engine connection capabilities, etc.
- Drupal is an open source software hence requires no licensing costs.
- Drupal designs highly flexible and creative website with effective display quality thus increasing the visitors to the site.

- Drupal can publish your content on social media such as Twitter, Facebook and other social mediums.
- Drupal provides more number of customizable themes, including several base themes which are used to design your own themes for developing web applications.
- Drupal manages content on informational sites, social media sites, member sites, intranets and web applications.

## Advantages

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- Drupal is a flexible CMS that allows handling content types including video, text, blog, menu handling, real-time statistics, etc.
- Drupal provides a number of templates for developing web applications. There is no need to start from scratch if you are building simple or complicated web applications.
- Drupal is easy to manage or create blog or website. It helps to organize, structure, find and reuse content.
- Drupal provides some interesting themes and templates which gives your website an attractive look.
- Drupal has over 7000 plug-ins to boost your website. Since Drupal is an open source, you can create your own plug-ins.

## Disadvantages

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- Drupal is not a user-friendly interface. It requires advanced knowledge and few basic things about the platform to install and modify.
- Drupal is a new content management system. It is not compatible with other software.
- Performance is low compared to other CMS. The website which is built using Drupal will generate big server loads and will never open with a slow internet connection.

# 2. INSTALLATION

This chapter provides step-by-step procedure for Drupal installation. Before installing Drupal, the following system requirements are necessary.

## System Requirements for Drupal

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- **Database:** MySQL 5.1+
- **Web Server:**
  - WAMP (Windows)
  - LAMP (Linux)
  - XAMP (Multi-platform)
  - MAMP (Macintosh)
  - Nginx
  - Microsoft IIS
- **Operating System:** Cross-platform
- **Browser Support:** IE (Internet Explorer 8+), Firefox, Google Chrome, Safari, Opera
- **SSL (Secure Socket Layer):** A valid security certificate is required for HTTPS
- **PHP Compatibility:** PHP 5.2+

## Download Drupal

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**Step (1):** Download Drupal and copy to your web server from this link :<https://www.drupal.org/project/drupal>

**Step (2):** Select the latest version of zip file which you want to download as shown in the following screen. The *Recommended releases* are the latest stable releases of either version.

Downloads		
<b>Recommended releases</b>		
Version	Download	Date
7.39	tar.gz (3.1 MB)   zip (3.56 MB)	2015-Aug-19
6.37	tar.gz (1.06 MB)   zip (1.23 MB)	2015-Aug-19
<b>Other releases</b>		
Version	Download	Date
8.0.0-beta15	tar.gz (10.75 MB)   zip (19.14 MB)	2015-Sep-04
<b>Development releases</b>		
Version	Download	Date
7.x-dev	tar.gz (3.1 MB)   zip (3.57 MB)	2015-Sep-08
6.x-dev	tar.gz (1.06 MB)   zip (1.24 MB)	2015-Aug-19
<a href="#">View all releases</a>		

## Set Up Wizard

It's very easy to set up Drupal on your system. The following steps describe how to set up Drupal locally on your system.

**Step (1):** Download the zip file and extract it to your local computer. Rename the folder from its current name to any name of your choice to refer to your site.

**Step (2):** Drupal requires MySQL database. Create a new empty database with user/password for Drupal to use. (For e.g., user as "root" and password as "root" or else you can set as per your choice).

**Step (3):** Open your browser and navigate to your Drupal file path, you will see the first Drupal installer screen as shown in the following image. In our case the path is **localhost/<Your\_drupal\_folder >**. Select the **Standard** option and click **Save and continue**.

## Select an installation profile



- Standard**  
Install with commonly used features pre-configured.
- Minimal**  
Start with only a few modules enabled.

**► Choose profile**

Choose language

Verify requirements

Set up database

Install profile

Configure site

Finished

Save and continue

**Step (4):** Select the default language for Drupal website.

## Choose language



English (built-in)

[Learn how to install Drupal in other languages](#)

✓ Choose profile

▶ **Choose language**

Verify requirements

Set up database

Install profile

Configure site

Finished

After selecting the language, click **Save and continue**.

**Step (5):** Go to Database configuration page. You need to enter the type of database you will be using, and other details as follows.

## Database configuration



**Database type** \*

MySQL, MariaDB, or equivalent  
 SQLite

The type of database your Drupal data will be stored in.

✓ Choose profile  
✓ Choose language  
✓ Verify requirements

▶ **Set up database**

Install profile  
Configure site  
Finished

**Database name** \*

The name of the database your Drupal data will be stored in. It must exist on your server before Drupal can be installed.

**Database username** \*

**Database password**

▶ **ADVANCED OPTIONS**

Save and continue

- **Database Type:** Select the database type. By default, it will be MySQL.
- **Database name:** Enter the database name for Drupal.
- **Database username:** Enter the user name of your MySQL database.
- **Database password:** Enter the password which you had set for MySQL Database.

When you click the **ADVANCED OPTIONS**, you will see the following screen:

▼ **ADVANCED OPTIONS**

These options are only necessary for some sites. If you're not sure what you should enter here, leave the default settings or check with your hosting provider.

**Database host** \*

If your database is located on a different server, change this.

**Database port**

If your database server is listening to a non-standard port, enter its number.

**Table prefix**

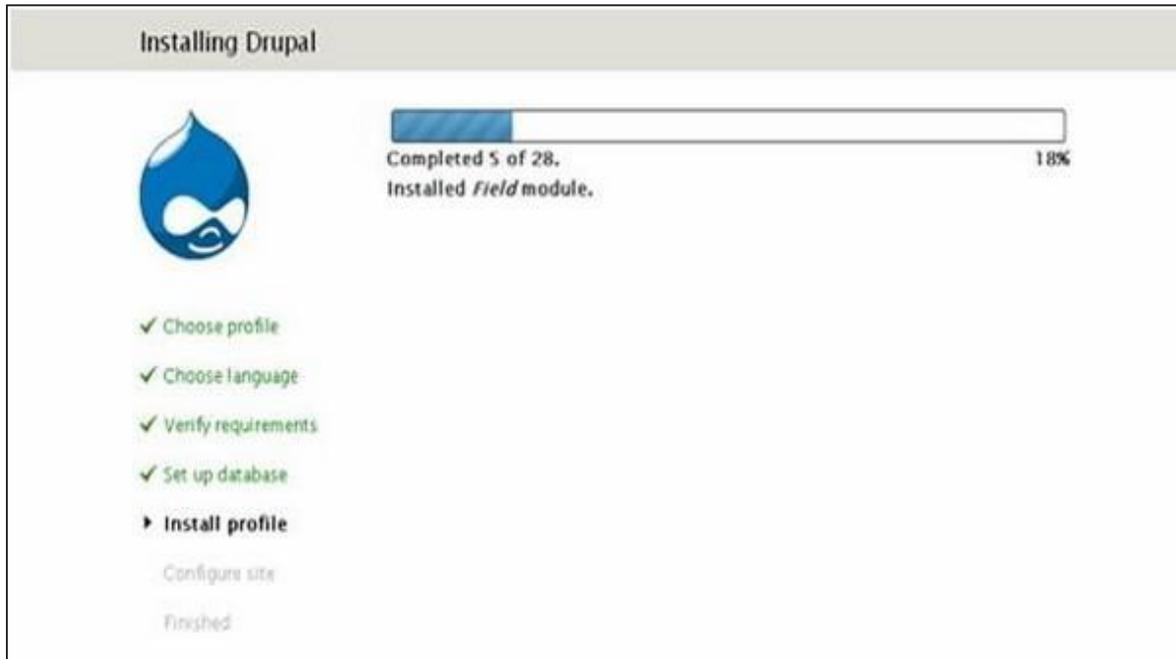
If more than one application will be sharing this database, enter a table prefix such as *drupal\_* for your Drupal site here.

You can fill the advanced options for the database:

- **Database Host:** Enter the host name where your database is located.
- **Database port:** Enter the database port.
- **Table Prefix:** It is used to add prefix in the database tables, which helps to run multiple sites on the same database.

After filling all the information, click the **Save and continue** button.

**Step (6):** The installation process starts on your machine.



**Step (7):** The Configure site page appears on the screen:

It contains the following fields:

- **Site name:** The name that you want to give to your site.
- **Site e-mail address:** The e-mail address to which automated e-mails will be sent.
- **Username, Email-address and Password:** These are all administrative details used for the maintenance account.

You need to enter all these fields and click **Save and continue**.

**Step (8):** The following page indicating that your Drupal installation is successful will appear on your screen.



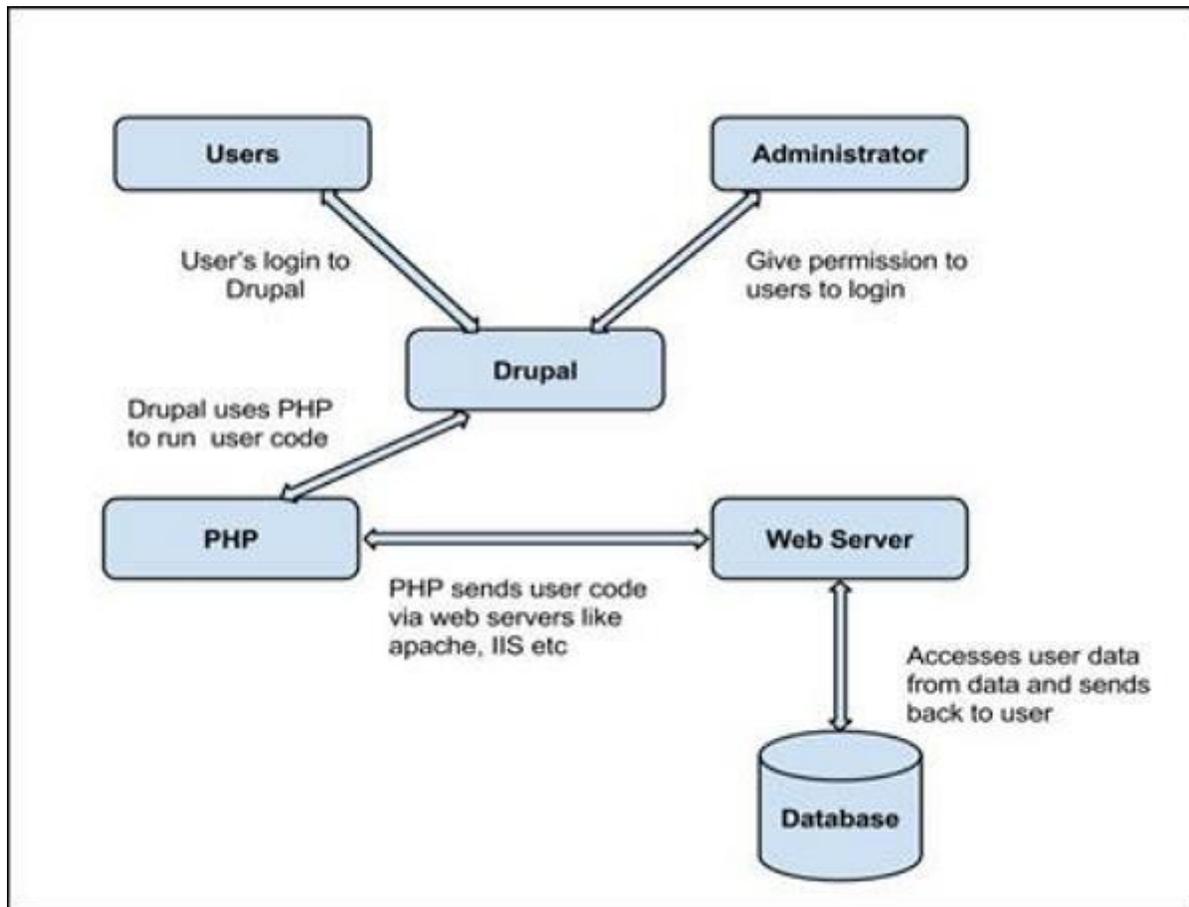
**Step (9):** Click the **Visit your new site** link as shown in this image.



**Step (10):** Finally, the newly installed Drupal homepage appears on your screen as seen in the preceding image.

# 3. ARCHITECTURE

Drupal is a platform for web content management which is a powerful tool for building simple and complex sites. In this chapter, we are going to discuss the architectural style of Drupal for implementing user interfaces. The following diagram shows the architecture of Drupal:



The architecture of Drupal contains the following layers:

- **Users**
- **Administrator**
- **Drupal**
- **PHP**
- **Web Server**
- **Database**

**Users:** These are the users on the Drupal community. The user sends a request to a server using Drupal CMS and web browsers, search engines, etc. acts like clients.

**Administrator:** Administrator can provide access permission to authorized users and will be able to block unauthorized access. Administrative account will be having all privileges for managing content and administering the site.

**Drupal:** Drupal is a free and open source Content Management System (CMS) that allows organizing, managing and publishing your content and is built on PHP based environments. Drupal CMS is very flexible and powerful and can be used for building large, complex sites. It is very easy to interact with other sites and technologies using Drupal CMS. Further, you will be able to handle complex forms and workflows.

**PHP:** Drupal uses PHP in order to work with an application which is created by a user. It takes the help of web server to fetch data from the database. PHP memory requirements depend on the modules which are used in your site. Drupal 6 requires at least 16MB, Drupal 7 requires 32MB and Drupal 8 requires 64MB.

**Web Server:** Web server is a server where the user interacts and processes requests via HTTP (Hyper Text Transfer Protocol) and serves files that form web pages to web users. The communication between the user and the server takes place using HTTP. You can use different types of web servers such as Apache, IIS, Nginx, Lighttpd, etc.

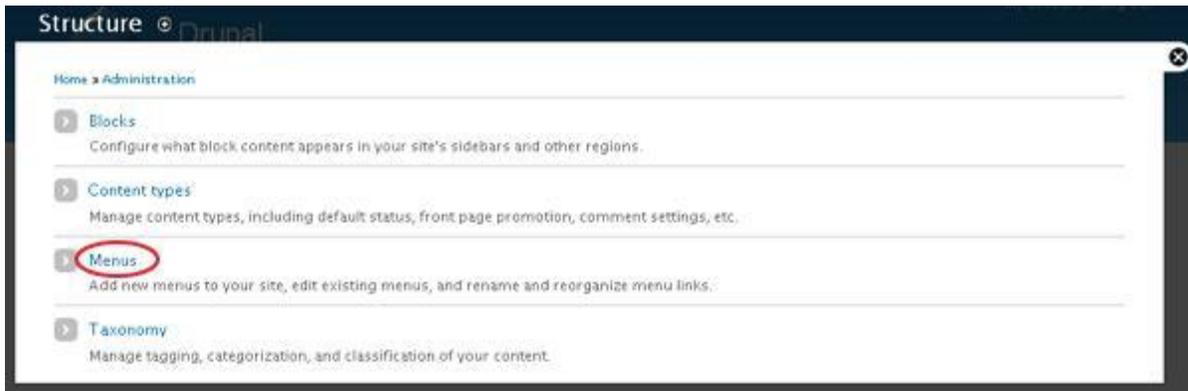
**Database:** Database stores the user information, content and other required data of the site. It is used to store the administrative information to manage the Drupal site. Drupal uses the database to extract the data and enables to store, modify and update the database.

# 4. MAIN MENU

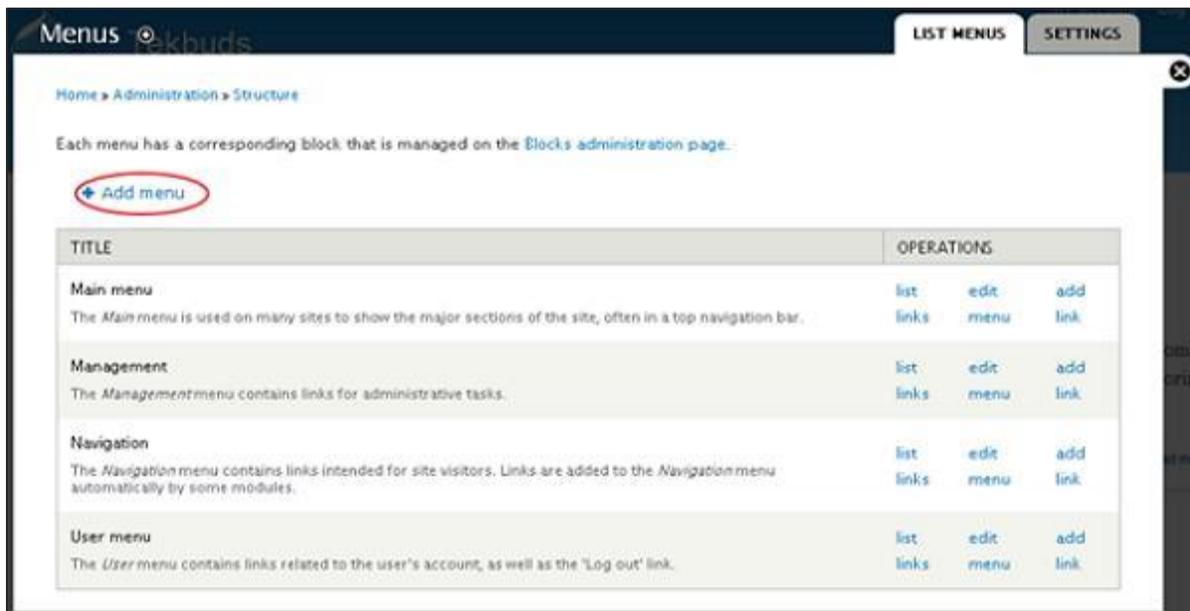
In this chapter, we will study how to **Create Menu** in Drupal. Menus are very important to easily navigate in your website. Menus offer a set of links that help you navigate. The Drupal menu allows you to add, remove, and rename the menus and menu items.

Following are the simple steps to create menus in Drupal.

**Step (1):** Click **Structure -> Menus** as shown in the following screen.



**Step (2):** Click on **Add menu** option to add menu.



**Step (3):** Fill in the required details as shown in the following screen.



Menu1 LIST LINKS EDIT MENU

Home » Administration » Structure » Menus » Menu1

**Title \***  
Menu1 Machine name: menu-menu1

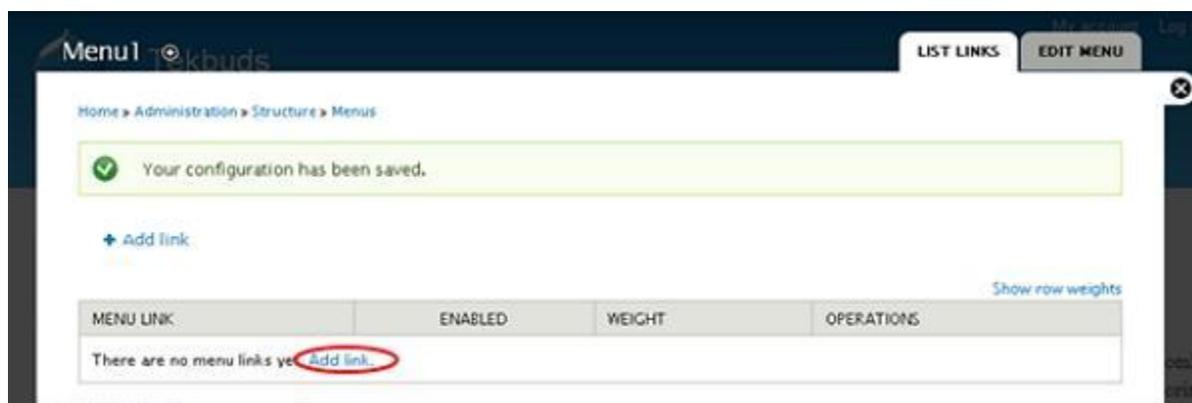
**Description**  
This is my first menu in drupal

Save Delete

- **Title:** It displays title in the Administrator Menu bar.
- **Description:** Enter a brief description about the menu. The description field will display only in the admin dashboard under the menu list, but it does not display any information to site visitors.

After filling all the information about the menu, click the **Save** button to save your created menu bar.

**Step (4):** Once you save the menu bar, the following screen will get displayed. Here you have to define the path link to your created menu page. Click **Add link** as shown in the following screen.



Menu1 LIST LINKS EDIT MENU

Home » Administration » Structure » Menus

✓ Your configuration has been saved.

[+ Add link](#)

[Show row weights](#)

MENU LINK	ENABLED	WEIGHT	OPERATIONS
There are no menu links yet. <a href="#">Add link.</a>			

**Step (5):** The created **Menu1** page gets displayed as shown in the following screen.

The screenshot shows the Drupal configuration page for a menu item. The breadcrumb trail is 'Home - Administration - Structure - Menus - Menu 1'. The page title is 'Menu 1'. There are two buttons at the top right: 'LIST LINKS' and 'EDIT MENU'. The main content area contains the following fields and options:

- Menu link title \***: A text input field containing 'About Us'. Below it is the text: 'The text to be used for this link in the menu.'
- Path \***: A text input field containing 'node/0#'. Below it is the text: 'The path for this menu link. This can be an internal Drupal path such as node/0# or an external URL such as http://drupal.org. Enter <br> to link to the front page.'
- Description**: A large text area. Below it is the text: 'Shown when hovering over the menu link.'
- Enabled**: Below it is the text: 'Menu links that are not enabled will not be listed in any menu.'
- Show as expanded**: Below it is the text: 'If selected and this menu link has children, the menu will always appear expanded.'
- Parent link**: A dropdown menu showing '<Menu1>'. Below it is the text: 'The maximum depth for a link and all its children is fixed at 3. Some menu links may not be available as parents if selecting them would exceed this limit.'
- Weight**: A dropdown menu showing '0'. Below it is the text: 'Optional. In the menu, the heavier links will sink and the lighter links will be positioned nearer the top.'
- A **Save** button is circled in red at the bottom left.

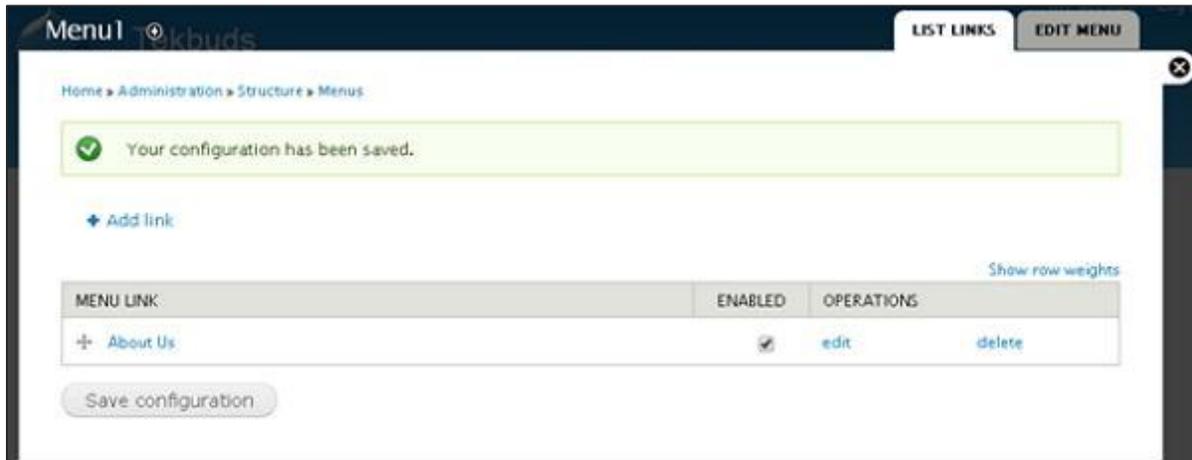
It contains below fields:

- **Menu link title:** Specify the name of the menu item.
- **Path:** Specify the URL path of the page which you want to display.
- **Description:** Description about the menu link.
- **Enabled:** It enables the item to display on menu.
- **Show as expanded:** If it consists of sub menus, then it will be displayed under the parent menu item.

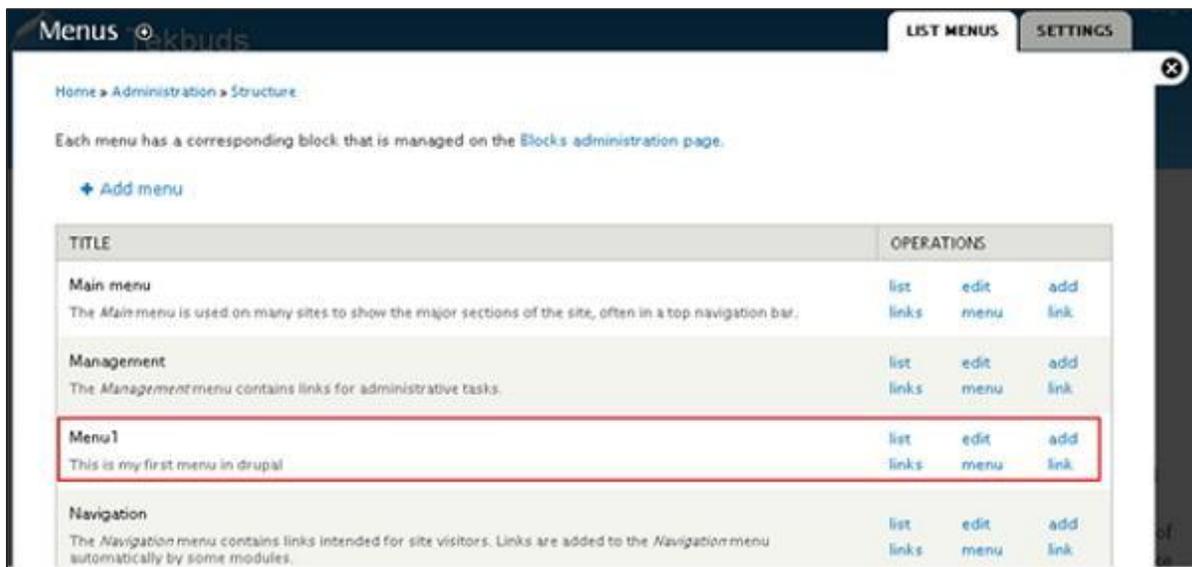
- **Parent Link:** It sets the main structure of menu.
- **Weight:** Sets the order of menu items.

After filling all the information about the menu link, click the **Save** button, this will save your Menu link.

**Step (6):** Now the following screen pops up.



**Step (7):** Click **Structure -> Menus** to get the following screen.



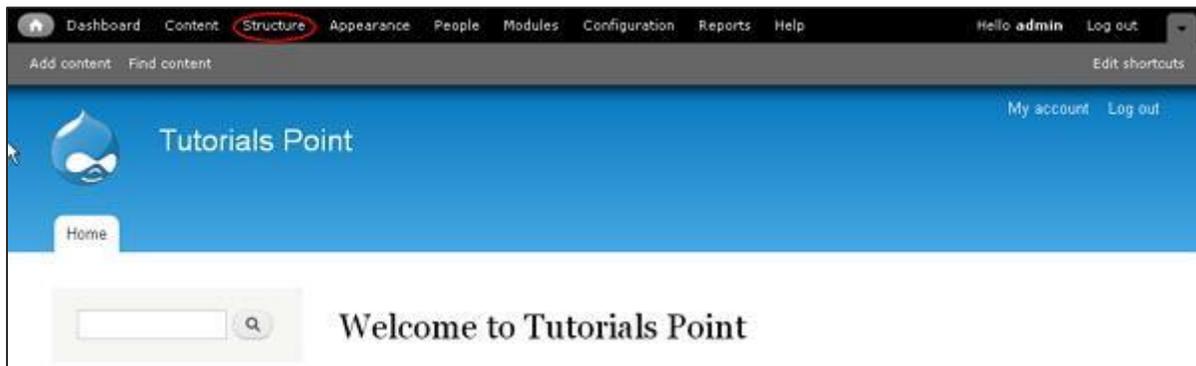
Here, you will see the created **Menu1** name in the list of Menus.

# 5. BLOCKS & REGIONS

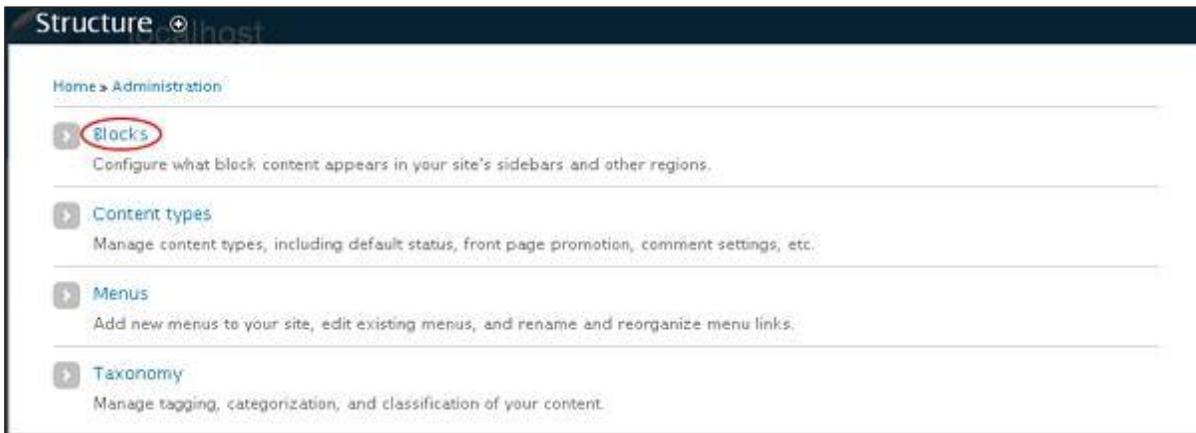
In this chapter, we will study about Drupal Blocks & Regions. Blocks are container objects that are used to organize your content of your website. It can be displayed in the regions on your page.

Following are the simple steps for creating Drupal Blocks.

**Step (1):** Click **Structure** in Drupal as shown in the following screen.



**Step (2):** Then, click **Blocks**.



**Step (3):** Blocks page gets displayed. Click **Add block**.

Home > Administration > Structure

This page provides a drag-and-drop interface for assigning a block to a region, and for controlling the order of blocks within regions. Since not all themes implement the same regions, or display regions in the same way, blocks are positioned on a per-theme basis. Remember that your changes will not be saved until you click the *Save blocks* button at the bottom of the page. Click the *configure* link next to each block to configure its specific title and visibility settings.

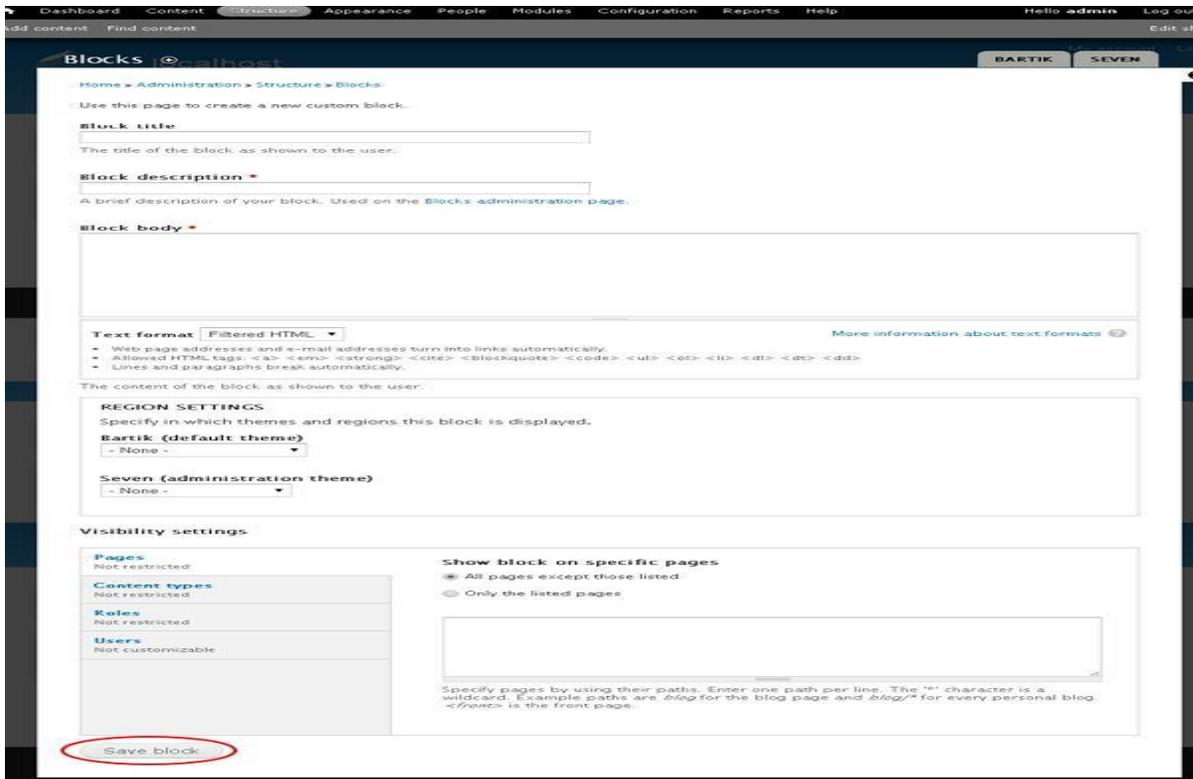
Demonstrate block regions (Bartik)

[+ Add block](#)

Show row weights

BLOCK	REGION	OPERATIONS
<b>Header</b>		
<i>No blocks in this region</i>		
<b>Help</b>		
<a href="#">+</a> System help	Help	<a href="#">configure</a>
<b>Highlighted</b>		
<i>No blocks in this region</i>		
<b>Featured</b>		
<i>No blocks in this region</i>		
<b>Content</b>		
<a href="#">+</a> Main page content	Content	<a href="#">configure</a>

**Step (4):** A block page will get displayed to create a new custom block as shown in the following screen.



The following fields appear on the Blocks page.

- Block Settings

Dashboard Content **Structure** Appearance People Modules Configuration Reports Help Hello **admin** Log out

Add content Find content Edit shortcuts

Blocks **localhost** BARTIK SEVEN

Home > Administration > Structure > Blocks

Use this page to create a new custom block.

**Block title**

The title of the block as shown to the user.

**Block description \***

A brief description of your block. Used on the [Blocks administration page](#).

**Block body \***

**Text format** Filtered HTML [More information about text formats](#)

- Web page addresses and e-mail addresses turn into links automatically.
- Allowed HTML tags: <a> <em> <strong> <cite> <blockquote> <code> <ul> <ol> <li> <dl> <dt> <dd>

- Lines and paragraphs break automatically.

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