



Drupal + Formulize

A Step-by-Step Guide to Integrating Drupal with XOOPS, and installing and using the Formulize module

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Introduction

Drupal is a popular website content management system. Formulize is rapid application development toolkit, built as a module for the XOOPS object oriented website platform.

This document explains how you can install XOOPS and integrate it with a Drupal installation. With that done, you can then build applications in Formulize, and have them appear as nodes inside your Drupal website.

Why?

Formulize is a powerful rapid application development toolkit. Unlike other RAD platforms or frameworks, Formulize is almost all "point-and-click"; you can build complex applications with multiple screens and custom behaviours, using mostly your mouse and little or no PHP code.

Formulize focuses the design decisions and planning at the business logic layer, and it gives you a graphical user interface in your web browser for managing that business logic. This approach enforces standardization across different applications, and can make maintenance more efficient since all your applications are built in the same way on the same underlying system.

As the RAD moniker implies, it can also let you build applications really fast.

Is this the CCK in sheep's clothing?

No. The CCK is an excellent and innovative tool that lets you extend and customize the types of *content* you manage in the Drupal content management system. Formulize gives you powerful tools for managing different types of *data*. Formulize is kind of like a CMS for data, that lets you create full applications with their own business logic.

It is conceivable that some of the concepts and capabilities embodied in Formulize could be migrated to the CCK, or the Drupal core, but whether or not that happens may depend on different people's ideas about whether Drupal is a CMS or a framework.

System Requirements

- Drupal 5.1 (should work with 4.7 too, but has not been tested on that version)
Download from: <http://www.drupal.org>
- XOOPS 2.0.16
Download from: <http://www.xoops.org>
- Formulize 2.3 (RC1 or higher)
Download from: <http://www.freeformsolutions.ca/formulize>
- A MySQL host (if your Drupal installation is not using one already)
(Should be available from your web hosting provider already)

Note: Drupal and XOOPS must be installed on the same server for this to work, or you must be accepting remote includes on the server where XOOPS is installed.

Installation

Part 1. Install Drupal

1. Install Drupal. Follow all the normal procedures for doing this. Consult the Drupal docs for more information.

Part 2. Install XOOPS

1. Create a MySQL database for XOOPS to use. Note the database name, and the username and password for accessing the database.
2. Upload or unpack XOOPS to a folder on your domain, it could be any folder, it doesn't matter which — just don't put it in the same folder as Drupal! (So if Drupal is at the root of your domain, make sure you put XOOPS in a subfolder.)
3. In a web browser, go to the location where you put XOOPS. ie: if you placed XOOPS in a folder called "xoops" on yourdomain.com, then go to this location:
<http://www.yourdomain.com/xoops>
4. The XOOPS installation wizard should appear in your web browser. Follow the steps on the screen. You will be asked to enter the database name, username and password you recorded earlier.
5. During the installation process, you will be prompted to create a username and password for the first webmaster account. Once the installation process is complete, login to XOOPS using this username and password.
6. Go to the Administration area, by clicking the link in the User Menu after you login, and follow the instructions there (you will be asked to delete the install folder and make mainfile.php read only)

Part 3. Install Formulize

1. Upload or unpack Formulize to the /modules/ folder in your XOOPS installation. Consult the Formulize readme for more information.

All the Formulize files should be contained inside a folder called "formulize". ie: when you're done, you should have a folder called /modules//formulize/ and inside that folder are all the files for the Formulize module.

2. Login to XOOPS with the webmaster account you created during the XOOPS install.
3. Go to the Administration side of XOOPS, and select the Modules area.
4. Locate the yellow Formulize icon near the bottom of the page, and click the disk icon to the right of that. You will be prompted to install the Formulize module.
5. Follow the other steps as outlined in the Formulize readme.

Part 4. Integrate Drupal and XOOPS

1. Open up the index.php file at the root of your Drupal installation, and add one line to it, around line 15, after Drupal has bootstrapped itself:

```
require_once "[root path]/[xoops folder]/mainfile.php";
```

Replace [root path] with the root path to the web folder on your server, for instance, "var/www/yourdomain.com". Replace [xoops folder] with the name of the folder where XOOPS is installed, ie: "xoops".

The point here is to include mainfile.php at the root of your XOOPS installation, wherever that is.

2. Locate the three XOOPS files, include/common.php, class/xoopssecurity.php and class/database/mysqldatabase.php, and replace them with the copies of those files included with this package.

FYI: there is one line changed or added in each file. In common.php, around line 228, this line is added:

```
if($user->uid) { $_SESSION['xoopsUserId'] = $user->uid; }
```

That ensures that when a Drupal user is logged in, the corresponding user in XOOPS is also logged in (see below for more details).

In xoopssecurity.php, around line 166, a new line has been added:

```
return true;
```

This ensures that XOOPS will not reject database submissions initiated from Drupal.

In mysqldatabase.php, around line 79, a fourth parameter, 'true', is added to the mysql_pconnect and mysql_connect functions, to ensure that XOOPS and Drupal can connect to the same MySQL host if necessary.

3. Lastly, if you are not running PHP in 'safe mode', then you need to do one more thing. If you are running PHP in 'safe mode', then you can skip this step. You can tell if you are running in safe mode or not by checking the output of the phpinfo() function.

Open the mainfile.php at the root of your XOOPS installation, and locate line 43. Near that line, there should be an if condition that looks like this:

```
if ( XOOPS_CHECK_PATH && !@ini_get('safe_mode') ) {
```

You need to comment out that entire if condition, from about line 43 to 60. This is necessary so that XOOPS accepts references from Drupal to PHP scripts located in XOOPS' own part of the directory tree.

To comment out the if condition, simply put a slash and asterisk before the 'if' and put an asterisk and slash after the closing brace. ie:

```
/* if ( XOOPS_CHECK_PATH && !@ini_get('safe_mode') ) {  
    // all the code that is inside the condition goes here  
} */
```

Theory (how does this work?)

The idea behind this integration approach is that Drupal is your main website and handles all presentation of content, and is the main place where users create accounts and login.

Meanwhile, Formulize in XOOPS is an independent application, which can feed content to Drupal (more on actually doing that below). There is an implicit assumption that the user table in Drupal and the user table in XOOPS are parallel. User number 23 in Drupal should correspond to user 23 in XOOPS.

If your Drupal site already exists, you may need to take an export of your Drupal user table and alter that data for importing into your XOOPS user table, via phpMyAdmin or some similar tool.

The same principle applies to the roles in Drupal and the groups in XOOPS. Permissions in XOOPS are applied to groups, which contain users, in much the same way that users can be assigned roles in Drupal.

To make the administration of your Drupal site and your Formulize application as straight forward as possible, it would be wise to have parallel groups in XOOPS for each role in Drupal, and ensure that the groups and roles have the same users in them.

But wait, isn't that a huge headache?

It could be, absolutely. But Drupal's hook system is going to come to the rescue.

Freeform Solutions intends to create a module for Drupal called 'XOOPS'. This module will have hooks in it that listen for user events and role events. Whenever anyone creates an account or updates their account, or whenever a new role is created or a user is added or removed from a role, the 'XOOPS' module in Drupal will update XOOPS' own database and ensure that your user tables and roles/groups are kept perfectly synchronized.

Displaying something from Formulize in Drupal

Here's how you can create a form in Formulize and display it in Drupal. This demonstrates the essence of how you get Formulize applications to appear in Drupal.

Making a Form

1. Login to XOOPS and go to the Administration side, and click on the yellow Formulize icon.
4. Click on the icon beside where it says "Create a form". Give it a name and allow more than one entry per user in this form.
5. Then add some elements to the form. It doesn't matter what they are. Just a few will do.
6. Then go to the main Formulize admin area, and click on the "Modify Form Access Permissions" icon.

7. Once in this area, select the Registered Users and Anonymous Users groups, and select the form that you made. (A XOOPS Group is like a Role in Drupal.) Click the button to show the permissions for those groups for that form.
8. Give both groups view_form, add_own_entry, update_own_entry and delete_own_entry permissions.
9. Lastly, go to the XOOPS System Admin->Groups area, and make sure Registered Users and Anonymous Users have access to Formulize (the "Forms" module).

With that done, you now have a form you can use. If you go to the front page of your XOOPS site, you should be able to access it through the *Forms* entry in the main menu, assuming you haven't altered the block layout of your XOOPS site. Try it out there to see how it works.

If you don't like the way the default list of entries screen looks, don't worry, you can change that. In fact, you have to create a custom "list of entries" screen for this form in order to access this form easily from inside Drupal. To make a custom screen, do this:

Making a Custom "Screen"

1. In the Formulize admin area, click the Settings icon beside your form. That's the icon with the letter and @ symbol on it.
2. At the bottom of the page is a section called *Defined Screens for This Form*. Select *List of Entries in this form* and click the **Add it now!** button.
3. On this page, you can alter everything about the list of entries screen. You can change the default view, you can change the text on the buttons, turn the buttons off, create new buttons with special effects, and control where all that stuff appears on the screen if you want to make a custom template.

Experiment with the options if you want, but to get something to appear inside Drupal, you don't need any options in particular. You just need to save the screen so that one exists, and then we can make a node in Drupal that will display the screen.

4. Note the SID number for your screen after you've saved it.

Making the Screen Appear in Drupal

1. In your Drupal site, click Create Content. Add a new Page node.
2. In the body of the page, type this:

```
<?php
$formulize_screen_id = 1;
include XOOPS_ROOT_PATH . "/modules/formulize/index.php";
?>
```
3. Set the input format to PHP code, optionally give the node a menu entry of its own, and save it.

You should now have a page in your Drupal site that displays a screen created in Formulize. (Screen number 1 if you use the exact code above. Use a different number to display a different screen.) You can update information in the form, and all the data should be saved appropriately, and the information should be visible appropriately as well.

Keep in mind that anonymous users, ie: users who are not logged in, all share access to the same set of entries. Also remember that XOOPS will try to login the user in its own user table that has the same user ID as the user currently logged in through Drupal.

Cool, but how do I make applications with this?

By creating a series of customized screens, you can make any sort of data input/output application that your site needs. For instance, a simple project management tool might have a screen where people input projects and tasks on those projects. Then it might also have a screen where people could view the tasks that are assigned to them, and perhaps another screen where managers could see a list of tasks that are overdue.

It is fairly easy to create that kind of application using Formulize, simply by making the forms that you need for the data containers, plus the various screens you need for people to interact with. By using the powerful "Save Current View" feature, and then limiting your custom screen to just those views, you can have several variations of one screen that are all easily accessed through the "Current View" drop down list.

What's Next?

Freeform Solutions intends to create a module called 'Formulize' which will add a new node type to your Drupal site. The 'Formulize' module will let you setup particular kinds of nodes that show particular kinds of screens from Formulize, including lists of entries, specific forms, and even specific entries from specific forms.

The 'Formulize' module will work with the 'XOOPS' module in Drupal to keep your Drupal and XOOPS sites in good synchronization.

We hope you found this introductory "proof-of-concept" interesting and exciting. You can stay in touch with the development of Formulize, and get support for using Formulize, through: <http://www.freeformsolutions.ca/formulize>

Thanks for reading, good luck with your websites!