

# Drupal - VSCP

by Peter Bosmans

April 2, 2012

## 1 Introduction

The goal of this document is to help you by using the VSCP module for Drupal. Drupal is a content management system which can be extended by contributed and custom modules. I will describe 2 manners of installing this module. The *site installation* is not the official way Drupal should describe. Here you install an already configured system with the necessary modules to connect your website to your VSCP-network. This kind of installation uses XAMPP. The *module installation* is the official one and if you are already familiar with Drupal I would suggest to use this one.

Very important to know : this module is only developed for Drupal 6

## 2 Installations

### 2.1 Site Installation

I shall describe the installation on a windows 7 system. This is similar to other OS's.

I recommend to read this document on tesame system as where you install this site. Then the hyperlinks in this document should work correctly. Some hyperlinks will work when you're logged in.

#### 2.1.1 Requirements

- Xampp 1.7.1: This is not the last version, this package use PHP version 5.2.9.
- Drupal-VSCP installation: Download the preconfigured drupal installation with the already installed VSCP-module.
- Mysql database: Download the mysql import file needed by Drupal.

#### 2.1.2 Installation

**2.1.2.1 Xampp** Install the downloaded Xampp installation. This is straight forward. It's possible that you already have an Xampp installation on your system, you can try that one. But if your xampp installation use PHP 5.3 (Xampp version higher then 1.7.1), some modules will give some warnings and that's very annoying when you work with Drupal.

**2.1.2.2 Mysql database** After Xampp is installed you can go to the phpMyAdmin interface on your localhost and create a database with the name 'vscp', a database user 'vscp' with password 'vscp'. (Yes, I know this is not so secure but it's only on your local system). Be sure that the database user has all permissions on the 'vscp' database.

Select the newly created database and import the downloaded database. You can import the zip file directly but if that gives troubles then you can first unzip the downloaded database file and import the sql-file.

**2.1.2.3 Drupal-VSCP** Unzip the downloaded drupal installation in the 'htdocs' directory of your Xampp installation. Now you must see a directory called 'vscp' under the 'htdocs' directory.

Start your browser an go to the homepage of this installation. Hopefully you will something like this. It's not so fancy, but that was not the main goal. My priority was to make Drupal talk VSCP.

On the top you can login with username 'vscpadmin' and password 'VSCPadmin' (mind the capitals).

Once you are logged in, the username and password are replaced by the Drupal admin menu.

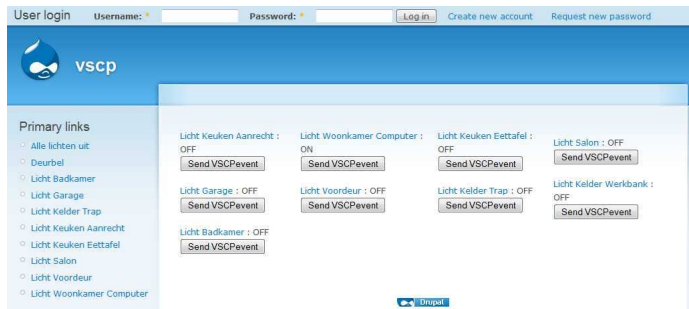


Figure 1: Homepage Drupal-VSCP installation

**2.1.2.4 VSCP-Drupal XMLRPC** The VSCP-module can talk to the VSCP-daemon to send events. With the Drupal's XMLRPC we can receive events from the VSCP-daemon. With the decision matrix for the VSCP-daemon it's possible to select which events would be send to Drupal. An external program will create a xmlrpc-call to Drupal with the content of the event.

Beneath your htdocs path `vscp/sites/all/modules/custom/vscp` you will find a directory `VSCPdaemon`.

This directory contains the external program, `clientxmlrpccall.php`, that create the xmlrpc-call. And an example of a decision matrix file that only calls the external program when a Class:Information Type:On/Off event is received by the VSCP-daemon.

Put the `dm.xml` file at tesame place as your `vscpd.conf` file

And copy the `clientxmlrpccall.php` to a directory at your choice ( ex. C:/Program Files/vscp )

### 2.1.3 Configuration

**2.1.3.1 Mailaddresses** Change the mail-addresses for :

The site information, the administrator user (vscpadmin), and for an action 'Send a mail to an arbitrary mail address' within an already existing rule example. (Or you can delete this action if you don't plan to use it).

The system uses these adresses to send notification mails.

**2.1.3.2 VSCP module** Check the configuration of the VSCP module. Here you can define the host-address and port where your VSCP-daemon is running. (Default is this localhost because i assume that your Drupal installation is on tesame host as your VSCP-daemon.)

**2.1.3.3 Taxonomy** The Drupal taxonomy is a great feature to label specific content.

Two special hierarchical vocabularies are created within the taxonomy : *Level I Events* and *Zone-Subzones*.

The *Zone-Subzones* vocabulary has terms into two levels. The highest level contains the zones and the children of the zones contains the subzones.

Each term contains a term name, a description and very important the synonyms. As you can see there are already term defined, these are the terms that i use in my house. For the term name you can give it a name you like, the description is not necessary, but i fill this up for my own clearance. Very important are the synonyms. This contains only one decimal number, the number of the corresponding zone (or subzone).

Normally you don't have to change the content of the vocabulary *Level I events*. Except when there are changes within the VSCP specifications.

**2.1.3.4 dm.xml** Edit the dm.xml file and change the path to your *php.exe* file and the path to where you copied the *clientxmhrpcall.php*

In the dm.xml you can configure which VSCP events will go to Drupal. Within this contributed example only the VSCP Class:Information Type:On/Off event will be forwarded to Drupal.<sup>1</sup> file.

## 2.2 Module Installation

If you've used the previous installation, you can skip this one.

The current downsite of this installation is that the module is still in sandbox phase on Drupal. Therefore you must use a gitclient to download this module.

Look into the INSTALL.txt for further instructions to install and configure this module.

---

<sup>1</sup>The *clientxmhrpcall.php* contains the URL to Drupal's xmhrpc.php file. If you use an other Drupal installation, verify if the URL is correct.

```
$file = file_get_contents("http://localhost/vscp/xmhrpc.php", false, $ctxSysConnect);
```

## 3 Usage

The main thing to remember is that every VSCP event corresponds to a Drupal node. And a Drupal node is a content item of a certain content type.<sup>2</sup>

### 3.1 Content types

This module contains special VSCP content types : *VSCPevent* and *VSCPlog*.

The Drupal nodes of type *VSCPevent* can be created manually or by the system, it will become a self-learning system. When drupal receives a VSCP-event it will first look if a corresponding node already exist in his database.

If not, it will create a new node with a title that contains the *classnumber-typenumber-zonenumber-subzonenumber* (ex. 20-3-1-12) and it's owned by *anonymous*.<sup>3</sup>

To find all content, use the drupal admin menu : Content management -> Content. Here you get a list of all manually and automaticly created nodes in drupal.

If the node exist, the timestamp will be changed to the current time and if the *sended* reference field is not empty then the *received* reference field of the *sended* node will be updated with the value of this node. For example i use this to connect the on/off events to a button event. So the button event is always connected to the last received on/off event.

For each *VSCPevent* you can choose which type of logging will be used.

No logging, logging through revisions or logging with new nodes.

The revisions logging create automaticly a *VSCPlog* node and create a new revision each time that *VSCPevent* is received. This type of logging use the *Log reference* field.

The nodes logging create automaticly a new *VSCPlog* node each time that *VSCPevent* is received.

I don't know which one is the best. With revisions logging it easier to control the amount of logging but with the node logging it easier to create reports.

### 3.2 Rules

De VSCP module integrates with the Rules module. With this it's possible to define conditionally executed actions based on occurring events.

The events that the VSCP-module provides are :

- After a VSCP event is received

The conditions that the VSCP-module provides are :

- VSCP event has class
- VSCP event has type

---

<sup>2</sup>More image examples

<sup>3</sup>Important to know is that *VSCPevent*'s that are owned by *anonymous* cannot be send to *vscpd*. You must change the owner of that *VSCPevent* before you can send it to *vscpd*.

- VSCP event has zone
- VSCP event has subzone
- VSCP event has byte0
- VSCP event has data

The actions that the VSCP-module provides are :

- Send VSCP event

In this distribution, 2 rules are implemented as an example. One is to send an email when the doorbell is pushed and one is to send a VSCP-event when a html button is clicked.