Leveraging the Open Source Applications Ecosystem with IBM i

by *Enrico Zimuel*
Senior Software Engineer - Zend Technologies

Email: *enrico@zend.com*

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The PHP Company

About me

- **Software Engineer since 1996**
  - C/C++, Java, Perl, PHP, Javascript, VBScript, etc.
- **Enjoying PHP since 1999**
- **PHP Engineer at Zend Technologies**
  - Senior Consultant (since 2008)
  - Zend Framework Core Team (from April 2011)
- **BSc honors in Computer Science and Economics**
- **PHP 5 Certified Engineer, ZF Certified Engineer**
- **More info about me: http://www.zimuel.it**

Agenda

- **Business and Open source**
- **PHP and the open source ecosystem**
- **PHP on IBM i**
- **Zend Server CE / Zend Server on IBM i**
- **Drupal use case:**
  - how to install Drupal on IBM i using Zend Server CE

Business and Open source

Gartner®

- **Main points of the Gartner's report:**
  - By 2013, a majority of Linux deployments will have **no real software total cost of ownership** (TCO).
  - By 2012, software as a service (SaaS) will eclipse open source as the **preferred IT cost-cutting method**.
  - By 2012, more than **90%** of enterprises will use open source in direct or embedded forms,
  - By 2011, open source will dominate software infrastructure for **cloud-based providers**, according to another of the report's predictions.

Open source trends 2009

- **More commercial open source**
  - Canonical, Acquia, Zend Technologies
- **More business model**
  - Red Hat, Alfresco, Pentaho, SugarCRM, MySQL, etc
- **More acquisitions**
  - Sun acquired MySQL for $1 billion
- **More power in the user community**
  - Open source becomes more widespread in corporations
- **More mainstream**
  - Open source database adoption growing at 50 percent in 2008

FOSS Survey 2011

- **What makes open source attractive?**
  - **Freedom from VENDOR lock-in**
  - **Lower costs**
  - **Flexibility**

- **Top 5 barries to open source adoptions**
  1) Lack of internal technical skills
  2) Unfamiliarity with open source solutions
  3) Lack of formal commercial vendor support
  4) Legal concerns about licensing
  5) Does not conform to internal policies

PHP and Open source

What is PHP?

- **PHP ("PHP: Hypertext Preprocessor")** is an open source scripting language originally designed for web development
- Originally created by **Rasmus Lerdorf** in 1995
- **Zeev Suraski** and **Andi Gutmans,** rewrote the parser in 1997 (PHP 3)
- **Suraski** and **Gutmans** founded the Zend Technologies company in 1999
- PHP 5 is fully **Object Oriented**

PHP: a global phenomenon

- **30% of the Internet runs on PHP**

- **37% growth in PHP developers**

- **Mass**
- **Impact**

zend

Enterprise adoption of PHP

Gartner

PHP Developers

5M
4M
3M
2M
1M

2009   2014

■ Non-commercial developers

■ Commercial and corporate IT developers
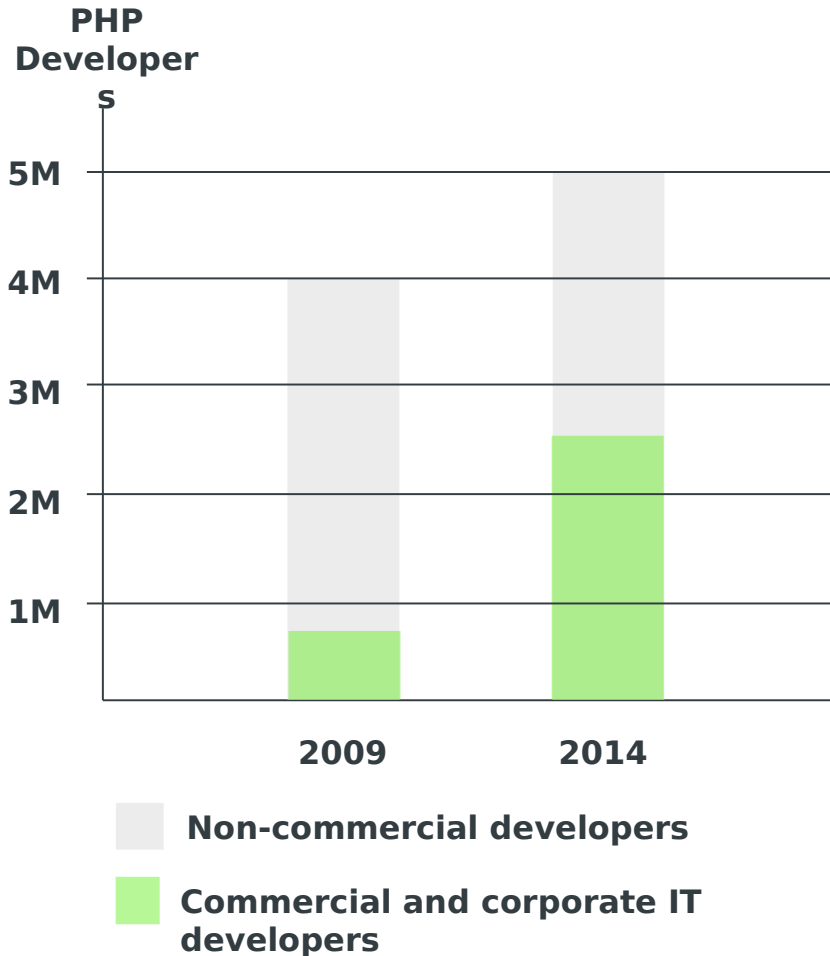
"Commercial and corporate IT developers will account for more than 2 million PHP community members—growing from 20% to 50% of the worldwide PHP developer population."

Gartner Research Note: "PHP: Past, Present and Future", Dec. 2nd, 2009

Enterprises use PHP

Deployed PHP sites and projects
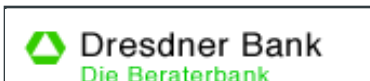
PHP ecosystem
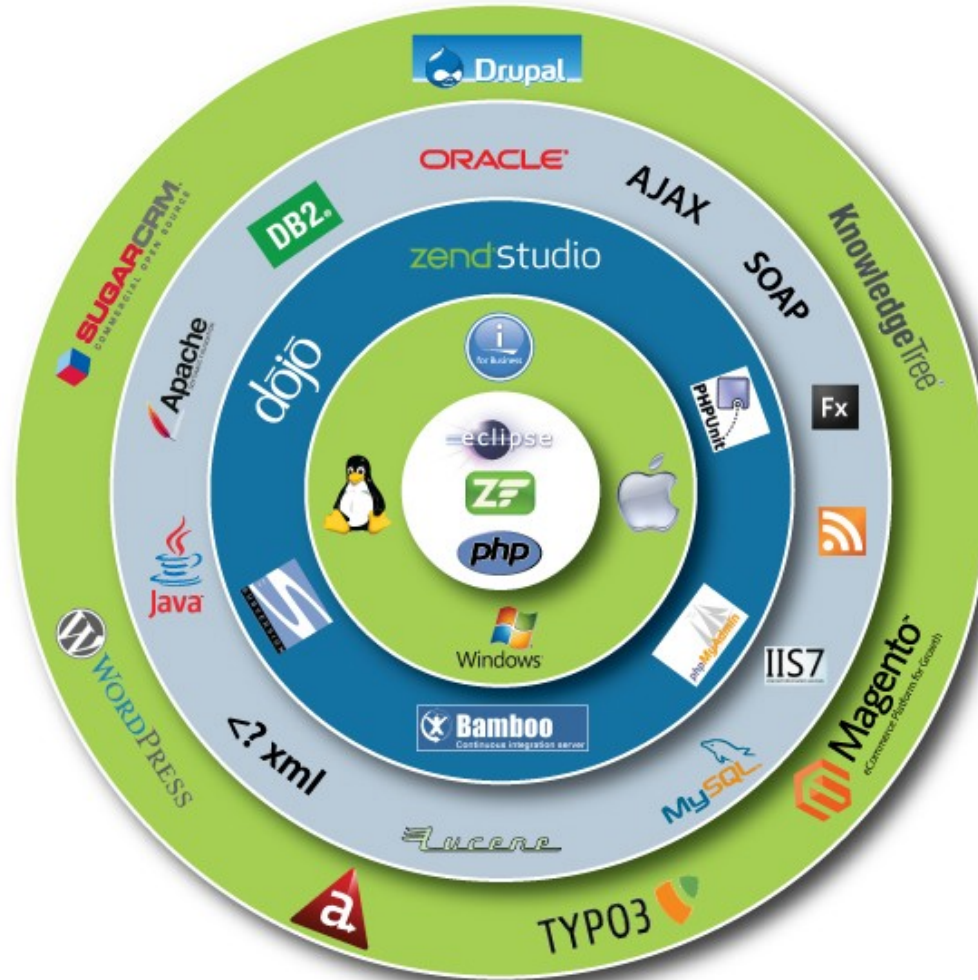
Business ready open source projects in PHP

- **Content Management Systems (CMS):**
  - Drupal, Joomla!, Wordpress, Wiki
- **Customer relationship management (CRM):**
  - SugarCRM, Vtiger, XRMS
- **E-Commerce:**
  - Magento, PrestaShop, OpenCart, ZenCart, osCommerce
- **Help desk, Project management, bug tracking:**
  - Mantis, ZenTrack, OneOrZero AIMS, eTicket
- **PHP Frameworks:**
  - Symfony, Zend Framework, CakePHP, CodeIgniter, etc

PHP on IBM i

Why PHP on IBM i?

Low Learning Curve

Rapid Innovation

Easy Integration into Heterogeneous Environments

Robust, Multi-Platform, High-Performance, Scalable, Secure

Run an Agile Business

Vibrant Community

Proven Deployment

PHP on IBM i

Leverage Existing Infrastructure to Develop & Run Dynamic Web Applications Easily

- Powerful , Flexible, & Fastest Growing Web Development Language
- Native on i5/OS
- Backing & Support of IBM
- Controlled/Driven by PHP Community
- Easy to Use & Fast to Deploy
- Supports Heterogeneous Environments
- Powerful Integration Capabilities

Application Modernization
Use PHP to web-enable green screen applications, utilizing existing data & business logic without rewriting application

Access RPG Programs & Data as Web Services
Package programs and data as web services and make available to other web applications

Consolidate Data in DB2/400
Move PHP applications that are running on Windows or Linux that access data in DB2 to run in i5/OS to speed up or reduce complexity of the applications

Access DB2/400 Data via Browser
Easily access and interact with DB2/400 data using a standard web browser

New/Packaged Web Application on i5/OS
Create new applications with PHP on i5/OS or leverage thousands of existing Open Sources applications

Zend Server: how to run PHP on IBM i

- **Zend Server is the IBM certified PHP server**
- **Contains the PHP engine to run PHP applications on a IBM i machine**
- **Enterprise features:**
  - Monitoring system
  - Code Tracing
  - Performance improvement
  - Job Queue
  - Support

Zend Server for IBM i editions

- **Zend Server Community Edition** (free)
  - PHP Engine 2
  - Zend Optimizer+ (PHP opcode accelerator)
  - Zend Data Cache
  - i5 Toolkit
  - Java Bridge
  - initial year of free support
- **Zend Server** (in addition to CE features):
  - Event Monitor, Code Tracing
  - 5250 Bridge
  - Page Caching
  - Job Queue
  - Support (24x7x365)
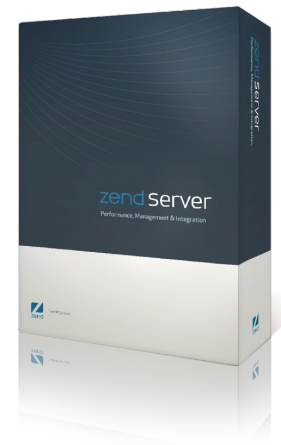
IBM i supported systems

- **Zend Server runs on the following IBM i OS:**
  - V5R4
  - i6.1
  - i7.1
- **Zend Server CE** is preloaded with IBM i 5.4, 6.1 and 7.1 starting in April 2010. The first year of Silver support (Web-based) from Zend is provided for no additional charge. To receive support and product updates, customers must register on www.zend.com

Use case:
How to build an intranet on IBM i using Drupal

What is Drupal?

- **Drupal is a CMS written in PHP**
- **Open source project, GNU GPL license**
- **Professional CMS, built by Dries Buytaert, the founder of Acquia**
- **http://drupal.org/**

The numbers of Drupal

Market — 400k sites

Innovation — 4000+ modules

Community — 600k members
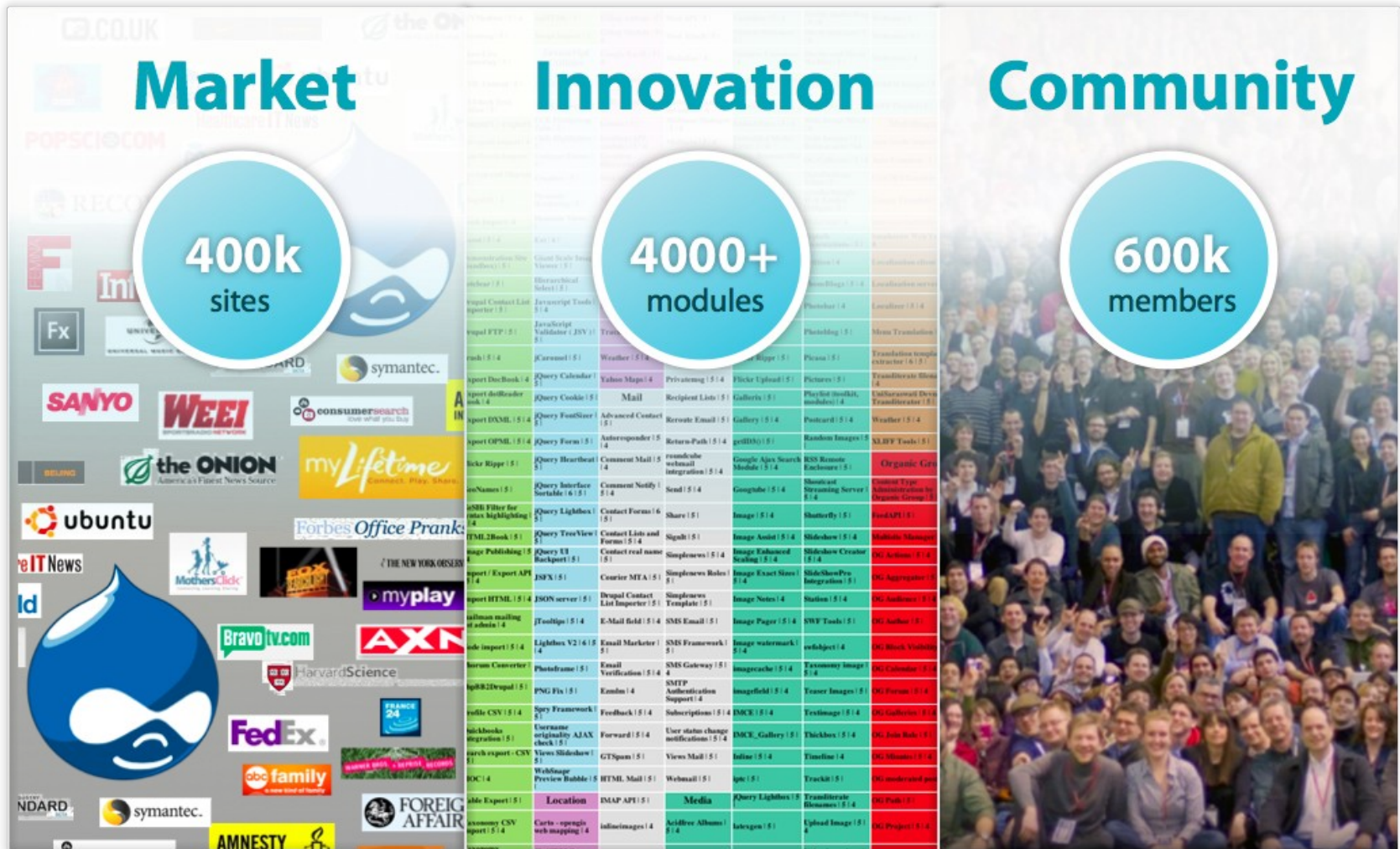
Drupal: main features

- **With Drupal you can build:**
  - Ecommerce
  - Blog
  - Editing with different users
  - Forum
  - Peer-to-peer networking
  - Newsletters
  - Podcasting
  - Images gallery
  - File uploads and downloads
  - etc

Built an intranet for your company using Drupal

- **Drupal** is a powerful CMS to build a company intranet

- Easy and rapid installation: **10 minutes!**

- Expand the features of **Drupal** using the thousands extensions available in the community

- Customize the functionalities of Drupal using the API and the i5 toolkit of Zend Server to integrate the CMS in your environment

Drupal installation

Requirements: MySQL

- **Why install MySQL on IBM i?**
  - **The majority of the open source applications in PHP use MySQL (for instance, Drupal)**
  - **It's free and it's a powerful DBMS**
  - **You can use the DB2 storage engine for MySQL**
    - **Data are written in DB2**
    - **The applications use the MySQL API**
- **MySQL is included in Zend Server for IBM i**

Drupal runs natively on DB2?

- **Theoretically speaking: YES!**
- **In practice, there is a proposal for a DB2 plugin in Drupal but is still in testing:**
  - **http://drupal.org/node/165788**
  - **http://sourceforge.net/projects/siren/**
- **In conclusion if you want to run Drupal using DB2 on IBM i you have to test it before!**
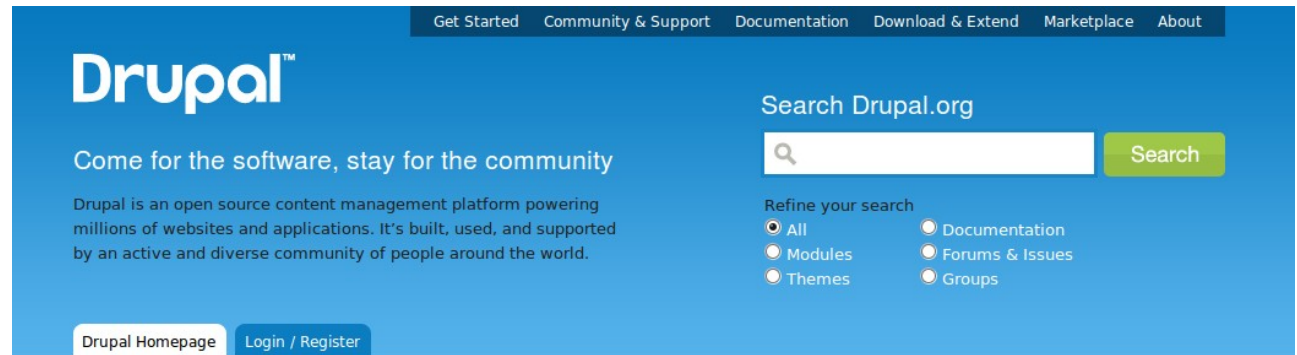
Drupal installation

- **Download Drupal**
- **Copy of the .tar file on IFS**
- **Untar**
- **Create the MYSQL database**
- **Configure the settings.php**
- **Run the installation script**
- **That's it!**

Drupal download

- **Go to http://drupal.org**

- **Download the .tar.gz package**

Copy on IFS and untar

- Copy the .tar.gz on IFS (for instance, using FTP)
  - Suggest to copy in the folder:
    /www/zendsvr/htdocs/
- Execute **QP2TERM** to open the PASE shell
- Run the command:
  tar -xvf drupal-x.xx.tar.gz
- Where: x = extract, v = verbose, f = filename
- The **tar** command is a part of the LP requirements to install Zend Server

Copy of the settings.php

- Copy the file default.settings.php into settings.php:
  - **cp default.settings.php settings.php**

- Change the permission:
  - **chmod a+x settings.php**

Create the database in MySQL

- From the shell PASE, go to the bin folder of MySQL:
  - **cd /usr/local/mysql/bin**
- Run the MySQL client
  - **mysql –u root**
- Create the database for drupal:
  - **create database drupal;**

Create the database in MySQL (2)

- Add a new MySQL user (for instance, drupalcon):
  - **create user 'drupalcon'@'localhost' identified by 'password';**
- Assign to the user all the grant for the database:
  - **grant all privileges on drupal.* to 'drupalcon'@'localhost';**
  - **flush privileges;**

Drupal configuration

- **Go to the web page: http://server:10088/drupal-x.xx where server is the IP address of your server and x.xx is the version of Drupal**
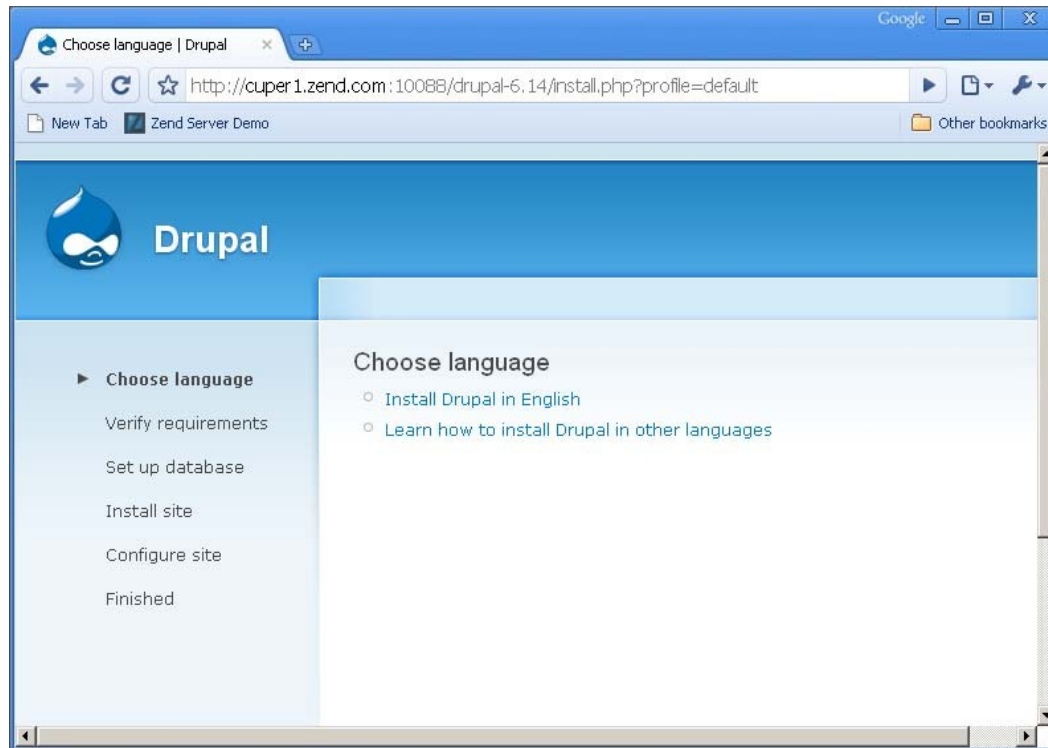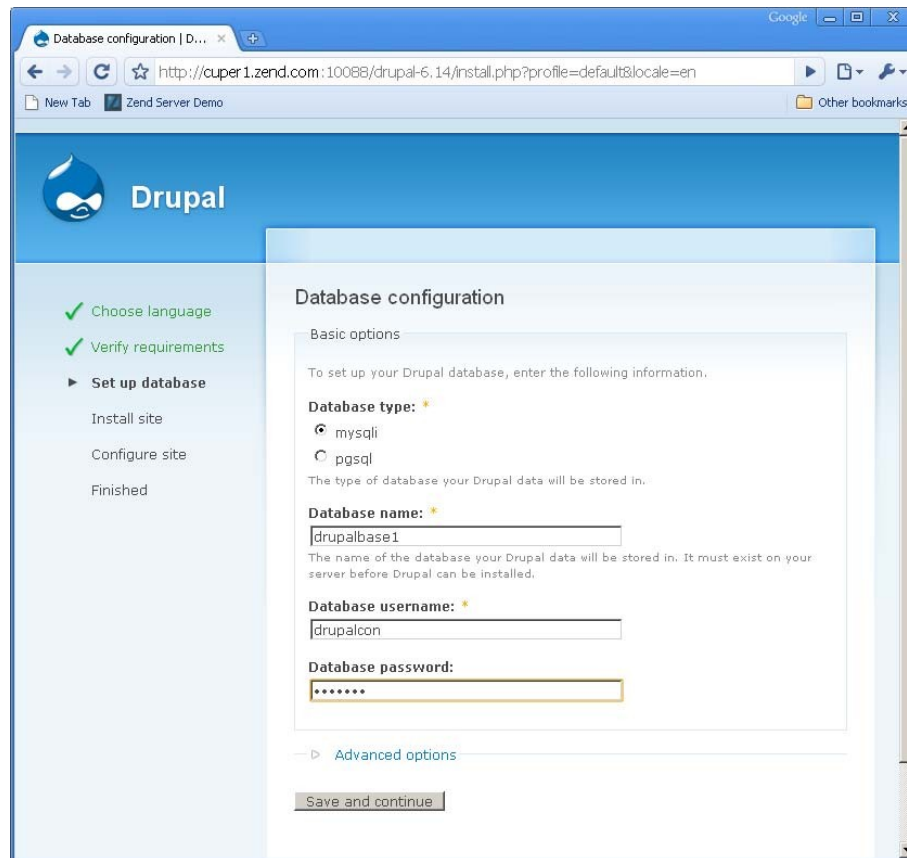
Change the permission in the root folder

- **CHGAUT OBJ('/www/zendsvr/htdocs/drupal-x.xx') USER(QTMHHTTP) DTAAUT(*RWX) SUBTREE(*ALL)**
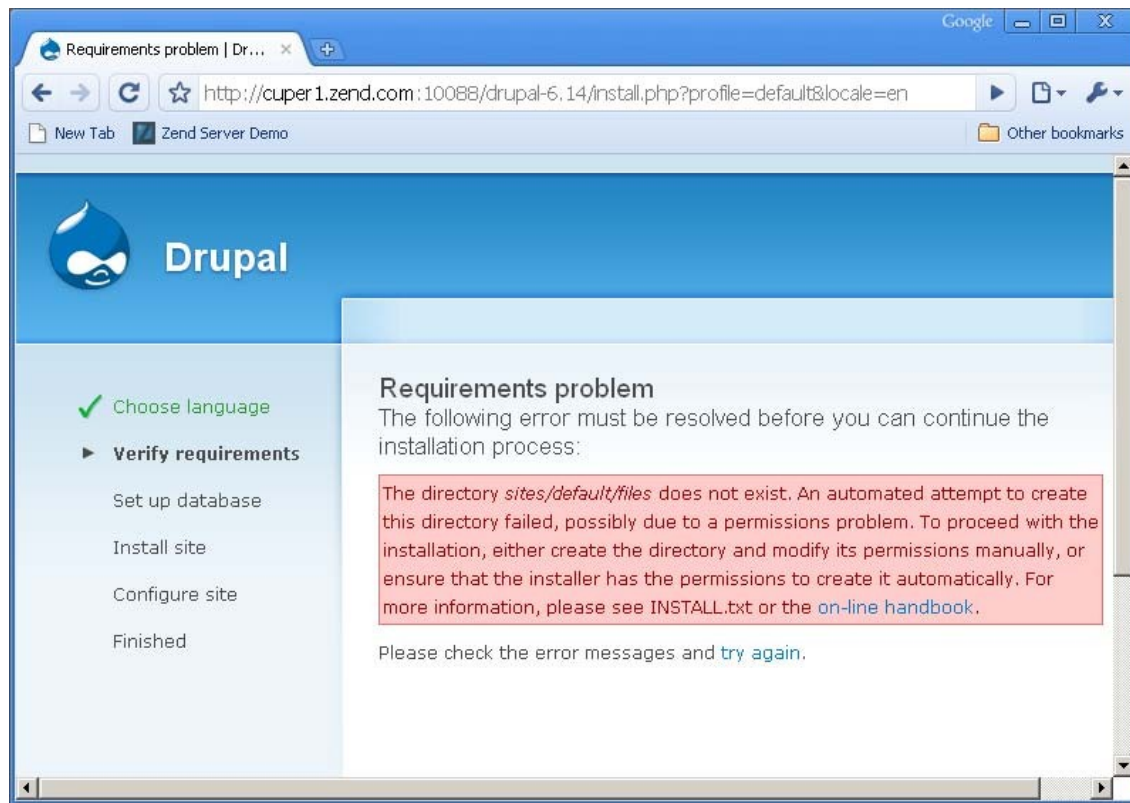
Configure the database access

- **Database name: drupal, Username: drupalcon**

Name of the intranet site
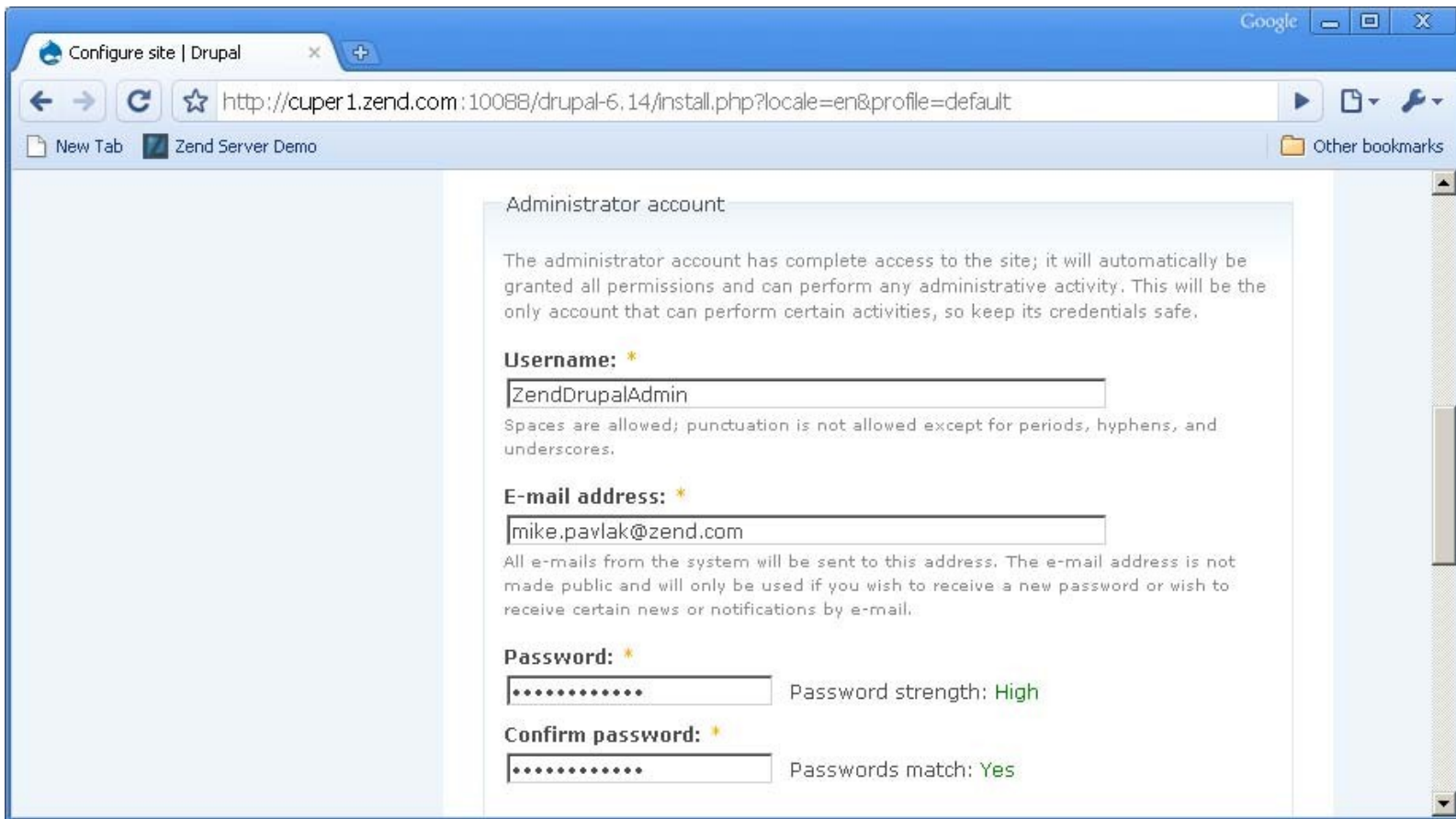
- **Choose a name for your intranet web site**

Configure the admin account

- Configure the admin account:

Configure the time zone and the update

End of the installation

- Check the message at the end of the installation
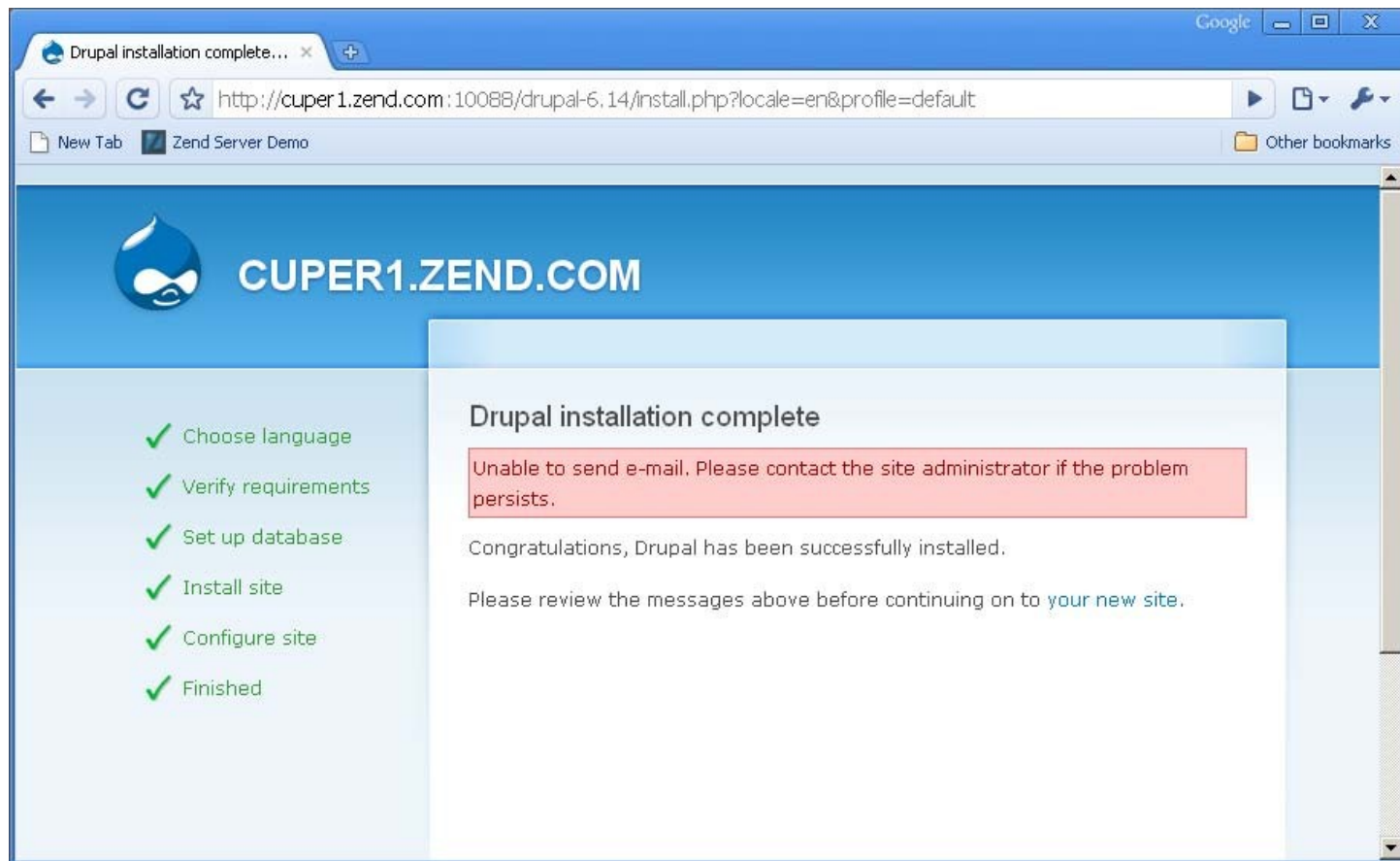
Resources

- **Business and open source:**
    - **http://www.opensourcestrategies.org/**
    - **http://www.futureopensource.net/**
    - **Business models for open source software**
    - **Il business open source: strategie, opportunità e minacce (italian)**
- **Open source projects in PHP:**
    - **Drupal, http://drupal.org/**
    - **Wordpress, http://wordpress.org/**
    - **Joomla!, http://www.joomla.org/**
    - **Magento e-commerce, http://www.magentocommerce.com/**
    - **SugarCRM, http://www.sugarcrm.com/crm/**

Resources (2)

- **PHP and IBM i:**
  - **Zend Server for IBM i**
  - **Zend and IBM i**
  - **PHP Toolkit for i5/OS**
  - **Developing PHP Applications for IBM Data Servers**
  - **Recommended PHP reading list**
  - **Modernize your IBM i applications**
  - **What's New with PHP on IBM i?**
  - **Mike Pavlak's Blog**
  - **Alan Seiden's Information Technology Blog**

Questions?

Thank you!

More info:
http://www.zend.com
http://www.php.net