



The PHP Company



Bring your intranet to the IBM i With Drupal and Zend Server

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PHP Sessions

Session 1:30

- PHP101

Lab 3:00

- Lab

Session 3:00

- Zend Framework

Lab 4:45

- Lab Repeated

Session 4:45

- Function Junction

Dinner 6:15

- Dinner Break

Session 7:15

- Build your Intranet on IBM i for Free

Audience

- Manager looking for Intranet/place to put stuff
- Developers looking to leverage PHP
- Excess CPW
- Avoid buying more Intel servers
- Executive looking for new home base for apps

Agenda

- Zend Server
- MySQL on IBM i
- Review of Drupal
- Drupal Installation
- Drupal in action
- Implement cron (batch) scripts with Zend Server Job Queue
- Wrap-up

Resources

- Recorded Webinars

- ▶ <http://www.zend.com/en/resources/webinars/i5-os>

- Zend Server for IBM i main page, link to downloads

- ▶ <http://www.zend.com/en/products/server/zend-server-ibm-i>

- Zend Server manual:

- ▶ PDF: <http://www.zend.com/topics/Zend-Server-5-for-IBMi-Reference-Manual.pdf>

- ▶ Online: http://files.zend.com/help/Zend-Server-5/zend-server.htm#installation_guide.htm

Drupal, Zend Server and IBM i

www.zend.com

MySQL

Why run MySQL when I have DB2?

- Access to thousands of Open Source Apps
- Easy to use Database
- Open the door to new report options
 - ▶ Zend Server simultaneous connections to:
 - DB2
 - MySQL
 - Microsoft SQL Server
 - PHP Toolkit (RPG & COBOL programs & more)
- **DB2 Storage Engine**
 - ▶ Application thinks it's writing to MySQL
 - ▶ Data store resides in DB2
 - ▶ RPG applications can now access data!



Where do I get it?

- Bundled in Zend Server for IBM i
 - ▶ Convenient installation
 - ▶ Use QSECOFR!
- Also available at MySQL website



Generally Available (GA) Releases | Development Releases

MySQL Community Server 5.1.48

Select Platform:

IBM i/OS

IBM i5/OS (PowerPC, 32-bit), Compressed TAR Archive	5.1.48	108.3M	Download
<small>(mysql-5.1.48-i5os-power-32bit.tar.gz)</small>			
IBM i5/OS (PowerPC), Compressed TAR Archive	5.1.48	111.2M	Download
<small>(mysql-5.1.48-i5os-power-44bit.tar.gz)</small>			
IBM i5/OS (PowerPC, 32-bit), Save File (SAVF)	5.1.48	153.4M	Download
<small>(mysql-5.1.48-i5os-power-32bit.savf)</small>			
IBM i5/OS (PowerPC), Save File (SAVF)	5.1.48	158.0M	Download
<small>(mysql-5.1.48-i5os-power-44bit.savf)</small>			

Drupal, Zend Server and IBM i

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Drupal

Drupal is popular



Statistics

- Nearly 1/3rd of the Internet is running PHP
- About 1% of all internet websites are running Drupal
- Drupal is second only to WordPress as a content management site (backendbattles.com)

History of Drupal (Dutch for water droplet)



- Dries Buytaert PHD dissertation starts Drupal by accident
- 1999: Developed a message board while studying LAN tech
- 2000: Received a lot of interest from folks
- 2001: Turned it loose as open source Drupal
- 2007: Forms Acquia
- 2008: Dries defends his dissertaion
- 2009: Acquia helps launch Whitehouse.gov
- Today: Current project lead



Drupal itself

- **Current version “Core” 6.20**
 - ▶ Available at drupal.org
 - ▶ Loads of features like: blogs, forums, RSS, Generic content, etc.
 - ▶ Key enhancements: Simplified installer, Language support, Update status and more
- **Next version 7.0 (Just released!!!)**
 - ▶ Heavy focus on usability
 - ▶ Improving platform for developers
 - ▶ Some consider Drupal 7 another framework



DrupalGardens

- Runs on Drupal 7
- Hosted solution with three pricing tiers starting at free!
- No need to buy/run server
- Drupal in the cloud!
- Currently in beta
- Should be available around the same time as Drupal 7



Drupal, Zend Server and IBM i

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Drupal Installation

Drupal Installation Steps

- Download drupal & unzip
- Move to the IFS
- Untar
- Create database
- Settings.php
- Run install script
- Have fun!

Download Drupal



Download the Drupal Version you like...

Drupal core | drupal.org

drupal.org/project/drupal

Drupal 7 is officially released!

Come [celebrate the release!](#)

Downloads

Recommended releases

Version	Downloads	Date	Links
7.0	tar.gz (2.6 MB) zip (3.05 MB)	2011-Jan-05	Notes
6.20	tar.gz (1.05 MB) zip (1.23 MB)	2010-Dec-15	Notes

Development releases

Version	Downloads	Date	Links
7.x-dev	tar.gz (2.6 MB) zip (3.06 MB)	2011-Jan-14	Notes
6.x-dev	tar.gz (1.05 MB) zip (1.23 MB)	2010-Dec-16	Notes

[View all releases](#)

Issues for Drupal

To avoid duplicates, please do not submit a new issue if one already exists.

[Advanced search](#)

All issues
9117 open, 36131 total

Bug reports
4634 open, 20683 total

[Subscribe via e-mail](#)

[Issue statistics](#)

Oldest open issue: 28

Recent issues

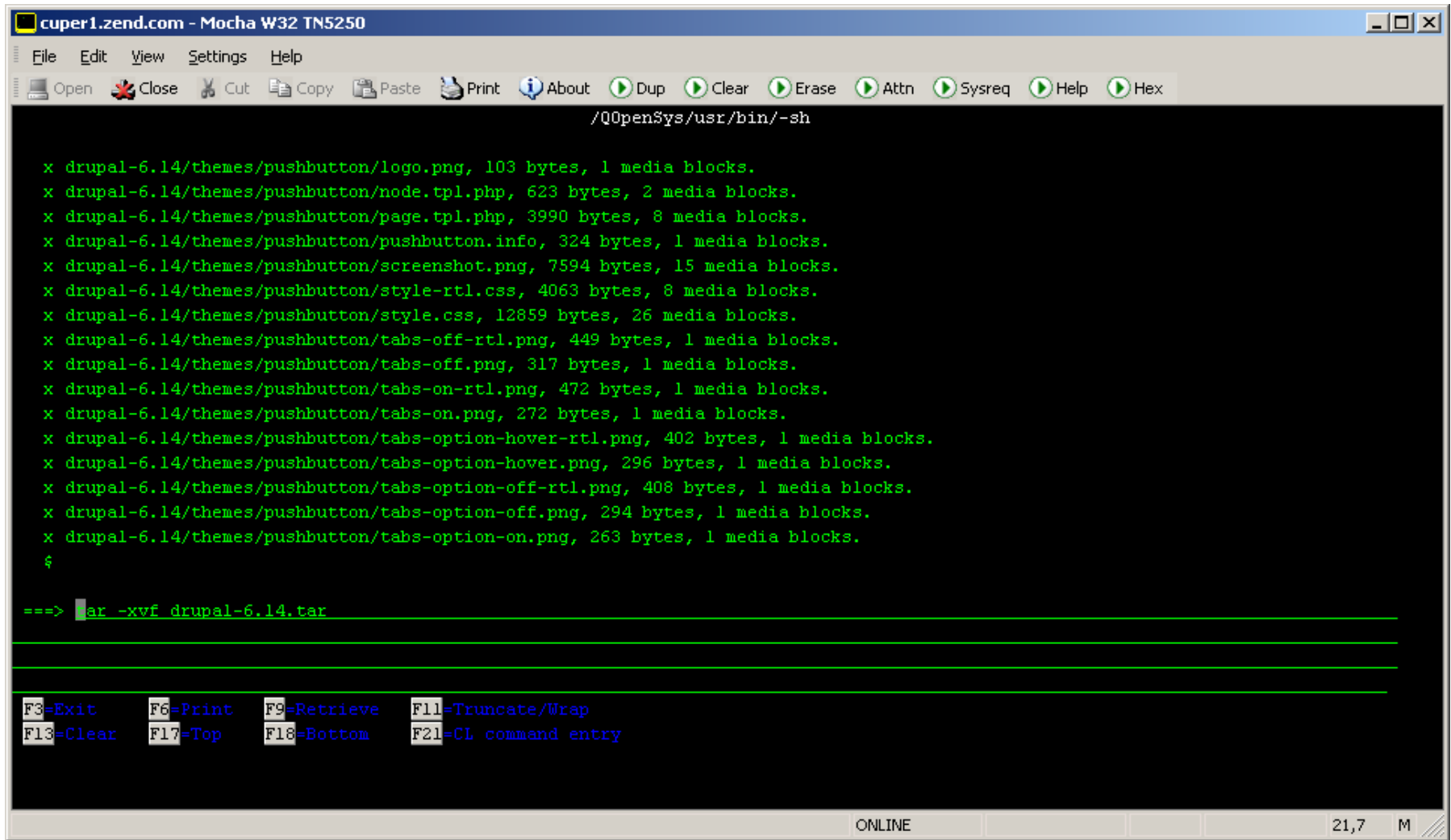
[Add static caching for drupal_parse_info_file](#)

[Find a better hook than drupal_add_js\(\) and drupal_add_css\(\)](#)

Unpack the file

- Unzip the file locally
- FTP file to the IFS of the IBM i
- Start QP2TERM to get PASE command shell
- Issue the standard TAR (Tape Archive) command
 - ▶ `tar -xvf drupal-6.14.tar`
- Command details: `-xvf` means...
 - ▶ `x` = Extract, `v` = verbose, `f` = Include file name in command
- Files are unpacked to a directory called `drupal-6.14`
- Tar command is part of LP's required for Zend Server!

Unpack output...



```
cuper1.zend.com - Mocha W32 TN5250
File Edit View Settings Help
Open Close Cut Copy Paste Print About Dup Clear Erase Attn Sysreq Help Hex
/QOpenSys/usr/bin/-sh

x drupal-6.14/themes/pushbutton/logo.png, 103 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/node.tpl.php, 623 bytes, 2 media blocks.
x drupal-6.14/themes/pushbutton/page.tpl.php, 3990 bytes, 8 media blocks.
x drupal-6.14/themes/pushbutton/pushbutton.info, 324 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/screenshot.png, 7594 bytes, 15 media blocks.
x drupal-6.14/themes/pushbutton/style-rtl.css, 4063 bytes, 8 media blocks.
x drupal-6.14/themes/pushbutton/style.css, 12859 bytes, 26 media blocks.
x drupal-6.14/themes/pushbutton/tabs-off-rtl.png, 449 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/tabs-off.png, 317 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/tabs-on-rtl.png, 472 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/tabs-on.png, 272 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/tabs-option-hover-rtl.png, 402 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/tabs-option-hover.png, 296 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/tabs-option-off-rtl.png, 408 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/tabs-option-off.png, 294 bytes, 1 media blocks.
x drupal-6.14/themes/pushbutton/tabs-option-on.png, 263 bytes, 1 media blocks.
$

==> ar -xvf drupal-6.14.tar

F3=Exit    F6=Print  F9=Retrieve F11=Truncate/Wrap
F13=Clear  F17=Top   F18=Bottom F21=CL command entry

ONLINE 21,7 M
```

Copy the settings file and change security

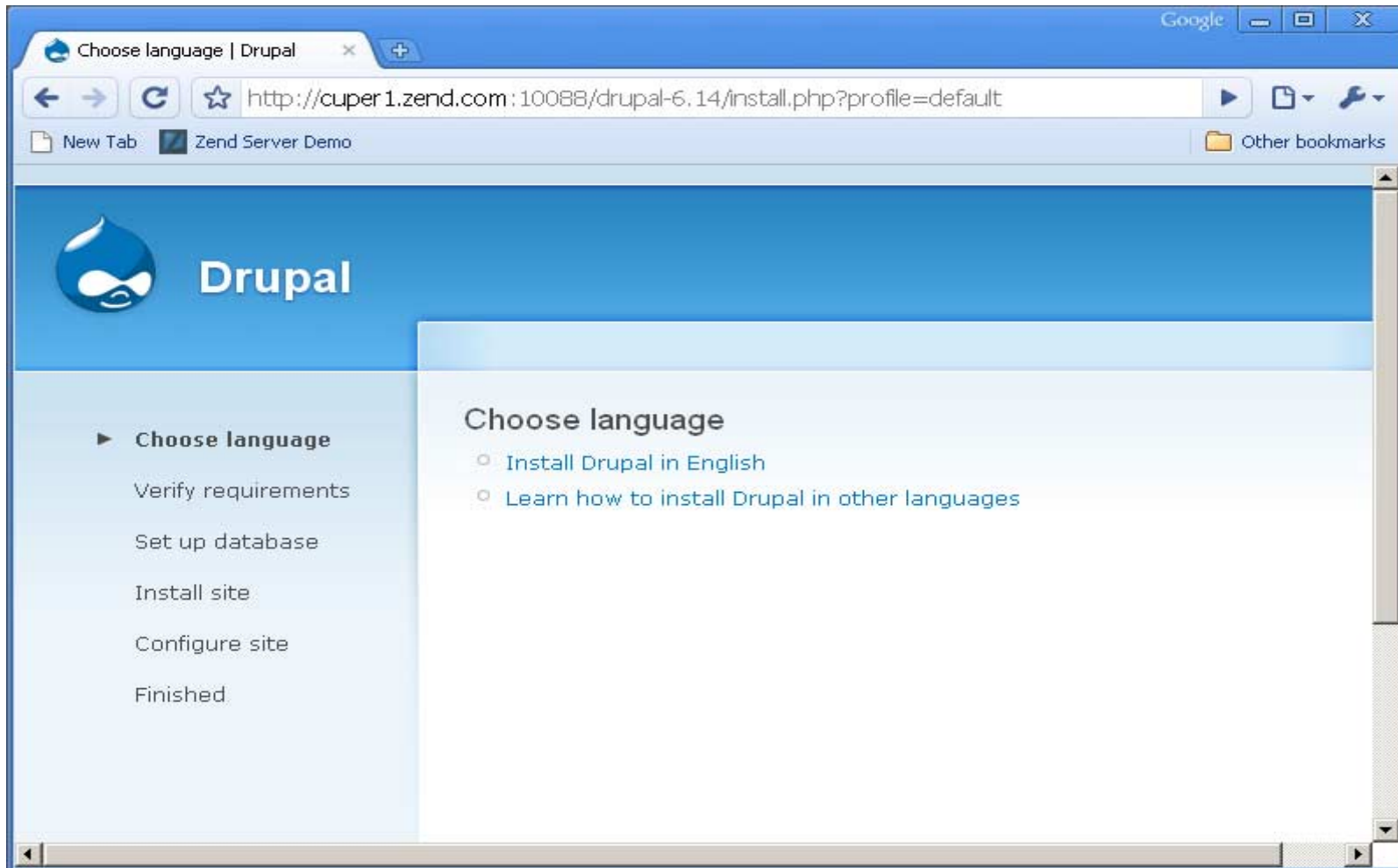
- `cp default.settings.php settings.php`
- This makes a backup so you can restart if necessary
- Navigate to the default directory and change the security
- `chmod a+w settings.php`
- Remember where this file is as you will go back & reset

Create database in MySQL

- **Navigate to the MySQL binaries directory**
 - ▶ `cd /usr/local/mysql/bin`
- **Issue command to start MySQL command line**
 - ▶ `mysql -u root`
- **Create profile information for drupal (i.e. drupalcon)**
- **Create the database**
 - ▶ `create database drupalbase1;`
- **Give drupalcon authority to the database**
 - ▶ `grant select, insert, update, delete, create, drop, index, alter on drupalbase1.* to 'drupalcon'@'localhost';`
 - ▶ `flush privileges;`

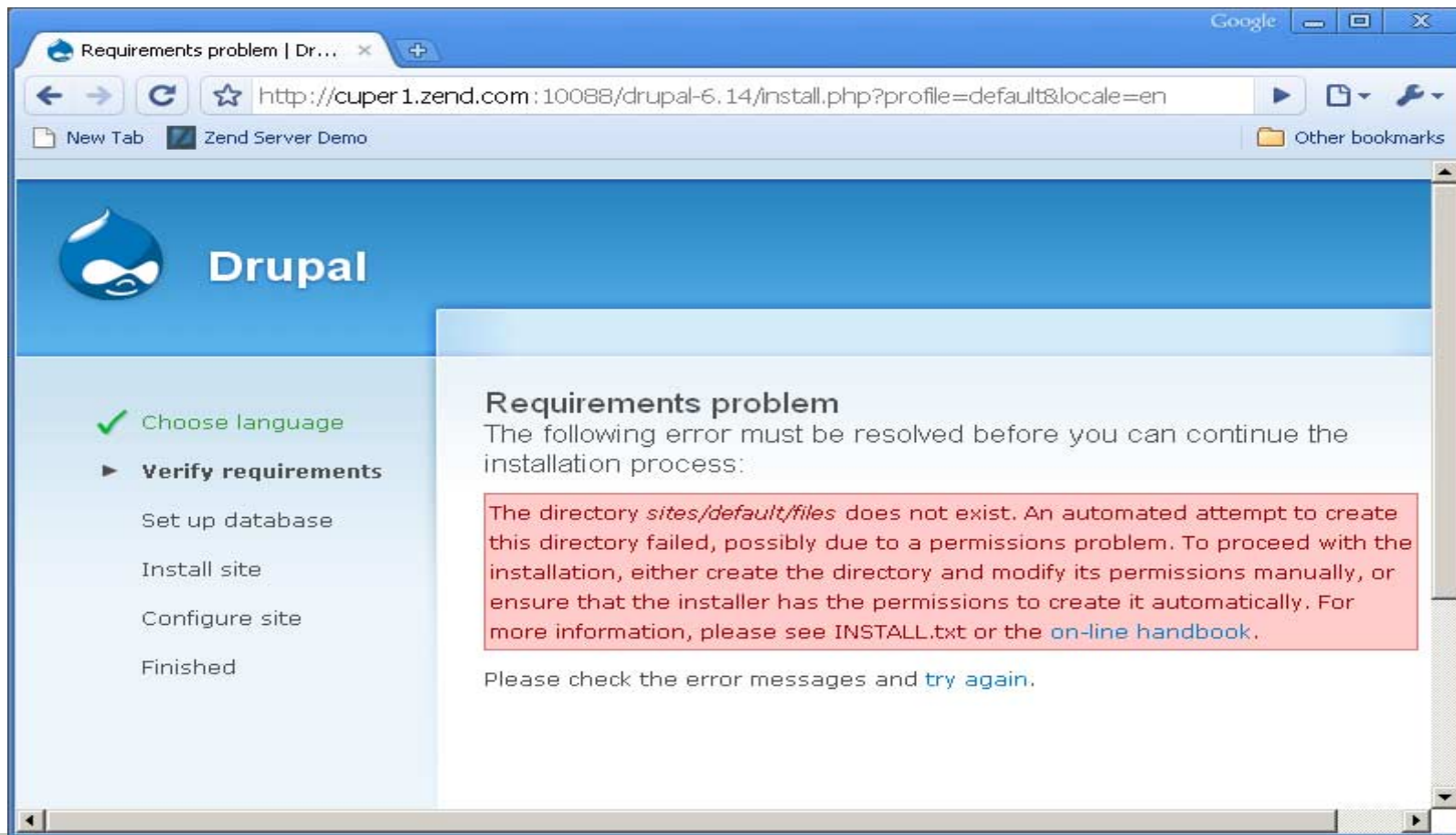
Install Drupal

- <http://myssystemname:10088/drupal-6.14>



Attempt to write to document root

- CHGAUT OBJ('/www/zendsvr/htdocs/drupal-6.14')
USER(QTMHHTTP) DTAAUT(*RWX) SUBTREE(*ALL)



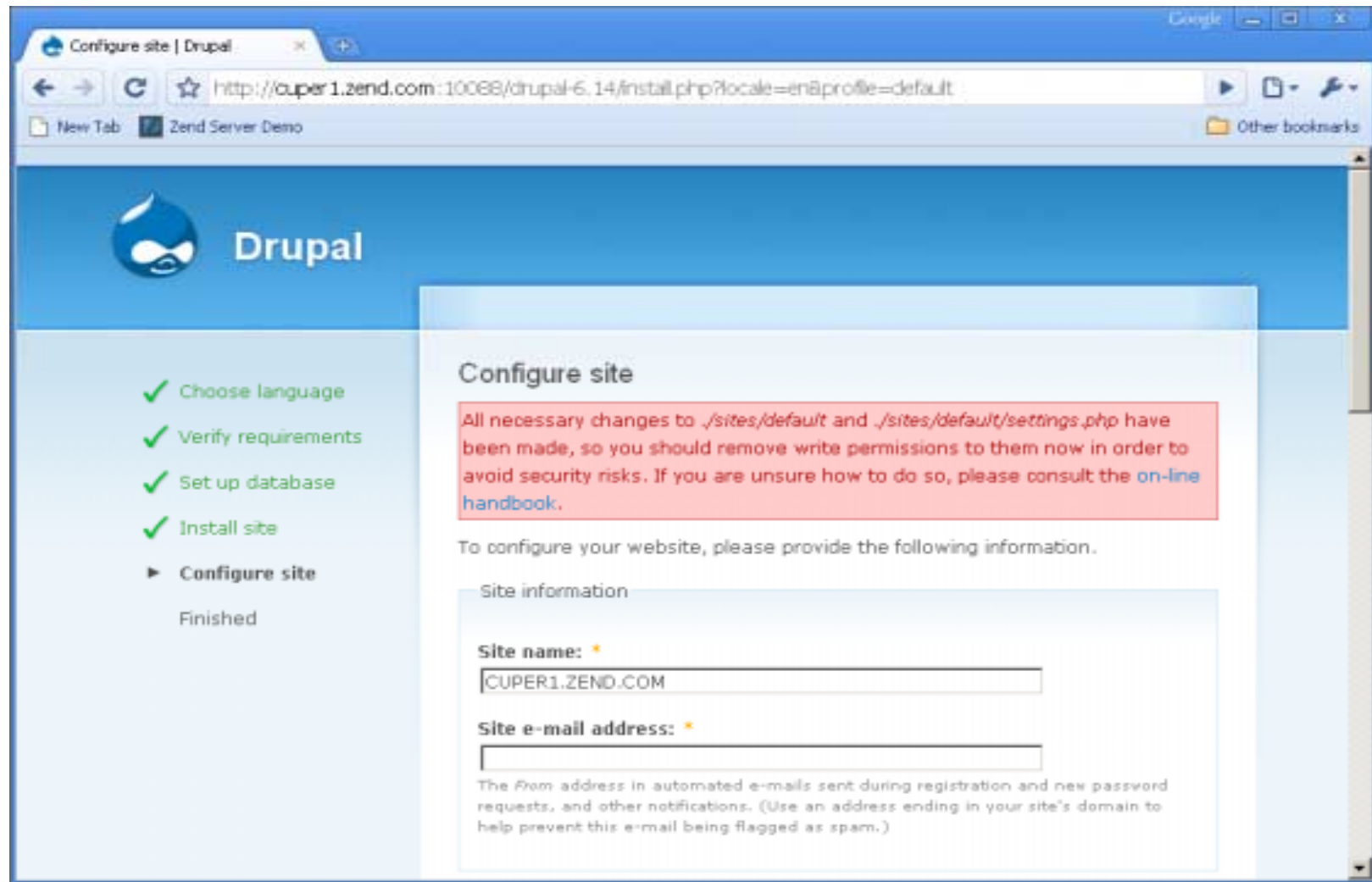
Setup database

The screenshot shows the Drupal database configuration page. The browser address bar displays the URL: `http://cuser1.zend.com:10089/drupal-6.14/install.php?profile=default&locale=en`. The page title is "Database configuration | D...". The Drupal logo is visible in the top left corner. A sidebar on the left contains a progress list: "Choose language" (checked), "Verify requirements" (checked), "Set up database" (active), "Install site", "Configure site", and "Finished". The main content area is titled "Database configuration" and contains a "Basic options" section. It instructs the user to enter the following information:

- Database type:** mysql, pgsql
- Database name:**
- Database username:**
- Database password:**

At the bottom of the form is a "Save and continue" button. Four red arrows with white text labels point to these elements: "Name" points to the database name field, "User" points to the database username field, "Password" points to the database password field, and "Save & Cont" points to the "Save and continue" button.

Configure



Setup the admin account

Configure site | Drupal

http://cuper1.zend.com:10088/drupal-6.14/install.php?locale=en&profile=default

New Tab Zend Server Demo Other bookmarks

Administrator account

The administrator account has complete access to the site; it will automatically be granted all permissions and can perform any administrative activity. This will be the only account that can perform certain activities, so keep its credentials safe.

Username: *

Spaces are allowed; punctuation is not allowed except for periods, hyphens, and underscores.

E-mail address: *

All e-mails from the system will be sent to this address. The e-mail address is not made public and will only be used if you wish to receive a new password or wish to receive certain news or notifications by e-mail.

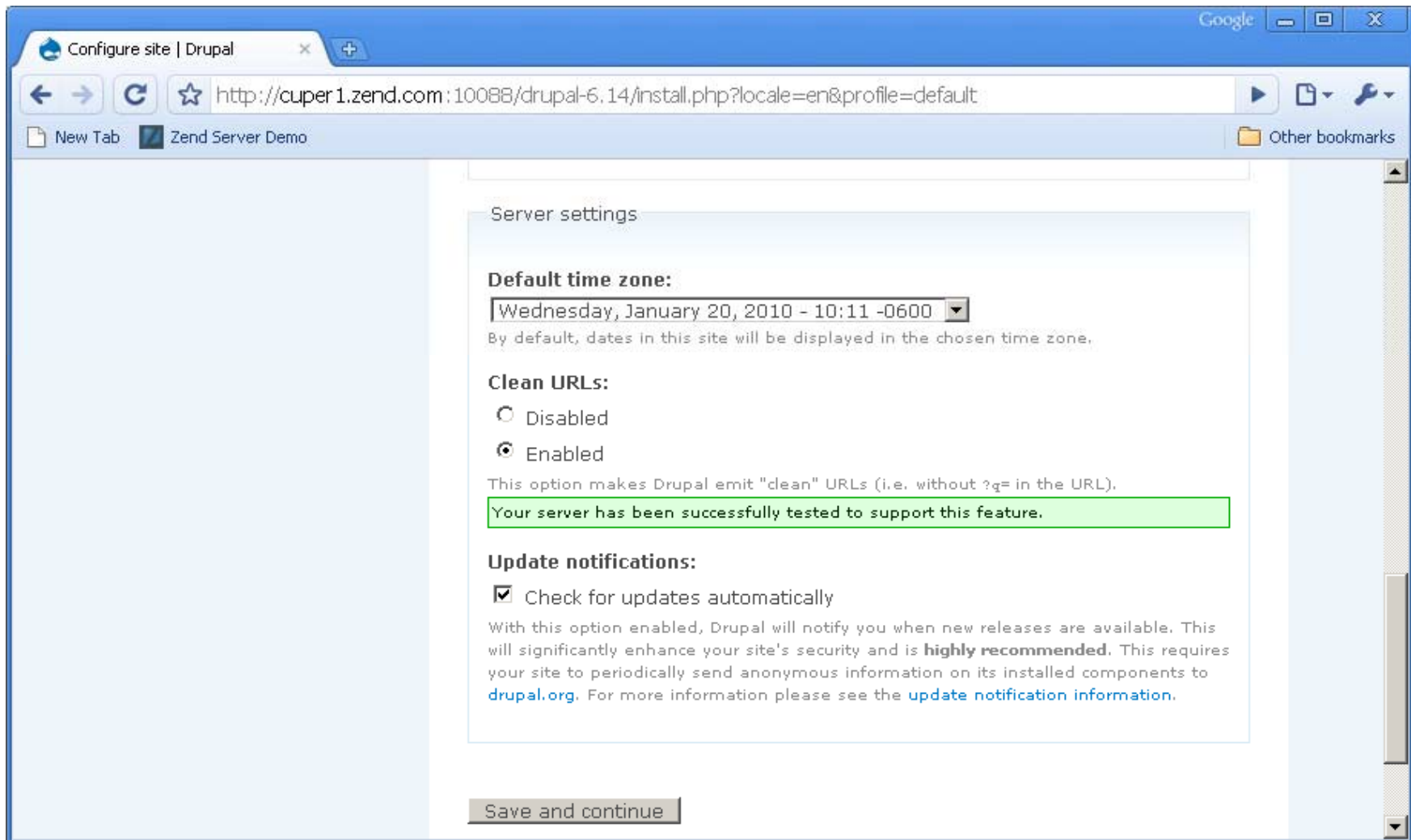
Password: *

 Password strength: **High**

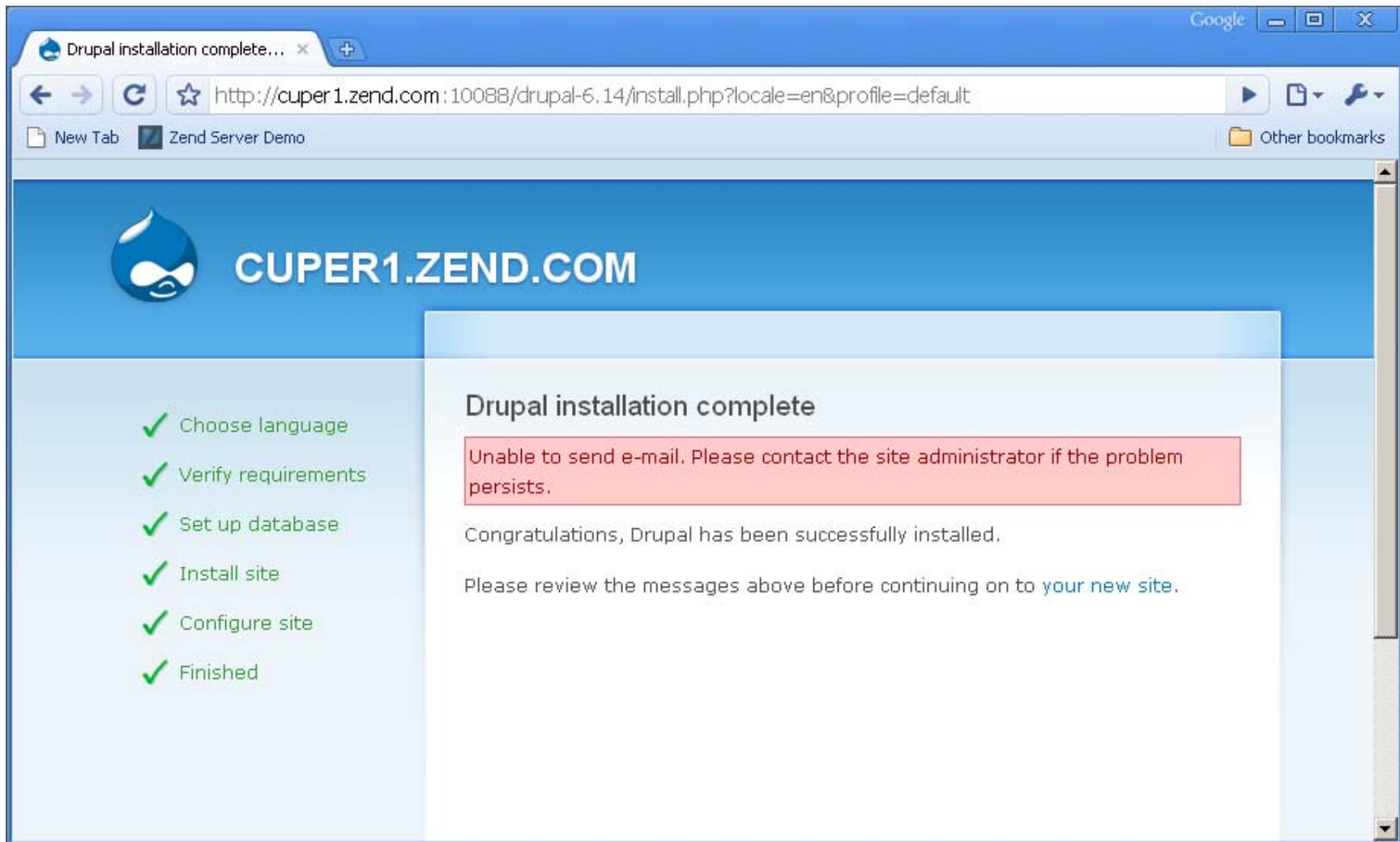
Confirm password: *

 Passwords match: **Yes**

Set time zone & updates



Once completed, see summary screen...



Drupal, Zend Server and IBM i

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Drupal Tour

Tour key features of Drupal

- Module selection
- Theme selection
- Create page of content

Drupal, Zend Server and IBM i

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Zend Server Job Queue and Cron

Drupal updates via Cron job

- **What is cron**
 - ▶ Unix term for scheduled job (sound familiar?)
- **Why periodically run the cron**
 - ▶ Search module updates the index
 - ▶ Aggregator module retrieval of feeds
 - ▶ Ping module notification of other sites
 - ▶ System module's routine maintenance like pruning of logs
- **Check Drupal documentation for all updates in cron**

Drupal updates via Cron job

- How often do you run?
 - ▶ It depends
 - ▶ If content & activity is dynamic, run cron more often

Set up cron

[View](#) [Revisions](#)

Last modified: April 22, 2010 - 16:25

Configuring **cron** is an extremely important task in your Drupal website setup. Search module's indexing of your website's content, aggregator module's retrieval of feeds, ping module's notification of other sites of updates, and system module's routine maintenance tasks, such as pruning of logs, all depend a properly configured cron job.

What is a cron job?

Many Drupal modules have tasks that have to take place from time to time. Think of cron as the tolling of a bell, letting Drupal know that it should perform the appropriate tasks.

The actual "cron job" is a time-triggered action that is usually (and most efficiently) performed by your website's hosting server, but can also be configured by a remote service or even from your own desktop.

For your Drupal site, what actually happens is that the cron job triggers an invisible visit to the site's cron.php file (<http://www.example.com/cron.php>) which, in turn, executes tasks on behalf of installed modules.

- ▶ [Configuring cron jobs](#)
- ▶ [Configuring cron jobs on DreamHost](#)
- ▶ [Configuring cron jobs on Media Temple Grid Servers \(gs\)](#)
- ▶ [Configuring cron jobs on Windows](#)

Why would I schedule a job?

- Many Open Source applications have updates
- Updates are smartly distributed via a PHP script call
- Let's look at Drupal
- Cron job - batch based update, needs no interactive
- Check Drupal documentation for all updates

Drupal cron Documentation

The screenshot shows a web browser window displaying the Drupal documentation page for "Running cron manually". The browser's address bar shows the URL <http://drupal.org/node/158922>. The page features the Drupal logo and navigation links for Documentation, Download, Support, Forum, Contribute, and Contact. A search bar is also present. The main content area is titled "Running cron manually" and includes a breadcrumb trail: Home > Installation guide > Basic installation > After Installation > Set up cron. The page text explains how to run a cron job manually by visiting <http://example.com/cron.php> in a web browser. It also mentions a convenience link in the Status page: `/admin/logs/status/run-cron?destination=admin%2Flogs%2Fstatus`. A sidebar on the left contains an "Installation guide" with a tree view showing the current page's location. On the right, there are sections for "User login" with input fields for Username and Password, and "Contributor links" listing various community resources.

Zend Server Job Scheduler

- Can take a URL
- Also application and description
- Set a particular date/time
 - ▶ For a single event
 - ▶ For a recurring event
- **Very powerful schedule process.**

Zend Server Job Scheduler

- To see job scheduler
 - ▶ Navigate to Zend Server admin interface
 - ▶ Rule Management → Recurring jobs



The screenshot displays the Zend Server administration interface. At the top, the 'zend server' logo is on the left, and 'Help | About | Logout' is on the right. Below the logo, there are four main navigation tabs: 'Monitor', 'Rule Management', 'Server Setup', and 'Administration'. Under 'Rule Management', there are sub-tabs for 'Monitoring', 'Caching', and 'Recurring Jobs'. A 'Filter' input field is present on the left, and a 'New Recurring Job' button is on the right. Below these is a table with the following data:

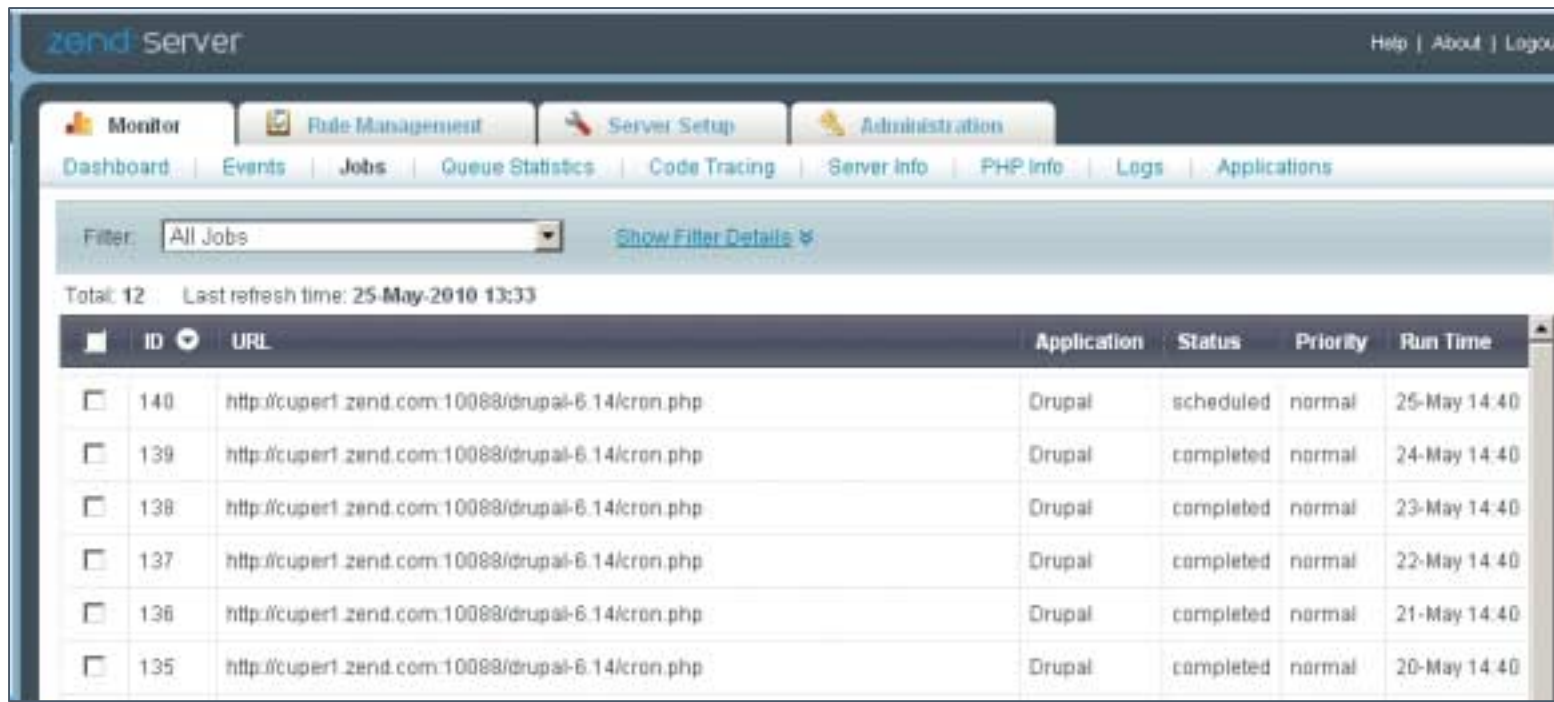
<input type="checkbox"/>	ID	Job Name	URL	Last Run	Next Run	Actions
<input type="checkbox"/>	000003	CRON Update	http://cuper1.zend.com:10088/drupal-6.14/cron.php	24-May 14:40	25-May 14:40	History

Job Details

The screenshot displays the Zend Server web interface. At the top, the 'zend server' logo is visible. Below it, a navigation bar contains four main sections: 'Monitor' (with a bar chart icon), 'Rule Management' (with a document icon), 'Server Setup' (with a wrench icon), and 'Administration' (with a key icon). Under 'Rule Management', there are sub-links for 'Monitoring', 'Caching', and 'Recurring Jobs'. The 'Recurring Jobs' section is active, showing two buttons: 'Update Rule' (highlighted in blue) and 'Cancel'. Below this is the 'Edit Scheduling Rule' form. The form includes three input fields: 'URL' with the value 'http://cuper1.zend.com:10088/drupal-6.14/cron.php', 'Name' with the value 'CRON Update', and 'Application' with the value 'Drupal'. A section titled 'Schedule' contains a dropdown menu for 'Execute Job' set to 'Daily...' and a time input field set to 'at 14:40'.

How did the job do?

- Monitoring system will track batch jobs
- Can review output
- Navigate to Monitor → Jobs



The screenshot shows the Zend Server Monitor interface. At the top, there are navigation tabs for Monitor, Role Management, Server Setup, and Administration. Below these are sub-tabs for Dashboard, Events, Jobs, Queue Statistics, Code Tracing, Server Info, PHP Info, Logs, and Applications. The 'Jobs' tab is selected. A filter dropdown is set to 'All Jobs' with a 'Show Filter Details' link. Below the filter, it says 'Total: 12' and 'Last refresh time: 25-May-2010 13:33'. A table displays the job details:

ID	URL	Application	Status	Priority	Run Time
140	http://cuper1.zend.com:10088/drupal-6.14/cron.php	Drupal	scheduled	normal	25-May 14:40
139	http://cuper1.zend.com:10088/drupal-6.14/cron.php	Drupal	completed	normal	24-May 14:40
138	http://cuper1.zend.com:10088/drupal-6.14/cron.php	Drupal	completed	normal	23-May 14:40
137	http://cuper1.zend.com:10088/drupal-6.14/cron.php	Drupal	completed	normal	22-May 14:40
136	http://cuper1.zend.com:10088/drupal-6.14/cron.php	Drupal	completed	normal	21-May 14:40
135	http://cuper1.zend.com:10088/drupal-6.14/cron.php	Drupal	completed	normal	20-May 14:40

But wait, there's more!

- Page caching

- ▶ Not too exciting to most IBM i shops, unless...
- ▶ Very exciting when working with content management
- ▶ Built in to Zend Server
- ▶ Works a lot like caching on disk controllers.
- ▶ Save round trip to disk for static content and pages
- ▶ The less your content changes and the more your users access pages, the more you NEED page caching
- ▶ Cache one page or all

Resources

- **Drupal**

- ▶ <http://drupal.org/>

- Documentation, code, downloads, modules, etc...

- **Zend Server for IBM i main page, link to downloads**

- ▶ <http://www.zend.com/en/products/server/zend-server-ibm-i>

- **My blog: Article on Samples in Zend Server!**

- ▶ <http://mikepavlak.blogspot.com/>

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Lab 3:00

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- Build your Intranet on IBM i for Free

Q&A

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