Make your IBM i Sizzle with WordPress





seidengroup.com

Seiden Group and Club Seiden

Alan is a leader and expert in PHP on IBM i; leader, Zend's PHP Toolkit for IBM i; and "Performance guru of PHP on IBM i"



Seiden Group is a team of experts available for mentoring/troubleshooting/project advice/development.





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WordPress and its power

Open source giant

- Started as blog software
 - Now a true, although relatively simple, content management system (CMS)
- Popular
 - Millions of sites based on WordPress
 - Communities
- Careers launched
- PHP at its core... some Node.js now also
- Runs on all kinds of servers and IBM i

Just a blog? Website?

- Easy to add content
 - Posts—blog posts on one long page (newest on top)
 - Pages—About, Contact, Purchase, etc...
- Themes—choose a great look
- Plugins—add functionality
- Comments / Community

Examples

- nytimes.com
- USA Today
- official Star Wars blog
- Beyonce
- Xerox blogs
- seidengroup.com, godzillai5.wordpress.com (PHP Dave)

Data3



- News-style theme
- Themes are easy to download
 - Some free, some not
- Excellent at blogs but also good at general content management

COMMON.org



- Zend Server on IBM i
- Manages information and media

System i Developer



Community



Compare CMSes

- WordPress
 - Began with blogs
 - Can be customized but still easy to start with
- Drupal
 - "Enterprise" with sophisticated user roles and responsibilities
 - Has become like a programming framework in itself
- Joomla
 - Has lost ground but still active
 - Like Drupal lite

Goals and dreams

Your WordPress dreams

Let's brainstorm

- Our notes will be at
 - http://idevusr016.idevcloud.com:10080/wordpress/?
 p=70

Another user group's

- Create user group membership site
- Boost career with blog posts and articles
- Learn new technology
- See what IBM i could do
- Provide forum for executives to share company news
- Create portals of business information

Technology/install

PHP & MySQL

- PHP and MySQL are foundations many internet sites
- MariaDB is a good substitute for MySQL
- These run on most platforms, including IBM i



Hosting options

• Your PC

- XAMPP PHP/MySQL download (Apachefriends.org) and others
- Download code from wordpress.org or use packaged versions
 - Step-by-step instructions: https://premium.wpmudev.org/blog/setting-up-xampp/
 - EXERCISE: install on laptop
- Shared hosts such as bluehost (and many others)
- wordpress.com—starting at free
- Your IBM i!
 - Get code from wordpress.org

IBM i hosting

- Install Zend Server for IBM i
- Make sure you choose to install MySQL or MariaDB
 - For standalone MySQL or MariaDB for IBM i, download from here:
 - http://www.zend.com/en/solutions/modernize-ibm-i/ibm-i-product/ dbi
- Then follow instructions here

Zend Server for IBM i (8.x)

- Download Zend Server 8.x
 - http://www.zend.com/en/products/server/downloads-ibmi
 - Easy upgrade from 6.x and 7.x



- Editions
 - http://www.zend.com/en/products/server/editions
 - Basic (free), Professional, Enterprise
 - Same download, different license

Zend Server for IBM i (9.x)

- Download Zend Server 9.x
 - http://www.zend.com/en/products/server/downloads#IBM%20i
 - Includes PHP 7.1

Please select your platform

NEW: Download the Zend DB package as a 100% compatible drop-in replacement for MariaDE on IBM i

- IBM i -

Zend Server with Z-Ray PHP 7.1
Version: 9.1.0
Release Notes
Installation Instructions
More Details
Dewnload

- Editions
 - http://www.zend.com/en/products/server/editions
 - Basic (free), Professional, Enterprise
 - Same download, different license

Install WordPress on IBM i

- If you have older Zend Server with MySQL (not MariaDB), get **older** (Wordpress 4.1) from https://wordpress.org/download/release-archive/
- If you have newer version of ZS with MariaDB, get newest WordPress from https://wordpress.org/download/
- Unzip and then FTP to your document root (e.g. /www/zendsvr6/htdocs or /www/zendphp7/htdocs)
- Change wp-config-sample.php to wp-config.php
- Do some MySQL setup (http://rodflohr.com/set-the-zenddbi-mysqlroot-user-password/)
 - and then configure database configuration (see next page)

Database config in wp-config.php

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<pre>* This file has the following configurations: MySQL settings, Table Prefix, * Secret Keys, and ABSFATH. You can find more information by visiting * (@link http://codex.wordpress.org/Editing wp=config.php) Codex page. You can get the MySQL settings from your web host. * This file is used by the wp=config.php creation script during the installation. You don't have to use the web site, you can just copy this file to "wp=config.php" and fill in the values. * * @package WordPress * // // ** MySQL settings = You can get this info from your web host ** // // ** The name of the database for WordPress */ define('IDB_USEK', 'steph'); * * MySQL database username */ define('IDB_USEK', 'steph'); * * MySQL database password */ define('IDB_DASSWORD', 'zeedadmin'); * * MySQL database password */ * * * * * * * * * * * * * * * * * * *</pre>			
<pre>26 27 /** MySQL hostname */ 28 define('DB_HOST', 'localhost'); 29</pre>			
<pre>30 /** Database Charset to use in creating database tables. */ 31 define('DB_CRARSET', 'utf8'); 32 33 /** The Database Collate type. Don't change this if in doubt. */ 34 define('DB_COLLATE', ''); 35</pre>			
35 36 B/**#8+ 37 * Authentication Unique Keys and Salts. 38 4 * 39 * Change these to different unique phrases! 40 * You can generate these using the {81ink https://api.wordpress.org/secret-key/1.1/salt/ WordPress.org secret-key service} 41 * You can change these at any point in time to invalidate all existing cookies. This will force all users to have to log in again. 42 *			
<pre>43 * @since 2.6.0 44 */ 45 define ('AUTH KEY', 'put your unique phrase here');</pre>			
PHP Hypertext Preprocessor file Ln: 29 Col: 1 Sel: 0 0 UNIX	UTF-8		INS

Run installer

- Run the WordPress installation script from a browser.
- You'll be able to change settings later if needed. You'll create the Wordpress admin password for logging into Wordpress.
- Installation URL: http://mysite:10080/wordpress/wp-admin/install.php

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			Install Word	Press													

Admin dashboard

• mysite.com/wp-admin

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🚳 Dashboard	WordPress 4.7.3 is available! Please	update now.				Screen Options 🔻	Help
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📌 Posts	If you cannot complete the setup process, c	ick here for help.			Click here to compare.	0.511155	
9) MediaPages	Dashboard						
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Appearance	We ve assentitied some links o	o get you started.					
Plugins 2 Users	Get Started	N	ext Steps 7 Write your first bl	og post	More Actions Manage widget	s or menus	
🖟 Tools	Customize Your Site	+	Add an About pag	je	Turn comment	s an ar off	
Settings	or, change your theme completely	2	View your site		🕸 Learn more ab	out getting started	
Wordfence							
Collapse menu	At a Glance		*	Quick Draft			
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Themes

Themes create the "look"

- Change site look with no programming or designer needed
- Modern themes are "responsive"
 - Look good on desktop, tablets, phones
 - Essential for search engines and user experience
- Some are sophisticated
- For a custom look, your designer can extend existing themes

Theme admin page



Free and paid themes

- Free themes here:
 - https://wordpress.org/themes/
- Also try Theme Forest and many more
- Huge industry



Now customize your look

- Theme
- Title
- Color
- Header image
- Widgets



Create a page, create a post

- Page: permanent, named page (e.g. About Us)
- Post: blog page will "move down" as it ages



Create a menu and add page/post

- Create top-level menu
- add your pages/posts



Plugins

Plugin admin page

0	🖀 Seid	en Group: The PHP and IBM i Experts	😔 5 🛡 0 🕂 New
æ	Pluç	gins Add New	
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9 1	Bulk	Actions - Apply	
P		Plugin	Description
-		Akismet Settings Deactivate Edit	Used by millions, Akismet is quite possibly the best way in the world to protec Click the "Activate" link to the left of this description, 2) Sign up for an Akisme key.
			Version 3.2 By Automattic View details
*		There is a new version of Akis	met available. View version 3.3 details or update now.
Ś.		Check Email	Check email allows you to test if your WordPress installation is sending emails
•		Deactivate Edit	Version 0.5.1 By Chris Taylor View details
۶ 50		There is a new version of Che	ck Email available. View version 0.5.2 details or update now.
6		Contact Form 7	Just another contact form plugin. Simple but flexible.
0		Settings Deactivate Edit	Version 4.5.1 By Takayuki Miyoshi View details
		📀 There is a new version of Con	tact Form 7 available. View version 4.7 details or update now.

How to get more plugins

Plugins Add N	lew
All (16) Active (11)	Inactive (5) Update Available (4) Must-Use (1) Drop-ins (1)
Bulk Actions 🔸	Apply

- "Add New" from plugins page, or....
- wordpress.org/plugins/

word	lpress plu	igins					۹
All	News	Videos	Images	Books	More	Settings	Tools

About 11,000,000 results (0.59 seconds)

49,334 plugins with 1,606,776,057 total downloads are at your fingertips.

- Jetpack by WordPress.com. The one plugin you need for stats, related posts, search engine optimization, social sharing, protection, backups, speed, and email list management. ...
- BuddyPress. ...
- WP Super Cache. ...
- Akismet. ...
- bbPress. ...
- Theme Check.

WordPress Plugins https://wordpress.org/plugins/

Manual installation

- Manual installation helpful if QTMHHTTP doesn't have permissions to install automatically
- Download your WordPress Plugin to your desktop.
- If downloaded as a zip archive, extract the Plugin folder to your desktop.
- Read through the "readme" file thoroughly to ensure you follow the installation instructions.
- With your FTP program, upload the Plugin folder to the wp-content/plugins folder in your WordPress directory online.
- Go to Plugins screen and find the newly uploaded Plugin in the list.
- Click Activate to activate it.

A few special plugins

- WordFence Security
- Akismet spam stopper for blog comments
- Includeme (include external file, such as PHP/DB2 etc in pages)
- TablePress to show tables in your posts

WordFence

- Security plugin
 - https://wordpress.org/plugins/wordfence/
 - Protects against brute force attacks, try to guess admin pw etc.
 - Read about WordFence in Peter Macintyre's book, *Building Exceptional Sites with WordPress* & Thesis





- Stops comment spam
- https://wordpress.org/plugins/akismet/
- Use to avoid thousands of spam comments (if you allow comments)

Cor	nments	
All (19 Bulk	94) Pending (0) Approved (194) Spern Actions - Apply All comm	n (3,214) Tresh (18) nent types + Filter Empty Spam
0	Author	Comment
	auto insurance tulsaoutdoorservices.com x xuyj0v7th@yahoo.com 5.188.211.170	In reply to Steph. This info is the cat's pajamas!
•	software khleothomas.com/profiles/blogs /zd-soft-screen-recx joleenedler@gmail.com 198.50.201.17	We stumbled over here from a different web page and thought I might check things out. I like what I see so i am just following you. Look forward to exploring your web page for a second time.
•	RonaldLak clck.ru/9shRW x barry@gitmail.ovh 155.133.64.227	https://clok.ru/9shRW_https://clok.ru/9shRW

IncludeMe

- Easy way to include custom PHP
- https://wordpress.org/plugins/include-me/
- Use a "shortcode" such as [includeme file="users.php'] (Provide a file name from your IFS)
- Demo soon



TablePress

- Display tables in your posts or pages
- Used by GRAR site
- Import/export of CSV/JSON
- Point to URLs or other files for data

TablePress Demo

This is a demo table (with fictional data), that was created with the TablePress plugin:

Show 10 🔁 e	entries			Se	arch:	
First Name 🗘	Last Name 🗘	ZIP ‡	Birthday 🗘	Points ‡	Average 🗘	Amount 🗘
Gloria	Reeves	67439	10/18/1985	4	0.1	\$50
Graham	Bonner	90727	12/07/1983	4	0.9	\$90
Warren	Wheeler	99134	11/11/1984	2	0.7	\$50
Zena	Hale	19803	06/17/1987	9	0.3	\$90
Julia	Haupt	24116	03/15/1991	10	1.0	\$40
Rachel	English	58951	02/25/1982	7	0.3	\$20
Llonel	Barry	65036	02/17/1980	7	0.5	\$50
Zena	Spears	16874	12/13/1981	5	0.6	\$20
Dillon	Bradford	91543	01/20/1985	7	0.4	\$100
Haley	Mcleod	99321	04/12/1980	4	0.1	\$20

IncludeMe demo

 Simple db code accessing IBM i service for users (list is here: https://www.ibm.com/developerworks/community/ wikis/home?lang=en#!/wiki/IBM%20i%20Technology%20Updates/ page/DB2%20for%20i%20-%20Services/comment/ eced898c-62ae-4546-8bdd-abb9828c9653)

\$conn = db2_connect('*LOCAL', '', '');

```
$sql = "select * From QSYS2.USER_INFO WHERE STATUS = '*ENABLED'";
$stmt = db2_prepare($conn, $sql);
```

```
db2_execute($stmt);
```

```
echo "";
while ($row = db2 fetch array($stmt))
{
        echo "";
        echo "". $row[0] . '';
        echo "". $row[3] . '';
        echo "". $row[3] . '';
        echo "". $row[4] . '';
        echo "". $row[4] . '';
        echo "";
        echo "";
```

echo "";





Try WordFence and Askimet

• Plugins noted earlier



You care about what you build.

Protect your websites with the best security available.



Update regularly

- A client wrote to me: "I have had a customer get hacked on the IBM i. We were running an outdated version of Joomla that I think was the culprit. It allowed them to load junk on the IFS."
- Please update WordPress and plugins regularly.



Who can do what (roles and access)



Default roles (https://codex.wordpress.org/Roles_and_Capabilities)

- Administrator
 - Full site control, configs, themes, etc
- Editor
 - Control over content
- Author
 - Manages/publishes her own posts
- Contributor
 - Can write but not publish
- Subscriber
 - Useful if you want to limit blog access to registered users

Try the user role editor plugin (https:// wordpress.org/plugins/user-role-editor/)

- Shortcode to show enclosed content to the users with selected roles only.
- Posts and pages view restrictions for selected roles.

GRAR case study

- Public site based on WordPress on IBM i that calls RPG stored procedures
- http://www.grar.com/ with help from Arbor Solutions



GRAR used WP as portal

plugin)

- WP provides marketing site, themes, good look
- Special pages used naming convention to include custom PHP code (they didn't have includeme

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🔛 Apps 🙎 Delock Conner	tor USI 🔞 Child Themes - Word 🗋 ZDebug IstLineStart 🎦 Start Debugger 👌 Stop Debugger 🗋) vHack	
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 Appearance Plugins Users 			Page Attributes Parent
✤ Tools Settings			(no parent) Template
🕫 SEO	Word count: 0 Lat	st edited by Chris on January 12, 2016 at 2:16 pm	Two Column Right Sidebar
Slider Revolution	WordPress SEO by Yoast		Order
😰 Testimonial Slider	General Data Analysis Advantari Corial		0

Custom PHP code used

- Security/access to pages
- Calling RPG stored procedures for heavy logic
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 E
- Live demo

Contact and tips

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