



The PHP Company

# Zend Server 5.x for IBM i Installation Guide

By Zend Technologies



This is the Installation Guide for Zend Server for IBM i Zend, Version 5.0.

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# Zend Server for IBM i Installation Guide

## Installing Zend Server for IBM i

There are three installation modes, [Silent](#), [Interactive](#) and [Windows-Based](#).

After Installation, Zend Server for IBM i users benefit from access to Zend Server's regular Updates and Security Fixes.

### Note:

If you have a previously installed version of Zend Server for IBM i, see the instructions under '[Upgrading Zend Server for IBM i](#)', below.

## Pre-requisites

Zend Server for IBM i requires that your system meets the following software specifications:

- Verify the existence of the /usr/local directory since the product will be installed under this directory.
- Check if all the following License Programs (LICPGM) are installed:

### V5R4

#### License program requirements

|    |                                    |       |         |
|----|------------------------------------|-------|---------|
| 1. | Portable App Solutions Environment | 33    | 5722SS1 |
| 2. | Qshell                             | 30    | 5722SS1 |
| 3. | IBM HTTP Server for i5/OS          | *BASE | 5722DG1 |
| 4. | IBM Portable Utilities For I5/OS   | *BASE | 5733SC1 |
| 5. | OpenSSH, OpenSST, Zlib             | 1     | 5733SC1 |

#### Required PTFs

1. Current PTF Group for 5722DG1(minimum SF99114 - Group 22)
2. FastCGI PTF
  - 5722SS1 – SI36004
  - 5722DG1 – SI36026

**V6R1****License program requirements**

|    |                                    |       |         |
|----|------------------------------------|-------|---------|
| 1. | Portable App Solutions Environment | 33    | 5761SS1 |
| 2. | Qshell                             | 30    | 5761SS1 |
| 3. | IBM HTTP Server for i5/OS          | *BASE | 5761DG1 |
| 4. | IBM Portable Utilities For I5/OS   | *BASE | 5733SC1 |
| 5. | OpenSSH, OpenSST, Zlib             | 1     | 5733SC1 |

**Required PTFs**

1. Current PTF Group for 5761DG1 (minimum - SF99115 - Group 13)
2. FastCGI PTF
  - 5761SS1 – SI36005
  - 5761DG1 – SI36027

**V7R1****License program requirements**

|    |                                    |       |         |
|----|------------------------------------|-------|---------|
| 1. | Portable App Solutions Environment | 33    | 5770SS1 |
| 2. | Qshell                             | 30    | 5770SS1 |
| 3. | IBM HTTP Server for i5/OS          | *BASE | 5770DG1 |
| 4. | IBM Portable Utilities For I5/OS   | *BASE | 5733SC1 |
| 5. | OpenSSH, OpenSST, Zlib             | 1     | 5733SC1 |

**Required PTFs**

1. Current PTF Group for 5777DG1 (minimum - SF99368 - Group 1)

## Installation Directories

The Zend Server is installed in the following folder on your server :

- IBM i: /usr/local/zendsvr
- /www/zendsvr

## Choosing Which Distribution to Install for IBM i

Zend Server for IBM i is available, in several distribution formats:

The distributions for all product versions are:

1. SAVF format - Download the package from zend.com.
2. Windows InstallShield format - Download the package from zend.com. (Available in GA)

IBM i Supported Operating Systems:

- V5R4
- V6R1

Choose the most suitable type of installation according to your operating system by selecting it from the table below.

If you are unable to complete the installation, please refer to our Best Practices to see if these were already handled. Only if there is no article on the subject please see the Zend Support Center for further assistance.

| Package Name | Operating System | Installation Type   |
|--------------|------------------|---|
| IBM i        | V5R4             | <a href="#">SAVF</a>  |
|              | V6R1             | <a href="#">SAVF</a>  |
|              | V5R4             | <a href="#">Windows InstallShield<br/>(Available in GA)</a> |
|              | V6R4             | <a href="#">Windows InstallShield<br/>(Available in GA)</a> |



## Silent Installation

The following procedure describes how to install Zend Server in Silent Mode. The silent mode performs the complete installation without an installation interface

### To run a silent installation:

1. Download the installation package.  
Create a SAVF in QGPL under the name ZSVRSAVF.
2. Log on to the IBM i system with a user profile of \*SECOFR user class with all special authorities.  
Create a SAVF in QGPL under the name ZSVRSAVF.  
This can be done by running the following command:  
CRTSAVF FILE(QGPL/ZSVRSAVF) TEXT(Zend Server product save file)
3. Transfer the package by binary FTP to the SAVF ZSVRSAVF in QGPL.

This can be done by executing the following steps:

- a. Verify that FTP is running on your IBM i system by running the following command and looking for 'FTP' or '21' in the Local Port column:

```
NETSTAT *CNN
```

- b. Open a command prompt and change directory to the directory that contains the files you extracted from the ZIP file.
- c. Run the FTP command, specifying the name of your i5/OS system. e.g:

```
ftp IBM i_system_name/TCP address
```

- d. If requested, enter a valid user profile and password.  
Enter the bin command to specify a binary transfer.
- e. Transfer the save file to the IBM i system by running the following command:

```
put zsvrsavf.savf
```

4. When the SAVF is loaded into the IBM i QGPL library, return to your 5250 session and run the following command:

```
SBMJOB CMD(RSTLICPGM LICPGM(2ZSVRPI) DEV(*SAVF)  
SAVF(QGPL/ZSVRSAVF))
```

Zend Server for IBM i will be automatically installed without interactive dialogs being displayed.

### Note:

The silent installation will not install the MySQL Database.

For information about Uninstalling, see Uninstalling Zend Server for IBM.

## Interactive Installation

### To run an interactive installation:

1. Download the installation package.
2. Log on to the IBM i system with a user profile of \*SECOFR user class with all special authorities.
3. Create a SAVF in QGPL under the name ZSVRSAVF.

This can be done by running the following command:

```
CRTSAVF FILE(QGPL/ZSVRSAVF) TEXT(Zend Server product save file)
```

4. Transfer the package by binary FTP to the SAVF ZSVRSAVF in QGPL.

This can be done by executing the following steps:

- a. Verify that FTP is running on your IBM i system by running the following command and looking for 'FTP' or '21' in the Local Port column:

```
NETSTAT *CNN
```

- b. Open a command prompt and change directory to the directory that contains the files you extracted from the ZIP file.
- c. Run the FTP command, specifying the name of your i5/OS system. e.g:

```
ftp IBM_i_system_name/TCP address
```

- b. If requested, enter a valid user profile and password.
- c. Enter the bin command to specify a binary transfer.
- d. Transfer the save file to the IBM i system by running the following command:

```
put zsvrsavf.savf
```

6. When the SAVF is loaded into the IBM i QGPL library, return to your 5250 session and run the following command:

```
RSTLICPGM LICPGM(2ZSVRPI) DEV(*SAVF) SAVF(QGPL/ZSVRSAVF)
```

The installation screens will load automatically (see next page).

```

Restore Licensed Program (RSTLICPGM)
Type choices, press Enter.
Product . . . . . > 2ZSVRPI    Character value
Device . . . . . > *SAVF      Name, *SAVF
    + for more values
Optional part to be restored . . *BASE      *BASE, 1, 2, 3, 4, 5, 6, 7...
Type of object to be restored . . *ALL       *ALL, *PGM, *LNG
Language for licensed program . . *PRIMARY   Character value, *PRIMARY...
Output . . . . . *NONE       *NONE, *PRINT
Release . . . . . *FIRST     Character value, *FIRST
Replace release . . . . . *ONLY   Character value, *ONLY, *NO
Save file . . . . . zsvrsavf   Name
    Library . . . . . QGPL     Name, *LIBL, *CURLIB
                Restore Licensed Program Screen
Press Enter to start running the installation. The installation welcome screen will appear.

                Zend Technologies Ltd. - Welcome
                        System: I5QA2

Please read the documentation and Trial License Agreement.

You are about to install Zend Server product.

This installation procedure will create

o ZENDADMIN and ZS5250DEMO User Profiles

o ZENDSVR Zend Server Library

o zendsvr directory will be placed under /usr/local

o Auto start jobs in ZENDSVR subsystem

                Bottom

F3=Exit  Enter=Accept
Copyright Zend Technologies LTD (2009)
The Installation welcome screen contains details of what the installation procedure contains.
    
```

Press Enter to continue to the license agreement screen.

Zend Technologies Ltd. - License

System: I5QA2

ZEND SUBSCRIPTION AGREEMENT

Zend Server

THIS SUBSCRIPTION AGREEMENT ("AGREEMENT") IS BETWEEN ZEND TECHNOLOGIES LTD. AND THE SUBSCRIBER TO, PURCHASER, LICENSEE OR USER OF, ZEND PRODUCTS OR SERVICES. IMPORTANT: READ THESE TERMS CAREFULLY BEFORE DOWNLOADING THIS SOFTWARE. BY CLICKING THE "I ACCEPT" BUTTON, YOU (THE "SUBSCRIBER") ACKNOWLEDGE THAT YOU HAVE READ THIS AGREEMENT, AND THAT YOU AGREE TO BE BOUND BY ITS TERMS AND CONDITIONS. IF YOU ARE ACTING ON BEHALF OF AN ENTITY, THEN YOU REPRESENT THAT YOU HAVE AUTHORITY TO ENTER INTO THIS AGREEMENT ON BEHALF OF THAT ENTITY. IF YOU DO NOT AGREE TO ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT, YOU MAY NOT USE THE SOFTWARE, AND IT IS YOUR RESPONSIBILITY TO TERMINATE THE DOWNLOAD PROCESS WITHOUT DOWNLOADING THE SOFTWARE.

1. Terms and Conditions.

1.1. Definitions "Confidential Information" is defined in Section 6.1.

More...

F3=Exit Enter=Accept

7. The program will be installed.

## Windows-Based Installation

The following procedure describes how to install Zend Server for IBM i on your IBM i server through your Windows Operating System, using interactive dialogs.



### To install Zend Server for IBM i through Windows:

1. Download the Windows installation package.
2. Unzip the download file to your temp directory.
3. Double-click the Setup.exe file to start the installation.  
The Welcome Screen will appear.
4. Click Next.
5. Select whether to accept the terms of the agreement by selecting the relevant option.  
If you choose not to accept the agreement, the installation process will terminate.
6. Click Next to continue.
7. Enter the following details:
  - IBM i Server address - Your i5/OS server TCP/IP address.
  - User ID - Your IBM i login User ID.
  - Password - Your IBM i login password.
8. Click Next.  
Details of the installation process will appear in the 'Installation log' window.
9. Once the installation process has completed, an installation details screen will appear:
  10. Click Next.
  11. An installation confirmation screen will appear.
  12. Mark the checkbox to view the Zend Server for IBM i Release Notes.
  13. Click Finish to exit.

#### Note:

See the 'Getting Started' section for more information on logging in to your Zend Server for IBM i Administration Interface, and the [Zend Server for IBM i Setup Tool](#) section for more on using the Zend Server for IBM i Setup Tool.

A confirmation screen will appear that contains information about the installation. The path to Zend Server for IBM i is `http://<your_servers_IP>:10088/ZendServer`.

You can create a shortcut to Zend Server for IBM i on your desktop as follows:



**To create a shortcut:**

1. Go to your Desktop and right-click.
2. From the right-click menu select the option **New | Shortcut**.
3. A wizard will start.
4. Enter the following address into the wizard  
http://<your\_servers\_IP>:10088/ZendServer and replace <your\_servers\_IP> with  
your IBMi server's IP address or name.

Follow the steps in the wizard to complete the process and create a shortcut to Zend Server for IBM i on your Desktop.

## MySQL Installation

This section describes how to install MySQL, if you skipped the MySQL installation option during the interactive installation or used the silent installation.

### Note:

When you install Zend Server for IBM i , you can use the full or custom installation types to choose to install phpMyAdmin and MySQL. Both phpMyAdmin and MySQL are installed on your local machine under the default location <install\_dir>\phpMyAdmin and <install\_dir>\MySQL. A link to this phpMyAdmin installation is added in the Zend Server for IBM i Dashboard.

To begin MySQL Installation select Option 6 'MySQL Management menu ' from the Send server Service menu (GO ZENDSVR/ZSMENU):

```

MySQL installation (optional)

Press ENTER to start MySQL installation or press F3 to skip
MySQL installation

F3=Exit

```

MySQL Installation Option

Press Enter to start the MySQL installation or F3 to skip MySQL installation.

### Note:

You can install the MySQL database later using the Setup Tool.

#### To install MySQL following installation:

1. Open the Setup Tool by running the command go zendsvr/zcmenu in your i/OS emulator screen.
2. Select Option 6 - MySQL management menu.
3. You will be prompted to install the MySQL database.

**Note:** MySQL must be installed by QSECOFR.

If you pressed Enter and MySQL is already installed in the directory /usr/local/MySQL, the following prompt will appear:

```
MySQL installation (optional)

MySql is already installed.

F3=Exit
```

MySQL already installed

If this prompt has appeared, MySQL is already installed. Press F3 to finish the installation.

If MySQL has not been previously installed, it will be installed now:

```
MySQL installation (optional)

MySQL is being installed and configured.
Please wait ...

F3=Exit
```

MySQL installation

A dialog will appear reminding you to set a password for the MySQL root user:

```
PLEASE REMEMBER TO SET A PASSWORD FOR THE MySQL root USER !
To do so, start the server, then issue the following commands:
./bin/mysqladmin -u root password 'new-password'
./bin/mysqladmin -u root -h <Your_Machine> password 'new-password'
See the manual for more instructions.
You can start the MySQL daemon with:
cd . ; ./bin/mysqld_safe &

You can test the MySQL daemon with mysql-test-run.pl
cd mysql-test ; perl mysql-test-run.pl

Please report any problems with the ./bin/mysqlbug script!

The latest information about MySQL is available on the web at
http://www.mysql.com
Support MySQL by buying support/licenses at http://shop.mysql.com
Press ENTER to end terminal session.
```

MySQL Instructions



In addition to the instructions in the dialog, the MySQL Daemon can later be stopped/started through the Setup Tool.



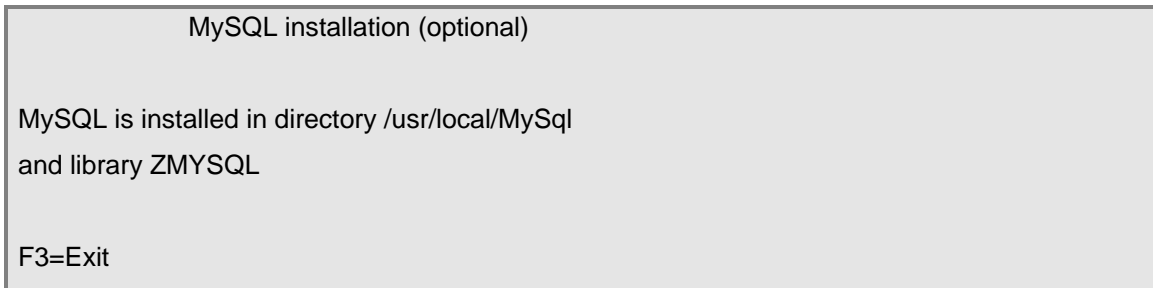
**To start/stop your MySQL Daemon (after the MySQL installation):**

1. Open the Setup Tool by running the following command:

```
go zendsvr/zsmenu
```

2. Select Option 6 - MySQL Management Menu.
3. In the following screen, select Option 4 - Start MySQL daemon or Option 5 - Stop MySQL daemon.

Press Enter to continue.



MySQL Installation Confirmation

A confirmation message will appear stating the location of your MySQL installation.

See the '[Testing your MySQL Connection using Zend Studio](#)', section, below, for more on connecting to the MySQL database.

Press F3 to finish and exit the installation process.

## Testing your MySQL Connection using Zend Studio

If you installed MySQL, you can use Zend Studio in order to test your MySQL connection and access your database.

### Note:

See <http://www.zend.com/en/products/studio/for-i5os> for more on Zend Studio for i/OS.



### To test your MySQL connection:

1. Open Zend Studio.
2. From Studio's File Manager, click the SQL tab.
3. Right-click and select the Add SQL Server option.  
The Add SQL Server dialog will appear.
4. Enter the SQL Server Settings in the fields.  
The settings include:
  - Server Type - Select MySQL.
  - Server Name (Alias) - Enter a server name. This will appear on the SQL Tree (of the File Manager).
  - Host Name/IP - Enter your server address.
  - Port - When you choose a Server Type, the default port appears in this field automatically.
  - Database Name - Enter 'mysql'.
  - User Name - Enter the default password 'root'.
  - Password - Leave the password field blank.
5. Click Test to attempt to connect to the SQL Server using the settings and connections currently entered in the Add SQL Server dialog box.  
If the connection is successful, a 'Connection Successful' dialog will appear.
6. Click OK.  
Your SQL Server will be added to the SQL tab, and you will be able to view and access the tables contained in it.

See the Zend Studio for i/OS User Guide for more information.

**Note:**

**To uninstall MySQL:**

1. Stop the ZMYSQL subsystem
2. Delete ZMYSQL library
3. Remove the directory /usr/local/mysql-5.0.45-i5os-power-64bit
4. Remove the directory /usr/local//mysqldata
5. Remove the link /usr/local/mysql
6. Remove /etc/my

See <http://dev.mysql.com/doc/refman/5.0/en/installation-i5os.html>-(external link) for more information.

## PHP Extension List

### Zend Server Extension List - PHP 5.2

#### Common Extensions

Common extensions are installed and enabled by default in typical installations

| Extension          | Status   | Description  |
|--------------------|----------|--|
| bcmath             | Enabled  | Arbitrary precision mathematics functions based on the bcmath (Binary Calculator) library  |
| bzip2              | Enabled  | The bzip2 functions are used to transparently read and write bzip2 (.bz2) compressed files and streams                                   |
| calendar           | Enabled  | The calendar extension provides functions that simplify conversion between different calendar formats                                    |
| ctype              | Enabled  | Character Classifications - Checks whether a character or string falls into a certain character class according to the current locale    |
| curl               | Enabled  | Enables you to connect to and communicate with different types of servers using various protocols - for example HTTP and FTP             |
| date               | Built-in | Enables various date and time related functions that can handle retrieving the time, date formatting and more                            |
| dom                | Built-in | Enables operating on an XML document using the Document Object Model (DOM) API   |
| Easycom For PHP v3 | Enabled  | Provides access to all IBM i system resources such as RPG/COBOL/CL programs, database files / tables, spooled files, data queue and more |
| exif               | Enabled  | Enables access to image EXIF (Exchangeable Image File Format) meta data  |
| filter             | Built-in | Provides a set of functions for validating and filtering data coming from insecure sources, such as user inputs                          |
| ftp                | Enabled  | Provides low-level client access to FTP (File Transfer Protocol) servers   |
| gd                 | Enabled  | Enables creation, manipulation and streaming of images and graphics in various formats   |
| gettext            | Enabled  | Provides a set of functions that allow internationalization of PHP applications through the GNU gettext API                              |
| hash               | Built-in | Enables direct or incremental processing of arbitrary length messages using a variety of hashing algorithms                              |
| iconv              | Enabled  | Enables conversion between different character sets using the iconv library  |
| imap               | Enabled  | Provides mail and news access through the IMAP, POP3 and NNTP protocols  |
| intl               | Enabled  | Provides Unicode and global localization support to PHP applications using the ICU library   |

| Extension  | Status   | Description   |
|------------|----------|---|
| json       | Enabled  | Implements the JavaScript Object Notation (JSON) data-interchange format  |
| ldap       | Enabled  | Provides access to LDAP (Lightweight Directory Access Protocol) based directory servers; Based on the OpenLDAP library  |
| libxml     | Built-in | Provides basic API and infrastructure for other XML processing extensions   |
| mbstring   | Enabled  | Enables manipulation of strings encoded in multi-byte character encoding schemes  |
| mcrypt     | Enabled  | Provides support for multiple encryption algorithms using the mcrypt library  |
| mhash      | Enabled  | Provides support for multiple hashing algorithms using the mhash library. Can be used to create checksums, message digests, message authentication codes, and more            |
| mime_magic | Enabled  | Enables automatic MIME-type detection based on various patterns in files  |
| mysql      | Enabled  | Provides legacy access to MySQL database servers. For new applications it is recommended to use the 'mysqli' extension  |
| mysqli     | Enabled  | MySQL Improved - Provides access to MySQL database servers. Enables the functionality provided by MySQL 4.1 and above   |
| openssl    | Built-in | This module utilizes the OpenSSL library for generation and verification of signatures and for encrypting and decrypting data and streams                                     |
| pcre       | Built-in | Provides a set of functions for string matching and manipulation based on Perl Compatible Regular Expressions syntax  |
| pdo        | Built-in | Base PDO (PHP Data Objects) Driver - Defines a lightweight, consistent interface for accessing databases in PHP   |
| pdo_mysql  | Enabled  | PDO (PHP Data Objects) driver that enable access from PHP to MySQL database servers   |
| pdo_pgsql  | Enabled  | PDO (PHP Data Objects) driver that enable access from PHP to PostgreSQL database servers  |
| pdo_sqlite | Built-in | PDO (PHP Data Objects) driver that enable access from PHP to SQLite database files  |
| pgsql      | Enabled  | Provides access to PostgreSQL database servers  |
| posix      | Enabled  | Contains an interface to functions defined in the IEEE 1003.1 (POSIX.1) standards document which are not accessible through other means                                       |
| reflection | Built-in | Adds the ability to reverse-engineer classes, interfaces, functions and methods as well as extensions   |
| session    | Built-in | Enables data persistence between consecutive requests of the same user session  |
| simplexml  | Built-in | The SimpleXML extension provides a very simple and easily usable toolset to convert XML to an object that can be processed with normal property selectors and array iterators |

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| Extension | Status   | Description  |
|-----------|----------|--|
| soap      | Enabled  | The SOAP extension can be used to implement SOAP Servers and Clients   |
| sockets   | Enabled  | The socket extension implements a set of low-level socket communication functions, providing the possibility to act as a socket server as well as a client   |
| spl       | Built-in | SPL is a collection of interfaces and classes that can be used to solve standard problems  |
| sqlite    | Enabled  | Enables usage of the SQLite Embeddable SQL Database Engine. Can be used for SQL database access without running a separate RDBMS process   |
| standard  | Built-in | Standard PHP functions   |
| tidy      | Enabled  | Tidy HTML Clean and Repair - enables you to not only clean and otherwise manipulate HTML documents, but also traverse the document tree  |
| tokenizer | Enabled  | The tokenizer functions provide an interface to the PHP tokenizer embedded in the Zend Engine. Using these functions you may write your own PHP source analyzing or modification tools without having to deal with the language specification at the lexical level |
| xml       | Built-in | Enables the creation of event-based XML document parsers using the SAX XML interface   |
| xmlreader | Enabled  | The XMLReader extension is an XML Pull parser. The reader acts as a cursor going forward on the document stream and stopping at each node on the way.  |
| xmlwriter | Enabled  | Provides a non-cached, forward-only writer for generating streams or files containing XML data in an efficient manner  |
| xsl       | Enabled  | The XSL extension implements the XSL standard, performing XSLT transformations using the libxslt library   |
| zip       | Enabled  | ZIP Archives - Enables you to transparently read ZIP compressed archives and the files inside them   |
| zlib      | Built-in | Enables you to transparently read and write gzip (.gz) compressed files, through versions of most of the filesystem functions which work with gzip-compressed files  |

## Extra / Additional Extensions

Extra extensions are shipped by Zend and can easily be installed but are not installed by default in typical installations

| Extension | Status   | Description  |
|-----------|----------|--|
| fileinfo  | Disabled | Allows retrieval of information regarding many different file types. This information includes file type and encoding, as well as more specific information such as dimensions, quality or length  |
| gmp       | Disabled | These functions allow you to work with arbitrary-length integers using the GNU MP library  |
| imagick   | Enabled  | Enables image creation and manipulation using the ImageMagick API  |
| memcache  | Disabled | Provides access to memcached - a highly efficient memory based caching daemon  |
| ming      | Disabled | Provides a set of functions that can be used to create SWF ("Flash") format animations; Based on the open-source Ming library  |
| mssql     | Enabled  | Provides access to MS SQL Server database; Based on the open-source FreeTDS library  |
| odbc      | Disabled | Provides access to several database servers through the Unified ODBC interface   |
| pcntl     | Disabled | Process Control Functions - Process Control support in PHP implements the Unix style of process creation, program execution, signal handling and process termination   |
| pdo_dblib | Disabled | PDO (PHP Data Objects) driver that enable access from PHP to MSSQL and other databases accessible through the FreeDTS interface  |
| pdo_odbc  | Disabled | PDO (PHP Data Objects) driver that enable access from PHP to different databases through ODBC drivers or through the IBM DB2 Call Level Interface (DB2 CLI) library  |
| pspell    | Enabled  | Provides spell checking and dictionary management functionality based on the pspell library  |
| shmop     | Disabled | Shared Memory - Shmop is an easy-to-use set of functions that allows PHP to read, write, create and delete Unix shared memory segments   |
| sysvmsg   | Disabled | Enables System V messages support - The messaging functions may be used to send and receive messages to/from other processes. They provide a simple and effective means of exchanging data between processes, without the need for setting up an alternative using Unix domain sockets |
| sysvsem   | Disabled | Enables System V semaphore support - Semaphores may be used to provide exclusive access to resources on the current machine, or to limit the number of processes that may simultaneously use a resource  |
| sysvshm   | Disabled | Enables System V shared memory support - Shared memory may be used to  |

| Extension      | Status   | Description   |
|----------------|----------|---|
|                |          | provide access to global variables  |
| uploadprogress | Disabled | Provides a mechanism for keeping track and showing progress when uploading files                                |
| wddx           | Disabled | WDDX (Web Distributed Data Exchange) - These functions are intended for work with the WDDX data exchange format |
| xmlrpc         | Disabled | Provides a set of functions that can be used to write XML-RPC servers and clients                               |

### Standalone Extensions

Standalone extensions are provided by Zend but are not included in any of the meta-packages / categories above.

| Extension | Status  | Description  |
|-----------|---------|--|
| ibm_db2   | Enabled | Provides functions that enable you to access the IBM DB2 Universal Database, IBM Cloudscape, and Apache Derby databases using the DB2 Call Level Interface |
| pdo_ibm   | Enabled | PDO (PHP Data Objects) driver that enable access from PHP to IBM databases   |



## Zend Server Extension List - PHP 5.3

### Common Extensions

Common extensions are installed and enabled by default in typical installations

| Extension          | Status   | Description   |
|--------------------|----------|---|
| bcmath             | Enabled  | Arbitrary precision mathematics functions based on the bcmath (Binary Calculator) library   |
| bz2                | Enabled  | The bzip2 functions are used to transparently read and write bzip2 (.bz2) compressed files and streams  |
| calendar           | Enabled  | The calendar extension provides functions that simplify conversion between different calendar formats   |
| Core               | Built-in | Core PHP functionality  |
| ctype              | Enabled  | Character Classifications - Checks whether a character or string falls into a certain character class according to the current locale   |
| curl               | Enabled  | Enables you to connect to and communicate with different types of servers using various protocols - for example HTTP and FTP  |
| date               | Built-in | Enables various date and time related functions that can handle retrieving the time, date formatting and more   |
| dom                | Built-in | Enables operating on an XML document using the Document Object Model (DOM) API  |
| Easycom For PHP v3 | Enabled  | Provides access to all IBM i system resources such as RPG/COBOL/CL programs, database files / tables, spooled files, data queue and more  |
| ereg               | Built-in | Provides a set of string pattern matching functions using POSIX extended regular expressions.   |
| exif               | Enabled  | Enables access to image EXIF (Exchangeable Image File Format) meta data   |
| fileinfo           | Enabled  | Allows retrieval of information regarding many different file types. This information includes file type and encoding, as well as more specific information such as dimensions, quality or length |
| filter             | Built-in | Provides a set of functions for validating and filtering data coming from insecure sources, such as user inputs   |
| ftp                | Enabled  | Provides low-level client access to FTP (File Transfer Protocol) servers  |
| gd                 | Enabled  | Enables creation, manipulation and streaming of images and graphics in various formats  |
| gettext            | Enabled  | Provides a set of functions that allow internationalization of PHP applications through the GNU gettext API   |
| hash               | Built-in | Enables direct or incremental processing of arbitrary length messages using a variety of hashing algorithms   |

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| Extension  | Status   | Description   |
|------------|----------|---|
| iconv      | Enabled  | Enables conversion between different character sets using the iconv library   |
| imap       | Enabled  | Provides mail and news access through the IMAP, POP3 and NNTP protocols   |
| intl       | Enabled  | Provides Unicode and global localization support to PHP applications using the ICU library  |
| json       | Enabled  | Implements the JavaScript Object Notation (JSON) data-interchange format  |
| ldap       | Enabled  | Provides access to LDAP (Lightweight Directory Access Protocol) based directory servers; Based on the OpenLDAP library                                    |
| libxml     | Built-in | Provides basic API and infrastructure for other XML processing extensions   |
| mbstring   | Enabled  | Enables manipulation of strings encoded in multi-byte character encoding schemes  |
| mcrypt     | Enabled  | Provides support for multiple encryption algorithms using the mcrypt library  |
| mysql      | Enabled  | Provides legacy access to MySQL database servers. For new applications it is recommended to use the 'mysqli' extension                                    |
| mysqli     | Enabled  | MySQL Improved - Provides access to MySQL database servers. Enables the functionality provided by MySQL 4.1 and above                                     |
| openssl    | Built-in | This module utilizes the OpenSSL library for generation and verification of signatures and for encrypting and decrypting data and streams                 |
| pcre       | Built-in | Provides a set of functions for string matching and manipulation based on Perl Compatible Regular Expressions syntax                                      |
| pdo        | Built-in | Base PDO (PHP Data Objects) Driver - Defines a lightweight, consistent interface for accessing databases in PHP   |
| pdo_mysql  | Enabled  | PDO (PHP Data Objects) driver that enable access from PHP to MySQL database servers   |
| pdo_pgsql  | Enabled  | PDO (PHP Data Objects) driver that enable access from PHP to PostgreSQL database servers  |
| pdo_sqlite | Built-in | PDO (PHP Data Objects) driver that enable access from PHP to SQLite database files  |
| pgsql      | Enabled  | Provides access to PostgreSQL database servers  |
| phar       | Enabled  | Allows running of complete PHP applications out of .phar package files  |
| posix      | Enabled  | Contains an interface to functions defined in the IEEE 1003.1 (POSIX.1) standards document which are not accessible through other means                   |
| reflection | Built-in | Adds the ability to reverse-engineer classes, interfaces, functions and methods as well as extensions   |
| session    | Built-in | Enables data persistence between consecutive requests of the same user session  |
| simplexml  | Built-in | The SimpleXML extension provides a very simple and easily usable toolset to convert XML to an object that can be processed with normal property selectors |

| Extension | Status   | Description  |
|-----------|----------|--|
|           |          | and array iterators  |
| soap      | Enabled  | The SOAP extension can be used to implement SOAP Servers and Clients   |
| sockets   | Enabled  | The socket extension implements a set of low-level socket communication functions, providing the possibility to act as a socket server as well as a client   |
| spl       | Built-in | SPL is a collection of interfaces and classes that can be used to solve standard problems  |
| sqlite    | Enabled  | Enables usage of the SQLite Embeddable SQL Database Engine. Can be used for SQL database access without running a separate RDBMS process   |
| standard  | Built-in | Standard PHP functions   |
| tidy      | Enabled  | Tidy HTML Clean and Repair - enables you to not only clean and otherwise manipulate HTML documents, but also traverse the document tree  |
| tokenizer | Enabled  | The tokenizer functions provide an interface to the PHP tokenizer embedded in the Zend Engine. Using these functions you may write your own PHP source analyzing or modification tools without having to deal with the language specification at the lexical level |
| xml       | Built-in | Enables the creation of event-based XML document parsers using the SAX XML interface   |
| xmlreader | Enabled  | The XMLReader extension is an XML Pull parser. The reader acts as a cursor going forward on the document stream and stopping at each node on the way.  |
| xmlwriter | Enabled  | Provides a non-cached, forward-only writer for generating streams or files containing XML data in an efficient manner  |
| xsl       | Enabled  | The XSL extension implements the XSL standard, performing XSLT transformations using the libxslt library   |
| zip       | Enabled  | ZIP Archives - Enables you to transparently read ZIP compressed archives and the files inside them   |
| zlib      | Built-in | Enables you to transparently read and write gzip (.gz) compressed files, through versions of most of the filesystem functions which work with gzip-compressed files  |

## Extra / Additional Extensions

Extra extensions are shipped by Zend and can easily be installed but are not installed by default in typical installations

| Extension      | Status   | Description  |
|----------------|----------|--|
| gmp            | Disabled | These functions allow you to work with arbitrary-length integers using the GNU MP library  |
| imagick        | Enabled  | Enables image creation and manipulation using the ImageMagick API  |
| memcache       | Disabled | Provides access to memcached - a highly efficient memory based caching daemon  |
| mssql          | Enabled  | Provides access to MS SQL Server database; Based on the open-source FreeTDS library  |
| odbc           | Disabled | Provides access to several database servers through the Unified ODBC interface   |
| pcntl          | Disabled | Process Control Functions - Process Control support in PHP implements the Unix style of process creation, program execution, signal handling and process termination   |
| pdo_dblib      | Disabled | PDO (PHP Data Objects) driver that enable access from PHP to MSSQL and other databases accessible through the FreeDTS interface  |
| pdo_odbc       | Disabled | PDO (PHP Data Objects) driver that enable access from PHP to different databases through ODBC drivers or through the IBM DB2 Call Level Interface (DB2 CLI) library  |
| pspell         | Enabled  | Provides spell checking and dictionary management functionality based on the pspell library  |
| shmop          | Disabled | Shared Memory - Shmop is an easy-to-use set of functions that allows PHP to read, write, create and delete Unix shared memory segments   |
| sysvmsg        | Disabled | Enables System V messages support - The messaging functions may be used to send and receive messages to/from other processes. They provide a simple and effective means of exchanging data between processes, without the need for setting up an alternative using Unix domain sockets |
| sysvsem        | Disabled | Enables System V semaphore support - Semaphores may be used to provide exclusive access to resources on the current machine, or to limit the number of processes that may simultaneously use a resource  |
| sysvshm        | Disabled | Enables System V shared memory support - Shared memory may be used to provide access to global variables   |
| uploadprogress | Disabled | Provides a mechanism for keeping track and showing progress when uploading files   |
| wddx           | Disabled | WDDX (Web Distributed Data Exchange) - These functions are intended for work with the WDDX data exchange format  |

| Extension | Status   | Description   |
|-----------|----------|---|
| xmlrpc    | Disabled | Provides a set of functions that can be used to write XML-RPC servers and clients |

### Standalone Extensions

Standalone extensions are provided by Zend but are not included in any of the meta-packages / categories above.

| Extension | Status  | Description  |
|-----------|---------|--|
| ibm_db2   | Enabled | Provides functions that enable you to access the IBM DB2 Universal Database, IBM Cloudscape, and Apache Derby databases using the DB2 Call Level Interface |
| pdo_ibm   | Enabled | PDO (PHP Data Objects) driver that enable access from PHP to IBM databases   |

## Uninstalling Zend Server for IBM i

In order to save your current Zend Server for IBM i product library and files installed on your server, follow the installation steps detailed in the section “Upgrading Zend Server for IBM i”, above.



### To uninstall Zend Server for IBM i:

1. Sign on a 5250 session to your IBM i system, using a user profile of \*SECOFR user class with all special authorities.
2. Run the following Delete Licensed Program (DLTLICPGM) command to uninstall Zend Server for IBM i:

```
DLTLICPGM LICPGM( 2ZSVRPI )
```

Once the programme has been uninstalled, the following message will be displayed:

"r;\*PGM objects for product 2ZSVRPI option \*BASE release V5R4M0 deleted. Objects for product 2ZSVRPI option \*ALL release \*ONLY deleted".

### Note:

The uninstaller deletes the Zend Server for IBM i product library and files and creates a copy of the Zend Server for IBM i directories in /usr/local/ZendSvr+timestamp directory.

# Post Installation

## Introduction to Post Installation

This section includes the following Post Installation instructions:

- [Package Setup and Control Scripts IBM i](#)
- [Ports and Services for IBM i](#)
- [Installed Components for IBM i](#)
- [Upgrading Zend Server for IBM i](#)
- [Updating Zend Server for IBM i](#)

## Package Setup and Control Scripts IBM i

Package setup and control scripts, refers to the management of the different components included in Zend Server for IBM i.

A list of the components that are installed and running on **your** system can be found in the Administration Interface in **Server Setup | Components**.

Which components are installed depends on the chosen installation method, and product version.

## Starting Zend Components on IBM i

The Zend Server Service menu allows to control the Zend components that come with Zend Server for IBM i.

### To control the Apache webserver:

- Select Option 5 and choose Stop/Start/Restart Apache webserver
- You can also use IBM's "Web Administration for i5/OS" which will be running on port 2001 ([http://<YOUR\\_IP>:2001](http://<YOUR_IP>:2001) for advanced configurations).

### To set the Administration Interface's password, run:

- Select Option 1

### To control (start/stop) the PHP Toolkit service, run:

- Select Option 5 and choose "PHP Toolkit Management Menu" which lets to Stop/Start PHP Toolkit job

### To control (start/stop) the Zend Server Monitor daemon, run:

- Select Option 5 and choose "Monitor Management Menu" which lets to Stop/Start/Restart Monitor daemon

### To control (start/stop) the Java Bridge daemon, run:

- Select Option 5 and choose "Java Management Menu" which lets to Stop/Start/Restart Java Bridge daemon

### To control (start/stop) the Job Queue daemon, run:

- Select Option 5 and choose "Job Queue Management Menu" which lets to Stop/Start/Restart Job Queue daemon

### To obtain random number (PRNGD) used as an entropy source to feed other software, especially software based on OpenSSL

- Select Option 5 and choose "PRNGD job Management Menu" which lets to Start/Stop PRNGD job



## Ports and Services for IBM i

This section lists the services that run after installing Zend Server for IBM i and the ports these services listen to.

### IBM i

After the installation the following ports will be used by Zend Server for IBM i's components:

- Apache server: listens on port 10088. Use the Zend Server for IBM i Service Menu to stop/start/restart the Apache [jobs](#) - Option 6/ Option 5/ Option 7
- Java Server: The job name is " ZSTRJAVAMW" and it listens on port 10001. To start/stop this service from the Zend Server for IBM i Service Menu use Option 5 | Option 12.

### Changing the Apache Port

When Zend Server for IBM i is installed, it is assumed that the Zend Server for IBM i Administration Interface listens to 10088. If your environment is configured differently, when you try to access the Administration Interface, you receive a "**Zend Server Exception Caught**" error message.

#### Note:

The Web Server (Apache) listens to port 10088.

To fix this, the port settings must be changed.

**To set the Administration Interface's settings to listen to a different Web server port:**



**After changing your Apache's port setting to another port, Change the Administration Interface's port setting as follows:**

1. Go to to /www/zendsvr/conf
2. Change conf.httprd file
3. Restart Apache.

You can also use IBM's "Web Administration for i5/OS" which will be running on port 2001 ([http://<YOUR\\_IP>:2001](http://<YOUR_IP>:2001)).

## Installed Components for IBM i

The following text provides a description of each of the Zend Server for IBM i components that are installed in your environment Along with the installation location of each component.

### Installation Directories

| Component                | Loaded | Description  | Installation Path                                | Comments |
|--------------------------|--------|--|--|----------|
| <b>PHP</b>               | +      | The Zend certified version of PHP that includes commonly used and Zend extensions. | <b>IBM i</b> : <install_path>/lib/php/libphp5.so |          |
| <b>Zend Optimizer+</b>   | +      | Zend's extension for using opcode caching and optimizations for PHP.               | <b>IBM i</b> : <install_path>/lib/optimizerplus  |          |
| <b>Zend Guard Loader</b> | +      | The Zend Guard Loader for running PHP, encoded with Zend Guard.                    | <b>IBM i</b> : <install_path>/lib/loader         |          |
| <b>Zend Debugger</b>     | +      | Zend's extension for server side debugging, profiling and code                     | <b>IBM i</b> : <install_path>/lib/debugger       |          |

| Component          | Loaded | Description  | Installation Path  | Comments   |
|--------------------|--------|--|--|--|
|                    |        | coverage.  |  |  |
| <b>Zend Cache</b>  | +      | A Zend extension for PHP data caching and partial PHP output caching.      | <b>IBM i :</b> <install_path>/lib/datacache  |  |
| <b>Java Server</b> | -      | The Java PHP extension, Java daemon and setup files.                       | <b>IBM i :</b><br><b>PHP Extensions -</b><br><install_path>/lib/jbridge/php.5.2.x/zendbridge.so<br><install_path>/lib/jbridge/php.5.3.x/zendbridge.so<br><br><b>Java Daemon -</b><br><install_path>/lib/jbridge/jawamw.jar |  |
| <b>Java Bridge</b> | +      | Enables integration of Java libraries and classes within PHP applications. | <b>IBM i :</b> <install_path>/lib/jbridge  | <b>Note:</b><br>Requires SUN's JRE 1.4 or later or IBM's Java 1.4.2 or later. 64 bit JRE is not supported.<br>More information see:<br><a href="#">SUN Microsystems's website.</a> |
| <b>Monitor</b>     | +      | Collects information for   | <b>IBM i :</b> <install_path>/lib/monitor  |  |

| Component         | Loaded | Description   | Installation Path   | Comments |
|-------------------|--------|---|---|----------|
|                   |        | monitoring and improving the quality of your PHP application. |   |          |
| <b>Job Queue</b>  | +      | Offline asynchronous processing of tasks and activities.      | <b>IBM i:</b><br>Job Queue Extension:<br>PHP 5.2:<install_path>/lib/jobqueue/php-5.2.x/jobqueue.so<br>PHP 5.3:<install_path>/lib/jobqueue/php-5.3.x/jobqueue.so<br>Job Queue Daemon: <install_path>/bin/jqd<br>Job Queue Daemon Wrapper Script: <install_path>/bin/jqd.sh |          |
| <b>Code Trace</b> | +      | Real-time execution flow recording in Production Environments | <b>IBM i:</b><br>PHP 5.2:<install_path>/lib/codetracing/php-5.2.x/CodeTracing.so<br>PHP 5.3:<install_path>/lib/codetracing/php-5.3.x/CodeTracing.so   |          |
| <b>Page Cache</b> | +      | A URL based HTML output cache for PHP scripts.                | <b>IBM i:</b> <install_path>/lib/pagecache  |          |

| Component             | Loaded | Description  | Installation Path   | Comments   |
|-----------------------|--------|--|---|--|
| <b>Zend Framework</b> | +      | Installs Zend's open-source framework for developing Web Applications and Web Services in PHP. | <b>IBM i :</b> <install_path>/share/ZendFramework   | This installs libraries containing the Zend framework components.  |
| <b>phpMyAdmin</b>     | -      | A popular open-source management tool for handling MySQL Database over a Web interface.        | <install_path>/phpMyAdmin   | Only relevant for MySQL Database users.  |
| <b>MySQL</b>          | -      | Installs a complete MySQL database on the Web Server.  | <b>IBM i :</b> <install_path>/usr/local/MySQL<br>MySQL server's user name and password<br><b>IBM i :</b> Default - "root" and no password | An optional separate installation that you are prompted for during installation. (The user is "root" no password). For more information see: Working with phpMyAdmin to Manage MySQL |

## Upgrading Zend Server for IBM i

To install a newer version of Zend Server for IBM i on top of an older version, start the installation process by running the installation file. The Zend Server for IBM i installation script will identify whether a previously installed version is present. If so, a prompt will appear asking if you want to override current settings or retain them.

There are several options for upgrading Zend Server for IBM i. These options change according to the version you may have already installed on your system.

### Upgrading to a Newer Version of Zend Server for IBM i

The following instructions pertain to the process of installing a newer version of the same product, for example, upgrading from version 4.02 to 4.03.

#### Zend Server for IBM i

| Installation Type | Zend Server for IBM i | Configuration Information  | Comments  |
|-------------------|-----------------------|--|---|
| IBM i             | +<br>-                | A separate backup of :<br>/usr/local/zendsvr+Date<br>Stamp/etc/ and<br>/www/zendsvr+Date<br>Stamp are created. | The RSTLICPGM automatically identifies if it is a new installation or an upgrade. |

### Upgrading Zend Server for IBM i

There are several options for upgrading Zend Server for IBM i. These options change according to the version you may have already installed on your system.

Installing Zend Server for IBM i over an existing installation of Zend Server for IBM i automatically upgrades the previous version installed in your server.

When the Zend Server for IBM i installation is run, the RSTLICPGM command creates a copy of the etc directory as follows:

- /usr/local/zendsvr/ is copied to /usr/local/zendsvr+timestamp directory/etc
- /www/zendsvr is copied to /usr/local/+ timestamp directory

To transfer these settings to your new Zend Server for IBM i installation, copy files such as the Apache configuration file and PHP.INI from the saved Zend Server for IBM i directories to the new Zend Server for IBM i installation directories.

## Updating Zend Server for IBM i

The product update process is using native IBM i update mechanism called Program Temporary Fix (PTF). Zend will provide the product updates in Program Temporary Fix (PTF) format and user will utilize the PTF commands to load and apply Zend Server updates.

### Manual Rollback

The recommended directories to backup before Manual Rollback are:

**In IBM i:**

- /user/local/zendsvr/etc/
- /user/local/zendsvr/GUI/application/data/
- zendsvr/www/zendsvr/htdocs
- zendsvr/www/zendsvr/conf

## National Language Support

OS/400 PASE includes a subset of the locales provided by AIX, supporting both 32-bit and 64-bit applications. OS/400 PASE locales are installed as symbolic links in directory /usr/lib/nls/loc.

The full name of any OS/400 PASE locale includes a code set name, which equates to the Coded Character Set Identifier (CCSID) shown in the table. Some locales also have a short name that exclude the code set part of the name. Any locale with a name ending in "@euro" uses the Euro as the currency symbol.

Most OS/400 PASE locales are shipped with OS/400 language feature codes. Only locales in the base \*CODE load and locales for installed language feature codes will exist on a particular OS/400 system.

### Note:

The following table includes the language ID's that should be entered when following the instructions in Overview of FastCGI.

| Feature | Language      | Short Name (LANG) | CCSID |
|---------|---------------|-------------------|-------|
| *CODE   | Byelorussian  | be_BY             | 915   |
|         | Byelorussian  | BE_BY             | 1208  |
|         | Estonian      | ET_EE             | 1208  |
|         | Ukrainian     | UK_UA             | 1208  |
| 2903    | Lithuanian    | LT_LT             | 1208  |
| 2904    | Latvian       | LV_LV             | 1208  |
| 2905    | Vietnamese    | VI_VN             | 1208  |
| 2911    | Slovene       | sl_SI             | 912   |
|         | Slovene       | SL_SI             | 1208  |
| 2912    | Croatian      | hr_HR             | 912   |
|         | Croatian      | HR_HR             | 1208  |
| 2913    | Macedonian    | mk_MK             | 915   |
|         | Macedonian    | MK_MK             | 1208  |
| 2914    | Serbian Latin | sh_SP             | 912   |
|         | Serbian Latin | sh_YU             | 912   |
|         | Serbian       | sr_YU             | 912   |
|         | Serbian Latin | SH_SP             | 1208  |
|         | Serbian Latin | SH_YU             | 1208  |
|         | Serbian       | SR_YU             | 1208  |
|         | Serbian Latin | sr_SP             | 915   |



| Feature | Language      | Short Name (LANG) | CCSID |
|---------|---------------|-------------------|-------|
|         | Serbian Latin | SR_SP             | 1208  |
| 2922    | Portuguese    | pt_PT             | 819   |
|         | Portuguese    |                   | 1252  |
|         | Portuguese    |                   | 1252  |
|         | Portuguese    |                   | 923   |
|         | Portuguese    |                   | 923   |
|         | Portuguese    | PT_PT             | 1208  |
|         | Portuguese    |                   | 1208  |
| 2923    | Dutch         | nl_NL             | 819   |
|         | Dutch         |                   | 1252  |
|         | Dutch         |                   | 1252  |
|         | Dutch         |                   | 923   |
|         | Dutch         |                   | 923   |
|         | Dutch         | NL_NL             | 1208  |
|         | Dutch         |                   | 1208  |
| 2924    | English       | en_AU             | 923   |
|         | English       | EN_AU             | 1208  |
|         | English       | en_BE             | 923   |
|         | English       |                   | 923   |
|         | English       | EN_BE             | 1208  |
|         | English       |                   | 1208  |
|         | English       | en_CA             | 923   |
|         | English       | EN_CA             | 1208  |
|         | English       | en_GB             | 819   |
|         | English       |                   | 1252  |
|         | English       |                   | 1252  |
|         | English       |                   | 923   |
|         | English       |                   | 923   |
|         | English       | EN_GB             | 1208  |
|         | English       | en_IE             | 923   |
|         | English       |                   | 923   |
|         | English       | EN_IE             | 1208  |
|         | English       |                   | 1208  |
|         | English       | en_IN             | 923   |

| Feature | Language | Short Name (LANG) | CCSID |
|---------|----------|-------------------|-------|
|         | English  | EN_IN             | 1208  |
|         | English  | en_NZ             | 923   |
|         | English  | EN_NZ             | 1208  |
|         | English  | en_US             | 819   |
|         | English  |                   | 923   |
|         | English  | EN_US             | 1208  |
|         | English  | en_ZA             | 923   |
|         | English  | EN_ZA             | 1208  |
|         | Hindi    | HI_IN             | 1208  |
| 2925    | Finnish  | fi_FI             | 819   |
|         | Finnish  |                   | 1252  |
|         | Finnish  |                   | 1252  |
|         | Finnish  |                   | 923   |
|         | Finnish  |                   | 923   |
|         | Finnish  | FI_FI             | 1208  |
|         | Finnish  |                   | 1208  |
| 2926    | Danish   | da_DK             | 819   |
|         | Danish   |                   | 923   |
|         | Danish   | DA_DK             | 1208  |
| 2928    | French   | fr_FR             | 819   |
|         | French   |                   | 1252  |
|         | French   |                   | 1252  |
|         | French   |                   | 923   |
|         | French   |                   | 923   |
|         | French   | FR_FR             | 1208  |
|         | French   |                   | 1208  |
| 2929    | German   | de_AT             | 923   |
|         | German   |                   | 923   |
|         | German   | DE_AT             | 1208  |
|         | German   |                   | 1208  |
|         | German   | de_DE             | 819   |
|         | German   |                   | 1252  |
|         | German   |                   | 1252  |
|         | German   |                   | 923   |

| Feature | Language | Short Name (LANG) | CCSID |
|---------|----------|-------------------|-------|
|         | German   |                   | 923   |
|         | German   | DE_DE             | 1208  |
|         | German   |                   | 1208  |
| 2931    | Catalan  | ca_ES             | 819   |
|         | Catalan  |                   | 1252  |
|         | Catalan  |                   | 1252  |
|         | Catalan  |                   | 923   |
|         | Catalan  |                   | 923   |
|         | Catalan  | CA_ES             | 1208  |
|         | Catalan  |                   | 1208  |
|         | Spanish  | es_AR             | 923   |
|         | Spanish  | ES_AR             | 1208  |
|         | Spanish  | es_CL             | 923   |
|         | Spanish  | ES_CL             | 1208  |
|         | Spanish  | es_CO             | 923   |
|         | Spanish  | ES_CO             | 1208  |
|         | Spanish  | es_ES             | 819   |
|         | Spanish  |                   | 1252  |
|         | Spanish  |                   | 1252  |
|         | Spanish  |                   | 923   |
|         | Spanish  |                   | 923   |
|         | Spanish  | ES_ES             | 1208  |
|         | Spanish  |                   | 1208  |
|         | Spanish  | es_MX             | 923   |
|         | Spanish  | ES_MX             | 1208  |
|         | Spanish  | es_PE             | 923   |
|         | Spanish  | ES_PE             | 1208  |
|         | Spanish  | es_PR             | 923   |
|         | Spanish  | ES_PR             | 1208  |
|         | Spanish  | es_UY             | 923   |
|         | Spanish  | ES_UY             | 1208  |
|         | Spanish  | es_VE             | 923   |
|         | Spanish  | ES_VE             | 1208  |
| 2932    | Italian  | it_IT             | 819   |

| Feature | Language  | Short Name (LANG) | CCSID |
|---------|-----------|-------------------|-------|
|         | Italian   |                   | 1252  |
|         | Italian   |                   | 1252  |
|         | Italian   |                   | 923   |
|         | Italian   |                   | 923   |
|         | Italian   | IT_IT             | 1208  |
|         | Italian   |                   | 1208  |
| 2933    | Norwegian | no_NO             | 819   |
|         | Norwegian |                   | 923   |
|         | Norwegian | NO_NO             | 1208  |
| 2937    | Swedish   | sv_SE             | 819   |
|         | Swedish   |                   | 923   |
|         | Swedish   | SV_SE             | 1208  |
| 2939    | German    | de_LU             | 923   |
|         | German    |                   | 923   |
|         | German    | DE_LU             | 1208  |
|         | German    |                   | 1208  |
|         | German    | de_CH             | 819   |
|         | German    |                   | 923   |
|         | German    | DE_CH             | 1208  |
| 2940    | French    | fr_CH             | 819   |
|         | French    |                   | 923   |
|         | French    | FR_CH             | 1208  |
| 2942    | Italian   | it_CH             | 923   |
|         | Italian   | IT_CH             | 1208  |
| 2954    | Arabic    | ar_AA             | 1089  |
|         | Arabic    | ar_AE             | 1089  |
|         | Arabic    | ar_BH             | 1089  |
|         | Arabic    | ar_EG             | 1089  |
|         | Arabic    | ar_JO             | 1089  |
|         | Arabic    | ar_KW             | 1089  |
|         | Arabic    | ar_LB             | 1089  |
|         | Arabic    | ar_OM             | 1089  |
|         | Arabic    | ar_QA             | 1089  |
|         | Arabic    | ar_SA             | 1089  |

| Feature | Language  | Short Name (LANG) | CCSID |
|---------|-----------|-------------------|-------|
|         | Arabic    | ar_SY             | 1089  |
|         | Arabic    | AR_AA             | 1208  |
|         | Arabic    | AR_AE             | 1208  |
|         | Arabic    | AR_BH             | 1208  |
|         | Arabic    | AR_EG             | 1208  |
|         | Arabic    | AR_JO             | 1208  |
|         | Arabic    | AR_KW             | 1208  |
|         | Arabic    | AR_LB             | 1208  |
|         | Arabic    | AR_OM             | 1208  |
|         | Arabic    | AR_QA             | 1208  |
|         | Arabic    | AR_SA             | 1208  |
|         | Arabic    | AR_SY             | 1208  |
| 2956    | Turkish   | tr_TR             | 920   |
|         | Turkish   | TR_TR             | 1208  |
| 2957    | Greek     | el_GR             | 813   |
|         | Greek     | EL_GR             | 1208  |
| 2958    | Icelandic | is_IS             | 819   |
|         | Icelandic |                   | 923   |
|         | Icelandic | IS_IS             | 1208  |
| 2961    | Hebrew    | iw_IL             | 916   |
|         | Hebrew    | HE_IL             | 1208  |
| 2962    | Japanese  | ja_JP             | 33722 |
|         | Japanese  | Ja_JP             | 943   |
|         | Japanese  | JA_JP             | 1208  |
| 2963    | Dutch     | nl_BE             | 819   |
|         | Dutch     |                   | 1252  |
|         | Dutch     |                   | 1252  |
|         | Dutch     |                   | 923   |
|         | Dutch     |                   | 923   |
|         | Dutch     | NL_BE             | 1208  |
|         | Dutch     |                   | 1208  |
| 2966    | French    | fr_BE             | 819   |
|         | French    |                   | 1252  |
|         | French    |                   | 1252  |

| Feature | Language            | Short Name (LANG) | CCSID |
|---------|---------------------|-------------------|-------|
|         | French              |                   | 923   |
|         | French              |                   | 923   |
|         | French              | FR_BE             | 1208  |
|         | French              |                   | 1208  |
|         | French              | fr_LU             | 923   |
|         | French              |                   | 923   |
|         | French              | FR_LU             | 1208  |
|         | French              |                   | 1208  |
| 2972    | Thai                | th_TH             | 874   |
|         | Thai                | TH_TH             | 1208  |
| 2974    | Bulgarian           | bg_BG             | 915   |
|         | Bulgarian           | BG_BG             | 1208  |
| 2975    | Czech               | cs_CZ             | 912   |
|         | Czech               | CS_CZ             | 1208  |
| 2976    | Hungarian           | hu_HU             | 912   |
|         | Hungarian           | HU_HU             | 1208  |
| 2978    | Polish              | pl_PL             | 912   |
|         | Polish              | PL_PL             | 1208  |
| 2979    | Russian             | ru_RU             | 915   |
|         | Russian             | RU_RU             | 1208  |
| 2980    | Portuguese          | pt_BR             | 819   |
|         | Portuguese          |                   | 923   |
|         | Portuguese          | PT_BR             | 1208  |
| 2981    | French              | fr_CA             | 819   |
|         | French              |                   | 923   |
|         | French              | FR_CA             | 1208  |
| 2986    | Korean              | ko_KR             | 970   |
|         | Korean              | KO_KR             | 1208  |
| 2987    | Traditional Chinese | zh_TW             | 964   |
|         | Traditional Chinese | Zh_TW             | 950   |
|         | Traditional Chinese | zh_TW             | 1208  |
| 2989    | Simplified Chinese  | zh_CN             | 1383  |
|         | Simplified Chinese  | Zh_CN             | 1386  |
|         | Simplified Chinese  | ZH_CN             | 1208  |

| <b>Feature</b> | <b>Language</b>  | <b>Short Name (LANG)</b> | <b>CCSID</b> |
|----------------|------------------|--------------------------|--------------|
| 2992           | Romanian         | ro_RO                    | 912          |
|                | Romanian         | RO_RO                    | 1208         |
| 2994           | Slovak           | sk_SK                    | 912          |
|                | Slovak           | SK_SK                    | 1208         |
| 2995           | Serbian Cyrillic | sq_AL                    | 915          |
|                | Serbian Cyrillic |                          | 923          |
|                | Serbian Cyrillic | SQ_AL                    | 1208         |

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# Welcome to Zend Server for IBM i

Welcome to Zend Server for IBM i automatically opens after the Initial Password access - and can thereafter be hidden by clicking the check-box at the bottom of the screen.

It includes 2 main areas:

- [8 Ways to Get Started with PHP on IBM i](#)
- [Accessing PHP Open Source Applications](#)

## 8 Ways to Get Started with PHP on IBM i

Welcome to Zend Server for IBM i consists of the following 8 Ways to Get Started with PHP on IBM i:

1. **Zend Server for IBM i user interface** - lets you manage your Zend Server and PHP configuration.
2. **PHP Toolkit API** - enables you to call RPG/COBOL applications, system objects and data queues.
3. **Zend Navigator Demo** - shows PHP Toolkit access to active [jobs](#), spooled files, user profiles, system values and more.
4. **Zend Studio for Eclipse** - helps you build your first PHP application.
5. **5250 Bridge** - Web-enables 5250 applications.
6. **Zend framework** - gives you a head start with secure, reliable, and modern Web 2.0 applications and Web services.
7. **Foundations for IBM i Programmers** and **Quick Start: PHP for RPG Programmers** online training courses get started with the basics of PHP.
8. **Additional PHP Demo Scripts** - See actual code and rendered output demo scripts.

The image below is a fully functional Welcome page; all links are clickable. However, some of the links will only work if you already have Zend Server for IBM i installed on your machine.




Welcome ✕

## Welcome to Zend Server for IBM i

### 8 Ways to Get Started with PHP on IBM i:

1. [Zend Server for IBM i user interface](#) lets you manage your Zend Server and PHP configuration
2. [PHP Toolkit API](#) enables you to call RPG/COBOL applications, system objects and data queues
3. [Zend Navigator Demo](#) shows PHP Toolkit API access to active jobs, spooled files, user profiles, system values and more
4. [Zend Studio for Eclipse](#) helps you build your first PHP application
5. [5250 \(API\) Bridge Demos](#) demonstrate how PHP can Web-enable 5250 applications
6. [Zend Framework](#) gives you a head start with secure, reliable, and modern Web 2.0 applications and Web services
7. [Foundations for IBM i Programmers](#) and [Quick Start: PHP for RPG Programmers](#) online training courses get you started with the basics of PHP
8. [Additional PHP Demo Scripts](#)

### Enhance your PHP



Build Web Applications and Web services using [Zend Studio for Eclipse](#).  
[Learn about i5/OS specific features.](#)

Do not display this on next login

### PHP Open Source Applications

Zend customers and IBM have reported success running these PHP applications on IBM i:

- [Mantis/400](#) (Bug Tracker)
- [Drupal](#) (CMS)
- [SugarCRM](#) (CRM)
- [MediaWiki](#) (Wiki)
- [Joomla!](#) (CMS)
- [Zen Cart](#) (Online Store)
- [phpBB](#) (Bulletin board)

**Note:**  
Zend does not offer commercial or other support for any of these open source applications.

[Learn how to start with Zend Server and PHP](#)

## Registration

### Registration Wizard

The first time Zend Server for IBM i runs, the registration wizard is displayed.

1. The first step is the license agreement.  
To continue and install Zend Server for IBM i, you must accept the license agreement.
2. The second step is the password page. Your password is used to log in to the Administration Interface, either from the main login page accessed from your browser or from the Zend Controller.
  - If you are using the Zend Controller locally or remotely (i.e., Zend Server for IBM i and Zend Controller are located on separate machines), make sure that the Zend Controller settings match your Zend Server settings. [Click here for instructions on how to change your Zend Controller settings according to your operating system.](#)
  - Passwords must be between 4 - 20 characters long.
  - This step is also displayed when your license expires or when you reset your password. After you define your password the first time, you can always change your password from the Administration Interface. For more information, see [Password Management](#).
  - To further secure Zend Server for IBM i, please refer to [Securing the Administration Interface](#)
3. You are not required to enter a license to use Zend Server for IBM i. However, you must have a valid license to use the complete edition of Zend Server for IBM i.
  1. To enter without a license mark the "Enter without License" check box.
  2. If you have your license details, enter them in the Order Number and License Key Fields. This information is stored in your zend.com account or under the account used for the purchase.

## Step 3 of 3 : License & Newsletter Registration

### Zend Server

---

Enter without a license

Order number

License Key

 If you do not have a license, [Click here to see how to get a license](#)

---

Notify me of new Zend Server releases and other important updates

Email Address

[Back](#)

[Finish](#)

**Note:**

When attaching a server to Zend Server Cluster Manager, the Zend Server GUI will be disabled. This is to allow Zend Server Cluster Manager the ability to have sole control over settings and configuration in order to prevent inconsistency that could result in

## License FAQ

### How do I just take a look at the product?

If you enter Zend Server for IBM i without a license, you can run Zend Server for IBM i in Community Edition Mode. In this mode, Zend Server's Community Edition features ( PHP 5.x, Zend Data Cache, Zend Debugger, Zend Guard Loader, Zend Java Bridge and Zend Optimizer+) are available and the features that require a license are visible and disabled.



To enter the Community Edition mode, do not enter an Order Number and License Key. Click "Enter Without a License" to start using Zend Server for IBM i in Community Edition mode.

As soon as you enter a valid license, all licensed features are automatically activated for the license period.

### How do I get a License?


If you do not already have a license, go to the [licensing page on zend.com](#) to find out how to get a license.

### I already have a License - what do I do?

If you have already purchased a license, you should have received a confirmation e-mail that includes your Order Number and License Key.



#### **If you have just installed Zend Server for IBM i:**

To enter a license, enter your Order Number and License Key as stated in your confirmation e-mail and click .

#### **If you have already been running Zend Server for IBM i in Community Edition Mode or with an evaluation license:**

In the Administration Interface go to Administration | Password and License.

Enter your new license details into the "Update License" area.

Click  to apply the changes.

Zend Server for IBM i will start to run in a fully functional mode.

## License Expiration

Before a license expires, a notification is displayed at the bottom of the Administration Interface, telling you how long you have left until your license expires and where to go to renew your license.

Once a license expires, Zend Server for IBM i reverts to Community Edition mode until a new license is entered. During this time, all licensed features are unavailable. However, their settings are kept and are restored, along with the functionality, when a new license is entered.

## Zend Server for IBM i Setup Menu

The Zend Server for IBM i Setup Menu allows you to configure all aspects of Zend Server for IBM i, and lets you install updates and additional components. This section includes the following information:

- [Sign-On](#)
- [Main menu](#)

### Sign-On

The Sign-On can be opened by logging into the Zend Server for IBM i screen and running the following command:

```
go zendsvr/zsmenu
```

Sign -On to the IBM i System using the Sign-On screen.



#### To sign-on to IBM i:

1. Type in your User name.
2. Press Tab, and then type in your Password.
3. Press Enter.

```
Sign On
      System .....: I5ITS5V4
      Subsystem ....: QINTER
      Display .....: QPADEV0008

      User .....
      Password .....
      Program/procedure .....
      Menu .....
      Current library .....
```

3. Press Enter to continue.

The [Main Menu](#) is opened.

## Main Menu

The Zend Server for IBM i Setup Menu includes the following options:

- [Change password for Web Administration Console](#)
- [Update using Zend Server PTFs menu](#)
- [Run Support Tool](#)
- [Service Management menu](#)
- [MySQL Management menu](#)
- [5250 Bridge Management Menu](#)
- Reset Zend Server Environment - This option clears shared memory used by Zend Server. All server *jobs* are stopped and started.

```

ZSMENU          Zend Server for IBM i Setup Menu
                  System: I5ITS5V4

Select one of the following:

1. Change password for Web Administration Console
2. Update using Zend Server PTFs menu
3. Run Support Tool

5. Service Management menu
6. MySQL Management menu
7. 5250 Bridge Management Menu

9. Reset Zend Server Environment

90. Signoff

Selection or command
====>

F3=Exit F4=Prompt F9=Retrieve F12=Cancel F23=WRKUSRJOB
Copyright Zend Technologies LTD (2009)

(C) COPYRIGHT IBM CORP. 1980, 2005.

```

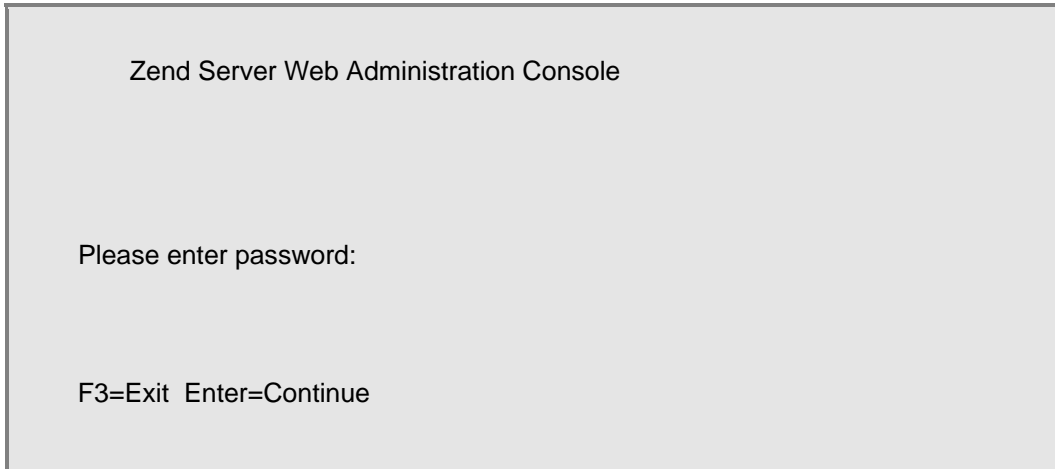
## Changing the Administration Console Password

Allows you to change your password for accessing the Zend Server for IBM i Administration Web [GUI](#).

Access this menu by selecting Option 1 from the [Main menu](#):

**To change your password:**

- Enter a new password and press Enter.  
You must restart your web server after changing your password.





## Update using PTFs menu

This option lets you to display Program Temporary Fix (PTF) for Zend Server.

Access this menu by selecting Option 2 from the [Main menu](#):

```

Work with PTF
                                System: I5BUILD
Product ID .....: 2ZSVRPI
Release of base option .....: V5R3M0

Type options, press Enter. To work with assigned PTF IDs, press F18.
 1=Create  4=Delete  5=Display details  9=Work with problems
11=Load/Apply ...

                                Cover
Opt PTF   Status                Letter

(No PTFs available)

                                Bottom

Parameters or command
====>
F3=Exit  F11=Display option  F12=Cancel  F17=Position to
F18=Work with assigned PTF IDs  F23=More options  F24=More keys

```

## Running the Support Tool

The Zend Support Tool is a tool for gathering information about your system configuration and setup. This tool allows the Zend Support Team to solve problems in a more comprehensive and efficient way.

Access this menu by selecting Option 3 from the [Main menu](#):

### **To send a support file for analysis by the Support Team:**

- Create a file and specify the destination directory where the file will be created. After the file is created it can be sent to Zend Support if the need for support arises.
- See Support Tool Information for a complete list of the information collected by the Support Tool.

#### **Note:**

By downloading Run Support Tool, you have received a one year, first-level Silver Support Subscription. For more on Zend Support Subscriptions, and to register for other programs, see the Run Support Tool Support page at <http://www.zend.com/en/products/zendserver>

## Zend Server for IBM i Service Management

This menu allows you to control your Zend Server for IBM i subsystem, Apache web server, PHP toolkit service I5\_COMD, Monitor, Java Bridge daemon and PRNGD job.

Access this menu by selecting Option 5 from the [Main menu](#):

```
ZSVMENU          Zend Server for IBM i Service Menu
                  System: I5ITS5V4

Select one of the following:

1. Start Zend Server Subsystem
2. Stop Zend Server Subsystem
3. Work with Zend Server subsystems

5. Start Apache server instances
6. Stop Apache server instances
7. ReStart Apache server instances
8. Work with Apache logs directory

10. PHP Toolkit Management Menu
11. Monitor Management Menu
12. Java Bridge Management Menu
13. Job Queue Management Menu
11. PRNGD (ZS_STR_PRN) job Management Menu

Selection or command
====>

F3=Exit F4=Prompt F9=Retrieve F12=Cancel F23=WRKUSRJOB
```

### **Start Zend Server Subsystem**

Starts the Zend Server process.

### **Stop Zend Server Subsystem**

Stops the Zend Server process.

### **Start Apache server instances**

Starts Apache.

### **Stop Apache server instances**

Stops Apache.

### **ReStart Apache server instances**

Restarts Apache

## Start PHP Toolkit service (i5\_COMD)

Starts PHP Toolkit service. Allows you to configure your PHP Toolkit Daemon.

```

Start i5_COMD Daemon (ZCCSTREACD)

Type choices, press Enter.

Library .....>          ZENDSVR      Product library ZENDSVR
i5_COMD Service Port number . . 6079      Character value, *DFT, *JOB
Enable Prestart Jobs..... *OFF      *ON, *OFF, *AUTO
Restart i5_COMD if running . . . *NO      *YES, *NO, *YES, *NO

                                Bottom

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
    
```

**Note:**  
 If you change the i5\_COMD Service Port number, the daemon will open on a different TCP/IP port number. The new port number (i5comm.port entry) is updated in the /usr/local/send/svr/etc/php.ini file.

## Stop PHP Toolkit service (i5\_COMD)

Stops the PHP Toolkit Daemon.

## Monitor Management Menu

Manages the Monitor daemon.

**The Monitor Management Menu includes the following options:**

1. Start Monitor - Starts the Monitor daemon.
2. Stop Monitor - Stops the Monitor daemon.
3. Restart Monitor - Restarts the Monitor

```
ZSMMENU      Zend Server for IBM i PRNGD Job Management Menu
                                     System: I5ITS5V4

Select one of the following:

1. Start Monitor
2. Stop Monitor
3. Restart Monitor

Selection or command
====>

F3=Exit F4=Prompt F9=Retrieve F12=Cancel F23=WRKUSRJOB
```

## Java Bridge Management Menu

Manages the Java Bridge daemon

The Java Bridge Management Menu includes the following options:

1. Start Java Bridge - Starts the Java Bridge
2. Stop Java Bridge - Stops the Java Bridge
3. Restart Java Bridge- Restarts the Java Bridge

```
ZSJMENU    Zend Server for IBM i Java Bridge Management Menu
                                     System:  BUILD54

Select one of the following:

1. Start Java Bridge
2. Stop Java Bridge
3. Restart Java Bridge

Selection or command
====>

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F23=WRKUSRJOB
```

## PRNGD (ZC\_STR\_PRN) job Management Menu

The PRNGD (ZC\_STR\_PRN) job Management Menu includes the following options:

1. [Start PRNGD \(ZS\\_STR\\_PRN\) job](#)
2. [Stop PRNGD \(ZS\\_STR\\_PRN\) job](#)

```
ZSPMENU      Zend Server for IBM i PRNGD Job Management Menu
                                     System: I5ITS5V4

Select one of the following:

1. Start PRNGD (ZS_STR_PRN) job
2. Stop PRNGD (ZS_STR_PRN) job

Selection or command
====>

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F23=WRKUSRJOB
```

### Start PRNGD (ZS\_STR\_PRN) job

Starts the job.

### Stop PRNGD (ZS\_STR\_PRN) job

Stops the job.



## Add restart PRNGD (ZS\_STR\_PRN) job to scheduler

14:36:02 PRNGD Job restart set up

Please enter the time to restart ZC\_STR\_PRN job 1:00 hh:mm

F3=Exit Enter=Continue

## Work with PRNGD (ZS\_STR\_PRN) scheduled jobs

```

Work with Job Schedule Entries                                I5ITS5V4
04/28/09 09:45:08

Type options, press Enter.
2=Change 3=Hold 4=Remove 5=Display details 6=Release
8=Work with last submission 10=Submit immediately

                                Next
                                -----Schedule-----
                                Recovery Submit
Opt Job      Status Date   Time   Frequency Action Date
ZS_STR_PRN  SCD   *ALL   01:00:00 *WEEKLY *SBMRLS 04/29/09
ZS_STR_PRN  SCD   *ALL   01:00:00 *WEEKLY *SBMRLS 04/29/09
ZS_STR_PRN  SCD   *ALL   01:00:00 *WEEKLY *SBMRLS 04/29/09
ZS_STR_PRN  SCD   *ALL   01:00:00 *WEEKLY *SBMRLS 04/29/09

                                Bottom

Parameters or command
====>
F3=Exit F4=Prompt   F5=Refresh F6=Add  F9=Retrieve
F11=Display job queue data F12=Cancel F17=Top  F18=Bottom
    
```

## Java Bridge Management Menu

PHP integration with Java.

```
ZSJMENU    Zend Server for IBM i Java Bridge Management Menu
                                     System: I5ITS5V4

Select one of the following:

1. Start Java Bridge
2. Stop Java Bridge
3. Restart Java Bridge

Selection or command
====>

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel  F23=WRKUSRJOB
```

**Note:**

To apply changes, stop and start the Zend Server for IBM i subsystem by selecting Options 2 (start) and 1 (stop) on the System Management Menu.

## MySQL Management menu

Access this menu by selecting Option 6 from the [Main menu](#):

**The MySQL Management menu includes the following options:**

1. [Start MySQL subsystem](#)
2. [Stop MySQL subsystem](#)
3. [Start MySQL daemon](#)
4. [Stop MySQL daemon](#)

```
ZCMYSQL           Zend MySQL management.
                   System: I5ITS5V4

Select one of the following:

    1. Start MySQL subsystem
    2. Stop MySQL subsystem

    4. Start MySQL daemon
    5. Stop MySQL daemon

Selection or command
====>

F3=Exit F4=Prompt F9=Retrieve F12=Cancel F23=WRKUSRJOB
Copyright Zend Technologies LTD (2007)
```

### Start MySQL subsystem

Starts the MySQL process.

### Stop MySQL subsystem

Stops the MySQL process.

### Start MySQL daemon

Starts the MySQL service. The MySQL Daemon allows access to the MySQL database.

### Stop MySQL daemon

Stops the MySQL service.

#### Note:

If MySQL is not installed, selecting the MySQL Management menu option will prompt you to install MySQL. See the MySQL Installation section under the 'interactive installation' topic in the Zend Server for IBM i Installation Guide for more on installing MySQL.

## 5250 Bridge Management Menu

The 5250 bridge Management menu displays System Information.

Access this menu by selecting Option 7 from the [Main menu](#):

**The 5250 Bridge Management menu includes the following options:**

1. [Restart 5250 Bridge server](#)
2. [Reset 5250 Bridge environment](#)

```
ZSM5250          Zend 5250 Bridge Management Menu
                                System: I5ITS5V4

Select one of the following:

1. Restart 5250 Bridge server
2. Reset 5250 Bridge environment

90. Signoff

Selection or command
====>

F3=Exit F4=Prompt F9=Retrieve F12=Cancel F23=WRKUSRJOB
Copyright Zend Technologies LTD (2009)
```

### Restart 5250 Bridge Server

The 5250 Bridge server is restarted

### Reset 5250 Bridge Environment

The 5250 Bridge environment is reset

# IBM i Troubleshoot

## RSTLICPGM command aborted and displays following system message:

“Objects for product Z2SVRPI option \*BASE release \*FIRST not restored.”

### Possible causes and solutions:

- Check the installation job log and the ZendServer\_installaiton.log on in the /tmp directory on the IBM i server
- [You may be missing one of the required License programs](#)
- [You may be missing one of the required PTFs](#)
- You may be using the wrong version of the 5733SC1 License program  
The OS version upgrade does not upgrade License Program 5733SC1 which is not part of OS upgrade. Here is a way to check a correct version of 5733SC1 after OS version upgrade:
  1. Run the GO LICPGM command and IBM i and select option 10.
  2. Page down to 5733SC1 and press F11 to see the installed version number, which should match the current OS version.

## FastCGI job does not start causing high CPU usage

### Possible causes and solutions:

- [Check your Apache Group PTFs](#)
- Multiple FastCGI log files are generated in the logs directory /www/zendsvr/logs when Zend Server Apache is started.  
The information in these logs could indicate about a problem in the content of FastCGI configuration file.
  - The IBM i server's primary or secondary languages definition does not match the LANG and CCSID directives in the configuration file
    1. Change LANG and CCSID directives to match the IBM i server's primary or secondary language
    2. Change LANG=819 and CCSID=C directives.  
This way FastCGI will not to verify the Language pack installed on IBM i.
  - INSTALLATION\_UID directive value has an additional data separated by space after the UID number

1. Remove the additional data from the configuration file
- A single FastCGI log file is generated in the logs directory /www/zendsvr/logs when Zend Server Apache is started
    - a. Problem in PASE
      1. Install PTF 5722SS1 SI36679