

# Apache Stonehenge : Stonehenge PHP and WSAS Stocktrader Installation Guide

This page last changed on May 05, 2009 by shankar.

## Table of Contents

- [Creating Schema and Tables](#)
- [Installing Stonehenge PHP Stocktrader](#)
- [Installing Stonehenge WSAS Stocktrader](#)

## Creating Schema and Tables



### Note

Users should have either MSSQL or MySQL. Express version of MSSQL is also supported.

- [Overview of the Tables](#)
- [Steps for MSSQL](#)
- [Steps for MySQL](#)

## Overview of the Tables

### Tables needed by Stocktrader application

1. **Account**
2. **AccountProfile**
3. **Quote**
4. **Holding**
5. **Orders**

### Tables needed by PHP Stocktrader Configuration service

In addition to the tables given above, some other tables are needed by PHP Configuration service.

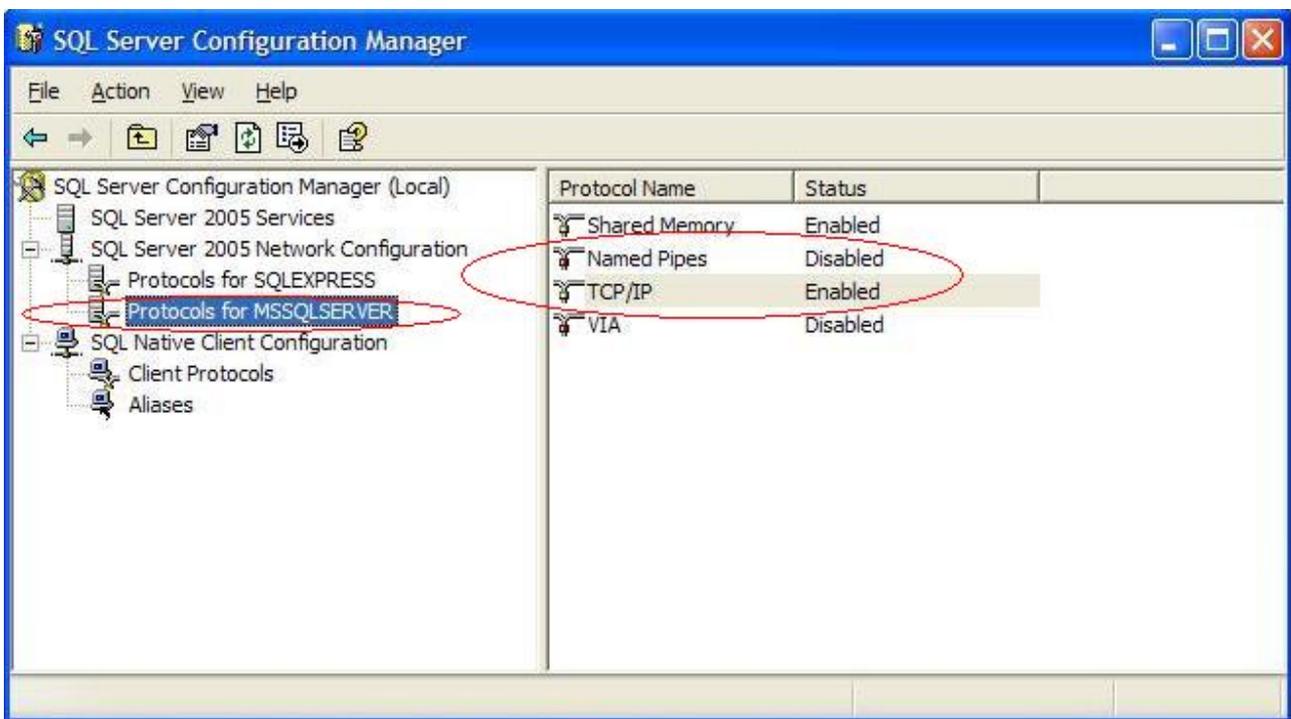
1. **DBConfig** - shows the database configurations
2. **Service** - shows the end point addresses of the business services and order processor services. Valid values for "ServiceName" are PHP\_BS, PHP\_OPS, PHP\_OPSSEC, JAVA\_BS, JAVA\_OPS, JAVA\_OPSSEC, RUBY\_OPS, RUBY\_OPSSEC, DOTNET\_BS, DOTNET\_OPS and DOTNET\_OPSSEC
3. **ClientToBS** - Shows what clients are connected to what business services. Possible "Client" values are PHP\_CLIENT, RUBY\_CLIENT. Possible "BS" values are PHP\_BS, JAVA\_BS and DOTNET\_BS. Table can contain multiple rows.
4. **BSToOPS** - Shows what business services are connected to what order processor services. Possible "BS" values are PHP\_BS, JAVA\_BS and DOTNET\_BS. Possible "OPS" values are PHP\_OPS, PHP\_OPSSEC, JAVA\_OPS, JAVA\_OPSSEC, RUBY\_OPS, RUBY\_OPSSEC, DOTNET\_OPS and

DOTNET\_OPSSSEC. "OPS" flavours are non-secure services and "OPSSSEC" flavours are secure services. Table can contain multiple rows.

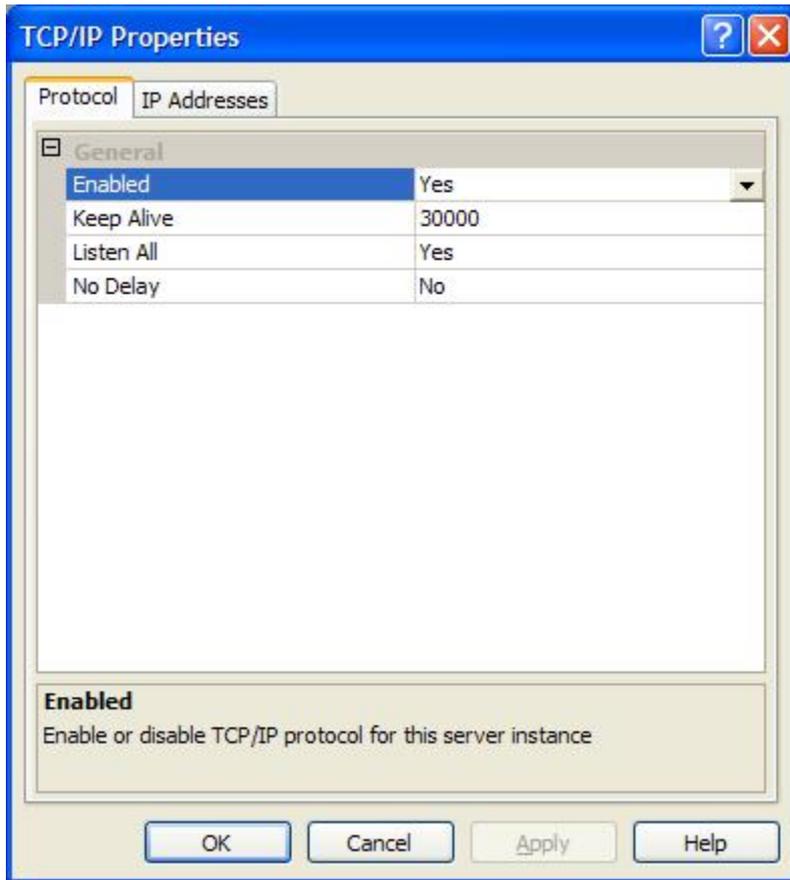
## Steps for MSSQL

### Enable TCP/IP Protocol of MSSQL Server

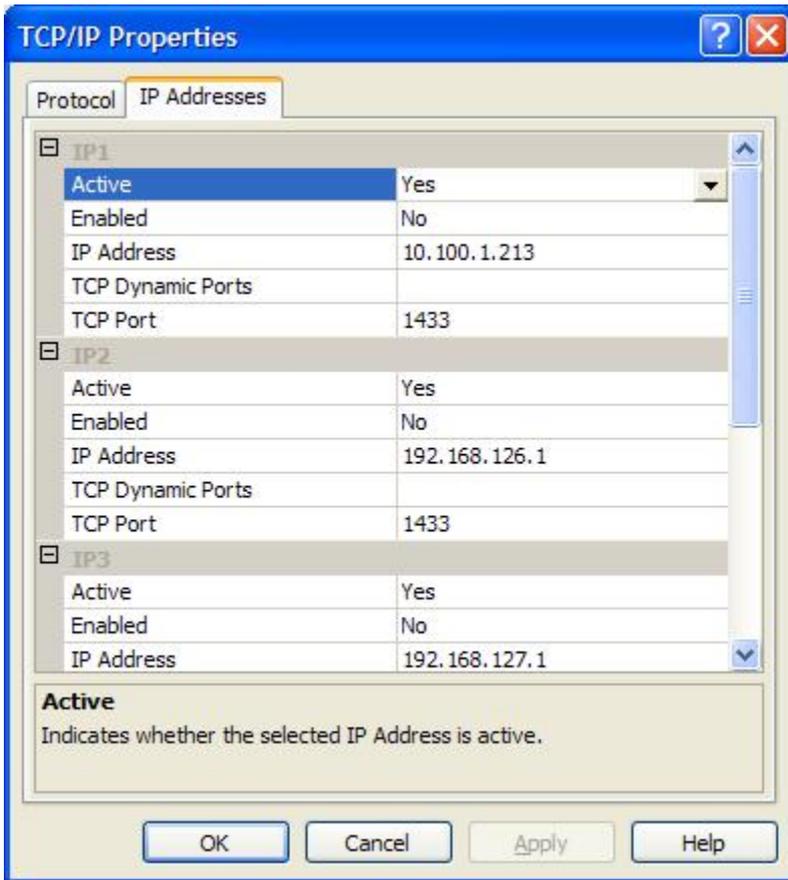
Open "SQL Server Configuration Manager" from Start->Programs->Microsoft SQL Server 2005->Configuration Tools-> SQL Server Configuration Manager. Enable TCP/IP and disable Named Pipes from protocols of your MSSQL server. (Note that, in following picture, MSSQLSERVER is the name of the SQL server. In your case, the name might be different. If you are using SQLExpress, enable TCP/IP for SQLEXPRESS.)



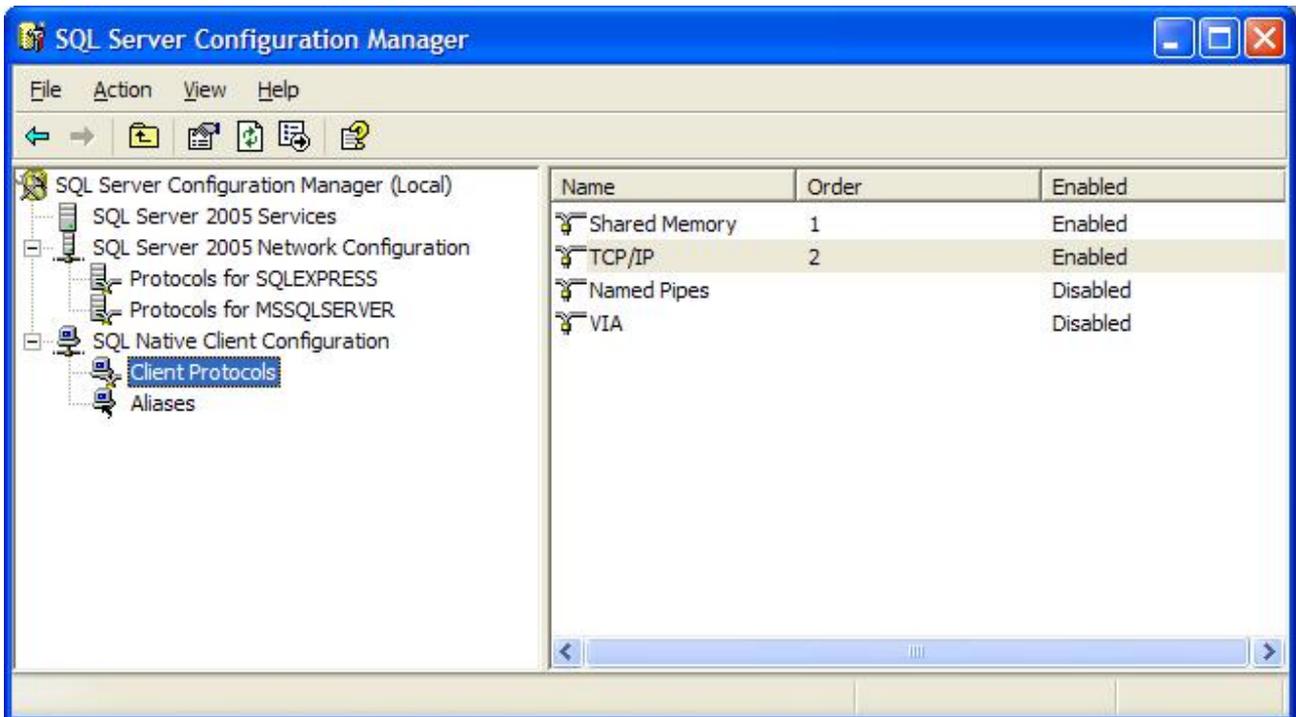
Open TCP/IP Properties by double clicking "TCP/IP". Set "Listen All" to "Yes" in Protocol tab.

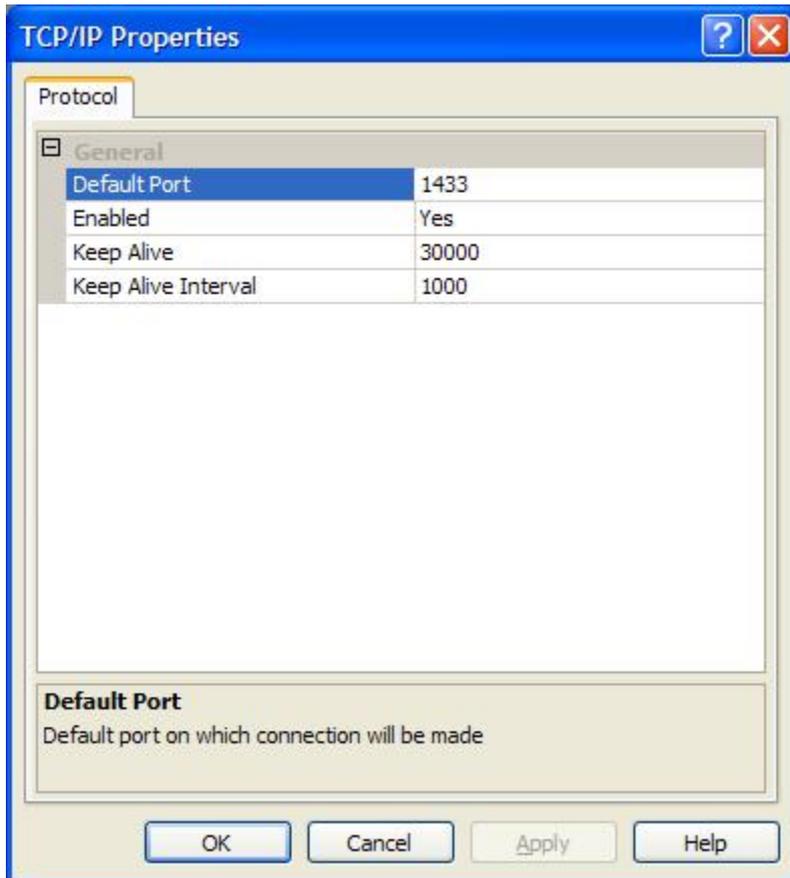


From IP Address tab, disable "TCP Dynamic Ports" by leaving it blank and give a valid "TCP Port" so that MSSQL server will listen in that port. (We have used port 1433 in order processor services, so it is better to use that port)



Similarly, enable TCP/IP from SQL Native Client Configuration and disable Named Pipes. Also, check whether the port is set correctly. (Port should be 1433)





After finishing above settings, restart MSSQL Server.

### Tables Needed by StockTrader applications.

Follow the instructions given [here](#) to create the tables.

### Tables Needed by PHP StockTrader Configuration services

These table scripts can be obtained from [here](#). Run "Table Creation.sql" and "InsertScript.sql".

### Steps for MySQL

Scripts can be obtained from [here](#).

1. Create a new schema and user by running the command given below. (You can change the username, password or schema name in DBCreate.sql and then run the command).

```
mysql -u root -p < ./DBCreate.sql
```

You have to enter root password when it is asked.

2. Create tables by running the command given below. ("trade" is the user name of the newly created user. "StockTraderDB" is the name of the newly created schema. If you changed either username or schema name, then change the command accordingly)

```
mysql -u trade StockTraderDB -p < ./TableCreate.sql
```

You have to enter the password of user "trade". Default is "yyy".

3. Populate the tables with data by running the command below. (If you changed either username or schema name, then change the command accordingly)

```
mysql -u trade StockTraderDB -p < ./InsertScript.sql
```

You have to enter the password of user "trade"

## Installing Stonehenge PHP Stocktrader

- [Installation Guide for Windows Users](#)
- [Installation Guide for Linux Users](#)
- [Default Endpoint Addresses](#)
- [Configuration](#)

### Installation Guide for Windows Users



#### Note

If you have any other PHP, Apache httpd or WSF/PHP installed in your system, please remove them from your path before starting the installation process.

You can follow one of the options given below.

#### Option1

##### 1. SOAWAMP

[SOAWAMP-0.7](#) distribution includes pre-configured Apache HTTP Server, PHP and WSF/PHP. After installing, edit <WAMP Installed Directory>\udrive\usr\local\apache2\conf\httpd.conf and change the listen port to 8080. Also, edit <WAMP Installed Directory>\udrive\usr\local\php\php.ini disable warnings from php (error\_reporting = E\_ERROR & ~E\_NOTICE). Run <WAMP Installed Directory>\Server\_Start.bat to start the server. You can stop the server by running <WAMP Installed Directory>\Stop.bat. (When starting the server, the page will be redirected to <http://localhost/apanel/> and then fail. It can be ignored, since the error is due to port change. Changing the endpoint to <http://localhost:8080/apanel/> will give a valid page).

##### 2. Stonehenge PHP Stocktrader

- Trunk version of Stonehenge PHP Stocktrader can be checked out from [here](#).
- If you are using source release version, PHP Stocktrader is in <Stocktrader Source Release Pack>/php/
- If you are using trunk version or source release version, run build.bat, which will create php\_stocktrader folder.
- If you are using binary release version, php\_stocktrader folder is inside <Stocktrader Binary

Release Pack>/

- Copy php\_stocktrader folder to <WAMP Installed Directory>\udrive\www\ .
- After copying, edit <WAMP Installed Directory>\udrive\www\php\_stocktrader\resources\conf\database\_config.xml and give IP and Port of the Database server. Also indicate whether you are using "mssql" or "mysql". You can change user name, password or database settings if needed.
- To change the end point of config service, you have to edit <WAMP Installed Directory>\udrive\www\php\_stocktrader\resources\conf\configuration\_service\_config.xml.

## Option2

### 1. WampServer

[WampServer\(WampServer 2.0h\)](#) distribution includes pre-configured Apache HTTP Server and PHP. After installing, add <WAMP Installed Directory>\bin\apache\apache2.2.11\bin to PATH environment variable. Open <WAMP Installed Directory>\bin\apache\apache2.2.11\conf\httpd.conf and change the listen port to 8080 (listen 8080). Open <WAMP Installed Directory>\bin\apache\apache2.2.11\bin\php.ini and edit as follows

- If you are using mssql, enable php\_mssql extension (extension=php\_mssql.dll)
- If you are using mysql, enable php\_mysql extension (extension=php\_mysql.dll)
- disable warnings from php (error\_reporting = E\_ERROR & ~E\_NOTICE)
- specify an error\_log file name. In case there are any errors in the execution of PHP Stock Trader, error messages will be written to this file. (error\_log = <full path with file name>)
- Increase the max\_execution\_time to 100. (max\_execution\_time = 100)
- Start the WAMP Server, browse to <http://localhost:8080/?phpinfo=1> and make sure iconv, libxml, and mssql/mysql sections are available.

### 2. PHP MSSQL Driver - Only needed if you are using MSSQL

You can download it from [here](#) and copy to <WAMP Installed Directory>\bin\apache\Apache2.2.11\bin.

### 3. WSF/PHP

Install WSF/PHP. You can download it from [here](#). Please follow [Installing WSO2 WSF/PHP Binary in WampServer](#) to install. After installing, restart the computer to get the PATH variable reflected in WampServer.

### 4. Stonehenge PHP Stocktrader

- Trunk version of Stonehenge PHP Stocktrader can be checked out from [here](#).
- If you are using source release version, PHP Stocktrader is in <Stocktrader Source Release Pack>/php/
- If you are using trunk version or source release version, run build.bat, which will create php\_stocktrader folder.
- If you are using binary release version, php\_stocktrader folder is inside <Stocktrader Binary Release Pack>/
- Copy php\_stocktrader folder to <WAMP Installed Directory>\www\ .
- After copying, edit <WAMP Installed Directory>\www\php\_stocktrader\resources\conf\database\_config.xml and give IP and Port of the Database server. Also indicate whether you are using "mssql" or "mysql". You can change user name, password or database settings if needed.
- To change the end point of config service, you have to edit <WAMP Installed Directory>\www\php\_stocktrader\resources\conf\configuration\_service\_config.xml.

## Option3

### 1. Apache HTTP Server

You can download apache web server (apache\_2.2.11-win32-x86-openssl-0.9.8i.msi) from [here](#).

After installing, edit httpd.conf and change the "Listen" port to 8080. Add <httpd installed directory>\bin directory to the PATH environment variable.

## 2. PHP

[Download](#) and install PHP(PHP 5.2.9-1 installer). Add the directory where PHP was installed to the PATH environment variable. After installing PHP, open php.ini file and edit as follows

- If you are using mssql, enable php\_mssql extension (extension=php\_mssql.dll)
- If you are using mysql, enable php\_mysql extension (extension=php\_mysql.dll)
- disable warnings from php (error\_reporting = E\_ERROR & ~E\_NOTICE)
- specify an error\_log file name. In case there are any errors in the execution of PHP Stock Trader, error messages will be written to this file. (error\_log = <full path with file name>)
- Increase the max\_execution\_time to 100. (max\_execution\_time = 100)

## 3. PHP MSSQL Driver - Only needed if you are using MSSQL

Default MSSQL Driver coming with some PHP installation is too old to work correctly. You can find this information by checking the version of ntwdblib.dll (This file can be found in root directory of where you installed php. E.g. "C:\Program Files\PHP"). It should be 2000.80.194.0 or more. If the version is less than 2000.80.194.0, then you have to download it from [here](#) and copy to PHP directory.

## 4. WSF/PHP

Install WSF/PHP. You can download it from [here](#). Please follow the "Installing WSO2 WSF/PHP Binary" section of README.INSTALL\_WIN32 file to install.

## 5. Stonehenge PHP Stocktrader

- Trunk version of Stonehenge PHP Stocktrader can be checked out from [here](#).
- If you are using source release version, PHP Stocktrader is in <Stocktrader Source Release Pack>/php/
- If you are using trunk version or source release version, run build.bat, which will create php\_stocktrader folder.
- If you are using binary release version, php\_stocktrader folder is inside <Stocktrader Binary Release Pack>/
- Copy php\_stocktrader folder to <Apache Installed Directory>\htdocs\ .
- After copying, edit <Apache Installed Directory>\htdocs\php\_stocktrader\resources\conf\database\_config.xml and give IP and Port of the Database server. Also indicate whether you are using "mssql" or "mysql". You can change user name, password or database settings if needed.
- To change the end point of config service, you have to edit <Apache Installed Directory>\htdocs\php\_stocktrader\resources\conf\configuration\_service\_config.xml.



### Warning

If you are using some other versions of Apache Http Server, PHP and WSF/PHP, make sure all of them were built using same openssl libraries. Binary distribution of WSF/PHP was built using openssl 0.9.8i, hence cannot be used with Apache Http Server or PHP built with different version of openssl. In that case, you might have to get source distribution of WSF/PHP and build it using the correct openssl libraries.

## Installation Guide for Linux Users

### 1. Apache HTTP Server

Use your package management system to install Apache web server. Also, you can download Apache web server (httpd-2.2.11.tar.gz) from [here](#). After installing, edit httpd.conf and change the "Listen" port to 8080.

### 2. MySQL

Install MySQL from the package management system that comes with your distribution. After installing, open up the MySQL configuration file (my.cnf) and make sure there's no skip-networking option. If there is, comment it out, otherwise Stonehenge PHP StockTrader will not be able to

connect to MySQL via HTTP.

### 3. **PHP**

Install PHP from the package management system your distribution is using. Make sure you install Apache PHP module. Also install PHP MySQL extension.

After installing, open up the Apache configuration file (httpd.conf) to make sure that PHP extension is enabled. Then, open up the PHP configuration file (php.ini) and make sure php\_mysql extension is enabled.

### 4. **WSF/PHP**

Install WSF/PHP. You can download it from [here](#). Please follow the "Building and Installing WSO2 WSF/PHP from Source on Linux" section of README.INSTALL file to install.

### 5. **Stonehenge PHP Stocktrader**

- Trunk version of Stonehenge PHP Stocktrader can be checked out from [here](#).
- If you are using source release version, PHP Stocktrader is in <Stocktrader Source Release Pack>/php/
- If you are using trunk version or source release version, run build.sh, which will create php\_stocktrader folder.
- If you are using binary release version, php\_stocktrader folder is inside <Stocktrader Binary Release Pack>/
- Copy php\_stocktrader folder to <Apache document root> (usually /var/www/html/).
- After copying, edit <Apache document root>\php\_stocktrader\resources\conf\database\_config.xml and give IP and Port of the Database server. Also indicate that you are using "mysql". You can change user name, password or database settings if needed.
- To change the end point of config service, you have to edit <Apache document root>\php\_stocktrader\resources\conf\configuration\_service\_config.xml.

## Default Endpoint Addresses

These are the default endpoint addresses. User should be able to access following end points. Please click them and make sure you could be able to access it. If any of them are inaccessible, then check the installation steps again.

1. Trader Client  
[http://localhost:8080/php\\_stocktrader/trader\\_client/index.php](http://localhost:8080/php_stocktrader/trader_client/index.php)
2. Business Service  
[http://localhost:8080/php\\_stocktrader/business\\_service/business\\_svc.php](http://localhost:8080/php_stocktrader/business_service/business_svc.php)
3. Non-secure Order Processor  
[http://localhost:8080/php\\_stocktrader/order\\_processor/order\\_processor\\_svc.php](http://localhost:8080/php_stocktrader/order_processor/order_processor_svc.php)
4. Secure Order Processor  
[http://localhost:8080/php\\_stocktrader/order\\_processor/order\\_processor\\_svc\\_msec.php](http://localhost:8080/php_stocktrader/order_processor/order_processor_svc_msec.php)
5. Configuration Service  
[http://localhost:8080/php\\_stocktrader/config\\_service/config\\_svc.php](http://localhost:8080/php_stocktrader/config_service/config_svc.php)

## Configuration

The default configuration for the PHP StockTrader Website is to use the **PHP\_BS** for communicating with the Business Service, and **PHP\_OPS** when processing orders. For more information on configuration options see the [Stonehenge Interoperability Walk-through](#).

## Installing Stonehenge WSAS Stocktrader

- [Prerequisite](#)
- [Installing Trunk Version](#)
- [Default Endpoint Addresses](#)
- [Configuration](#)

## Prerequisite

### 1. JDK 1.5

You can download JDK 1.5 from [here](#). Set JAVA\_HOME environment variable to the path where JDK is installed.

### 2. JCE

[Download](#) and install Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files.

### 3. WSO2 WSAS

You can download WSO2 WSAS from [here](#). The version should be 3.0. Please follow INSTALL.txt of WSAS Package to install.

### 4. MSSQL JDBC Driver - Only needed if you are using MSSQL

You can download MSSQL JDBC driver (jtds-1.2.2.jar) from [here](#) and copy to <WSAS Installed Directory>\lib\extensions.

### 5. MySQL JDBC Driver - Only needed if you are using MySQL

You can download MySQL JDBC driver (mysql-connector-java-5.1.7-bin.jar) from [here](#) and copy to <WSAS Installed Directory>\lib\extensions. (You might have to download full "Source and Binaries" pack from the download link, unzip it and copy only mysql-connector-java-5.1.7-bin.jar)

### 6. Maven

If you are building Stonehenge WSAS Stocktrader from source files, then you need [mavan](#) installed. The version should be 2.0.8 or more. Please follow README.txt of maven package to install.



#### Note

WSAS Stocktrader uses configuration service shipped with PHP Stocktrader. So, you have to install PHP Stocktrader as well, to use WSAS Stocktrader.

## Installing Trunk Version

- Trunk version of Stonehenge WSAS Stocktrader can be checked out from [here](#).
- If you are using source release version, WSAS Stocktrader is in <Stocktrader Source Release Pack>/wsas/
- If you are using trunk version or source release version, run the command "mvn clean install", which will create wsas\_stocktrader folder inside target folder (target\wsas\_stocktrader).
- If you are using binary release version, wsas\_stocktrader folder is inside <Stocktrader Binary Release Pack>/
- Copy content of <wsas\_stocktrader>\\* to <WSAS Installed Directory>\.
- After copying, edit <WSAS Installed Directory>\webapps\ROOT\WEB-INF\classes\db.properties and give IP and Port of the Database server. Also indicate whether you are using "mssql" or "mysql". You can change user name, password or database settings if needed.
- To change the end point of config service, you have to edit <WSAS Installed Directory>\webapps\ROOT\WEB-INF\classes\config-svc.properties.
- If you want to enable logging from Order Processor service and Business service, edit log4j.properties in <WSAS Installed Directory>\webapps\ROOT\WEB-INF\classes\ and include following line:

```
log4j.logger.org.apache.stonehenge.stocktrader=DEBUG
```

## Default Endpoint Addresses

These are the default endpoint addresses. Please make sure you can access the endpoints by appending ?wsdl to the endpoints. (i.e. to check business service, check whether <http://localhost:9763/services/TradeServiceWsas?wsdl> is accessible and gives WSDL of the business service)

1. Business Service  
<http://localhost:9763/services/TradeServiceWsas>
2. Non-secure Order Processor  
<http://localhost:9763/services/OrderProcessor>
3. Secure Order Processor  
<http://localhost:9763/services/OrderProcessorMsec>

## Configuration

The default configuration for the WSAS Business Service is **JAVA\_OPS** when processing orders. For more information on configuration options see the [Stonehenge Interoperability Walk-through](#).