

# Orientation Topics for New Hire in Framework

Tuesday, May 27, 2014 12:26 PM

1. Tellus structure
  - a. Apache 2.4
  - b. PHP 5.4
  - c. HTML5, CSS3, JavaScript
  - d. Frontend UI:
    - i. Calendar
    - ii. Job entry form
    - iii. Listbuilder
    - iv. Progress page
    - v. Tellus Test Manager (with Justifier Integration)
  - e. BVT (Build Verification Test) project: Triggered by Atlas build process, outside Tellus Calendar. See [BVT info](#).
  - f. Directory structure:
    - i. Third-party libraries are under `htdocs/lib/library-name`
    - ii. JavaScript files are under `htdocs/js/`
    - iii. CSS files are under `htdocs/css/`
    - iv. Database configuration is `htdocs/dbconfig.php`; calendar has `htdocs/calendar/php/dbConfig.php` that overrides it to use dev DB server (because some dev machines have no STAF CRON)
    - v. Calendar files are mainly under `htdocs/calendar/`
    - vi. Progress page files are mainly under `htdocs/results/`
2. Machines
  - a. Production Web server: `tellus (tellusb01.pc.factset.com)`, Apache 2.2, PHP 5.4
  - b. Development Web server: `tellusdev (tellusdevb01.pc.factset.com)`, Apache 2.2, PHP 5.4
  - c. Development Web server, `tellusdevb02.pc.factset.com`: "bleeding edge", Apache 2.4, PHP 5.4
  - d. Client VMs in FocalPoint Environment  
<http://environments.factset.com/>
3. SQL Server
  - a. SQL Server 2008
  - b. Primary DB server: `tellus-sql-primary.prod.factset.com`
  - c. Failover server: `tellus-sql-failover.prod.factset.com`
  - d. Development DB server: `sqldevb06.prod.factset.com`
  - e. DB name: `tellus`
  - f. We use PHP PDO `sqlsrv` driver
  - g. Use Windows authentication (don't use password). Example: `htdocs/calendar/php/CalendarGetEvents.php`
4. STAF services
  - a. CRON: scheduler server
  - b. STAX: job executor
  - c. Reference: <http://staf.sourceforge.net/>
5. External links:
  - a. Justifier: Manual test case management system  
<http://is.factset.com/justifier/>
  - b. FocalPoint: VM management system  
<http://focalpoint.factset.com/>
  - c. AtlasWeb: Product download  
<http://atlasweb/History.aspx?c=4217>
  - d. RPD: bug/request tracker  
<http://is.factset.com/rpd/>
6. Tools:

- a. PhpStorm  
Download free 30-day trial: <http://www.jetbrains.com/phpstorm/download>
  - b. Eclipse PHP Development Tool (PDT)  
[Eclipse PDT Debugging Setup](#)  
[Aptana Studio 3 Debugging Setup](#)
  - c. Chrome DevTools
  - d. Aptana Studio 3 (for Ruby; PHP may have some issue)
  - e. Reference:
    - i. [PHP 5.4 Development Environment Setup](#)
    - ii. [PhpStorm: Creating Project from Existing Files](#)
    - iii. [PhpStorm Debugging Setup](#)
    - iv. [Aptana Studio 3 Debugging Setup](#)
    - v. [Eclipse PHP Development Tool \(PDT\) Debugging Setup](#)
7. Supported browsers: Chrome, Firefox, IE9+
8. Third-party Libraries:
- a. jQuery
    - i. We use jQuery-1.9.1 (for IE9 support)
    - ii. jQuery.**ajax()**, \$.get(), \$.post(), \$.getJSON()
    - iii. Promises: jQuery.ajax(...).done(...), .always()
    - iv. Reference:
      - 1) <http://api.jquery.com/>
      - 2) <http://api.jquery.com/category/ajax/>
      - 3) <http://api.jquery.com/Types/#Promise>
  - b. Twitter Bootstrap (for Progress page, Tellus Test Manager)  
<http://getbootstrap.com/2.3.2/>
  - c. Fullcalendar: (used in Calendar)
    - i. Info: <http://arshaw.com/fullcalendar/>
    - ii. Our customized version is here: `htdocs/lib/fullcalendar/`
  - d. Moment.js for date/time functions
  - e. (Optional) Dynatree for TreeView  
<https://code.google.com/p/dynatree/>
  - f. (Optional) QTip2 for tooltips
  - g. (Optional) jstz for time zone functions
  - h. Other libraries under `lib/`
9. Finding your way around:
- a. Intranet: <http://underground.factset.com/>
  - b. Seating map: <http://is.factset.com/hr/seating/>
  - c. Learning about FactSet products and processes: <http://learning.pc.factset.com/Portal/Arke/>

# Apache 2.4, PHP 7 Installation

Tuesday, May 27, 2014 2:11 PM

## Environment Setup for PHP 7, Apache 2.4, XDebug, and PDO sqlsrv

This is manual Apache and PHP server setup. For laptop development environment, you **could use XAMPP or WAMP Server**, instead, if you'd like.

This installs:

- Apache 2.4
  - mod\_authn\_ntlm
  - mod\_wsgi (only for BVT)
- PHP 7
  - sqlsrv extension

**Note:** Apache and its modules should be built with the *same* version of Visual Studio for compatibility, else it might not work.

### Apache 2.4 Installation

**Download:** <https://www.apachehaus.com>  
or <http://www.apachelounge.com/download/>

**Prerequisite:** Be sure that you have installed the latest C++ Redistributable Visual Studio 2017 : [vc\\_redist\\_x64](#) or [vc\\_redist\\_x86](#).

Please use the Windows edition of Apache from Apachehaus or Apache Lounge. It uses newer Visual Studio redistributables. Please do not use the binaries from apache.org (which uses older VC6, which is slower).

- Unzip to, for example, C:\Apache24 folder

SET OPENSSL\_CONF=C:\Apache24\conf\openssl.cnf

Note: Apache and PHP should be compiled by same VC version.

### Apache Windows Authentication Setup

- Download mod\_authn\_ntlm.so binaries:  
<https://www.apachehaus.com/cgi-bin/download.plx>
- Copy mod\_authn\_ntlm.so to C:\Apache24\modules\
- In httpd.conf, uncomment:

```
LoadModule ldap_module modules/mod_ldap.so
LoadModule rewrite_module modules/mod_rewrite.so
```

Add:

```
LoadModule auth_ntlm_module modules/mod_authn_ntlm.so
```

### Install WSGI (Tellus servers only; optional, only for BVT)

[Python 3, Apache 2.4 mod\\_wsgi installation](#)

## Apache Configuration

- In C:\Apache24\conf\httpd.conf, uncomment:

```
LoadModule rewrite_module modules/mod_rewrite.so
LoadModule http2_module modules/mod_http2.so
LoadModule headers_module modules/mod_headers.so
LoadModule socache_dbm_module modules/mod_socache_dbm.so
LoadModule socache_shmcb_module modules/mod_socache_shmcb.so
LoadModule ssl_module modules/mod_ssl.so
```

- Set:

```
DocumentRoot "c:/Tellus/htdocs"
<Directory "c:/Tellus/htdocs">
...
```

```
ServerAdmin tellus-admins@factset.com
ServerName tellusb03.pc.factset.com:80
```

Options Indexes FollowSymLinks Includes

```
<IfModule dir_module>
  DirectoryIndex index.html index.php index.py
</IfModule>
```

```
ScriptAlias /cgi-bin/ "c:/Tellus/cgi-bin/"
```

```
<Directory "c:/Tellus/cgi-bin">
  #Options Indexes ExecCGI
  #AllowOverride None
  #Order deny,allow
  #Allow from all
  SetHandler wsgi-script
  Options Indexes ExecCGI
  AllowOverride None
  Order deny,allow
  require all granted
</Directory>
```

```
Include conf/extra/httpd-mpm.conf
Include conf/extra/httpd-ssl.conf
```

- For Tellus API only: Add lines in <IfModule alias\_module>:

```
RewriteEngine On
RewriteRule /api/job/create /tellusapi/TellusAPICreateEvent.php
RewriteRule /api/job/status /tellusapi/result.php
RewriteRule /api/jobs/status /tellusapi/StatusCheckOfMultiJobs.php
RewriteRule /api/testcase/info /tellusapi/TellusAPIGetTestCaseInfo.php
RewriteRule /api/durations /php/getDurationEstimate.php
RewriteRule /api/selenium/browserstatus /selenium/checkAvailableBrowser.php
```

- Add:

```

<Directory "C:/Tellus/htdocs/php">
    AllowOverride None
    Options Indexes FollowSymLinks
    Order allow,deny
    Allow from all
</Directory>

<Location /php >
    AuthName "Tellus"
    AuthType SSPI
    NTLMAuth On
    NTLMAuthoritative On
    <RequireAll>
        <RequireAny>
            Require valid-user
            #require sspi-user EMEA\group_name
        </RequireAny>
        <RequireNone>
            Require user "ANONYMOUS LOGON"
            Require user "NT-AUTORITÄT\ANONYMOUS-ANMELDUNG"
        </RequireNone>
    </RequireAll>
    # use this to add the authenticated username to you header
    # so any backend system can fetch the current user
    # rewrite_module needs to be loaded then
    RewriteEngine On
    RewriteCond %{LA-U:REMOTE_USER} (.+)
    #RewriteRule . - [E=RU:%1]
    RequestHeader set X_ISRW_PROXY_AUTH_USER %{RU}e
</Location>

<Directory "C:/Tellus/htdocs/app">
    AllowOverride None
    Options Indexes FollowSymLinks
    Order allow,deny
    Allow from all
</Directory>

<Location /app >
    AuthName "app"
    AuthType SSPI
    NTLMAuth On
    NTLMAuthoritative On
    <RequireAll>
        <RequireAny>
            Require valid-user
            #require sspi-user EMEA\group_name
        </RequireAny>
        <RequireNone>
            Require user "ANONYMOUS LOGON"
            Require user "NT-AUTORITÄT\ANONYMOUS-ANMELDUNG"
        </RequireNone>
    </RequireAll>

```

```

</RequireAll>
# use this to add the authenticated username to you header
# so any backend system can fetch the current user
# rewrite_module needs to be loaded then
RewriteEngine On
RewriteCond %{LA-U:REMOTE_USER} (.+)
#RewriteRule . - [E=RU:%1]
RequestHeader set X_ISRW_PROXY_AUTH_USER %{RU}e
</Location>

```

AddHandler application/x-httpd-php .php

```

Include conf/extra/php.conf
AcceptFilter http none
EnableMMAP off
EnableSendfile off
AcceptFilter https none

```

## Apache Startup

- Installing as Windows Service:

```

Prompt> cd C:\Apache24\bin
Prompt> httpd.exe -k install

```

Note: You need to run Command Prompt with **"Run as administrator"**.

- Installing Apache Monitor (optional): Double click ApacheMonitor.exe, or create a shortcut in your Startup folder.

**Note:** To uninstall service

```
Prompt> httpd.exe -k uninstall
```

## PHP 7 Installation

### Prerequisite

Microsoft Visual Studio 2012 SP3 Redistributable: MSVCR110.DLL (installed above)

### Download

- <http://windows.php.net/download/>

**Note:** The "NTS" suffix is Non-Thread Safe, and "TS" is thread-safe. Select the "TS".

**Note:** Use **PHP 7.0**, not 7.1, because currently sqlsrv driver is not yet compatible with PHP 7.1

### Installing PHP as Apache Module

- Unzip PHP zip file to C:\php folder
- Copy php.ini-development or php.ini-production file to php.ini in C:\php\
- Add this line in C:\Apache24\conf\httpd.conf, so that it looks like this:

```
LoadModule php7_module "c:/php/php7apache2_4.dll"
```

```
# ...After the LoadModuleS
AddHandler application/x-httpd-php .php
```

~~Note: the DLL file name for Apache 2.4 is php5apache2\_4.dll, but  
PHP 5.2, it is c:/php/php5apache2\_2.dll.~~

- Add this line at the end of httpd.conf:

```
Include conf/extra/php.conf
```

- Create c:\Apache24\conf\extra\php.conf:

```
# configure the path to php.ini
PHPIniDir "C:/php"

<FilesMatch \.php$>
    SetHandler application/x-httpd-php
</FilesMatch>
```

- PHP Default Time Zone Configuration:

In php.ini, change the following line to a time zone:

```
date.timezone = America/New_York
```

**Note:** You need to setup time zone, else may get warning when viewing PHP web pages (this may be displayed if you enable warnings in development configuration in php.ini):

*Warning: date(): It is not safe to rely on the system's timezone settings. You are \*required\* to use the date.timezone setting or the date\_default\_timezone\_set() function. In case you used any of those methods and you are still getting this warning, you most likely misspelled the timezone identifier. We selected the timezone 'UTC' for now, but please set date.timezone to select your timezone.*

- And set extension directory:

```
extension_dir = "C:\php\ext"
```

- Set these:

```
output_buffering = Off
max_execution_time = 300
memory_limit = 2047M
```

```
extension=php_curl.dll
extension=php_openssl.dll
extension=php_soap.dll
extension=php_sockets.dll
```

```
[curl]
curl.cainfo = C:\Tellus\ssl\ca-bundle.crt
```

```
[openssl]
openssl.cafile = C:\Tellus\ssl\ca-bundle.crt
```

Note: Copy C:\ProgramData\DesktopSystems\Git\ca-bundle.crt from a laptop.

## Microsoft SQL Server Driver Installation

### Compatibility:

sqlsrv	php
4.0	7.0
4.3	7.1

**Note:** mssql MS SQL Server driver is for PHP version  $\leq 5.3$ ; sqlsrv 2.0 works with PHP 5.2, sqlsrv 3.0 works from PHP 5.4  $< 7.0$ .

- Install ODBC 11 driver:  
<https://www.microsoft.com/en-ph/download/details.aspx?id=36434>
- Go to the SQL Server Feature Pack download page:  
<https://www.microsoft.com/en-ph/download/details.aspx?id=20098>  
SQLSRV 4.3: <https://www.microsoft.com/en-us/download/details.aspx?id=55642>
- Download SQLSRV4\*.EXE to a temporary directory
- Run SQLSRV4\*.EXE and extract to temporary directory
- Copy these files to C:\php\ext\ (x86 edition is shown here):  
php\_pdo\_sqlsrv\_7\_ts\_x86.dll  
php\_sqlsrv\_7\_ts\_x86.dll
- Add these lines in c:\php\php.ini:  
  
extension=php\_pdo\_sqlsrv\_7\_ts\_x86.dll  
extension=php\_sqlsrv\_7\_ts\_x86.dll
- Please verify that, for the thread safe version, php7ts.dll is present in the root directory of PHP

## Xdebug Installation (for Development Debugging Only)

1. Download from <http://xdebug.org/>
2. Move the downloaded dll file to C:\php\ext
3. Edit C:\php\php.ini and add the lines:

```
zend_extension=php_xdebug-2.5.5-7.0-vc14-x86_64.dll
xdebug.remote_enable=On
xdebug.remote_autostart=On
xdebug.remote_handler=dbgp
xdebug.remote_host=127.0.0.1
xdebug.remote_port=9000
xdebug.remote_mode=req
```

Should also set output\_buffering to off:

```
output_buffering = Off
```

Note: If you change the port number here, you will also need to change it in your IDE. And it is not zend\_extension\_ts (there should be no "\_ts").

## Installing Composer

<https://getcomposer.org/doc/00-intro.md#installation-windows>



Download and run [Composer-Setup.exe](#). It will install the latest Composer version and set up your PATH so that you can just call composer from any directory in your command line.

**Note:** Close your current terminal. Test usage with a new terminal: This is important since the PATH only gets loaded when the terminal starts.

## Testing PHP

- Restart Apache
- Create PHP file, `C:\Apache24\htdocs\phpinfo.php` :

```
<?php phpinfo(); ?>
```

- To test it: <http://servername/phpinfo.php>
- It should display lists of PHP configurations, including a sqlsrv section.

## Log4php Installation with Composer

Create a composer.json file in your project htdocs/ with the following content:

```
{
  "require": {
    "apache/log4php": "2.3.0"
  }
}
```

To install:

```
cd htdocs
composer install
```

To use log4php simply include vendor/autoload.php in your script.

```
require __DIR__ . '/vendor/autoload.php';
$log = Logger::getLogger("foo");
$log->info("Yay! Works!");
```

## Reference

<http://www.php.net/manual/en/install.windows.apache2.php>

# Apache 2.4 SSL Installation

Monday, November 27, 2017 11:05 AM

## Creating Private Key

Run the following command to generate a private key:

```
openssl genrsa -out tellusdevb01.key 2048
```

## Create a CSR

```
$ openssl req -new -sha256 -key tellusdevb01.key -out tellusdevb01.csr
```

You are about to be asked to enter information that will be incorporated into your certificate request.

What you are about to enter is what is called a Distinguished Name or a DN.

There are quite a few fields but you can leave some blank

For some fields there will be a default value,

If you enter '.', the field will be left blank.

-----

Country Name (2 letter code) [AU]:US

State or Province Name (full name) [Some-State]:Connecticut

Locality Name (eg, city) []:Norwalk

Organization Name (eg, company) [Internet Widgits Pty Ltd]:FactSet Research Systems

Organizational Unit Name (eg, section) []:App QA Automation

Common Name (e.g. server FQDN or YOUR name) []:tellusdevb01.pc.factset.com

Email Address []:tellusadmins@factset.com

Please enter the following 'extra' attributes

to be sent with your certificate request

A challenge password []:

An optional company name []:

## Verify your CSR

Check that checksum of CSR matches that of the private key:

```
$ openssl req -noout -modulus -in tellusdevb01.csr | openssl md5
(stdin)= 080cd971bd6b09211ecbe6bc12e7ce58
```

```
$ openssl rsa -noout -modulus -in tellusdevb01.key | openssl md5
(stdin)= 080cd971bd6b09211ecbe6bc12e7ce58
```

## Submit your CSR

Send the .csr to your system administrator.

## Converting to PEM format

Apache only uses PEM format. If you receive the CA chain in p7kcs format (.p7b) and server certificate in DER format (.cer), then you may convert to PEM format as follows.

To convert a DER file (.crt .cer .der) to PEM:

```
openssl x509 -inform der -in server.cer -out server.pem
```

### Convert PKCS7 to PEM:

```
openssl pkcs7 -print_certs -inform DER -in ca-chain.p7b -out ca-chain.pem
```

## Apache SSL Configuration

### Apache httpd.conf:

- Uncomment:  
LoadModule ssl\_module modules/mod\_ssl.so  
  
Include conf/extra/httpd-ssl.conf

### Apache httpd-ssl.conf:

- Set this to the exactly the same server.domain.com as your CSR:

```
ServerName server.domain.com:443
```

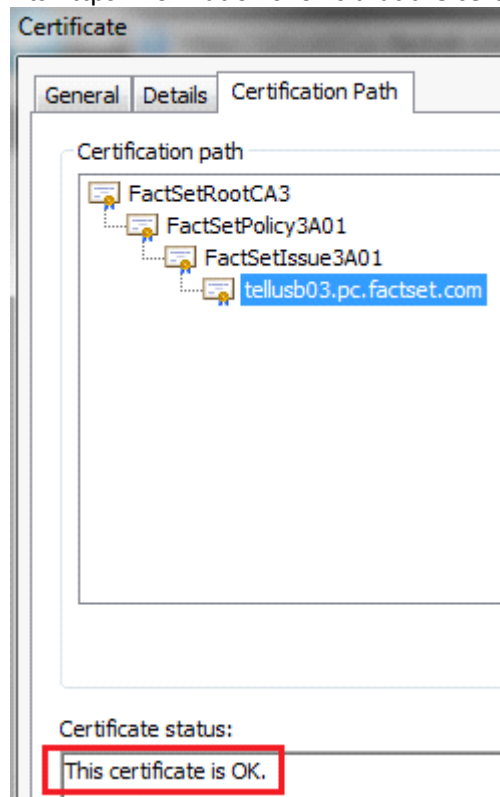
```
SSLCertificateFile "c:/Apache24/conf/cert/server.domain.com.pem"
```

```
SSLCertificateKeyFile "c:/Apache24/conf/private/server.domain.com.key"
```

```
SSLCertificateChainFile "c:/Apache24/conf/cert/ca-chain.pem"
```

## Browser HTTPS Notes

It seems Internet Explorer 11 will accept corporate Certificate Authority (CA) chain without error. Its https information shows that the certificate is okay:



But Chrome and Firefox give "Not secure" warning. You can still click "Proceed" to accept the https session.

## Reference

- <https://www.ssl.com/how-to/manually-generate-a-certificate-signing-request-csr-using-openssl/>

- <https://support.rackspace.com/how-to/generate-a-csr-with-openssl/>

# Python Apache mod\_wsgi installation

Tuesday, December 05, 2017 10:17 AM

**mod\_wsgi setup is optional, only for BVT.**

Python 3, Apache 2.4

## Installing Python

- Install Python 3.6
- SET PYTHON\_HOME=C:\Users\<username>\AppData\Local\Programs\Python\Python36-32
- SET PATH=%PYTHON\_HOME%;%PYTHON\_HOME%\Scripts;...

## Tellus Dependencies

Tellus might need these Python packages to run tests:

lxml  
simplejson  
able  
pycrypto  
pymssql  
python\_ntlm3  
python\_tds  
pywin32

- <https://sourceforge.net/projects/pywin32/files/pywin32/Build%20219/>

If your laptop does not need to run test (creating jobs is enough on laptops usually), then you don't need to install those.

## Install mod\_wsgi on Windows

Note: If you are on Windows and your Apache distribution is not installed into the directory C:/Apache24, first set the environment variable MOD\_WSGI\_APACHE\_ROOTDIR to the directory containing the Apache distribution. Ensure you use forward slashes in the directory path. The directory path should not include path components with spaces in the name.

```
pip install mod_wsgi
```

If it gets installation error, then download it:

Download: [https://www.lfd.uci.edu/~gohlke/pythonlibs/#mod\\_wsgi](https://www.lfd.uci.edu/~gohlke/pythonlibs/#mod_wsgi)

For example, select [mod\\_wsgi-4.5.22+ap24vc9-cp27-cp27m-win\\_amd64.whl](#) for 64-bit python

ap = Apache

cp27 = Cpython 2.7

## Generate Apache configuration snippet and paste in Apache httpd.conf:

```
C:\>mod_wsgi-express module-config
```

```
LoadFile "c:/users/<username>/appdata/local/programs/python/python36-32/python36.dll"  
LoadModule wsgi_module "c:/users/<username>/appdata/local/programs/python/python36-32/lib/site-  
packages/mod_wsgi/server/mod_wsgi.cp36-win32.pyd"  
WSGIPythonHome "c:/users/<username>/appdata/local/programs/python/python36-32"
```

### httpd.conf:

```
LoadFile "c:/users/<username>/appdata/local/programs/python/python36-32/python36.dll"  
LoadModule wsgi_module "c:/users/<username>/appdata/local/programs/python/python36-32/lib/site-  
packages/mod_wsgi/server/mod_wsgi.cp36-win32.pyd"  
WSGIPythonHome "c:/users/<username>/appdata/local/programs/python/python36-32"
```

```
<Directory "c:/server/cgi-bin">
  SetHandler wsgi-script
  Options Indexes ExecCGI
  AllowOverride None
  Order deny,allow
  require all granted
</Directory>

<IfModule wsgi_module>
  WSGIScriptAlias /hello "C:/server/cgi-bin/hello.py"
</IfModule>
```

## Example WSGI Script

[C:\server\cgi-bin\hello.py](#):

```
#!/usr/bin/python
from cgi import parse_qs, escape

def application(environ, start_response):
    status = '200 OK'
    output = b'Hello World!'

    response_headers = [('Content-type', 'text/plain'),
                        ('Content-Length', str(len(output)))]
    start_response(status, response_headers)

    return [output]
```

## Usage

<http://localhost/hello>

### Output:

Hello World!

# PhpStorm Debugging Setup

Tuesday, May 27, 2014 2:27 PM

## Setup PHP runtime

1. Select **File > Settings**
2. Select **Languages and Frameworks**
3. Select **PHP**
4. Click [...] to add a new **Interpreter**
5. Click **[+]**
6. Enter **Name**
7. Select **PHP executable**, for example, C:\php\php.exe
8. Click **OK**
9. Click **OK**

## Debug Configuration

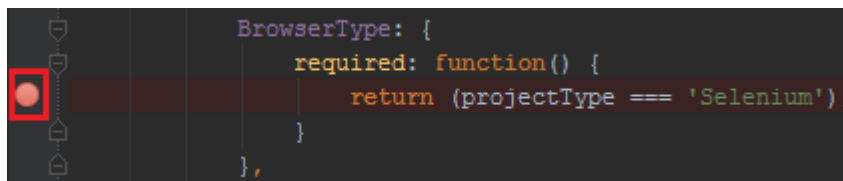
1. Select **Run > Edit Configurations** on menu
2. **Defaults > PHP Remote Debug**
3. It shows Servers dialog
4. Click **+** to add server in PhpStorm v6.0, or [...] button in v7.0, or select existing server configuration
5. Enter **Name** (your configuration name), for example, localhost (for <http://localhost>)
6. Enter server host name and port, and debugger (Xdebug), for example:  
**Host:** myserver  
**Port:** 80  
**Debugger:** XDebug
7. **OK**

## Start listening on remote debugging

1. Select **Run > Start Listen Remote PHP Debug Connections**

## Using Debugger

Click in the margin of editor to add breakpoints.



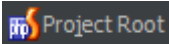
After "**Start Listen Remote PHP Debug Connections**", just enter URL in browser as you would normally view web pages (the URL refers to PHP page from the web server.) PhpStorm will automatically stop at your breakpoints.

**Troubleshooting:** Your PC firewall might block remote debugging if the web server is remote. You would need to open remote debugging port 9000.

# PhpStorm: Creating Project from Existing Files

Tuesday, May 27, 2014 2:05 PM

Creating PhpStorm Project from Existing Files:

1. Select "**New Project from Existing Files...**"
2. Select "**Web server is installed locally, source files are located under its document root**"
3. Click **Next**
4. Select **project directory**
5. **IMPORTANT:** Must click Project Root button, else cannot click Next  
The image shows a button with the PhpStorm logo (a stylized 'P' with a blue and orange gradient) and the text 'Project Root' in a dark, rounded rectangular button.
6. Click **Next**
7. Click "**Use existing server**" if already have local Web server defined; else click "**Add new local server**"
8. Click **Next**
9. **Note:** You need web server started.
10. Enter **Web path for project root** 'C:\file\path\to\myproject': path/to/myproject
11. **Note:** What you enter will be appended to <http://localhost/> to be the URL to access your web app, for example, <http://localhost/path/to/myproject>
12. Click **Finish**



# Eclipse PDT Debugging Setup

Tuesday, May 27, 2014 2:14 PM

Note: I recommend PhpStorm. Eclipse PDT might give you less optimal experience.

Eclipse with PDT (PHP Development Tool)

With XAMPP (or standalone Apache and PHP), and Xdebug

1. Select **Window > Preferences**
2. Configuring PHP Executable:
  - a. Select **PHP > PHP Executable**
  - b. **Name:** PHP 5.2
  - c. **Executable path:** C:\xampp\php\php.exe (for XAMPP); or C:\php\php.exe for standalone PHP installation
  - d. **PHP ini file** (optional): C:\xampp\php\php.ini (for XAMPP); or C:\php for standalone PHP installation)
  - e. **SAPI Type:** CLI (default)
  - f. **PHP Debugger:** Xdebug
  - g. Click **OK**
3. Configuring Web Server:
  - a. Select **PHP > Debug**, again
  - b. Click **PHP Servers...** for "Default PHP Web Server"
  - c. Under **Server** tab
  - d. **Base URL:** <http://localhost>
  - e. **Local Web Root:** C:\xampp\htdocs (for XAMPP); or C:\Apache24\htdocs for standalone Apache installation.
4. Configuring Debugger:
  - a. Select **PHP > Debug > Installed Debuggers**
  - b. Select **XDebug**
  - c. Click **Configure**
  - d. Set **Debug Port** to **9000** (matching the port in php.ini)
  - e. Select **"any"** for **"Accept remote session (JIT)"**
  - f. Click **OK**
5. Debugger Preferences:
  - a. Select **Window > Preferences**
  - b. Select **PHP > Debug**
  - c. Select **PHP Server** from above
  - d. Select **PHP Executable** from above
  - e. Check **Enable CLI Debug**
  - f. Check or uncheck **Break at First Line**  
Note: PDT 4.4.1 (with Apache 2.4, PHP 5.4) is okay with it unchecked.
  - g. Click **OK**

Note: For best results, use all win32 versions of Java and Eclipse.

**Testing Notes:** This crashes Apache web server with exception sometimes (when you make page request and debugging). If debugging session shows popup error "process stopped", you could ignore it and still debug. It is also slightly slower.

# Aptana Studio 3 Debugging Setup

Tuesday, May 27, 2014 2:13 PM

Note: I recommend PhpStorm. Aptana might give you less optimal experience.

## Aptana Studio 3 Xdebug Configuration

1. In Aptana, select **Window > Preferences**
2. Select **Aptana Studio > Editors > PHP > Debug**
3. Set Xdebug port to **9000** (matching the php.ini)
4. Select **Aptana Studio > Editors > PHP > PHP Interpreter**
5. Click **Add**
6. Enter,
  - Name: **PHP 5.4**
  - Executable path: **C:\php\php.exe**
  - PHP ini file (optional): **C:\php\php.ini**
  - PHP Debugger: **Xdebug**
7. Click **OK**

## Using Debugger

1. Now Aptana will stop at breakpoints when external browser requests the PHP page that has the breakpoints.
2. For the first time, it prompts *"Do you want to stop on first line"*
3. Answer **NO**

**IMPORTANT:** Do **not** answer yes to "stop on first line", as that option stops on first line whenever you run the PHP script from external browser.

1. While debugging as web script for the first time, it will prompt *"Do you want to switch to debug view when breakpoint is hit?"*
2. Answer **Yes**

# Visual Studio Code PHP setup

Monday, November 27, 2017 3:01 PM

<https://marketplace.visualstudio.com/items?fitemname=felixfbecker.php-debug>

# PHP Development Tools Evaluation

Thursday, January 08, 2015 8:43 AM

## PHP Development Tools (PDT)

Debugging breakpoint works as PHP CLI and Web application.

In v3.4 release, Step (Over/In) does not advance to the next line; but fixed in latest nightly.

## PHPEclipse 1.2.3

Run As > PHP DBG error: "could not find file: test.php"

## EasyEclipse 1.2.2.2

Debugging doesn't work.

# Tellus Resource Links

Friday, May 08, 2015 2:31 PM

## **Tellus Test Manager Kibana Dashboard**

<http://log.factset.com/kibana/#/dashboard/file/ga.tellus.tm>

## **Selenium Grid Directory**

<http://infonet.factset.com/view/QualityAssurance/SeleniumGridDirectory>

## **iOS Testing Information**

<http://infonet.factset.com/view/QualityAssurance/IOSTestingWithAppium>

## **Selenium Builder Information**

<http://infonet.factset.com/view/QualityAssurance/SeleniumBuilder>

# Java resources

Wednesday, July 22, 2015 8:23 AM

## Java Training

WebSocket tutorial:

<http://tomcat-configure.blogspot.com/2014/05/tomcat-websocket-example.html>

Multi-threading tutorial:

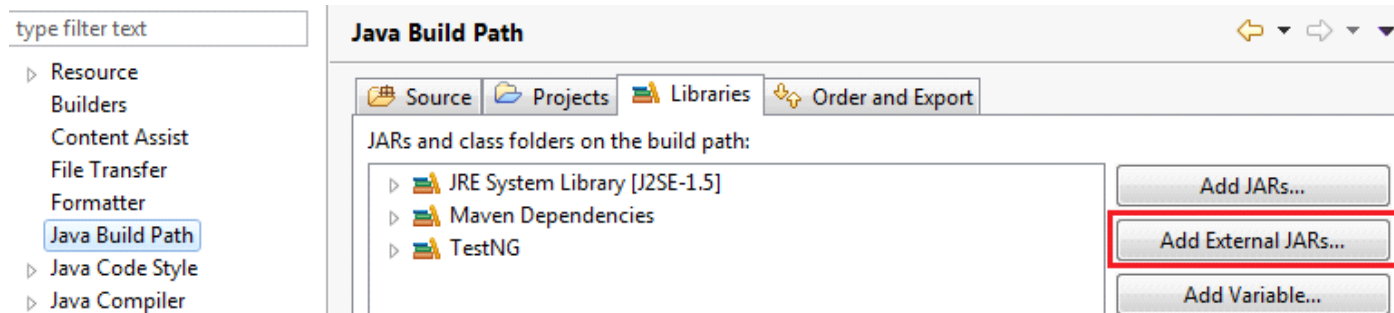
<http://docs.oracle.com/javase/tutorial/essential/concurrency/>

# SQL Server JDBC Driver Setup

Monday, August 03, 2015 10:32 AM

## JDBC Driver Setup:

- Download sqljdbc version 4.1:  
<https://www.microsoft.com/en-us/download/details.aspx?id=11774>
- Unzip to a directory
- Right-click project
- Select **Java Build Path**
- Click **Add External Jars**



- Select **sqljdbc41.jar**
- Click **OK**

# Eclipse TestNG Setup

Monday, August 03, 2015 10:32 AM

In pom.xml, add under <dependencies>:

```
<dependency>
  <groupId>org.testng</groupId>
  <artifactId>testng</artifactId>
  <version>6.1.1</version>
  <scope>test</scope>
</dependency>
```

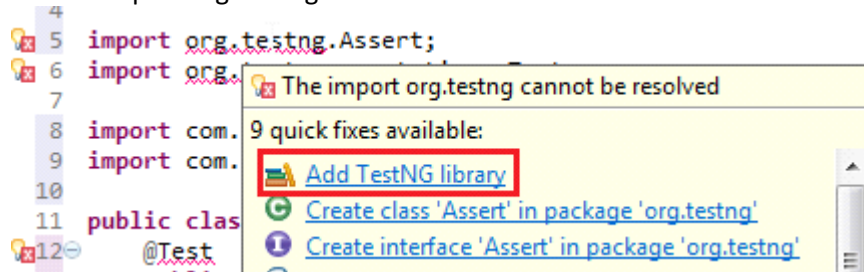
Running TestNG test:

Select src/test/java/<package>/<test-class.java>

Right-click <test-class.java>

Select Run As > TestNG Test

Or Add import org.testing





# Using RestfulSchedulingService Eclipse Maven project from Gitlab

Tuesday, August 18, 2015 7:48 AM

## Cloning Gitlab Project

- Go to gitlab project:  
<https://gitlab.factset.com/app-qa-automation/RestfulSchedulingService>
- Click **SSH**
- Copy SSH URL:  
`git@gitlab.factset.com:app-qa-automation/RestfulSchedulingService.git`
- Clone the project repository:  
`cd myprojects`  
`git clone git@gitlab.factset.com:app-qa-automation/RestfulSchedulingService.git`

## Importing into Eclipse

- Select **File > Import...**
- Select **Maven > Existing Maven Projects**
- Click **Browse...** for **Root Directory**
- Select the project directory above
- Click **OK**
- Click **Finish**

## Associating TomEE Runtime with the Project

- Right-click the project
- Click **Properties**
- Click **Project Facets**
- Click **Java** (under Project Facet)
- Select version **1.8** for Java
- Click **Runtimes** tab (on the right)
- Check the TomEE server
- Click **OK**

## Updating pom.xml Outside Eclipse

If you update pom.xml outside Eclipse, you might need to update Eclipse project as well:

- Right-click the project
- Select **Maven > Update Project...**

# Java code convention

Tuesday, September 08, 2015 9:19 AM

<http://javascript.crockford.com/javacodeconventions.pdf>

# FactSet: FocalPoint Environment

Friday, July 19, 2013 1:08 PM

## FocalPoint VM Link

We deploy the QA Playlist VMs using the fp link: <http://focalpoint.factset.com/Environments.aspx>.

- Select QA Single Use (upper-right corner)
- Search for QAAutoWin8
- Click its green arrow
- Enter description
- Select Single Use Limit: 12 Hours
- Select Maximum Lifetime: 2 Days
- Select Network Access: Internal
- Click OK

Search for “QAAutoWin8” for our the machines used by the QAAutomation team. See screenshot below:



VM deploy timeout is 35 minutes.

## FocalPoint web service

<http://focalpoint-mdtswebb.prod.factset.com/WebService/EnvironmentsService.svc>

Home Page:

<http://focalpoint.factset.com/Environments.aspx>

# QA Automation service accounts

Friday, October 21, 2016 7:24 AM

## **svc-qaoutlook**

Outlook account for [RPD:23938604](#).

# Tellus API

Friday, November 04, 2016 10:23 AM

Tellus API documentation:

[http://tellusdevb01.pc.factset.com/qadocs/tellus\\_api\\_specification.html](http://tellusdevb01.pc.factset.com/qadocs/tellus_api_specification.html)