

# Installing QST

- Always check you have the latest version by going to <https://sourceforge.net/projects/qstonline/>

QST should only be run under SSL.

Minimum computer requirements - 4 core cpu (4vcpu) and 8 GB ram.

Do not install any of the components through LAMP, WAMP, XAMPP or MAMP, nor use any other installers. Do not run php on the webserver only mod\_perl. Our instructions will give you a secure QST installation. Only allow ports 80 and 443 through firewall.

Ubuntu/Linux installation instructions after Windows Install.

AWS install after Ubuntu/Linux. LDAP after linux.

Mac install at end.

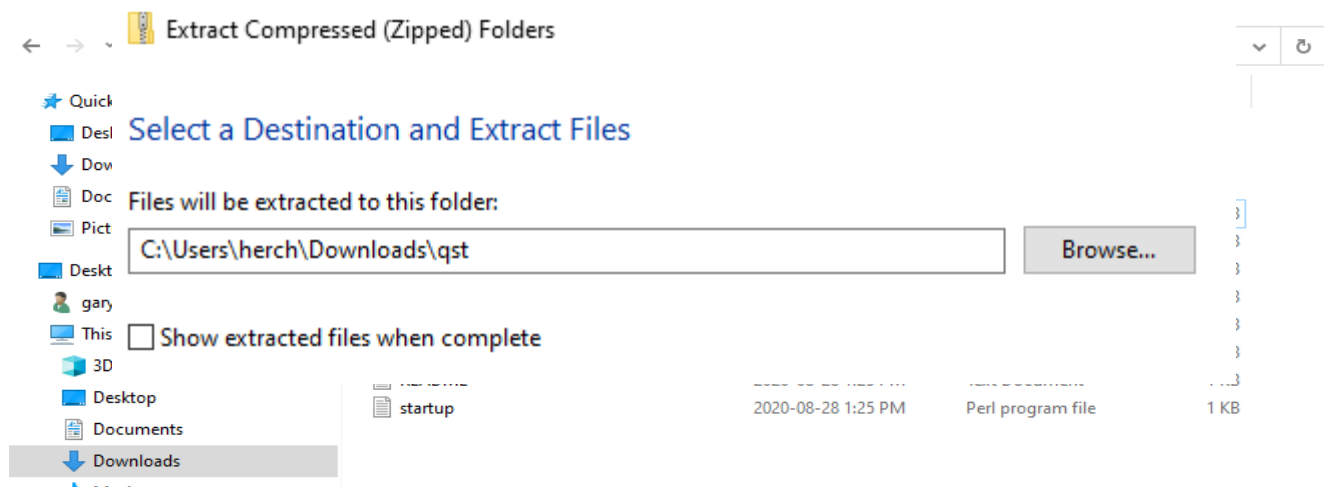
If you are upgrading, read the README.txt file.

---

## WINDOWS 10/11 INSTALL

QST writes errors to C:\Apache24\logs\error.log.

Extract qst.zip in your Downloads folder (will create a folder called qst\_gpl).



Go to the folder qst\qst\_gpl\qst\WINQST\_files in your Downloads folder.

-----  
Install Apache

Extract the httpd-2.4.43-win64-VS16 to [C:\](#) , so we end up with it at [C:\Apache24](#) (that is the ServerRoot in the config)

The default folder for your your webpages is DocumentRoot "C:\Apache24\htdocs"

When you extract to another location:

change Define SRVROOT "C:\Apache24" in httpd.conf, for example to "E:\Apache24"

Run and test:

Open a command prompt window.

To Start Apache in the command prompt type:

`cd /`

Press enter.

Type:

`cd \Apache24\bin`

Press enter.

then type:

`httpd.exe`

Press Enter.

If there are any errors it will tell you.

Warnings will not stop Apache from working, they do need to be addressed none the less.

If there are no errors the cursor will sit and blink on the next line.

You can test your installation by opening up your Browser and typing in the address:

`http://localhost`

You can shut down Apache by pressing Ctrl+C (It may take a few seconds)

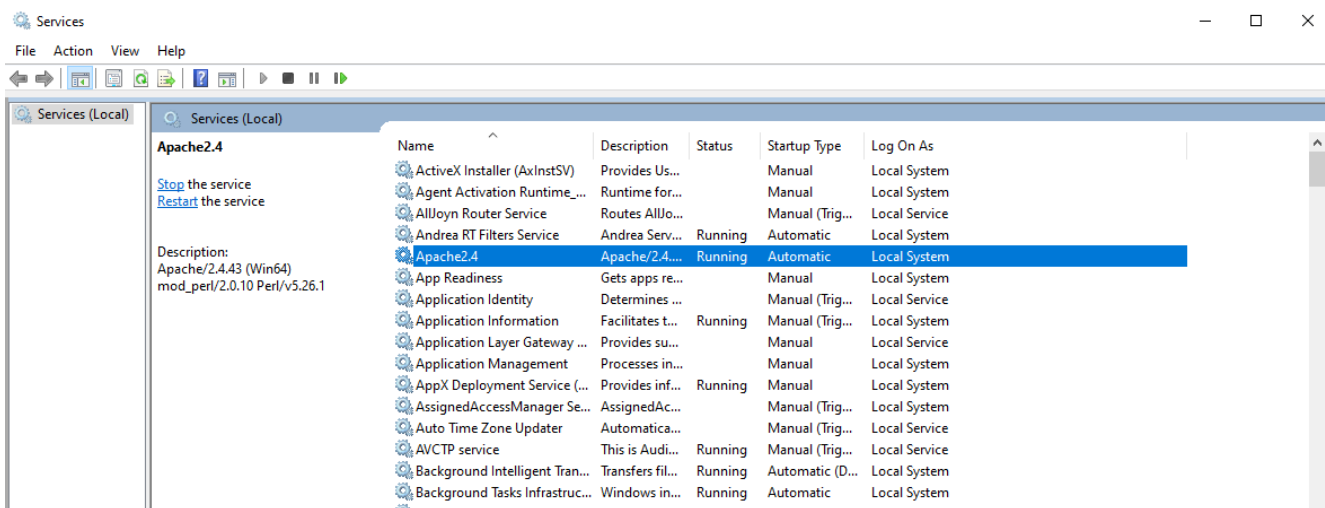
To restart Apache type:

`httpd -k restart`

To install as a service. Open command prompt as Administrator and type:

`>httpd.exe -k install`

Then, you can click Start -> Windows Administrative Tools -> Services and can start and stop it here. Right click on Apache2.4 and click Start or Stop.

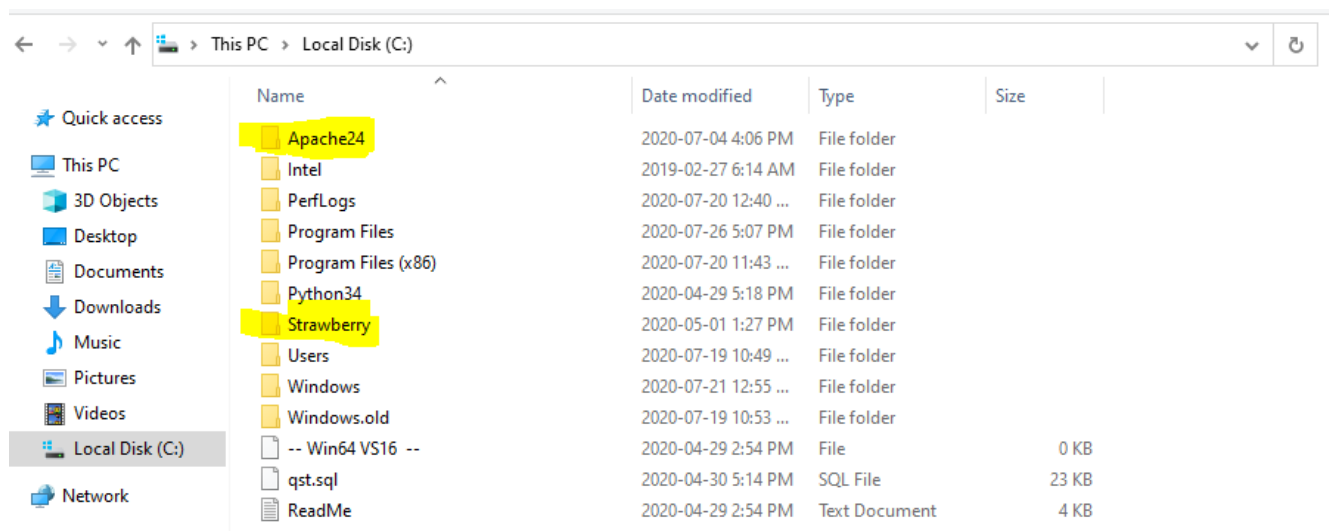


## Perl

Run strawberry-perl-5.26.1.1-64bit  
Install to C:\Strawberry.

Under C:\Strawberry you should now see folders:

cpan, c, perl, licenses, and win32



## ModPerl

Unzip mod\_perl-2.0.10-strawberryperl.5.26.1.1-64bit.zip .

Go to the unzipped folder.

Copy the folders (bin, include, lib, modules) under Apache24 to

C:\Apache24

Copy the perl folder under Strawberry to [C:\Strawberry](#)  
It will replace the perl folder already there.

-----

Open C:\Apache24\conf\httpd.conf

Add the following line after the list of LoadModules:  
LoadModule perl\_module modules/mod\_perl.so

Save file.

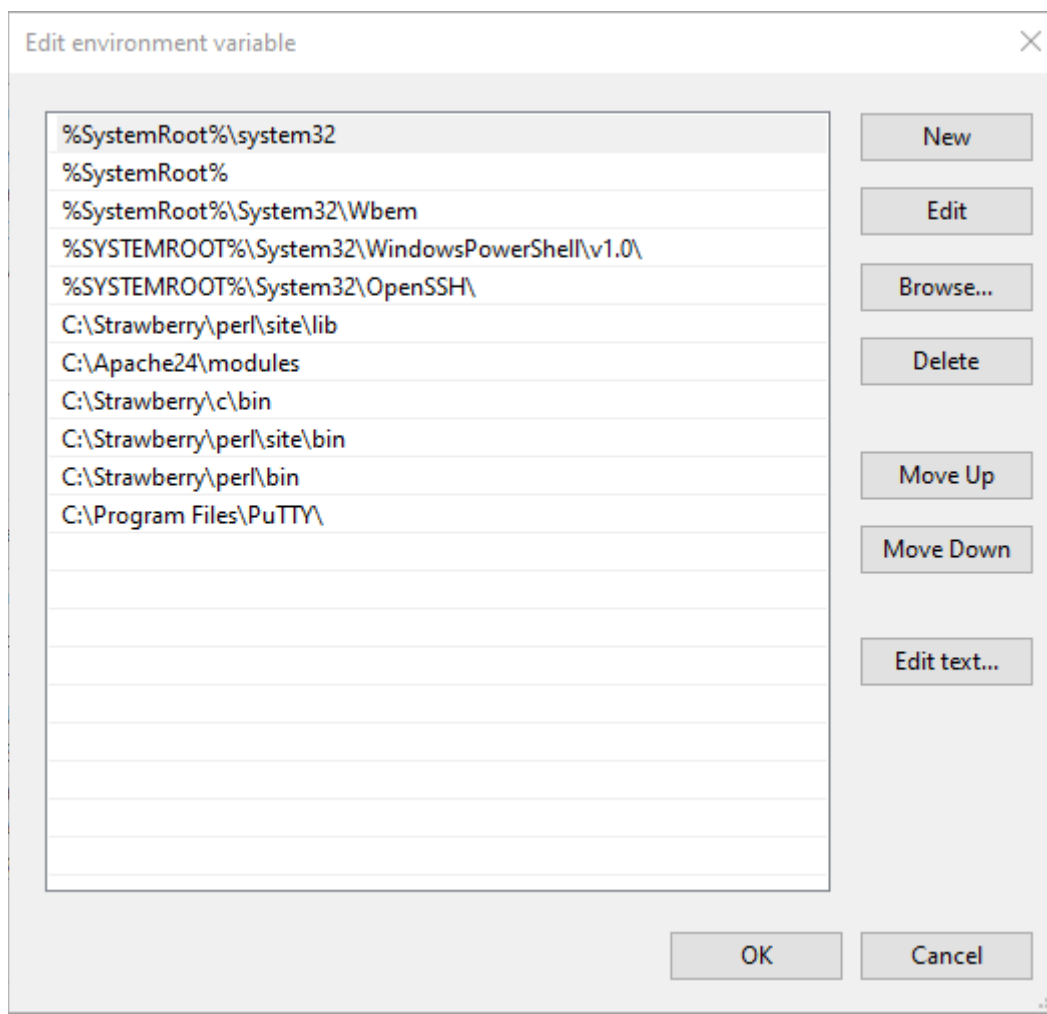
-----

Go to Windows Windows System > Control Panel > System and Security > System >  
Advanced System Settings > Environment Variables > System Variables > Click on Path  
> Edit > New >

C:\Apache24\modules

C:\Strawberry\perl\site\lib

> OK > OK > OK. Be sure not to corrupt anything that's already there.



Make sure Apache is installed and running correctly.

To Start Apache in the command prompt type:

```
cd \Apache24\bin
```

Press enter.

then type:

```
httpd.exe
```

Press enter.

Go to <http://localhost/>.

You should see the Apache 'splash page' if Apache is working properly.

Do not proceed unless Apache is working.

-----  
Install Visual Studio 2013

You are missing VCRUNTIME140.dll which is part of visual studio 2013 and you should go to microsoft and download vc\_redist\_x86.exe and vc\_redist\_x64.exe and install them. This used to get installed with MySQL but no longer from what we encountered.

-----  
Install MySQL

The MySQL installer now asks if you want to upgrade, you don't.

Run `mysql-installer-web-community-5.7.29.0`

Choose Server Only

Next

Click on MySQL server and click Execute

Next or execute

Choose Standalone MySQL Server

Next

Config Type: Server Computer

Next

MySQL root password: your choice

Write down password you entered.

Add User

Username: qstuser

Host: localhost

Role: DB Manager

Password: Qstyreg#389

OK

Next

Execute  
Finish

In windows Start Menu click on MySQL Command line client  
In Dos window enter your root password from above, then:

```
mysql>CREATE DATABASE qst;  
  
mysql>create user 'qst'@'localhost' identified by 'Qst#captain2';  
  
mysql>grant SELECT, INSERT, DELETE,UPDATE ON qst.* TO 'qst'@'localhost';  
  
mysql>exit
```

Install the database tables:

- qst.sql is in your qst\_gpl\qst folder (in your Downloads)

Copy qst.sql to C:\Strawberry

In windows search bar type in cmd, Select the Run as Administrator.  
At the command prompt as administrator type:

cd /

Press enter.

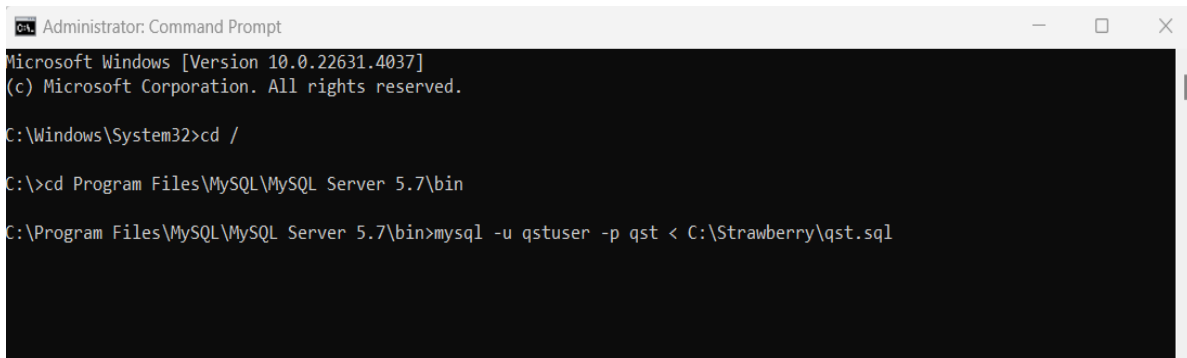
Then type:

cd Program Files\MySQL\MySQL Server 5.7\bin

Press enter.

Then type in:

```
mysql -u qstuser -p qst < C:\Strawberry\qst.sql  
password is Qstyreg#389
```



```
Administrator: Command Prompt  
Microsoft Windows [Version 10.0.22631.4037]  
(c) Microsoft Corporation. All rights reserved.  
  
C:\Windows\System32>cd /  
  
C:\>cd Program Files\MySQL\MySQL Server 5.7\bin  
  
C:\Program Files\MySQL\MySQL Server 5.7\bin>mysql -u qstuser -p qst < C:\Strawberry\qst.sql
```

Press enter.

Delete qst.sql from C:\Strawberry

Open C:\ProgramData\MySQL\MySQL Server 5.7\my.ini and change the following:

```
max_connections=350  
innodb_buffer_pool_size=1028  
innodb_thread_concurrency=500  
max_connect_errors=200
```

thread\_cache\_size=50

Under thread\_cache\_size=50

Add:

back\_log=200

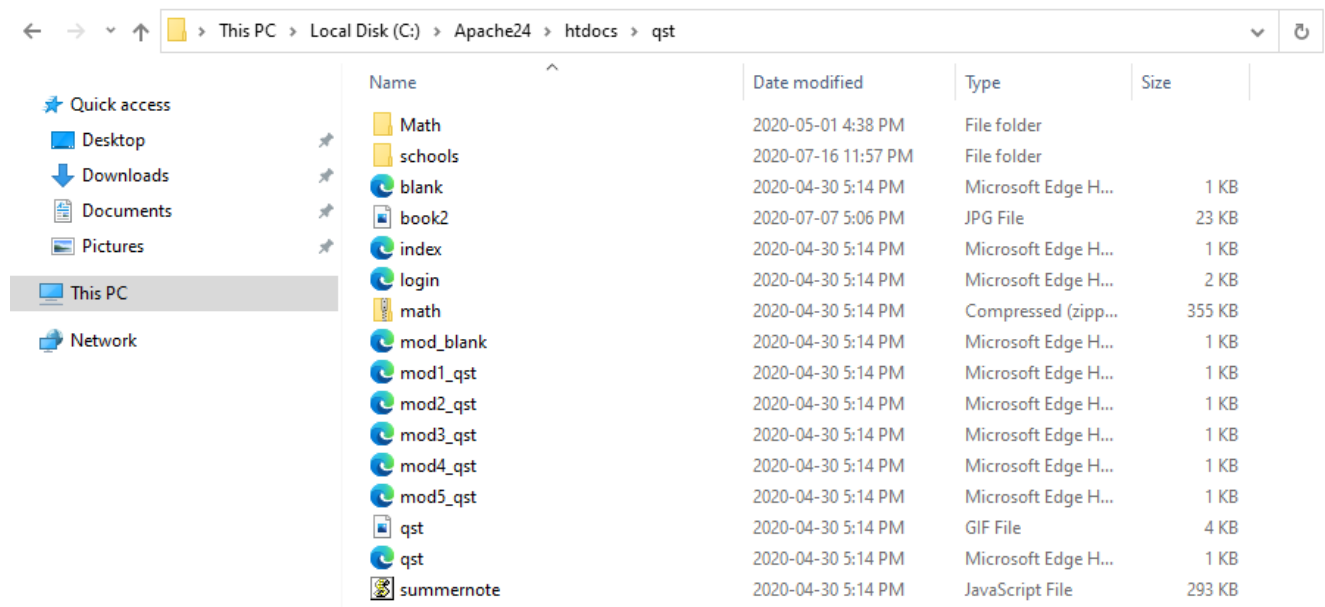
Stop and start MySQL.

-----  
Create the folder C:\Apache24\htdocs\qst

Copy the contents of \qst\qst\_gpl\qst (has index.htm, blank.htm, login.htm, etc. in it) folder (in your Downloads) to C:\Apache24\htdocs\qst\

Create the folder C:\Apache24\htdocs\qst\schools

Copy the contents of \qst\qst\_gpl\schools folder (in your Downloads) to C:\Apache24\htdocs\qst\schools\



| Name       | Date modified       | Type                | Size   |
|------------|---------------------|---------------------|--------|
| Math       | 2020-05-01 4:38 PM  | File folder         |        |
| schools    | 2020-07-16 11:57 PM | File folder         |        |
| blank      | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| book2      | 2020-07-07 5:06 PM  | JPG File            | 23 KB  |
| index      | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| login      | 2020-04-30 5:14 PM  | Microsoft Edge H... | 2 KB   |
| math       | 2020-04-30 5:14 PM  | Compressed (zipp... | 355 KB |
| mod_blank  | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| mod1_qst   | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| mod2_qst   | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| mod3_qst   | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| mod4_qst   | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| mod5_qst   | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| qst        | 2020-04-30 5:14 PM  | GIF File            | 4 KB   |
| qst        | 2020-04-30 5:14 PM  | Microsoft Edge H... | 1 KB   |
| summernote | 2020-04-30 5:14 PM  | JavaScript File     | 293 KB |

-----  
Copy WINQST.pm (under \qst\qst\_gpl\WINQST\_files folder) to C:\Strawberry\perl\site\lib\Apache\

Rename WINQST.pm to QST.pm

|                                                                             |   |                  |   |                    |             |          |
|-----------------------------------------------------------------------------|---|------------------|---|--------------------|-------------|----------|
| ← → ↕ ⬆ This PC > Local Disk (C:) > Strawberry > perl > site > lib > Apache |   |                  |   |                    | ▼           | ↻        |
| ▼ Local Disk (C:)                                                           | ^ | Name             | ^ | Date modified      | Type        | Size     |
| > Apache24                                                                  |   | SizeLimit        |   | 2020-05-01 1:30 PM | File folder |          |
| > Intel                                                                     |   | AuthDBI          |   | 2013-06-12 1:26 AM | PM File     | 58 KB    |
| PerfLogs                                                                    |   | DBI              |   | 2013-06-12 1:22 AM | PM File     | 21 KB    |
| > Program Files                                                             |   | QST              |   | 2020-08-12 4:01 PM | PM File     | 2,754 KB |
| > Program Files (x86)                                                       |   | Reload           |   | 2020-05-01 1:04 AM | PM File     | 9 KB     |
| > Python34                                                                  |   | SizeLimit        |   | 2020-05-01 1:04 AM | PM File     | 17 KB    |
| ▼ Strawberry                                                                |   | Test             |   | 2020-05-01 1:04 AM | PM File     | 30 KB    |
| > c                                                                         |   | Test5005compat   |   | 2020-05-01 1:04 AM | PM File     | 2 KB     |
| > cpan                                                                      |   | TestBuild        |   | 2020-05-01 1:04 AM | PM File     | 15 KB    |
| licenses                                                                    |   | TestClient       |   | 2020-05-01 1:04 AM | PM File     | 6 KB     |
| ▼ perl                                                                      |   | TestCommon       |   | 2020-05-01 1:04 AM | PM File     | 3 KB     |
| bin                                                                         |   | TestCommonPost   |   | 2020-05-01 1:04 AM | PM File     | 6 KB     |
| > lib                                                                       |   | TestConfig       |   | 2020-05-01 1:04 AM | PM File     | 60 KB    |
| ▼ site                                                                      |   | TestConfigC      |   | 2020-05-01 1:04 AM | PM File     | 12 KB    |
| bin                                                                         |   | TestConfigParrot |   | 2020-05-01 1:04 AM | PM File     | 3 KB     |
| ▼ lib                                                                       |   | TestConfigParse  |   | 2020-05-01 1:04 AM | PM File     | 16 KB    |
| > Apache                                                                    |   | TestConfigPerl   |   | 2020-05-01 1:04 AM | PM File     | 20 KB    |
| > Apache2                                                                   |   | TestConfigPHP    |   | 2020-05-01 1:04 AM | PM File     | 18 KB    |
| > APR                                                                       |   | TestHandler      |   | 2020-05-01 1:04 AM | PM File     | 6 KB     |
| > auto                                                                      |   | TestHarness      |   | 2020-05-01 1:04 AM | PM File     | 6 KB     |
|                                                                             |   | TestHarnessPHP   |   | 2020-05-01 1:04 AM | PM File     | 5 KB     |
|                                                                             |   | TestMB           |   | 2020-05-01 1:04 AM | PM File     | 12 KB    |
|                                                                             |   | Test+MM          |   | 2020-05-01 1:04 AM | PM File     | 0 KB     |

-----

Copy the httpd.conf file supplied under the qst\qst\_gpl\qst\WINQST\_files folder (in your Downloads) to C:\Apache24\conf\

Install Perl modules For Strawberry perl (at C:\ prompt) as administrator.  
 - if you get a complaint about not being a recognized program, restart your computer.

```
run:
cpan -i Apache::DBI
cpan -i Net::DNS
cpan -i Net::LDAP
cpan -i Crypt::PBKDF2
cpan -i MIME::Base64
cpan -i Archive::Zip
cpan -i Exporter
```

-----

Restart the apache server.

Go to localhost in your web browser and enter the info. below:

```
username: admin
pass: qstcaptain
```

\*\*\*\*\* Change the password!!  
 Click on Server then Administration.  
 Click on Head Administrator and select Password. Change the password and Save it.

To set up SSL:

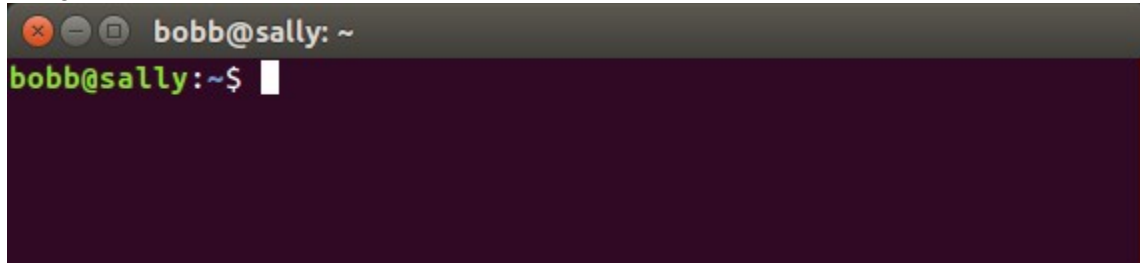
Go to <https://letsencrypt.org/> to get a certificate:  
Use letsencrypt-win-simple client

---

## UBUNTU/LINUX Install:

Everything should be done in a terminal window.

The



install of MySQL will install their latest stable release 8.x .

When unzipped, the files will be under qst\_gpl directory.

Installation on Ubuntu 2x.x.

- Ubuntu 20.x the version of Perl you are running is 5.30.0
- Ubuntu 22.x the version of Perl you are running is 5.34.0
- Ubuntu 24.x the version of Perl you are running is 5.38.2
- Other versions of Ubuntu:
  - get the version of perl, run:  
perl -v
  - if different then 5.30.0 you will have to change /home/MyApache2/startup.pl  
to reflect the path to perl with the version number  
eg. /usr/local/lib/x86\_64-linux-gnu/perl/5.30.0  
change the 5.30.0 to the version number displayed by running the  
above
- mod\_perl is version 2.x
- QST writes errors to /var/logs/apache2/error.log

1. run:

```
sudo apt-get install build-essential
```

- install apache 2

```
sudo apt install apache2
```

```
sudo service apache2 start
```

```
sudo service apache2 stop
```

- install mod\_perl

```
sudo apt-get -f install
```

```
sudo apt-get -y install libapache2-mod-perl2
```

```
run: a2enmod perl.load
```

```
Enabling conf mod_perl.
```

```
To activate the new configuration, you need to run:
```

```
sudo service apache2 reload  
or  
sudo systemctl restart apache2
```

```
under /var/www run:
```

```
sudo mkdir qst
```

```
then under /var/www/qst run:
```

```
sudo mkdir schools  
sudo chmod 777 schools
```

```
then under /var/www/qst/schools run:
```

```
sudo mkdir qst_files  
sudo chmod 777 qst_files
```

```
then under /var/www/qst/schools/qst_files run:
```

```
sudo mkdir photos  
sudo chmod 777 photos
```

```
cd to /etc/apache2/sites-available
```

```
sudo vi 000-default.conf
```

```
change Document root to /var/www/qst
```

```
save
```

```
run:
```

```
cd /home
```

```
sudo mkdir MyApache2
```

```
cd 'to directory you unzipped qst into'
```

```
sudo cp QST.pm /home/MyApache2
```

```
sudo cp startup.pl /home/MyApache2
```

```
cd /home/MyApache2
```

```
sudo chmod 711 startup.pl
```

```
sudo chmod 715 QST.pm
```

```
run:
```

```
sudo vi /etc/apache2/apache2.conf
```

Paste the following in above # AccessFileName: The name of the file to look for in each directory :

```
StartServers 10
```

```
MaxRequestWorkers 10000
```

```
ServerLimit 100
```

```
ThreadsPerChild 100
```

```
ThreadLimit 100
```

```
PerlModule Apache::DBI
```

```
PerlRequire /home/MyApache2/startup.pl
```

```
<Location /qst>
```

```
        SetHandler perl-script
        PerlResponseHandler MyApache2::QST
</Location>
```

close apache2.conf

run:  
sudo vi /etc/apache2/sites-enabled/000-default.conf

Paste the following in under the DocumentRoot directive:

```
        PerlInterpStart      20
        PerlInterpMax        100
        PerlInterpMaxSpare   20
```

close 000-default.conf

run:  
sudo apt-get install perl-doc  
sudo perl -MCPAN -e 'install Bundle::DBI'

2. install mysql (installs latest version 8.x):

run:  
sudo apt-get update  
sudo apt-get install mysql-server

- if it did not ask for a password when installing mysql (version 8.x) run:  
sudo mysql -u root -p  
or  
mysql -u root -p

Press Enter

```
mysql>ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY
'your_new_password_here';
```

then:  
mysql>CREATE DATABASE qst;

If MySQL 8.x:

```
mysql>CREATE USER 'qstuser'@'localhost' IDENTIFIED BY 'Qstyreg#389';
mysql>grant all on qst.* to qstuser@localhost;
```

```
mysql>CREATE USER 'qst'@'localhost' identified by 'Qst#captain2';
mysql>grant SELECT, INSERT, DELETE,UPDATE ON qst.* TO qst@localhost;
```

else if prior version:

```
mysql>grant usage on *.* to qstuser@localhost identified by 'Qstyreg#389';
mysql>grant all privileges on qst.* to qstuser@localhost;
mysql>grant usage on *.* to qst@localhost identified by 'Qst#captain2';
mysql>grant SELECT, INSERT, DELETE,UPDATE ON qst.* TO 'qst'@'localhost';
```

then log out of the MySQL shell:  
mysql>exit;

and type the following in the terminal window:

```
mysql -u qstuser -p qst < //path to directory you unzipped qst to//qst_gpl/qst.sql
```

```
go to /etc/mysql/mysql.conf.d
open mysqld.cnf
```

```
under the [mysqld] section,
replace:
    #socket = /var/run/mysqld/mysqld.sock
with:
    socket = /run/mysqld/mysqld.sock
```

Save the file.

```
3. run:
sudo apt-get update
sudo cpan Email::Valid
sudo apt-get install libcrypt-pbkdf2-perl
sudo apt-get install libdbd-mysql-perl
sudo cpan -i Net::DNS
sudo cpan -i Net::LDAP
sudo cpan -i Mail::Address
sudo cpan -i MIME::Base64
sudo cpan -i Archive::Zip
sudo cpan -i Exporter
sudo perl -MCPAN -e 'install Apache::DBI'
```

Copy the **contents** of `/'path to directory you unzipped qst to'/qst_gpl/qst` directory or if you downloaded `qst_linux_mac.zip` the **contents** of `/qst_linux/qst/` to `/var/www/qst/`

The **contents** of `/var/www/qst/` should include `index.htm`, `blank.htm`, `login.htm`, `mod1_qst.htm`, etc. a `Math` folder and a `schools` folder in it. See below:

|                         |           |             |   |
|-------------------------|-----------|-------------|---|
| Math                    | 17 items  | 28 Mar 2025 | ☆ |
| arrow.png               | 484 bytes | 28 Mar 2025 | ☆ |
| blank.htm               | 437 bytes | 28 Mar 2025 | ☆ |
| book1.jpg               | 23.5 kB   | 28 Mar 2025 | ☆ |
| book2.jpg               | 7.7 kB    | 28 Mar 2025 | ☆ |
| branch.png              | 713 bytes | 28 Mar 2025 | ☆ |
| index.htm               | 393 bytes | 28 Mar 2025 | ☆ |
| login.htm               | 2.1 kB    | 28 Mar 2025 | ☆ |
| login_icon.jpg          | 2.5 kB    | 28 Mar 2025 | ☆ |
| mobile_qst.htm          | 2.9 kB    | 28 Mar 2025 | ☆ |
| mod1_qst.htm            | 364 bytes | 28 Mar 2025 | ☆ |
| mod2_qst.htm            | 364 bytes | 28 Mar 2025 | ☆ |
| mod3_qst.htm            | 335 bytes | 28 Mar 2025 | ☆ |
| mod4_qst.htm            | 335 bytes | 28 Mar 2025 | ☆ |
| mod5_qst.htm            | 335 bytes | 28 Mar 2025 | ☆ |
| modal_qst.htm           | 1.6 kB    | 28 Mar 2025 | ☆ |
| mod_blank.htm           | 647 bytes | 28 Mar 2025 | ☆ |
| pheasant.jpg            | 19.0 kB   | 28 Mar 2025 | ☆ |
| qst.gif                 | 3.8 kB    | 28 Mar 2025 | ☆ |
| qst.htm                 | 378 bytes | 28 Mar 2025 | ☆ |
| QST_Admin_Manual.pdf    | 627.3 kB  | 28 Mar 2025 | ☆ |
| qst_app.jpg             | 4.8 kB    | 28 Mar 2025 | ☆ |
| qst_qst.htm             | 329 bytes | 28 Mar 2025 | ☆ |
| QST_User_Manual.pdf     | 2.1 MB    | 28 Mar 2025 | ☆ |
| quest_logo.jpg          | 3.6 kB    | 28 Mar 2025 | ☆ |
| show_wordxml_format.htm | 3.1 kB    | 28 Mar 2025 | ☆ |
| summernote.js           | 303.1 kB  | 28 Mar 2025 | ☆ |
| summernote_french.js    | 300.6 kB  | 28 Mar 2025 | ☆ |

Copy the contents of `/'path to directory you unzipped qst to'/qst_gpl/schools` directory to `/var/www/qst/schools`

Restart Apache:

```
sudo service apache2 stop
sudo service apache2 start
```

Go to localhost in your web browser and enter the info. below:

```
username: admin
pass: qstcaptain
```

!!!!!! Change the password!

Click on Server -> Administration -> Head Administrator and select Password. Change the password and Save it.

-----  
-----

To Use LDAP:

open QST.pm

uncomment line 2541 & 2625 \$compare\_password =  
&authenticate\_ldap("username", "\$INPUT{user}", "password", "\$INPUT{pass}");

comment out line 2542 & 2626 \$compare\_password =  
&compare\_password("password", "\$INPUT{pass}", "hash", "\$row[2]");

If windows uncomment Net::LDAP at line 34.

On linux uncomment line 15 use Net::LDAP.

Make appropriate changes to sub authenticate\_ldap section beginning at line 3115

Create an admin user in LDAP with the same password as in QST.

Create your users in LDAP with passwords and in QST as 0 for their password.

Stop then start apache.

-----

To use SSL:

Run the command:

dpkg -S mod\_ssl.so

Chances are that it will display something like:

apache2.2-common: /usr/lib/apache2/modules/mod\_ssl.so

It means that mod\_ssl is already installed on your system, as it does not come in a separate package, but it is bundled in apache2.2-common.

Run:

a2enmod ssl

sudo service apache2 reload

go to <https://letsencrypt.org/> to get a certificate:

Use Certbot ACME client.

---

## AWS Install

Choose Ubuntu 24.x as OS.

\*\* Will need at least a t2.small to get it installed.

- only install OS

- Do NOT have Apache or MySQL installed (you will install it).

- Follow the Ubuntu/Linux instructions above.

\*\*\*\*\*  
\*\*\*\*\*

## Mac Install

- This was done on a Mac mini M1 running Mac OS 13.0 Ventura.
- We used Homebrew and Perlbrew so it should work for other versions of Mac. Let us know [qstsupport@shaw.ca](mailto:qstsupport@shaw.ca) if more documentation is required for other versions.
- A user recently (Dec. 18, 2024) did an install on a macOS Sonoma 14.4, Apple M3 Max (apple silicon).
- `brew install` will not install MySQL 5.7 any longer, it now installs version 8.0 instead of the 5.7 we recommend for very large scale use.

In your terminal.

Run the following command first to install macOS Command Line Tools

- if your Mac already has CLT installed you can skip this part  
`xcode-select --install`

Turn off the apache already there, run:

```
sudo apachectl stop
```

Install Homebrew for:

Ventura, Monterey, Sonoma run:

```
/bin/bash -c "$(curl -fsSL
```

```
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

MacOS Catalina, macOS Mojave, and MacOS Big Sur run:

```
/bin/bash -c "$(curl -fsSL
```

```
https://raw.githubusercontent.com/Homebrew/install/master/install.sh)"
```

MacOS High Sierra, Sierra, El Capitan, and earlier run:

```
/usr/bin/ruby -e "$(curl -fsSL
```

```
https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

It will tell you to run two commands to add Homebrew to your PATH, run them.

To permanently set PATH on Mac, all you have to do is open either bash files

(`.bashrc` or `.bash_profile`)

or zsh files (`.zshrc` or `.zsh_profile`) under `/User/your user name/`

or `.zsh_profile` and add the

following to it:

```
export PATH=/opt/homebrew:$PATH
```

Close file.

Run:

```
brew analytics off
```

Install Perl Brew run:

```
\curl -L https://install.perlbrew.pl | bash
```

To install a perl release with threads, and use it as default in the current shell and in all future shell sessions (takes a bit of time).

If Sonoma, run:

```
perlbrew install perl-5.32.1 --thread
```

```
perlbrew switch perl-5.32.1
```

```
else run:
  perlbrew install perl-5.30.0 --thread
  perlbrew switch perl-5.30.0
```

Install apache 2.4.xx from homebrew, run:  
brew install httpd

```
-----
DocumentRoot is /opt/homebrew/var/www/qst
Log files are in /opt/homebrew/var/log/httpd/
Configuration /opt/homebrew/etc/httpd/httpd.conf
-----
```

Then install libapreq2-2.17 library.

Go to the directory you unzipped qst into, you will see libapreq2-2.17.tar.gz there.

```
Run:
  tar xvfz libapreq2-2.17.tar.gz
  cd libapreq2-2.17
  ./configure
  make
  make install
```

```
Run:
  brew services stop httpd
  brew services start httpd
```

Install svn, run:  
brew options subversion  
brew install subversion

```
Install mod_perl 2, run:
  svn checkout https://svn.apache.org/repos/asf/perl/modperl/trunk/ mod_perl-2.0
  cd mod_perl-2.0
  perl Makefile.PL MP_CCOPTS=-std=gnu89
  make
  make install
```

```
Copy mod_perl.so in
/opt/homebrew/Cellar/httpd/2.4.54_1/lib/httpd/modules/mod_perl.so
to /opt/homebrew/lib/httpd/modules
```

```
Copy our mac_httpd.conf (in directory you unzipped qst into) to
/opt/homebrew/etc/httpd/httpd.conf and run:
  brew services stop httpd
  brew services start httpd
```

```
Copy all the files:
  cd 'to directory you unzipped qst into'
  run:
    cp -r qst /opt/homebrew/var/www
    cp -r schools /opt/homebrew/var/www/qst
```

Make directory Apache2 under /opt/homebrew/lib/httpd/modules

```
cd 'to directory you unzipped qst into'
```

```
Run:
```

```
cp mac_QST.pm /opt/homebrew/lib/httpd/modules/Apache2/QST.pm
cp mac_startup.pl /opt/homebrew/lib/httpd/modules/startup.pl
```

```
cd /opt/homebrew/lib/httpd/modules
chmod 711 startup.pl
```

```
cd /opt/homebrew/lib/httpd/modules/Apache2
sudo chown your_user QST.pm
sudo chmod 715 QST.pm
```

Make directory photos under /opt/homebrew/var/www

Run:

```
sudo perl -MCPAN -e 'install Bundle::DBI'
brew install mysql@8.0
```

Add the following to /Users/'your user'/.zshrc file:

```
export PATH=/opt/homebrew/opt/mysql@8.0/bin:$PATH
```

Exit your terminal, open another terminal (so it sets the path above for you).

Run:

```
brew services start mysql@8.0
```

```
sudo mysql -uroot
```

```
mysql>ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY
'your_new_password_here';
mysql>CREATE DATABASE qst;
mysql>grant usage on *.* to qstuser@localhost identified by 'Qstyreg#389';
mysql>grant all privileges on qst.* to qstuser@localhost;
mysql>grant usage on *.* to qst@localhost identified by 'Qst#captain2';
mysql>grant SELECT, INSERT, DELETE,UPDATE ON qst.* TO 'qst'@'localhost';
mysql>exit;
```

Run:

```
mysql -u qstuser -p qst < //path to directory you unzipped qst
to'/qst_linux/qst.sql
```

Run:

```
brew install openssl mysql-connector-c
```

Open /opt/homebrew/opt/mysql@8.0/bin/mysql\_config and go to the line which begins with

```
$libs="-L$pckglibdir"
```

and below it add:

```
libs="$libs -L/opt/homebrew/opt"
```

Save the file.

Run:

```
PATH="$(brew --prefix mysql-client)/bin:$PATH"
export LIBRARY_PATH=$(brew --prefix openssl)/lib:$LIBRARY_PATH
```

```
sudo cpan -i Email::Valid
sudo cpan -i Crypt::PBKDF2
```

```
sudo cpan -i Bundle::libnet
sudo cpan -i DBI
sudo cpan -i DBD::mysql
sudo cpan -i Net::DNS
sudo cpan -i Mail::Address
sudo cpan -i MIME::Base64
sudo cpan -i Archive::Zip
sudo cpan -i Exporter
sudo perl -MCPAN -e 'install Apache::DBI'
```

```
brew services stop httpd
brew services start httpd
```

Go to localhost in your web browser and enter the info. below:

```
username: admin
pass: qstcaptain
```

!!!!!! Change the password!

Click on Server -> Administration -> Head Administrator and select Password.  
Change the password and Save it.

\*\*\* QST should be run encrypted for true security.