

Installing QST

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

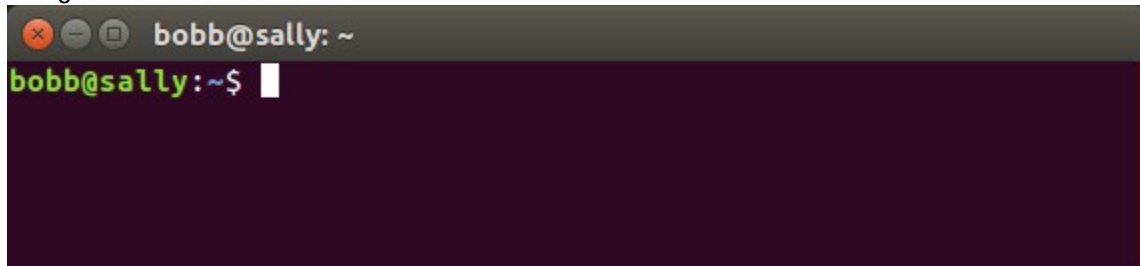
QST should only be run under SSL.

AWS install after Ubuntu/Linux. LDAP after linux.

Mac install at end.

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 20.x.

- the version of Perl you are running is 5.30.0 (this comes standard with Ubuntu 20.x)

- Other versions of Ubuntu:

- get the version of perl, run:
perl -v

- if different then 5.30 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
change the 5.30 to the version number displayed by running the above

- mod_perl is version 2.x

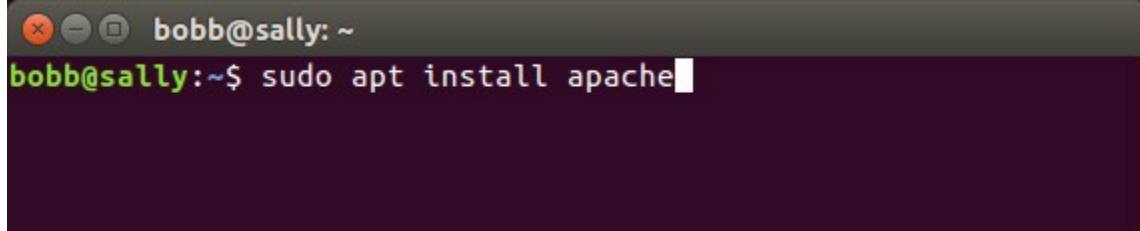
- QST writes errors to /var/logs/apache2/error.log

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: sudo a2enconf mod_perl  
run: a2enmod perl.load
```

Enabling conf mod_perl.

To activate the new configuration, you need to run:

```
service apache2 reload  
or  
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:  
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:  
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
chmod 711 startup.pl
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 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.conf

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

Save the file.

run:
sudo apt-get update

run:
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
to /var/www/qst/

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:

```
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
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 20.x as OS.

- 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 if more documentation is required for other versions.

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 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/.zshrc

or .zsh_profile and add the

following to it:

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

Close file.

Run:

```
brew analytics off
```

Intall 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).

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_CC_OPTS=-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 QST.pm /opt/homebrew/lib/httpd/modules/Apache2
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@5.7

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

```
export PATH=/opt/homebrew/opt/mysql@5.7/bin:$PATH
```

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

Run:
brew services start mysql@5.7

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@5.7/bin/mysql_config and go to the line which begins
with
\$libs="-L\$pkglibdir"
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.
