Installing QST

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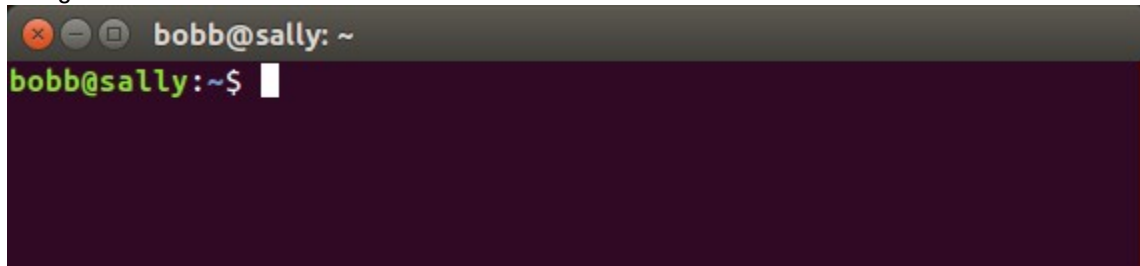   https://sourceforge.net/projects/qstonline/

QST should only be run under SSL.

AWS install after Ubuntu/Linux.

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
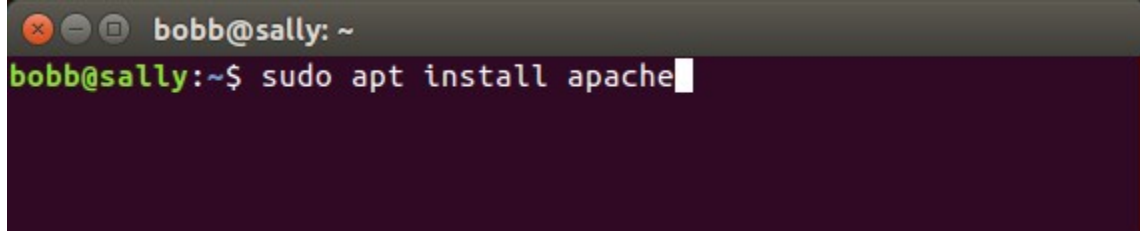   above

- 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 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:

open QST.pm

uncomment line 591 & 656 $compare_password = &authenticate_ldap("username","$INPUT{user}","password","$INPUT{pass}");

comment out line 592 & 657 $compare_password = &compare_password("password","$INPUT{pass}","hash","$row[2]");

Make appropriate changes to sub authenticate_ldap section beginning at line 939

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.

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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.

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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_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@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
$libs="-L$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.

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