



## QST Admin Manual

qstonline.org

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

### QST Security

- https must be enabled for true security.
- run in a locked down browser so students can only take the QST.
- if used for evaluation purposes QST should always be run in a locked down browser or a browser in kiosk mode.

RTL – right to left languages (Arabic) can now be used/displayed correctly for QST takers  
To enable this, open QST.pm and go to approx. Line 158:

```
my %LANGUAGE = ();  
my $set_language = 1; # English  
my $language_direction = "ltr"; # rtl (Arabic, etc.) or ltr (English, French, etc.)  
my $lang = "en"; #fr for FRENCH, en for ENGLISH, ar for ARABIC
```

If you wish to set the language to arabic for students change the above to:

```
my %LANGUAGE = ();  
my $set_language = 2; # Arabic  
my $language_direction = "rtl"; # rtl (Arabic, etc.) or ltr (English, French, etc.)  
my $lang = "ar"; #fr for FRENCH, en for ENGLISH, ar for ARABIC
```

Then go down to approx line 844:

```
#### Another Language Pack  
#####  
# Phrases
```

And change all the lines below it that look like the following:

```
$LANGUAGE{2}{some number} = "Change what is here with your language.";
```

The part to the right of the = you want to change the word or phrase that is between the “” to something that has the same meaning in your language.

Save QST.pm and restart the server.

A user can only be logged in once.

Each time a user logs in their user id and randomly generated session id are sent with each interaction. If another person logs in with the same user credentials (username and password), the first person's login is invalidated because a new session id was created for the second login. Only the user that started a QST can finish it.

In a proctored situation, Post the QST just before the student(s) can start, and check they have begun it. If you see they have started it, no one else can intervene.

If you are having issues with QST, either contact us at [qstsupport@shaw.ca](mailto:qstsupport@shaw.ca) or if you want to troubleshoot yourself, Search for "Trouble shoot" and uncomment (remove #) from the beginning of the line below it, save and restart Apache:

```
#print"name= $name value= $value, /";
```

This will print out the name/value pairs being passed to the program.  
The value that goes along with 'input' is the function being called in QST.

In Perl, 'print' is the debugger.

The error.log is a valuable place to get information on errors.  
Can be found under C:\Apache24\logs or /var/log/apache2

- Ubuntu - If you will have over 70 users attempting a QST (simultaneously) see Hardware\_and\_Performance\_Tuning.txt to change the settings in apache2.conf. and MySQL.

\* There is an android app for QST students, iPhone student users will need to click on Phone Browser on the homepage. If users are taking a QST on their phone and they do not have the app, they should use the Phone Browser link as it gives the same screen as the android app.

## Administration:

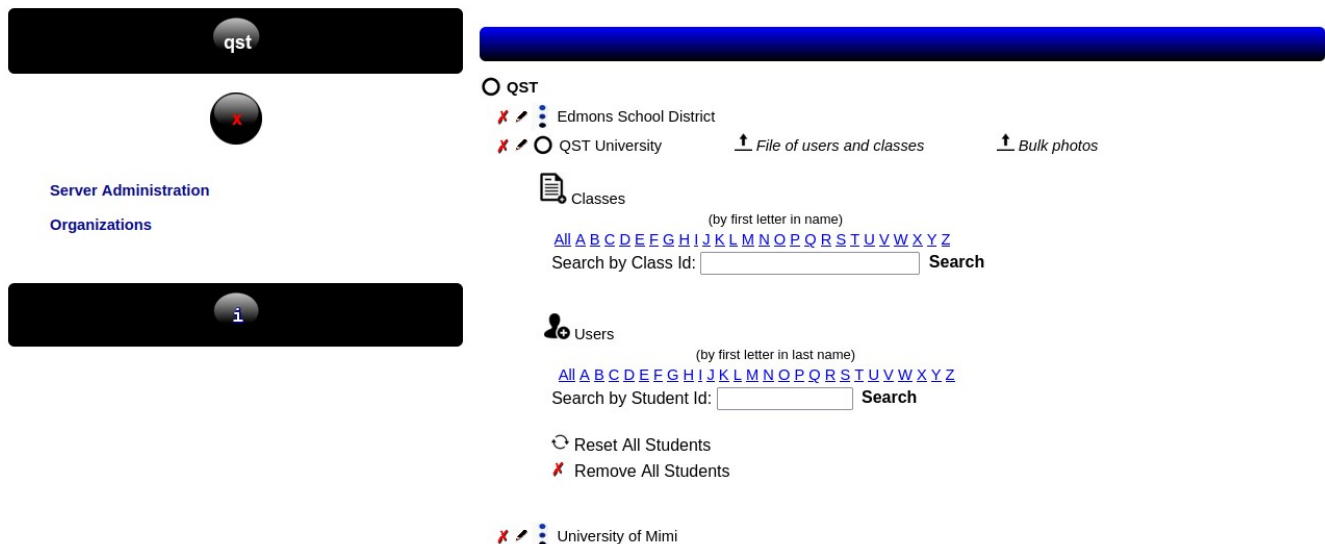
Use your admin username and password to sign in to your QST installation.



The first task is to change the admin password. Click on Server Administration. Click on Head Administrator and select Password. Change the password and Save it.

You will need to create an organization, class, instructor and student.

Follow the steps below, and after you have done them, log out, and login as the instructor. Now you will be able to begin making questions and qst's.



### Create an Organization -

Click on Organizations in the left panel, and then click on QST in the right panel. Enter the name of your organization.

You may create as many organizations as you like.

Each organization will have it's own users (students, instructors, question bank administrators and possibly administrators).

You can create additional administrators, and they may have access to All organizations, or just to one organization you assign them to.

Click on the three dots in front of the organization you created to add/remove classes, students and instructors to the organization.



After you have created an Instructor, Log Out, then Log In with the Instructors username and password.

Each user created must have a **unique user name** within the QST installation. This applies across organizations, so one organization cannot have a user with the same username as another.

**Do Not re-use users.** When a user is created they are assigned a unique number.

Changing the users name does not change their number (which is how they are identified in the system). Changing the users name does not create a new user.

**Changing the class name does not create a new class.**

When a class is created it is assigned a unique identifier within QST.

**Here you can also bulk upload a .csv file of users and classes for an organization.**

File format:

type,student\_id,first name,last name,username,password,class id,class name

Sample:

3,00125,Albert,Smith,asmith,password,Math-30-1,Math 30

*Explanation:*

The upload program creates students /instructors and classes if not already there.

When imported, the program would look for a student (type 3) or an instructor (2), with a student id (00125), and a username (asmith).

If a matching student is not found, it will create the student with username (asmith) and password (password).

Next it will look for a class\_id of Math-30-1.

If a matching class id is not found, it will create the class, with a class name of Math 30 and a class id of Math-30-1.

Then it will add the student (asmith) to the class (Math 30).

\* If you have already created classes, and you want to upload students to them, put in the class id (cannot be 0) for the class and a 0 for the class name.

- in the file:

- student id's must be numeric, unique to that organization and max 10 digits  
or **set to 0 if not being used**
- First and last names may only be 40 characters
- there must be a class id, the id must be unique to that class
  - class ids max length 20
- there must be a class name (you are creating classes if they do not exist yet)
  - class names max length 80
- **usernames and passwords can only be alphanumeric**
- there must be something in each column
- if you have already created classes manually, make sure you gave them a class id, so you can then bulk upload students to them
- the upload checks to see if there are already classes with the class id and if so, adds the users to the classes.

Users must be in a Class so QST's can be made available to them.

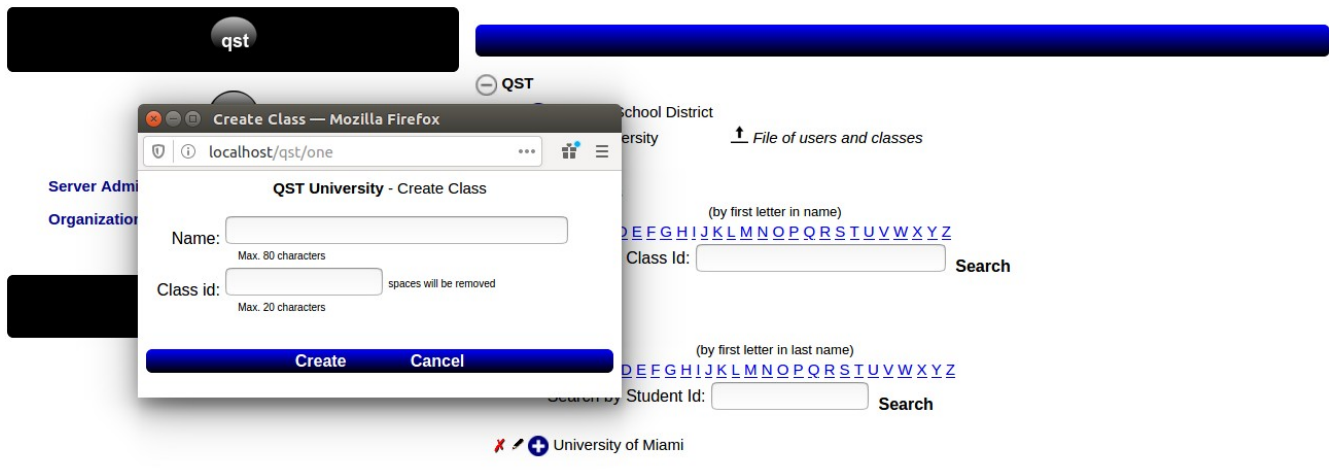
Instructors can create QST's without being assigned to a Class.

Question Bank Administrators can create folders along with questions in the Question Bank.

- Folders and questions are seen by all Instructors within that Organization.

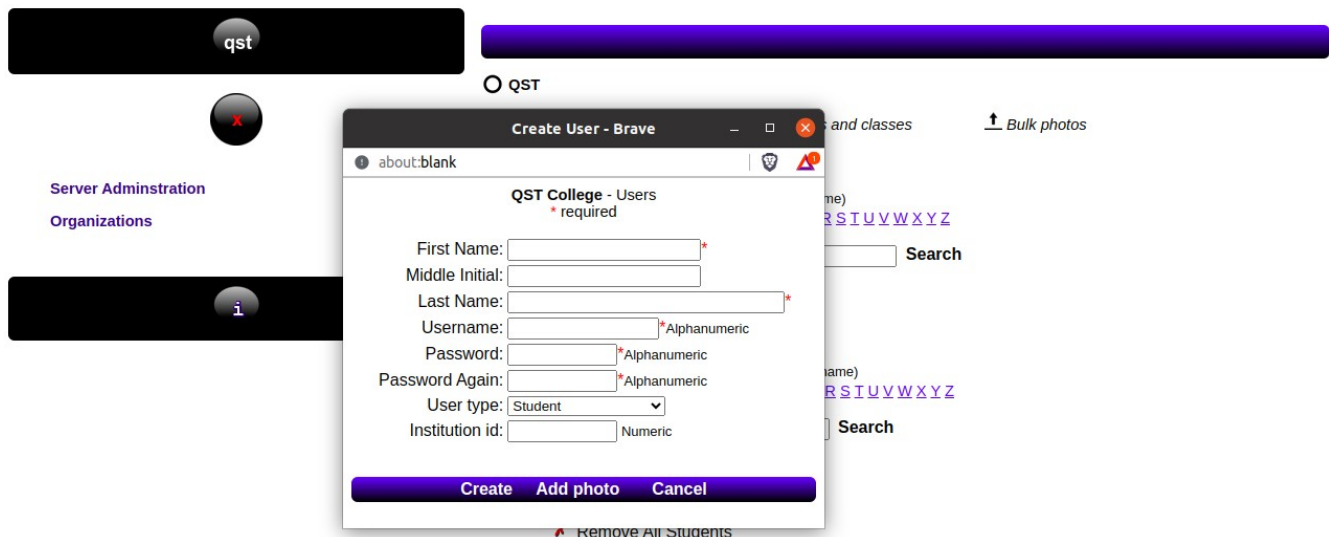
**Create Class:**

Click on Classes



## Create User:

Click on Users



We suggest a maximum of **100** users per class to make scrolling through the class easier for the instructors. If you have 1,000 users in a class viewing them at once is overwhelming.

If you want to test 10,000 users with the same test, we advise putting them into 100 classes of 100 users. You can then go into the Stats page for each test and Download the QST Details and concatenate them to perform more analysis on the results.

If you would like, create an Administrator to administer the organization.

Click on Server Administration in the left panel, and then click on Server Administrators in the right panel. Add the info. and select the Organization for the user to administer.

**\*\* Organization Administrators can only administer a single organization.**

## Viewing Classes:

Click on All in right panel under Classes

Cancel

QST University Classes

-- All --

- 1 - Biology 20 - Bio-20-1
- 2 - English 10 - Eng-10-1
- 3 - Introductory Class - 0
- 4 - Math 30 - Math-30-1
- 5 - Using QST - Advanced - 0

QST

Edmons School District

QST University *File of users and classes*

Classes

(by first letter in name)

[All](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Search by Class Id:  Search

Users

(by first letter in last name)

[All](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Search by Student Id:  Search

University of Miami

## Viewing Users:

Click on All under Users

Cancel

QST University Users

-- All --

- 1 Bob Shill (*Administrator*)
- 2 Don Herchek (*Instructor*) (0)
- 3 Carl Kolotylo (Student) (0)
- 4 Bank Admin (*Question Administrator*)
- 5 Raoul Bombay (Student) (0)
- 6 Sam Black (Student) (0)
- 7 Igor Bull (Student) (0)
- 8 Shirley Bolat (Student) (130)
- 9 Adesh Bahart (Student) (0)
- 10 Bob Cline (Student) (0)
- 11 Ming Chuin (Student) (0)
- 12 Robyn Crow (Student) (330)
- 13 Rob Crow (*Instructor*) (330)
- 14 Xiam Gupta (Student) (0)

QST

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Classes

(by first letter in name)

[All](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Search by Class Id:  Search

Users

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Search by Student Id:  Search

University of Miami

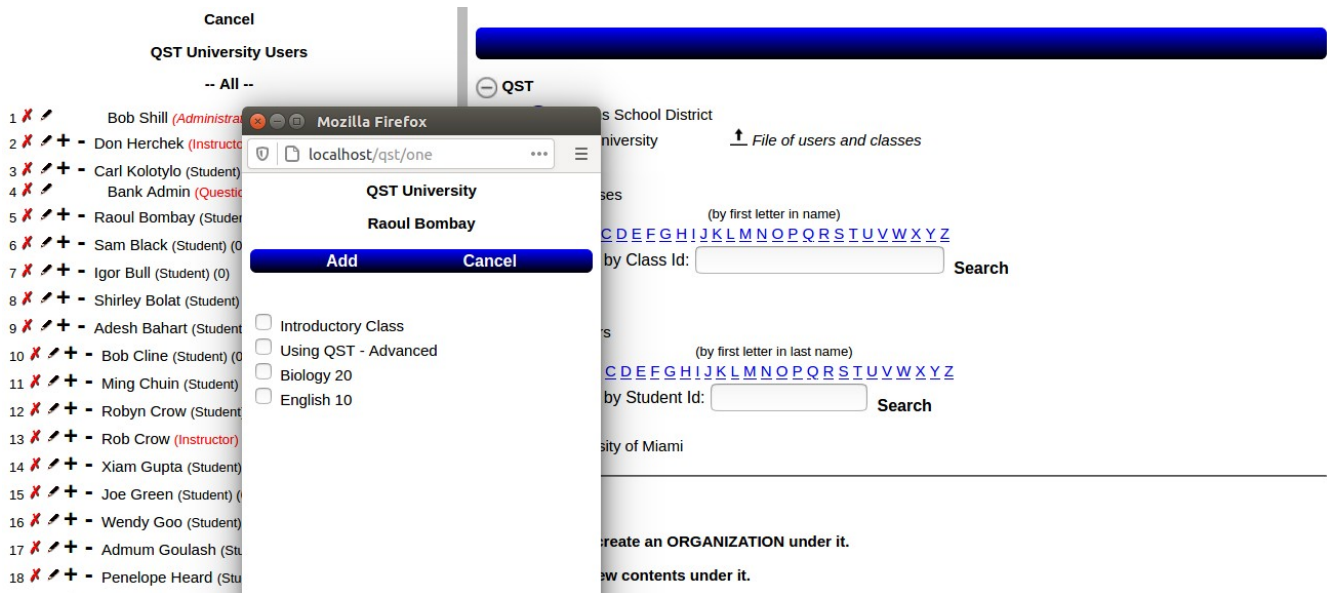
Change

Remove/Delete

Add Class to User

View/Remove Users Classes

To add a user to a class, click on in front of the user.



Both the instructor and the students need to be added to a class, so the Instructor can POST the QST for the class, and the students can attempt the QST.

If a user enters the **wrong information to login 4 times, the account is locked for 3 minutes** before it can be used again. This is for security, so the accounts cannot be brute force attacked.

Using LDAP:

- If you have an LDAP server, uncomment line 2342 and comment out line 2343  
`#$compare_password=&authenticate_ldap("username","$INPUT{user}","password","$INPUT{pass}");`
- Go to sub authenticate\_ldap (line 1361) and make the appropriate changes to the function.
  - When adding users manually you can then leave out their passwords.
- Uploading users and classes, put a 0 in as their password.

## Bulk upload User photos

If on Windows, create a folder `C:\photos`, on Linux create `/var/photos`, on Mac OS create `/opt/homebrew/var/www/photos`.

Paste all your user photos in one of those folders.

Photo names should be in the format: `username.png/gif/jpg`

Click on Bulk Photos.

## Reset All Students

This will remove all students from all classes, and also remove all their marks and QST's. They will still be in the system.

## Remove All Students

Totally removes all students including marks and photos from QST. They will no longer be in the system.

## Another Language Pack:

You now have the ability to change the QST interface to your language.

Beginning on line 803 (in QST.pm), change the word or phrases in each line example:

```
$LANGUAGE{2}{Addnewquestion} = "Add new question";
```

- change the Add new question phrase (bounded by the " ") to your language.
- do this for every line in Another Language Pack
- DO NOT change anything that is contained between < and >.
- DO NOT change anything beginning with \$
- Then go to approx. line 153 my \$set\_language = 1; and change the 1 to a 2
- Save the file as format UTF8 and restart Apache
- \*\* The pdf files QST\_Admin\_Manual.pdf, QST\_Users\_Manual.pdf and Installing\_QST.pdf will still be in English.
- \*\* QST EQ will also still be in English.

Go to where you installed index.htm, open it, and change name and password to your language. Save the file.

## Rebranding QST

To change the black background, first make a backup copy of QST.pm, then open QST.pm and search for all instances of linear-gradient(black,black) and change it to the color you would like. To change the blue/black background, do the same for linear-gradient(blue,black) .

To change the QST logo on the login page, under the qst directory replace qst\_app.jpg with your own logo, but leave it named qst\_app.jpg .

Save QST.pm and restart apache.

If you are having issues with something, please email us at [qstsupport@shaw.ca](mailto:qstsupport@shaw.ca) and we will reply to you as soon as possible. We check email every day.

Our job is to support QST and program new features.

## Running QST on your laptop on your network

On Windows:

Plug your laptop into the network.



## Allow apps to communicate through Windows Defender Firewall

To add, change, or remove allowed apps and ports, click [Change settings](#).

What are the risks of allowing an app to communicate?

[Change settings](#)

Allowed apps and features:

Name	Private	Public
<input checked="" type="checkbox"/> AllJoyn Router	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Apache HTTP Server	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Apache HTTP Server	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> App Installer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> BranchCache - Content Retrieval (Uses HTTP)	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> BranchCache - Hosted Cache Client (Uses HTTPS)	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> BranchCache - Hosted Cache Server (Uses HTTPS)	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> BranchCache - Peer Discovery (Uses WSD)	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Candy Crush Saga	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Captive Portal Flow	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Cast to Device functionality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Connect	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Details...](#) [Remove](#)

[Allow another app...](#)

Make sure Apache is allowed through the Windows firewall.  
Open a command prompt and run ipconfig.

```
Command Prompt

C:\Users\herch>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 3:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::8d73:a4ed:75b0:5ee7%22
    IPv4 Address. . . . . : 192.168.1.3
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1

Wireless LAN adapter Wi-Fi 2:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

Wireless LAN adapter Local Area Connection* 1:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

Wireless LAN adapter Local Area Connection* 16:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

C:\Users\herch>
```

Note the IP address (in this case it's 192.168.1.3)  
Tell your users to open a browser and type in the IP address and hit enter.  
They will see the QST login page.

On linux:

Plug your laptop into the network  
Make sure Apache is allowed through the linux firewall.  
Open a terminal window and run ifconfig

```
bobb@sally:~$ ifconfig
enp1s0f2  Link encap:Ethernet  HWaddr f8:a9:63:0a:0d:39
          inet addr:192.168.1.2  Bcast:192.168.1.255  Mask:255.255.255.0
          inet6 addr: fe80::8aae:afce:3eb4:ed8d/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:610 errors:0 dropped:0 overruns:0 frame:0
          TX packets:250 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:800528 (800.5 KB)  TX bytes:21062 (21.0 KB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:116 errors:0 dropped:0 overruns:0 frame:0
          TX packets:116 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:10341 (10.3 KB)  TX bytes:10341 (10.3 KB)

bobb@sally:~$
```

Note the IP address (in this case it's 192.168.1.2)

Tell your users to open a browser and type in the IP address and hit enter.

They will see the QST login page.

Qst will easily scale to thousands of concurrent users, see Hardware and Performance\_Tuning.txt for details.

For information on using LDAP see Installing\_QST.pdf

