

# quotemedia

## End User Web Services

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# 1 Introduction

## 1.1 Summary

This document describes how to use QuoteMedia's EndUser web service. The main object of the service is to allow the creation and management of user accounts by QuoteMedia partner sites. This document is applicable to partner sites that wish to auto-authenticate users, as well as those that want to control product access for their users.

## 1.2 Audience

This document is intended for partner web sites that are interested in auto-authentication of Quotestream users (AKA "External User Partners") and partner web sites that are interested in managing products for their end users (AKA "External Product Partners").

## 1.3 Terminology

An "Affiliate" is an entity that sends users to QuoteMedia's QuoteStream.com web site. They can either just link users to the site or they can place a login form on their site that submits directly into the QuoteStream.com user's area, along with a logo image for co-branding.

A QuoteMedia "Partner" is an entity that maintains a web site using QuoteMedia tools, like Quotestream and Quotestream Wireless. The tools are embedded with the Partner's site's pages.

"External User Partners" are partners that embed Quotestream Desktop on their web site and auto-login users. The partner site would create the user via the EndUser web service and then reference the user on the applet page.

"External Product Partners" are external user partners that also control their user's products. An example of this would be a brokerage that wanted to provide all of their customers with a real-time desktop product, or a web site that wanted to bill their users a premium and then pay QuoteMedia.

"External Agreement Partners" are external product partners that also maintain the exchange agreements of their user, report to, and submitting payments to the exchanges. An "End User" is the person that will actually use the product, a client of the partner's web site. A "Web Service" is essentially a remote procedure call done using XML documents and http transport.

"SOAP", Simple Object Access Protocol, is a specification for transferring software object via XML.

"WSDL", Web Service Definition Language is an XML document that describes the operations and data that a web service produces and consumes.

"JAX-RPC" is Java API from Sun Microsystems that allows the construction of web services using Java.

"Apache Axis", is an implementation of "JAX-RPC" using a servlet engine. It essentially makes is much easier to deploy a web service than if one wrote directly to the JAX-RPC library.

## 1.4 What Kind of a Partner Site Am I?

There are four different ways in which you can manage your users with QuoteMedia. Each of the ways offer different functionality.

The features of one plan cannot be mixed with the features of another as the record keeping becomes infinitely complex.

It is possible for you to use more than one plan but be aware that the user groups are managed separately. For instance, say you had a group of professional users and a group of non-professionals. You want to auto-login the non-professionals. You could then create an "Affiliate" type page for the professionals and a separate "External Users" type page for the non-professionals.

### 1.4.1 Affiliate site:

*QuoteMedia registers the users.*

*QuoteMedia authenticates the User.*

*QuoteMedia bills the users.*

*QuoteMedia maintains the exchange forms.*

*Professional Users are allowed.*

**Note:** Affiliate sites do not manage their own users so they don't need to use the EndUser web service.

### 1.4.2 External Users site:

*You register the users.*

*You authenticate the user and pass this information to the product.*

*QuoteMedia bills the users.*

*QuoteMedia maintains the exchange forms.*

*Professional Users are not allowed.*

### 1.4.3 External Products site:

*You register the users.*

*You authenticate the user and pass this information to the product.*

*You bill the users.*

*QuoteMedia maintains the exchange forms.*

*Professional Users are not allowed.*

#### 1.4.4 External Agreements site:

*You register the users.*

*You authenticate the user and pass this information to the product.*

*You bill the users.*

*You maintain the exchange forms.*

*Professional Users are not allowed.*

## 2 General

### 2.1 Technical Overview

The EndUser integration is implemented as a standard SOAP based web service. Https is used for the transport to ensure that all data is encrypted. Each partner is assigned a user name and password that is used on every request to authenticate the partner.

### 2.2 Development

QuoteMedia can provide sample client software and support to make your setup easier. We are going to start by providing PHP, Java, and .NET support. These options will be detailed later in this document.

SOAP is a self-describing data format, so you can possibly go it alone if you are a web services pro.

### 2.3 Web Service Specifics

The WSDL for the EndUser service can be found at <https://app.quotemedia.com/services/UserWebservice?wsdl>

Available calls are:

createUser - Add a new user.

updateUserInfo - Change a user's information without granting or changing product permissions.

updateUser - Change a user's information including granting or changing product permissions.

cancelUser - Remove all product permissions from a user (external product partners only).

getUser - Retrieve the user's data.

getUserDetail - Like getUser, this call will retrieve the user's data. It will also retrieve the user's product entitlement history, including start and end dates (if applicable) for each product.

getAllPackages - Retrieve all products available to a webmaster.

## 2.4 Business Logic Issues

### 2.4.1 External User Partners

Only external product partners are allowed to set products. If you are not an external product partner then you must never pass product lists to the web service.

If you are NOT an external product partner then your clients will receive a 30 day trial for the desktop and wireless Quotestream products when you create the user's account. We will send emails to the client to notify them of the free trial and to instruct them on how they can upgrade to real time data. The length of the trial and the products included in the trial may change from time to time as we create new products and refine our sales pitch.

### 2.4.2 External Product (and External Agreement) Partners

If you are an external product partner then all product decisions are up to you, if you want to offer a free 30 day trial then you will have to enable the products at the start of the trial and then disable them at the end.

Certain product combinations are not allowed. The TSX and TSXV products are only available to Canadian residents, the CEG (Canadian Exchange Group) product is only available to non-Canadian residents. The CEG product includes both TSX and TSXV level 1 products at a lower price.

Level 2, or market depth, products can only be added if the associated level 1 (market quote) product is also added. So, for instance, you cannot assign the NASDAQ Level 2 product without also assigning the US real time product to the user.

If you assign real time products without assigning Quotestream Desktop or Wireless then the real time data will only be available in the static Quote Tools products.

The default is to serve delayed data for all of the exchanges. Real time data will be provided for each real time product that you assign to the user.

If you enable a client for a real time product you will be charged the full exchange fee regardless of the time that the user was enabled. The exchanges don't offer a pro-rata fee system, so you will get charged the full amount even if it's on for only a minute.

If you remove a real time product from a user and then add the product back at a later date the user will have to fill out the appropriate exchange form again.

Your QuoteMedia implementation contact will provide you with a list of product codes that can be used to assign products to your users.

### 2.4.3 All Partners

You notice that we do not have a "deleteUser" function. This is because we are required to keep records for the exchanges for 5 years after the termination of the account. The user remains in our database and you must not re-assign the user name to a different user. You can turn the user back on at a future date if you like.

Professional users cannot be created using this web service. The process for creating professional user accounts is a manual one. Paper documentation must be filled out and submitted to the exchange prior to account creation. Please contact your QuoteMedia sales representative if you wish to offer real time products to Professionals.

## 2.5 Other Considerations

The choice of user name can be difficult, if you are a Bank, or managing money for the user, you should probably create a mapping of the user's user name and password on your site and the user name and password used for access to our tools.

This mapping can cause problems with our wireless products as the user will have to login directly with us, and he might not know his "QuoteMedia" user name and password. So if you do map the user names and intend to use the wireless products then you will also have to inform the user of their "QuoteMedia" login. This applies to all partner sites with external users.

## 2.6 Data Definitions

Field	Description	Width	Restrictions	Required for Delayed Data*	Required for Real-Time Data*
username	The unique login name for the user, AKA the partneruid.	6 to 64	Must use A-Z, a-z, or 0-9 only. Case sensitive. Must be at least six characters long (Exceptions apply for pre-existing accounts)	req.	req.
password	User's login password	6 to 32	Must use A-Z, a-z, or 0-9 only. Case sensitive. Must be at least six characters long (Exceptions apply for pre-existing accounts)	req.	req.
products	Product codes to entitle the user to		Must be a string based array. Must use only product codes provided by QuoteMedia.	req.	req.
email	Desktop email address	64	Must conform to email standards.	req.	req.
firstName	First Name	1 to 32		req.	req.
lastName	Last Name	1 to 32		req.	req.
address	Street Address	1 to 64		opt.	req.
city	City	1 to 32		opt.	req.
state	State or Province code	2	Must use one of the valid state codes**. See below for more.	opt.	req.
country	Country code	2	Must use ISO 3166.	opt.	req.

zip	Postal code	1 to 16		opt.	req.
phone	Phone number	1 to 24		opt.	req.
wemail	Wireless email address	64	Must conform to email standards.	opt.	opt.
clientGroupId	Allows users to be separated into groups, for tracking purposes, based on group name passed using this feature.	15		opt.	opt.
prold	Numerical value, provided by QuoteMedia that must be passed when creating a professional user.  If you are not creating professional users, do not pass this field.	10	Must use 0-9 only.	opt.	opt.

\* - The "Required for Delayed Data" and "Required for Real-Time Data" columns specify which fields are required (req.) and which are optional (opt.) based on whether the user is to receive delayed data or real-time data.

If your user is to receive delayed data initially but there is a possibility they will receive real-time data at a later date, we recommend collecting and passing fields based on the real-time data requirements. It is often easier to collect this information upon the initial user signup rather than have to collect it later when/if the user is upgrading to real-time data.

Please ensure that all required fields are passed when making your web services call to create or update a user's account.

\*\* - A list of valid state codes are outlined in <http://www.quotemedia.com/webservices/quotemediaStateCodes.xls>. If the user's country is set to "US" (United States) then a US state code must be used. If the user's country is "CA" (Canada) then a CA state code must be used. If the user is outside of the United States or Canada then only "--" is accepted. Please ensure your own validation checks for this.



## 3 Java, using Apache Axis

A) Retrieve Axis from <http://axis.apache.org/axis/java/releases.html> and extract the archive.

B) Add the jars in the lib directory to your CLASSPATH:

axis.jar

commons-discovery.jar

commons-logging.jar

jaxrpc.jar

log4j-1.2.8.jar

saaj.jar

wSDL4j.jar

C) Use the `com.quotemedia.webservices.enduser.Client` class as an example to add the functionality to your admin or other application. The sample creates

`com.quotemedia.webservice.enduser.EndUserBean` objects and sends them to the web service for creation or modification.

## 4 PHP5

PHP 5 contains its own Soap library. You must enable `php_openssl.dll` and `php_soap.dll` in your `php.ini` file. See the `Client.php` example in the `php` directory for an example of how to add a user using PHP.

## 5 .Net using C#

The distribution contains a complete Visual Studio.Net project demonstrating the use of the QuoteMedia Web Services. Of particular interest are two C# code files:

**EndUser.cs**, contains the Web Service Proxy code and is required. The code contains override methods which allow it to perform http basic authentication.

**Main.cs** contains a sample use of the web service.

In addition, the project contains **AssemblyInfo.cs**, which in turn contains .Net metadata. This file is automatically updated by Visual Studio.Net.

### 5.1 Deployment

The `EndUser.cs` code requires the user id and password for accessing the QuoteMedia web services. This can be hardcoded into the program prior to compilation, or else passed when instantiating a Web Service object. The `Main.cs` code contains a step-by-step example use of the web service to create and modify user object.

The only portion required for your deployment is `EndUser.cs`.

EndUser.cs should be compiled using the 1.1 version of the Microsoft .Net framework.

```
csc /target:library !EndUser.cs /r:System.dll /r:System.Xml.dll  
/r:System.Web.Services.dll
```

This will generate EndUser.dll. This should be placed in the bin directory of the Web Application.

## 5.2 Use

Main.cs provides an example use of the Web Service.

## 6 Cold Fusion MX

The distribution contains four cfm files:

**getUser.cfm**, demonstrates collection and display of an existing user's data.

**createUser.cfm**, demonstrates the creation of a new user.

**updateUser.cfm**, demonstrates changing a user's information.

**cancelUser.cfm**, demonstrates disabling a user.

## 6.1 Deployment

Cold Fusion works directly from the definition file for the web service (wsdl). No specific Cold Fusion server setup is required.

## 7 Classic ASP

In order to develop applications accessing web services with regular ASP, developers will need to install the Microsoft SOAP toolkit. The toolkit was deprecated in April 2005, but is still available for download from the Microsoft site. Instructions for its use are available on the MSDN site.

### 7.1 Download the toolkit from:

<http://www.microsoft.com/downloads/details.aspx?FamilyId=C943C0DD-CEEC-4088-9753-86F052EC8450&displaylang=en>

### 7.2 Instructions and Example Usage

Available from MSDN.

### 7.3 Notes

Microsoft no longer supports the development of web services using the SOAP toolkit, and encourages users to adopt .Net as the preferred development and deployment environment.

## 8 Sample Code

Please refer to <http://www.quotemedia.com/webservices/enduserSampleCode.zip> for EndUser Web Service sample code.

Please note that while every effort is made to provide reliable service, internet-based transactions are not fault-proof. As such, we highly recommend that all web services related code contain data validation and error-handling routines to ensure that endusers are created and updated as intended.