quotemedia
Mutual Fund Web Services

Table of Contents

Introduction

1.1 Summary

This document describes how to use QuoteMedia's Lipper web service. The main object of the service is to allow the management of Lipper Mutual Funds customization.

1.2 Audience

This document is intended for partner web sites that are interested in managing specifically which Lipper symbols are to be made available in Lipper related tools (i.e.: Lipper Module).

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 the Java language.

"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.

"NuSoap", is a PHP toolkit that allows users of PHP version 4 to build XML web services and web service clients.

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.

The Sequence of Events:

The affiliate can simply link to quotestream.com passing their wmid. Alternatively the affiliate can create a Quotestream promotional page containing a login form. The form sends the user to the quotestream.com site, and included the wmid, which identifies the affiliate, the username/password for the user, and optionally a logo image URL for co-branding. The users maintains and pays for their products through the quotestream.com site.

QuoteMedia offers an admin site that the affiliate can use to view existing users. Professional users log in the same way as the non-professionals but they cannot sign up through the on-line registration. Professional users have to send paper exchange documents to QuoteMedia, their accounts are created and managed manually by QuoteMedia.

Login Form Parameters:

Affiliate will specify the "wmid" parameter when forwarding users or embedding ads.
Affiliate may forward the user name and password as entered by the user.
Optionally, you will include a logo image URL to brand the quotestream.com site.

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.

The Sequence of Events:

The user registers for your web site. You make a createUser call to the EndUser web service to create an account for the user, the user is automatically given a 30 day trial for the Streamer. When the user navigates to the Streamer page, your server sets the partneruid and password applet params that correspond to this user. The user is automatically logged in with QuoteMedia. The Streamer contains an "upgrade" button that allows the user to register for real time data products, through the QuoteMedia registration system. QuoteMedia offers an administration site that you can use to view your existing users. You can also retrieve user information via the getUser call on the EndUser service.

Affiliate sites **cannot** use the EndUser web service to maintain users.

Applet Parameters:

You will specify the "wmid" parameter on the applet so that the users can be attributed to your site.
You will specify the "partneruid" and "password" parameters to identify the user of the streamer.

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.

The Sequence of Events:

The user registers for your web site. You make a createUser call to the EndUser web service to create an account for the user, you can include products in the createUser call. For instance, if you want to offer a 30 day trial for the Streamer with real time US data then you would specify products 6 and 100. Then 30 days later, if you wanted to cancel the trial (e.g. the user didn't pay) then you would call the cancelUser call on the EndUser service. The user would also be able to obtain real time data products through your e-commerce site. Your site would use the modifyUser call on the EndUser service to alter the user's products. When the user navigates to the Streamer page, your server sets the partneruid and password applet parameters that correspond to this user. The user is automatically logged in. If the user has been issued real time data products the QuoteMedia exchange agreements page will be displayed to the user. You will be billed directly by QuoteMedia for all of the users and data products that you have entitled. QuoteMedia offers an administration site that you can use to view your existing users. You can also retrieve user information via the getUser call on the EndUser service.

Applet Parameters:

You will specify the "wmid" parameter on the applet so that the users can be attributed to your site. You will specify the "partneruid" and "password" parameters to identify the user of the streamer.

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.

The Sequence of Events:

This type of site is just a subtle variation on the previous (external products) site. The only difference in the user experience is that you are responsible for presenting the exchange forms to the user and maintaining the responses to the satisfaction of the exchanges. You are also responsible for remitting the exchange fees to the exchanges.

Applet Parameters:

You will specify the "wmid" parameter on the applet so that the users can be attributed to your site. You will specify the "partneruid" and "password" parameters to identify the user of the streamer.

General

2.1 Technical Overview

The Lipper 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 http://app.quotemedia.com/services/Lipper?wsdl

Available calls are:

addSymbol - to add a symbol to be made available
addSymbols - to add symbols to be made available
removeSymbol - to remove a symbol from being available
removeSymbols - to remove symbols from being available
getSymbols - return a array of symbols in the entire customized set of symbols
getSymbolCount - to retrieve a total count of symbols in the customized set of symbols

Refer to the JavaDoc for more detailed information on method signatures and expected return types/data structures.

2.4 Business Logic Issues

2.4.1 External User Partners:

Assertion prior to invoking any Lipper Web Service calls a valid webmaster id is obtained from QuoteMedia and is entitled to use the related Lipper tools (i.e.: Lipper Module).

2.6 Data Definitions

Field	Description	Width	Restrictions
Symbol	A valid Lipper symbol	18	Alpha only [A-Z]
webmasterId	Assigned webmasterId	12	Numeric Only [0-9]

Java, using Apache Axis

A) Retrieve axis 1.1 from http://ws.apache.org/axis/releases.html
B) Extract the archive.
C) 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
D) Use the GetSymbolCount from SampleClientCode\Java_Using\ApacheAxis folder

PHP 4, using NuSoap

PHP 4 requires an external library, such as NuSoap.

A) Retrieve and setup NuSoap from http://dietrich.ganx4.com/nusoap/index.php
B) See the getSymbolCount.php example in the SampleClientCode \PHP4 directory for an example of how to get symbol count.

Alternative PHP Soap Libraries:

- PEAR::SOAP (http://pear.php.net)
- eZ SOAP (http://ez.no)

PHP 5, using built in SOAP libraries

PHP 5 includes libraries, special note earlier versions of PHP 5 require you to enable the soap explicitly, more recent version have removed this option and is included by default. That being said 3rd party soap libraries may conflict with PHP 5. For example, there are known method conflicts between NuSOAP and the provided SOAP libraries in PHP 5.

See the getSymbolCount.php example in the SampleClientCode\PHP5 directory for an example of how to get symbol count.

.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:

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

Program.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.

6.1 Deployment

The Program.cs code contains a step-by-step example use of the getSymbolCount web service

6.2 Use

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

Cold Fusion MX

getSymbolCount.cfm, demonstrates retrieval of total symbols in customized Lipper symbol list

7.1 Deployment

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

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.

8.1 Download the toolkit from:

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

8.2 Instructions and example usage is available from MSDN.

8.3 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.

9 Perl (version 5.6.1)

In order to develop applications accessing web services with Perl ensure you have installed the appropriate support packages. In the example found in SampleClientCode\Java_Using\Perl Soap:Lite and SSL packages are installed.

It is recommended to use the Perl Package Manager (ppm) to install the required packages/libraries.

10 Sample Code

Please refer to http://www.quotemedia.com/docs/webservices/mutualfundSampleCode.zip for Mutual Fund Web Service sample code.

Appendix A - Resources

Description	Web Link / URL
What is SOAP	http://en.wikipedia.org/wiki/SOAP
Web Services Glossary	http://www.w3.org/TR/ws-gloss/
Web Services Architecture	http://www.w3.org/TR/ws-arch/
NuSOAP	http://dietrich.ganx4.com/nusoap/
SOAP Lite	http://www.soaplite.com/
Apache Axis	http://ws.apache.org/axis/
SOAP Tutorial	http://www.w3schools.com/soap/default.asp