Attached is a fictitious Stock trading system developed in Visual studio 2012 using .Net 4.0. The solution is design to adhere the Service Oriented Architecture using Microsoft WCF. Backend database is SQL 2008.

**Scenario and Requirements**

The purpose of this application is to be able to connect to 3 different finance sites and pull stock reports and put into the database.

* Pull stock report for all the stock symbols from each site and save the report file in the database.
* Each of the sites will provide different file format currently supported format are CSV, XML, TXT. However in future we need to support more formats.
* **Current requirement** - for the combinations of every stock symbol and every site in the database, retrieve the finance report from the site each hour using the following steps every time this WCF service is executed.

1. Connect to each site and download the file concurrently for all the symbols
2. Save the file in the database (*you need to extend the schema by implementing the table for this*).
3. Create a simple MVC web project with the combination of HTML5, Jquery Ajax and bootstrap css to display the uploaded files on the UI
4. Handle any exception that may occur and log the exception to log file using existing logging framework in solution.
5. Add Unit tests to test the solution.

* **Future Requirements**
  1. Analyse content of each report to produce statistics.
  2. Increase in number symbols.
  3. Increase in number of sites.
  4. Increase in types of format.

Design the application in such a way that:

1. Current Architecture should not be modified.
2. It fulfils current requirements.
3. Can be enhanced in future to support the future requirements without needing to re-architect the solution.
4. The future requirements should be implemented with minimal coding and development effort.

There are 4 stock symbols in the database (MSFT, AAPL, GOOG,YHOO). Also there are 3 finance site URL in the database. E.g

http://chartapi.finance.yahoo.com/instrument/1.0/{0}/chartdata;type=quote;range=1d/xml

To download the file you need to replace {0} to stock symbol in each of the URL as in the eg. below

String.Format(“[http://chartapi.finance.yahoo.com/instrument/1.0/{0}/chartdata;type=quote;range=1d/xml](http://chartapi.finance.yahoo.com/instrument/1.0/%7b0%7d/chartdata;type=quote;range=1d/xml)”, “MSFT”);

**Solution Description**

Solution is divided into following sections

1. Server
2. Common
3. Client
4. UI (you have to create)
5. Test

Server

Server contains Data Layer and WCF Service. Data layer is developed using EF4.

Common

Common contains shared code between Server and Client.

Client

Client provides proxy to connect to Server and handles connection and exception.

Test

Test contains MS Unit Test to test the service operations.