Sharing a Socket Pool of Asynchronous Handlers among Multiple Threads with SocketPro Adapter

Introduction

SocketPro is next generation technology that streams both requests and responses. It is written from scratch with continuous in-line request/result batching, asynchronous data transferring and parallel computation in mind. It prefers streaming all requests by use of one single socket connection at client side from different threads for the best network efficiency through SocketPro inner batching algorithm. Therefore, you, a software developer or architect, must know how to share one single socket connection or its associated asynchronous handler among multiple threads within a multithreaded environment.

This short article is focused on sharing a pool of asynchronous handlers among multiple threads for client side development.

Source Codes and Samples

All source codes and samples are located at https://github.com/udaparts/socketpro. After cloning it into your computer by GIT and having a quick look at the subdirectory socketpro/samples/fatclient\_thread, you will find that there are four subdirectories, cplusplus, dotnet, java\_demo and python\_demo for C++, C#, Java and Python development languages, respectively. It is noted that all of them are focused on client side development. However, this article only uses C# code example for explanations as usual.

To running one of these client side applications, we need a sample SQLite server application test\_ssqlite inside a subdirectory win or linux of socketpro/bin. The sample server, which is described at the article socketpro/doc/sqlstream\_sqlite.pdf, is very simple to run without any required configuration for you to understand ahead. SocketPro many demonstration samples are using the server for demonstration purpose.

You should distribute these system libraries inside the directory socketpro/bin into your system directory before running these sample applications. In regards to SocketPro communication framework, you may also refer to its development guide documentation at socketpro/doc/SocketPro development guide.pdf.

Main Function