

C-hglib - C implementation of command server API

A C library for interfacing with Mercurial's CommandServer.

The communication between C library and Mercurial CommandServer will be over a pipe.

I have to create an API for the Command server, in other words I have to create a connection mechanism and a set of some specific commands that will help the user to interrogate the server, in order to get some useful information.

Some steps that I want to do first:

- create an open mechanism between Client (C library) and Server (Mercurial Command Server)
- close the connection
- readchannel function that will get the channel and the length of message.
- create the _hello function, that will receive the first message, after the connection.
- cmdbuilder, will compute the command that will be sent to CommandServer.
- runcommand, will send the build command to the server and will return the compute message.
- mercurial commands.

How to make it happen:

-Create an open mechanism between Client (C library) and Server (Mercurial Command Server)

First I will try to compute a command that will be execute in the child process.

It will be of the form “HGPATH serve --cmdserver pipe --config ui.interactive=True” + “-R path ”

I will create two pipes for the bidirectional connection. Then I will fork a new process, where I'll execute the command that will open the Command Server. In the child process I will redirect the input, the output and the error in to the pipes (for the communication Client-Server). In my case the child process will open the Command Server and the parent process will be the client.

The communication will be through the pipes descriptors.

The open function will return a Client structure that will contain the pipes descriptors and other useful information.

- Close the connection

Will kill the command server and will close the pipe descriptors for a specific Client.

- readchannel function that will get the channel and the length of message.

Will read a char (the channel) and a uint (the length). There are chances for a problem to occur over here with the unsigned integer (the Command Server will send to me an integer in big endian form). Most probably I will have to create a conversion mechanism.

- create the _hello function that will receive the first message, after the connection.

This function will read the channel and the default data. Then I will check the correctness of data.

- cmdbuilder, will compute the command that will be sent to CommandServer.

This function will return a list with a compute command that will be send to CommandServer. This function will be called by all mercurial commands.

- runcommand, will send the build command to the server and will return the compute message.

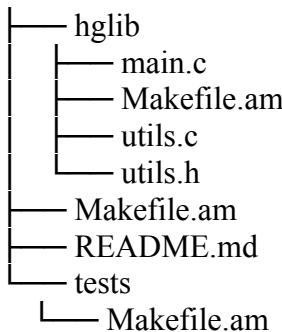
From this function I will sent through pipes the commands and I will receive the specific answers. This will be the function that will make the communication.

My starts points will be:

<http://mercurial.selenic.com/wiki/CommandServer>

<http://www.selenic.com/repo/python-hglib/file/ca5f8f43e585/>

I made a directory schema that will serve my purpose.



Progressing I will try to integrate the testing tool in my code, and to bring correctness in project.

I had stated a bitbucket repository, with marmote advice:

<https://bitbucket.org/istana/c-hplib>