Subject: SSH package for U++
Posted by Oblivion on Tue, 14 Nov 2017 20:59:37 GMT
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Hello guys,

I am officially announcing the release of "beta" version of SSH package.
Package is tested on Arch Linux (Kernel: 4.13, GCC 7.2) and Windows (7/10, MinGW 7.2/MSC 14 (2017))

SSH package for U++

SSH package is a feautre-rich, flexible yet very easy to use libssh2 wrapper for Ultimate++.
It supports both console and GUI-based applications on POSIX-compliant operating systems and MS Windows (tm).

Currently it is in beta (version 1) stage.

Classes:

- Base (core) class -> Ssh
  - Ssh session -----> SshSession
  - Sftp subsystem -----> SFtp
  - Ssh channel -----> SshChannel
    - Scp channel -----> Scp
    - Exec channel -----> SshExec
    - Real-time interactive shell -----> SshShell
    - X11 forwarding -----> SshShell (as operation mode)
    - Tcp/IP and port forwarding -----> SshTunnel

- Known hosts manager -> SshHosts

Features and Highlights:

- Ssh-derived classes have pick semantics, based on RAII principle, support RTTI, and allow polymorphism (i.e. different classes can be stored in the same arrays, etc.) through a common interface.
- Uses U++ memory allocators (Native allocators is also a compile-time option)
- Uses OpenSSL by default.
- Supports time-constrained, blocking and non-blocking operation modes.
- Supoorts multithreaded file transfers and remote command execution (exec), using worker threads.
- Supports 3rd-party network proxies. (Such as NetProxy)
- Supports known hosts verification mechanism.
- Supports password, public key, host-based, and keyboard-interactive authentication methods.

- Supports ssh-agents.
- Supports real-time interactive command line (shell) interface with both console and GUI integration (works on Windows and Posix-compliant OS'es)
- Supports multiple X11 connection forwarding.
- Supports Tcp/IP and port forwarding.
- Supports detailed (full) debug logging.

Todo:

- Add more high level methods.
- Refactor Ssh (core) class.
- Improve documentation.

Reference examples:

- SFtpGet: Demonstrates basic SFtp file download in blocking mode.
- SFtpGetNB: Demonstrates basic SFtp file download in non-blocking mode.
- SFtpGetMT: Demonstrates basic SFtp file download, using a worker thread.
- SFtpGUI: Demonstrates a basic SFtp browser with GUI (with upload, download, mkdir, rename, delete commands).
- SFtpMultiGetMT: Demonstrates SFtp dir listing and concurrent file transfers, using worker threads.
- SFtpConsumerGet: Demonstrates the usage of a consumer function for SFtp download in blocking mode.
- SFtpConsumerGetMT: Demonstrates the usage of a consumer function for SFtp download, using a worker thread.
- SshExec: Demonstrates basic Ssh remote command execution in blocking mode.
- SshExecNB: Demonstrates basic Ssh remote command execution in non-blocking mode.
- SshExecMT: Demonstrates basic Ssh remote command execution, using a worker thread.
- SshKeyboardAuth: Demonstrates basic Ssh interactive (challenge-response) authentication method in blocking mode.
- SshLoggingExample: Demonstrates the logging capabilities of SSH package.
- SshOverTor: Demonstrates a basic Ssh connection over TOR, using a third-party network proxy adapter.
- SshPolymorphismNB: Demonstrates the polymorphism capability of SSH channels in non-blocking mode.
- SshShell: Demonstrates a basic, real-time SSH shell console in blocking mode.
- SshShellNB: Demonstrates a basic, real-time SSH shell console in non-blocking mode.
- SshShellX11: Demonstrates a basic, real-time SSH shell console with multiple X11 forwarding.
- SshShellGUI: Demonstrates the basic GUI integration of SshShell class with multiple X11 forwarding, in non-blocking mode.
- SshTunnelExample: Demonstrates the basic SSH tunneling (as tunnel/server) in blocking mode.

Below you can find the latest package and the GIT address where you can always get the latest version.

GIT repo: https://github.com/ismail-yilmaz/upp-components/tree/master/ Core/SSH
Examples: https://github.com/ismail-yilmaz/upp-components/tree/master/ Examples
Older Version: https://github.com/ismail-yilmaz/upp-components/tree/master/ Attic/SSH

I appreciate bug reports, reviews, criticism, patches etc.

Best regards,
Oblivion

File Attachments

1) SshPackageAndExamples.zip, downloaded 523 times