

Status Board

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Warning

This software is provided as-is with no warranty. Use this application at your own risk. If you do not accept the statements in this warning please do not run the application.

What is Status Board?

Status Board is an application for communicating dynamic information to multiple users at a time.

Requirements

- .NET Framework 3.5
- A Windows PC with an IPv4 Address

Log File

Status Board maintains a log file for each status board. They are named based on the name of each of the Status Board server xml files. These logs track all connections and will grow unbounded. (yes this is bad and will be evaluated)

Running Status Board

The Status Board executable (StatusBoard.exe) is capable acting as one or more servers as well connecting as a client. The executable can also be used with command line options for performing scripted updates or otherwise.

Starting a Server

A server is required for a Status Board to exist.

To start a new Status Board Server:

1. Launch the Status Board application.
2. Select File > New...
3. Configure the Server as necessary and press OK. (see the table below for setup information)

Option	Description (* - optional)
Name	Specifies the name of the Status Board Server. Clients will see this name.
Connection Password	The password allowing clients to connect to this Status Board Server.*
Edit Password	The password allowing clients to edit Status Fields.*
Port	The port to run the Status Board Server on.
Enable Chat	Enable the chat functionality on this Status Board.
Auto Start	Flag indicating that this Status Board Server should launch automatically whenever the Status Board executable is run.

Connect Client Automatically	Flag indicating that a new local client should automatically be created and connect to the Status Board Server.
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Connecting to a Server

To connect to a Status Board Server as a client:

1. Launch the Status Board application.
2. Select File > Connect...
3. Specify the IP Address or Domain Name of the desired Status Board Server and press OK.
4. If the server has a Connection or Edit password you will be prompted. Press OK after the password has been entered.

Managing a Status Board Server

There are numerous options that can be configured on an existing Status Board Server:

Option	Description (* - configurable while running)
Port	The port to run the Status Board Server on.
Name	Specifies the name of the Status Board Server. Clients will see this name.
Connect Password	The password allowing clients to connect to this Status Board Server.*
Edit Password	The password allowing clients to edit Status Fields.*
Chat Enabled	Enable the chat functionality on this Status Board.
Auto Start	Flag indicating that this Status Board Server should launch automatically whenever the Status Board executable is run.*

Note: Many options can only be changed when the server is not actively running.

Action	Description
Kill Selected	Kills the selected client connections listed in the Connections field.
Remove Server	Removes the Server (including the configuration file)
Stop Server	Stops the server.

Field	Description
Server Address Info	All of the locally known addresses that can be used to connect to this server.
Connections	List of the current connections to the Status Board Server.

Client Functionality

Action / Field	Description
Connect / Disconnect	Connect or disconnect from the server
Remove Connection	Removes the client tab completely (and disconnects if necessary)
Popup Enabled	Toggles the popup to be enabled upon receiving updates from the client
Static Popup	Toggles the popup to be static and never close (unless by user intervention)

Show Chat In Popup	Toggles chat messages to be displayed in the popup
Add Item	Opens the dialog to add and configure a new status field
Remove Item(s)	Opens a dialog to select the fields to remove
Reset All	Resets all of the status fields to a blank value
Auto Connect	Toggles the functionality to automatically connect to a server upon start-up and reconnect to a server on non-user requests disconnects
Peers	Displays the peer connections to the status server
Text Color	Sets the font color of the name for chat messages
Send	Sends the chat message entered in the message text field (pressing the Enter key in the text field will do the same)

Working with Status Fields

You can adjust the order of the fields with the arrow buttons on the far right. These will move the specified item up or down.

You can edit the configuration of a status field by clicking the << button on the given item. You can also duplicate fields using this functionality.

Applying changes to status fields differs based on their type:

Committing a **TextBox** change – Pressing the Enter key.

Committing a **CheckBox** change – Checking the box.

Committing a **PullDownList** change – Selecting an item from the pull down list.

Committing a **ComboBox** change – Selecting an item from the pull down list. You can also enter text and press the Enter key.

Preferences

The preferences can be accessed from Edit > Preferences.

Preference	Description
Popup Timeout	Specifies the number of seconds to show the popup when a status field is updated or chat message arrives (assuming Show Chat in Popup is enabled). Note: This is overridden completely by the Static Popup option.
Number of Chat Messages in Popup	Specifies the number of chat messages to display in the popup (assuming Show Chat in Popup is enabled).
Show Updated as Time Since	Indicates that all clients show their update time as an “ago” value instead of “last updated.” Examples: Updated: 08:15 05/04/11 or 3 hours 25 minutes ago

Command Line

The command line of Status Board can be used to perform updates without launching the graphical user interface. Use *StatusBoard.exe [arguments]* to update a server from the command line.

Option	Description	Required
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-s	Server address and port. Example: 127.0.0.1:1066	Yes
-p	Password	No [unless server specified]
-d	Description of field	Yes
-v	Value of field	Yes
-o	Options (semi-colon delimited) Example: Yes;No;Maybe	No
-add	Marks the field for Add	Yes*
-edit	Marks the field for Edit	Yes*
-t	Types: (case matters) TextBox CheckBox ComboBox PullDownList	No

* - Add or Edit should be specified

Reference

Files

Name	Description
StatusBoard.exe	The Status Board application.
StatusBoard.ini	The ini file that contains the layout information for the Status Board window.
StatusBoard.clients.xml	The file containing all of the clients configured for the local instance of Status Board.
??server.xml	Each of these files contains the definition of a server. Each server definition can be easily backed up or migrated to other machines/locations.
??server.log	Logs of all the connections attempted on the given server.
StatusBoard.pdf	This document!

Encryption

Status Board uses a combination of RSA and Rijndael encryption to provide a secure communication channel over the network connection between the client and server. The initial connection exchanges the necessary information to secure all further communications between the server and client. No two connections with the server use the same encryption.

The connection procedure is as follows for every client connection:

1. The client generates an RSA key pair and sends the server the public key.
 2. The server generates a Rijndael key and initialization vector.
 3. The server uses the client's public key to transmit the Rijndael key and initialization vector.
 4. All non-header* data is encrypted for all further communications (such as the password or field updates)
- Non-header refers to the data payload definition information. The header contains a single byte of information indicating the type of data attached as well as the length of the encrypted data.

Selective Compression

Status Board uses the Deflate functionality built into the .NET framework to compress messages between the server and client. Any message over 150 bytes in length is considered for compression. Messages smaller than 150 bytes will almost always be larger in their compressed form due to the overhead. Otherwise if the compressed message is actually smaller it is transferred.

Note: Compression takes place before encryption. There is no point in making the encryption take even longer by working on larger data sets!

On-line Security

Status Board has **NOT** been through a thorough evaluation to protect against hacking in a live environment. It is recommended that you run this application on networks behind a firewall and/or configure network security around this application. Be sure to always use a password if you have any concerns!