Reliance Edge Quick-Start Guide

Note: Please read the supplied README.txt file before using Reliance Edge.

This guide leads you step-by-step through the process of compiling and running Reliance Edge and its accompanying tools on a Windows system. Although Reliance Edge is not designed to be a file system for the Windows platform, following this guide can help you learn how to use the product. The testing and host tools that are compiled are also useful with any port of Reliance Edge.

WARNING: The fsstress and redfmt tools clear all data from the given file or drive. Be careful not to accidentally specify a drive letter, PhysicalDrive name, or sensitive file name in as the device parameter.

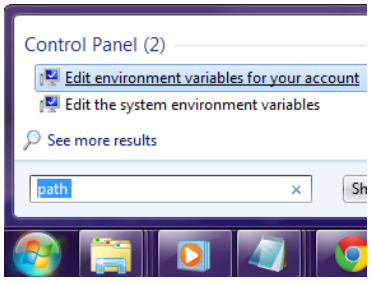
Requirements

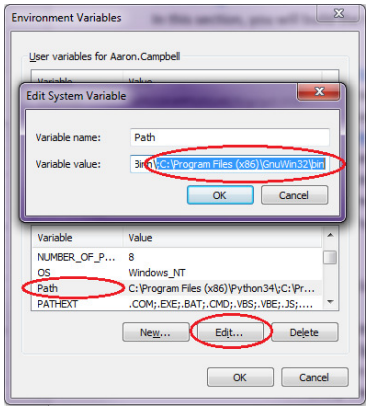
- A computer running Windows 7 or higher, connected to the Internet

Building the Reliance Edge Win32 Project

First, you will build the tests that are bundled with the product, allowing you to run Reliance Edge on a Windows computer.

1. Download and install Microsoft Visual Studio Community edition (free).
   Note: Most recent versions of Visual Studio also work. Visual Studio 2005 and earlier are not compatible. The package titled "Visual Studio Express for Windows" is not compatible.
2. Download and install the GNU Make utility for Windows (free).
   - Download the setup package listed as "Complete package, except sources."
3. Add make.exe to the system PATH.
   - Open the start menu and type "path" in the search box.
   - Click on the entry "Edit environment variables for your account."





   - Find the system variable "Path"; click it and click "Edit."
   - Append a semicolon and the path to the GNU make.exe file. Do not add extra spaces. On a normal installation, this path will be similar to: C:\Program Files (x86)\GnuWin32\bin.
4. Download the Reliance Edge source code.

- Go to the Reliance Edge GitHub page (github.com/datalightinc/reliance-edge) and click on the release tab.
- Click on a source code download link from the latest stable release. Once complete, unzip the downloaded file.

    Note: If you have Git installed, you may prefer to clone the repository: https://github.com/datalightinc/reliance-edge.git

5. Open the Visual Studio Command Prompt from the Start Menu. Use the `cd` command to set the working directory to the directory projects\win32, within the Reliance Edge source code folder.
6. Run `make`.
7. Run the following command to perform a quick test and ensure the file system works.

    ```
    fsstress 0 --dev=img.bin -v -n 100
    ```

    Note: This command runs a stress test on volume zero using the file img.bin as a disk image (the file will be created if it does not exist). This command specifies verbose output (-v) and performs 100 file system operations (-n 100). If it is successful, the last line it will print is "fsstress end, return 0."

Building the Win32 Host Tools

1. From the same Visual Studio command prompt, run `cd host` to set the working directory to projects\win32\host.
2. Run `make`.
3. Format a disk image using the following command: `redfmt 0 --dev=img.bin`.

What's Next?

This section introduces the steps needed to get Reliance Edge running on an embedded device. Further information about development for Reliance Edge can be found in the documentation, available at datalight.com/reliance-edge.

The projects you just built use Reliance Edge as a file system on a Windows computer using Windows drivers and file systems to access the media. This proves the functionality of Reliance Edge, but is a far cry from the IoT devices that it targets. Several steps are needed to set up a Reliance Edge project for an embedded (or IoT) device.

Reliance Edge has an extensive set of compile time configuration options, which include various media properties. The configuration values are set by the project in the files redconf.h and redconf.c. The Reliance Edge configuration utility provides a graphical user interface for easily setting up these values. The tool may be downloaded from datalight.com/reliance-edge. See the "Product Configuration" section of the documentation for more information.

The interface between Reliance Edge and the underlying media drivers must also be set up for a project. Instructions for this procedure are given in the "Porting Guide" section of the documentation.

There is a fully implemented project included in the source tree for using Reliance Edge with FreeRTOS on an Atmel SAM4E-EK board. This can be found in the folder projects\freertos\atmel\sam4e-ek. The FreeRTOS interface implementation is in the folder os\freertos. The README.txt file in the sam4e-ek directory describes how to use that project.

If you have further questions about setting up your Reliance Edge project, contact RelianceEdgeSupport@datalight.com.