README

csv2modbus Project

This a python module which allows the user to source data from a **single** CSV file *on the local machine* and present the resulting values on a ModbusTCP server

Setting Up For Development

Install Pymodbus Library

Version >= 1.3.0
(This is for compatibility with builder.to_registers function which enables a float value to be coded directly as F-32)

```
git clone git://github.com/bashwork/pymodbus.git
cd pymodbus
python setup.py install
```

Install Pyinstaller

Pyinstaller is used to make a one-file executable for Windows
Get it from the official site (http://www.pyinstaller.org/)

Making an executable

To compile to a executable *as-is* run the following command in the root directory
(Ensure pyinstaller is available in PATH)

```
pyinstaller.exe .\csvmodbus.spec
```

This will create a single file executable in the `dist` folder (Excluded from version control)

Using The Executable

1. Paste the .exe into the folder from which you wish to run it

2. Run it by double clicking
3. Enter the name of the CSV file from which data is to be taken
4. Enter the IP Address and Port for the ModbusTCP Server
   (for e.g. `localhost` and `502`)
5. These inputs are saved to the newly created `settings.ini` file
6. Exit the program
7. Run Again to Start Operation

Installation Instructions for Configuring Siemens SCADA to provide data to everSENSE

Configure the Network

Assumption: Ethernet Ports on the SCADA PC are already utilized

Requirement
- USB-Ethernet Converter
- USB-Ethernet Converter Driver *as file or on CD*

1. Insert the CD from the USB-Ethernet converter manufacturer into the *SCADA* PC
2. Select the `.exe` file and install the driver.
3. Connect the USB-Ethernet converter to the SCADA PC on any vacant USB port
4. On the Windows Start Bar, *right-click* on the Network Icon and select *Open Network and Sharing Center*
5. On Right-Hand Panel of Network and Sharing center choose the option *Change Adapter Settings*
6. You should see your newly configured Network here
7. Right-click and choose *Properties*
8. In Properties Tab scroll down and select **IPv4** and then click *Properties* button below
9. Select Use the following IP Address Option

- Enter a LAN IP Address in the same series as the everSENSE Server's IP Address. For e.g - everSENSE Server Address - **192.168.100.25** then Enter IP which is not assigned (consult IT if required) like **192.168.100.230**
- Enter Netmask as **255.255.255.0**
- Enter Gateway as the same IP Address selected above (*192.168.100.230*)

1. Select OK.
2. Click on Start Button and select **Run**. Enter `cmd.exe` and Command Prompt should open
3. In command prompt enter `ipconfig` , in the block for our converter the IP address entered above should come

4. Connect everSENSE and SCADA PC using Ethernet Cable and Switch.
5. Try pinging the everSENSE Server from SCADA PC by using command

   `ping 192.168.100.25`
   Substitute above IP Address for the actual IP Address of everSENSE

Network Connection between the two has now been established.

Start csv2modbus on SCADA PC

1. Paste the new HMI Application from the pendrive to the folder `C:\everSENSE`
2. Stop the running HMI Application.
3. Start the new HMI Application
4. After 30-60 seconds check that the file `data.csv` is created in the folder `C:\everSENSE`
5. If the file is generated successfully and values in it change every 30 seconds, paste the file `csv2modbus.exe` to the same folder
6. Run csv2modbus.exe, command prompt should open and you should see the same values in the output of command prompt.
7. The values should reappear every 5-10 seconds

Check on everSENSE

1. In everSENSE on Device Settings, configure a TCP Channel with IP address of the SCADA PC and port as **5020** (NOTE - 5020 not 502)
2. Enter the parameters as F-32 registers like normal.
3. Save and check that communication is OK
4. Check that data is changing every 1/2 minutes.

Done