EDS XML Reader – Python Version 1.00

Python

This program was written in Python 3.3.0. At the time this document was written most computers did not come with Python 3 installed. Python can be downloaded from this website for Windows, Mac or Linux:

http://www.python.org/download/

To run the program when it is double clicked from the Finder in Mac and Linux, it is necessary to place a 'shebang' (#!) line at the beginning of the program that tells the operating system where to find the desired version of Python. The screenshot below illustrates a #! line for the Mac, and below it is the #! line for Linux that is not functional because of the space between # and !.

```
#!/Library/Frameworks/Python.framework/Versions/3.3/bin/python3
# !/usr/bin/env python3

#Copyright 2013 Embedded Data Systems, LLC
#
#   Licensed under the Apache License, Version 2.0 (the "License");
#   you may not use this file except in compliance with the License.
#   You may obtain a copy of the License at
#
#       http://www.apache.org/licenses/LICENSE-2.0
#
#   Unless required by applicable law or agreed to in writing, software
#   distributed under the License is distributed on an "AS IS" BASIS,
#   WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
#   See the License for the specific language governing permissions and
#   limitations under the License.

import os
import xml.etree.ElementTree as ET
```

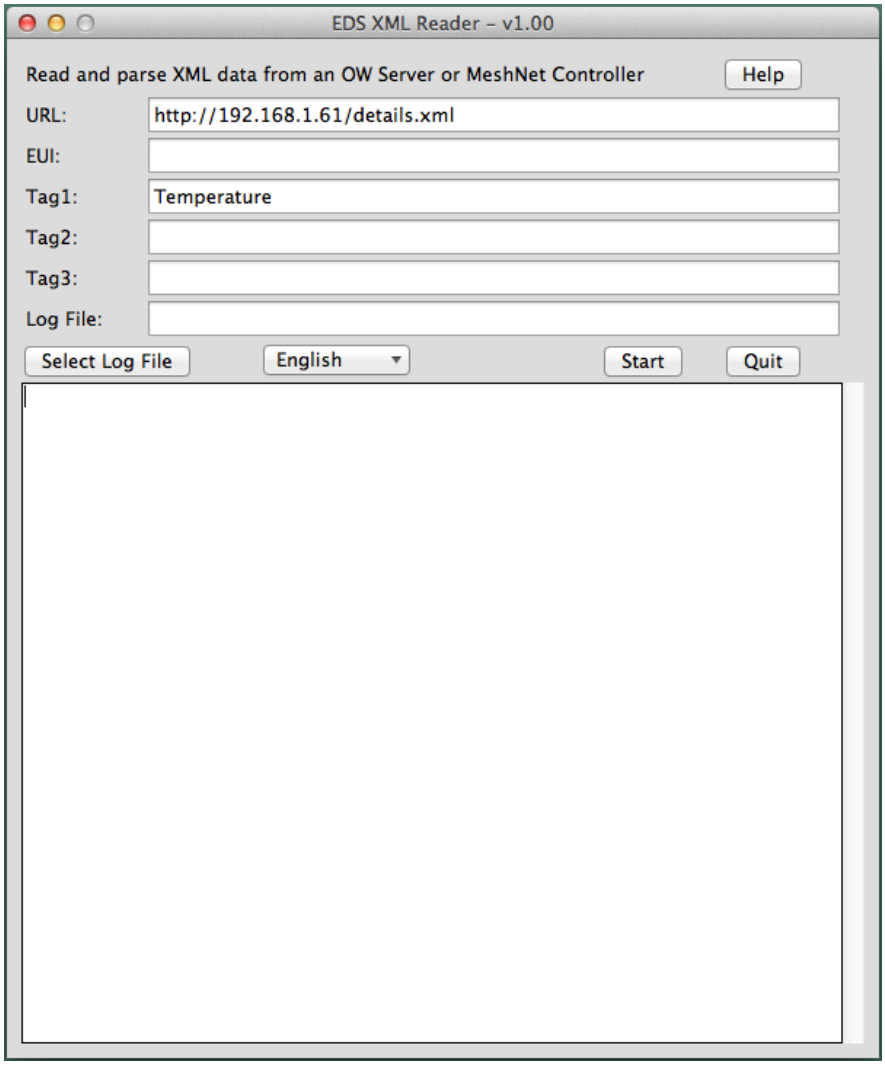
Operation

This software reads XML data from an OW Server or MeshNet Controller every second, converts it to a comma separated format, displays it to the information window and optionally appends it to a file.

The program reads from one OW Server or MeshNet Controller only.

The program operates in one of two modes. It can read up to 3 items from a single device (sensor), or it can read the same item from all the devices on the OW Server or MeshNet Controller. When the "EUI" field is empty, the program reads all the 'Tag 1' items in the XML file. When the "EUI" field is valid it will use that field to determine which device to read data from, then it will use the names in "Tag 1", "Tag 2" and "Tag 3" to get the appropriate data.

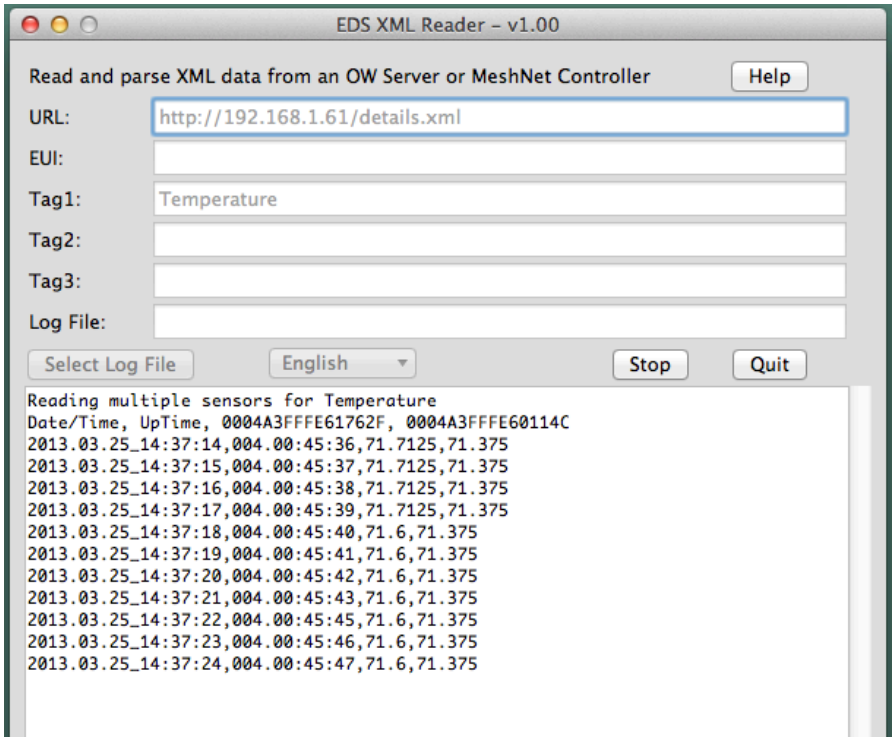
If a log file is selected, data will be saved to the file in comma separated format with a header at the beginning. This file may then be imported to a spreadsheet.



Reading 1 Tag From Multiple Devices

To read 1 tag from multiple devices follow these steps. Refer to the screen shot below.

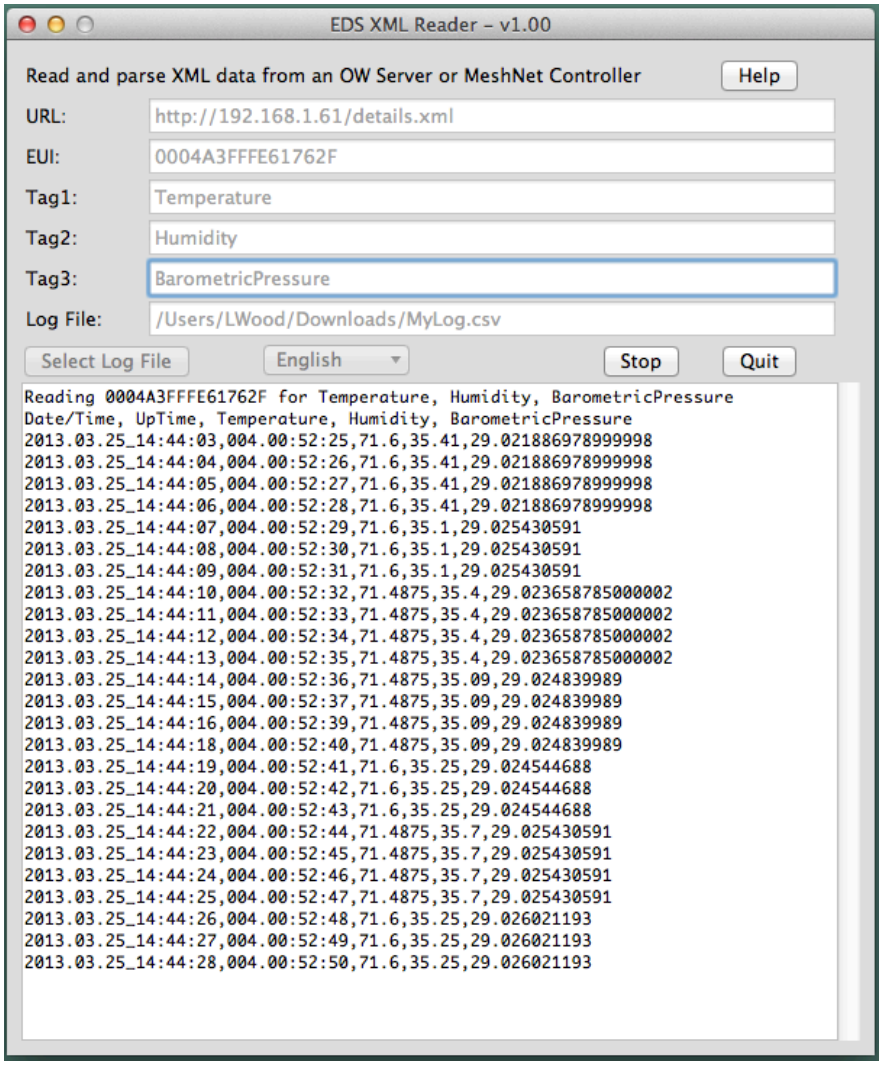
- Set the 'URL' to the correct location.
- Enter the desired XML tag name to read in 'Tag 1'.
- Make certain the 'EUI' field has no characters in it.
- Click 'Select Log File' and enter a filename and location so the data will be saved.
- Select the units, Metric or English. The program currently converts temperature and barometric pressure.
- Click 'Start'.



Reading Multiple Tags From One Device

To read up to 3 tags from 1 sensor, follow these steps.

- Select the correct URL.
- Enter the XML tag names in the fields ‘Tag 1’, ‘Tag 2’ and ‘Tag 3’. If only 2 tags are to be read, leave ‘Tag 3’ empty. If only 1 tag is to be read, leave ‘Tag 2’ and ‘Tag 3’ empty.
- Enter the EUI or ROMID of the device to read in the ‘EUI’ field.
- Click ‘Select Log File’ to write the data to a file.
- Select the desired units, Metric or English.
- Click ‘Start’



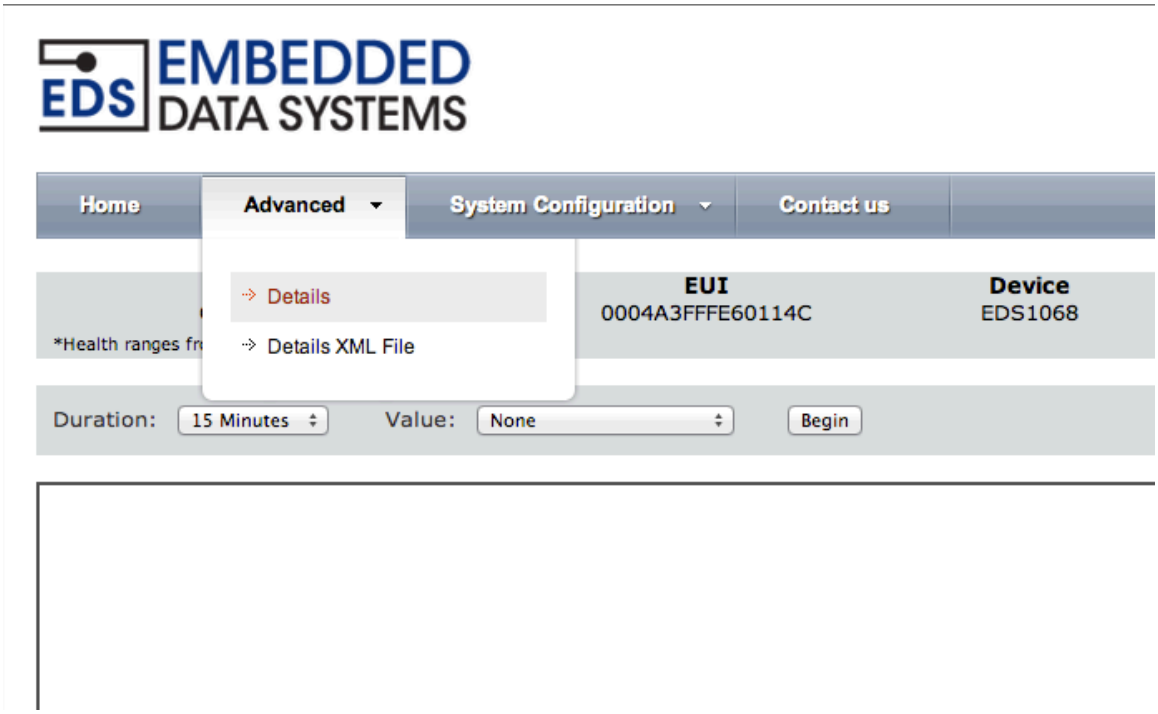
Below is an example of the log file.

MyLog.csv

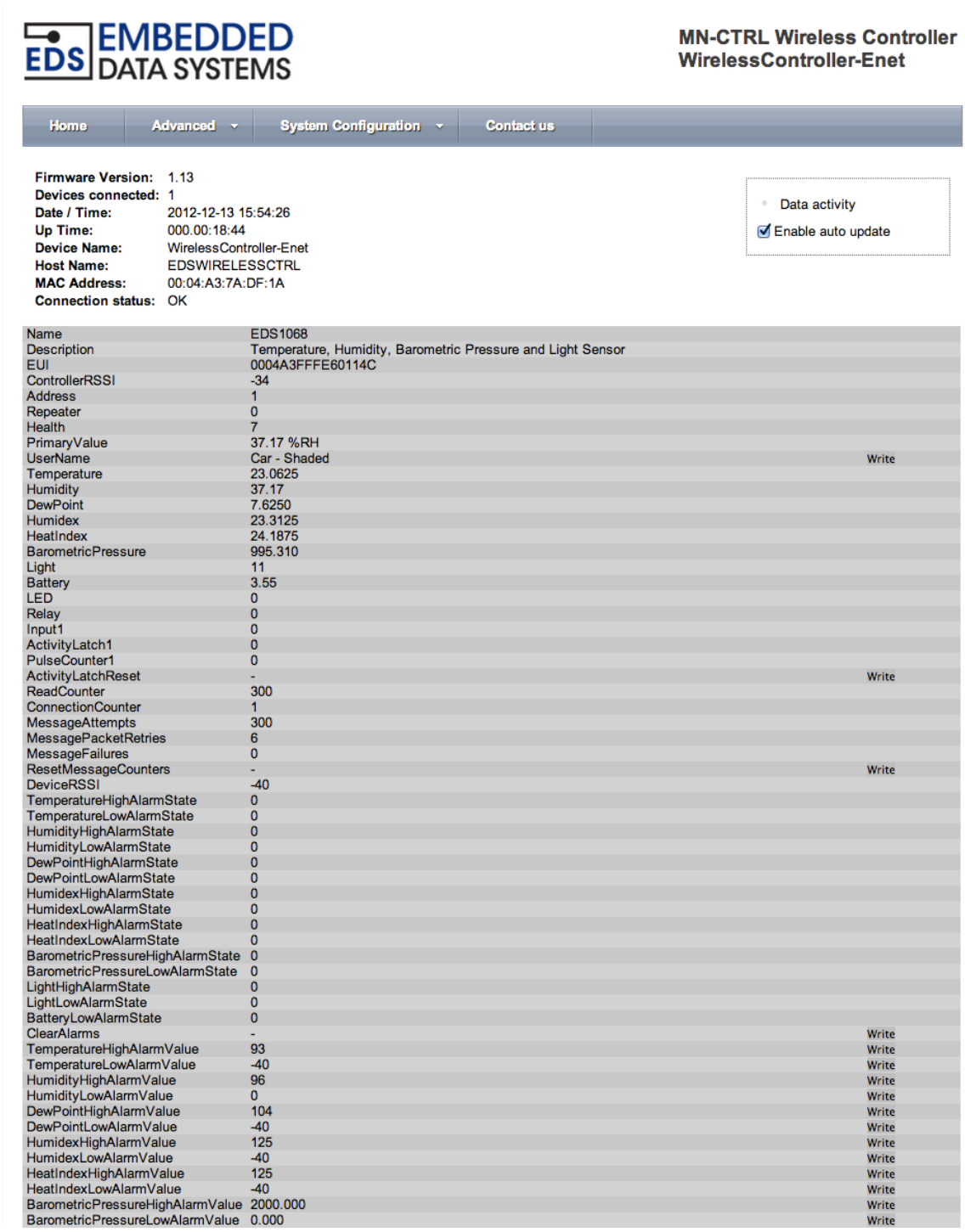
```
Reading 0004A3FFFE61762F for Temperature, Humidity, BarometricPressure
Date/Time, UpTime, Temperature, Humidity, BarometricPressure
2013.03.25_14:44:03,004.00:52:25,71.6,35.41,29.021886978999998
2013.03.25_14:44:04,004.00:52:26,71.6,35.41,29.021886978999998
2013.03.25_14:44:05,004.00:52:27,71.6,35.41,29.021886978999998
2013.03.25_14:44:06,004.00:52:28,71.6,35.41,29.021886978999998
2013.03.25_14:44:07,004.00:52:29,71.6,35.1,29.025430591
2013.03.25_14:44:08,004.00:52:30,71.6,35.1,29.025430591
2013.03.25_14:44:09,004.00:52:31,71.6,35.1,29.025430591
2013.03.25_14:44:10,004.00:52:32,71.4875,35.4,29.023658785000002
2013.03.25_14:44:11,004.00:52:33,71.4875,35.4,29.023658785000002
2013.03.25_14:44:12,004.00:52:34,71.4875,35.4,29.023658785000002
2013.03.25_14:44:13,004.00:52:35,71.4875,35.4,29.023658785000002
2013.03.25_14:44:14,004.00:52:36,71.4875,35.09,29.024839989
2013.03.25_14:44:15,004.00:52:37,71.4875,35.09,29.024839989
2013.03.25_14:44:16,004.00:52:39,71.4875,35.09,29.024839989
2013.03.25_14:44:18,004.00:52:40,71.4875,35.09,29.024839989
2013.03.25_14:44:19,004.00:52:41,71.6,35.25,29.024544688
2013.03.25_14:44:20,004.00:52:42,71.6,35.25,29.024544688
2013.03.25_14:44:21,004.00:52:43,71.6,35.25,29.024544688
2013.03.25_14:44:22,004.00:52:44,71.4875,35.7,29.025430591
2013.03.25_14:44:23,004.00:52:45,71.4875,35.7,29.025430591
2013.03.25_14:44:24,004.00:52:46,71.4875,35.7,29.025430591
2013.03.25_14:44:25,004.00:52:47,71.4875,35.7,29.025430591
2013.03.25_14:44:26,004.00:52:48,71.6,35.25,29.026021193
2013.03.25_14:44:27,004.00:52:49,71.6,35.25,29.026021193
2013.03.25_14:44:28,004.00:52:50,71.6,35.25,29.026021193
2013.03.25_14:44:29,004.00:52:51,71.6,35.1,29.023363484
2013.03.25_14:44:30,004.00:52:52,71.6,35.1,29.023363484
2013.03.25_14:44:31,004.00:52:53,71.6,35.1,29.023363484
2013.03.25_14:44:32,004.00:52:54,71.6,35.1,29.023363484
2013.03.25_14:44:33,004.00:52:55,71.6,35.41,29.027497698
2013.03.25_14:44:34,004.00:52:57,71.6,35.41,29.027497698
2013.03.25_14:44:35,004.00:52:58,71.6,35.41,29.027497698
2013.03.25_14:44:37,004.00:52:59,71.4875,35.09,29.025430591
2013.03.25_14:44:38,004.00:53:00,71.4875,35.09,29.025430591
2013.03.25_14:44:39,004.00:53:01,71.4875,35.09,29.025430591
2013.03.25_14:44:40,004.00:53:02,71.4875,35.09,29.025430591
2013.03.25_14:44:41,004.00:53:03,71.6,35.55,29.024839989
2013.03.25_14:44:42,004.00:53:04,71.6,35.55,29.024839989
2013.03.25_14:44:43,004.00:53:05,71.6,35.55,29.024839989
2013.03.25_14:44:44,004.00:53:06,71.6,35.41,29.025430591
```

How To Determine XML Names

Variable names can be determined by viewing the XML file. On the main webpage of an OW Server or MeshNet Controller, select the Advanced menu, then Details.



The screen shot below shows part of the XML data. Any line with a “Write” button on the right can be written. For example, the first item that can be written in the XML data below is “UserName”, and it is this text string that would be used as the ‘Tag’ name.



Development Environment

This software was developed on Aptana Studio 3. Python 3.3.0.

Software License

The EDS XML Reader software and source code license is shown below.