DESIGN: EnviroDIY Nodes

Great Lakes Data Watershed (gldw.org)

Instrument Toolkit Program

Revised: June 18, 2019

# Overview

The Great Lakes Data Watershed (gldw.org) Instrument Toolkit program provides software and hardware components that can be assembled to build low-cost customized environmental monitoring instruments and stations.

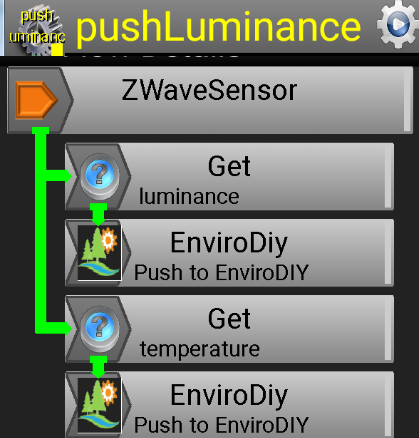
After researching available options, it has been determined that the ***EnviroDIY Mayfly Data Logger* *Board*** is an excellent building block for construction of these stations.

**This document describes the design of VDAB processing nodes that enhance the integration of VDAB with *EnviroDIY Mayfly Data Logger* *Board* and their *Monitor My Watershed* environmental data repository.**

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| Node | Description |
| MayflyControlService | This node can be used to control and configure a sketch. Initially it will only be used to control the type its connectivity to a VDAB server.  A corresponding sketch will be developed which supports handling this control data from a serial port or using HTTP to the Mayfly. |
| MayflyParseFunction | This node takes input received from a Mayfly received using MQTT, HTTP or Serial Input and parses and interprets the data. A standard VDAB data event is created. |
| MonitorMyWatershedTarget | Publishes environmental data to the EnviroDIY MyWatershed data repository |

# EnviroDIYTarget

## ZWave Luminance Sensor to EnviroDIY Repository

VDAB many different types of data sources including ZWave based sensors. In this example flow luminance data from a AeoTec environmental sensor can be sent to an EnviroDIY ODM2 Data Repository.

## Smartphone TDS Data with Prevalidation

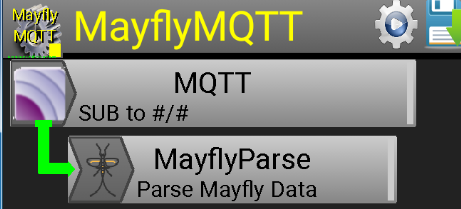
VDAB can be used to validate citizen data prior to publishing it to EnviroDIY. This flow illustrates receiving citizen data in a structured email. Data is only published to MyWatershed after it is validated and determined to be reasonable. Emails are sent to the originator if the data is questionable.

# ParseMayflyFunction

The ParseMayflyFunction takes JSON formatted data received from any protocol and converts it to a proper VDAB event.

## ParseMayfly with HTTP

## ParseMayfly with MQTT



# Appendix: Node Documentation

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