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 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 the Stroud [tm] Water Research Center's Mayfly data logger board and their MyWatershed environmental data repository.

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.
EnviroDIYTarget	Publishes environmental data to the EnviroDIY MyWatershed data repository

EnviroDiyService

Beta

Publishes environmental data to a EnviroDIY ODM2 data repository.

Token	This is the registration token for the monitoring site.
SamplingFeature	This is the universally unique identifier provided for this monitoring site.
SelectedElement	Select the data to be sent
DataID	The data identifier code associated with this data item.

MayflyParseFunction

Beta

Takes data received from a Mayfly and parses into a standard VDAB event.

Token	This is the registration token for the monitoring site.
SamplingFeature	This is the universally unique identifier provided for this monitoring site.
SelectedElement	Select the data to be sent

MayflyControlService

Beta

Configures and controls a Mayfly Data Logger.

DataHubType	The type of data hub that will receive the sensor data.
MayflyLocation	The location of the mayfly. For ip communication this should be the IP and Port.
Token	This is the registration token for the monitoring site.
SamplingFeature	This is the universally unique identifier provided for this monitoring site.
EnabledSensors	The sensor data that should be sent. Pick one or more sensors from the drop down list.
DataIDs	The data identifiers corresponding to the selected sensors.