**Agent code:**

// define the URL of the server code

const url = "https://mayar.abertay.ac.uk/~1704097/306/week8/week8.php" ;

function log (message) {

local headers = { "Content-Type" : "application/json"} ;

local jsonBody = http.jsonencode(message);

server.log(jsonBody);

local request = http.post(url, headers, jsonBody);

local response = request.sendsync();

server.log(response.statuscode + ": " + response.body);

}

device.on("ch1", log);

**Device Code:**

// Read the internal and external temperature from a thermister.

// B57861S0103F040 NTC Thermistor with matched resistor

id <- hardware.getdeviceid();

// Configure Pin

// thermistor connected to pin8(external) and pin9(internal)

external <- hardware.pin8 ;

external.configure(ANALOG\_IN);

internal <- hardware.pin9 ;

internal.configure(ANALOG\_IN);

// Define the relevant constants for this thermister

const aconst = 65535.0 ;

const bconst = 3988;

const t0const = 298.15;

vconst <- hardware.voltage() ;

// function to read the voltage and convert to degrees Centigrade

function getTemp() {

// read the value

local v8 = external.read() ;

local v9 = internal.read() ;

// convert the voltage to temperature in centigrade.

v8 = v8 \* vconst / aconst ;

v9 = v9 \* vconst / aconst ;

local r8 = 10000.0 / ( (vconst / v8) - 1);

local r9 = 10000.0 / ( (vconst / v9) - 1);

local ln8 = math.log(10000.0 / r8);

local ln9 = math.log(10000.0 / r9);

local t8 = (t0const \* bconst) / (bconst - t0const \* ln8) ;

local t9 = (t0const \* bconst) / (bconst - t0const \* ln9) ;

local t8 = t8 - 273.15 ;

local t9 = t9 - 273.15 ;

// send the value to the server log

local c8Str = format("%.01f", t8) ;

local c9Str = format("%.01f", t9) ;

local light = hardware.lightlevel();

local voltage = hardware.voltage();

// send the values to the agent

local message = {

"external" : c8Str ,

"internal" : c9Str,

"light" : light,

"voltage" : voltage

} ;

//server.log("ID: " + id + " Temperature: " + c8Str + " Temperature2: " + c9Str + " light: " + light + " voltage: " + voltage)

// get the imp to sleep and wake up every 20 s

agent.send("ch1", message); //message contains the JSON storing temperatures, light adn voltage

imp.wakeup(20, getTemp);

}

getTemp() ;