

EVIDENCIAS PRACTICA WEBSERVICE

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Fecha: 19/11/2024 y 26/11/2024

Actividad 1:

Pegar aquí los pantallazos de los resultados que evidencien la recepción de mensajes en el nodo **debug** en node red hacerlo con una página diferente a la de la guía:

Usando el link: <https://www.google.com>

The screenshot shows the Node-RED web interface in a browser. The flow consists of three nodes: a 'timestamp' node, an 'http request' node, and a 'debug 1' node. The 'http request' node is configured with the URL 'https://www.google.com'. The 'debug 1' node is highlighted. The debug console on the right shows the received payload, which is the HTML content of the Google homepage.

Ahora, usando el link: <https://lastminuteengineers.com/esp32-wroom-32-pinout-reference/>

The screenshot shows the Node-RED web interface in a browser. The flow consists of three nodes: a 'timestamp' node, an 'http request' node, and a 'debug 1' node. The 'http request' node is configured with the URL 'https://lastminuteengineers.com/esp32-wroom-32-pinout-reference/'. The 'debug 1' node is highlighted. The debug console on the right shows the received payload, which is the HTML content of the specified webpage.

Actividad 2:

Pegar aquí el pantallazo del proceso para obtener datos meteorológicos de una estación diferente:

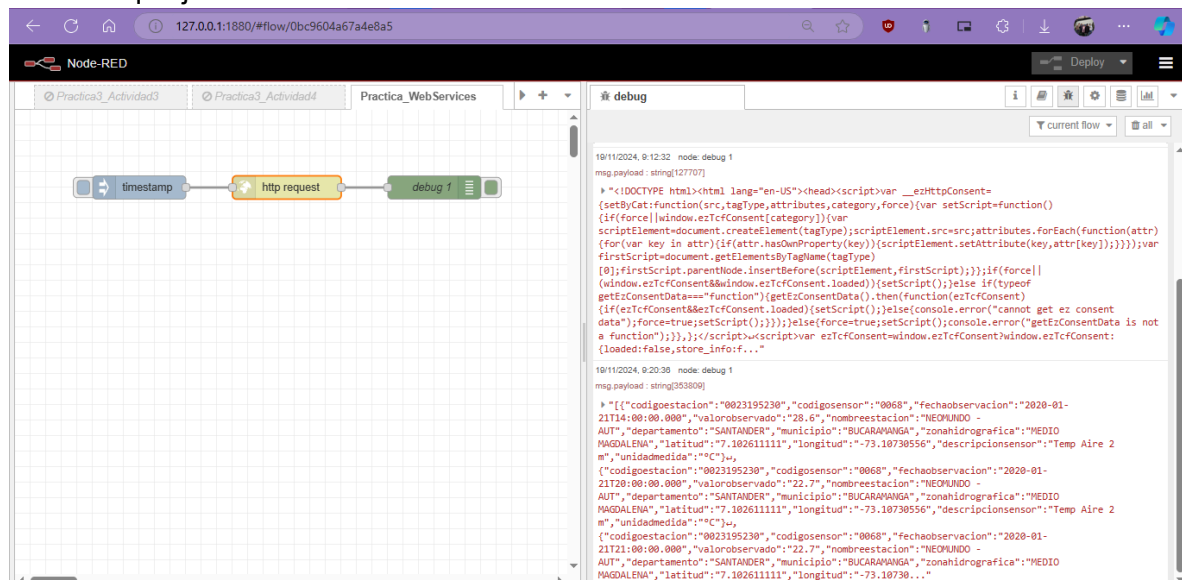
Estación seleccionada:

<https://www.datos.gov.co/resource/sbwg-7ju4.json?codigoestacion=0023195230>



CodigoEsta...	CodigoSen...	FechaObse...	ValorObse...	NombreEst...	Departame...	Municipio	ZonaHidrog...	Latitud	Longitud	Descripcio...	UnidadMe...
0023195230	0068	2020 Jan 21 02:1	28,6	NEOMUNDO - AL	SANTANDER	BUCARAMANGA	MEDIO MAGDAL	7,102611111	-73,10730556	Temp Aire 2 m	°C
0023195230	0068	2020 Jan 21 08:1	22,7	NEOMUNDO - AL	SANTANDER	BUCARAMANGA	MEDIO MAGDAL	7,102611111	-73,10730556	Temp Aire 2 m	°C
0023195230	0068	2020 Jan 21 09:1	22,7	NEOMUNDO - AL	SANTANDER	BUCARAMANGA	MEDIO MAGDAL	7,102611111	-73,10730556	Temp Aire 2 m	°C

Sin el bloque json:



```
19/11/2024, 9:12:32 node: debug 1
msg.payload: string[127707]

{
  "<DOCTYPE html><html lang='en-US'><head><script>var __ezTcfConsent=(setByCat:function(src,tagType,attributes,category,force){var setScript=function(){if(force||window.ezTcfConsent[category]){var scriptElement=document.createElement(tagType);scriptElement.src=src;attributes.forEach(function(attr){for(var key in attr){if(attr.hasOwnProperty(key)){scriptElement.setAttribute(key,attr[key])}});var firstScript=document.getElementsByTagName(tagType)[0];firstScript.parentNode.insertBefore(scriptElement,firstScript)});if(force||window.ezTcfConsent&&window.ezTcfConsent.loaded){setScript();}else if(typeof getEzConsentData==='function'){getEzConsentData().then(function(ezTcfConsent){if(ezTcfConsent&&ezTcfConsent.loaded){setScript();}else{console.error('cannot get ez consent data');force=true;setScript();});}else{force=true;setScript();console.error('getEzConsentData is not a function')}});</script><script>var ezTcfConsent=window.ezTcfConsent&&window.ezTcfConsent.loaded:false;store_info:..."
}

19/11/2024, 9:20:38 node: debug 1
msg.payload: string[353809]

[{"codigoestacion":"0023195230","codigosensor":"0068","fechaobservacion":"2020-01-21T14:00:00.000","valorobservado":"28.6","nombrestacion":"NEOMUNDO - AUT","departamento":"SANTANDER","municipio":"BUCARAMANGA","zonahidrografia":"MEDIO MAGDALENA","latitud":"7.102611111","longitud":"-73.10730556","descripcionsensor":"Temp Aire 2 m","unidadmedida":"°C"},{"codigoestacion":"0023195230","codigosensor":"0068","fechaobservacion":"2020-01-21T20:00:00.000","valorobservado":"22.7","nombrestacion":"NEOMUNDO - AUT","departamento":"SANTANDER","municipio":"BUCARAMANGA","zonahidrografia":"MEDIO MAGDALENA","latitud":"7.102611111","longitud":"-73.10730556","descripcionsensor":"Temp Aire 2 m","unidadmedida":"°C"},{"codigoestacion":"0023195230","codigosensor":"0068","fechaobservacion":"2020-01-21T21:00:00.000","valorobservado":"22.7","nombrestacion":"NEOMUNDO - AUT","departamento":"SANTANDER","municipio":"BUCARAMANGA","zonahidrografia":"MEDIO MAGDALENA","latitud":"7.102611111","longitud":"-73.10730556","descripcionsensor":"Temp Aire 2 m","unidadmedida":"°C"}]
```

Con el bloque json:

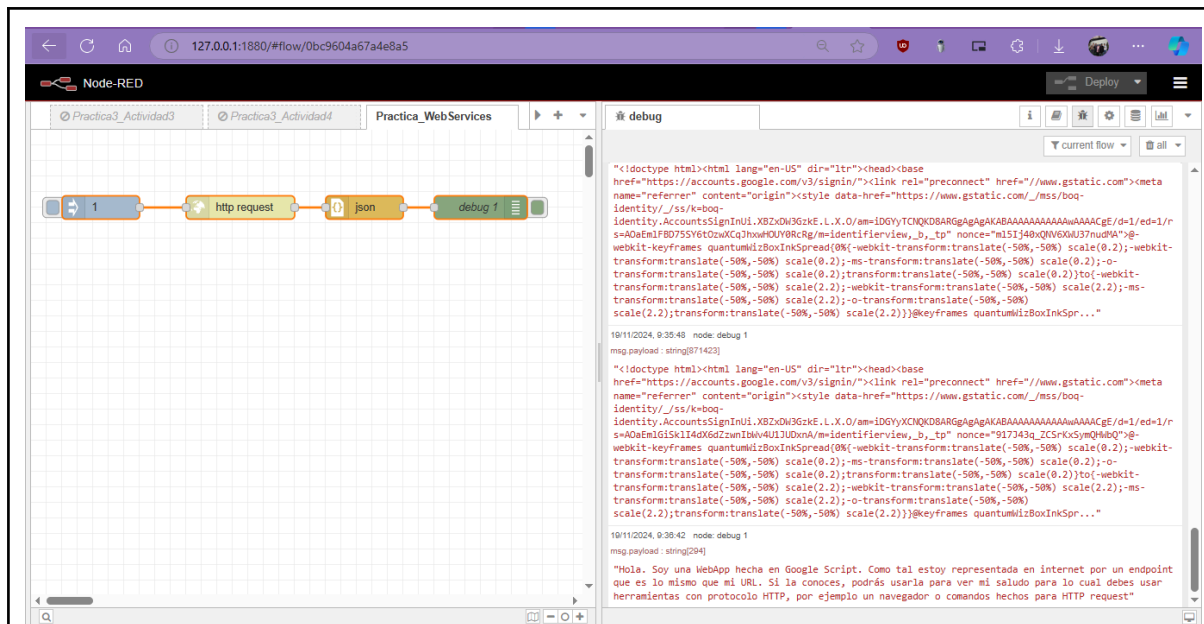
The top screenshot shows a Node-RED workflow with four nodes: 'timestamp', 'http request', 'json', and 'debug 1'. The 'debug 1' node is selected, and the console displays a large JSON array of 1000 objects. The first object is expanded, showing fields like 'codigoestacion', 'codigosensor', 'fechaobservacion', 'valorobservado', 'nombrestacion', 'departamento', 'municipio', 'zonahidrografica', 'descripcion', and 'unidadmedida'.

The bottom screenshot shows the same workflow, but the 'debug 1' node is now displaying a single object from the array, which is expanded to show its detailed structure, including the same fields as the first object in the top screenshot.

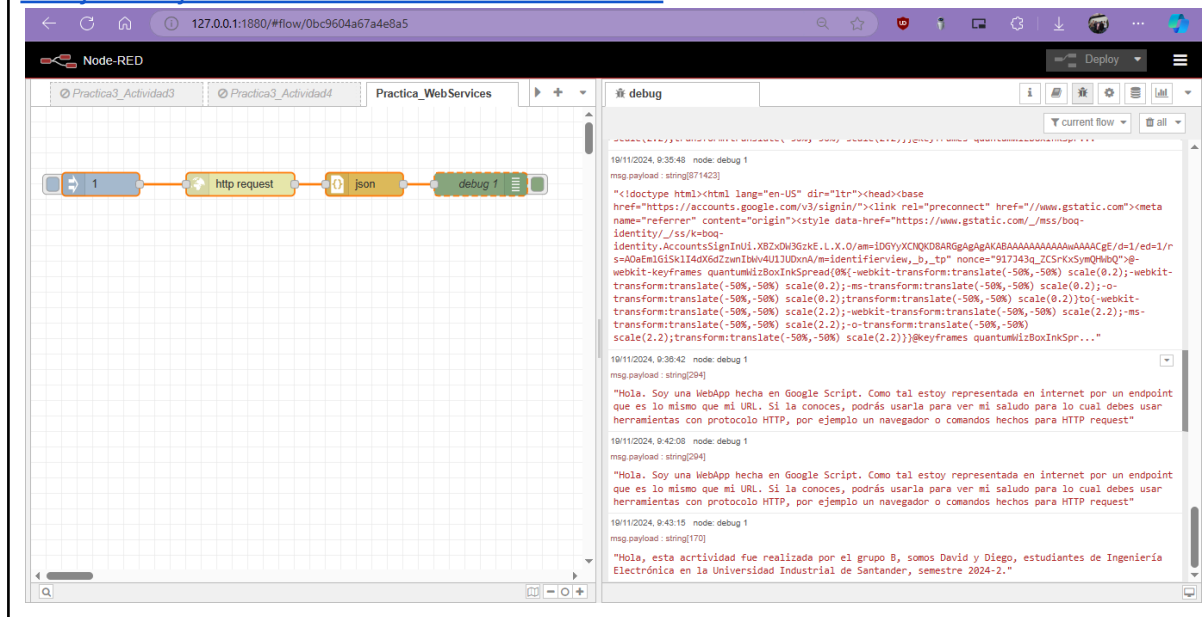
Actividad 3:

Enviar un mensaje diferente al del WebService de la guía:

Primero se evidencia el mensaje propuesto desde Node-RED, gracias a la siguiente implementación hecha en Google Apps Script:
https://script.google.com/macros/s/AKfycbwi33wotzxMNq-jZ9c-XCI7u0aTKM0JyiPVh_p0aOluXQg7U6C7pi7dehOeTTGQPY_6pg/exec



Con un mensaje diferente queda de la siguiente forma:
<https://script.google.com/macros/s/AKfycbxFO547bVSVQPTR5S18MFZORo4fTQtzLBT6yB47fjCnWFtjrh2xWbWGESEXW80J3FKOIA/exec>



Actividad 26/11/2024:

Inicialmente se modificó el código en GAS para que agregara datos a un Google Sheets desde la ejecución del código en GAS y también desde el bloque **inject** en Node-RED:

The screenshot shows a web browser with two main windows. The left window is Node-RED, displaying a flow with an 'http request' node and a 'debug' console. The console shows several JSON payloads, including a message about a group of students and a series of sensor data points. The right window is a Google Sheet titled 'PracticaWebS...'. It contains a table with the following data:

	A	B	C	D	E
	ID	Fecha	Sensor	Valor	Unidades
1	1	26/11/2024, 9:13:43 a.m.	Distancia	363.05	cm
2	2	26/11/2024, 9:15:07 a.m.	Distancia	62.62	cm
3	3	26/11/2024, 9:15:16 a.m.	Distancia	244.2	cm
4	4	26/11/2024, 9:15:55 a.m.	Distancia	268.24	cm
5	5	26/11/2024, 9:16:42 a.m.	Distancia	18.65	cm
6	6	26/11/2024, 9:16:52 a.m.	Distancia	185.86	cm
7	7	26/11/2024, 9:19:17 a.m.	Distancia	299.28	cm
8	8	26/11/2024, 9:19:44 a.m.	Distancia	376.79	cm
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

El código que se uso en GAS fue el siguiente:

```
//// CÓDIGO PARA CARGAR DATOS AL GOOGLE SHEETS Y VISUALIZAR EN NODE-RED
// URL del Google Sheets
const SHEET_ID = "1hJeggCC7pwvjH1Z5ZW4-vLTiQL0oQ51erBBLEbd7WhE";
const SHEET_NAME = "Hoja 1";

// Función para manejar las solicitudes GET
function doGet() {
  // Generar un ID único
  const id = generateId();

  // Obtener la fecha y hora actual
  const fecha = new Date().toLocaleString();

  // Simular un valor aleatorio para el sensor de distancia
  const valorSensor = Math.random() * (400 - 10) + 10; // Rango: 10 a 400
  cm

  // Unidades del sensor
  const unidades = "cm";

  // Construir el objeto de datos
  const data = {
    ID: id,
    Fecha: fecha,
    Sensor: "Distancia",
    Valor: valorSensor.toFixed(2),
    Unidades: unidades
  };

  // Guardar los datos en Google Sheets
  guardarEnSheets(data);
}
```

```

// Enviar los datos en formato JSON
return ContentService.createTextOutput(JSON.stringify(data))
    .setMimeType(ContentService.MimeType.JSON);
}

// Función para guardar datos en Google Sheets
function guardarEnSheets(data) {
    const ss = SpreadsheetApp.openById(SHEET_ID);
    const sheet = ss.getSheetByName(SHEET_NAME);

    if (sheet) {
        sheet.appendRow([data.ID, data.Fecha, data.Sensor, data.Valor,
data.Unidades]);
    }
}

// Generar un ID único incremental
function generateId() {
    const ss = SpreadsheetApp.openById(SHEET_ID);
    const sheet = ss.getSheetByName(SHEET_NAME);
    const lastRow = sheet.getLastRow();

    if (lastRow === 1) {
        // Si solo están los encabezados
        return 1;
    } else {
        // Incrementar el último ID
        const lastId = sheet.getRange(lastRow, 1).getValue();
        return lastId + 1;
    }
}

```

Ahora, la idea es que de una tabla con datos en google sheets, se tome una fila de esos datos y se observen dichos datos desde Node-RED y en formato JSON:

Esta es la tabla de la que se toman los datos:

	A	B	C	D	E	F	G	H
	Fecha	Latitud	Longitud	Descripcion	N	Datos	finalcial	fpaso
516	2024-10-11 20:31:37	7.136921524	-73.12083991	dagd_TestHome	8	045903027,0.005596056,0.018298868,0.03317317,0.039554086,0.03317317,0.018298868,0.005596	1417000000	1000
517	2024-10-11 20:31:44	7.136921524	-73.12083991	dagd_TestHome	8	369e-05,0.0013453611,0.0048596906,0.009013291,0.012289021,0.009013291,0.0048596906,0.0013	1417000000	1000
518	2024-10-11 20:31:52	7.136921524	-73.12083991	dagd_TestHome	8	017991364,0.011108953,0.062153563,0.15925516,0.21475995,0.15925516,0.062153563,0.0111089	1417000000	1000
519	2024-10-11 20:31:59	7.136921524	-73.12083991	dagd_TestHome	8	0.0011161268,0.016142152,0.0649936,0.13993657,0.17900227,0.13993657,0.0649936,0.016142152	1417000000	1000
520	2024-10-11 20:32:07	7.136921524	-73.12083991	dagd_TestHome	8	0.005730629,0.07680889,0.37237108,0.8752491,1.149684,0.8752491,0.37237108,0.07680889	1417000000	1000
521	2024-10-11 20:32:14	7.136921524	-73.12083991	dagd_TestHome	8	040767,0.0010426597,0.003857128,0.0060221753,0.005850126,0.0060221753,0.003857128,0.0010	1417000000	1000
522	2024-10-11 20:32:21	7.136921524	-73.12083991	dagd_TestHome	8	0.00017306209,0.07213565,0.30196175,0.6642417,0.855518,0.6642417,0.30196175,0.07213565	1417000000	1000
523	2024-10-11 20:32:29	7.136921524	-73.12083991	dagd_TestHome	8	5615363,0.0027809744,0.011021138,0.023785183,0.030494303,0.023785183,0.011021138,0.00278	1417000000	1000
524	2024-10-11 20:32:36	7.136921524	-73.12083991	dagd_TestHome	8	1867e-05,0.0007976859,0.002260346,0.003876482,0.004575725,0.003876482,0.002260346,0.00079	1417000000	1000
525	2024-10-11 20:32:43	7.136921524	-73.12083991	dagd_TestHome	8	3e-05,0.00023161063,0.0014172246,0.0036188012,0.004860782,0.0036188012,0.0014172246,0.000	1417000000	1000
526	2024-10-11 20:32:51	7.136921524	-73.12083991	dagd_TestHome	8	0.010973275,0.12556107,0.47718602,0.98004276,1.2312703,0.98004276,0.47718602,0.12556107	1417000000	1000
527	2024-10-11 20:32:58	7.136921524	-73.12083991	dagd_TestHome	8	0.002944529,0.01870038,0.061888736,0.10994046,0.12860915,0.10994046,0.061888736,0.0187003	1417000000	1000
528	2024-10-11 20:33:05	7.136921524	-73.12083991	dagd_TestHome	8	0.0021868944,0.014297988,0.068648726,0.1608686,0.21112996,0.1608686,0.068648726,0.0142979	1417000000	1000
529	2024-10-11 20:33:40	7.136921524	-73.12083991	dagd_TestHome	8	-06.2.6613074e-05,5.7927627e-05,5.502633e-05,2.7470683e-06,5.502633e-05,5.7927627e-05,2.66	1417000000	1000
530	2024-10-11 20:33:48	7.136921524	-73.12083991	dagd_TestHome	8	0.004440844,0.029462302,0.15909079,0.39207047,0.5220964,0.39207047,0.15909079,0.02946230	1417000000	1000
531	2024-10-11 20:33:55	7.136921524	-73.12083991	dagd_TestHome	8	0.0009484291,0.1102742,0.63884705,1.6117136,2.1599734,1.6117136,0.63884705,0.1102742	1417000000	1000
532	2024-10-11 20:34:02	7.136921524	-73.12083991	dagd_TestHome	8	0.0065350533,0.059411902,0.3089789,0.7566615,1.006605,0.7566615,0.3089789,0.059411902	1417000000	1000
533	2024-10-11 20:34:10	7.136921524	-73.12083991	dagd_TestHome	8	8867923,0.0026117843,0.007769892,0.008863615,0.0023172612,0.008863615,0.007769892,0.0026	1417000000	1000

La url de Google Sheets:

<https://docs.google.com/spreadsheets/d/1ZI1pO5DJjVnh0ph0jH8sRjnLGqXHOz-jBXJ1ZF875JM/edit?usp=sharing>

Lo que se visualiza en Node-RED:

```

20/11/2024, 9:35:47 node: debug 1
msg: Object
  <v>object
    <v>msgid: "6ee454beac5cf191"
    <v>payload: {"Fecha":"2024-10-12T00:34:10.000Z","Latitud":7.136921524265512,"Longitud":-73.12083990526662,"Descripcion":"dagd_TestHome","N":8,"Datos":"0.0004867923,0.0026117843,0.007769892,0.008863615,0.0023172612,0.008863615,0.007769892,0.0026117843","finalcial":1417000000,"fpaso":1000}"}
    <v>statusCode: 200
    <v>headers: object
      <v>responseUrl: "https://script.googleusercontent.com/macros/echo?user_content_key=t9CmJRjYv2bEVcAT9A4nzZiH8uzj15JiBoAm3IHes7yyVEVnclNvU35uFBLUwZ5i20h6te5jMoRPFd3nyuUV6TysdQv4H8m5_BxdlH2j0u0uo2oDem9CC5Zhi8ox_1x5ncQ0aJx_rYfHECjZEnHJd2ag1Z5NHjThbIRqs3TUvAKHf0aySaR53uR8uTYV-V8fwgZiOWiaaK81FomQ4J8QyxdZ3-4YKzjNdlz38CluGd5zpolztz9w9f0d8uallb=HIG1ITAOZYSIKQv8f1eyYJce-7KXX"
      <v>redirectList: array[1]
      <v>retry: 0
  
```

Finalmente la url de la implementación en Google Apps Script:

https://script.google.com/macros/s/AKfycby85SpUCOY6ZpOKblGLdX_t3XSHr3neLfzu6OXmXFiLNbZFHLc82gSPMjk9gQymSrGmw/exec

Código usado en Google Apps Script:

```

//// CÓDIGO PARA LEER DATOS DEL GOOGLE SHEETS Y VISUALIZAR EN NODE-RED
// URL del Google Sheets
const SHEET_ID = "1ZI1pO5DJjVnh0ph0jH8sRjnLGqXHOz-jBXJ1ZF875JM";
const SHEET_NAME = "Hoja 1";

// Función para manejar las solicitudes GET
  
```

```

function doGet() {
  // Obtener el último registro de la hoja de cálculo
  const ultimoRegistro = obtenerUltimoRegistro();

  // Enviar los datos en formato JSON
  return ContentService.createTextOutput(JSON.stringify(ultimoRegistro))
    .setMimeType(ContentService.MimeType.JSON);
}

// Función para obtener el último registro de la hoja de cálculo
function obtenerUltimoRegistro() {
  const ss = SpreadsheetApp.openById(SHEET_ID);
  const sheet = ss.getSheetByName(SHEET_NAME);

  if (!sheet) {
    throw new Error("No se encontró la hoja especificada.");
  }

  const lastRow = sheet.getLastRow();

  if (lastRow <= 1) {
    // Si no hay datos (aparte de los encabezados)
    throw new Error("No hay datos en la hoja.");
  }

  // Leer los encabezados y el último registro
  const headers = sheet.getRange(1, 1, 1,
sheet.getLastColumn()).getValues()[0];
  const lastData = sheet.getRange(lastRow, 1, 1,
sheet.getLastColumn()).getValues()[0];

  // Crear un objeto JSON basado en los encabezados y el último registro
  const data = {};
  headers.forEach((header, index) => {
    data[header] = lastData[index];
  });

  return data;
}

```