

# Práctica 2:

## Lógica, Programación y Colecciones n8n

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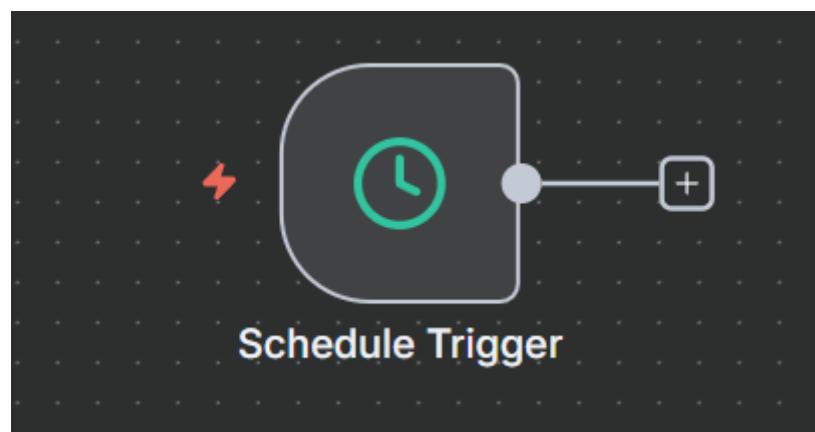
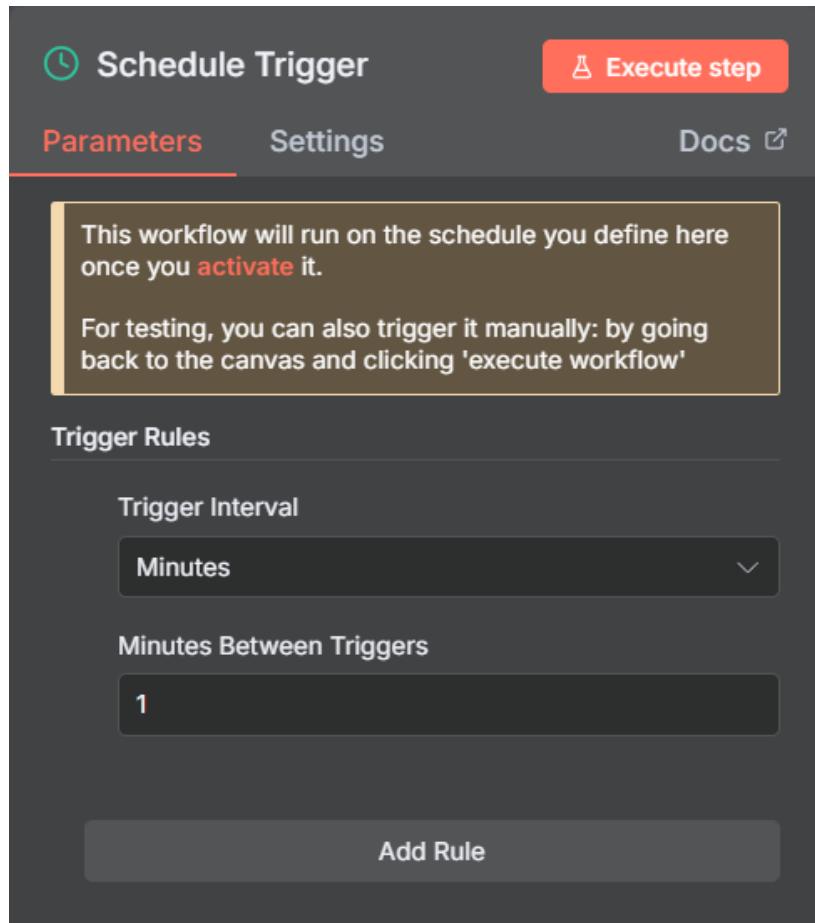
INTEGRACIÓN DE TECNOLOGÍAS Y SERVICIOS  
INFORMÁTICOS

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### 3. Desarrollo del Flujo de Trabajo Guiado

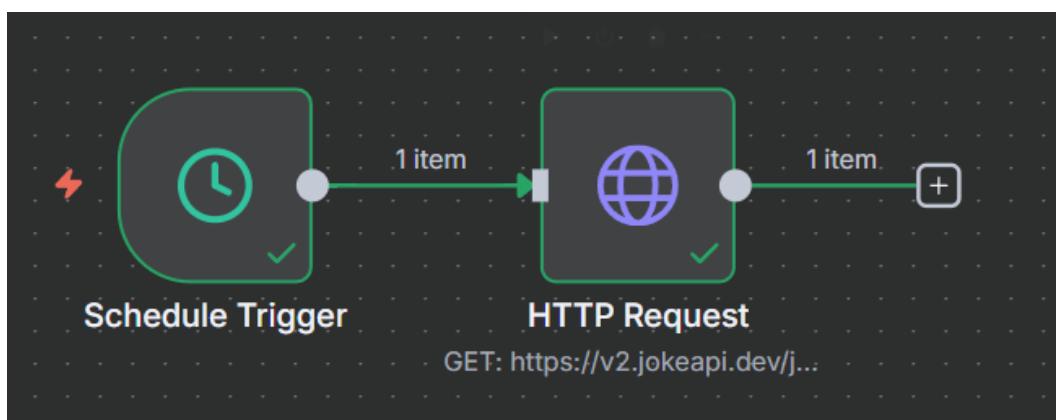
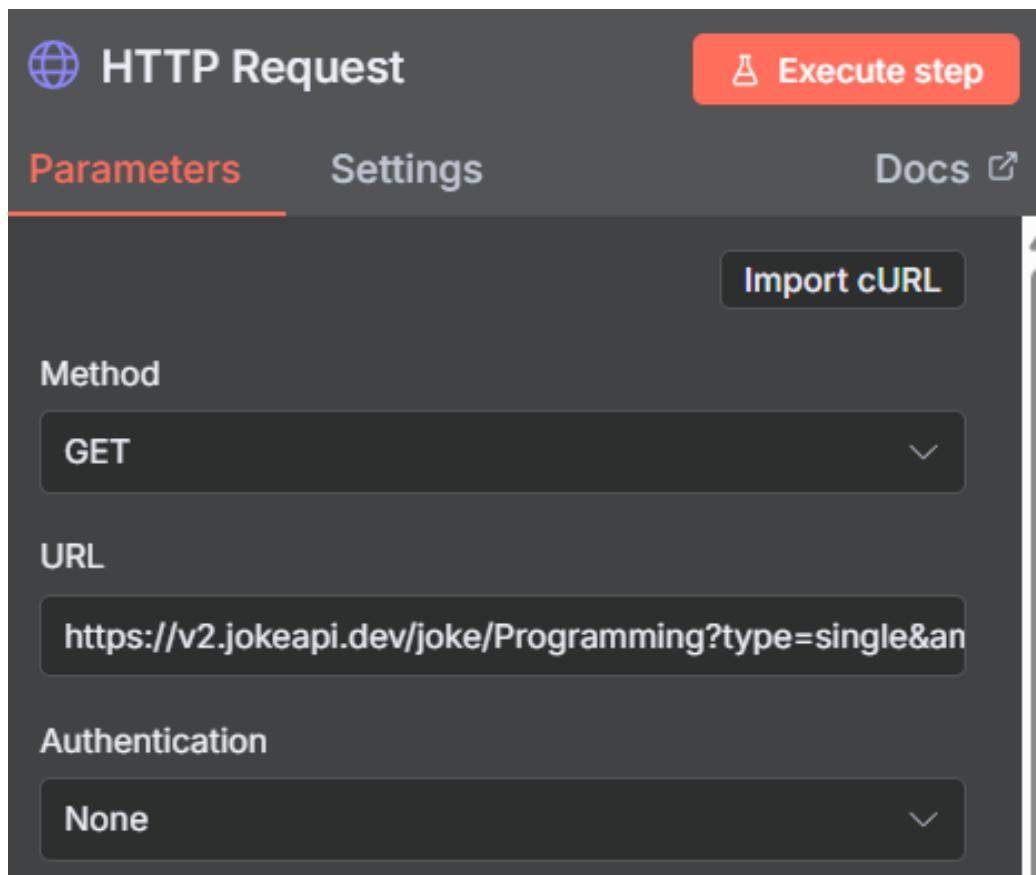
#### 3.1. Paso 1: Configurar el Schedule Trigger

Creamos un nuevo workflow y añadimos el componente Schedule Trigger. En sus ajustes, definimos los parámetros para que este componente y los que lo siguen se ejecuten en cada minuto. Obviamos el paso de establecer Trigger at second: 0.



### 3.2. Paso 2: Obtener una Colección de Datos con HTTP Request

Seguido del Schedule Trigger creamos un componente HTTP Request para este acceda a la API de chistes. Establecemos la url y la configuración del componente para que nos devuelva 5 chistes sobre programación.



A continuación, vemos una salida en formato JSON de la ejecución del componente HTTP Request. Podemos observar que nos devuelve un único ítem que contiene 5 chistes en forma de array:

```
[  {  
    "error": false,  
    "amount": 5,  
    "jokes": [  
      {  
        "category": "Programming",  
        "type": "single",  
        "joke": "A man is smoking a cigarette and blowing smoke rings into the air. His girlfriend becomes irritated with the smoke and says \\\"Can't you see the warning on the cigarette pack? Smoking is hazardous to your health!\\\" to which the man replies, \\\"I am a programmer. We don't worry about warnings; we only worry about errors.\\\"",  
        "flags": {  
          "nsfw": false,  
          "religious": false,  
          "political": false,  
          "racist": false,  
          "sexist": false,  
          "explicit": false  
        },  
        "id": 38,  
        "safe": true,  
        "lang": "en"  
      },  
      {  
        "category": "Programming",  
        "type": "single",  
        "joke": "Your mama's so FAT she can't save files bigger than 4GB.",  
        "flags": {  
          "nsfw": false,  
          "religious": false,  
          "political": false,  
          "racist": false,  
          "sexist": false,  
          "explicit": false  
        },  
        "id": 9,  
        "safe": false,  
        "lang": "en"  
      },  
      {  
        "category": "Programming",  
        "type": "single",
```

```
        "joke": "Today I learned that changing random stuff until your program works is \"hacky\" and a \"bad coding practice\" but if you do it fast enough it's \"Machine Learning\" and pays 4x your current salary.",  
        "flags": {  
            "nsfw": false,  
            "religious": false,  
            "political": false,  
            "racist": false,  
            "sexist": false,  
            "explicit": false  
        },  
        "id": 33,  
        "safe": true,  
        "lang": "en"  
},  
        "category": "Programming",  
        "type": "single",  
        "joke": "Debugging: Removing the needles from the haystack.",  
        "flags": {  

```

### 3.3. Paso 3: Procesar la Colección con Split Out

Creamos un nuevo componente Split Out a continuación del HTTP Request. Lo configuraremos de forma que, de la salida anterior, obtenga todos los chistes y nos los separe en diferentes ítems. Además, establecemos que incluya “All other fields” para que cada chiste conserve todos los subcampos pertenecientes a este.

### - Split Out

 Execute step

[Parameters](#) [Settings](#) [Docs](#) 

#### Fields To Split Out

jokes

Use \$binary to split out the input item by binary data

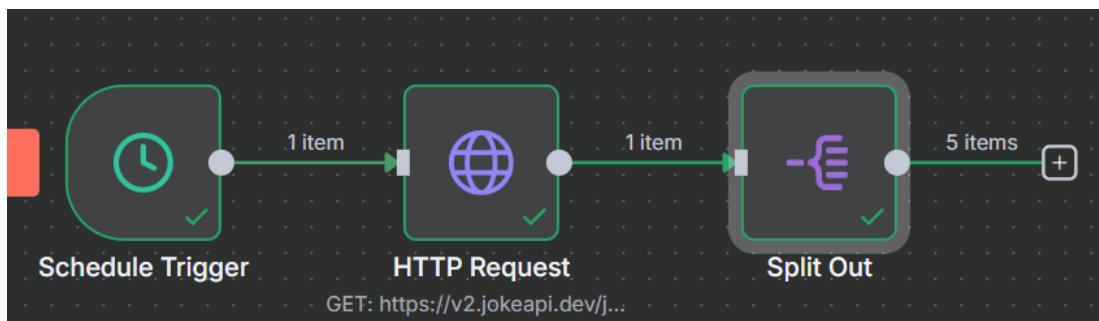
#### Include

All Other Fields 

#### Options

No properties

Add Field 



Aquí observamos la salida de este nodo, donde podemos observar que los chistes no se encuentran en un array, en su lugar son ítems independientes:

```
[  
  {  
    "error": false,  
    "amount": 5,  
    "jokes": {  
      "category": "Programming",  
      "type": "single",  
      "joke": "A man is smoking a cigarette and blowing smoke rings into  
the air. His girlfriend becomes irritated with the smoke and says \"Can't  
you see the warning on the cigarette pack? Smoking is hazardous to your  
health!\" to which the man replies, \"I am a programmer. We don't worry  
about warnings; we only worry about errors.\\"",  
      "flags": {  
        "nsfw": false,  
        "religious": false,  
        "political": false,  
        "racist": false,  
        "sexist": false,  
        "explicit": false  
      },  
      "id": 38,  
      "safe": true,  
      "lang": "en"  
    }  
  },  
  {  
    "error": false,  
    "amount": 5,  
    "jokes": {  
      "category": "Programming",  
      "type": "single",  
      "joke": "Your mama's so FAT she can't save files bigger than 4GB.",  
      "flags": {  
        "nsfw": false,  
        "religious": false,  
        "political": false,  
        "racist": false,  
        "sexist": false,  
        "explicit": false  
      },  
      "id": 9,  
      "safe": false,  
      "lang": "en"  
    }  
  },  
  {
```

```
"error": false,
"amount": 5,
"jokes": {
    "category": "Programming",
    "type": "single",
    "joke": "Today I learned that changing random stuff until your program works is \"hacky\" and a \"bad coding practice\" but if you do it fast enough it's \"Machine Learning\" and pays 4x your current salary.",
    "flags": {
        "nsfw": false,
        "religious": false,
        "political": false,
        "racist": false,
        "sexist": false,
        "explicit": false
    },
    "id": 33,
    "safe": true,
    "lang": "en"
},
{
    "error": false,
    "amount": 5,
    "jokes": {
        "category": "Programming",
        "type": "single",
        "joke": "Debugging: Removing the needles from the haystack.",
        "flags": {
            "nsfw": false,
            "religious": false,
            "political": false,
            "racist": false,
            "sexist": false,
            "explicit": false
        },
        "id": 40,
        "safe": true,
        "lang": "en"
    }
},
{
    "error": false,
    "amount": 5,
    "jokes": {
        "category": "Programming",
        "type": "single",
        "joke": "The best way to predict the future is to invent it."
    }
}
```

```

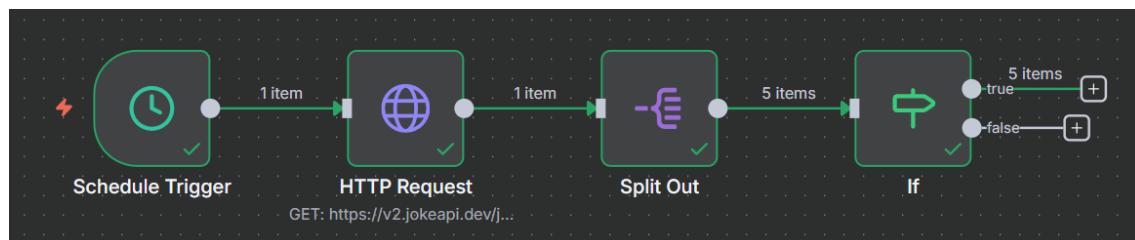
    "joke": "Java and C were telling jokes. It was C's turn, so he
writes something on the wall, points to it and says \"Do you get the
reference?\" But Java didn't.",
    "flags": {
        "nsfw": false,
        "religious": false,
        "political": false,
        "racist": false,
        "sexist": false,
        "explicit": false
    },
    "id": 4,
    "safe": true,
    "lang": "en"
}
]

```

### 3.4. Paso 4: Implementar Lógica Condicional con IF

Creamos un nodo IF que recibirá como entrada la salida del Split Out. La tarea de este nodo será separar los chistes seguros de los no seguros y enviarlos a flujos diferentes. Para ello arrastramos el valor “safe” del JSON del chiste a la condición del if y establecemos que para que esta condición se cumpla debe ser true:

The screenshot shows the MuleSoft Anypoint Studio interface with the If node selected. The input is a Split Out node with 5 items. The condition for the If node is set to `if {{ $json.jokes.safe }} is true`. The True Branch (5 items) shows a single item with a joke about programming. The False Branch (5 items) shows a single item with a joke about ASCII silly questions.



Vemos, que en el nodo IF, tenemos salidas diferentes separadas en ramas. En nuestro caso, las ramas son los chistes procesados como true y los chistes procesados como false. En este caso concreto los 5 chistes son seguros:

The top screenshot shows the 'True Branch' output of the If node, which contains five items. Each item is a JSON object representing a joke. The joke objects have fields like 'category' (Programming), 'type' (single), 'joke' (a descriptive text about debugging), and various flags (nsfw, religious, political, racist, sexist, explicit) all set to false. The bottom screenshot shows the 'False Branch' output, which has 0 items and a message stating 'No output data in this branch'.

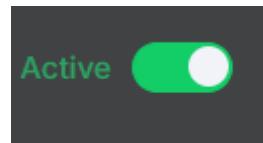
### 3.5. Paso 5: Manejar las Ramas de Ejecución

En la salida de cada rama del IF creamos un Edit Fields para mostrar de forma más limpia si se ha recibido un chiste seguro o no seguro. Los chistes seguros irán a un Edit Fields que devolverá “Chiste seguro”, mientras que los chistes inseguros irán a un Edit Fields que devolverá “Chiste NO seguro” en su clasificación.

The screenshot shows the 'Parameters' tab for the If node. On the left, the input fields are listed: 'error' (false), '# amount' (5), 'jokes' (with sub-fields 'category' (Programming), 'type' (single), 'joke' (Debugging is like being the detective in a crime movie where you're also the murderer at the same time), and 'flags' (nsfw, religious, political, racist, sexist, explicit all false)), '# id' (42), 'safe' (true), and 'lang' (en). On the right, the 'Fields to Set' section is configured for the 'Chiste seguro' classification. It includes a dropdown for 'Mode' (set to 'Manual Mapping'), a 'String' field for 'Clasificación' (set to 'Chiste seguro'), and a note 'Drag input fields here or Add Field'. Below this, there's a 'Include Other Input Fields' toggle switch (off) and an 'Options' section with a 'No properties' message and an 'Add option' button.

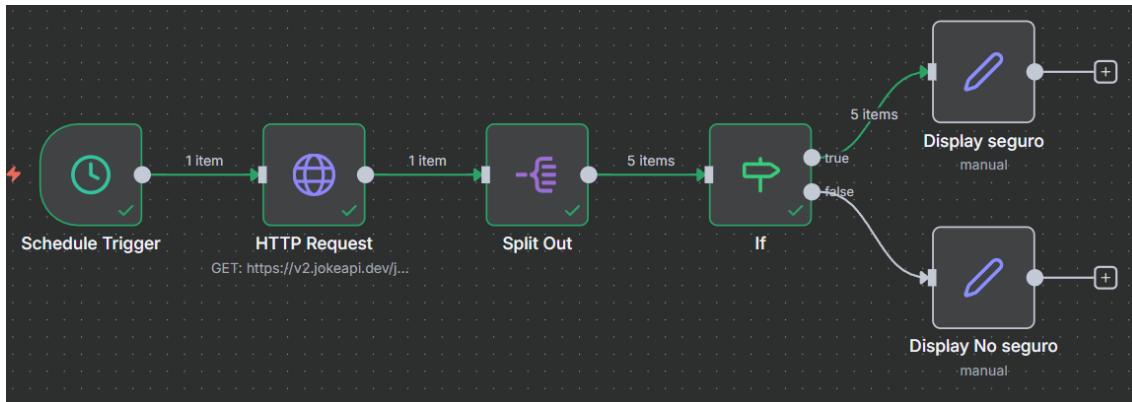
The screenshot shows the MuleSoft Anypoint Studio interface with the 'Display No seguro' workflow open. The 'INPUT' tab is active, displaying an 'If' node with a condition: 'No fields - node executed, but no items were sent on this branch'. The 'Parameters' tab is selected, showing 'Mode: Manual Mapping' and a mapping table for 'clasificación' (String) to 'Chiste NO seguro'. Other tabs include 'Schema', 'Table', and 'JSON'. A large button at the bottom right says 'Execute step'.

Activamos el workflow para que el Schedule Trigger empiece a funcionar, ejecutando el workflow cada minuto.



The screenshot shows the MuleSoft Anypoint Studio interface with a modal dialog titled 'Workflow activated'. The dialog contains the following text:  
Your schedule trigger will now trigger executions on the schedule you have defined.  
These executions will not show up immediately in the editor, but you can see them in the execution list if you choose to save executions.  
At the bottom of the dialog are two buttons: 'Don't show again' and 'Got it'.

Por último, podemos ver el workflow final y el panel de ejecuciones, donde vemos que obtenemos los resultados de la API que queremos. También observamos como el IF esta filtrando nuestros resultados finales según nuestra condición y como finalmente se muestran según su seguridad.

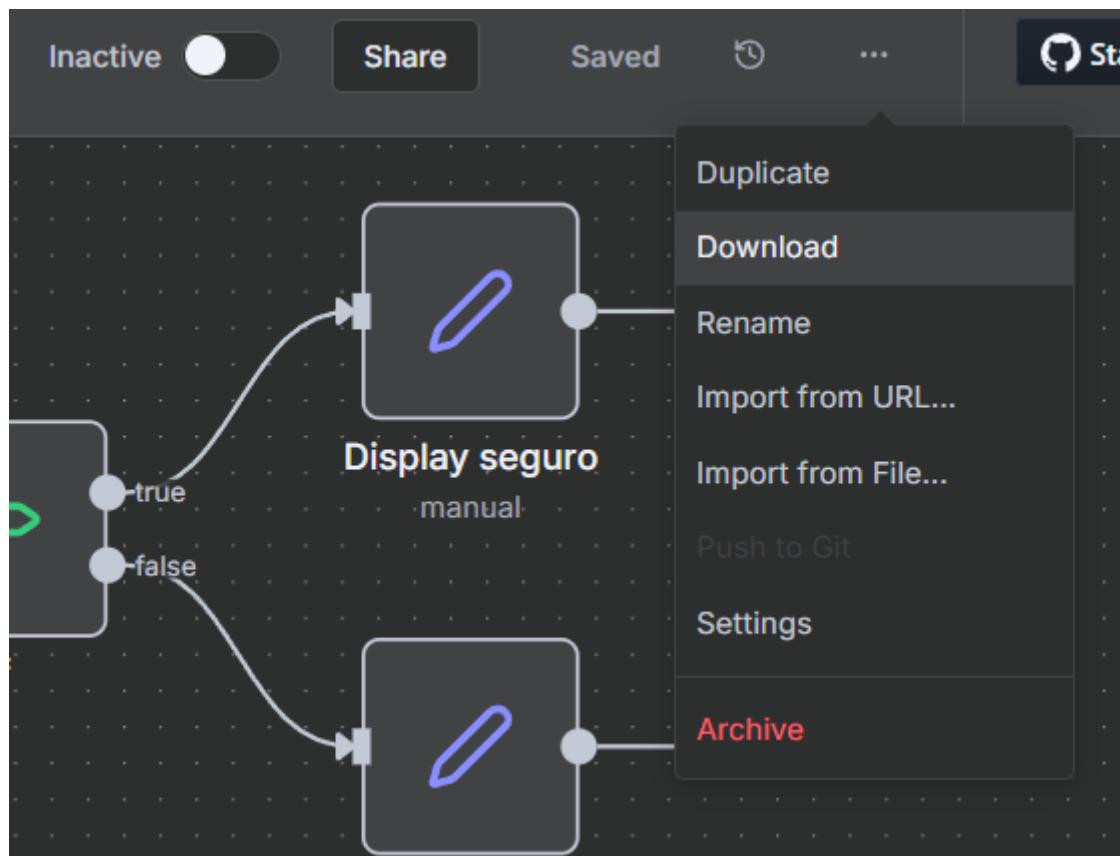


The screenshot shows a Node-RED flow editor interface. On the left, there's a sidebar with various nodes: Logs, Success in 120ms, Schedule Trigger, HTTP Request, Split Out, If (selected), Display seguro, and Display No seguro. The main area has a header with 'Logs' and a green 'Success in 120ms' icon. Below the header, it says 'O U T P U T' and shows 'True Branch (4 items)' and 'False Branch (1 item)'. The 'True Branch' section contains an 'HTTP Request' node with the URL 'https://api.jokeapi.dev/jokes/random?category=Programming&type=single'. It also includes a 'Display seguro' node. The 'False Branch' section contains a single 'Display No seguro' node. The context pane on the right shows the flow structure with nodes connected by wires.

error	amount	jokes
false	5	category : Programming type : single joke : Saying that Java is nice because it works on every OS is like saying that anal sex is nice because it works on every gender. flags nsfw : true religious : false political : false racist : false sexist : false explicit : true id : 30 safe : false lang : en

## 4. Ejercicios Propuestos

Para exportar un workflow a un archivo JSON, debemos hacer clic en los 3 puntos al lado de guardar y seleccionar “Download”.



#### 4.1. Ejercicio 1: Filtrado por Categoría (Dificultad: Baja)

1. Modifique la URL del nodo HTTP Request para que solicite chistes de las categorías "Programming" y "Misc" simultáneamente. (Pista: la documentación de JokeAPI explica cómo solicitar de múltiples categorías).

En la documentación de la Api encontramos una sección para generar una url a partir de los filtros que queramos aplicar a los chistes. Seleccionamos una cantidad de 5 chistes de los tipos programación y misceláneo.

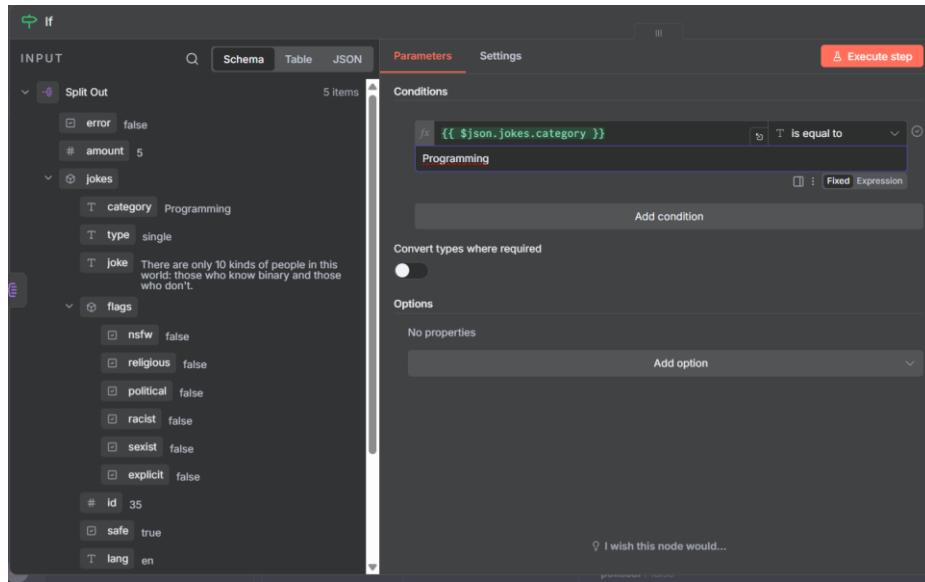
The screenshot shows the JokeAPI Documentation interface with a search form. The 'Select category / categories:' section has 'Custom' selected, with 'Programming' and 'Misc' checked. The 'Amount of jokes:' field is set to 5. The generated URL is displayed at the bottom as <https://v2.jokeapi.dev/joke/Programming,Miscellaneous?type=single&amount=5>.

Con esta nueva url, a partir del workflow anterior, modificamos el HTTP request para que utilice esta nueva url en su lugar.

The screenshot shows the MuleSoft Anypoint Studio interface with an HTTP Request node configuration. The 'URL' field is set to `https://v2.jokeapi.dev/joke/Programming,Miscellaneous?type=single&amount=5`. Other settings include Method: GET, Authentication: None, and Options: No properties.

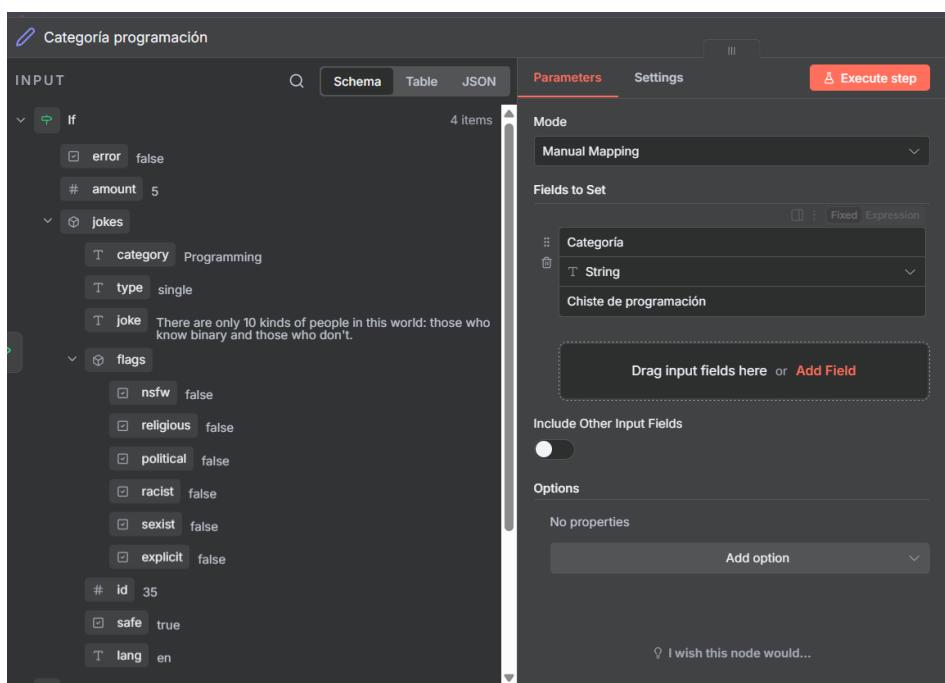
2. Ajuste el nodo IF para que compruebe si el campo category es igual a "Programming".

Procedemos a cambiar la condición del nodo IF para que filtre entre chistes de programación y misceláneos. Para ello, arrastramos a la condición campo JSON categoría del chiste, y si esta categoría es programación se cumple la condición, en otro caso (misceláneo) no se cumplirá.



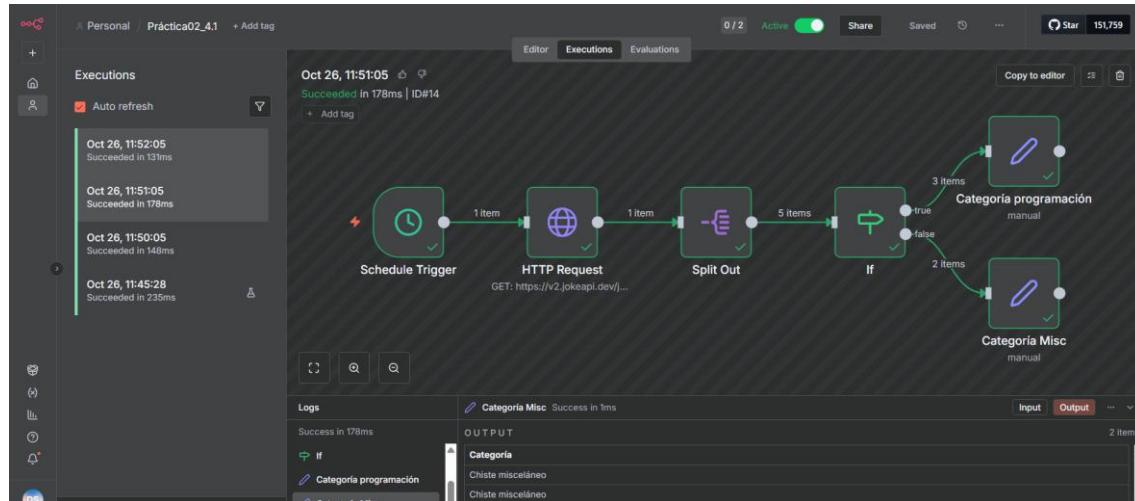
3. Los nodos Edit Fields (Set) de las ramas true y false deben añadir un campo que refleje la categoría a la que pertenece cada chiste.

Por último, cambiamos los Edit Fileds para que en lugar de reflejar si el chiste es seguro o no, reflejen si el chiste es de categoría programación o misceláneo según las ramas del condicional anterior.



#### 4. Resultado:

Observamos el workflow final y las salidas de los últimos nodos.



Vemos las salidas de tanto el Edit Filed, como del IF para la rama de la categoría programación:

Categoría	Chiste de programación
	Chiste de programación
	Chiste de programación
	Chiste de programación

```
[  
  {  
    "error": false,  
    "amount": 5,  
    "jokes": {  
      "category": "Programming",  
      "type": "single",  
      "joke": "Programming is 10% science, 20% ingenuity, and 70% getting  
the ingenuity to work with the science.",  
      "flags": {  
        "nsfw": false,  
        "religious": false,  
        "political": false,  
        "racist": false,  
        "sexist": false,  
        "explicit": false  
      },  
      "id": 37,  
      "safe": true,  
      "lang": "en"  
    }  
  },  
  {  
    "error": false,  
    "amount": 5,  
    "jokes": {  
      "category": "Programming",  
      "type": "single",  
      "joke": "UDP is better in the COVID era since it avoids unnecessary  
handshakes.",  
      "flags": {  
        "nsfw": false,  
        "religious": false,  
        "political": false,  
        "racist": false,  
        "sexist": false,  
        "explicit": false  
      },  
      "id": 258,  
      "safe": true,  
      "lang": "en"  
    }  
  },  
  {  
    "error": false,  
    "amount": 5,  
    "jokes": {  
      "category": "Programming",  
      "type": "single",  
      "joke": "The best way to predict the future is to invent it."  
    }  
  }]
```

```

    "joke": "Algorithm: A word used by programmers when they don't want
to explain how their code works.",
    "flags": {
        "nsfw": false,
        "religious": false,
        "political": false,
        "racist": false,
        "sexist": false,
        "explicit": false
    },
    "id": 50,
    "safe": true,
    "lang": "en"
}
]

```

Vemos las salidas de tanto el Edit Filed, como del IF para la rama de la categoría misceláneo:

Categoría Misc Success in 1ms	
O U T P U T	
Categoría	
	Chiste misceláneo
	Chiste misceláneo

```

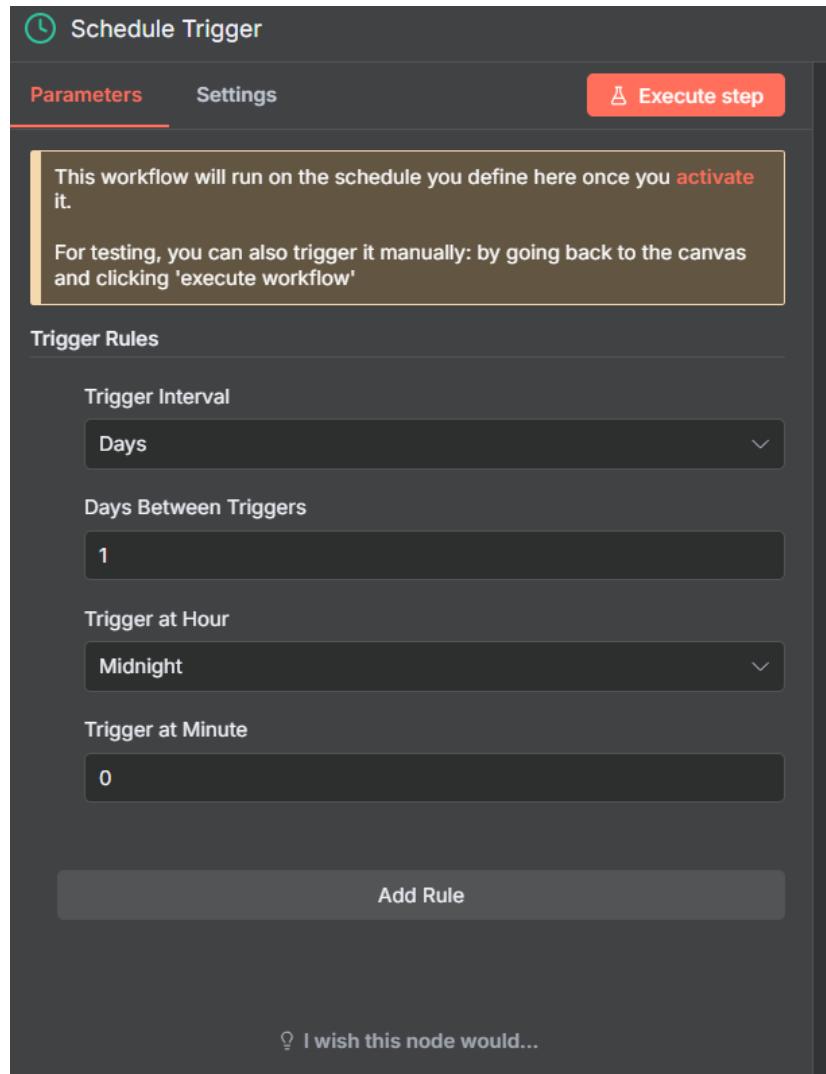
[
{
    "error": false,
    "amount": 5,
    "jokes": {
        "category": "Misc",
        "type": "single",
        "joke": "What does the MacBook have in common with Donald
Trump?\n\nI would tell you....\nBut I don't compare apples to oranges.",
        "flags": {
            "nsfw": false,
            "religious": false,
            "political": true,
            "racist": false,
            "sexist": false,
            "explicit": false
        },
    }
]
```

```
        "id": 232,
        "safe": false,
        "lang": "en"
    },
},
{
    "error": false,
    "amount": 5,
    "jokes": {
        "category": "Misc",
        "type": "single",
        "joke": "A neutron walks into a bar and asks for a price on a drink.\nThe barkeeper says: \"For you... no charge!\"",
        "flags": {
            "nsfw": false,
            "religious": false,
            "political": false,
            "racist": false,
            "sexist": false,
            "explicit": false
        },
        "id": 72,
        "safe": true,
        "lang": "en"
    }
}
]
```

## 4.2. Ejercicio 2: Análisis de Productos (Dificultad: Media)

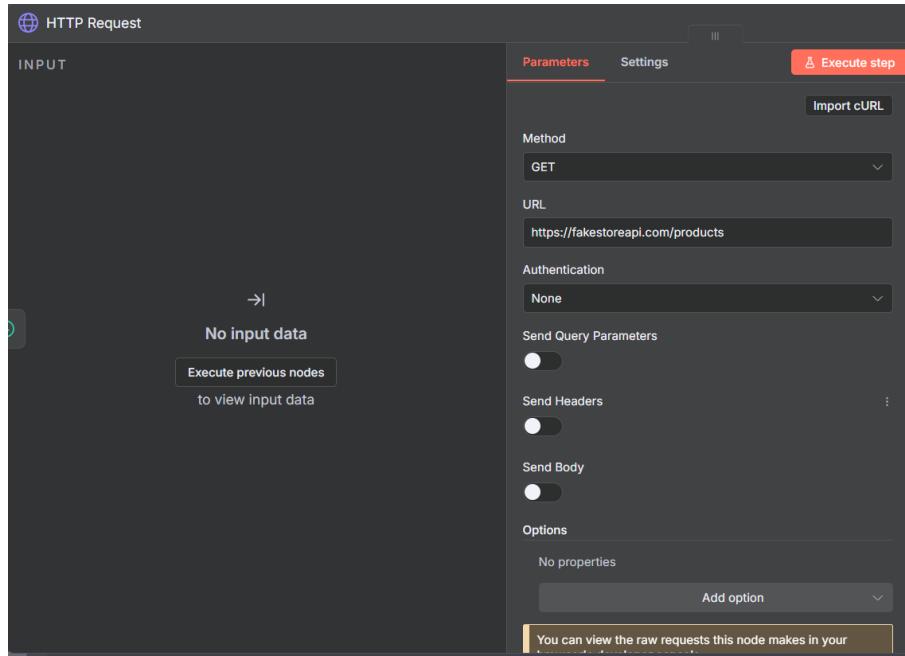
1. *El flujo de trabajo debe iniciarse con un Schedule Trigger que se ejecute una vez al día.*

Empezamos creando un nodo inicial Schedule Trigger en el workflow y configurando el intervalo de ejecución en uno al día. Por defecto, este se ejecutará a medianoche respecto de la hora que esté configurada en la instancia.



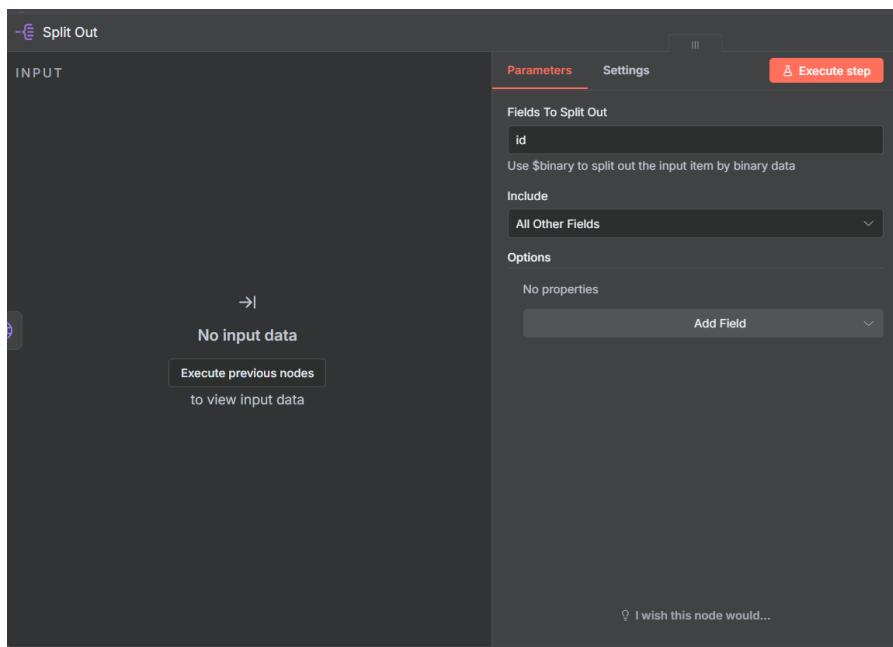
2. Debe usar un *HTTP Request* para obtener la lista completa de productos de la API.

A continuación del nodo inicial conectamos el componente *HTTP Request*. Este nodo devolverá los productos de la tienda de la API indicada por salida.



3. Utilice un *Split Out* para procesar cada producto individualmente.

Creamos un nuevo componente *Split Out* a continuación del *HTTP Request*. Donde separará los diferentes productos de la tienda en diferentes ítems para que puedan ser procesados individualmente. Además, establecemos que incluya “All other fields” para que cada producto conserve todos los subcampos pertenecientes a este.



4. Implemente un nodo IF para separar los productos en dos grupos: aquellos cuyo precio (price) es superior a 100 y aquellos cuyo precio es 100 o inferior.

Creamos un nodo IF donde comparará si el campo precio de cada producto es mayor que 100, separando en diferentes ramas los productos que valen más de 100 y los que valen menos o igual que 100.

The screenshot shows the 'If' node configuration in MuleSoft Anypoint Studio. The 'Conditions' tab is active, with the condition expression `fx {{ $json.price }}` followed by the comparison operator `# is greater than` and the value `100`. Below this, there is a button to 'Add condition'. The 'Parameters' tab shows 'Mode: Manual Mapping' and 'Fields to Set' where 'Tipo' is mapped to 'String' and 'Producto Premium'. The 'Options' tab shows 'No properties'.

5. Para los productos caros (rama true), añada un nodo Edit Fields (Set) que cree un campo etiqueta con el valor Producto Premium.

En la salida de la rama true del nodo IF, creamos un Edit Fields para mostrar de forma más limpia si el producto tratado vale más de 100, categorizándolo como producto premium.

The screenshot shows the 'Productos caros' step configuration. It includes an 'If' node and an 'Edit Fields' node. The 'Edit Fields' node has 'Mode: Manual Mapping' and 'Fields to Set' where 'Tipo' is mapped to 'String' and 'Producto Premium'. The 'Options' tab shows 'No properties'.

6. Para los productos económicos (rama false), el campo etiqueta debe tener el valor Producto Estándar.

En la salida de la rama false del nodo IF, creamos un Edit Fields para mostrar de forma más limpia si el producto tratado vale 100 o menos de 100, categorizándolo como producto estándar.

Products económicos

INPUT

Schema Table JSON

If

No fields - node executed, but no items were sent on this branch

Split Out 20 items

HTTP Request 20 items

Schedule Trigger 1 item

Variables and context

Parameters Settings

Mode Manual Mapping

Fields to Set

Tipo String Producto Estándar

Drag input fields here or Add Field

Include Other Input Fields

Options

No properties

Add option

I wish this node would...

## **7. Resultados:**

Vemos las salidas de tanto el Edit Filed, como del IF para la rama del producto premium:

```
[  
  {  
    "title": "Fjallraven - Foldsack No. 1 Backpack, Fits 15 Laptops",  
    "price": 109.95,  
    "description": "Your perfect pack for everyday use and walks in the  
forest. Stash your laptop (up to 15 inches) in the padded sleeve, your  
everyday",  
    "category": "men's clothing",  
    "image": "https://fakestoreapi.com/img/81fPKd-2AYL._AC_SL1500_t.png",  
    "rating": {  
      "rate": 3.9,  
      "count": 120  
    },  
    "id": 1  
  },  
  {  
    "title": "John Hardy Women's Legends Naga Gold & Silver Dragon  
Station Chain Bracelet",  
    "price": 695,  
    "description": "From our Legends Collection, the Naga was inspired by  
the mythical water dragon that protects the ocean's pearl. Wear facing  
inward to be bestowed with love and abundance, or outward for  
protection.",  
    "category": "jewelery",  
    "image":  
"https://fakestoreapi.com/img/71pWzhDJNwL._AC_UL640_QL65_ML3_t.png",  
    "rating": {  
      "rate": 4.6,  
      "count": 400  
    },  
    "id": 5  
  },  
  {  
    "title": "Solid Gold Petite Micropave ",  
    "price": 168,  
    "description": "Satisfaction Guaranteed. Return or exchange any order  
within 30 days.Designed and sold by Hafeez Center in the United States.  
Satisfaction Guaranteed. Return or exchange any order within 30 days.",  
    "category": "jewelery",  
    "image":  
"https://fakestoreapi.com/img/61sbMiUnoGL._AC_UL640_QL65_ML3_t.png",  
    "rating": {  
      "rate": 3.9,  
      "count": 70  
    },  
    "id": 6  
  },  
  {  
    "title": "SanDisk SSD PLUS 1TB Internal SSD - SATA III 6 Gb/s",  
  }
```

```
        "price": 109,
        "description": "Easy upgrade for faster boot up, shutdown, application load and response (As compared to 5400 RPM SATA 2.5" hard drive; Based on published specifications and internal benchmarking tests using PCMark vantage scores) Boosts burst write performance, making it ideal for typical PC workloads The perfect balance of performance and reliability Read/write speeds of up to 535MB/s/450MB/s (Based on internal testing; Performance may vary depending upon drive capacity, host device, OS and application.)",
        "category": "electronics",
        "image": "https://fakestoreapi.com/img/61U7T1koQqL._AC_SX679_t.png",
        "rating": {
            "rate": 2.9,
            "count": 470
        },
        "id": 10
    },
    {
        "title": "Silicon Power 256GB SSD 3D NAND A55 SLC Cache Performance Boost SATA III 2.5",
        "price": 109,
        "description": "3D NAND flash are applied to deliver high transfer speeds Remarkable transfer speeds that enable faster bootup and improved overall system performance. The advanced SLC Cache Technology allows performance boost and longer lifespan 7mm slim design suitable for Ultrabooks and Ultra-slim notebooks. Supports TRIM command, Garbage Collection technology, RAID, and ECC (Error Checking & Correction) to provide the optimized performance and enhanced reliability.",
        "category": "electronics",
        "image": "https://fakestoreapi.com/img/71kWymZ+c+L._AC_SX679_t.png",
        "rating": {
            "rate": 4.8,
            "count": 319
        },
        "id": 11
    },
    {
        "title": "WD 4TB Gaming Drive Works with Playstation 4 Portable External Hard Drive",
        "price": 114,
        "description": "Expand your PS4 gaming experience, Play anywhere Fast and easy, setup Sleek design with high capacity, 3-year manufacturer's limited warranty",
        "category": "electronics",
        "image": "https://fakestoreapi.com/img/61mtL65D4cL._AC_SX679_t.png",
        "rating": {
            "rate": 4.8,
            "count": 400
        },
    }
```

```
        "id": 12
    },
{
    "title": "Acer SB220Q bi 21.5 inches Full HD (1920 x 1080) IPS Ultra-Thin",
    "price": 599,
    "description": "21.5 inches Full HD (1920 x 1080) widescreen IPS display And Radeon free Sync technology. No compatibility for VESA Mount Refresh Rate: 75Hz - Using HDMI port Zero-frame design | ultra-thin | 4ms response time | IPS panel Aspect ratio - 16:9. Color Supported - 16.7 million colors. Brightness - 250 nit Tilt angle -5 degree to 15 degree. Horizontal viewing angle-178 degree. Vertical viewing angle-178 degree 75 hertz",
    "category": "electronics",
    "image": "https://fakestoreapi.com/img/81QpkIctqPL._AC_SX679_t.png",
    "rating": {
        "rate": 2.9,
        "count": 250
    },
    "id": 13
},
{
    "title": "Samsung 49-Inch CHG90 144Hz Curved Gaming Monitor (LC49HG90DMNXZA) – Super Ultrawide Screen QLED",
    "price": 999.99,
    "description": "49 INCH SUPER ULTRAWIDE 32:9 CURVED GAMING MONITOR with dual 27 inch screen side by side QUANTUM DOT (QLED) TECHNOLOGY, HDR support and factory calibration provides stunningly realistic and accurate color and contrast 144HZ HIGH REFRESH RATE and 1ms ultra fast response time work to eliminate motion blur, ghosting, and reduce input lag",
    "category": "electronics",
    "image": "https://fakestoreapi.com/img/81Zt42ioCgL._AC_SX679_t.png",
    "rating": {
        "rate": 2.2,
        "count": 140
    },
    "id": 14
}
]
```

Vemos las salidas de tanto el Edit Filed, como del IF para la rama del producto estándar:

```
[  
 {  
   "title": "Mens Casual Premium Slim Fit T-Shirts ",  
   "price": 22.3,  
   "description": "Slim-fitting style, contrast raglan long sleeve,  
three-button henley placket, light weight & soft fabric for breathable  
and comfortable wearing. And Solid stitched shirts with round neck made  
for durability and a great fit for casual fashion wear and diehard  
baseball fans. The Henley style round neckline includes a three-button  
placket.",  
   "category": "men's clothing",  
   "image": "https://fakestoreapi.com/img/71-  
3HjGNDUL._AC_SY879._SX_.UX._SY._UY_t.png",  
   "rating": {  
     "rate": 4.1,  
     "count": 259  
   },  
   "id": 2  
 },  
 ]
```

```
{
    "title": "Mens Cotton Jacket",
    "price": 55.99,
    "description": "great outerwear jackets for Spring/Autumn/Winter, suitable for many occasions, such as working, hiking, camping, mountain/rock climbing, cycling, traveling or other outdoors. Good gift choice for you or your family member. A warm hearted love to Father, husband or son in this thanksgiving or Christmas Day.",
    "category": "men's clothing",
    "image": "https://fakestoreapi.com/img/71li-ujtlUL._AC_UX679_t.png",
    "rating": {
        "rate": 4.7,
        "count": 500
    },
    "id": 3
},
{
    "title": "Mens Casual Slim Fit",
    "price": 15.99,
    "description": "The color could be slightly different between on the screen and in practice. / Please note that body builds vary by person, therefore, detailed size information should be reviewed below on the product description.",
    "category": "men's clothing",
    "image": "https://fakestoreapi.com/img/71YXze0uslL._AC_UY879_t.png",
    "rating": {
        "rate": 2.1,
        "count": 430
    },
    "id": 4
},
{
    "title": "White Gold Plated Princess",
    "price": 9.99,
    "description": "Classic Created Wedding Engagement Solitaire Diamond Promise Ring for Her. Gifts to spoil your love more for Engagement, Wedding, Anniversary, Valentine's Day...",
    "category": "jewelery",
    "image": "https://fakestoreapi.com/img/71YAIWFU48IL._AC_UL640_QL65_ML3_t.png",
    "rating": {
        "rate": 3,
        "count": 400
    },
    "id": 7
},
{
    "title": "Pierced Owl Rose Gold Plated Stainless Steel Double",
    "price": 10.99,
```

```
    "description": "Rose Gold Plated Double Flared Tunnel Plug Earrings.  
Made of 316L Stainless Steel",  
    "category": "jewelry",  
    "image":  
"https://fakestoreapi.com/img/51UDEzMJVpL._AC_UL640_QL65_ML3_t.png",  
    "rating": {  
        "rate": 1.9,  
        "count": 100  
    },  
    "id": 8  
},  
{  
    "title": "WD 2TB Elements Portable External Hard Drive - USB 3.0 ",  
    "price": 64,  
    "description": "USB 3.0 and USB 2.0 Compatibility Fast data transfers  
Improve PC Performance High Capacity; Compatibility Formatted NTFS for  
Windows 10, Windows 8.1, Windows 7; Reformatting may be required for  
other operating systems; Compatibility may vary depending on user's  
hardware configuration and operating system",  
    "category": "electronics",  
    "image": "https://fakestoreapi.com/img/61IBBVJvSDL._AC_SY879_t.png",  
    "rating": {  
        "rate": 3.3,  
        "count": 203  
    },  
    "id": 9  
},  
{  
    "title": "BIYLACLESEN Women's 3-in-1 Snowboard Jacket Winter Coats",  
    "price": 56.99,  
    "description": "Note:The Jackets is US standard size, Please choose  
size as your usual wear Material: 100% Polyester; Detachable Liner  
Fabric: Warm Fleece. Detachable Functional Liner: Skin Friendly,  
Lightweigt and Warm.Stand Collar Liner jacket, keep you warm in cold  
weather. Zippered Pockets: 2 Zippered Hand Pockets, 2 Zippered Pockets on  
Chest (enough to keep cards or keys)and 1 Hidden Pocket Inside.Zippered  
Hand Pockets and Hidden Pocket keep your things secure. Humanized Design:  
Adjustable and Detachable Hood and Adjustable cuff to prevent the wind  
and water,for a comfortable fit. 3 in 1 Detachable Design provide more  
convenience, you can separate the coat and inner as needed, or wear it  
together. It is suitable for different season and help you adapt to  
different climates",  
    "category": "women's clothing",  
    "image": "https://fakestoreapi.com/img/51Y5NI-I5jL._AC_UX679_t.png",  
    "rating": {  
        "rate": 2.6,  
        "count": 235  
    },  
    "id": 15
```

```
},
{
  "title": "Lock and Love Women's Removable Hooded Faux Leather Moto
Biker Jacket",
  "price": 29.95,
  "description": "100% POLYURETHANE(shell) 100% POLYESTER(lining) 75%
POLYESTER 25% COTTON (SWEATER), Faux leather material for style and
comfort / 2 pockets of front, 2-For-One Hooded denim style faux leather
jacket, Button detail on waist / Detail stitching at sides, HAND WASH
ONLY / DO NOT BLEACH / LINE DRY / DO NOT IRON",
  "category": "women's clothing",
  "image": "https://fakestoreapi.com/img/81XH0e8fefL._AC_UY879_t.png",
  "rating": {
    "rate": 2.9,
    "count": 340
  },
  "id": 16
},
{
  "title": "Rain Jacket Women Windbreaker Striped Climbing Raincoats",
  "price": 39.99,
  "description": "Lightweight perfet for trip or casual wear---Long
sleeve with hooded, adjustable drawstring waist design. Button and zipper
front closure raincoat, fully stripes Lined and The Raincoat has 2 side
pockets are a good size to hold all kinds of things, it covers the hips,
and the hood is generous but doesn't overdo it.Attached Cotton Lined Hood
with Adjustable Drawstrings give it a real styled look.",
  "category": "women's clothing",
  "image": "https://fakestoreapi.com/img/71HblAHs5xL._AC_UY879_-
2t.png",
  "rating": {
    "rate": 3.8,
    "count": 679
  },
  "id": 17
},
{
  "title": "MBJ Women's Solid Short Sleeve Boat Neck V ",
  "price": 9.85,
  "description": "95% RAYON 5% SPANDEX, Made in USA or Imported, Do Not
Bleach, Lightweight fabric with great stretch for comfort, Ribbed on
sleeves and neckline / Double stitching on bottom hem",
  "category": "women's clothing",
  "image": "https://fakestoreapi.com/img/71z3kpMAYsL._AC_UY879_t.png",
  "rating": {
    "rate": 4.7,
    "count": 130
  },
  "id": 18
}
```

```

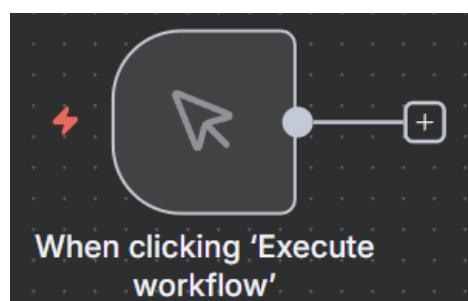
},
{
  "title": "Opna Women's Short Sleeve Moisture",
  "price": 7.95,
  "description": "100% Polyester, Machine wash, 100% cationic polyester interlock, Machine Wash & Pre Shrunk for a Great Fit, Lightweight, roomy and highly breathable with moisture wicking fabric which helps to keep moisture away, Soft Lightweight Fabric with comfortable V-neck collar and a slimmer fit, delivers a sleek, more feminine silhouette and Added Comfort",
  "category": "women's clothing",
  "image": "https://fakestoreapi.com/img/51eg55uWmdL._AC_UX679_t.png",
  "rating": {
    "rate": 4.5,
    "count": 146
  },
  "id": 19
},
{
  "title": "DANVOUY Womens T Shirt Casual Cotton Short",
  "price": 12.99,
  "description": "95%Cotton,5%Spandex, Features: Casual, Short Sleeve, Letter Print,V-Neck,Fashion Tees, The fabric is soft and has some stretch., Occasion: Casual/Office/Beach/School/Home/Street. Season: Spring,Summer,Autumn,Winter.",
  "category": "women's clothing",
  "image": "https://fakestoreapi.com/img/61pHAEJ4NML._AC_UX679_t.png",
  "rating": {
    "rate": 3.6,
    "count": 145
  },
  "id": 20
}
]

```

#### 4.3. Ejercicio 3: Planificador de Festivos (Dificultad: Alta)

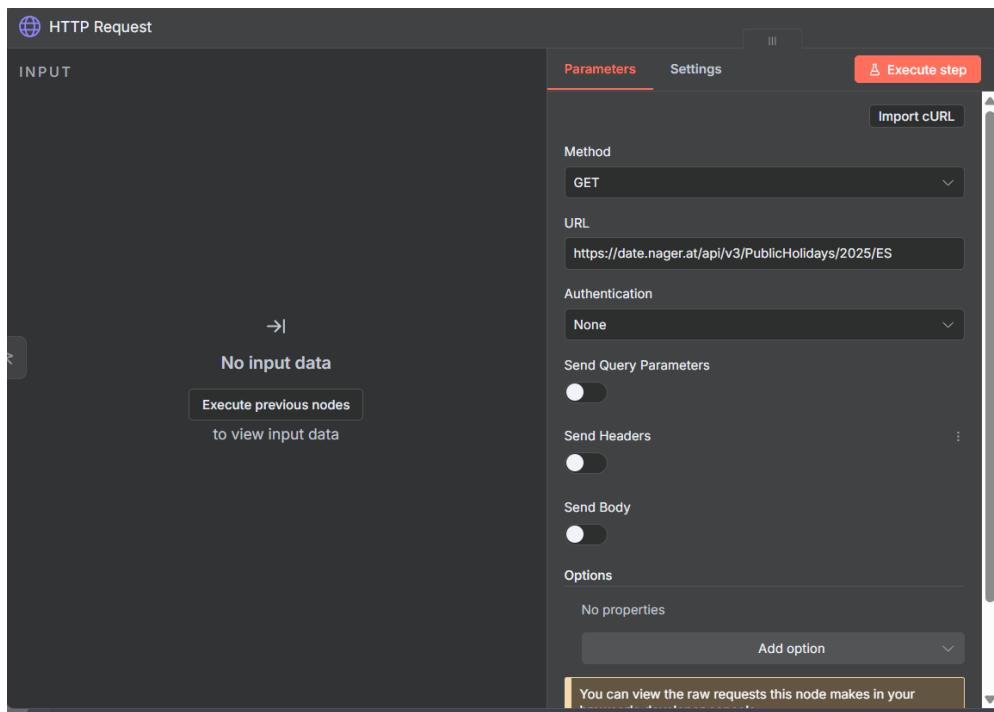
1. *El flujo de trabajo debe iniciarse manually (Manual Trigger).*

En nuestro nuevo workflow, añadimos en componente inicial Manual Trigger.



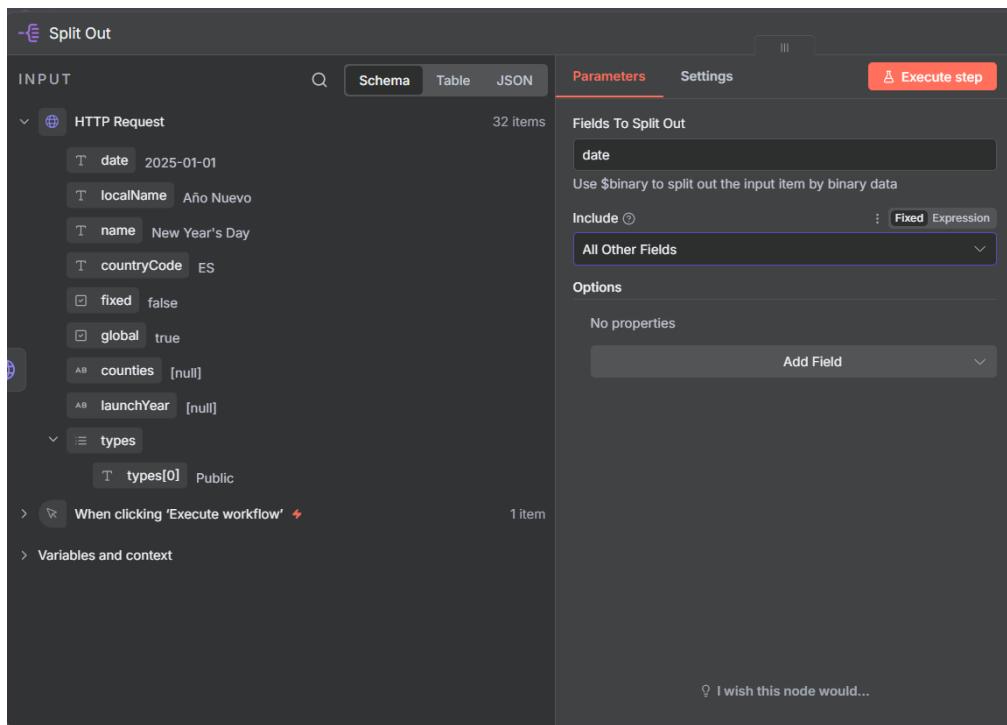
## 2. Obtener la lista de festivos de España para 2025.

Conectado al nodo anterior, creamos un componente HTTP request con la url dada para obtener los días festivos en España:



## 3. Usar Split Out para procesar cada festivo.

Utilizamos un Split out para separar los festivos, de la salida del nodo anterior, en diferentes ítems según sus fechas. Incluimos los subcampos de cada festivo en la salida de este nodo.



4. Usar un nodo *IF* para determinar si un festivo es nacional. (Pista: el campo global en la respuesta de la API es un booleano que indica esto).

Creamos un if para filtrar los festivos y operar en el futuro solo con festivos nacionales. El campo global en un festivo determina si un festivo es nacional. Por tanto, establecemos como condición que el campo global de un festivo sea verdadero.

The screenshot shows the configuration of an 'If' node in MuleSoft Anypoint Studio. The 'Conditions' tab is active, with the expression `{ json.global }` followed by a checkbox for 'is true'. The 'Parameters' tab shows the input payload with a 'global' field set to true. The 'Settings' tab includes options like 'Convert types where required' and 'Add option'.

5. Solo para la rama true (festivos nacionales):

- Añadir un segundo nodo *HTTP Request* que llame a la *Bored API* para obtener una actividad aleatoria.
- Añadir un nodo *Edit Fields (Set)* para combinar la información del festivo con la actividad sugerida. La salida final para estos ítems debe contener, como mínimo, el nombre del festivo (*name*) y la actividad (*activity*).

Al probar la API dada en la actividad nos encontramos que está caída, por lo que investigando el repositorio de la API en GitHub, encontramos que en un issue mencionan que la url oficial ha cambiado a la siguiente para las actividades:

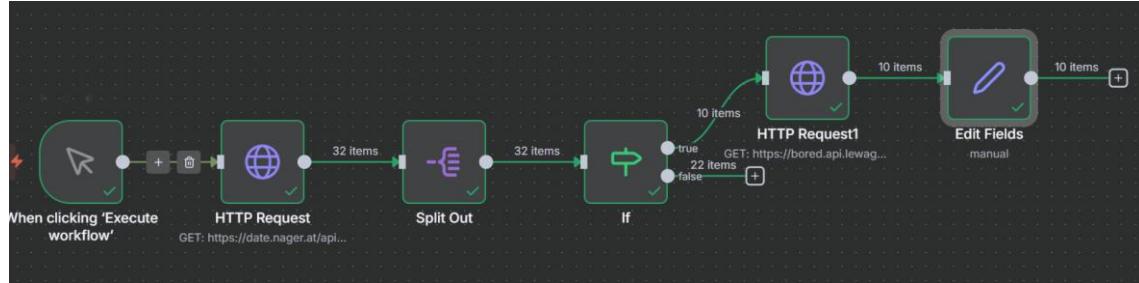
<https://bored.api.lewagon.com/api/activity/>

A partir de la rama true del IF creamos un componente HTTP request con la url anterior para obtener una actividad aleatoria por cada día festivo nacional en España.

Seguido de este, creamos un nodo Edit Field el cual devolverá en forma de texto plano una actividad para cada festivo nacional, indicando tanto el festivo como la actividad de la que se trata. Ya que las actividades están en inglés, el nombre del festivo nacional y la frase que mostrará también serán en inglés para una mayor coherencia.

6. La rama false (festivos no nacionales) no debe realizar ninguna acción adicional.

Observamos como no realizamos ninguna operación sobre los festivos no nacionales en la rama false del IF.



## 7. Resultados:

Por último, observamos la salida tanto del Edit Field, como del HTTP Request de actividades y del IF en formato JSON. Taly como se pide en el apartado, se asigna una actividad para cada festivo nacional:

Logs	<b>Edit Fields</b> Success in 18ms
Success in 511ms	<b>OUTPUT</b>
When clicking 'Execute wor...	<b>Actividades para festivos nacionales</b>
HTTP Request	On New Year's Day i will \n Do yoga
Split Out	On Epiphany i will \n Shred old documents you don't need anymore
If	On Good Friday i will \n Make a couch fort
HTTP Request1	On Labour Day i will \n Bake pastries for you and your neighbor
Edit Fields	On Assumption i will \n Pick up litter around your favorite park
	On National Day of Spain i will \n Fill out a basketball bracket
	On All Saints Day i will \n Listen to a new podcast
	On Constitution Day i will \n Make a new friend
	On Immaculate Conception i will \n Pull a harmless prank on one of your friends
	On Christmas Day i will \n Learn how to make a website

HTTP Request1 Success in 389ms							Input	Output	...
OUTPUT									
activity	x	type	participants	price	link	key	accessibility		
Do yoga		recreational	1	0	empty	4688012	0.9		
Shred old documents you don't need anymore		busywork	1	0	empty	2430066	0		
Make a couch fort		recreational	1	0	empty	2352669	0.08		
Bake pastries for you and your neighbor		cooking	1	0.4	empty	8125168	0.3		
Pick up litter around your favorite park		charity	1	0	empty	4894697	0.05		
Fill out a basketball bracket		recreational	1	0	empty	7806284	0.1		
Listen to a new podcast		relaxation	1	0.05	empty	4124860	0.12		
Make a new friend		social	1	0	empty	1000000	0		
Pull a harmless prank on one of your friends		social	1	0.1	empty	1288934	0.2		
Learn how to make a website		education	1	0.1	empty	9924423	0.3		

Salida if:

```
[  
  {  
    "localName": "Año Nuevo",  
    "name": "New Year's Day",  
    "countryCode": "ES",  
    "fixed": false,  
    "global": true,  
    "counties": null,  
    "launchYear": null,  
    "types": [  
      "Public"  
    ],  
    "date": "2025-01-01"  
  },  
  {  
    "localName": "Día de Reyes / Epifanía del Señor",  
    "name": "Epiphany",  
    "countryCode": "ES",  
    "fixed": false,  
    "global": true,  
    "counties": null,  
    "launchYear": null,  
    "types": [  
      "Public"  
    ],  
    "date": "2025-01-06"  
  },  
  {  
    "localName": "Viernes Santo",  
    "name": "Good Friday",  
    "countryCode": "ES",  
    "fixed": false,  
    "global": true,  
    "counties": null,  
    "launchYear": null,  
    "types": [  
      "Public"  
    ],  
    "date": "2025-04-18"  
  },  
  {  
    "localName": "Fiesta del trabajo",  
    "name": "Labour Day",  
    "countryCode": "ES",  
    "fixed": false,  
    "global": true,  
    "counties": null,
```

```
"launchYear": null,
"types": [
    "Public"
],
"date": "2025-05-01"
},
{
    "localName": "Asunción",
    "name": "Assumption",
    "countryCode": "ES",
    "fixed": false,
    "global": true,
    "counties": null,
    "launchYear": null,
    "types": [
        "Public"
    ],
    "date": "2025-08-15"
},
{
    "localName": "Fiesta Nacional de España",
    "name": "National Day of Spain",
    "countryCode": "ES",
    "fixed": false,
    "global": true,
    "counties": null,
    "launchYear": null,
    "types": [
        "Public"
    ],
    "date": "2025-10-12"
},
{
    "localName": "Día de todos los Santos",
    "name": "All Saints Day",
    "countryCode": "ES",
    "fixed": false,
    "global": true,
    "counties": null,
    "launchYear": null,
    "types": [
        "Public"
    ],
    "date": "2025-11-01"
},
{
    "localName": "Día de la Constitución",
    "name": "Constitution Day",
    "countryCode": "ES",
```

```
        "fixed": false,
        "global": true,
        "counties": null,
        "launchYear": null,
        "types": [
            "Public"
        ],
        "date": "2025-12-06"
    },
    {
        "localName": "Inmaculada Concepción",
        "name": "Immaculate Conception",
        "countryCode": "ES",
        "fixed": false,
        "global": true,
        "counties": null,
        "launchYear": null,
        "types": [
            "Public"
        ],
        "date": "2025-12-08"
    },
    {
        "localName": "Navidad",
        "name": "Christmas Day",
        "countryCode": "ES",
        "fixed": false,
        "global": true,
        "counties": null,
        "launchYear": null,
        "types": [
            "Public"
        ],
        "date": "2025-12-25"
    }
]
```