

# Front-end Challenge

## Nested Forms

If coding in Angular 2, use Reactive Forms (Form Builder API) preferably than Template Driven Forms (ngModel)

Create a form that can manage an attributes list and displays the output in JSON format live.

The form will have a fake save button that will get disabled if:

- One of the attributes name is duplicated among them.
- One of the attribute component is invalid (more info below)

Add tabs to the form and distribute the attributes in a given number of categories

- Categories are static and only to allow the user to easily recognize the attributes.

Internally all the attributes belong to the same list but each one should have a property that allows the tab to render attributes, which belong to the tab's category.

Have an add attribute button to dynamically add attributes in the current selected category.

Each attribute can be removed with a delete icon within the component.

The overall design is not required, use a front end framework to do it (preferably material design)

Device Info
Sensors
Settings
Commands
Metadata

The metadata attribute type describes attributes that are important for applications - such as name. This attribute type cannot be changed from the device and has NO DeviceDataType or LWM2M resource ID. This attribute type can only be changed through the Applications API by doing a PUT on the Avatar which will update the Avatar immediately and NO device Job will be created.

Name:
name

Description:
Name for the device as provided by the user

Name:
location

Description:
Location provided by the user

Name:
Enter a name

Description:
Enter a description for your new attribute

Device Resource Type:
Default Value

Default Value:
Enter a default Value

Data Type:
STRING

Format:
NONE

Enumerations:
Enter value
Add

+ Add Attribute

CANCEL
SAVE

Create an “attribute input” component (custom input component/directive) to encapsulate attribute’s validation and easily control the form’s save button when an attribute is invalid.

Name:
Enter a name

Description:
Enter a description for your new attribute

Device Resource Type:
Default Value

Default Value:
Enter a default Value

Data Type:
STRING

Format:
NONE

Enumerations:
Enter value
Add

The attribute has all the following properties:

- Name: is required and has to be Unique across all the attributes
- Description
- Device Resource Type: always disabled on this exercise.
- Default Value
- Data Type
- Format
- The rest continues depending on format/data-type values.

## Data Type: String

- Formats: None, Number, Boolean, Date-Time, CDATA and URI

The screenshot shows a web form for configuring an attribute. The 'Name' field is highlighted with a red border and contains the placeholder text 'Enter a name'. The 'Description' field contains the placeholder text 'Enter a description for your new attribute'. The 'Device Resource Type' dropdown is set to 'Default Value'. The 'Default Value' field contains the placeholder text 'Enter a default Value'. The 'Data Type' dropdown is open, showing a list of options: 'NONE' (selected with a checkmark), 'NUMBER', 'BOOLEAN', 'DATE-TIME', 'CDATA', and 'URI'. The 'Format' dropdown is also open, showing the same list of options. The 'Enumerations' field contains the placeholder text 'Enter value'.

When “none” is selected it activates an enumerated list of strings:

The screenshot shows the same web form as before, but now the 'Data Type' is set to 'STRING' and the 'Format' is set to 'NONE'. The 'Enumerations' field is now active, showing a list of values: 'asd' and 'dsa'. Each value has a red 'x' icon next to it, indicating it can be removed. There is an 'Add' button next to the 'Enter value' input field. The 'Name' field now contains the letter 'a'.

- Have the enumerations input able to add values to the attribute
- Prevent empty enumerated values from being added to the list

When “number” is selected it activates a ranged set of values:

The screenshot shows a form configuration interface for a 'number' data type. The form is enclosed in a light green border. At the top left is a trash icon, and at the top right is an expand icon. The form contains the following fields:

- Name:** A text input field containing the letter 'a'.
- Description:** A text input field containing the letter 'a'.
- Device Resource Type:** A dropdown menu with 'Default Value' selected.
- Default Value:** A text input field containing the placeholder text 'Enter a default Value'.
- Data Type:** A dropdown menu with 'STRING' selected.
- Format:** A dropdown menu with 'NUMBER' selected.
- Range:** Two text input fields, 'Range Min' and 'Range Max', both containing placeholder text.
- Unit of Measurement:** A text input field containing the placeholder text 'UoM (eg. mm)'.
- Precision:** A text input field containing the placeholder text 'Precision (eg. 0.5)'.
- Accuracy:** A text input field containing the placeholder text 'Accuracy (eg. 0.5)'.

- Range min/max has to be valid (min cant be gt max, max can be lt min) and these can be either float or integer values. Both are required.
- Precision is the step factor between the defined ranges; its value has to allow the user to go through min to max and not exceed it. Required.
- Accuracy acts the same than Precision.

When “Boolean”, “Data-type”, “URL” there’s no custom behavior:

The screenshot shows a form configuration interface for a 'boolean' data type. The form is enclosed in a light green border. At the top left is a trash icon, and at the top right is an expand icon. The form contains the following fields:

- Name:** A text input field containing the letter 'a'.
- Description:** A text input field containing the letter 'a'.
- Device Resource Type:** A dropdown menu with 'Default Value' selected.
- Default Value:** A text input field containing the placeholder text 'Enter a default Value'.
- Data Type:** A dropdown menu with 'STRING' selected.
- Format:** A dropdown menu with 'BOOLEAN' selected.

## Data Type: Object

The screenshot shows a form for creating an attribute object. It has a title bar with a trash icon on the left and an up arrow icon on the right. The form contains the following fields:

- Name:** A text input field containing the letter 'a'.
- Description:** A text input field containing the letter 'a'.
- Device Resource Type:** A dropdown menu with 'Default Value' selected.
- Default Value:** A disabled text input field with the placeholder text 'Enter a default Value'.
- Data Type:** A dropdown menu with 'OBJECT' selected.
- Format:** A disabled dropdown menu with 'NONE' selected.

- Default Value is disabled
- Format is disabled.

The attribute object has to always reflect what is displayed in a given combination (do not keep previous combination values in the object, make them null)