Problem:

Fashion Products Classifier Using Visual Recognition

Category: IBM Cloud Application

Skills Required:
IBM Watson Visual Recognition ,Node- RED

Project Description:

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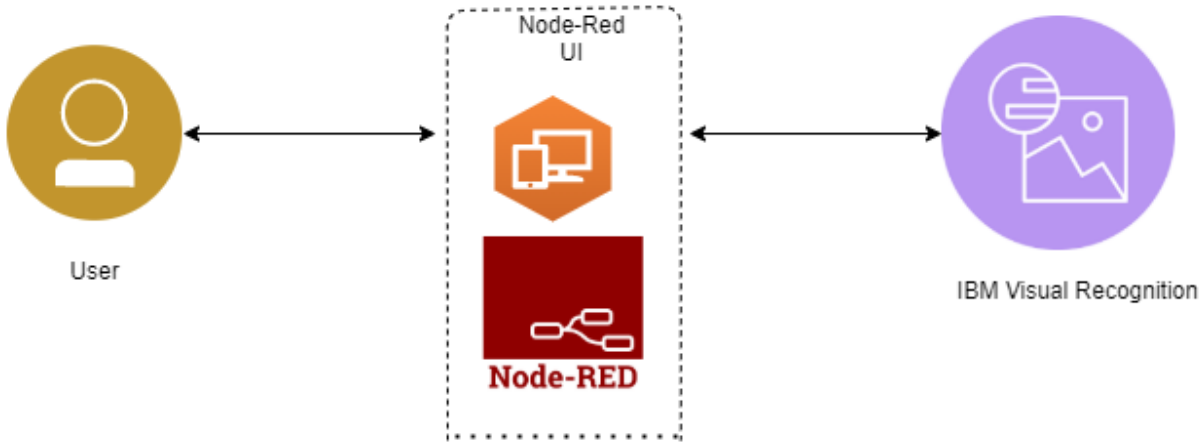
In this project you need to build a web application that checks the type of fashion product like Shirt, T-Shirt and Jeans .IBM Watson Visual Recognition services is used to build a custom model to check for the type of product. Build the web application using Node-red Service and integrate to Visual Recognition

Services Used:

1. IBM Watson Visual Recognition
2. Node-Red

Architecture:

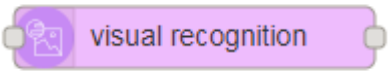


Solution:

Overview

The Watson Visual Recognition service allows to analyze the contents of an image.

Node-RED Watson Visual Recognition node

The Node-RED 

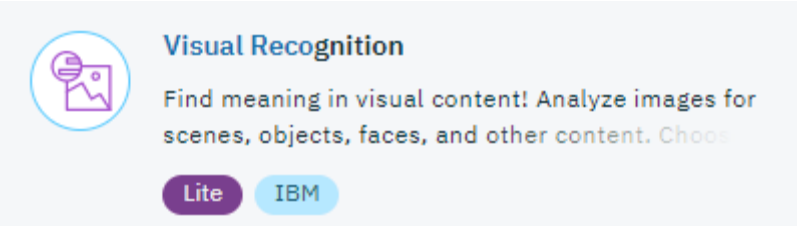
node provides a very easy wrapper node that takes an image URL or binary stream as input, and produces a set of image labels as output.

Watson Visual Recognition Flow construction

In this exercise, we will show you how to simply generate the labels from an image URL.

Prerequisites and setup

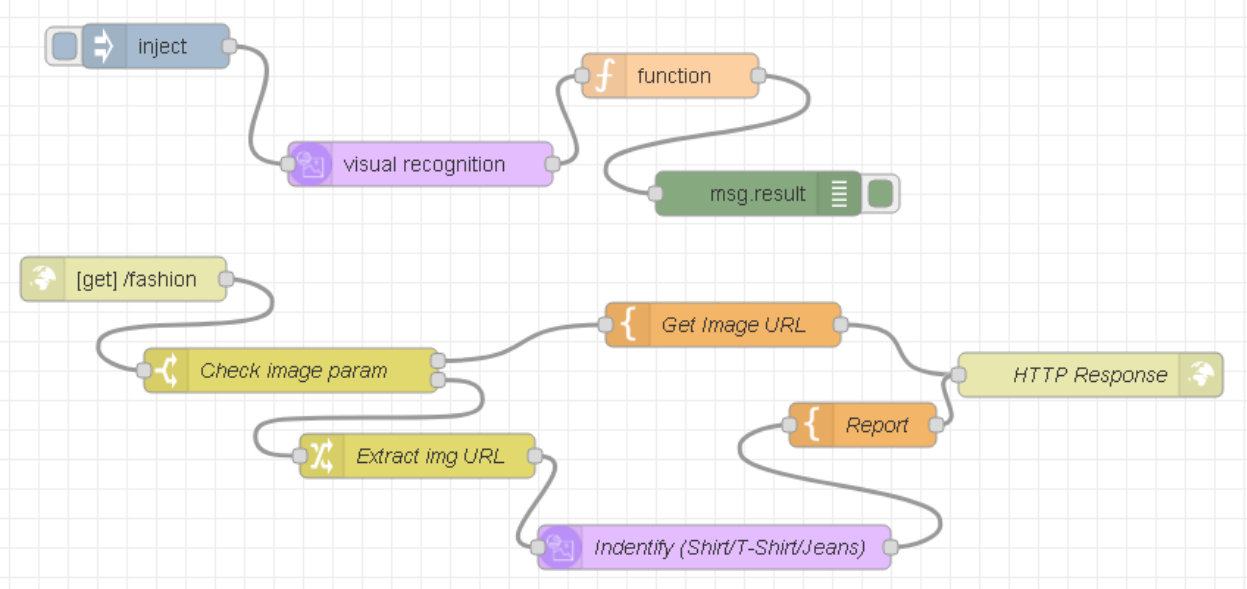
To get the Visual Recognition service credentials on IBM Cloud automatically filled-in by Node-RED, you should connect the Visual Recognition service to the Node-RED application in IBM Cloud.



Please refer to the Node-RED setup lab for instructions.

Building the flow

The flow will present a simple web page with a text field of where to input the image's URL, then submit it to Watson Visual Recognition. It will output the labels that have been found on the reply Web page.



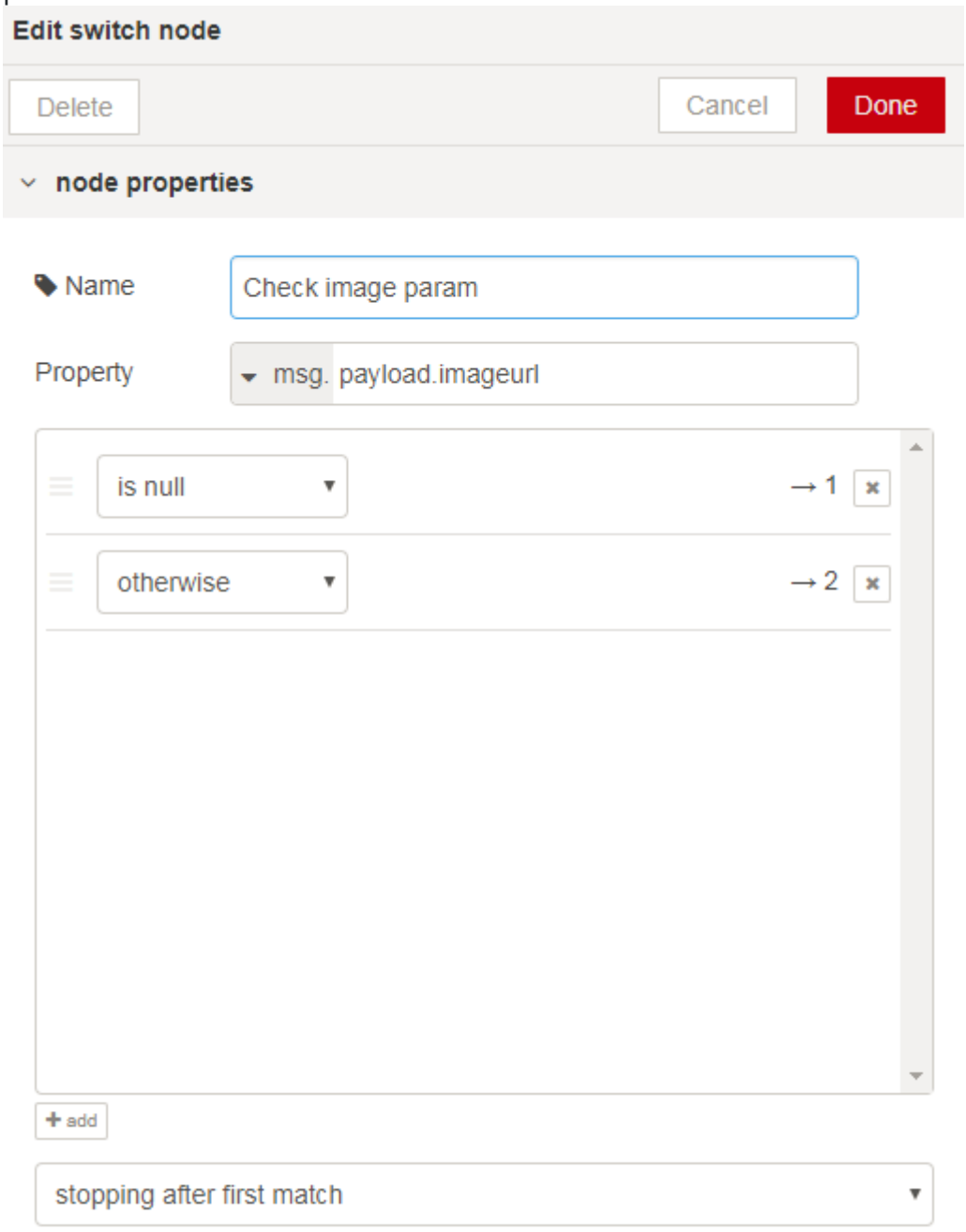
The nodes required to build this flow are:

- A 

node, configured with a `/fashion` URL
- A 

node which will test for the presence of the `imageurl` query

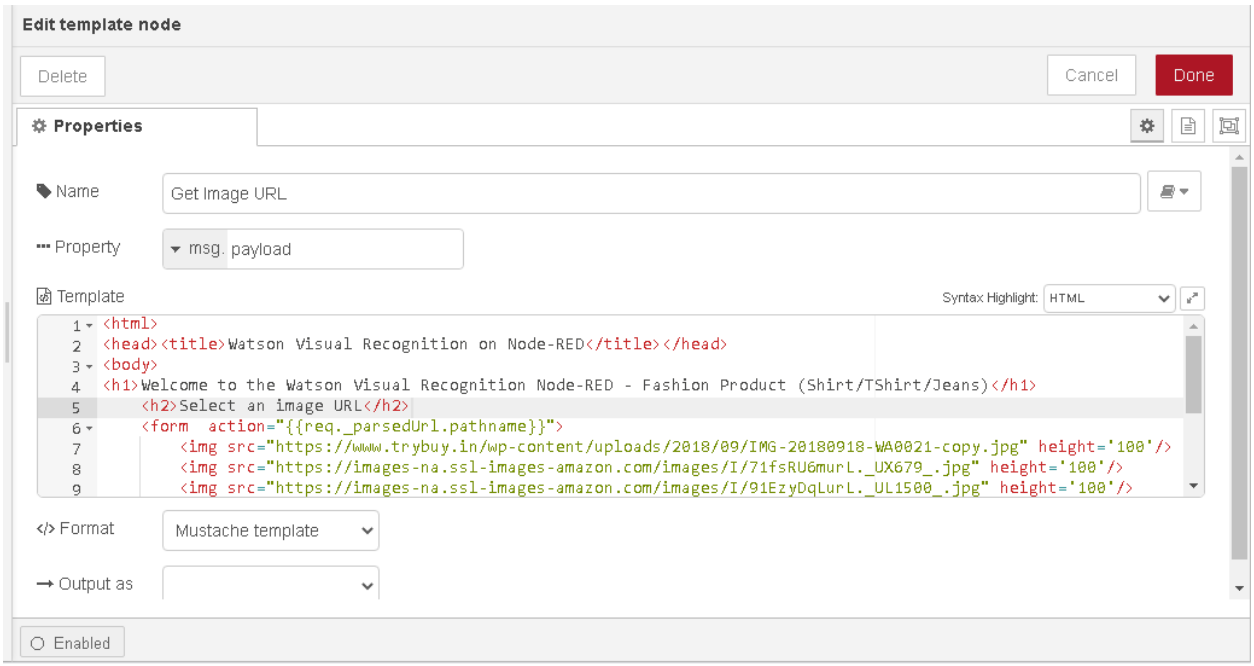
parameter:



- A first 

node, configured to output an HTML input field and suggest a few selected images taken from the main Watson Visual Recognition demo web page:

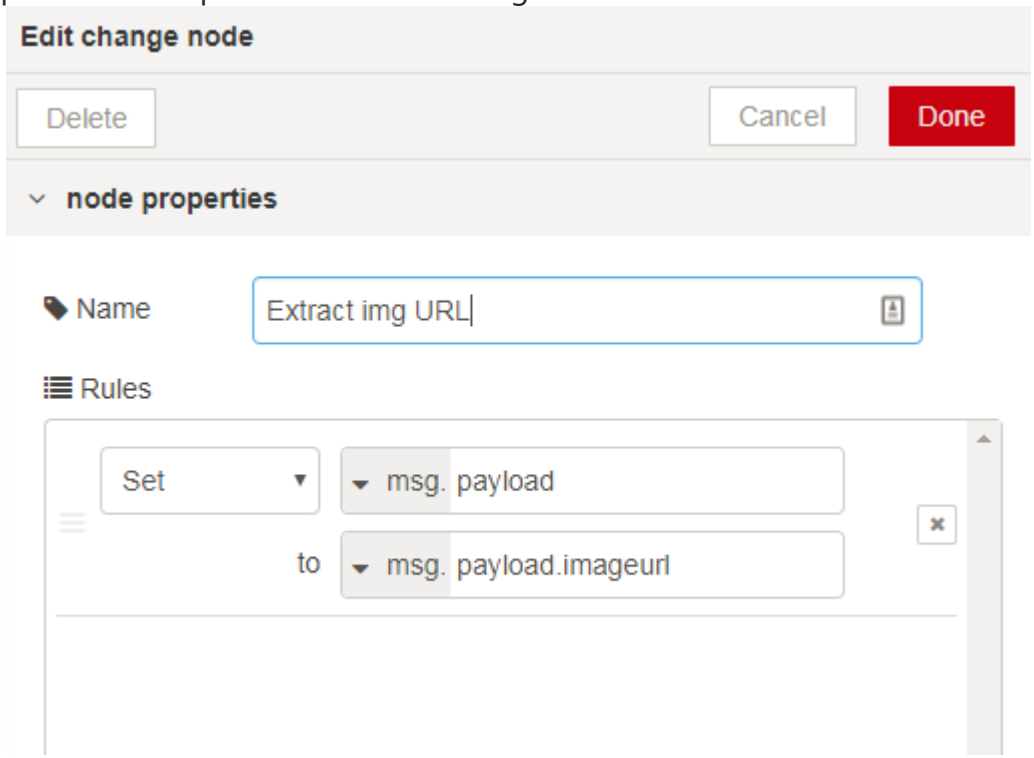
```
<html>
<head><title>Watson Visual Recognition on Node-RED</title></head>
<body>
<h1>Welcome to the Watson Visual Recognition Node-RED - Fashion Product (Shirt/TShirt/Jeans)</h1>
    <h2>Select an image URL</h2>
    <form  action="{{req._parsedUrl.pathname}}">
        <img src="https://www.trybuy.in/wp-content/uploads/2018/09/IMG-20180918-WA0021-copy.jpg"
        height='100'/>
        <img src="https://images-na.ssl-images-amazon.com/images/I/71fsRU6murL._UX679_.jpg" height='
        100'/>
        <img src="https://images-na.ssl-images-amazon.com/images/I/91EzyDqLurL._UL1500_.jpg" height='
        100'/>

        <br/>Copy above image location URL or enter any image URL:<br/>
        <input type="text" name="imageurl"/>
        <input type="submit" value="Classify"/>
    </form>
</body>
</html>
```

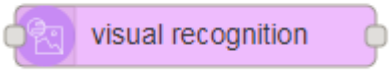


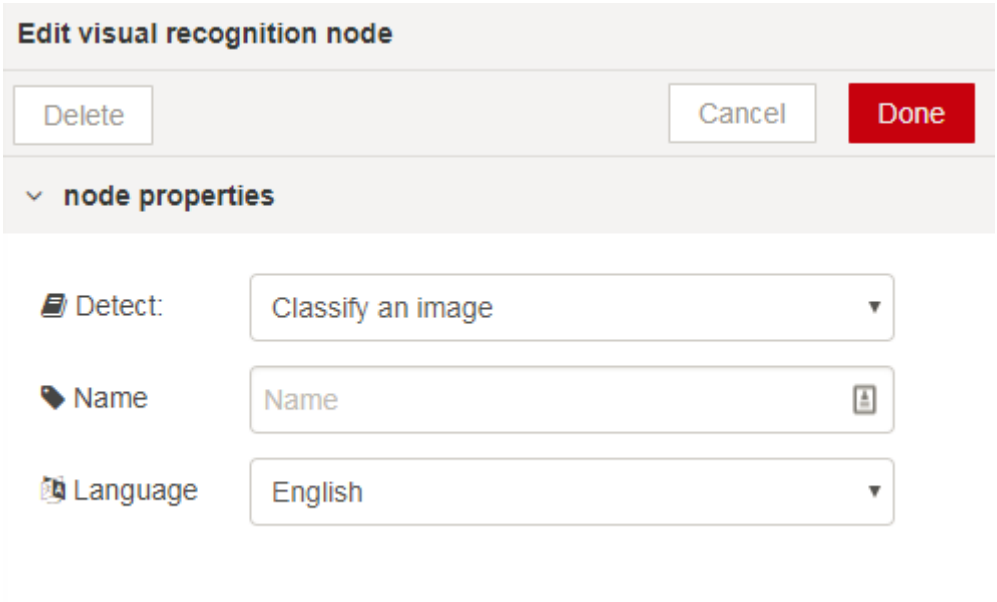
- A 

node (named `Extract img URL` here) to extract the `imageurl` query parameter from the web request and assign it to the payload

to be provided as input to the Visual Recognition node:



- The  node. Make sure that the credentials are setup from IBM Cloud, i.e. that the service is bound to the application. This can be verified by checking that the properties for the Visual Recognition node are clear:

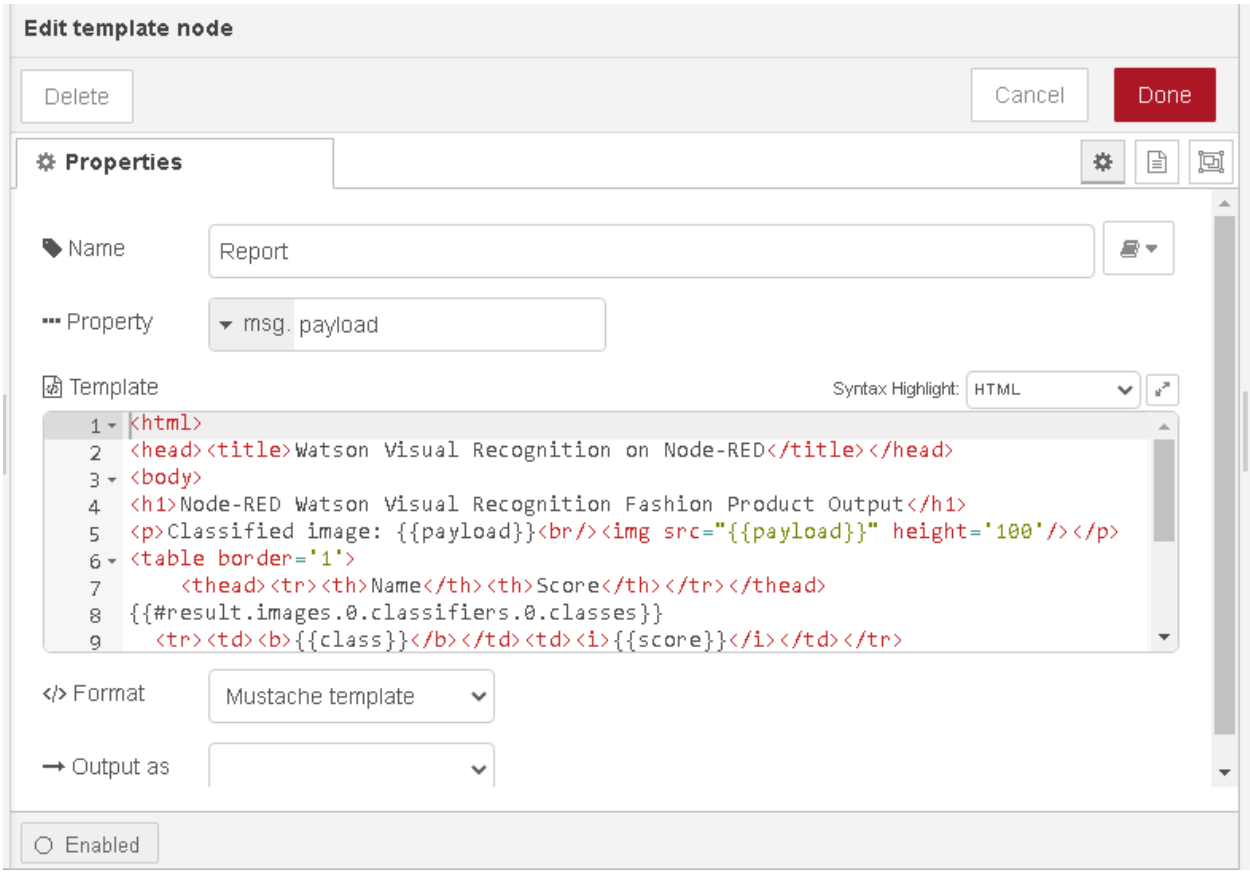


- And a final 

node linked to the 

output node. The template will format the output returned from the Visual Recognition node into an HTML table for easier reading:

```
<html>
<head><title>Watson Visual Recognition on Node-RED</title></head>
<body>
<h1>Node-RED Watson Visual Recognition Fashion Product Output</h1>
<p>Classified image: {{payload}}<br/><img src="{{payload}}" height='100'/></p>
<table border='1'>
    <thead><tr><th>Name</th><th>Score</th></tr></thead>
{{#result.images.0.classifiers.0.classes}}
  <tr><td><b>{{class}}</b></td><td><i>{{score}}</i></td></tr>
{{/result.images.0.classifiers.0.classes}}
</table>
<form  action="{{req._parsedUrl.pathname}}">
    <input type="submit" value="Try again"/>
</form>
</body>
</html>
```



Note that the HTML snippet above has been simplified and stripped out of non-essential HTML tags, the completed flow solution has a complete HTML page.

Testing the flow

To run the web page, point your browser to `https://node-red-nrcgr-2020-10-07.eu-gb.mybluemix.net/fashion` and enter the URL of some image. The URL of the pre-selected images can be copied to clipboard and pasted into the text field.
The Watson Visual Recognition API will return an array with the recognized features, which will be formatted in a HTML table by the template:

Node-RED Watson Visual Recognition Fashion Product Output

Classified image: https://images-na.ssl-images-amazon.com/images/I/91EzyDqLurL._UL1500_.jpg

Name	Score
denim (jean)	*0.761*
fabric	*0.761*
Levi's jeans	*0.745*
dress	*0.745*
hip pocket	*0.5*
pocket	*0.5*
clothing	*0.601*
ultramarine color	*0.932*
steel blue color	*0.836*

Try again