

Sprint-4

Team ID	PNT2022TMID29740
Team Members	Keerthiga M Praveen D Kalaimani P Ajayprabu R
Project Title	Smart Farmer – IoT Enabled Smart Farming Application

CODE:

```
import time

import sys

import ibmiotf.application
import ibmiotf.device

import random


#Provide your IBM Watson Device Credentials

organization = "bgzz88"

deviceType = "Temperature"

deviceId = "123456"

authMethod = "token"

authToken = "12345678"


# Initialize GPIO

def myCommandCallback(cmd):

    print("Command received: %s" % cmd.data['command'])

    status=cmd.data['command']

    if status=="motoron":

        print ("motor is on")

    elif status == "lightoff":
```

```

        print ("motor is off")
    else :
        print ("please send proper command")

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":
authMethod, "auth-token": authToken}

    deviceCli = ibmiotf.device.Client(deviceOptions)

    #.....

except Exception as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()

# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type "greeting"
10 times

deviceCli.connect()

while True:
    #Get Sensor Data from DHT11

    temp=random.randint(90,110)
    Humid=random.randint(60,100)

    data = { 'temp' : temp, 'Humid': Humid }

    #print data

    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %" % Humid, "to IBM Watson")

```

```
success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,  
on_publish=myOnPublishCallback)
```

```
if not success:
```

```
    print("Not connected to IoT")
```

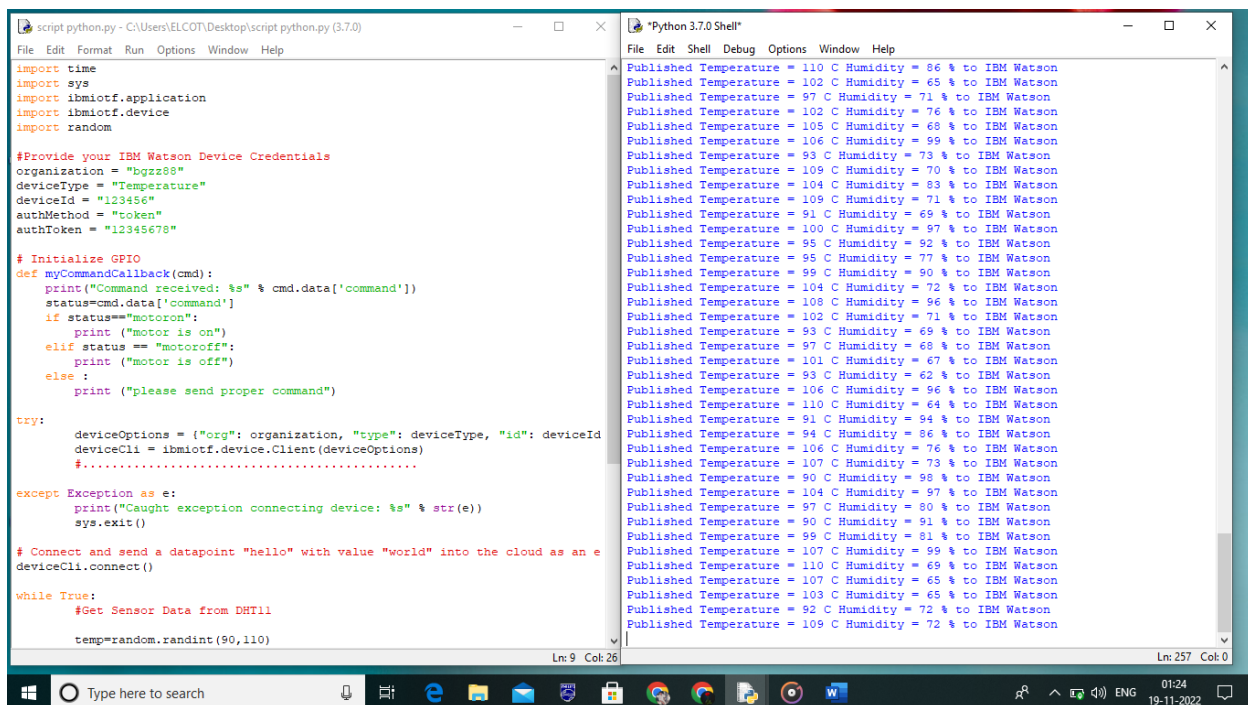
```
time.sleep(10)
```

```
deviceCli.commandCallback = myCommandCallback
```

```
# Disconnect the device and application from the cloud
```

```
deviceCli.disconnect()
```

OUTPUT:



```
script python.py - C:\Users\ELCOT\Desktop\script python.py (3.7.0)
File Edit Format Run Options Window Help

import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "bgz288"
deviceType = "Temperature"
deviceId = "123456"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
        print ("motor is on")
    elif status == "motorooff":
        print ("motor is off")
    else :
        print ("please send proper command")

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId}
    deviceCli = ibmiotf.device.Client(deviceOptions)
    #.....

except Exception as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()

# Connect and send a datapoint "hello" with value "world" into the cloud as an e
deviceCli.connect()

while True:
    #Get Sensor Data from DHT11
    temp=random.randint(90,110)

Python 3.7.0 Shell
File Edit Shell Debug Options Window Help

Published Temperature = 110 C Humidity = 86 % to IBM Watson
Published Temperature = 102 C Humidity = 65 % to IBM Watson
Published Temperature = 97 C Humidity = 71 % to IBM Watson
Published Temperature = 102 C Humidity = 76 % to IBM Watson
Published Temperature = 105 C Humidity = 68 % to IBM Watson
Published Temperature = 106 C Humidity = 99 % to IBM Watson
Published Temperature = 93 C Humidity = 73 % to IBM Watson
Published Temperature = 109 C Humidity = 70 % to IBM Watson
Published Temperature = 104 C Humidity = 83 % to IBM Watson
Published Temperature = 109 C Humidity = 71 % to IBM Watson
Published Temperature = 91 C Humidity = 69 % to IBM Watson
Published Temperature = 100 C Humidity = 97 % to IBM Watson
Published Temperature = 95 C Humidity = 92 % to IBM Watson
Published Temperature = 95 C Humidity = 77 % to IBM Watson
Published Temperature = 99 C Humidity = 90 % to IBM Watson
Published Temperature = 104 C Humidity = 72 % to IBM Watson
Published Temperature = 108 C Humidity = 96 % to IBM Watson
Published Temperature = 102 C Humidity = 71 % to IBM Watson
Published Temperature = 93 C Humidity = 69 % to IBM Watson
Published Temperature = 97 C Humidity = 68 % to IBM Watson
Published Temperature = 101 C Humidity = 67 % to IBM Watson
Published Temperature = 93 C Humidity = 62 % to IBM Watson
Published Temperature = 106 C Humidity = 96 % to IBM Watson
Published Temperature = 110 C Humidity = 64 % to IBM Watson
Published Temperature = 91 C Humidity = 94 % to IBM Watson
Published Temperature = 94 C Humidity = 86 % to IBM Watson
Published Temperature = 106 C Humidity = 76 % to IBM Watson
Published Temperature = 107 C Humidity = 73 % to IBM Watson
Published Temperature = 90 C Humidity = 98 % to IBM Watson
Published Temperature = 104 C Humidity = 97 % to IBM Watson
Published Temperature = 97 C Humidity = 80 % to IBM Watson
Published Temperature = 90 C Humidity = 91 % to IBM Watson
Published Temperature = 99 C Humidity = 81 % to IBM Watson
Published Temperature = 107 C Humidity = 99 % to IBM Watson
Published Temperature = 110 C Humidity = 69 % to IBM Watson
Published Temperature = 107 C Humidity = 65 % to IBM Watson
Published Temperature = 103 C Humidity = 65 % to IBM Watson
Published Temperature = 92 C Humidity = 72 % to IBM Watson
Published Temperature = 109 C Humidity = 72 % to IBM Watson

Ln: 9 Col: 26
Ln: 257 Col: 0
```

Service Details - IBM Cloud x IBM Watson IoT Platform x (6) WhatsApp x +

bgzz88.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

ajay.2022r16@gmail.com ID: bgzz88

Browse Action Device Types Interfaces Add Device +

>	1234	Disconnected	ajayprabu	Device	16 Nov 2022 2:29 PM
▼	123456	Connected	Temperature	Device	17 Nov 2022 8:16 PM

Identity Device Information Recent Events State Logs

Device ID 123456

Device Type Temperature

Date Added 17 Nov 2022 8:16 PM

Added By ajay.2022r16@gmail.com

Connection Status Connected

Connection Time: 17 Nov 2022 8:21 PM

Client Address: 157.51.14.217 SecureToken

Items per page 50 | 1-2 of 2 items

1 of 1 page

1 Simulation running

Type here to search

Service Details - IBM Cloud x IBM Watson IoT Platform x (6) WhatsApp x +

bgzz88.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

ajay.2022r16@gmail.com ID: bgzz88

Browse Action Device Types Interfaces Add Device +

>	1234	Disconnected	ajayprabu	Device	16 Nov 2022 2:29 PM
▼	123456	Connected	Temperature	Device	17 Nov 2022 8:16 PM

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
IoTSensor	{"temp":103,"Humid":66}	json	a few seconds ago
IoTSensor	{"temp":107,"Humid":83}	json	a few seconds ago
IoTSensor	{"temp":99,"Humid":90}	json	a few seconds ago

1 Simulation running

Type here to search

Application Details - IBM Cloud x Node-RED : node-red-tvnss-202 x Node-RED Dashboard x IBM Watson IoT Platform x

node-red-tvnss-2022-11-16.eu-gb.mybluemix.net/red/#flow/e0b94dd1dde366ad

Node-RED

Flow 1

filter nodes

udp in

udp out

input

ibmiot in

output

OpenWhisk

ibmiot out

sequence

split

join

sort

msg payload

temp

hum

temp

hum

Motor ON

Motor OFF

ibmiot

connected

dashboard

Layout

Site

Theme

Tabs & Links

Smart home

HALLAC

garden

smart switch board

Node-RED_node...html

Show all

Type here to search

19:48 18-11-2022

Application Details x Node-RED : node-red-tvnss-202 x Node-RED Dashboard x IBM Watson IoT Platform x https://node-red-tvnss-2022-11-16.eu-gb.mybluemix.net/red/#flow/e0b94dd1dde366ad x MIT App Inventor x (3392) MIT x

Node-RED

Flow 1

filter nodes

network

mqtt in

mqtt out

http in

http response

http request

websocket in

websocket out

tcp in

tcp out

tcp request

ibmiot

connected

msg payload

temp

hum

temp

hum

Motor ON

Motor OFF

ibmiot

connected

function

[get] /sensor

[get] /command

http

http

debug

all nodes

all

11/19/2022, 12:35:44 AM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : number
97

11/19/2022, 12:35:52 AM node: ce4cf0b9c0bcd4f1
msg.payload : Object
> { command: "motoron" }

11/19/2022, 12:35:54 AM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : Object
> { temp: 98, Humid: 79 }

11/19/2022, 12:35:54 AM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : number
98

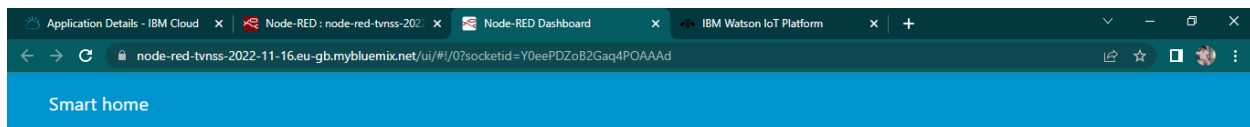
11/19/2022, 12:35:54 AM node: ce4cf0b9c0bcd4f1
iot-2/type/TemperatureId/123456/ev/IoTSensor/fmt/json
: msg.payload : number
79

Node-RED_node...html

Show all

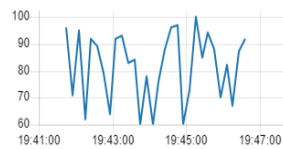
Type here to search

00:35 19-11-2022



HALL AC

hum



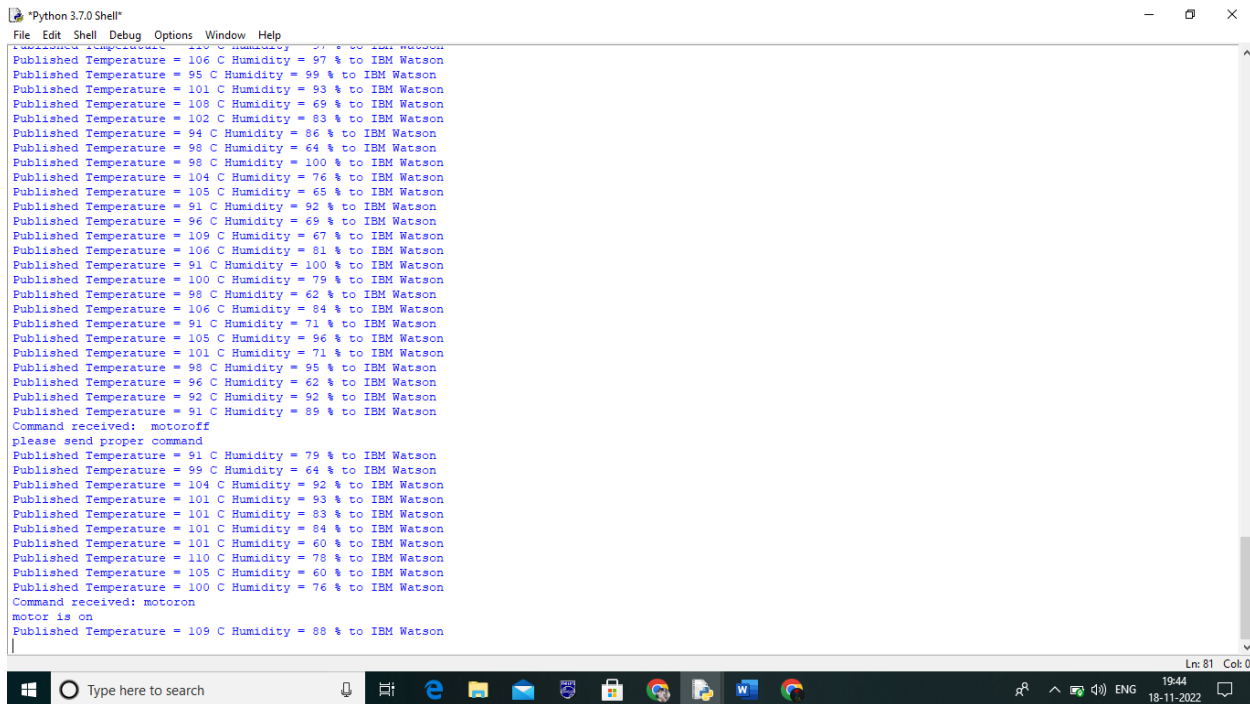
temp



smart switch board

MOTOR OFF

MOTOR ON



Application Details x Node-RED: node x Node-RED Dashl x IBM Watson IoT x https://node-red x MIT App Inventor x (3392) MIT app x

https://node-red-tvns-2022-11-16.eu-gb.mybluemix.net/red/#flow/e0b94dd1dde366ad

Node-RED

filter nodes

network

mqtt in

mqtt out

http in

http response

http request

websocket in

websocket out

tcp in

tcp out

tcp request

Flow 1

IBM IoT

temp

hum

Motor ON

Motor OFF

[get] /sensor

[get] /command

function

msg.payload

temp

hum

IBM IoT

http

http

debug

all nodes

all

11/19/2022, 12:35:44 AM node: ce4cf0b9c0bcd4f1
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iot-2/type/TemperatureId/123456/ev/ItoTSensor/fmt/json
: msg.payload : number
79

Node-RED _node...html

Type here to search

Application Details x Node-RED: node x Node-RED Dashl x IBM Watson IoT x https://node-red x MIT App Inventor x (3392) MIT app x

Not secure | ai2.appinventor.mit.edu/#5509284314873856

User Interface

Button

CheckBox

DatePicker

Image

Label

ListPicker

ListView

Notifier

PasswordTextBox

Slider

Spinner

Switch

TextBox

TimePicker

WebView

Layout

Media

Drawing and Animation

FARMING

Temperature:

Humidity:

Switch Board

MOTOR ON

MOTOR C

Non-visible components

Web1

Web2

Clock1

Background Color

None

Enabled

FontBold

FontItalic

FontSize

FontTypeface

Height

Width

Hint

MultiLine

NumbersOnly

ReadOnly

Text

TextAlignment

Media

walpaper.jpg

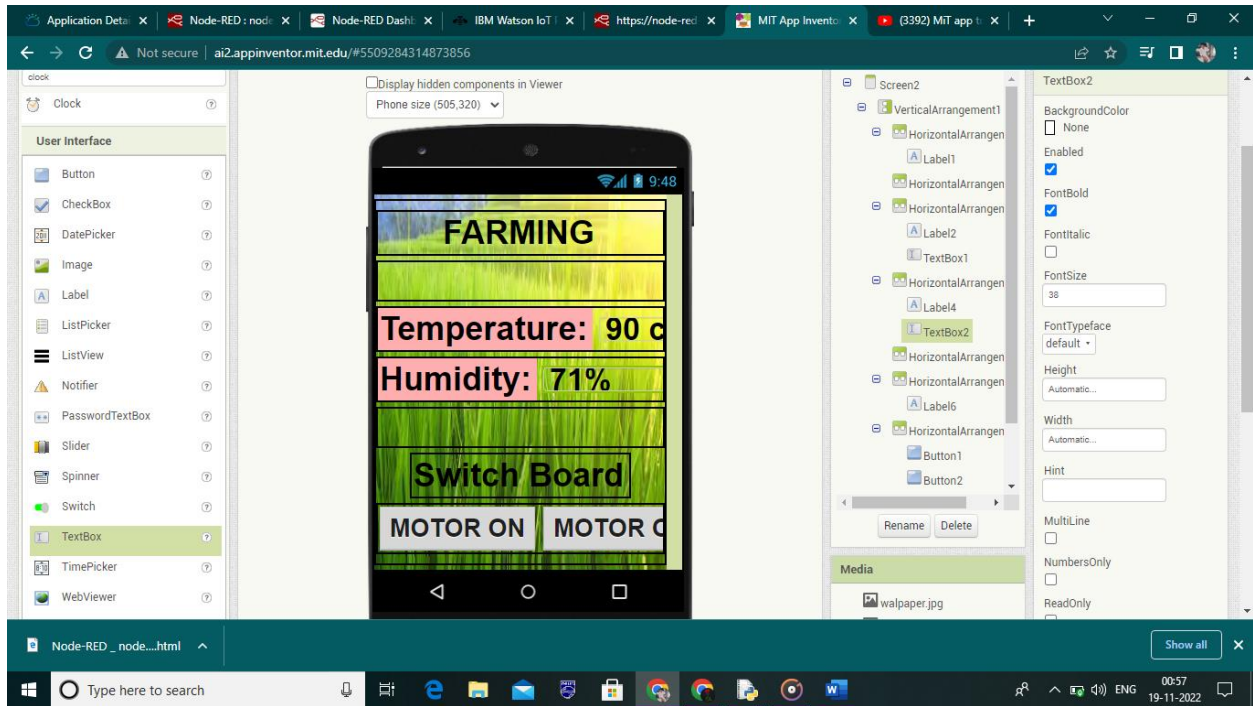
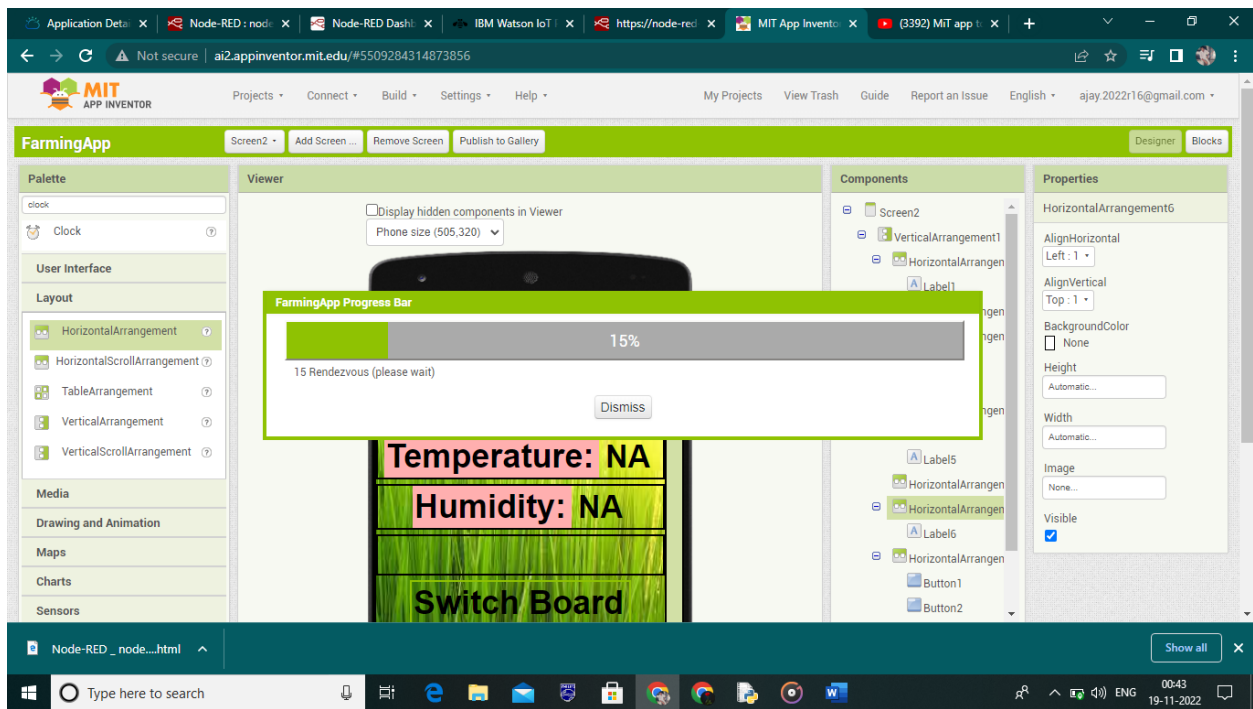
612263da...3982b.png

Upload File

FarmingApp.apk

Node-RED _node...html

Type here to search



Application DetailsNode-RED: node-RED DashboardIBM Watson IoThttps://node-redMIT App Inventor(B392) MIT app i

Not secureai2.appinventor.mit.edu/#5509284314873856

MIT APP INVENTOR

ProjectsConnectBuildSettingsHelpMy ProjectsView TrashGuideReport an IssueEnglishajay.2022r16@gmail.com

FarmingAppScreen2Add Screen...Remove ScreenPublish to GalleryDesignerBlocks

clock

Clock

User Interface

Button

CheckBox

DatePicker

Image

Label

ListPicker

ListView

Notifier

PasswordTextBox

Slider

Spinner

Android App for FarmingApp

Download .apk now

Click the button to download the app, right-click on it to copy a download link, or scan the code with a barcode scanner to install.
Note: this link and barcode are only valid for 2 hours. See the FAQ for info on how to share your app with others.

Dismiss

Screen2

VerticalArrangement1

HorizontalArrangement

Label1

HorizontalArrangement

HorizontalArrangement

Label2

TextBox1

HorizontalArrangement

Label4

TextBox2

HorizontalArrangement

HorizontalArrangement

Label6

HorizontalArrangement

Button1

Button2

TextBox2

BackgroundColor

None

Enabled

FontBold

FontItalic

FontSize

38

FontTypeface

default

Height

Automatic...

Width

Automatic...

Hint

Node-RED_node....html

Show all

Type here to search

00:59

19-11-2022