

# Publish data to the IBM Cloud

|              |   |
|--------------|---|
| Team ID      | PNT2022TMID06691  |
| Project Name | Real-Time River Water Quality Monitoring and Control System |

## Publishing data to the IBM Cloud:

The screenshot displays a Jupyter Notebook running on a local host (localhost:8888). The notebook is titled "Untitled" and shows a successful connection to the IBM Watson IoT Platform. The output of the code execution is as follows:

```
2022-11-17 14:38:40,871 ibmiotf.device.Client INFO Connected successfully: d:um5y3e:ESP32:13448
Published data {'Temperature': 76, 'PH': 76, 'Conductivity': 93, 'Oxygen': 18, 'Turbidity': 29} to IBM Watson
Published data {'Temperature': 36, 'PH': 31, 'Conductivity': 80, 'Oxygen': 24, 'Turbidity': 70} to IBM Watson
Published data {'Temperature': 44, 'PH': 11, 'Conductivity': 74, 'Oxygen': 68, 'Turbidity': 96} to IBM Watson
```

Below the code output, a table displays the published data events:

| Event | Value   | Format | Last Received     |
|-------|---|--------|-------------------|
| event | {"Temperature":44,"PH":11,"Conductivity":74,"O... | json   | a few seconds ago |
| event | {"Temperature":36,"PH":31,"Conductivity":80,"O... | json   | a few seconds ago |
| event | {"Temperature":76,"PH":76,"Conductivity":93,"O... | json   | a few seconds ago |

The bottom of the screenshot shows the Windows taskbar with the system clock indicating 2:38 PM on 11/17/2022.

jupyter Untitled Last Checkpoint: an hour ago (unsaved changes) Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

```
ph = random.randint(0,100)
cond = random.randint(0,100)
temp = random.randint(0,100)
oxy = random.randint(0,100)
turb = random.randint(0,100)
# Send Temperature & Humidity to IBM Watson
data = {'Temperature': temp, 'PH': ph, 'Conductivity': cond, 'Oxygen': oxy, "Turbidity": turb}

# print data
def myOnPublishCallback():
    print("Published data",data, "to IBM Watson")

success = deviceCli.publishEvent("event", "json", data, 0, myOnPublishCallback)
if not success:
    print("Not connected to IoT")
time.sleep(5)

deviceCli.commandCallback = myCommandCallback
```

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Published data {'Temperature': 44, 'PH': 11, 'Conductivity': 74, 'Oxygen': 68, 'Turbidity': 96} to IBM Watson  
Published data {'Temperature': 52, 'PH': 97, 'Conductivity': 19, 'Oxygen': 81, 'Turbidity': 67} to IBM Watson  
Published data {'Temperature': 98, 'PH': 82, 'Conductivity': 26, 'Oxygen': 1, 'Turbidity': 74} to IBM Watson  
Published data {'Temperature': 32, 'PH': 30, 'Conductivity': 25, 'Oxygen': 82, 'Turbidity': 78} to IBM Watson

In [ ]:

IBM Watson IoT Platform

um5y3e.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform 61071912130@smartinternz.com ID: um5y3e

Browse Action Device Types Interfaces Add Device +

| 13448  | Connected   | ESP32         | Device            | 16 Nov 2022 15:42 |
|--|---|---------------|-------------------|-------------------|
|  |   |               |                   |                   |
| 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     |                   |
| event  | {"Temperature":71,"PH":26,"Conductivity":47,"O... | json          | a few seconds ago |                   |
| event  | {"Temperature":52,"PH":65,"Conductivity":25,"O... | json          | a few seconds ago |                   |
| event  | {"Temperature":34,"PH":79,"Conductivity":6,"Ox... | json          | a few seconds ago |                   |
| event  | {"Temperature":32,"PH":30,"Conductivity":25,"O... | json          | a few seconds ago |                   |
| event  | {"Temperature":98,"PH":82,"Conductivity":26,"O... | json          | a few seconds ago |                   |

88°F Haze 2:39 PM 11/17/2022