



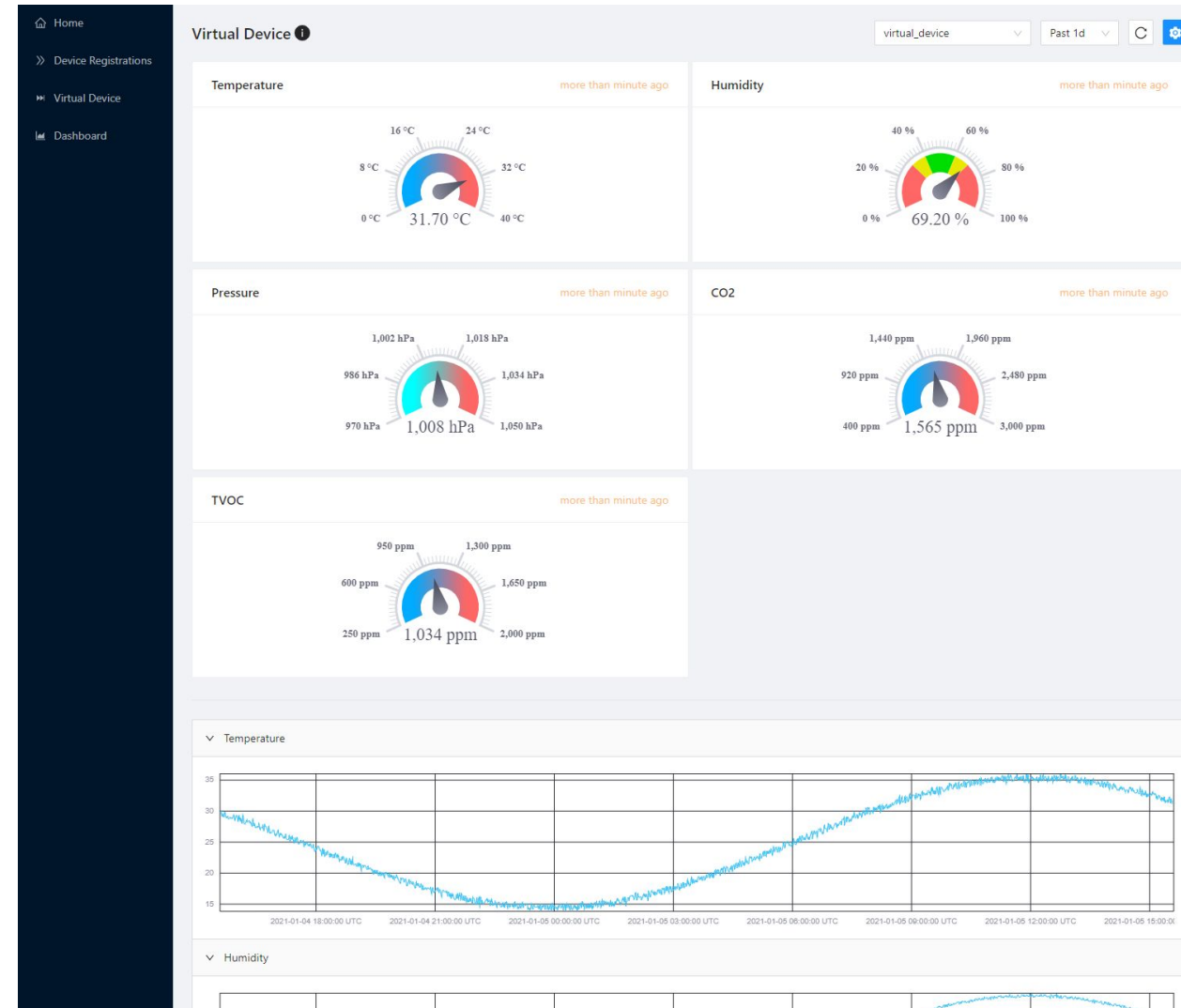
IoT Center Installation

Workshop

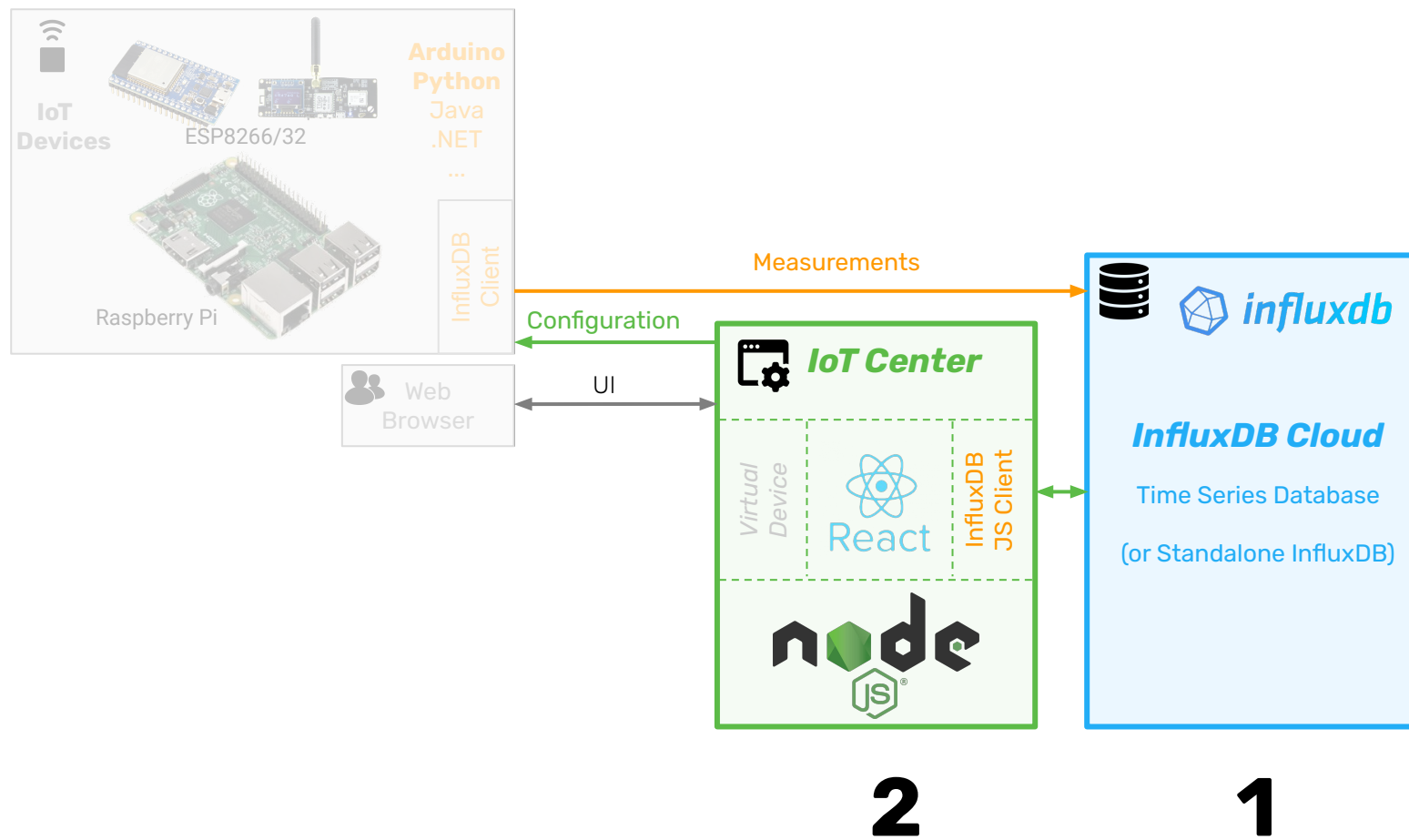


Agenda

- InfluxDB Cloud Account
- Prepare environment
 - Install git
 - Install node.js
 - Install yarn
- Get source code from GIT
- Build IoT Center
- Set IoT Center configuration
- Run IoT Center
- Virtual Device Test



IoT Center Installation Approach





Create InfluxDB Cloud Account

Skip this if you already have the InfluxDB account

Skip this step if you already have the account

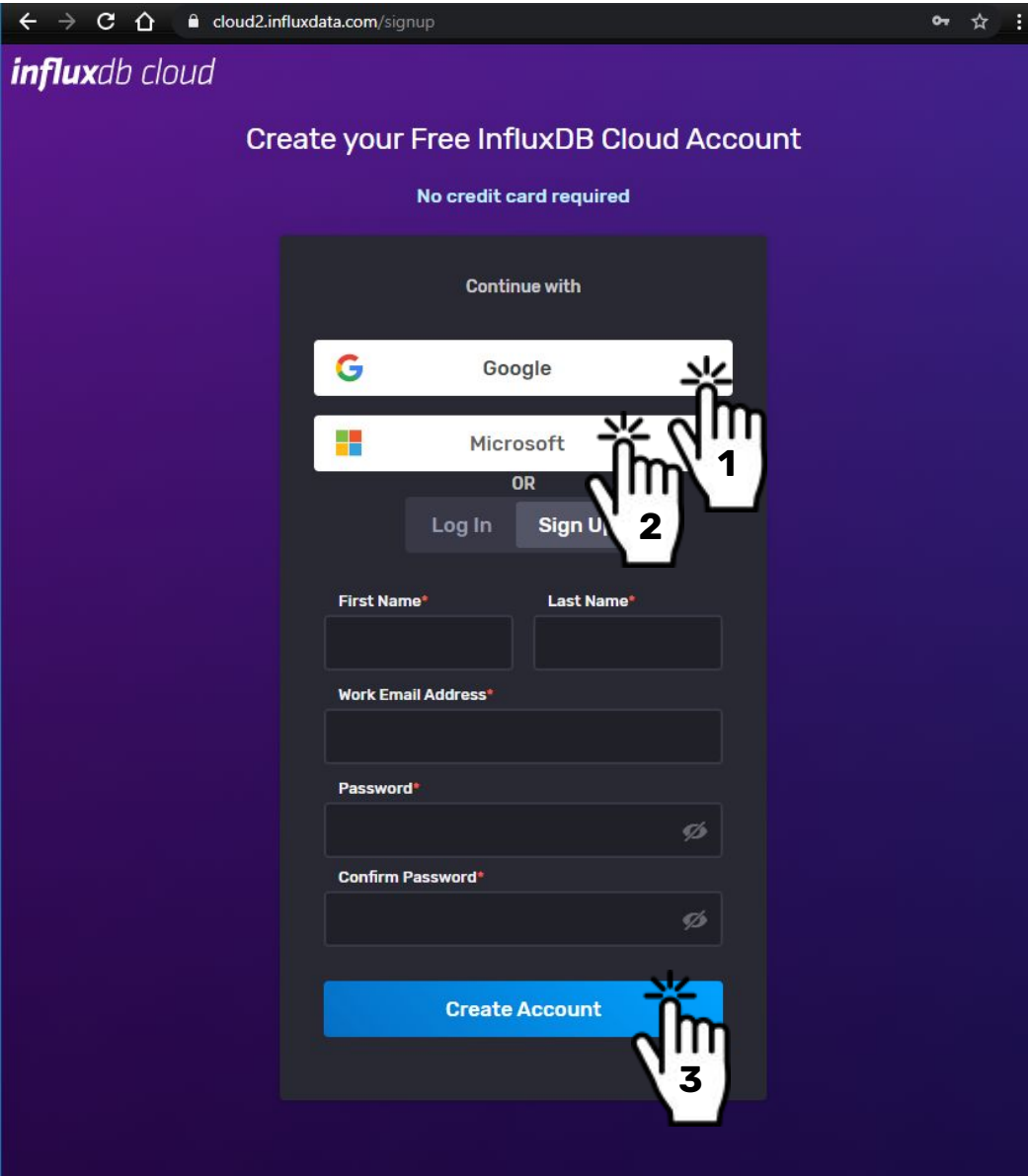
Sign up to Influxdb Cloud

Open Web Browser

<https://cloud2.influxdata.com/>

Three options:

1. Register via **Google** email
 - Select right Google account
2. Register via **Microsoft** email
 - Select right Microsoft account
 - Requires *Read profile* rights
3. Create account via **any email**
 - Fill Name, Email, Password
 - Receive email for validation

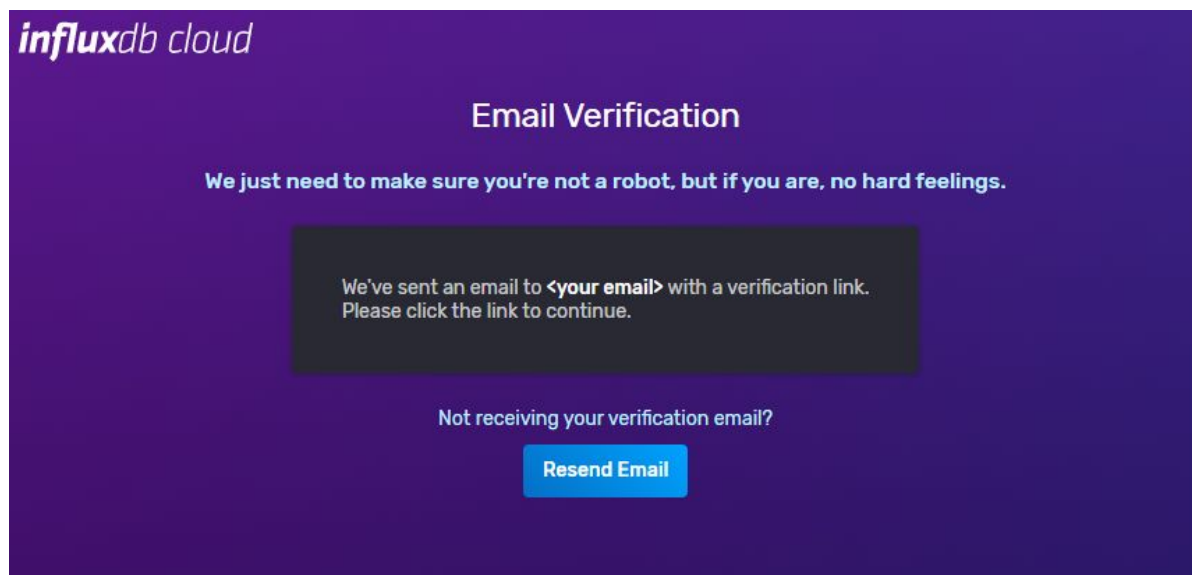


The screenshot shows the 'influxdb cloud' sign-up page. The browser address bar displays 'cloud2.influxdata.com/signup'. The page title is 'Create your Free InfluxDB Cloud Account' with the subtext 'No credit card required'. The sign-up options are 'Continue with Google' and 'Continue with Microsoft', separated by 'OR'. Below these are 'Log In' and 'Sign Up' buttons. The form fields include 'First Name*', 'Last Name*', 'Work Email Address*', 'Password*', and 'Confirm Password*'. A blue 'Create Account' button is at the bottom. Three hand icons with numbers 1, 2, and 3 indicate the steps: 1 points to the Google/Microsoft options, 2 points to the 'Sign Up' button, and 3 points to the 'Create Account' button.



Verification

Only when email option was selected



Registration




1. Select any provider
2. Company name
3. Read & check agreement
4. Click continue

influxdb cloud

Where do you want to store your data?

No credit card required

1 Choose a Provider & Region

Amazon Web Services	Google Cloud	Microsoft Azure
		

EU Frankfurt

Don't see the region you need? [Let us know.](#)

2 Enter Company Name


My company

3 Read and agree to our service agreements

☒ I have viewed and agree to the [InfluxDB Cloud 2.0 Services Subscription Agreement](#) and [InfluxData Global Data Processing Agreement](#).

Next: Choose a plan

Continue







Select plan

- Select **Free** tier (time-unlimited)
- You can upgrade the tier any time

influxdb cloud

Want a plan with no limits?
You can upgrade later at any time.

Usage-Based I know my workload	Free I'm just trying this out	Annual Enterprise scale
		
Unlimited Storage	30 days Storage	Unlimited Storage
Slack, PagerDuty, and HTTP	Slack only	All Alert Handlers
Unlimited Reads Unlimited Writes Up to 1,000,000 Series	1000 kb/s Reads 17 kb/s Writes Up to 10,000 Series	Unlimited Reads Unlimited Writes Unlimited Series
Billed monthly	No credit card required	Yearly Contract
Upgrade Now	Keep	Contact Sales



InfluxDB 2 Cloud Account Created

If you already have the InfluxDB account, please login

The screenshot shows the InfluxDB 2 Cloud 'Getting Started' dashboard. On the left is a vertical sidebar with icons for Data, Explore, Boards, Tasks, Alerts, and Settings. The main area is titled 'Getting Started' and features three numbered steps: 1. 'Load your data' with a funnel icon, 2. 'Build a dashboard' with a dashboard icon, and 3. 'Set up alerting' with a hexagonal network icon. Each step has a corresponding blue button. To the right of the main area are three panels: 'Account' with a 'Logout' button, 'Recent Dashboards' with a search bar and two dashboard titles ('Node.js Application Monitoring' and 'IoT Center'), and 'Useful Links' with links to 'Documentation', 'Community Forum', 'Feature Requests', and 'Report a bug'. At the bottom right of the dashboard, the version 'Version (e01e8ce)' is displayed. Below the 'Getting Started' section, there is a 'Some Handy Guides and Tutorials' section with four links: 'Get Started with Flux', 'Explore Metrics', 'Build a Dashboard', and 'Write a Task'.

Getting Started Upgrade Now

1 **Load your data**

2 **Build a dashboard**

3 **Set up alerting**

Account Logout

Recent Dashboards

Filter dashboards...

Node.js Application Monitoring

IoT Center

Useful Links

- [Documentation](#)
- [Community Forum](#)
- [Feature Requests](#)
- [Report a bug](#)

Version (e01e8ce)

Some Handy Guides and Tutorials

- [Get Started with Flux](#)
- [Explore Metrics](#)
- [Build a Dashboard](#)
- [Write a Task](#)



Generate API Token for IoT Center

Menu

- **Data**

Tab

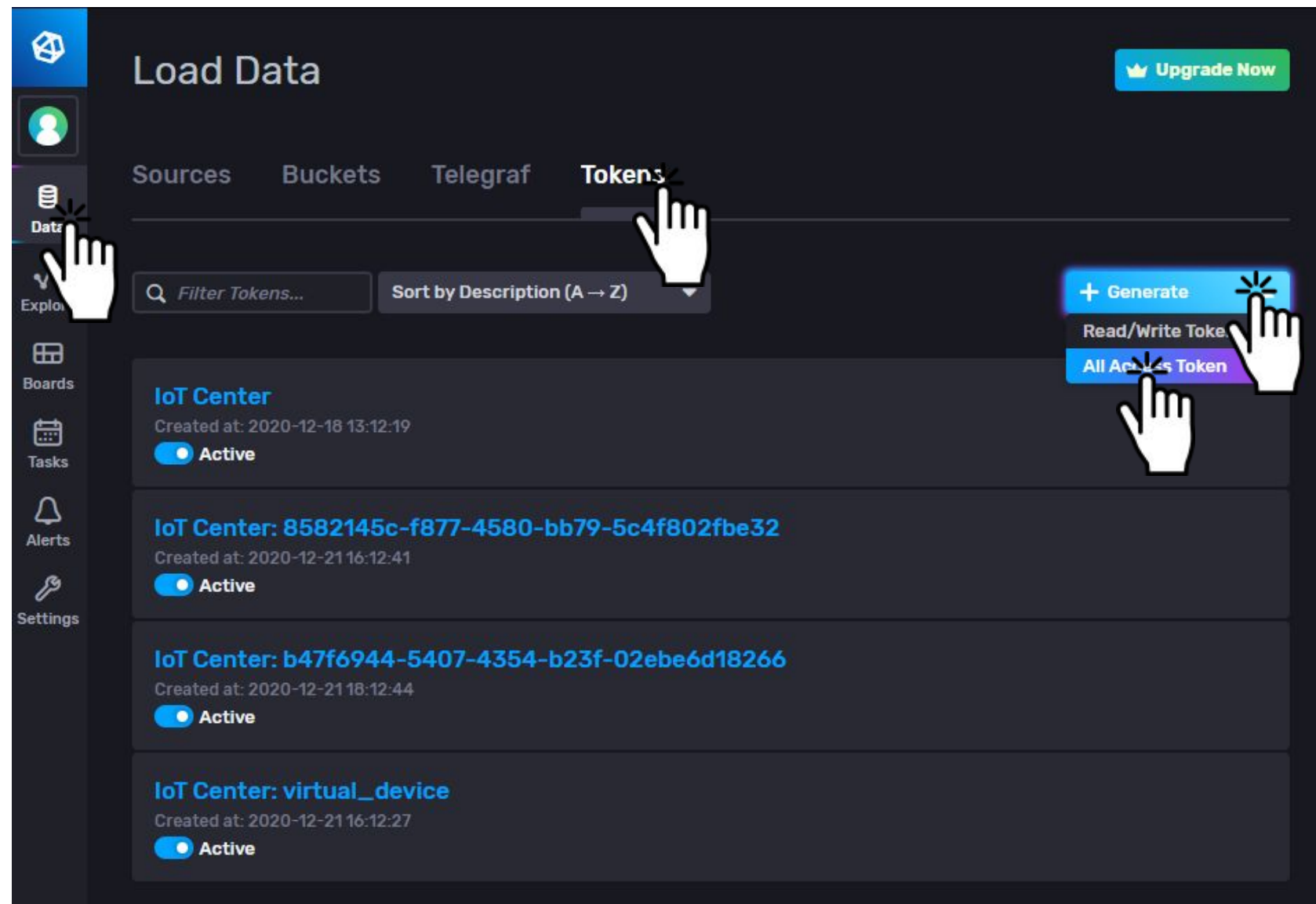
- **Tokens**

Button

- **Generate**

Select

- **All Access Token**



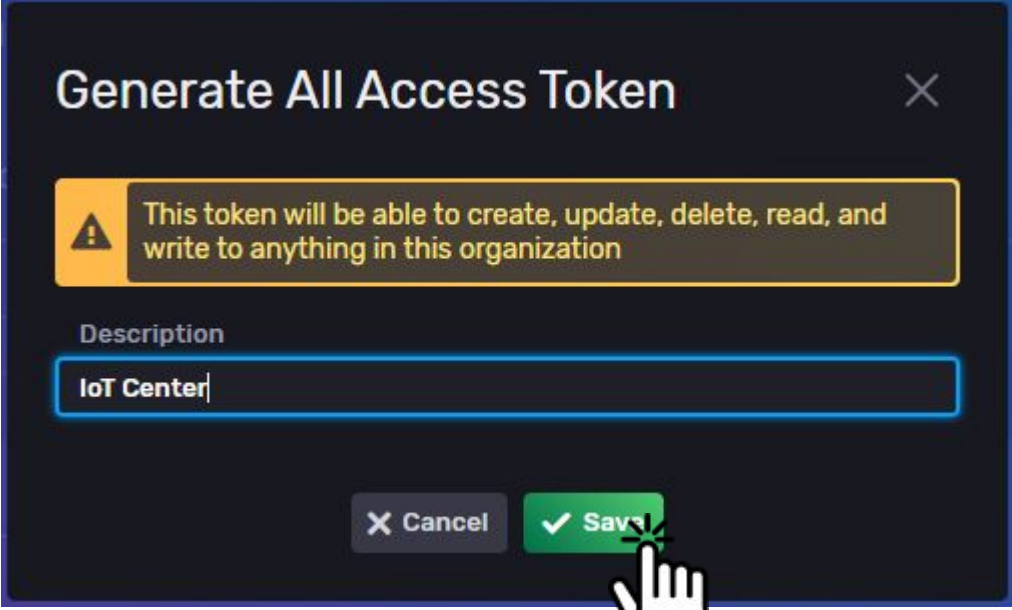
Define API Token Name

Enter Description

- e.g. "IoT Center"

Button

- Save



Generate All Access Token

⌵

⚠ This token will be able to create, update, delete, read, and write to anything in this organization

Description

IoT Center

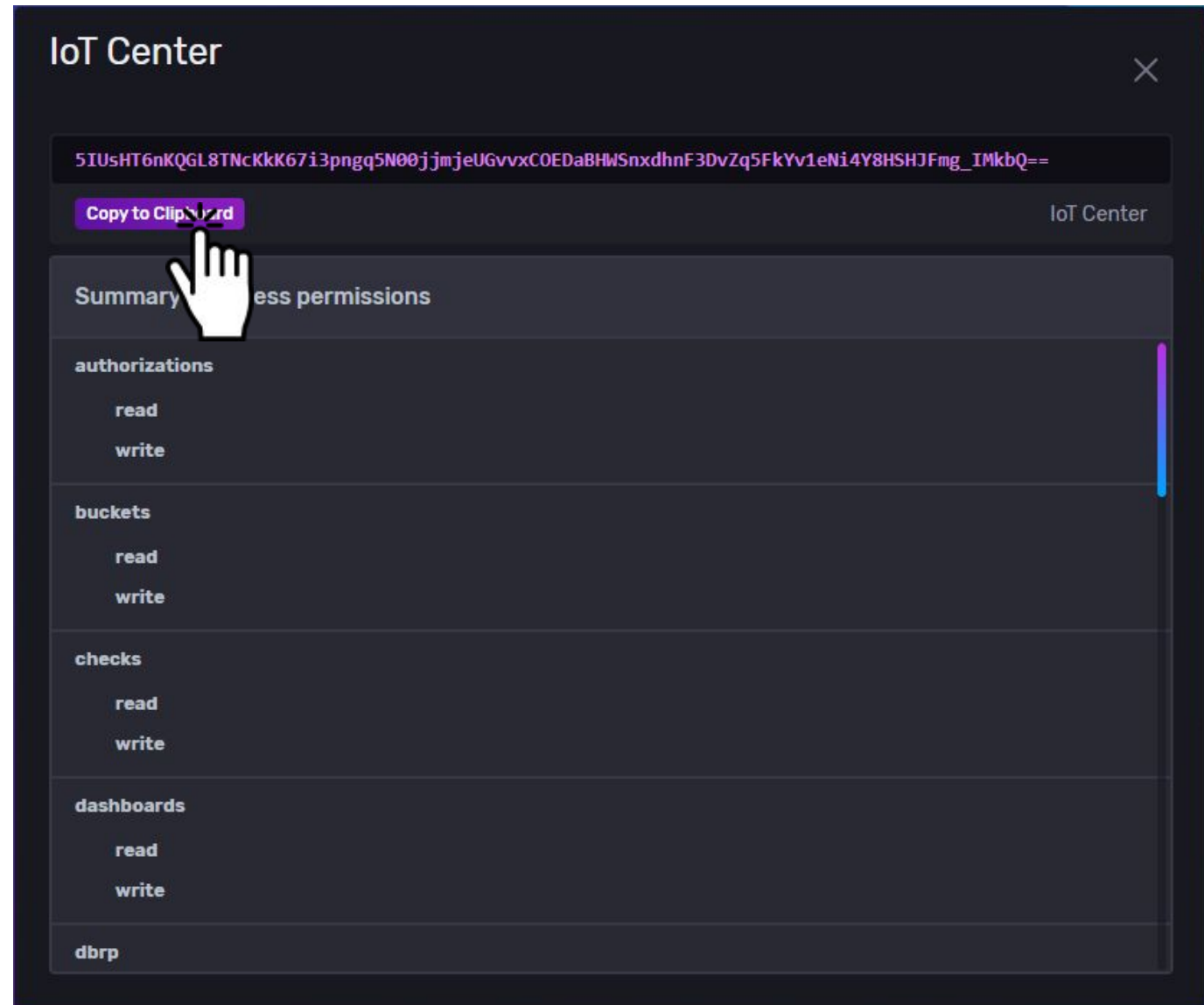
⌵ Cancel ✓ Save



Get API Token

1. Click on the token name
2. Click button
 - **Copy to clipboard**

Keep this page open - we use the token later



Tools installation for macOS

- Install **brew** package manager tool - see <https://brew.sh/>
- Run **brew install yarn**

```
$ bin/bash -c "$(curl -fsSL
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
==> Checking for `sudo` access (which may request your password)...
Password:
==> This script will install:
/usr/local/bin/brew
...
$ brew install yarn
Downloading ...
```



Install git

- All OS (Linux/Windows/macOS)
- Test git

```
$ git --version  
git version 2.25.1
```

In case of ***command not found***:

- Follow instructions at <https://git-scm.com/downloads>

Downloads



Download IoT Center source code

Run: **git clone https://github.com/bonitoo-io/iot-center-v2**

Slides: **iot-center-v2/slides**

Already exists? Run: **git pull**

```
$ git clone https://github.com/bonitoo-io/iot-center-v2
Cloning into 'iot-center-v2'...
remote: Enumerating objects: 1185, done.
remote: Total 1185 (delta 0), reused 0 (delta 0), pack-reused 1185
Receiving objects: 100% (1404/1404), 1.92 MiB | 1.92 MiB/s, done.
Resolving deltas: 100% (977/977), done.
```



Tools installation for **Linux/macOS** systems

- Move to app directory: **cd iot-center-v2/app/**
- Run **./tools.sh** (installs npm, yarn, node)
- Tools installation requires to enter **password** (uses **sudo**)

```
/iot-center-v2/app$ ./tools.sh
```

```
=====
```

```
Installing npm...
```

```
[sudo] password for mirek:
```

```
Reading package lists... Done
```

```
Building dependency tree
```

```
...
```



Tools installation

- Test **node** and **yarn** tools

```
$ node --version  
v12.19.0
```

```
$ yarn --version  
1.22.5
```

Required versions:

- node [v12.x.x](https://nodejs.org/en/download/) and newer
<https://nodejs.org/en/download/>
- yarn [x.x.x](https://classic.yarnpkg.com/en/docs/install) not [0.xx+git](https://classic.yarnpkg.com/en/docs/install)
<https://classic.yarnpkg.com/en/docs/install>



Build IoT Center

- Directory: **cd iot-center-v2/app/**
- Run: **yarn install** (takes up to several minutes)

```
/iot-center-v2/app$ yarn install
yarn install v1.22.5
[1/4] Resolving packages...
[2/4] Fetching packages...
[4/4] Building fresh packages...
Done in 140.75s.
```

Errors

- *[Errno 2] No such file or directory: 'install'* - **upgrade yarn version**
- *The engine "node" is incompatible. Expected version ">=12.0.0"* - **upgrade node.js**



Configure start scripts

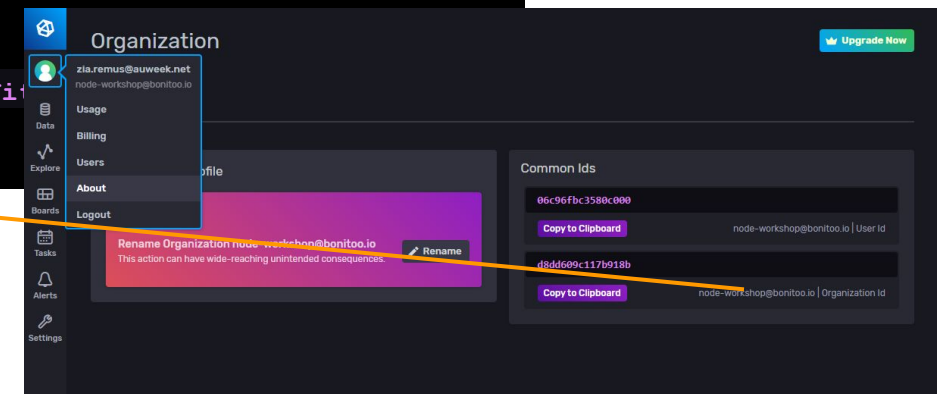
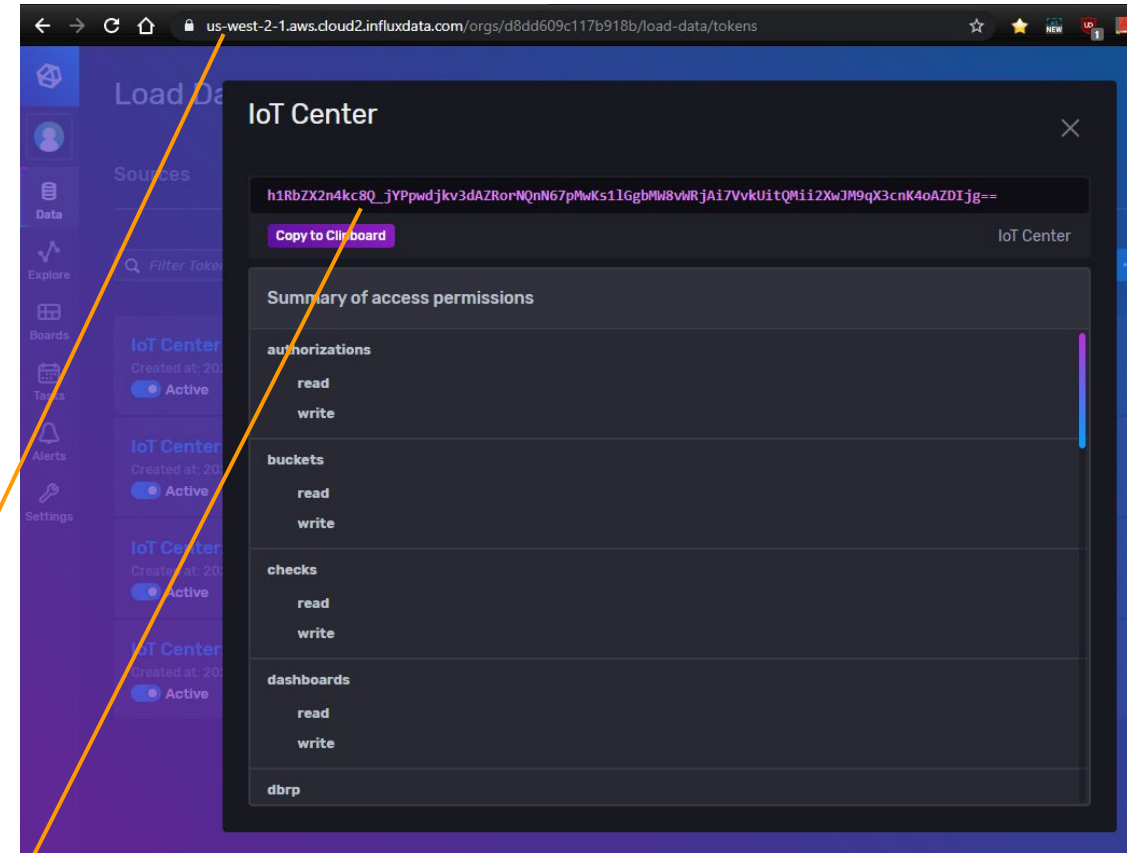
Modify files in **iot-center-v2/app** directory

- Windows - open file **dev.bat**
- Linux/macOS - open file **dev.sh**

```
SET INFLUX_URL=https://us-west-2-1.aws.cloud2.influxdata.com
```

```
SET INFLUX_TOKEN=h1RbZX2n4kc8Q_jYPpwdjKv3dAZRorNQnN67pMwKs1lGgbMW8vWRjAi7VvkUi
```

```
SET INFLUX_ORG=node-workshop@bonitoo.io
```





Monitoring Template Installation

Install Dashboard 1/2

Left Menu

- Settings

Tab

- Templates

Paste the URL

- URL below

Button

- Lookup template

Settings

Variables **Templates** Labels

1 Find a template then return here to install it [Browse Community Templates](#)

2 Paste the URL of the Template's resource manifest file

Every template has a file that controls what gets installed, which is usually a YAML or JSON file

[Lookup Template](#)

This URL does not point to our Community Templates repository. It may work but we cannot guarantee quality results.

Installed Templates

Template Name	Installed Resources	Install Date	Links
iot_center	▶ 3 Resources	Fri Feb 05 2021	https://github.com/bonitoo-io/community-templates/blob/master/iot_center/iot_center.yml

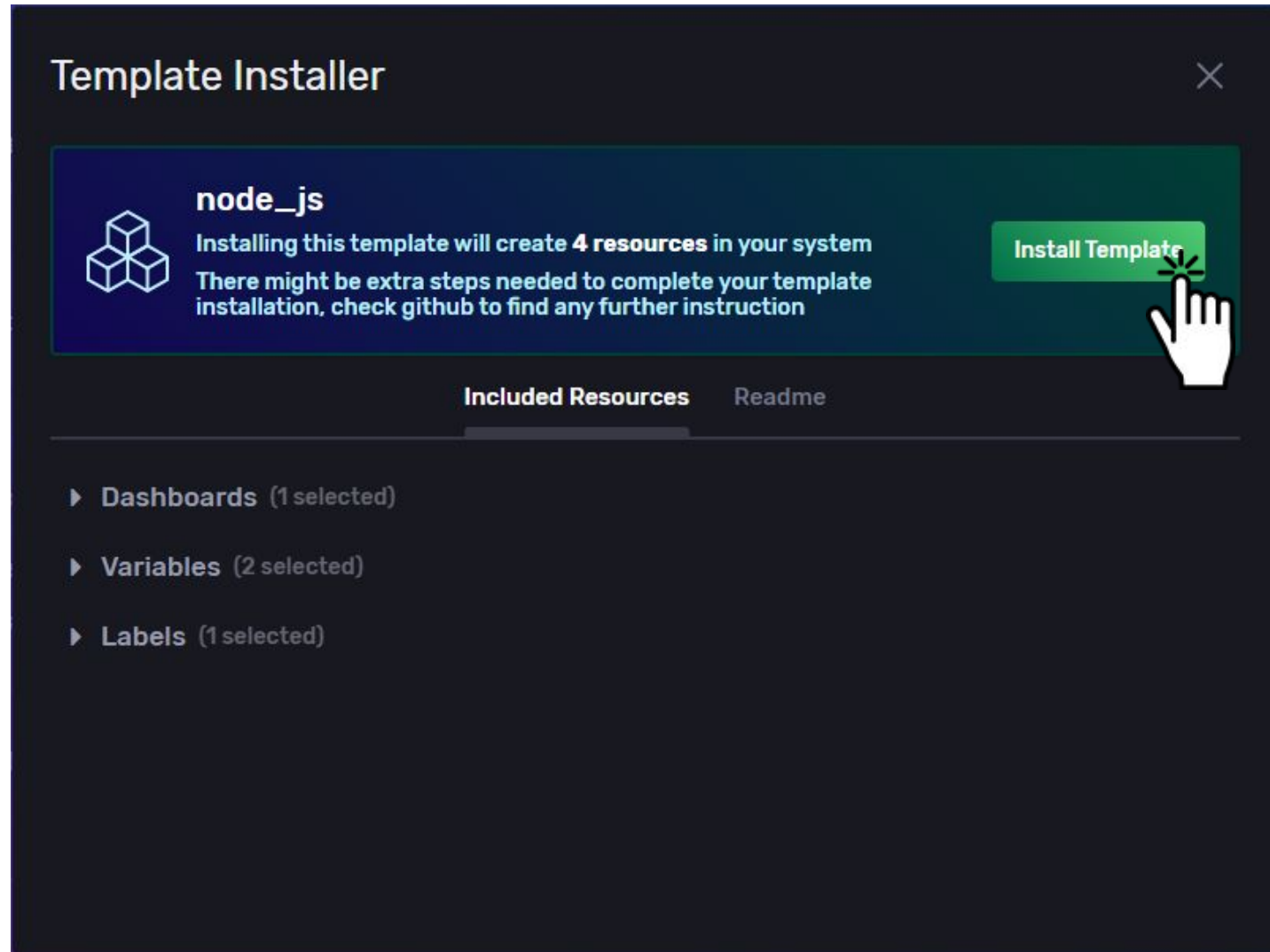
https://github.com/influxdata/community-templates/blob/master/node_js/node_js.yml



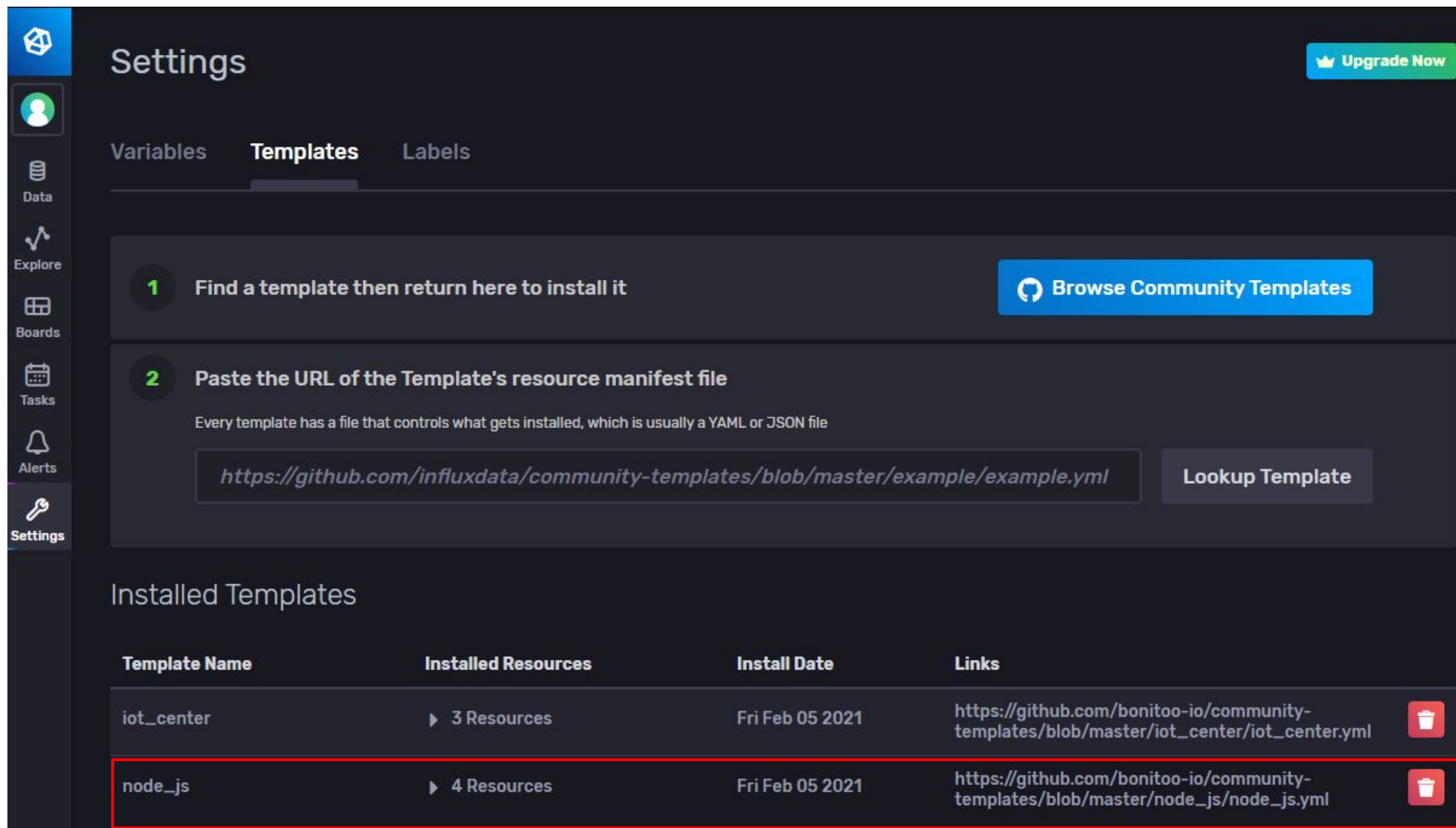
Confirm imported template

Button

- Install Template



Imported Template





Settings [Upgrade Now](#)

Variables **Templates** Labels

- Find a template then return here to install it [Browse Community Templates](#)
- Paste the URL of the Template's resource manifest file
Every template has a file that controls what gets installed, which is usually a YAML or JSON file
 [Lookup Template](#)

Installed Templates

Template Name	Installed Resources	Install Date	Links
iot_center	▶ 3 Resources	Fri Feb 05 2021	https://github.com/bonitoo-io/community-templates/blob/master/iot_center/iot_center.yml 
node_js	▶ 4 Resources	Fri Feb 05 2021	https://github.com/bonitoo-io/community-templates/blob/master/node_js/node_js.yml 





Start IoT Center

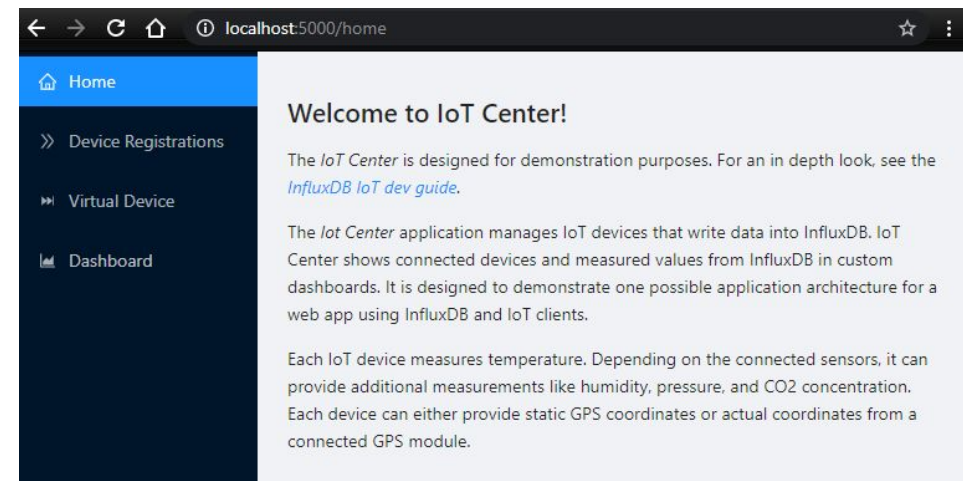
Start IoT Center

- Execute
 - **dev.bat** (Windows)
 - **./dev.sh** (Linux/macOS)

```
./dev.sh
yarn run v1.22.5
cd server && yarn start
node index.js
Enable proxy from /influx/* to https://us-west-2-1.aws.cloud2.influxdata.com/*
Bucket 'iot_center' exists.
INFLUX_URL=https://us-west-2-1.aws.cloud2.influxdata.com
INFLUX_TOKEN=***
INFLUX_ORG=node-workshop@bonitoo.io
INFLUX_BUCKET=iot_center
Listening on http://localhost:5000
```

- Open Web browser: <http://localhost:3000>

Keep this script running - we will use it later



Virtual Device - Generate demo data

Left menu

- **Virtual Device**

Top screen

- **Button** with pencil

Virtual Device

Device Configuration

Device ID	virtual_device	Registration Time	2020-12-21T15:09:27.549049304Z
InfluxDB URL	https://us-west-2-1.aws.cloud2.influxdata.com	InfluxDB Organization	iot-center-workshop@bonitoo.io
InfluxDB Bucket	iot_center	InfluxDB Token	***

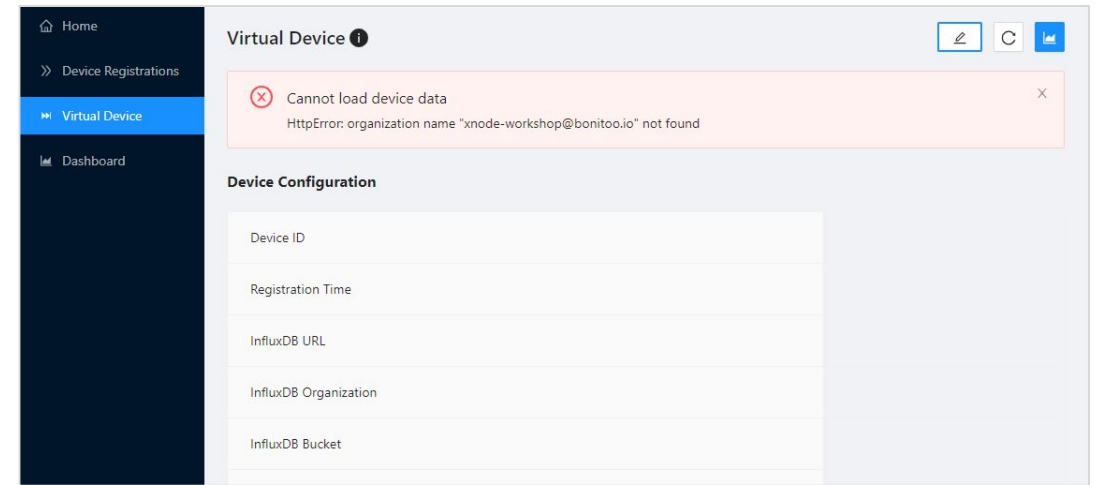
Measurements

Field	min	max	max time	entry count	sensor
CO2	780	2620	2021-07-27T01:02:00Z	10080	virtual_CO2Sensor
Humidity	48.8	99.9	2021-07-27T01:02:00Z	10080	virtual_HumiditySensor
Lat	28.53	36.22	2021-07-27T01:02:00Z	10080	virtual_GPSSensor
Lon	-104.2	-77.75	2021-07-27T01:02:00Z	10080	virtual_GPSSensor
Pressure	970	1040	2021-07-27T01:02:00Z	10080	virtual_PressureSensor
TVOC	506	1744	2021-07-27T01:02:00Z	10080	virtual_TVOCSensor
Temperature	0	24.1	2021-07-27T01:02:00Z	10080	virtual_TemperatureSensor



Issues?

Errors



Error: 500 Error: connect ECONNREFUSED 127.0.0.1:8086

- fix **dev.bat/dev.sh** - you probably didn't save the file

HttpError: organization name "xnode-workshop@bonitoo.io" not found

- fix **INFLUX_ORG** - wrong organization name

Error: Unsupported protocol "null in URL: "us-west-2-1.aws.cloud2.influxdata.com"

- fix **INFLUX_URL** - add https://

Error: 500 Error: getaddrinfo ENOTFOUND xus-west-2-1.aws.cloud2.influxdata.com

- fix **INFLUX_URL** - wrong address

Error: 500 Error: 401 Unauthorized : {"code":"unauthorized","message":"unauthorized access"}

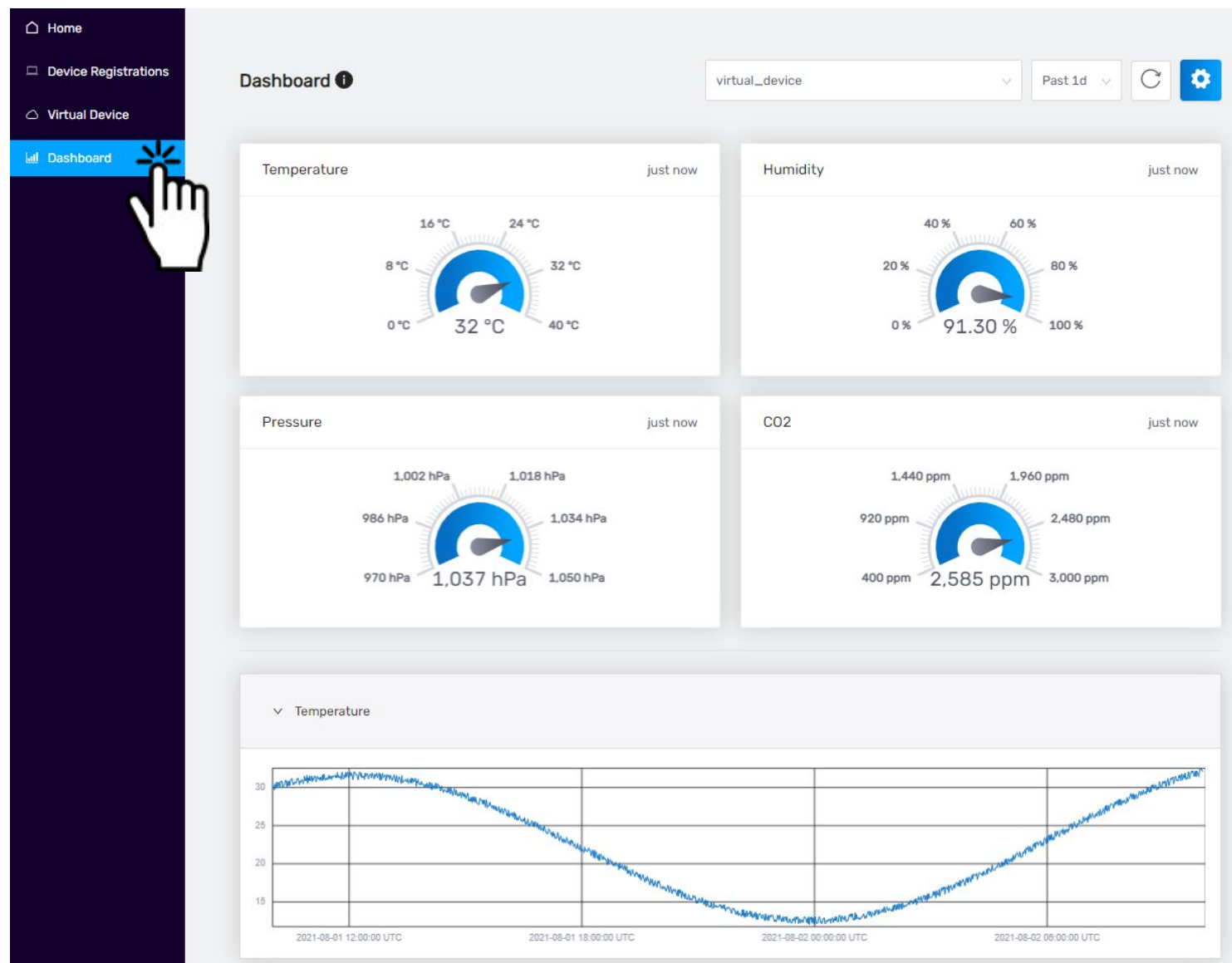
- fix **INFLUX_TOKEN** - invalid credentials



Test Demo Data

Left Menu

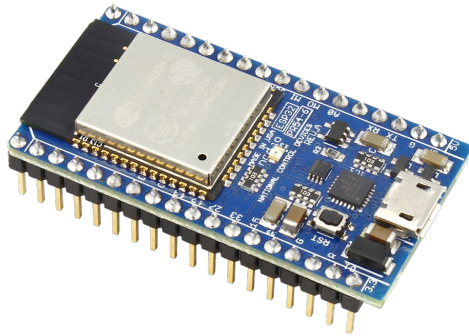
- Click **Dashboard**



IoT Platforms source code (temperature sensor required)

ESP8266 and ESP32 devices

Arduino



https://github.com/bonitoo-io/iot-center-v2/tree/master/client_arduino

bonitoo-io / iot-center-v2

Code Issues 1 Pull requests 1 Actions Projects Wiki

master iot-center-v2 / client_arduino / Go to file Add file ...

mirek.malecha@bonitoo.io Formatting improvements on Dec 10, 2020 History

..		
README.md	Updated documentations	4 months ago
cbuffer.h	Improved free memory logging	3 months ago
client_arduino.ino	Formatting improvements	2 months ago
sensors.cpp	Improved free memory logging	3 months ago

README.md

IoT Center v2 - Arduino Client

Raspberry Pi

Python



https://github.com/bonitoo-io/iot-center-v2/tree/master/client_python

bonitoo-io / iot-center-v2

Code Issues 1 Pull requests 1 Actions Projects Wiki

master iot-center-v2 / client_python / Go to file Add file ...

bednar feat: added sensors tag to Python client (#16) on Oct 20, 2020 History

..		
README.md	feat: python client produces only data from sensor (#11)	5 months ago
client_python.py	feat: added sensors tag to Python client (#16)	4 months ago

README.md

IoT Center v2 - Python Client

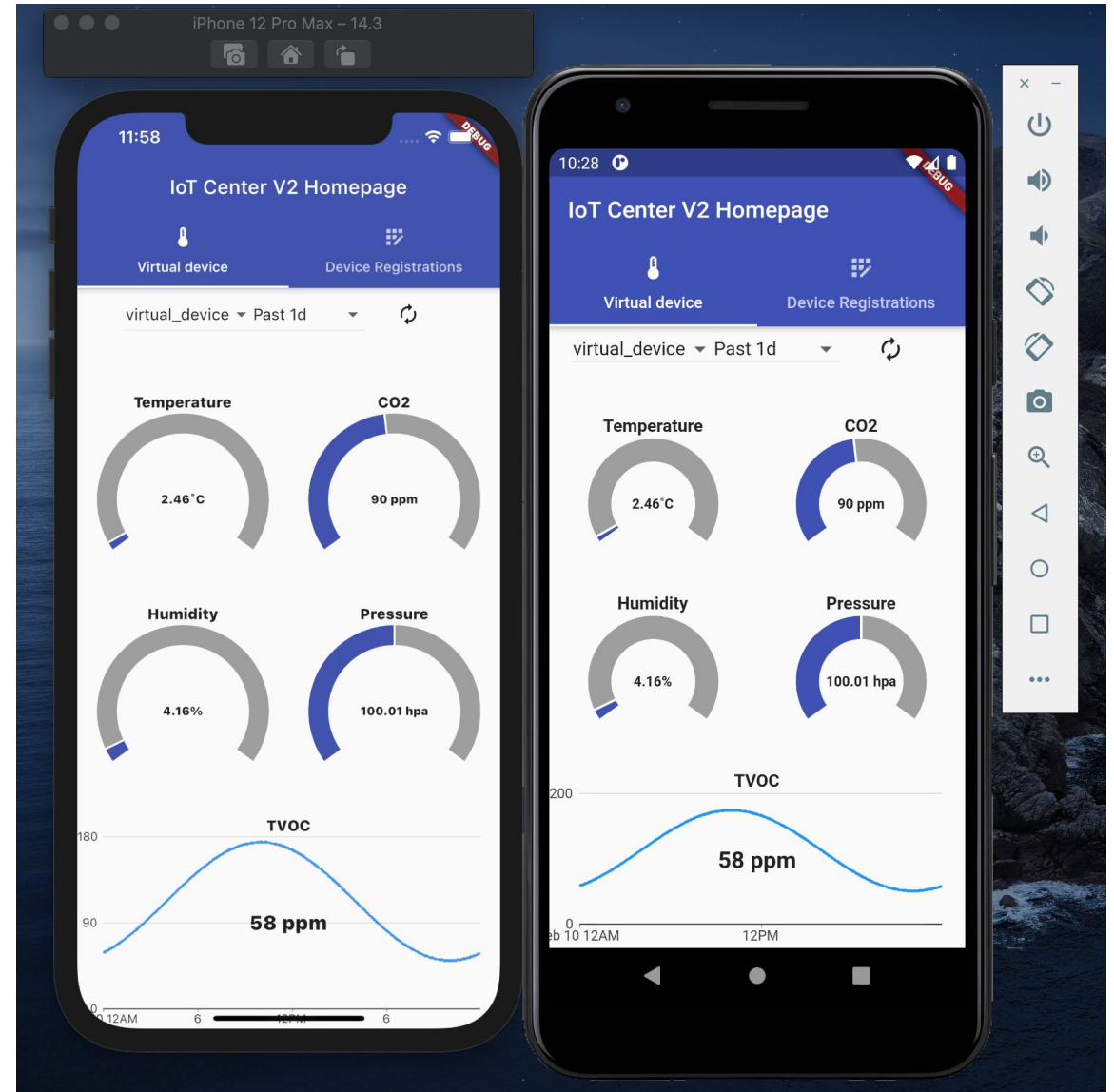
The `client_python.py` shows how to bootstrap your Python IoT device by IoT Center and push



Mobile client - Flutter

Using Dart InfluxDB Library

<https://github.com/influxdata/iot-center-flutter>





Break – 5 minutes

05:00

Errors

Error: 500 Error: connect ECONNREFUSED 127.0.0.1:8086

- fix **dev.bat/dev.sh** – you probably didn't save the file



HttpError: organization name "xnode-workshop@bonitoo.io" not found

- fix **INFLUX_ORG** – wrong organization name

Error: Unsupported protocol "null in URL: "us-west-2-1.aws.cloud2.influxdata.com"

- fix **INFLUX_URL** – add https://

Error: 500 Error: getaddrinfo ENOTFOUND xus-west-2-1.aws.cloud2.influxdata.com

- fix **INFLUX_URL** – wrong address

Error: 500 Error: 401 Unauthorized : {"code":"unauthorized","message":"unauthorized access"}

- fix **INFLUX_TOKEN** – invalid credentials

