



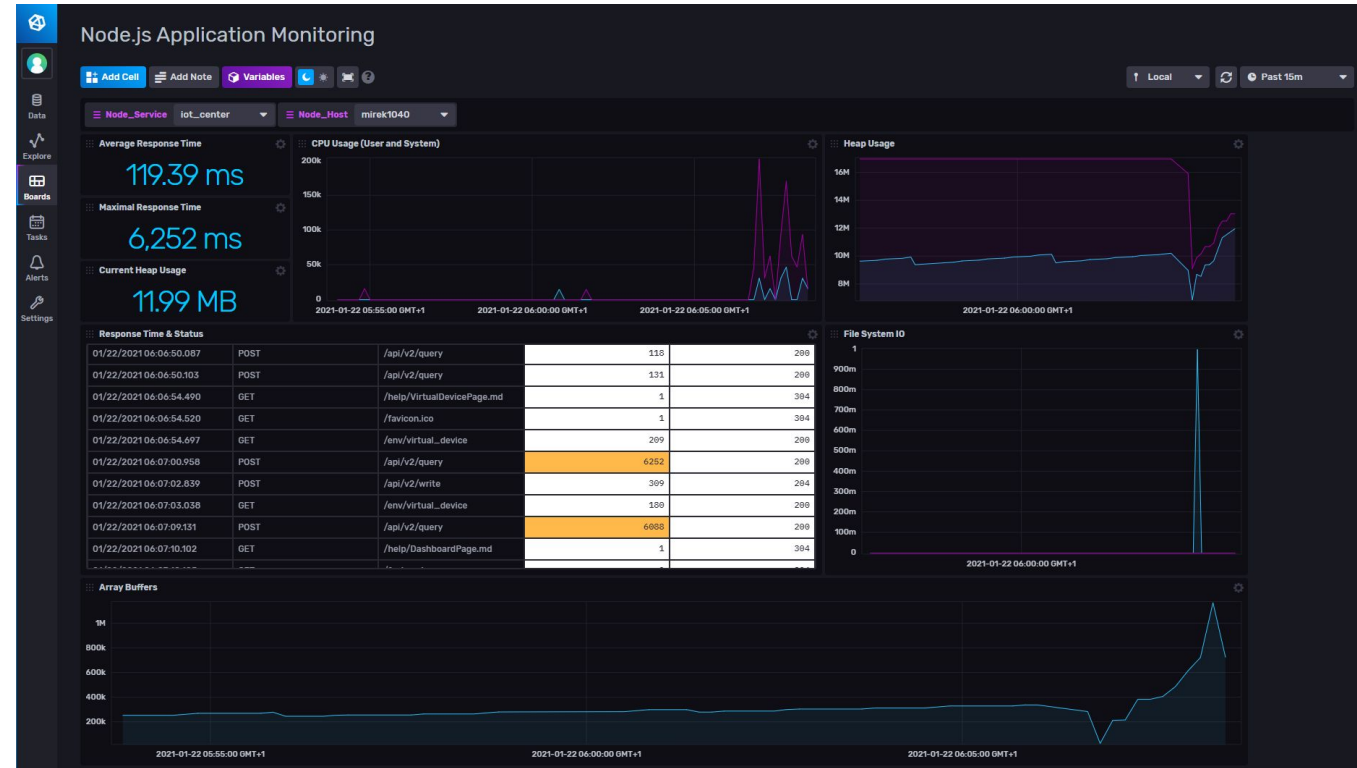
Node.js monitoring

Workshop



Agenda

- Process Monitoring
- Response time Monitoring
- InfluxDB Dashboard
- Monitoring in 2 steps



Monitoring of Node.js process

Connect InfluxDB

```
// create Influx Write API to report application monitoring data
const writeAPI = new InfluxDB({url, token}).getWriteApi(org, bucket, 'ns', {
  defaultTags: {
    service: 'iot_center',
    host: require('os').hostname(),
  },
})
```

Write process data into InfluxDB

```
// https://nodejs.org/api/process.html#process_process_memoryusage
writeAPI.writePoint(createPoint('node_memory_usage', process.memoryUsage()))
// https://nodejs.org/api/process.html#process_process_cpuusage_previousvalue
writeAPI.writePoint(createPoint('node_cpu_usage', process.cpuUsage()))
// https://nodejs.org/api/process.html#process_process_resourceusage
writeAPI.writePoint(createPoint('node_resource_usage', process.resourceUsage()))
```

```
// convert data into point
function createPoint(measurement, usage) {
  const point = new Point(measurement)
  for (const key of Object.keys(usage)) {
    point.floatField(key, usage[key])
  }
  return point
}
```

- By default it is reported every 10s



Http response code and time monitoring

```
// export a monitoring function for express.js response time monitoring
module.exports = function (app) {
  app.use(
    responseTime((req, res, time) => {
      // write response time to InfluxDB
      const point = new Point('express_http_server')
        .tag('uri', req.path)
        .tag('method', req.method)
        .tag('status', String(res.statusCode))
        .floatField('response_time', time)
      writeAPI.writePoint(point)
    })
  )
}
```

```
POST /api/v2/query 200 137.48ms
GET /help/DevicesPage.md 304 1.02ms
GET /favicon.ico 304 1.01ms
GET /devices 304 196.54ms
GET /env/python::raspberrypi::bme280::prerov 200 193.23ms
GET /env/virtual_device 200 196.79ms
GET /env/857b4466-2bbb-48e5-9f51-d3eef385e4a8 200 199.07ms
GET /env/8582145c-f877-4580-bb79-5c4f802f8e32 200 210.8ms
GET /env/dcdd22ae-d416-4261-81d6-f379387f8266 200 213.7ms
GET /env/b47f6944-5407-4354-b23f-02ebe6d18266 200 199.64ms
POST /api/v2/query 200 107.47ms
```





IoT Center Monitoring

Node.js application monitoring in 3 steps

Use IoT Center Example

1. Copy **monitor.js** file from the IoT Center GIT
 - it expects **env.js** file with InfluxDB connection parameters
2. Register monitor.js code

```
const onboardInfluxDB = require('./influxdb/onboarding')
const {logEnvironment, INFLUX_URL} = require('./env')
const {monitorResponseTime, startProcessMonitoring} = require('./monitor')

async function startApplication() {
  const app = express()

  // monitor application
  monitorResponseTime(app)
  startProcessMonitoring()
  ...
}
```



InfluxDB Templates

Select
Data Sources

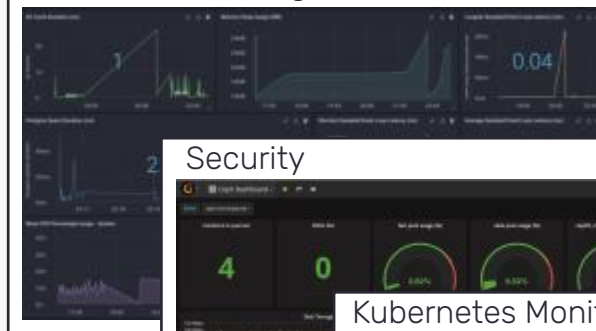
Select
Dashboards

Select
Queries & Scripts



TIME TO AWESOME

Network Monitoring



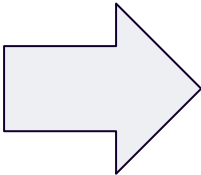
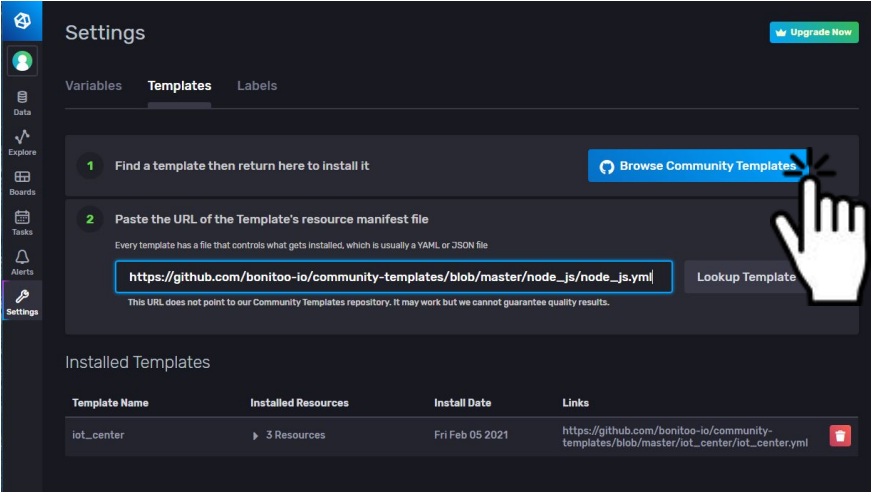
Security



Kubernetes Monitoring



Show & contribute to InfluxDB Templates



InfluxDB Community Templates

verify-all-templates passing Slack join chat

InfluxDB 2.0 introduces [InfluxDB templates](#)—prepackaged InfluxDB configurations that contain everything from dashboards and Telegraf configurations to notifications and alerts in a single manifest file. Use InfluxDB templates to get a fresh instance of InfluxDB set up quickly, create reusable templates for common setups, back up your own deployment setup, and share your templates with the community.

In true open source spirit, you can update InfluxDB templates with common use cases and share with other InfluxDB users, so they can get started faster, use known configurations, and contribute improvements to templates that benefit everyone in the community.

The purpose of this repository is to promote the creation, sharing, and reuse of templates among the InfluxDB community. Anybody can submit new templates or improvements upon existing templates and use these templates in their own InfluxDB instances.

Templates

Start by reading [how to use a template](#), then check each template's individual instructions for further setup and customization options.

Template	Description	Author
Air Quality	Retrieve air quality statistics from the US EPA website	Kristina Robinson
Algorithmia	Monitor machine learning model performance metrics	@koverholt
Apex Legends	Collect player metrics from the game Apex Legends	@b3vis
AWS Cloudwatch Monitoring	Monitor AWS EC2 and ELB	bonitoo.io
Ceph Cluster	Monitor your Ceph Cluster with Prometheus metrics	@bonitoo.io
Counter Strike: Global Offensive	Get stats about your game. Kills, Deaths and stats by weapon.	Ignacio Van Droogenbroeck
Covid-19 in South America	Current data and graphs covering Covid-19 cases and deaths in South America	Ignacio Van Droogenbroeck
Cribl LogStream	Monitor and visualize your metric data from Cribl LogStream.	Clint Sharp
Currency Exchange Rates	Visualize and analyze currency exchange rates using Quandl.	Wojciech Kocjan
DigitalOcean Billing	Get your balance, month consumption and month to date balance	Ignacio Van



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

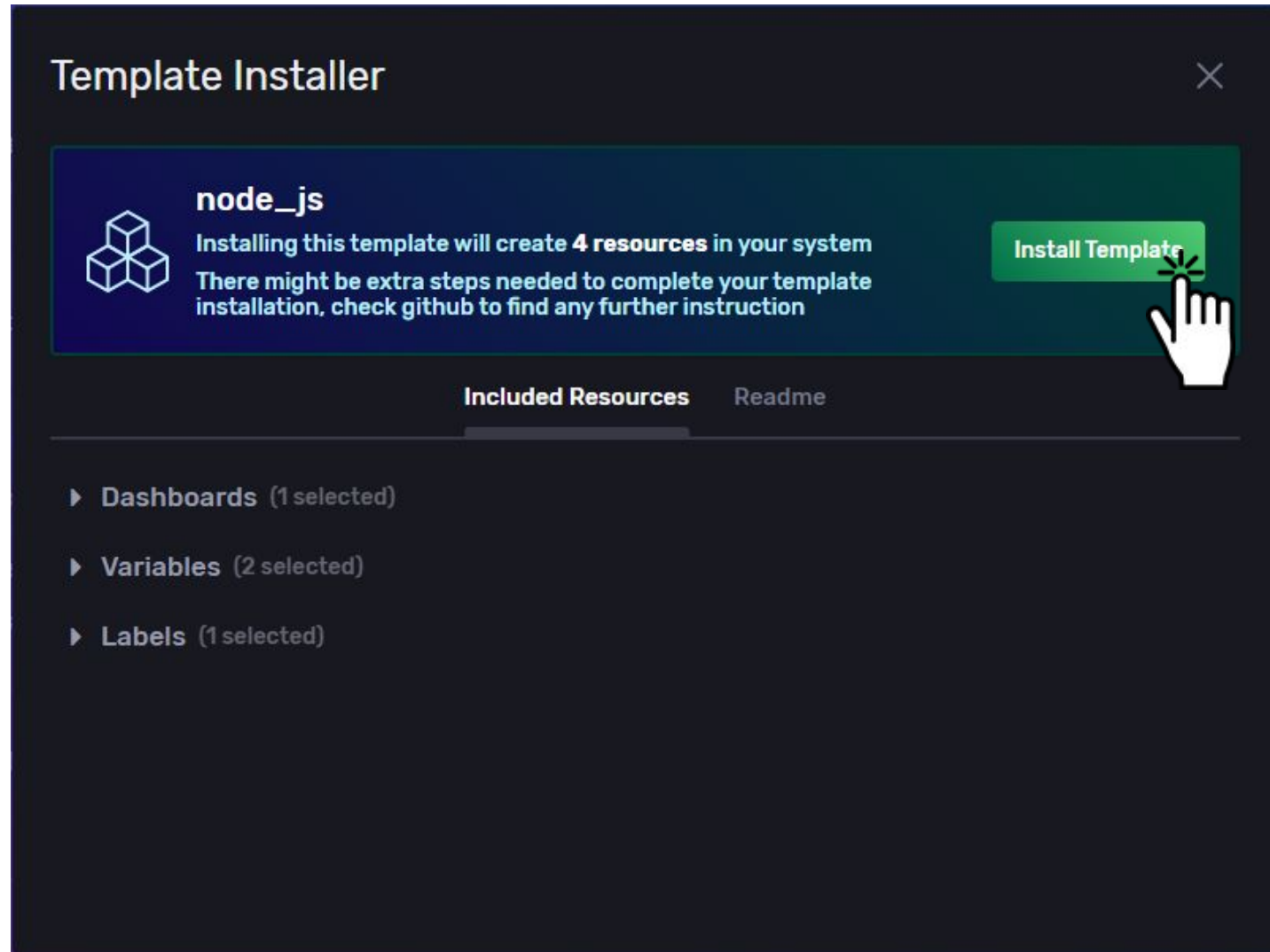
https://github.com/influxdata/community-templates/blob/master/node_js/node_js.yml



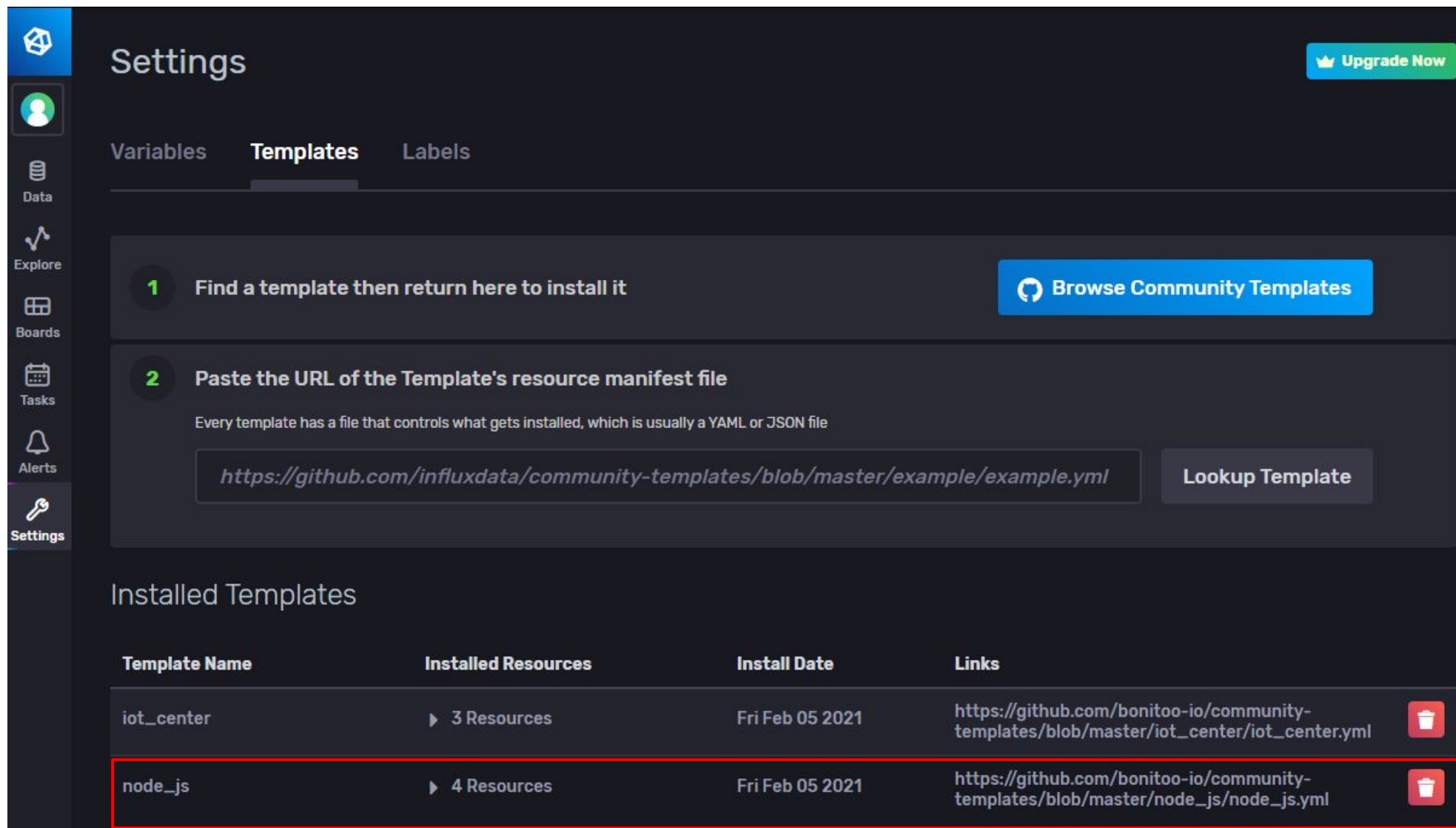
Confirm imported template

Button

- Install Template



Imported Template





Settings [Upgrade Now](#)

Variables **Templates** Labels

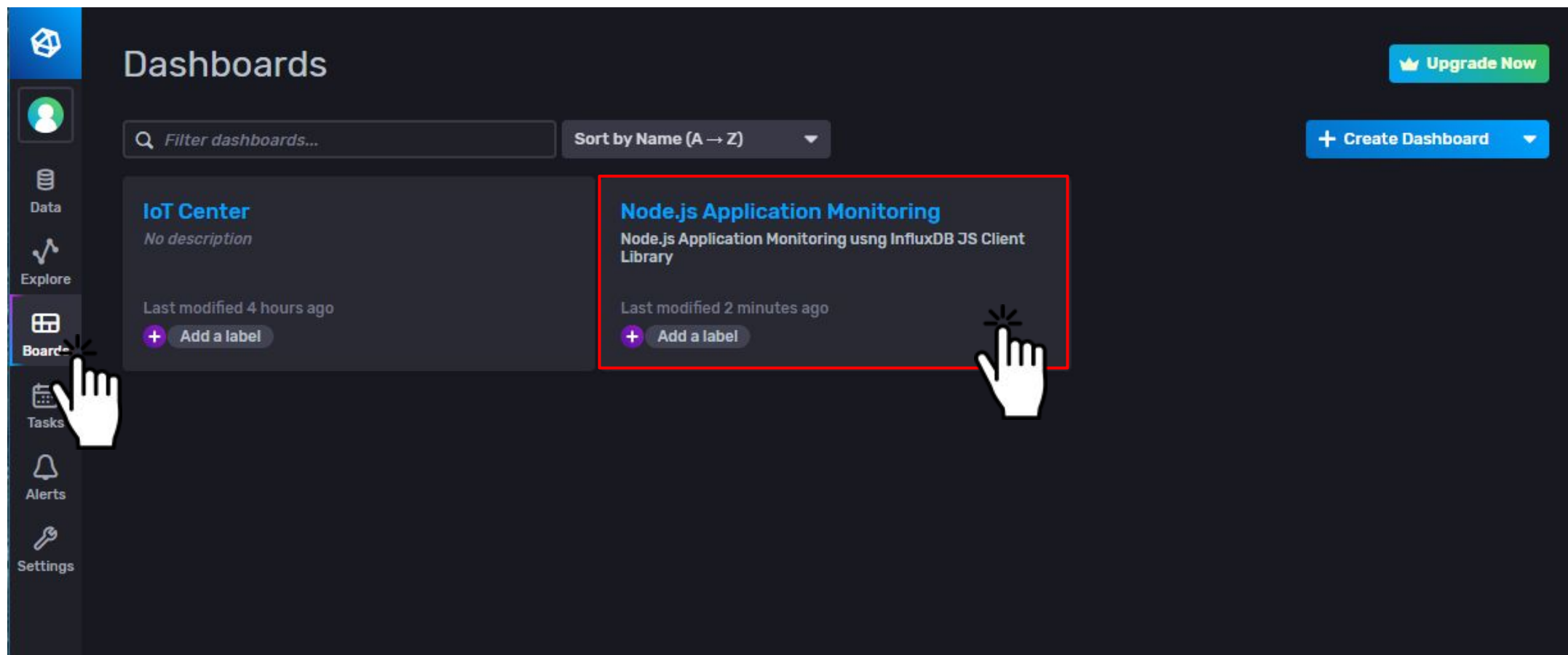
- Find a template then return here to install it [Browse Community Templates](#)
- Paste the URL of the Template's resource manifest file
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Installed Templates

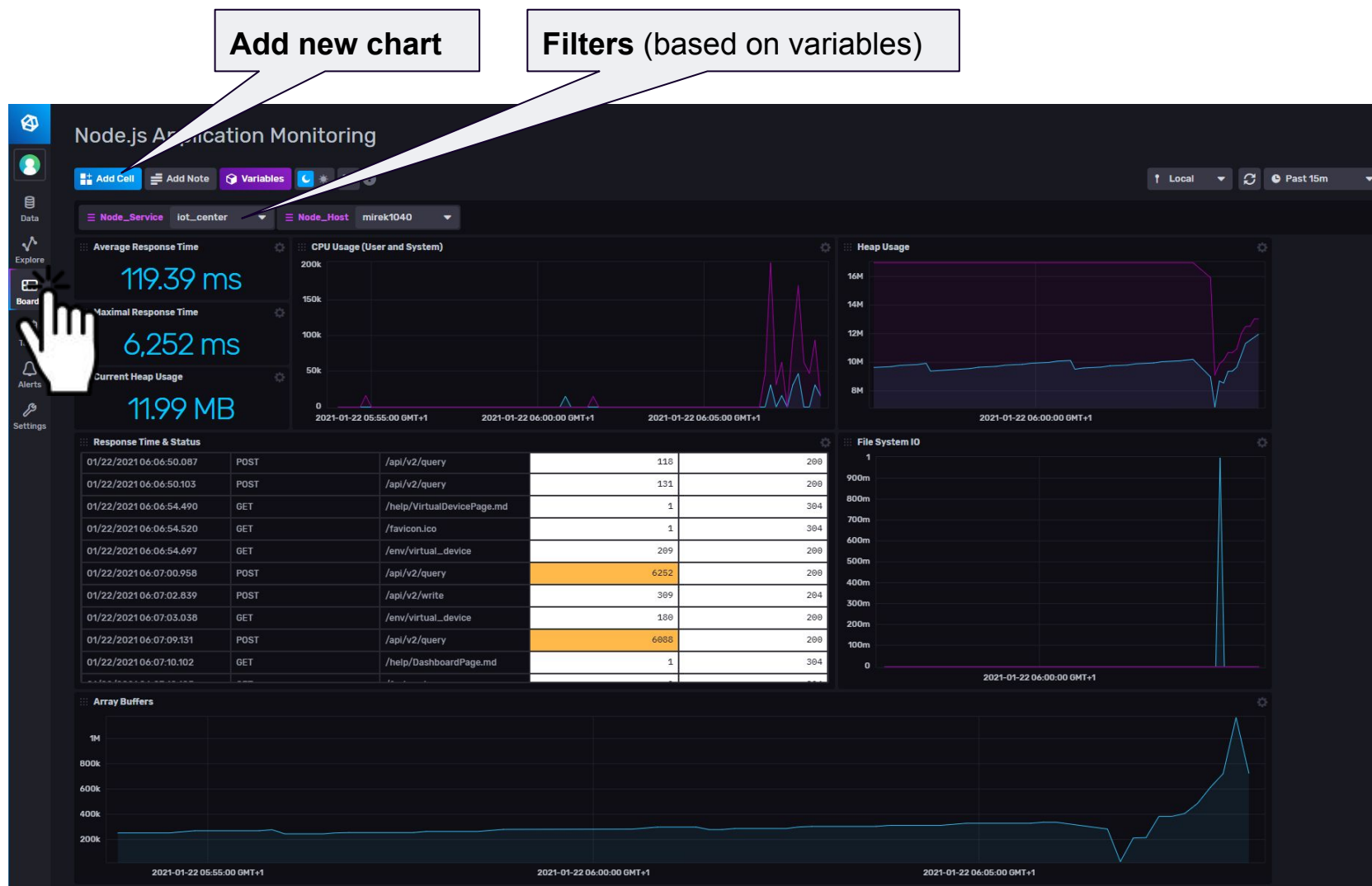
Template Name	Installed Resources	Install Date	Links
iot_center	▶ 3 Resources	Fri Feb 05 2021	https://github.com/bonitoo-io/community-templates/blob/master/iot_center/iot_center.yml 
node_js	▶ 4 Resources	Fri Feb 05 2021	https://github.com/bonitoo-io/community-templates/blob/master/node_js/node_js.yml 



Open the imported dashboard



Node.js Monitoring Dashboard



Application monitoring - custom events

InfluxDB can store and query any application event

```
const point = new Point('user_registered')
    .tag('name', req.name)
    .tag('email', req.email)
    .tag('result', String(res.statusCode))
    .floatField('response_time', time)

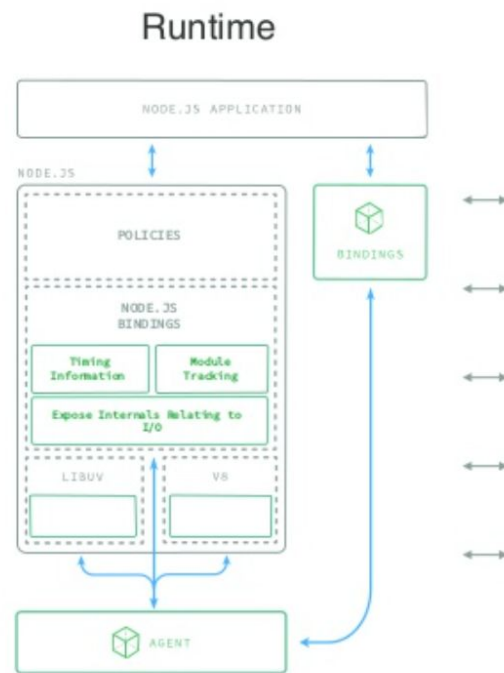
writeAPI.writePoint(point)
```



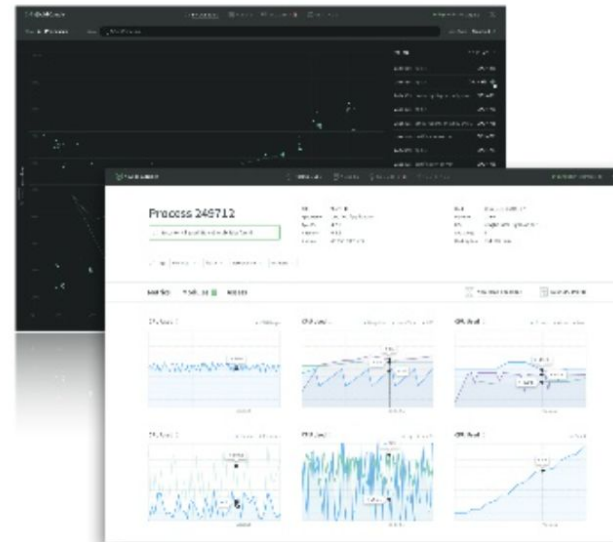
Nodesource

Advanced real-time insight into application performance and security

HOW IT WORKS



Console

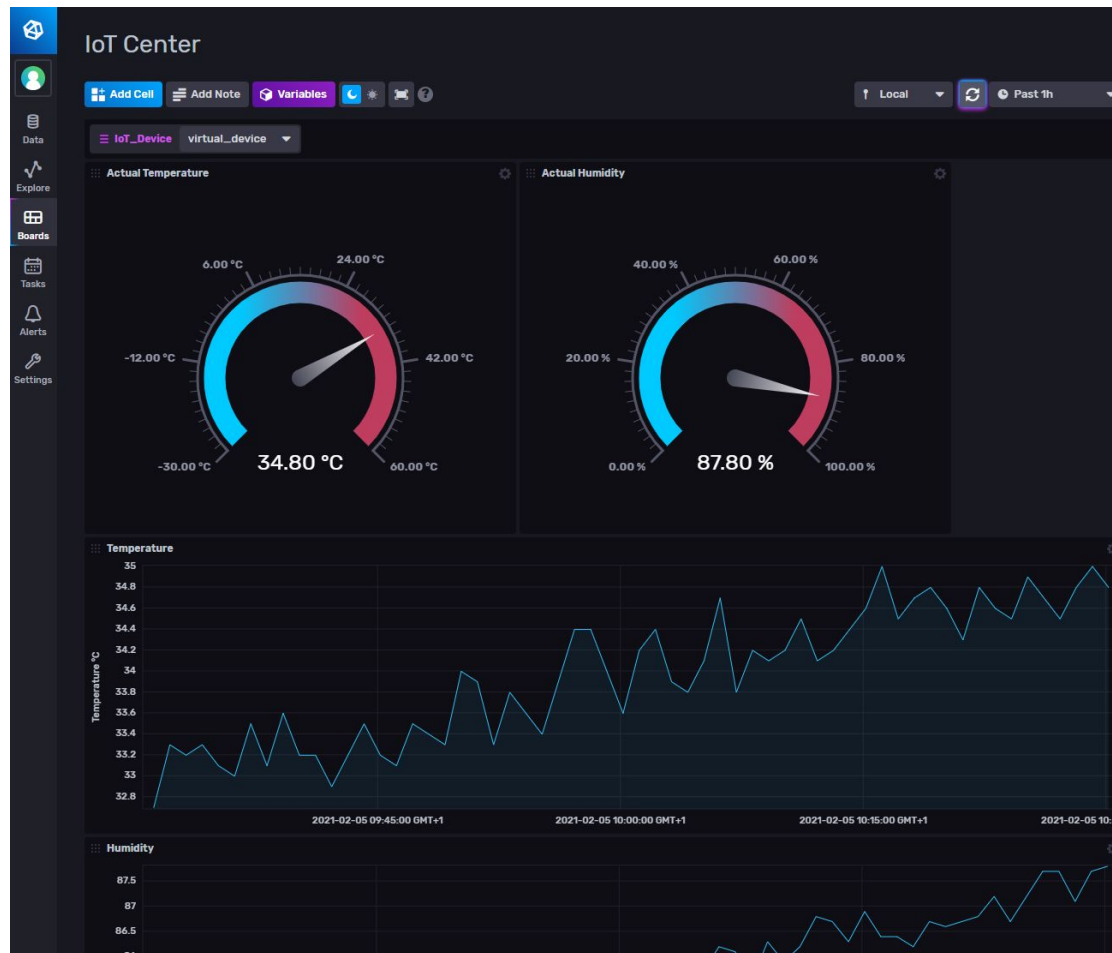


Database



IoT Center Template

https://github.com/influxdata/community-templates/tree/master/iot_center



Q & A



Your next steps

- Keep playing with the IoT Center sample app with your Free InfluxDB Cloud account
- Try other templates from the [gallery](#) to monitor your apps, sensors, and so much more
- Join the community
 - [Community.Influxdata.com](https://community.influxdata.com)
 - [Slack](#)
 - [GitHub](#)



Thank You

