OPC UA × EASYIOT

Your OPC UA servers on EasyIoT dashboards, live, in minutes.

The OPC UA WebSocket Bridge links PLCs, SCADA servers and KEPServerEX to EasyIoT. Install it once on a Windows machine in your plant network, point it at your OPC UA servers, and every EasyIoT dashboard can browse tags, show live values and write setpoints, encrypted and with no code.

Connect in 15 minutes See how it works

✓ No code, no OPC UA client in the browser ✓ Encrypted end to end

✓ Automatic backup-server failover ✓ Many plants from one service

Why How it works What you can build Quick start Advice Requirements

WHY THE BRIDGE

The missing link between the plant floor and the web.

EasyIoT builds dashboards in the browser. OPC UA lives in the plant, behind firewalls, certificates and binary protocols a browser cannot speak. The bridge closes that gap, so your engineers spend their time on dashboards rather than on plumbing.

Live from day one

Values are pushed by OPC UA subscriptions the moment they change, never polled. A gauge on EasyIoT moves when the machine moves.

Secure by design

Encrypted `wss://` to the dashboard, Sign & Encrypt to the plant, a login per connection, and plant passwords that never leave the bridge.

Always on

Managed from a browser

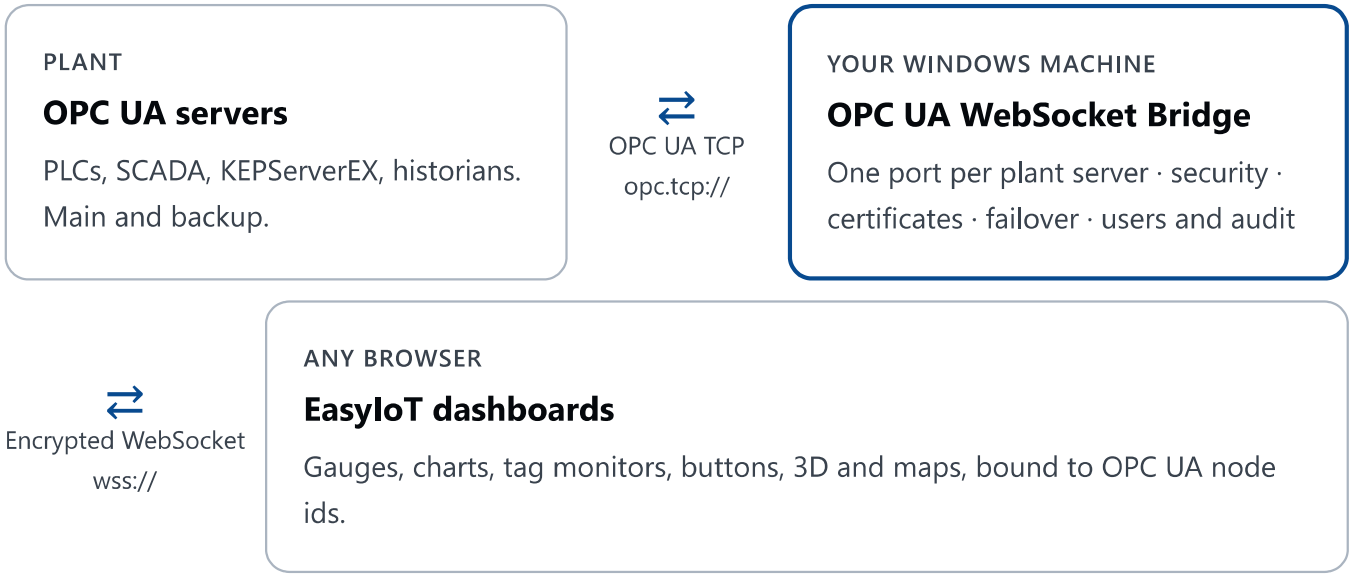
A Windows service that starts with the machine, reconnects on its own, and fails over to your backup OPC UA server when the main one stops answering.

Add servers, test them, trust certificates, watch status lights and manage users from a web interface, with an audit trail of every sensitive change.

HOW IT WORKS

One bridge between your plant and every dashboard.

The bridge keeps one OPC UA session per server and shares it among every dashboard that is open. The EasyIoT page in each viewer's browser opens an encrypted WebSocket straight to the bridge, so live values travel inside your own network.



WHAT YOU CAN BUILD

Every EasyIoT widget can speak OPC UA.

Once the bridge is set on a dashboard's **Data** tab, any widget that takes a topic also takes an OPC UA node id, such as `ns=2;s=Line1.Speed`, and EasyIoT's own tag browser lists what the server offers.

Control-room screens

OPC UA tag monitor

Gauges, values and trends for every line, updating live from the PLC.

A table of tags with value, data type and timestamp, picked from the tag browser.

Plant status at a glance

The OPC UA Status widget shows connected, connecting or server down, and disconnected.

Operator controls

Buttons that write setpoints and commands back to the plant, within the rights the OPC UA server grants.

Equipment, 3D and maps

Tank levels, pump states, 3D models and asset maps driven by live tag values.

Several plants

One bridge serves many OPC UA servers, each on its own port, for as many dashboards as you need.

QUICK START

From OPC UA server to EasyIoT dashboard.

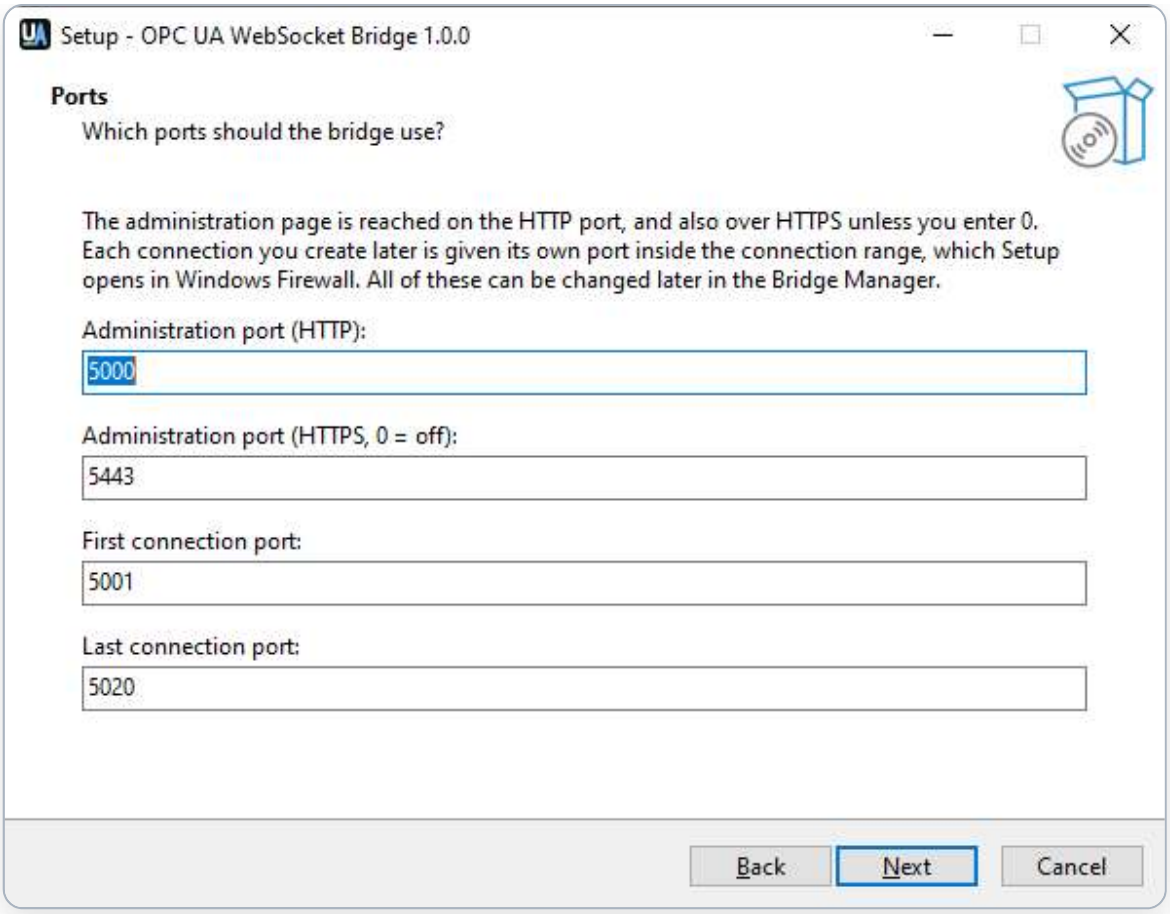
You need a Windows machine that can reach your OPC UA server, administrator rights on it, and an EasyIoT account. About fifteen minutes. Click any picture to see it full size.

BRIDGE

1. Install and connect to the plant

1 **Run Setup**

Run `OPCUAWebSocketBridge-Setup-1.0.0.exe` as an administrator. On the **Ports** page keep the defaults unless another program uses them: administration on **5000** (HTTP) and **5443** (HTTPS), connections on **5001–5020**. Setup checks that the ports are free, installs the Windows service and opens the firewall.

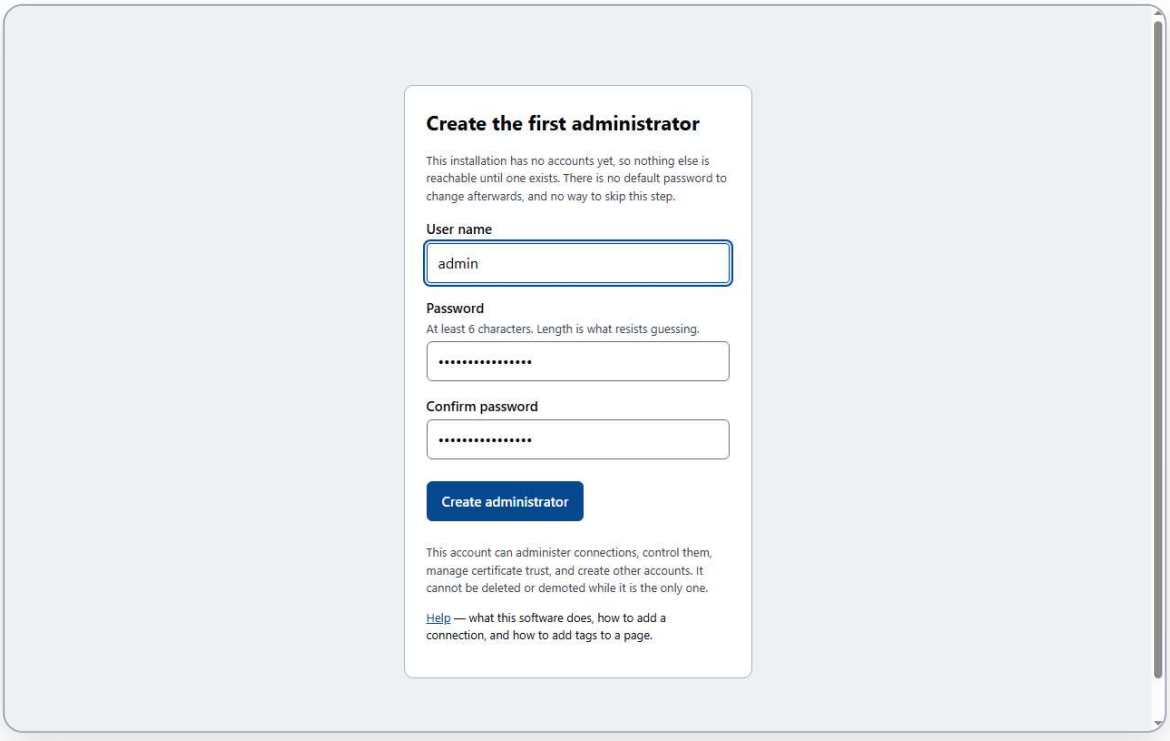


Setup: choose the ports.

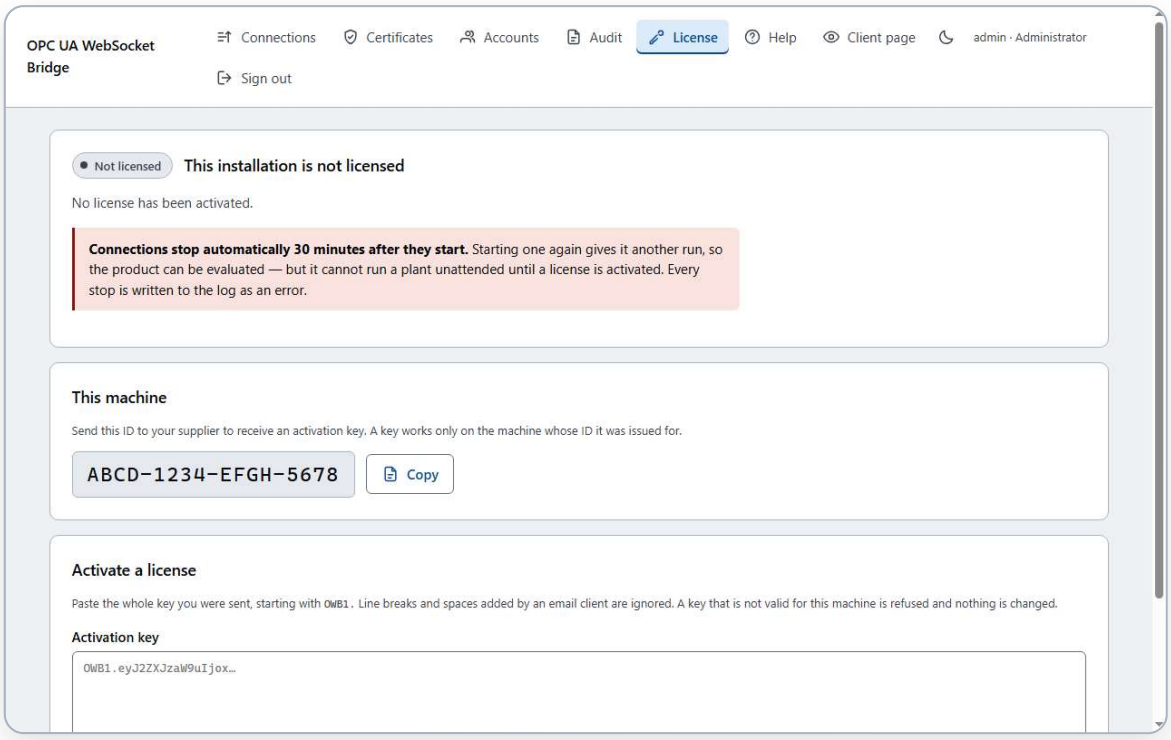
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Create the administrator and activate the license

Open `http://localhost:5000` and create the first administrator. There is no default password. On the **License** page, send your **Machine ID** to your supplier and paste the activation key you receive. Without a license you can evaluate everything, but each connection stops 30 minutes after it starts.



First run: create the administrator.

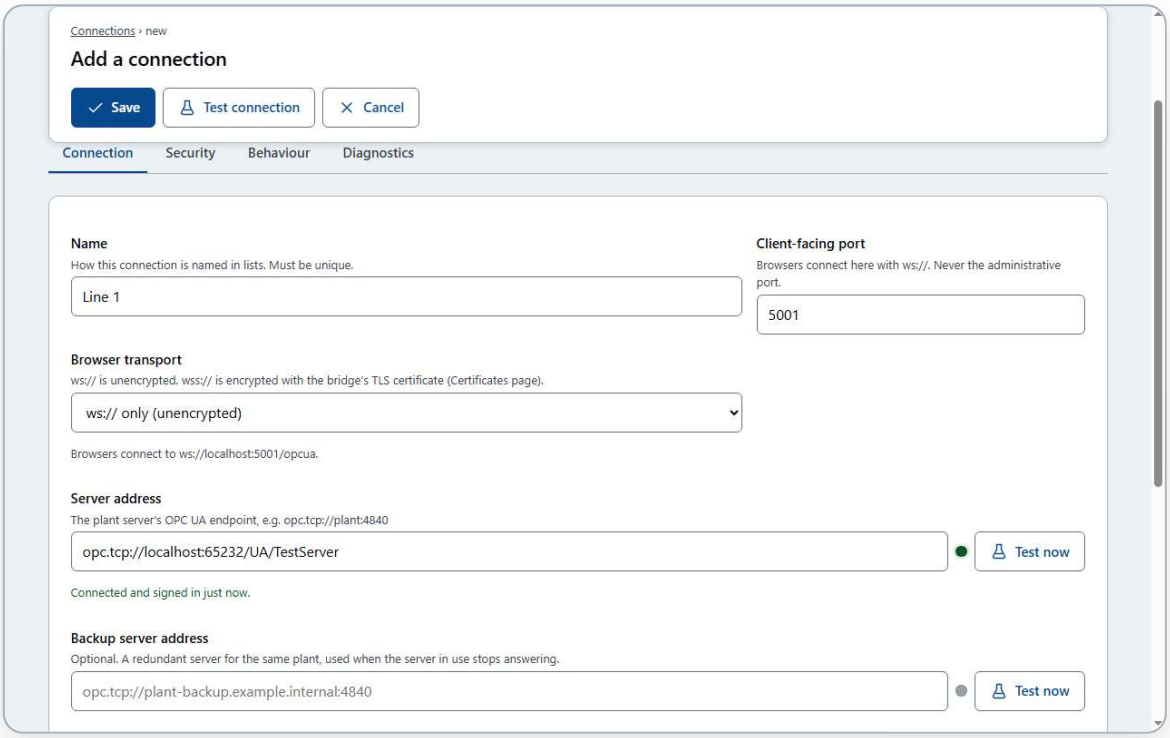


License: send the Machine ID, paste the key.

3

Add your OPC UA server and test it

On **Connections**, choose **Add a connection**. Enter a **Name**, a **Client-facing port** such as **5001**, and the **Server address**. Add a **Backup server address** if the plant has a redundant server. Press **Test now**: the light turns green when the server answers, and a failed test names the problem and the fix. For a secured server, set the **Security** tab and trust its certificate on the **Certificates** page.



Add the server, press Test now: green means it answers.

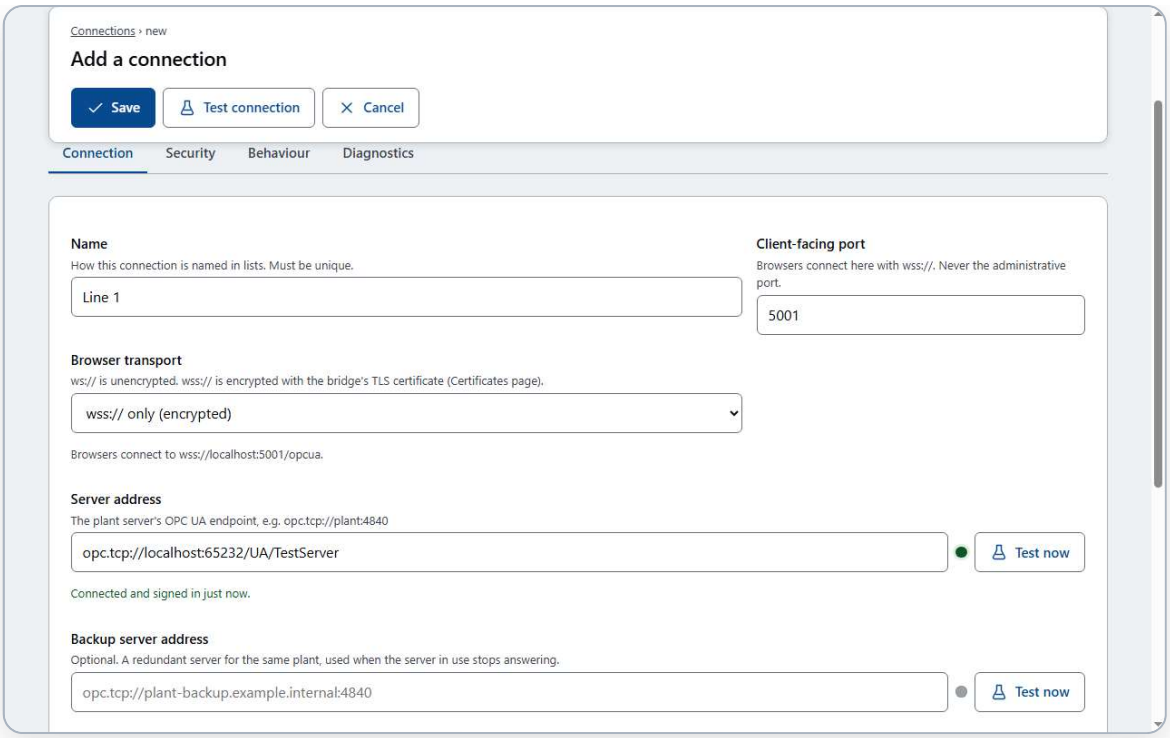
BRIDGE

2. Open it to EasyIoT

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Turn on encryption (wss://)

EasyIoT is served over **https**, and browsers only let an https page open an encrypted socket. Set **Browser transport** to **wss:// only**, or **Both** to keep ws:// for local pages on a second port. The line under the field shows the address dashboards use.

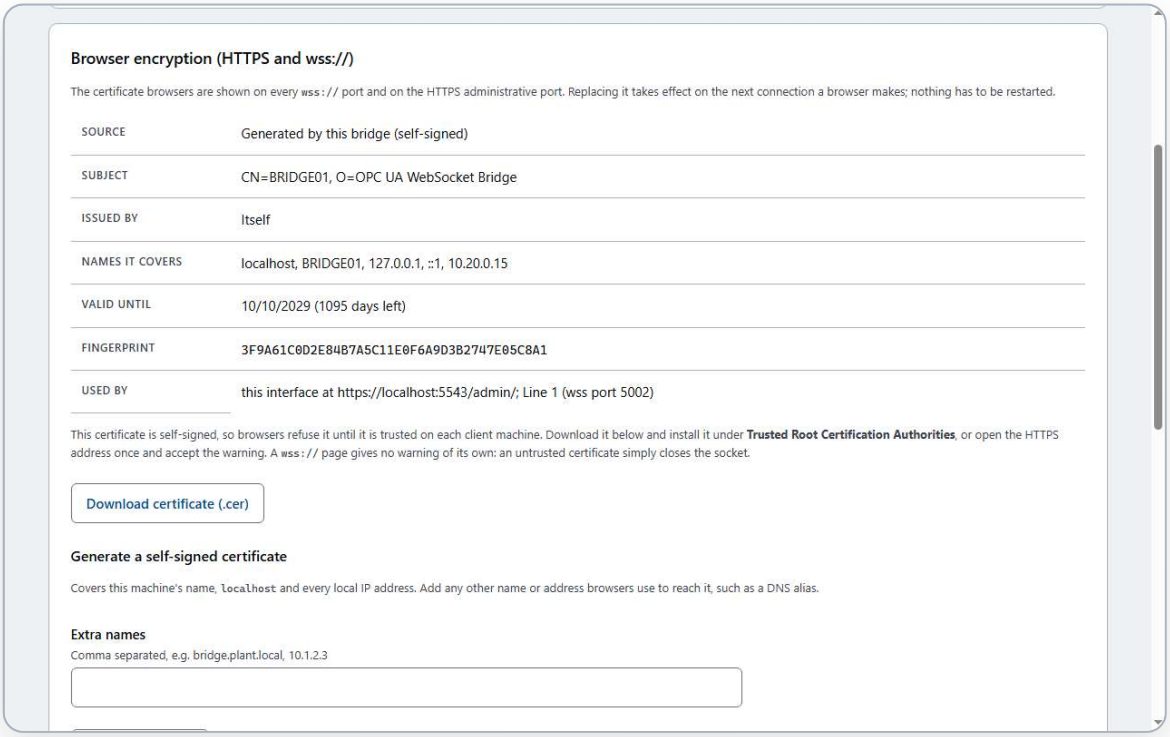


Browser transport: wss:// only.

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Make the browsers trust the bridge's certificate

On **Certificates → Browser encryption**, either upload your company's certificate or choose one installed in Windows (browsers that trust your company accept it at once), or keep the self-signed one, press **Download certificate (.cer)** and install it on each viewing PC under *Trusted Root Certification Authorities*. The address viewers use must be in **Names it covers**; add it under **Extra names** if not.

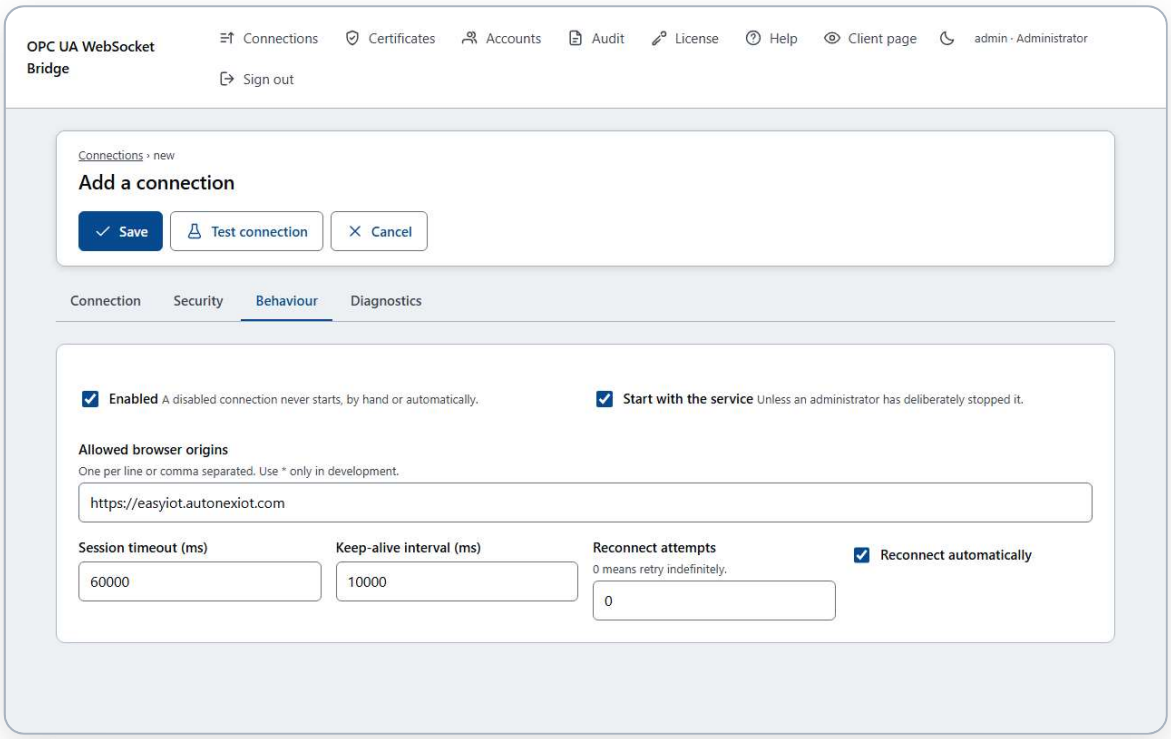


The certificate, the names it covers, and the download button.

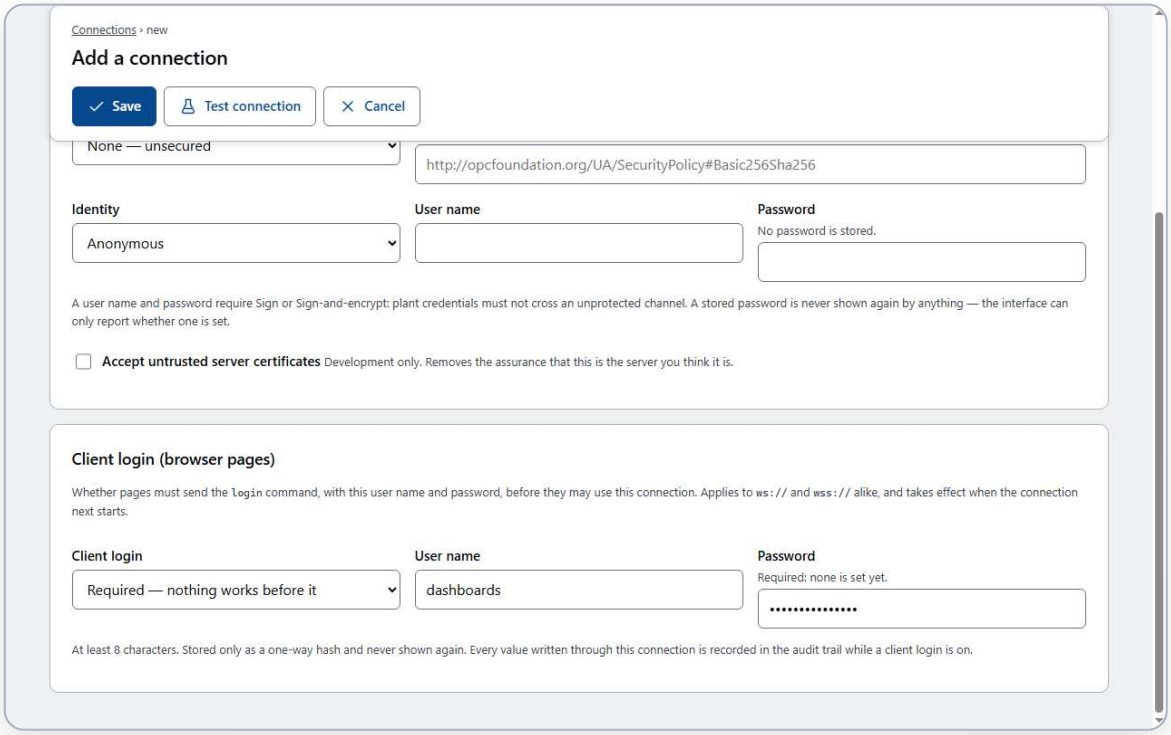
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Allow EasyIoT, set a login, and start

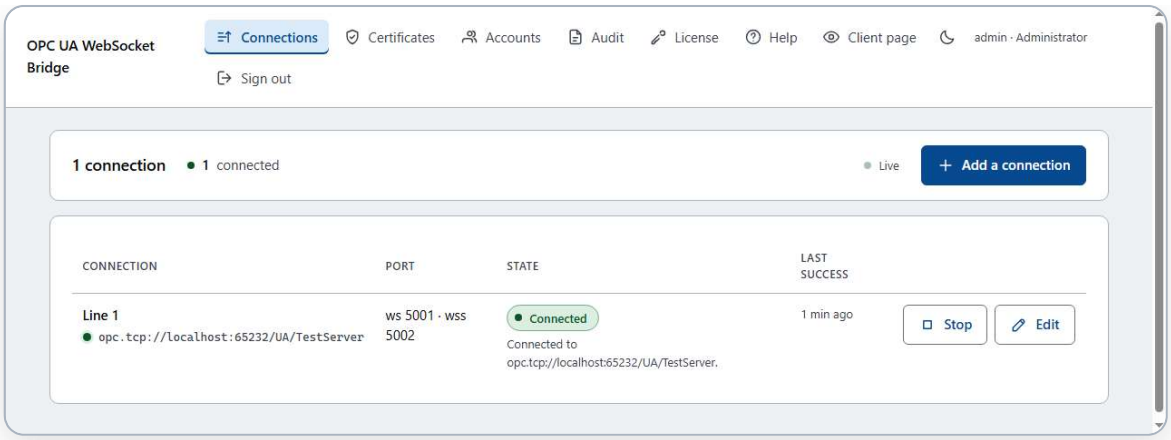
On the **Behaviour** tab, set **Allowed browser origins** to `https://easyiot.autonexiot.com`. On the **Security** tab, set **Client login** to **Required** with a user name and password for your dashboards. Save, then press **Start**: the state turns **Connected**.



Allow EasyIoT as a browser origin.

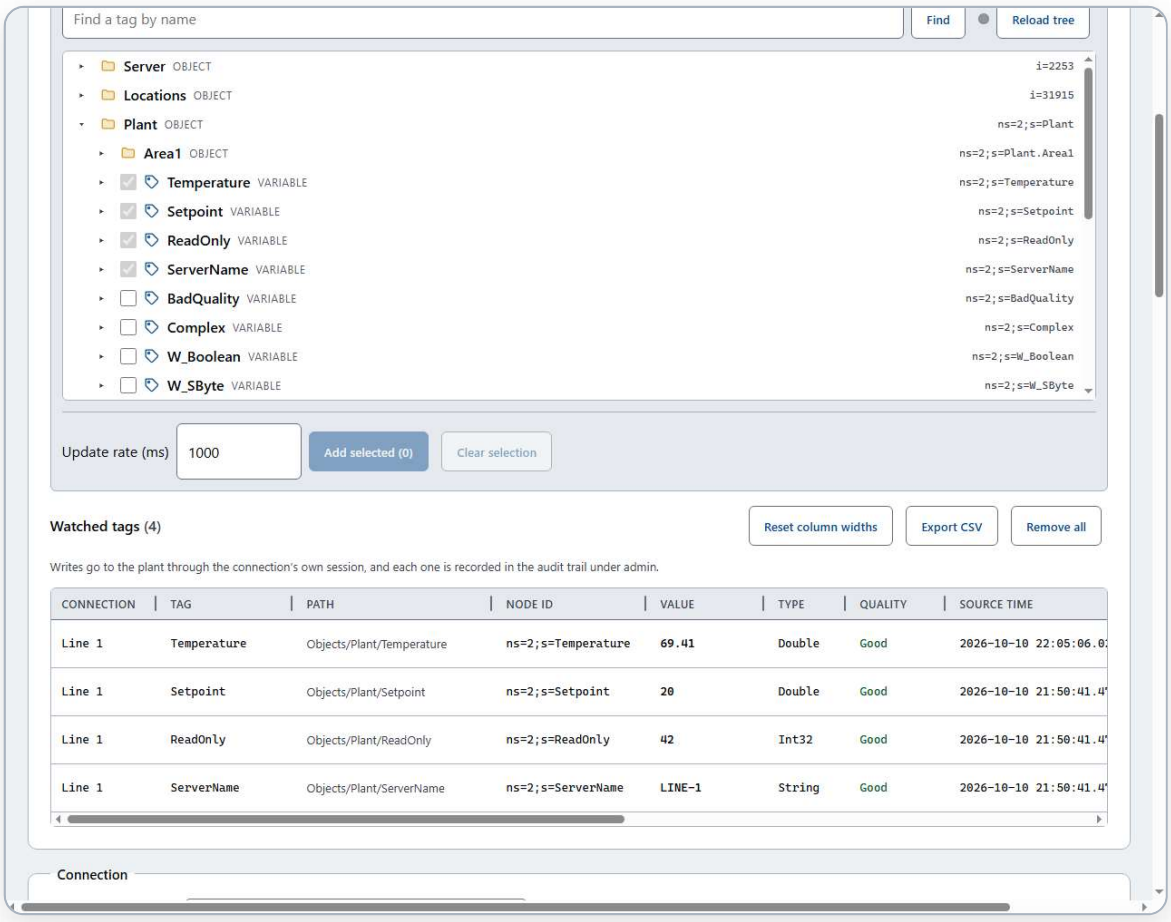


Client login: Required, with a user name and password.



Started: Connected, with a green light for the server.

Optional: check the values before you build. Open `http://localhost:5000/`, choose **Browse tags**, tick a few tags and add them: they update live, and their node ids are the ones EasyIoT will use.



Live tags in the bridge's own page, with their node ids.

EASYIOT 3. Build the dashboard

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Point the dashboard at the bridge

In EasyIoT, open your dashboard's **Data** tab → **OPC UA Bridge** and fill in:

EasyIoT field	Value
Protocol	**wss://** (encrypted)
Bridge Host	The bridge machine's name or IP, as covered by its certificate, e.g. `bridge01.plant.local`
Port	The connection's wss:// port, e.g. `5001`
Path	`/opcua`
Username / Password	The client login from step 6
Update every (ms)	The update rate for this dashboard, e.g. `500`

Press **Connect & Preview**. The pill reads **Live** when the bridge is connected and its OPC UA server is up.

8 **Pick tags and bind widgets**

Open the **OPC UA Tags** browser in EasyIoT's left panel. Select a widget and press **Use** beside a tag, or type a node id such as `ns=2;s=Line1.Speed` where the widget asks for a topic. Add an **OPC UA Monitor** for a live tag table and an **OPC UA Status** light. Save and share the dashboard.

If EasyIoT cannot connect: open `https://<bridge-host>:<port>/` in the same browser. A certificate warning there is the reason: the certificate is not trusted, or does not cover that host name. Also check that the viewing PC can reach the bridge on that port, and that `https://easyiot.autonexiot.com` is an allowed origin. Some browsers ask before letting a website reach devices on your local network; allow it.

Live values stay on your network. The EasyIoT page runs in the viewer's browser and connects directly to the bridge, so each viewer's PC needs network access to the bridge machine. To view dashboards from outside the plant, publish the bridge's wss:// port through your VPN or reverse proxy, never as an unencrypted port.

ADVICE

Getting the most out of it.

What works well in production, and what to stay away from.

Do

✓ **One connection per OPC UA server.**
Every dashboard and every viewer shares it. Add connections per server, never per dashboard.

✓ **Use a company certificate where you can.**
It is trusted everywhere already, so no viewer installs anything. Keep the self-signed one for pilots.

✓ **Give the bridge its own plant account.**
Sign & Encrypt with a dedicated OPC UA user that may write only what dashboards should write. The server enforces it.

✓ **Choose update rates per screen.**
500–1000 ms suits most dashboards; faster only where people really watch fast changes.

✓ **Add the backup server for redundant pairs.**
Test both addresses and trust both certificates. Put an OPC UA Status widget on key dashboards.

Avoid

! **Plain ws:// for EasyIoT.**
The browser blocks it from an https page, and it would carry values and passwords in the clear.

! **Leaving origins open (*).**
List `https://easyiot.autonexiot.com` and your own sites only.

! **Accepting untrusted server certificates.**
A development shortcut. In production, trust each server's certificate on the Certificates page.

! **Ports another program uses.**
Setup and the Bridge Manager check them for you; if the service will not start, the Event Log names the port.

! **Exposing the bridge to the internet.**
Reach it from outside through a VPN or reverse proxy with TLS, not an open port.

✓ **Back up the data folder.** `C:\ProgramData\OpcUaWsBridge` holds the configuration, license and certificates. Treat it as a credential.

REQUIREMENTS

What you need.

The bridge machine

Windows	Windows 10/11 or Server 2019 or later, 64-bit
Runtime	Nothing to install; included in Setup
Placement	On a network that reaches the OPC UA servers and the viewing PCs
Viewers	Any current browser with EasyIoT

Network

Port	Direction	For
5000 / 5443	Inbound	Bridge administration, HTTP / HTTPS
5001–5020	Inbound	Dashboards (wss://), one port per OPC UA server
4840 (typical)	Outbound	Each OPC UA server and its backup

Editions

Edition	Includes
Standard	Connections, plant and dashboard security, certificates, backup-server failover, client login, users and roles, audit, test connection and history, tag browser and live tag table.
Professional	Everything in Standard, plus server discovery on the network, tag search, and configuration export and import between machines.

A license is issued for one machine and may limit how many connections run at once. Evaluation runs every feature, with each connection stopping 30 minutes after it starts.

Put your plant on EasyIoT today.

Install the bridge, connect your OPC UA server, and build your first live dashboard in under fifteen minutes.

Start the quick start

Open EasyIoT