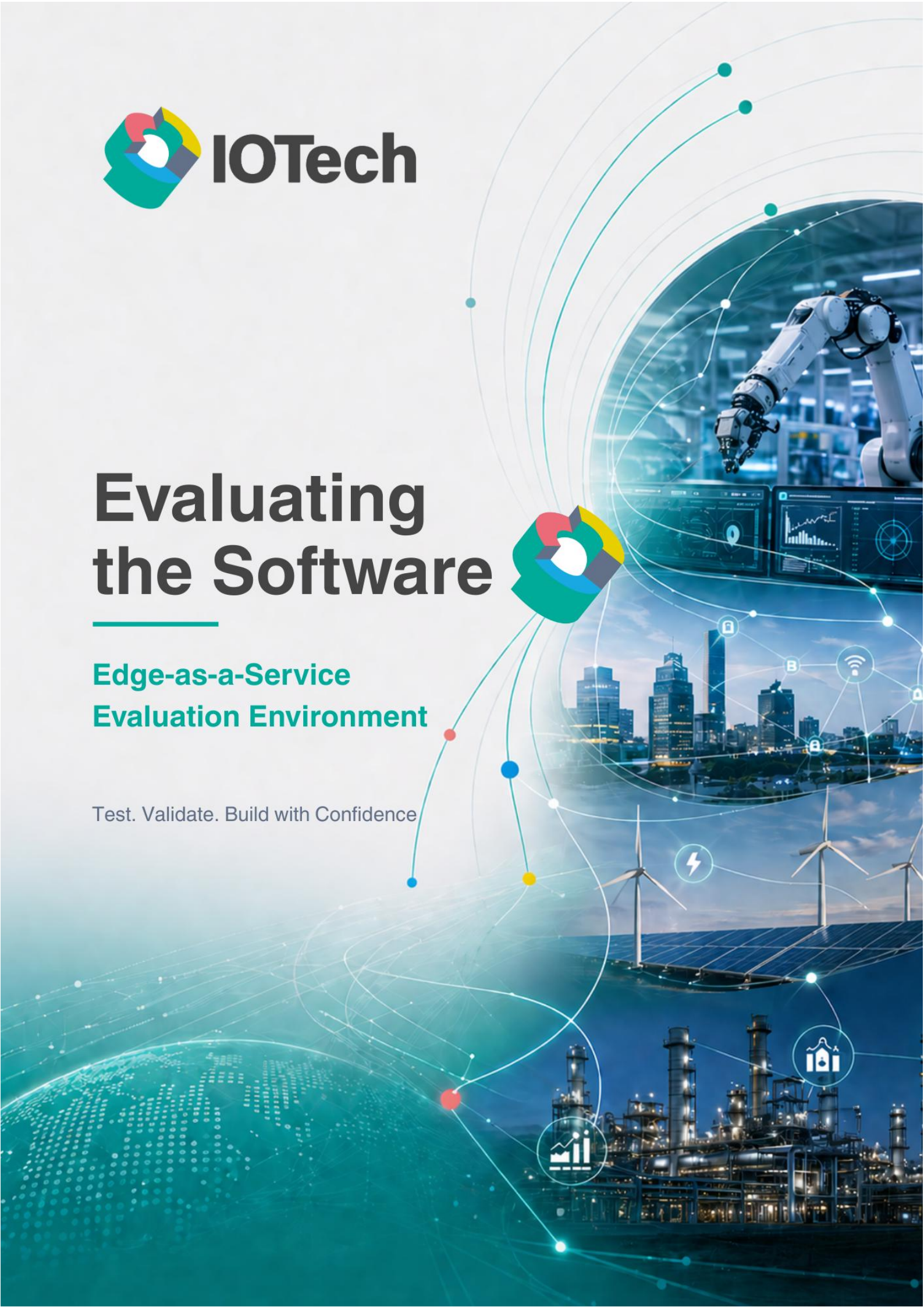
IOTech

Evaluating the Software

Edge-as-a-Service Evaluation Environment

Test. Validate. Build with Confidence



Edge-as-a-Service Quick Start Guide

Contents

Introduction

One of the biggest frustrations when evaluating edge software is the time lost to installation, licensing, and infrastructure setup, before you've even had a chance to explore what it actually does.

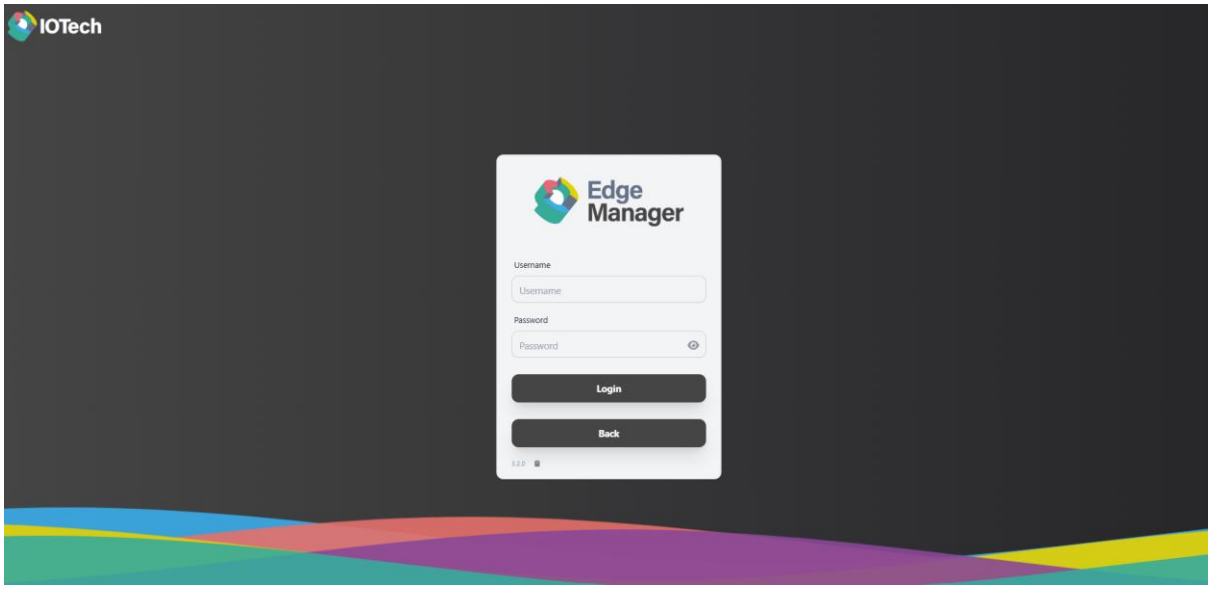
IOTech's Edge-as-a-Service evaluation environment removes that barrier entirely. You get a dedicated, secure Edge Manager instance running in the cloud, accessible straight from your browser. No downloads, no local configuration, just instant access to start evaluating the platform on your own terms.

This guide covers everything you need to get started, from onboarding your first edge node to deploying real-world applications.

Getting Started

When you registered for IOTech's Edge-as-a-Service evaluation environment you should have received an email with your log-in details and the link to log in. The evaluation instance is valid for ten days.

Click the link and log in with your username and password.



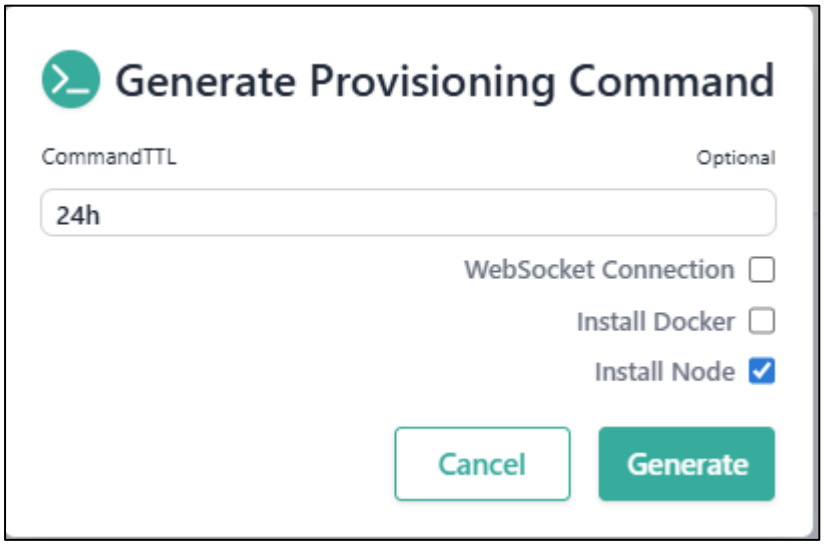
Once you have logged in you will be prompted to change the password. Use the new password for future sessions.

Add a Node

To get started the first thing you need to do is to connect your hardware. This could be your own machine, a server, a virtual box or a raspberry pi. We call the connected edge hardware a node.

To add a node go to the Nodes menu on the left-hand side and click the Generate Provisioning Command button 

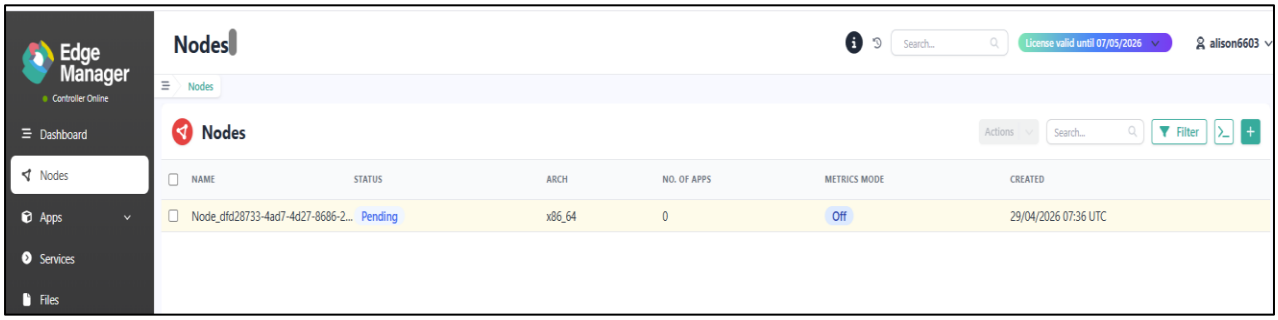
This brings up the Generate Provisioning Command window:



Click Generate and the provisioning command is generated:

Copy the command to your Edge node and run it.

When it finishes running you will see the node in the Edge Manager:

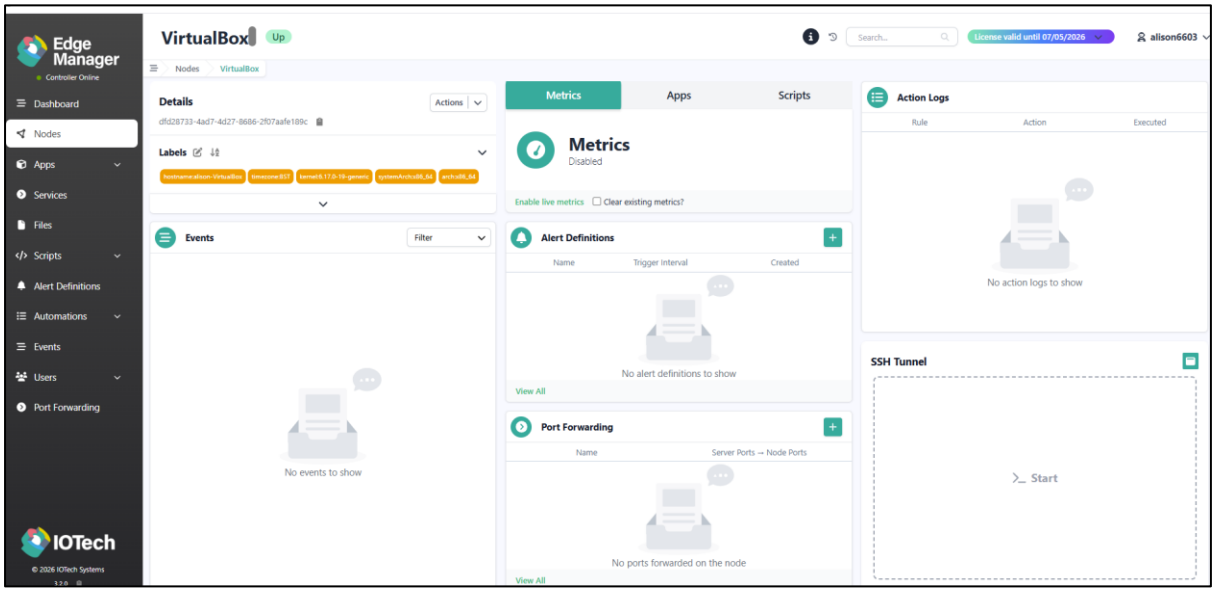


The node is in pending status. To activate the node, click the box beside it and choose “Accept Node” from the “Actions” menu. Before accepting it, you can change the name to something meaningful. After accepting the node, the status changes to up and the node is under cloud orchestration.

You can add more nodes in the same way.

View Node Information

Clicking on the node name brings up information about the node. You can see the node statistics, logs and open an SSH tunnel to the node, allowing you to type commands to it as if you are running locally.

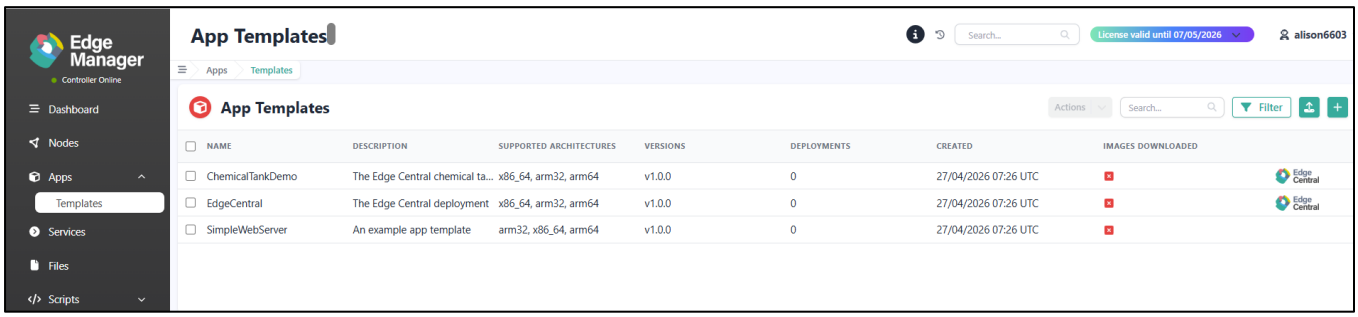


Preinstalled Edge Instances

The Edge-as-a-Service Evaluation Environment comes with preinstalled Edge instance software so that you can get up and running quickly. There are three main examples:

- Simple Web Server
- Edge Central Quick Start
- Edge Central Chemical Tank

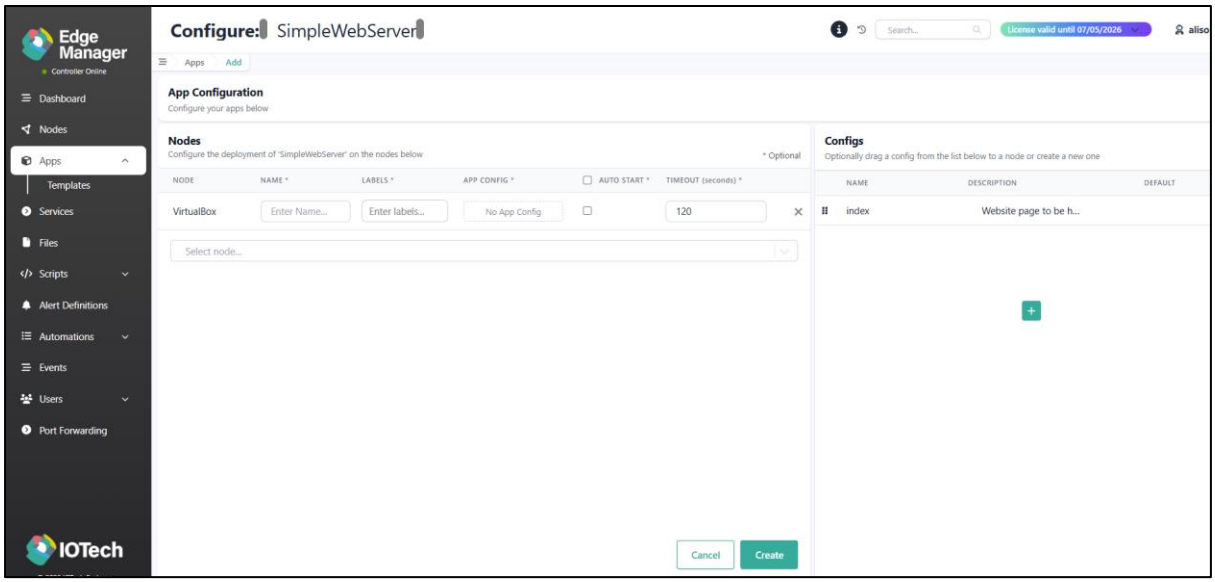
These are already set up as Edge Manager Application Templates, which are docker-compose files describing the services we want to run. To view them go to Templates which you will find under Apps in the left-hand menu:



Simple Web Server

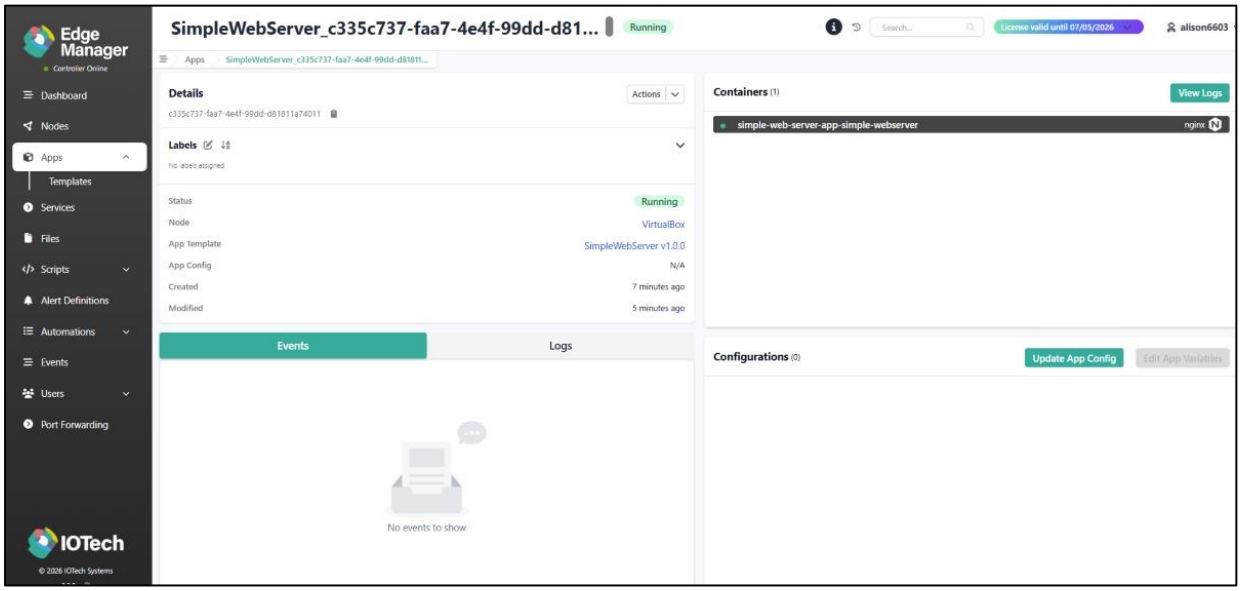
To deploy the simple web server, click on it, then click on the “Actions” button and choose “Deploy App Template” from the menu. The App Configuration window

appears, and you need to select the node you want to run it on. Once you have done this click Create.



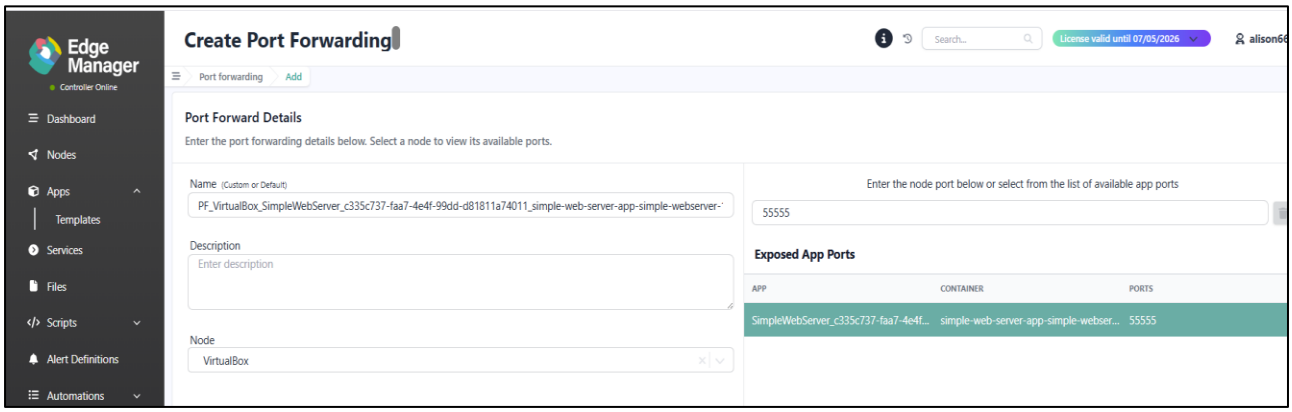
The app is pushed down to the node and the status becomes “Created.” To start the application, choose “Start” from the Actions menu. Confirm you want to start the application and the status changes to “Running.”

If you click on the application name you can see the details of the containers that are running, view logs and events and change the configuration.



To access the web server UI, we can use the port forwarding feature. Go to the Nodes menu and click on the node where the web server is running. This brings up the details of the node and allows you to set port forwarding. Click the Add (+) button beside port forwarding.

Click on the “Exposed App Ports” and the port will be populated.



Click “Create” and the port is created. Now you can click “View Port” beside the node and you will see the “Welcome to nginx!” splash screen from the webserver.

To stop the application from running you can go to Apps in the right-hand menu, choose the App and choose “Stop” from the “Actions” menu.

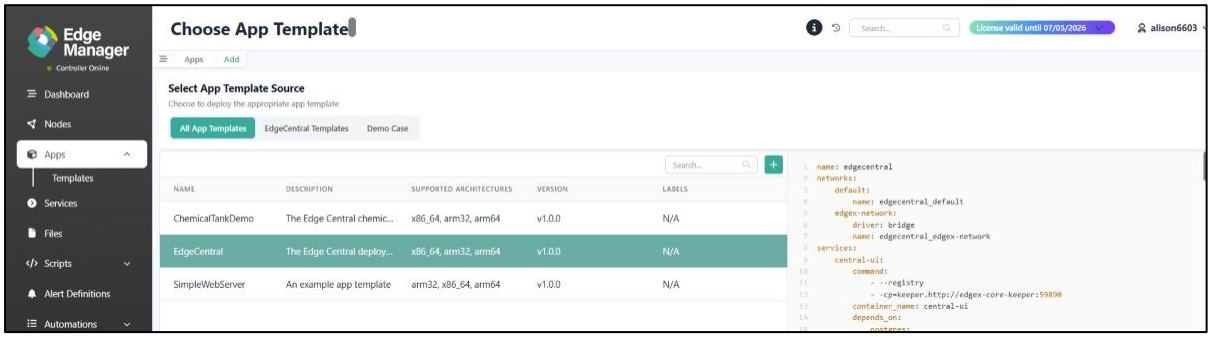
Edge Central Quick Start

It is also easy to deploy and evaluate Edge Central, our open edge data platform, from the Edge-as-a-Service Evaluation Environment.

The Quick Start example deploys the main Edge Central Services and a Virtual Device Service that simulates a flow of sensor data to the platform. It contains a configuration file which includes the Edge Central license.

To deploy the example, go to Apps in the left-hand menu and click the Add (+) button in the top right-hand corner.

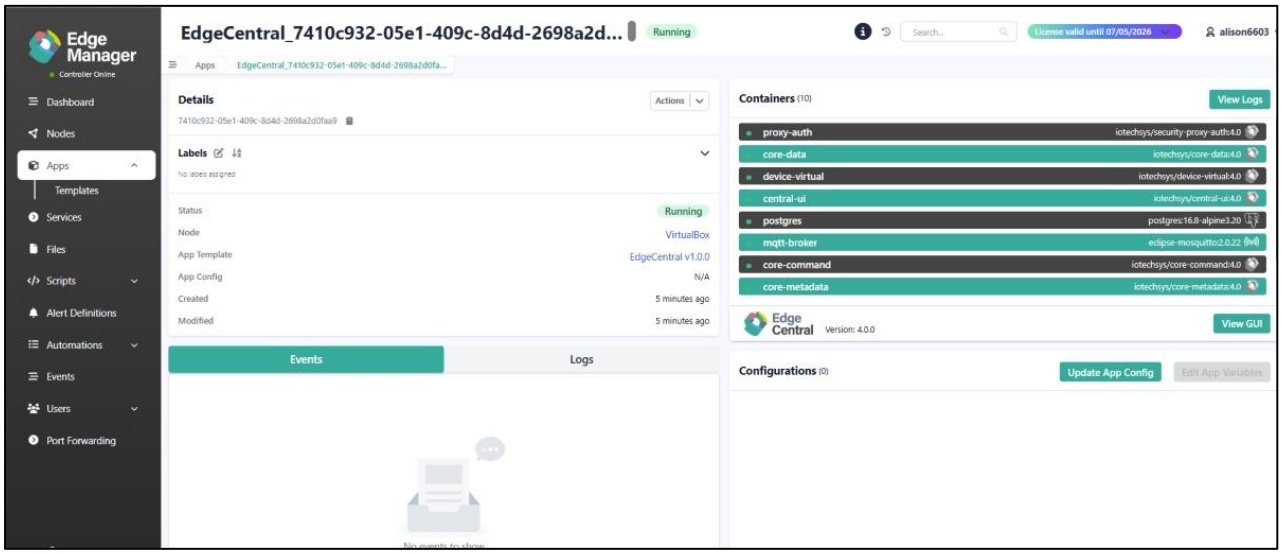
In the “Choose App Template” window click Edge Central and then click “Next.”



In the next window click “Create.”

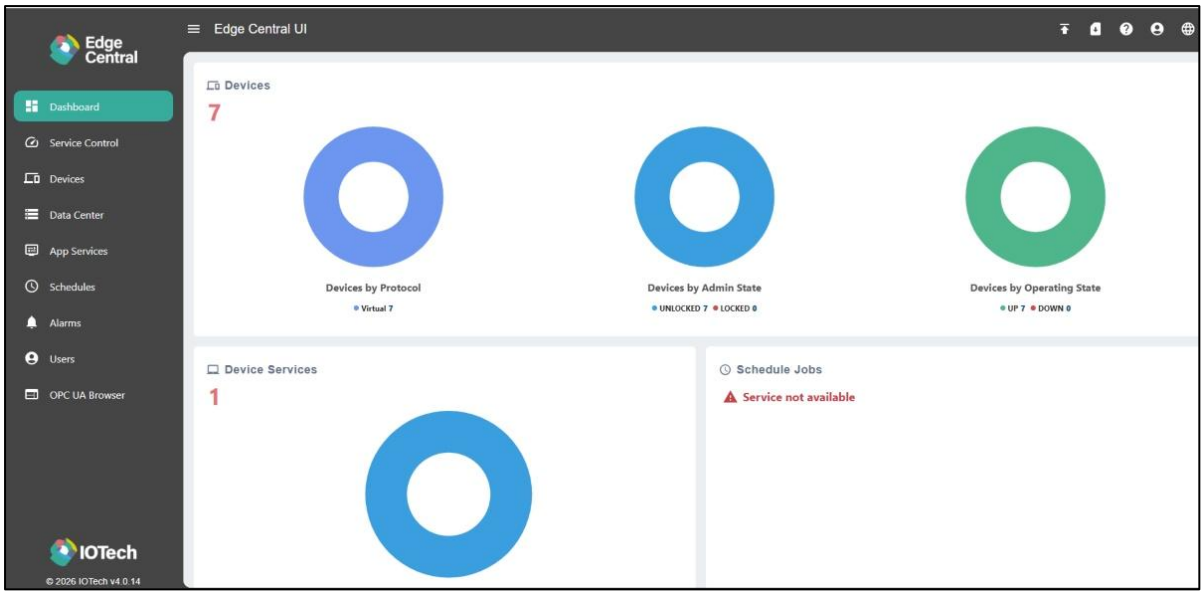
The App will change status to created. In the “Actions” menu click start to start the application. The status changes to “Running”.

Now we can click on the App and see all the running containers:



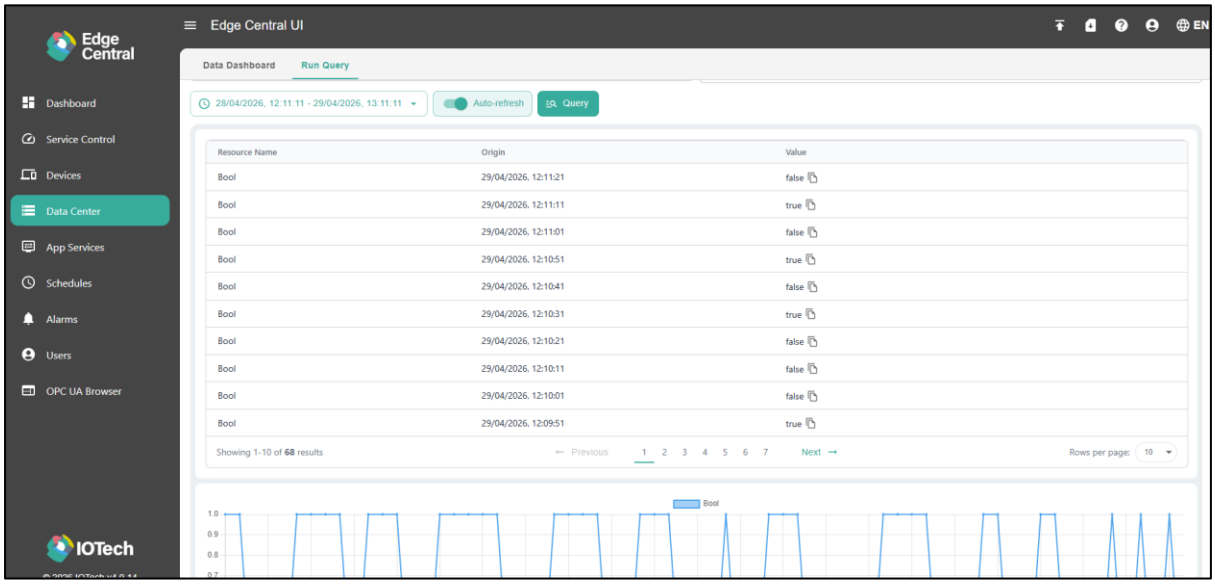
Clicking “View GUI” will bring up the Edge Central UI allowing you to view and manage the devices and the data.

To log in use the default username “admin” and the default password “Admin@Edge0”.



Clicking Devices on the left-hand menu shows all the devices in the system.

You can use the Data Center to create data dashboards and query the device readings.



For more information about Edge Central see the online documentation.

Edge Central Chemical Tank

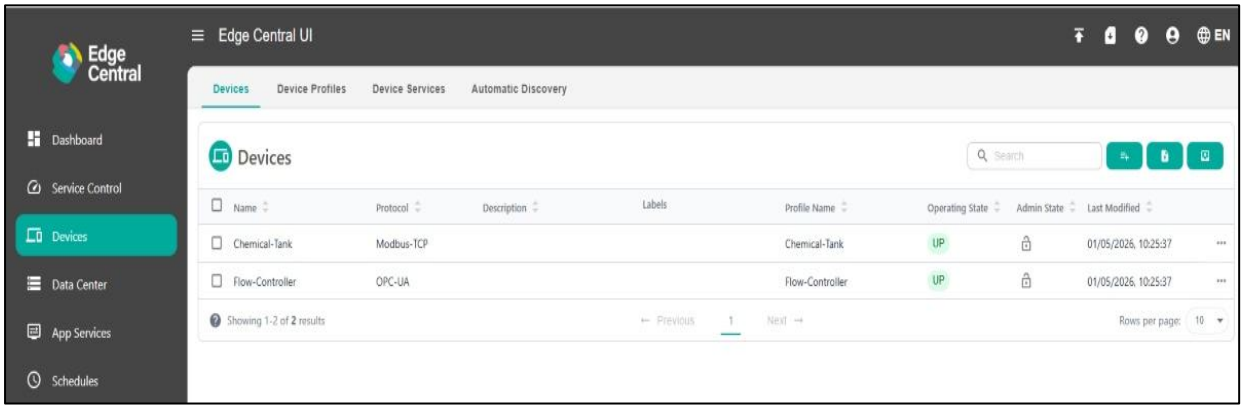
The Edge Central Chemical Tank example is a more sophisticated project that shows the use of Edge Central in smart manufacturing. Modbus sensors monitor the temperature, pressure and level of the contents in a Chemical Tank. An OPC UA flow controller controls a valve which opens and closes allowing a controlled flow rate of liquid out of the tank. An edge dashboard is used to monitor the system, Edge Central sends data to Grafana via InfluxDB to create the dashboard.

Edge Manager is set up with all the necessary configuration to deploy and run the example.

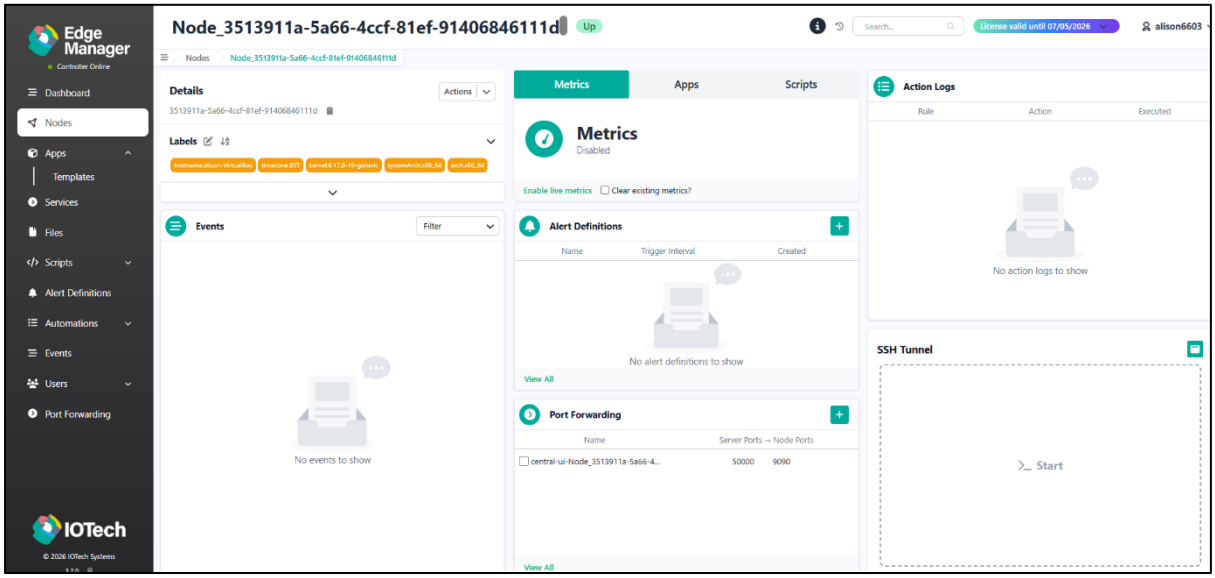
To start the Application go to Apps in the left-hand menu and choose the + button to add the application. Next choose Chemical Tank Demo from the list and choose Next. Select the Node you want to run on. You can select more than one node if you have them. Click Create and the App is created. Now start the App by clicking it and choosing “Start” from the “Actions” menu. The status should change to “Running”

If you click on the application, you can see all the running containers. You can also click on the “View GUI” button and see the Edge Central UI. Log in with the default username/password admin/Admin@Edge0.

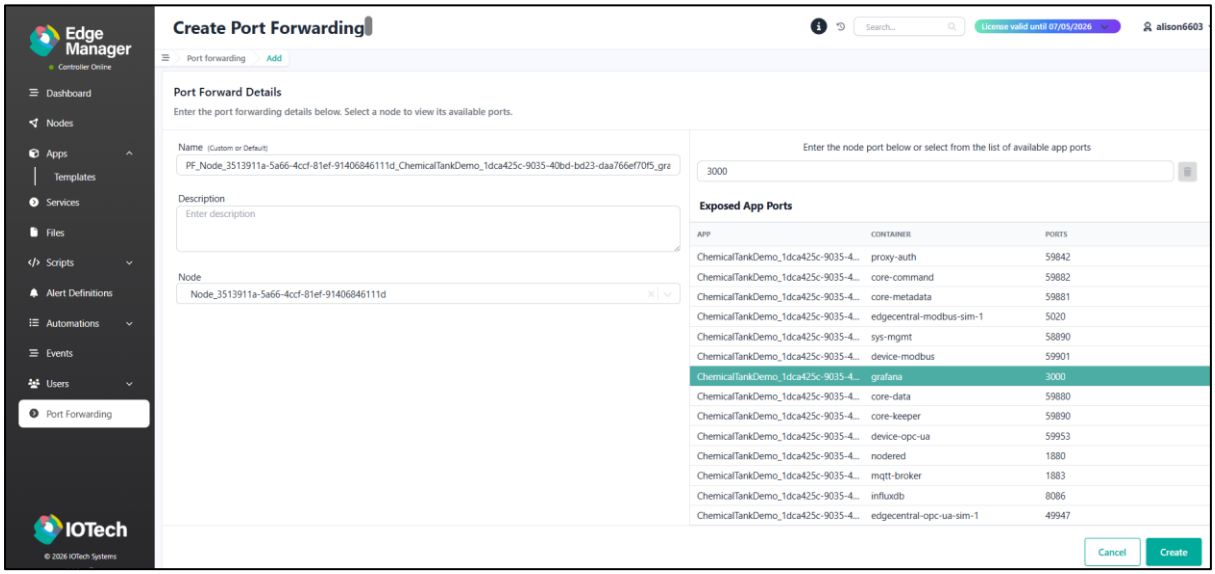
If you click on Devices in the left-hand menu, you will see the Chemical-Tank and Flow Controller device.



To view the Grafana dashboard we can use port forwarding. In the Edge-as-a-Service Evaluation Environment, go to the Nodes menu. Click on the node to view the Port Forwarding option.



Next to Port Forwarding click the Add (+) button. Choose the Grafana port from the list and click the Create button.



The port is now listed in the list of Port Forwards. If you click the View Port button the Grafana log in screen appears. Log in with the default username and password "admin". It asks you to change the password, but you can click skip if desired.

In the left-hand menu click Dashboards and choose ChemicalTankDashboard.

You can now see the Chemical Tank Dashboard on your screen.

Now you have completed the tutorial you can experiment by editing these apps or creating your own.