

Installing Ignition Edge MQTT as a Docker Container

Prerequisites

- Ensure you have a platform that supports either Linux 64-bit Docker images or ARM HF images
- Hilscher provides a number of gateways that support 64-bit Linux containers and ARM HF containers
 - <https://www.hilscher.com/products/product-groups/industrial-internet-industry-40/netiot-edge/>
 - <https://www.netiot.com/netpi/industrial-raspberry-pi-3/>
- This tutorial will use [Portainer](#) to set up and configure the container. However, this could all be done via the command line if you prefer.

Summary

This tutorial will cover the downloading, configuration, and starting of Ignition Edge MQTT as a Docker container using Portainer.

Upon completion of this tutorial you will have Ignition Edge MQTT installed as a Docker container which will be ready to configure and use.

Tutorial

Step 1: Start Portainer

Begin by ensure Portainer is running and you are set up to manager the target Docker environment. Information on Portainer can be found [here](#). If using a Hilscher Edge device consult the Hilscher documentation for access to the Portainer Portal.

Step 2: Download the Ignition Edge MQTT image

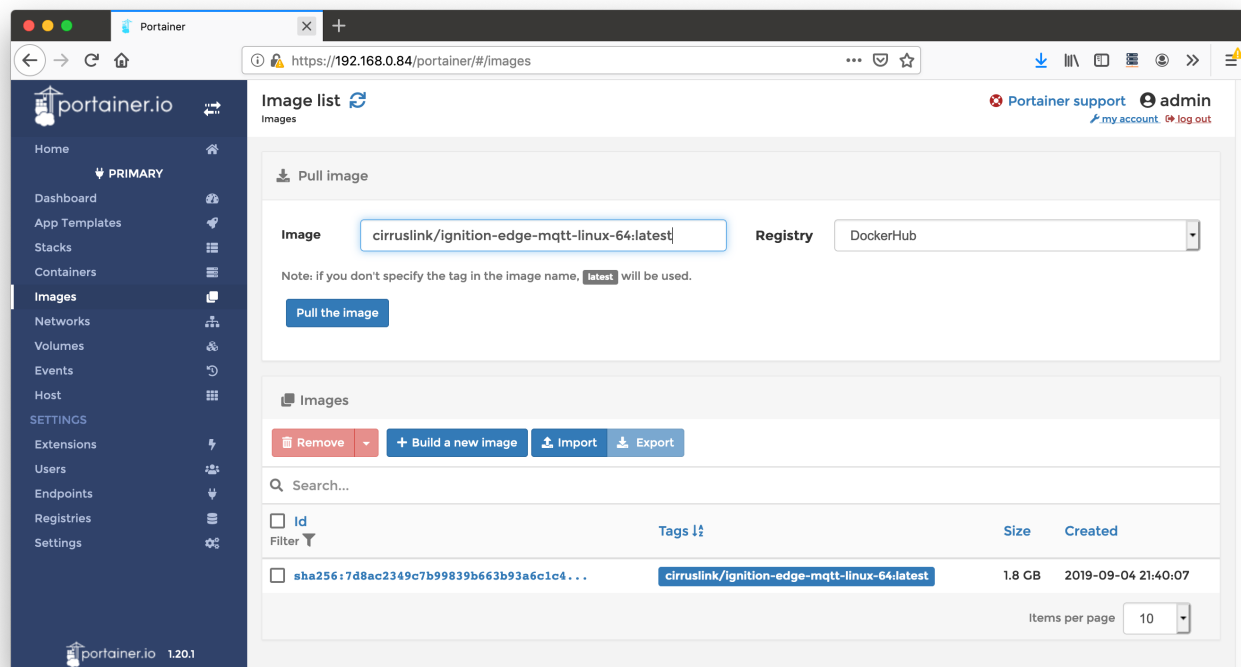
Open a Web Browser to your Portainer instance and select 'Images' on the left. In the name section enter one of the two following strings depending on your platform architecture:

- If Linux 64-bit is supported: `cirruslink/ignition-edge-mqtt-linux-64:latest`
- If Linux ARM HF is supported: `cirruslink/ignition-edge-mqtt-linux-arm32v7:latest`

The repositories can be viewed here:

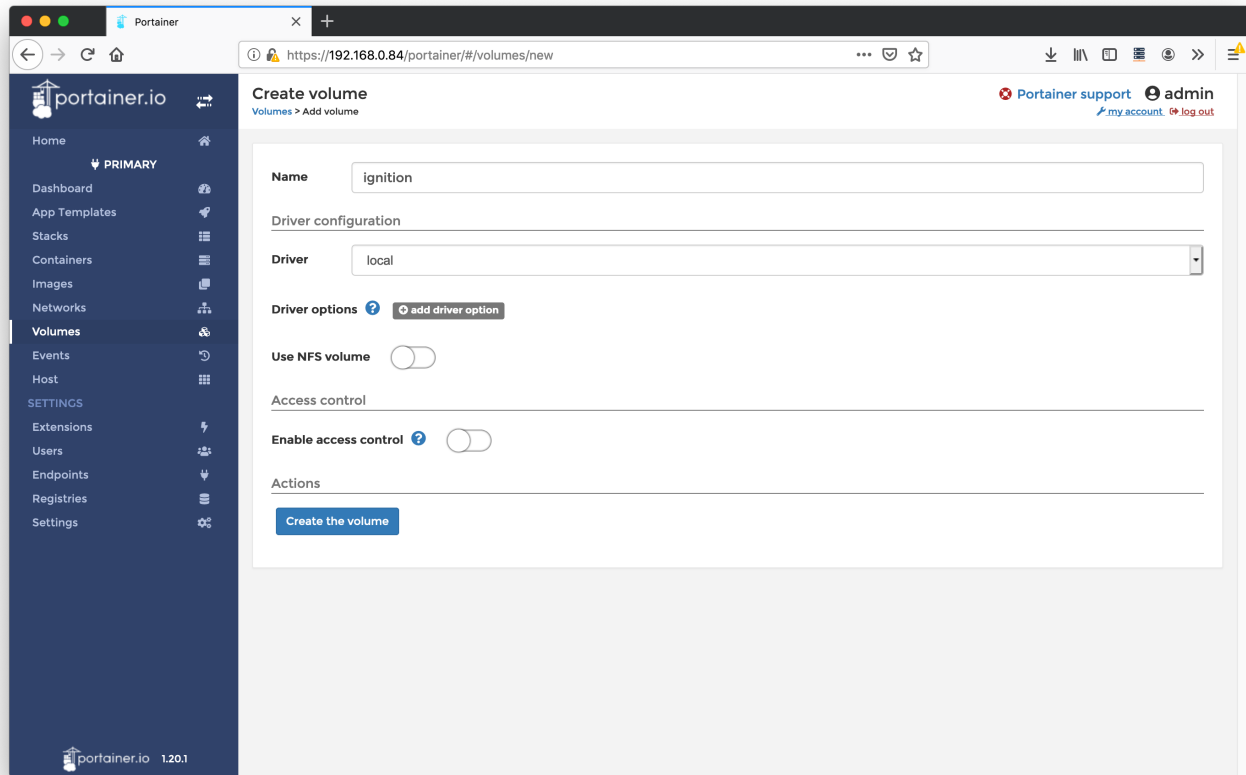
- <https://hub.docker.com/r/cirruslink/ignition-edge-mqtt-linux-64>
- <https://hub.docker.com/r/cirruslink/ignition-edge-mqtt-linux-arm32v7>

Shown below is an example for 64-bit Linux. After entering the target image into the name field, click the 'Pull the Image' button to download it. You must have internet connectivity for this to succeed. Once the download is complete, you should see something similar to the following.



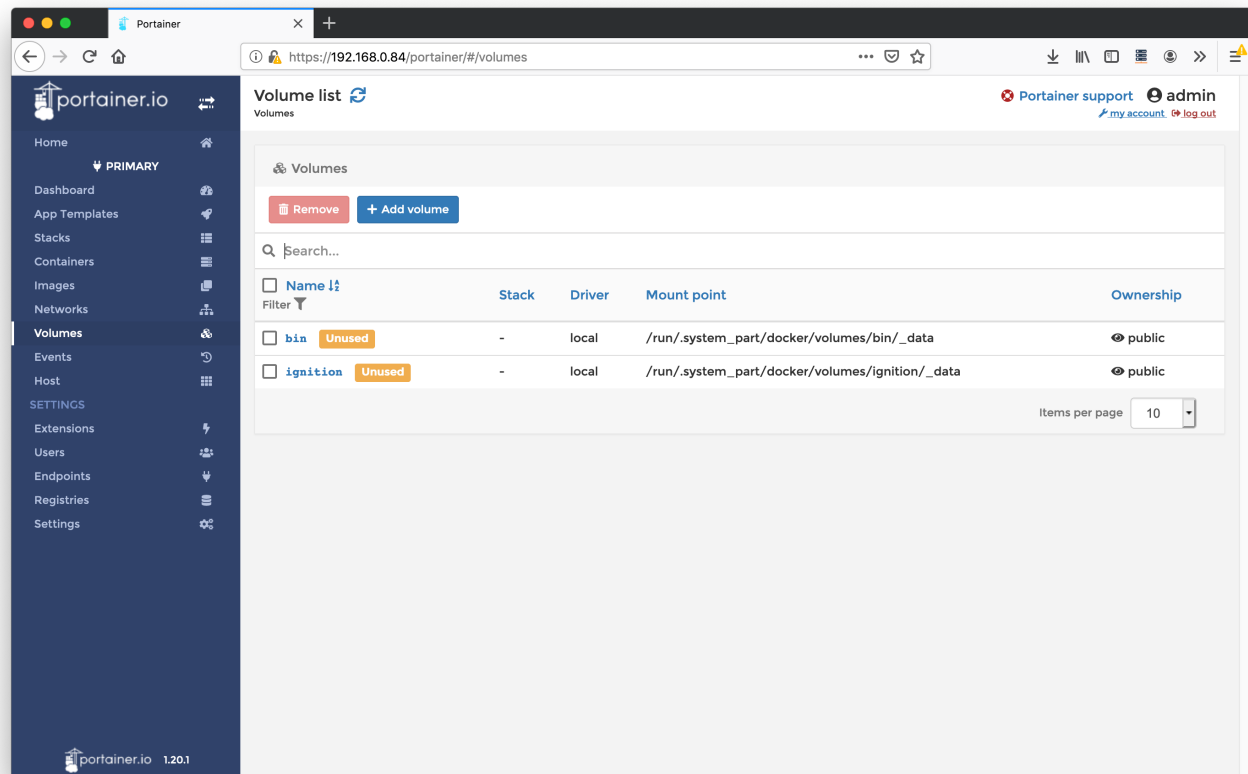
Step 3: Create the Volumes

Select 'Volumes' on the left and add two new ones by clicking the 'Add Volume' button. Then type the name of the first volume as 'ignition' as shown below and click 'Create the volume'. Ensure 'Use NFS volume' and 'Enable access control' are both disabled.



The screenshot shows the Portainer web interface in a browser window. The address bar displays `https://192.168.0.84/portainer/#/volumes/new`. On the left, a dark blue sidebar contains a navigation menu with 'Volumes' selected. The main content area is titled 'Create volume' with a breadcrumb 'Volumes > Add volume'. In the top right corner, there are links for 'Portainer support', a user profile 'admin' with a 'my account' link, and a 'log out' link. The form fields are as follows: 'Name' is a text input containing 'ignition'; 'Driver configuration' is a section header; 'Driver' is a dropdown menu set to 'local'; 'Driver options' includes a help icon and an 'add driver option' button; 'Use NFS volume' is a toggle switch that is turned off; 'Access control' is a section header; 'Enable access control' is a toggle switch that is turned off, accompanied by a help icon; and 'Actions' is a section header. At the bottom of the form is a blue button labeled 'Create the volume'. The Portainer logo and version '1.20.1' are visible in the bottom left corner of the sidebar.

Repeat the volume creation process described above to create a second volume called 'bin'. When complete, the volumes should look as follows:



Step 4: Define and Start the Container

Now select 'Containers' on the left and click the 'Add Container' button. Set the following parameters:

- Name = ignition-edge-mqtt
- Image Name = (the image downloaded dependent on your hardware platform architecture)
 - If Linux 64-bit is supported: cirruslink/ignition-edge-mqtt-linux-64:latest
 - If Linux ARM HF is supported: cirruslink/ignition-edge-mqtt-linux-arm32v7:latest
- Always pull the image = not selected
- Publish all exposed ports = selected
- Map the following additional ports. Note you may need or want to change the first parameter (host port) depending on your platform
 - 22 22 (TCP)
 - 80 80 (TCP)
 - 443 443 (TCP)
 - 8000 8000 (TCP)
 - 8043 8043 (TCP)
 - 8060 8060 (TCP)
 - 8088 8088 (TCP)
- Enable access control = not enabled

This is all shown below in the 64-bit Linux example.

Create container
Containers > Add container

Name ignition-edge-mqtt

Image configuration

Image cirruslink/ignition-edge-mqtt-linux-64:latest **Registry** DockerHub

Always pull the image ☒

Ports configuration

Publish all exposed ports ☒

Port mapping [map additional port](#)

host	container	TCP	UDP
22	22	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
80	80	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
443	443	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8000	8000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8043	8043	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8060	8060	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8088	8088	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Access control

In addition set the following advanced properties via the bottom tabs.

- Map the Volumes as shown below.

Deploy the container

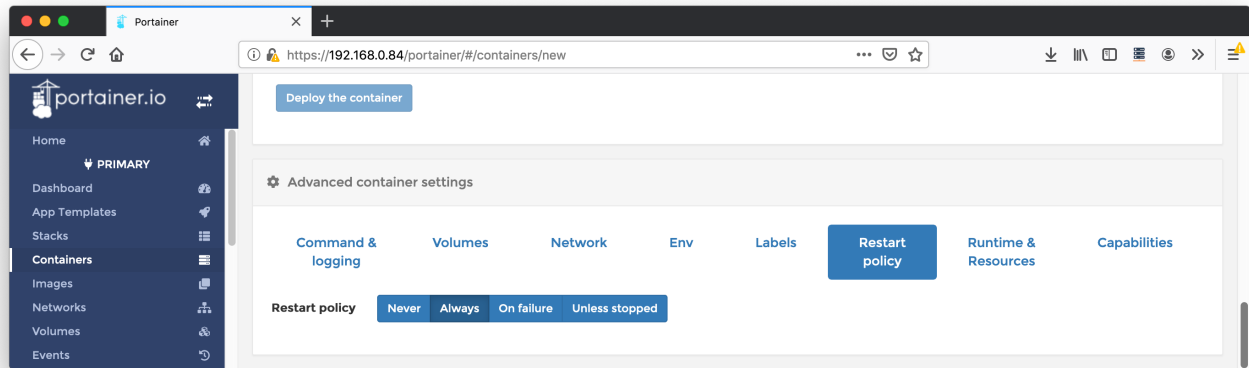
Advanced container settings

Command & logging **Volumes** **Network** **Env** **Labels** **Restart policy** **Runtime & Resources** **Capabilities**

Volume mapping [map additional volume](#)

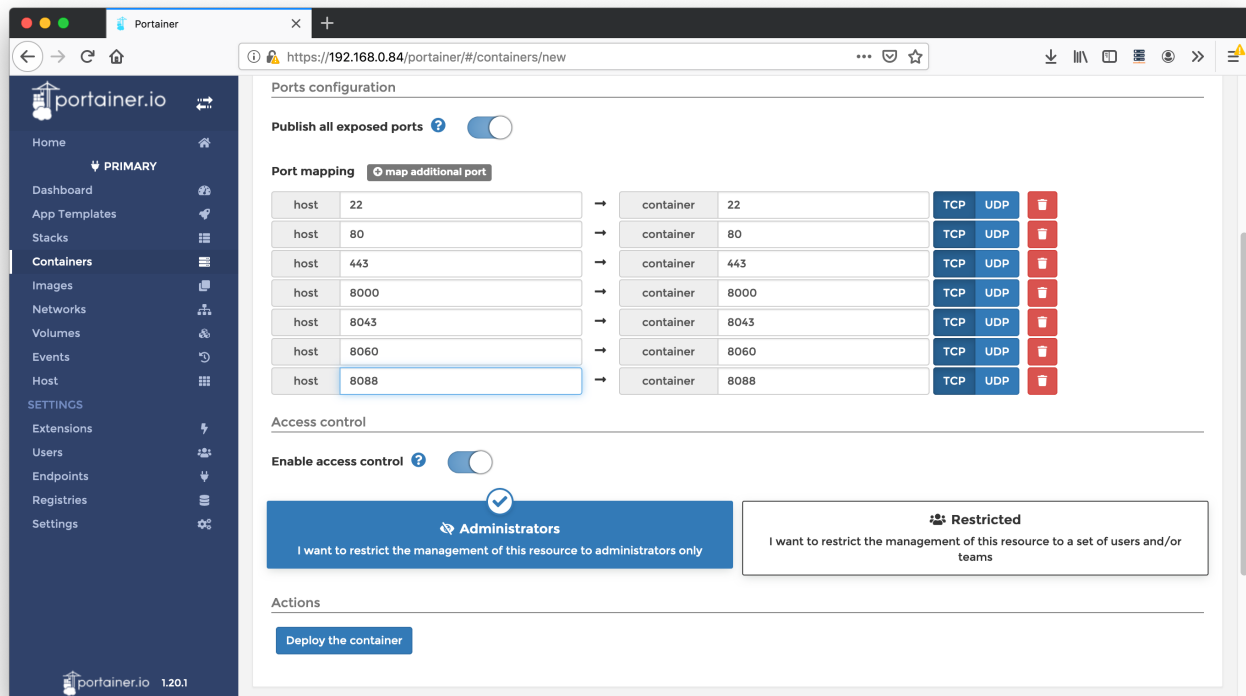
container	volume	Writable	Read-only
/opt/ignition	ignition - local	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
/bin	bin - local	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

- Set the Restart policy as shown below.

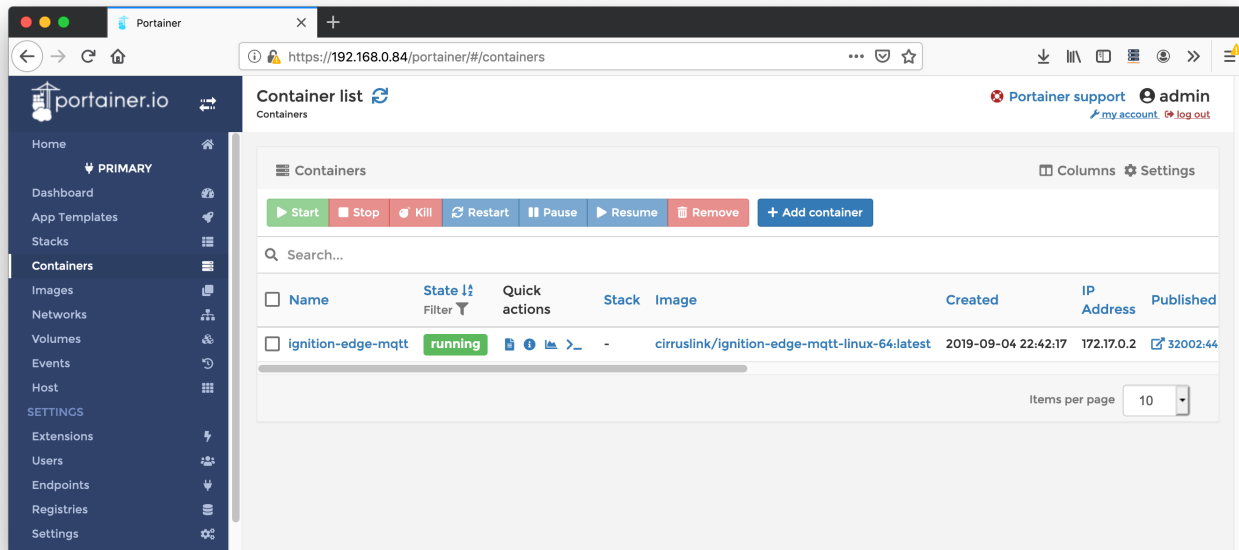


- Leave all other 'Advanced container settings' default.

Finally, deploy the container by clicking the 'Deploy the container' under the 'Actions' section as shown below.



After deploying you should see the new container now running as shown below.



Step 5: Connect to the Ignition Edge Web UI and start using Ignition Edge MQTT

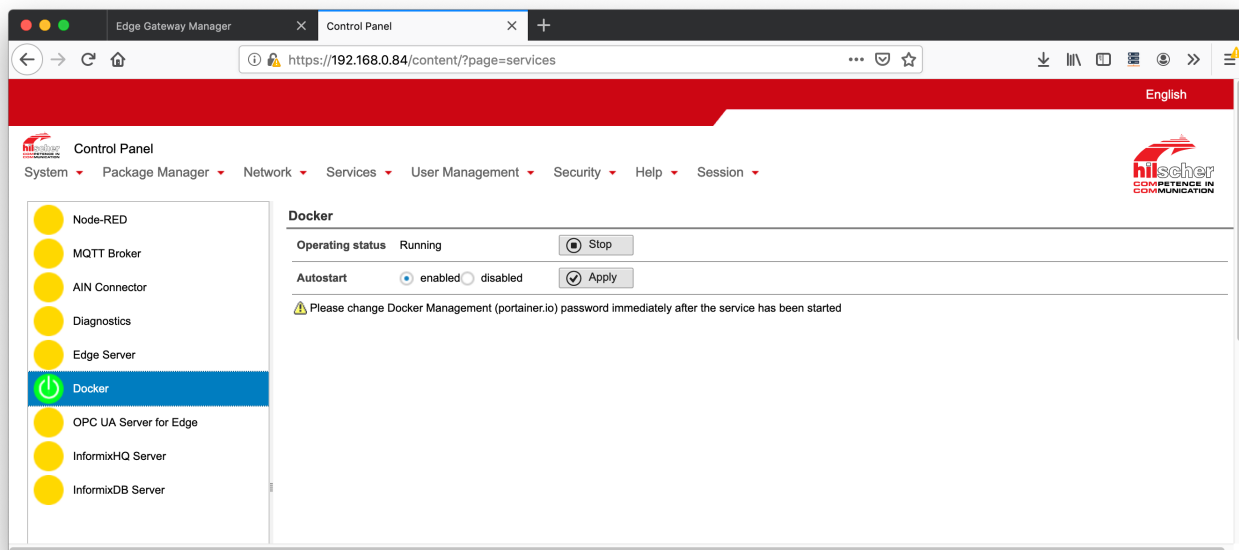
At this point you are ready to configure and use Ignition Edge MQTT. The Ignition web UI is available on the docker port 8088. If you mapped 8088 8088, you can access the Ignition Web UI by browsing to [http://\[docker_host_ip\]:8088](http://[docker_host_ip]:8088).

See the following two links for information on how to configure and use Ignition Edge MQTT.

- [MQTT Transmission](#)
- [Getting Started: Two Ignition Architecture](#)

Notes

If using a Hilscher Gateway with Docker support, make sure you set 'Docker Autostart' to 'enabled' as shown below.



Additional Resources

- Inductive Automation's Ignition download with free trial

- <https://inductiveautomation.com/downloads/>
- Azure Injector download with free trial
 - <https://inductiveautomation.com/downloads/third-party-modules>
- Questions about this tutorial?
 - Check out the Cirrus Link Forum: <https://forum.cirrus-link.com/>
 - Contact support: support@cirrus-link.com
- Sales questions
 - Email: sales@cirrus-link.com
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