Deployment Instructions

EdgeLink - IoT Gateway Software Container Version

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ADVANTECH

Enabling an Intelligent Planet

Revision History

Date	Version	Author	Reviewer	Description
Jan. 26,2022	1.0	Lili.Zheng	Greta Lieske-Dumelle	Initial Release

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1. EdgeLink (Container Version)

1.1 Packages Included

Package Name	Content	Function
CONTAINER-edgelink-docker-2.8.X-xxxxxxxx-amd64.deb	Agent	Download EdgeLink Studio projects and start EdgeLink Container.
edgelink_container_2.8.x_Release_xxxxxxxx.tar.gz	EdgeLink Runtime	Run EdgeLink Runtime.

Recommended environment: Docker environment (supports Ubuntu 18.04 i386)
Description: Up to 100 tags can be added for a 2-hour trial of EdgeLink container as default.
Activation method: EdgeLink container should be activated in a physical machine rather than a virtual one. For activation method details, please contact Advantech.

1.2 Description of Host Port Occupation

Port Type	Port	Application	Status
UDP	6513	Agent	Occupied after the agent deb package is installed
TCP	6001	Agent	Occupied after the agent deb package is installed
TCP	502	Modbus Server	Occupied if the Modbus server is enabled
TCP	2404	IEC104 Channel 1	Occupied if the IEC104 Server(channel 1) is enabled
UDP	47808	BACnet Server	Occupied if the BACnet Server is enabled
TCP	504	WASCADA	Occupied if the WASCADA server is enabled
TCP	51210	OPC UA	Occupied if the OPC UA Sever is enabled
TCP	443	WebService	HTTPS occupies this port
TCP	41100	eclr	Occupied if the eclr is enabled

1.3 Instructions

1. Build a Docker environment for EdgeLink Runtime

1) Install Docker in Ubuntu system

Reference link: https://docs.docker.com/engine/install/ubuntu/

2) Install EdgeLink Runtime Docker image

Step 1: Download EdgeLink-Docker Agent

https://www.advantech.com.cn/zh-cn/support/details/firmware?id=1-28S1J4D

Step 2: Install the Agent package. (If failed, repeat this step after Step 5)

Apt install ./CONTAINER-edgelink-docker-2.8.0-202112290544-amd64.deb

Note: CONTAINER-edgelink-docker-2.8.0-202112290544-amd64.deb is your file name.

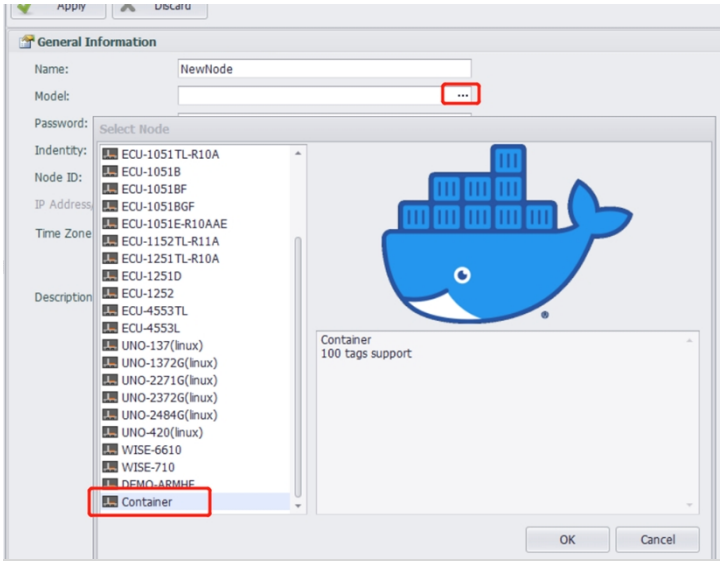
Step 3：Set up soft links for serial ports

For EdgeLink, /dev/ttyAP0 is COM1, /dev/ttyAP1 is COM2 and so on.

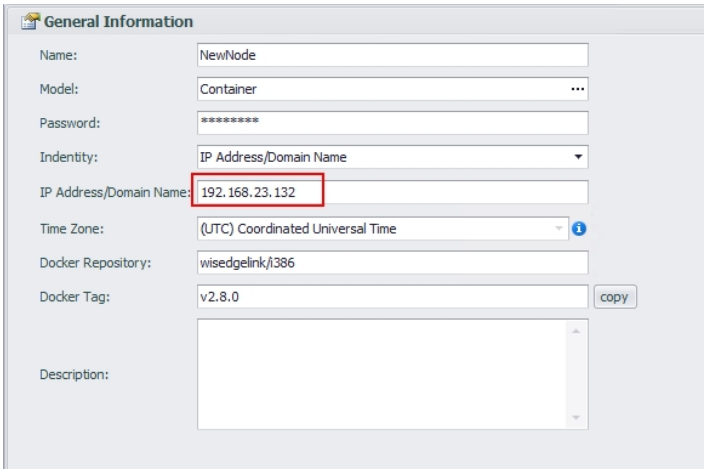
For example, I want /dev/ttyS0 to be EdgeLink COM1. I should use "*sudo ln -s /dev/ttyS0 /dev/ttyAP0*" to set up the soft link. (Please make sure there is no /dev/ttyAP0 in you system before you set up the soft link)

2. Download project file by EdgeLink Studio

1) Create a project and set the project node type to 'Container.'



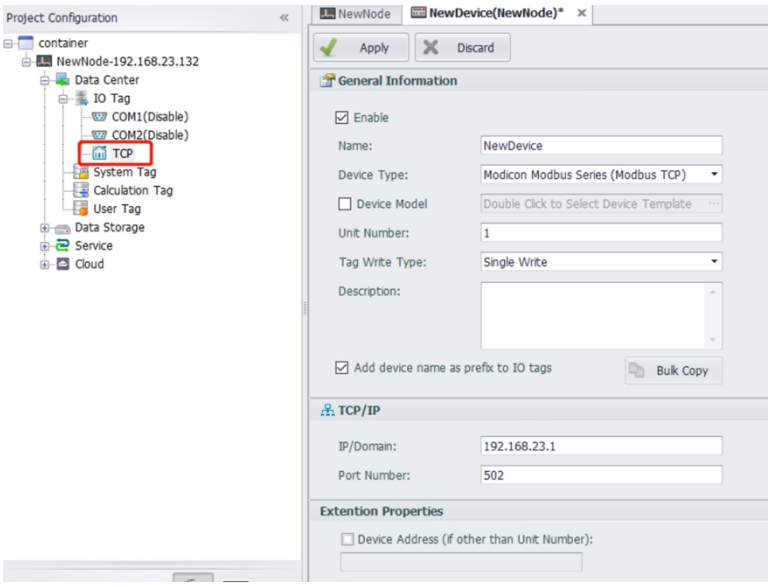
The IP address is the Ubuntu OS IP running the Docker environment.



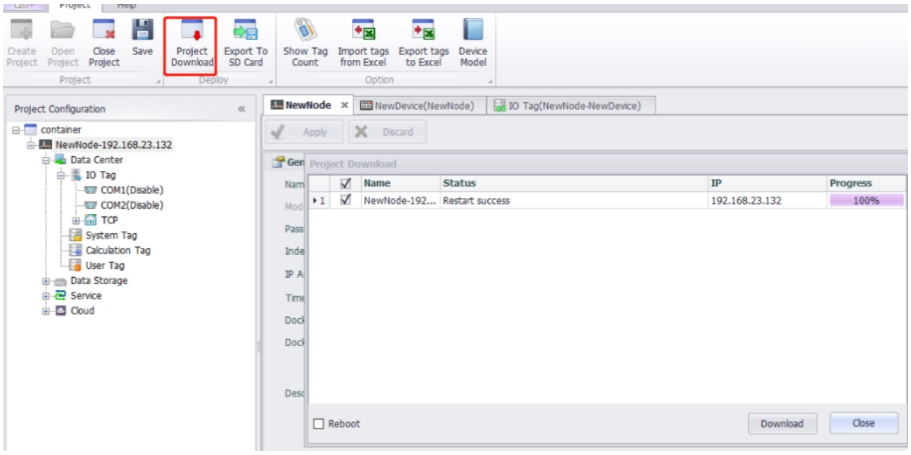
2) Configure the required functions in the project. (For help, refer to the Project Implementation section).

The following is an example of collecting data from a Modbus/TCP slave device:

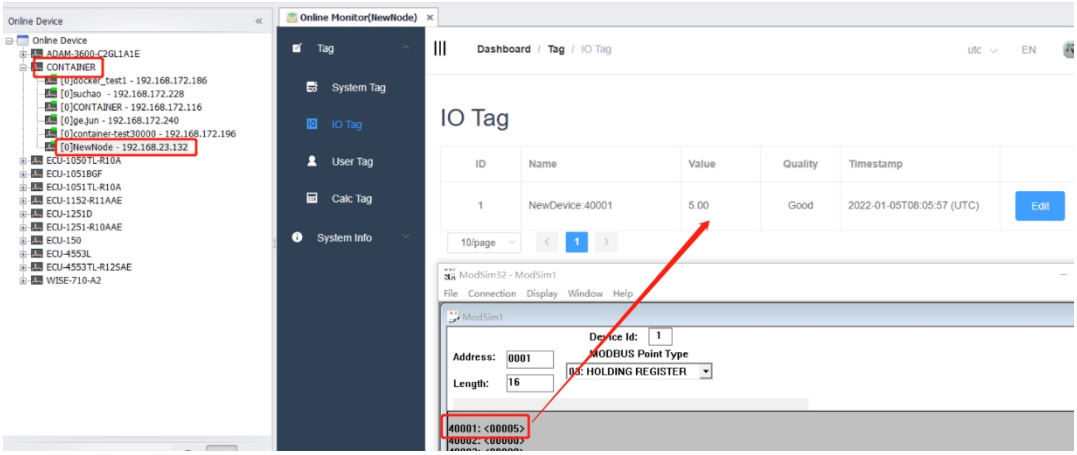
It simulates a Modbus/TCP device by Modsim on the PC, and then collects data by EdgeLink (Container version).



3) Download the project after the configuration is complete.



3. View the results



4. Container checking command

1) edgelink-docker service management

   1 stop edgelink-docker

   systemctl stop edgelink-docker

   2 start edgelink-docker

   systemctl start edgelink-docker

   3 restart edgelink-docker

   systemctl restart edgelink-docker

   4 boot disable edgelink-docker

   systemctl disable edgelink-docker

   5 boot enable edgelink-docker

   systemctl enable edgelink-docker

2) Check Container status

   docker ps

3) Enter the container in the host computer.

   Because container share the network with the host computer (this Ubuntu). Needs the command below to enter.

   docker exec -it edgelink /bin/bash

```
fuyu@ubuntu:~$ docker exec -it edgelink /bin/bash
root@ubuntu:/#
```

   Using “exit” to exit the container to the host PC.

```
fuyu@ubuntu:~$ docker exec -it edgelink /bin/bash
root@ubuntu:/# exit
exit
fuyu@ubuntu:~$
```

4) Check the system log of container (you should enter the container first)

   tail -F /var/log/syslog

```
root@ubuntu:/# tail -F /var/log/syslog
Jan  6 05:58:23 ubuntu DataCenter: [elic_mgr_sdk.c:339:elic_mgr_entity_validate
] no validate_result field
Jan  6 05:58:30 ubuntu DataCollector: DevWebAccess comm_stop: StopDriver on MOD
_DEV
Jan  6 05:58:31 ubuntu DataCollector: DevWebAccess comm_start: StartDriver on M
OD_DEV
Jan  6 05:58:33 ubuntu DataCenter: [elic_mgr_sdk.c:339:elic_mgr_entity_validate
] no validate_result field
Jan  6 05:58:40 ubuntu DataCollector: DevWebAccess comm_stop: StopDriver on MOD
_DEV
```