# ORiN Data Collector

Version 1.0.2

# User's guide

October 20, 2021

Remarks:

## [Revision History]

| Version | Date | Content |
|---|---|---|
| 1.0.0 | 2018-09-05 | First edition. |
| 1.0.1 | 2019-03-29 | Fixed layout of location parameters in English mode. |
| 1.0.2 | 2021-10-20 | Changed chapter structure, added connection method. |
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## Contents

# 1. Introduction

ORiN Data Collector is a communication module that can collect, read, and write data from multiple FA devices (robots, PLCs, sensors, etc.) by using the "CaoSQL" function provided by ORiN version 2 (hereinafter referred to as ORiN2).

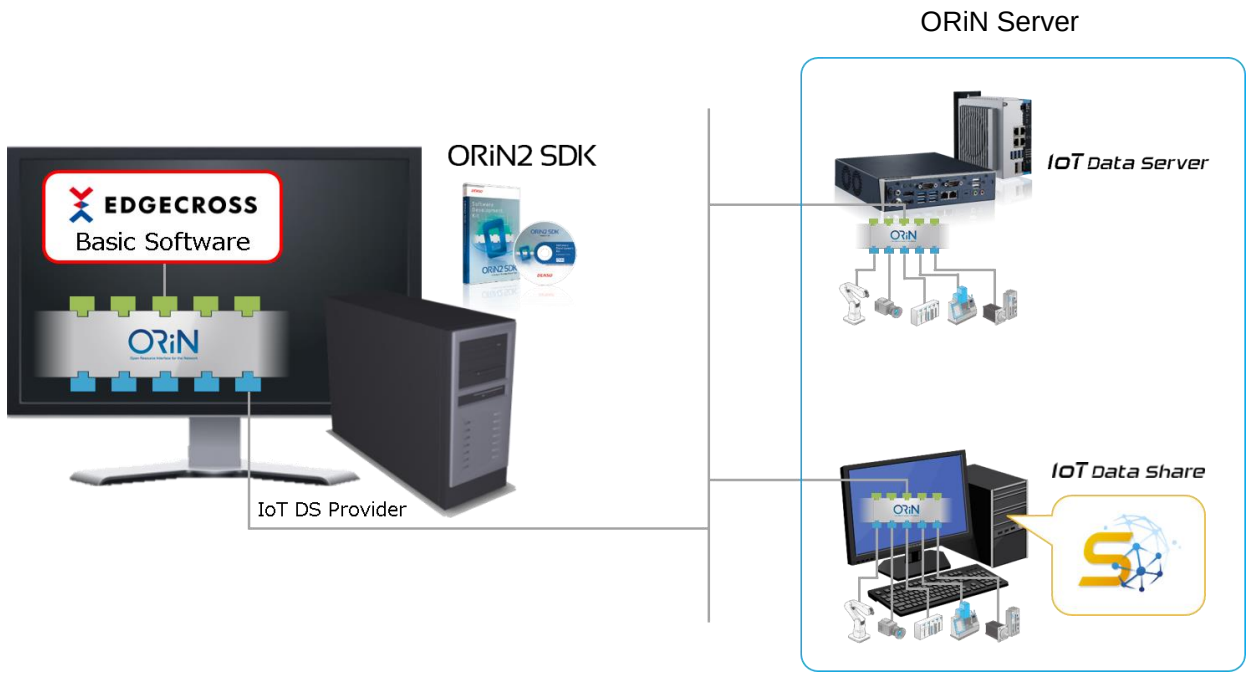
Products that implement ORiN2 functions include DENSO WAVE's IoT Data Share and IoT Data Server, and by using the ORiN Data Collector, you can connect to these products and expand the connectivity of Edgecross basic software.

For more information about DENSO WAVE's products, please refer to the following links.

https://www.denso-wave.com/en/system/iot/

## 1.1. Connection target

ORiN Data Collector connects to "the PC on which IoT Data Share is installed" and "IoT Data Server" (hereinafter referred to as the ORiN server).



# 2. Setup of ORiN Data Collector

## 2.1. Install the software required for execution

In order to use the ORiN data collector, you need to install the following software.

- Edgecross basic software
- ORiN2 SDK (Runtime + Utilities Set or higher grade)

## 2.2. Install the ORiN Data Collector module

Execute install.bat in the following folder with administrator privileges.

{folder where ORiN2 SDK is installed}/CaoSQL/Edgecross/DataCollector/DCforORiN2CaoSQL/Bin The files necessary to run the ORiN data collector will be extracted and the ORiN data collector can be used from Edgecross basic software.

# 3. How to connect

ORiN Data Collector uses IoT DS provider included in ORiN2 SDK to connect to the ORiN server.

In order to use ORiN Data Collector to retrieve data, the connection must meet the following conditions.

- IoT Data Share must be installed
- The ORiN server must be running
- The project must be running

## 3.1. Connecting to IoT Data Share

To communicate with the ORiN server from ORiN Data Collector, make the following preparations on your PC.

1. Network settings
2. Project creation
3. ORiN server settings
4. Starting the Project

### 3.1.1. Network settings

Configure the network settings of your PC.

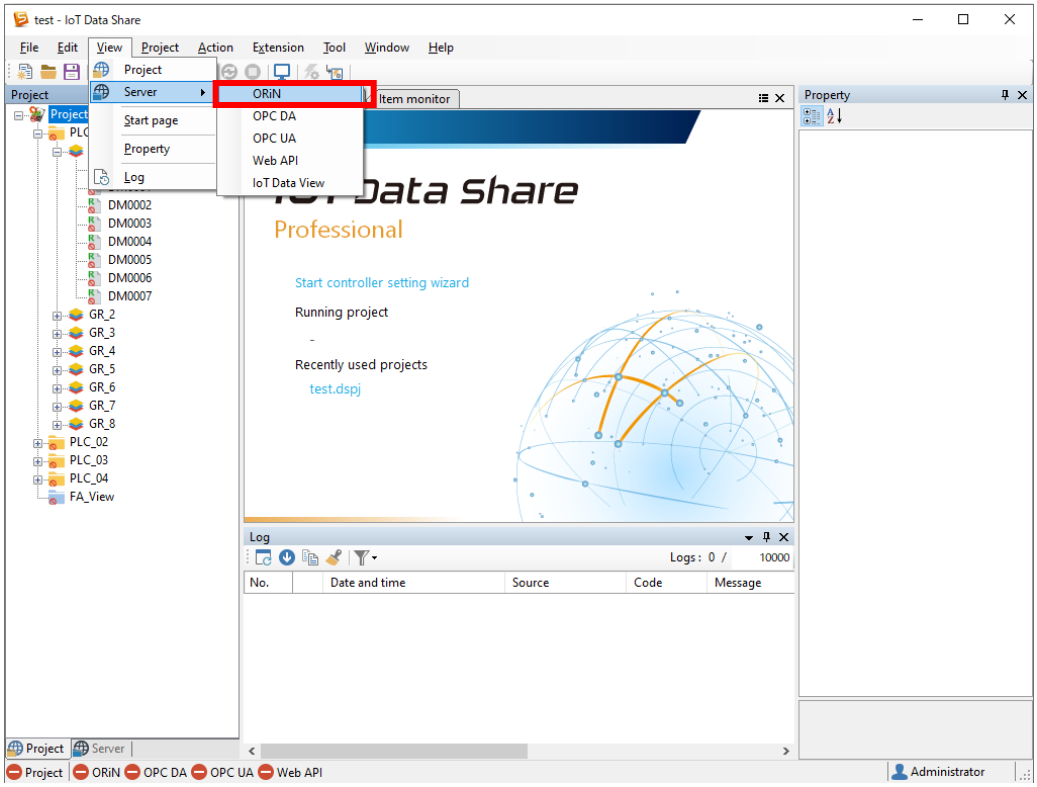
The IP address should be the same network as the PC on which Edgecross basic software is installed.

### 3.1.2. Project creation

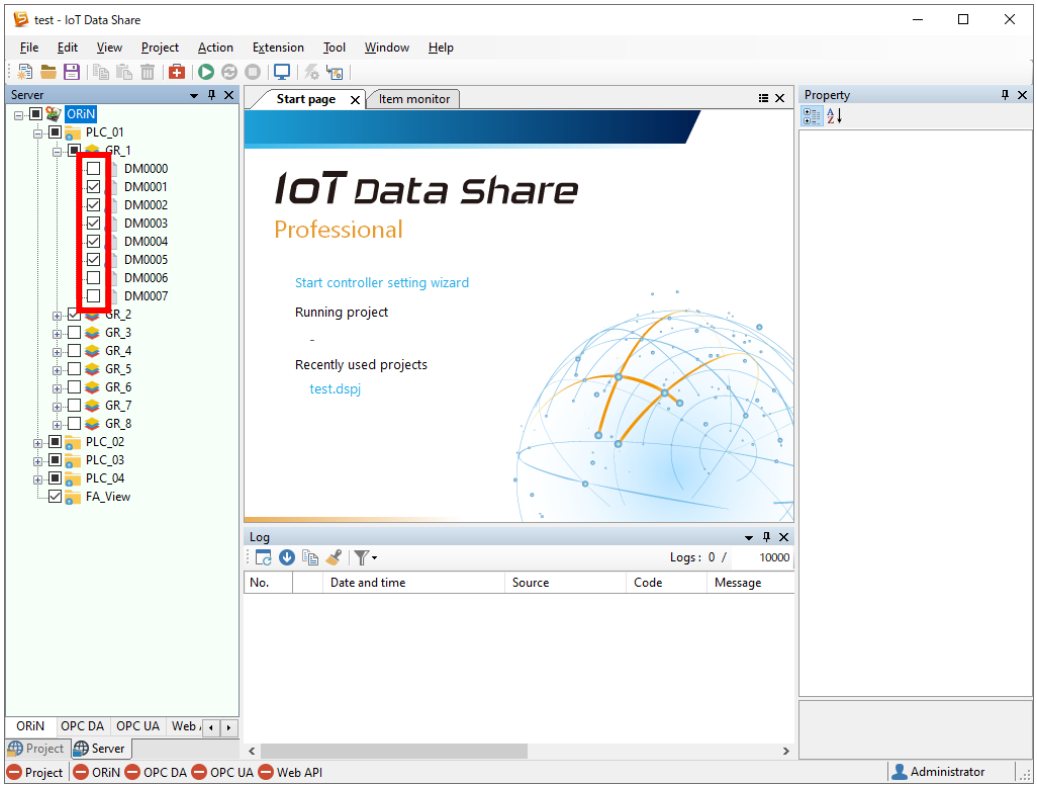
Create a project in IoT Data Share.

For information on how to create a project and basic settings, please refer to the "IoT Data Share User's Guide" that comes with IoT Data Share installation.

After completing the creation of controllers and items, open the Server settings from [View] -> [Server] -> [ORiN] on the screen.

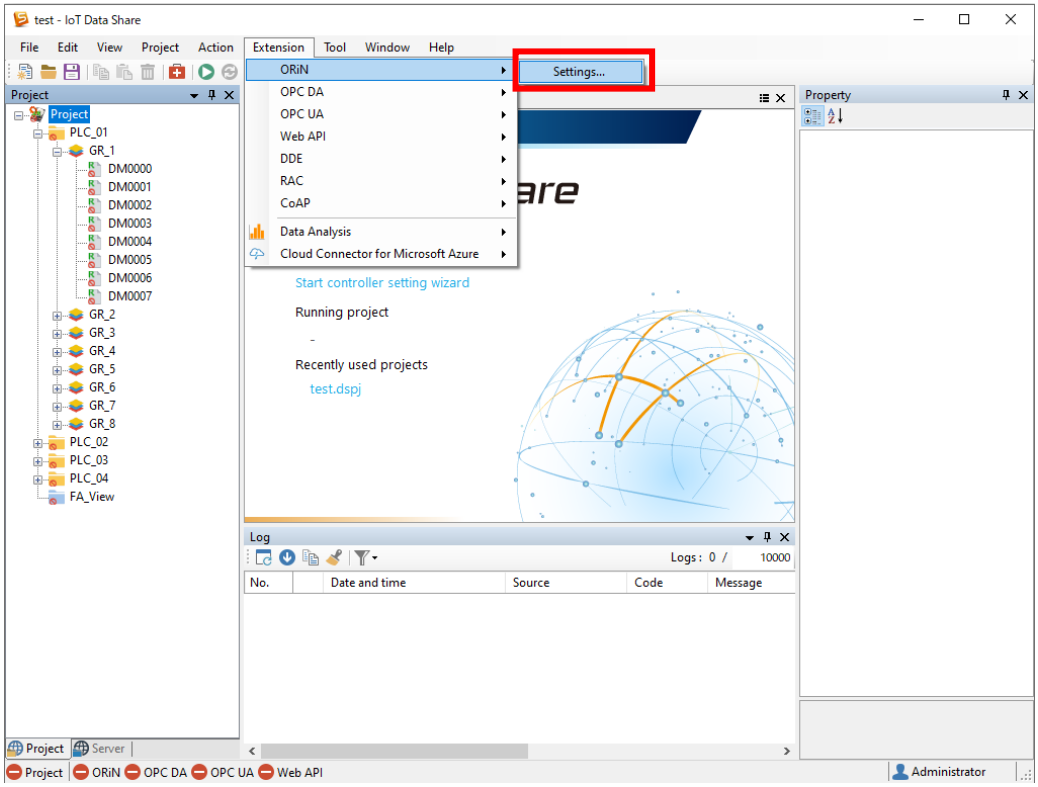



Check the items you want to publish to the ORiN server.

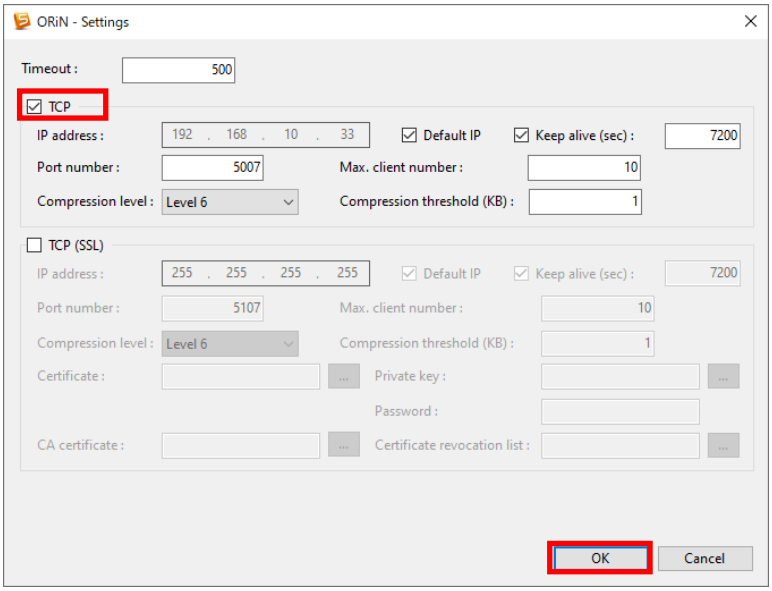


### 3.1.3. ORiN server settings

On the screen, click [Extension] -> [ORiN] -> [Settings] to configure the ORiN server settings.

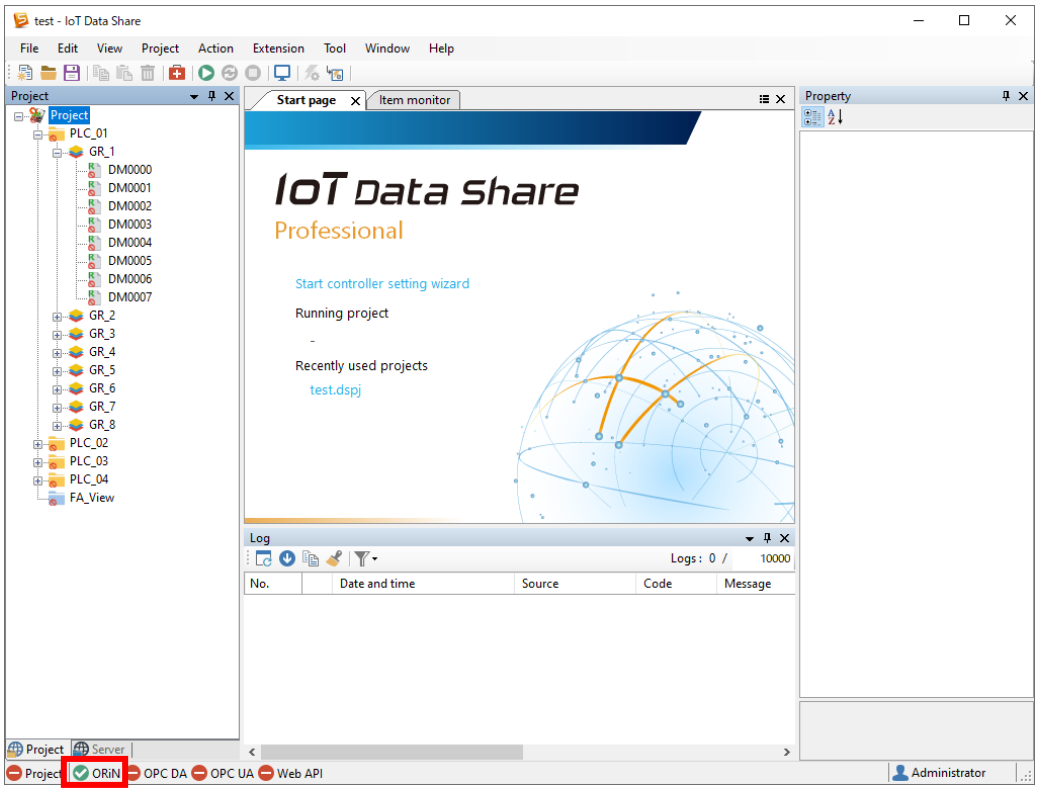



Check "TCP", enter the necessary information, and click "OK".



After confirming the contents, click [File]->[Save Project] to save the project.

Confirm that the ORiN symbol on the status bar has changed from "⛔" to "✅".




***Note**

In order to allow connections from external devices, firewall settings are required. bCapService.exe must be excluded by Windows Firewall.

bCapService.exe is stored in the following folder.

{ORiN2 SDK installed folder}/CAO/ProviderLib/b-CAP/bCAPListener/Bin/

### 3.1.4. Starting the Project

Start the project in IoT Data Share or IoT Data Share Manager Console.

For details on how to start the project, please refer to "IoT Data Share User's Guide" and "IoT Data Share Manager User's Guide" included with IoT Data Share installation.

## 3.2. Connecting to IoT Data Server

To communicate with the ORiN server from ORiN Data Collector, make the following preparations on IoT Data Server to be connected.

1. Network settings
2. Project creation
3. ORiN server settings
4. Starting the Project

### 3.2.1. Network settings

Set the network settings from [System Settings] on the IoT Data Server initial screen.

The IP address should be the same network as the PC on which Edgecross basic software is installed.

For more information about network settings, please refer to the "IoT Data Server User's Guide" that comes with IoT Data Server.

### 3.2.2. Project creation

Create a project in IoT Data Share from [Edit Project] on IoT Data Server initial screen, or send the created project to IoT Data Server from [Tools] -> [IoT Data Server Tools] -> [Send Project] in IoT Data Share.

To create a project, refer to "3.1.2 Project creation."

For details on sending a project, refer to the "IoT Data Share User's Guide" that comes with the IoT Data Share installation.

### 3.2.3. ORiN server settings

Configure the ORiN server settings from [Edit Project] on the initial screen of IoT Data Server. ORiN server settings for the IoT Data Server are configured in the same way as for the IoT Data Share, so refer to "3.1.3 ORiN server Settings".

### 3.2.4. Starting the Project

Start the project from the [Project List] of the IoT Data Server initial screen.

For details on how to start a project, refer to the "IoT Data Server User's Guide" that comes with the IoT Data Server.

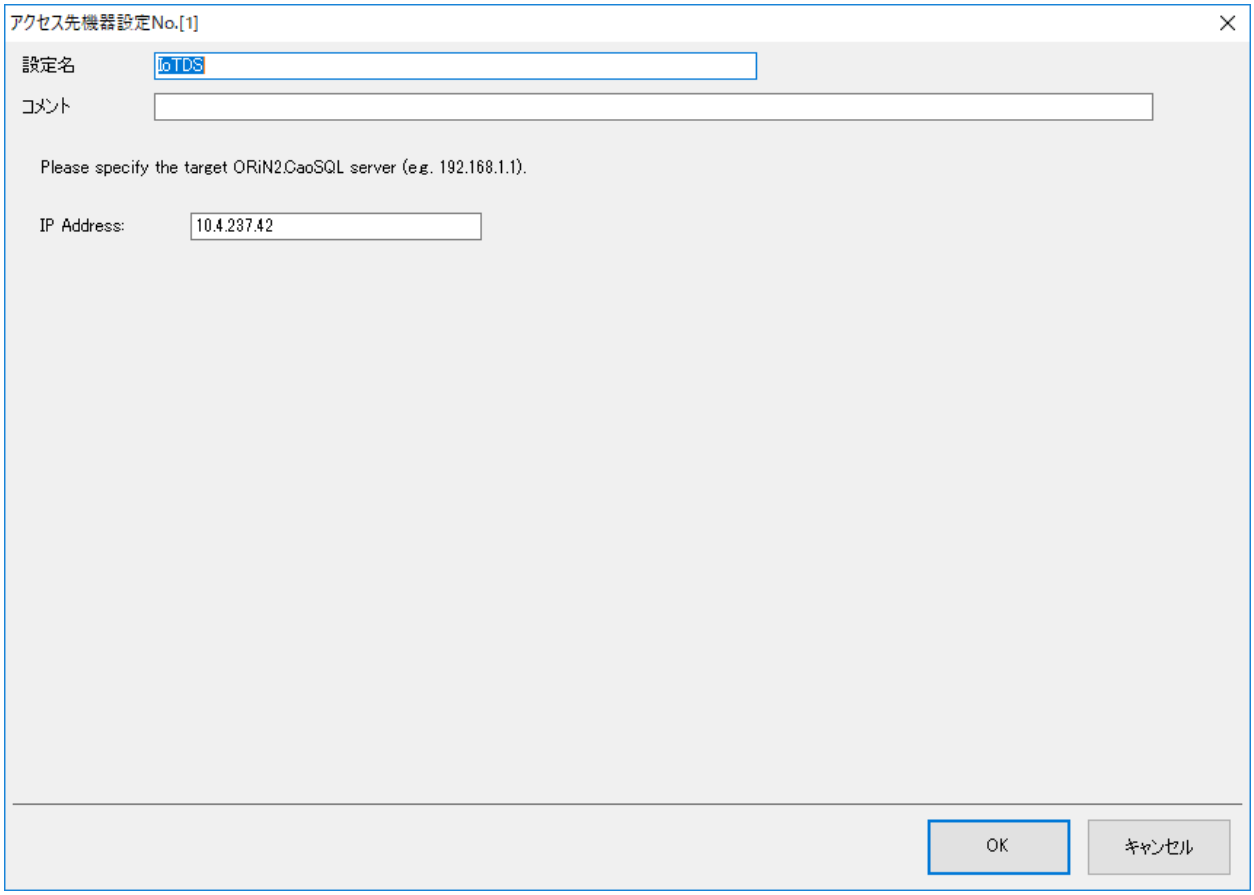
# 4. How to set the data collector

Configure the settings to connect to the ORiN server from the Edgecross basic software.

## 4.1. Access destination setting screen

Enter the configuration name and comments.

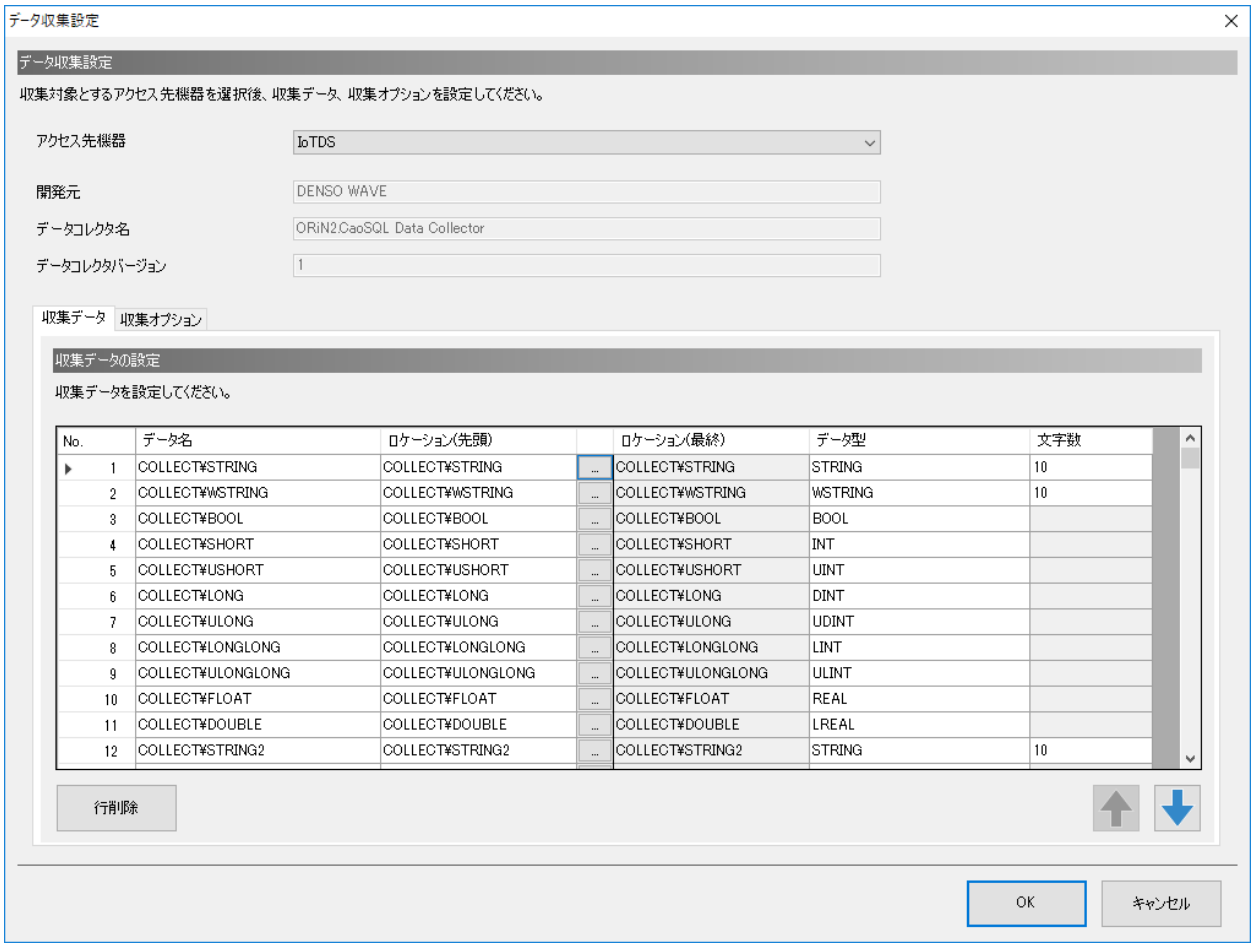
For the IP Address, specify the IP address of the "PC on which the IoT Data Share project is running" or the "IoT Data Server".



## 4.2. Data Collection Settings Screen

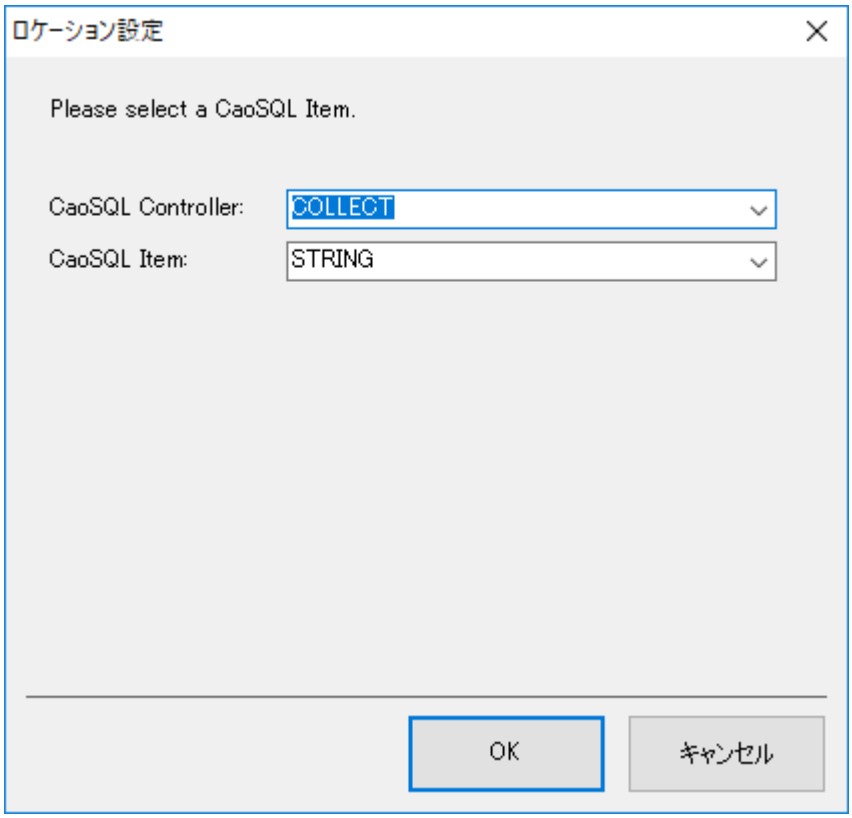
### 4.2.1. Collected data setting screen

To collect data, specify the controller and items configured in IoT Data Share.



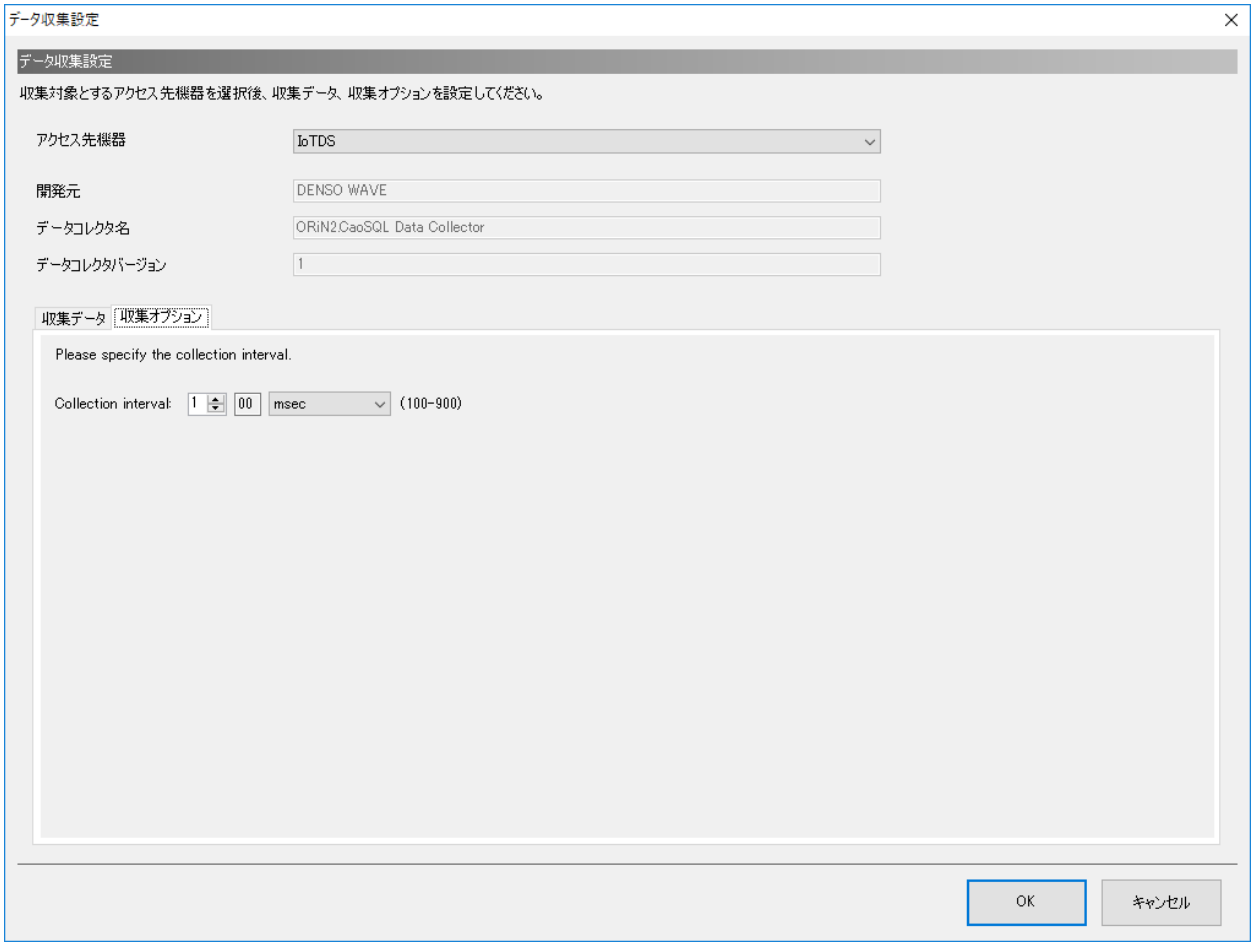
Click the "..." button on the right side of the Location column to open the Location Selection screen. Specify the controller name for CaoSQL Controller and the item name for CaoSQL Item.

CaoSQL Controller and CaoSQL Item can also be selected from drop-down lists.



### 4.2.2. Collecting options screen

Specify the interval at which ORiN Data Collector collects data.



# 5. Error Code list

ORiN Data Collector defines its own error codes as follows.

| Error code | Error description | How to respond |
|---|---|---|
| 0x2004 | The name of the CaoSQL item set in the location is invalid. | Please review the settings. |

# 6. Event Code list

ORiN Data Collector defines its own event codes as follows.

| Event code | Event description | Remarks |
|---|---|---|
| 0x3001 | Connection to CaoSQL has been established. | Successfully connected. |
| 0x3002 | Communication with CaoSQL has been disconnected. | If this event occurs during collection, please check the following items.<br><br>Check that CaoSQL and ORiN server are running.<br>Check the network status.<br><br>Check the network status. ORiN server will automatically reconnect when it is ready to connect to CaoSQL. |
| 0x3003 | Failed to convert data type when getting values. | If this event occurs, please check the following items.<br><br>If this event occurs, check the following items: Check the value of the CaoSQL item. |
| 0x3005 | Failed to read values from CaoSQL. | If this event occurs, please check the following items.<br><br>Review the status of items in CaoSQL. |
| 0x3006 | Failed to write value to CaoSQL | If this event occurs, please check the following items.<br><br>Review the status of items in CaoSQL. |