Developed By

Social Area Networks Co.,Ltd.

IoT Edge Server

SOCAN-AG4-JPN

Getting Started Guide

SOCAN-AG4-JPN
Getting Started Guide

Rev 1.1

1. Product Information

1.1. Document Revision History

Rev	Date	Details
1.0	Jan10, 2025	Initial release
1.1	Jan29, 2025	Add AWS logo

2. Overview

SOCAN-AG4-JPN is a compact all-in-one server designed to enable IoT solutions.

This server features essential interfaces for IoT environments, including LoRa, LTE, and USB. Powered by the NVIDIA Jetson Nano as its processing unit, it leverages the Nano's powerful GPU capabilities to deliver advanced edge computing performance.

3. Hardware description

3.1. Datasheet

You can access the product datasheet via the following link:

SOCAN-AG4-JPN_ProductBrief

3.2. Standard kit contents

his server is bundled with the following items.

name	quantity	remarks
SOCAN-AG4-JPN	1	Ubuntu pre-installed
AC Adapter	1	Japan certification compliant
LTE External Antenna	1	
LoRa External Antenna	2	

3.3. User provided items

Before setting up the device, please ensure you have the following items ready. These items are necessary for proper installation and usage.

name	remarks
Ethernet cable	To connect network
USB cable	[Optional] for debugging purposes

3.4. 3rd party purchasable items

None. All required components are included with the product package.

4. Set up your development environment

4.1. Tools installation

For server development, only the following tools are required:

SSH client: To access and manage the server.

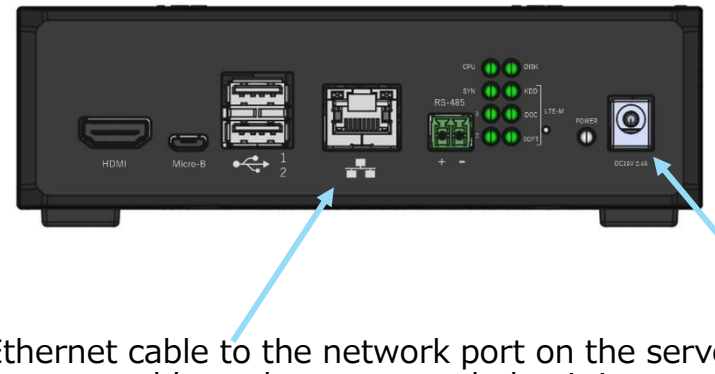
Text Editor: For editing configuration files and code, such as Vim, Nano, or Visual Studio Code

Since these tools are commonly available on most operating systems, installation instructions are not included.

5. Set up device hardware

5.1. Cable connection Guide

To start the server, follow the steps below to connect the necessary cables and power it on:



1. Attach the Ethernet cable to the network port on the server.
2. Connect the power cable to the server and plug it into a power outlet.

5.2. Power ON/OFF

This server powers on automatically when the AC adapter is connected.

To safely shut down the server, use the shutdown command via the SSH console.

Example command:

```
$ sudo shutdown
```

5.3. Initial setup information

The following provides the initial setup information for this server.

Use SSH to establish a connection.

Item	Setting Values	remarks
IP address	192.168.55.1/24	
Login Username	user	
Login password	user	

6. AWS IoT core

6.1. Setup your AWS account and permissions

If you do not have an existing AWS account and user, refer to the online AWS documentation at Set up your AWS Account. To get started, follow the steps outlined in the sections below:

- Sign up for an AWS account
- Create an administrative user
- Open the AWS IoT console

Pay special attention to the Notes.

6.2. Create resources in AWS IoT

Refer to the online AWS documentation at Create AWS IoT Resources. Follow the steps outlined in these sections to provision resources for your device:

- Create an AWS IoT Policy
- Create a thing object

Pay special attention to the Notes.

6.3. Provision the device with credentials

Refer to the online AWS documentation.

Follow the steps outlined in these sections to provision the device.

- Download files to your device

6.4. Building and Running the demo

To test device connectivity to AWS IoT Core, please follow the steps outlined here.

- Use your Windows or Linux PC or Mac as an AWS IoT device - AWS IoT Core.

7. AWS IoT Greengrass

7.1. About AWS IoT Greengrass

To learn more about AWS IoT Greengrass, see How AWS IoT Greengrass works and What's new in AWS IoT Greengrass Version 2.

7.2. AWS IoT Greengrass prerequisites

Refer to the online documentation detailing the prerequisites needed for AWS IoT Greengrass. Follow the instructions in the following sections:

Step 1: Set up an AWS account

Step 2: Set up your environment

7.3. Install AWS IoT Greengrass

Follow the online guide to *Install with automatic provisioning*. Refer to the instructions in the following steps:

- Set up the device environment
- Provide AWS credentials to the device. For development environments, you can use the option "Use long-term credentials from an IAM User". An example of how to do this is shown below:

  export AWS_ACCESS_KEY_ID=<the access key id for your user>

  export AWS_SECRET_ACCESS_KEY=<the secret access key for your user>
- Download the AWS IoT Greengrass Core software
- Install the AWS IoT Greengrass Core software

7.4. [AWS IoT Greengrass] Create a "Hello World" component

7.4.1. Create the component on your edge device

Follow the instructions online under the section Develop and test a component on your device to create a simple component on your device.

7.4.2. [AWS IoT Greengrass] Upload the "Hello World" component

Follow the instructions online at Create your component in the AWS IoT Greengrass service to upload your component to the cloud, where it can be deployed to other devices as needed.

7.4.3. Deploy your component

Follow the instructions online at Deploy your component to deploy and verify that your component is running.

8. Troubleshooting

This product is designed to be simple and easy to use, thanks to its Linux-based architecture. Linux provides a stable, reliable, and widely supported platform, making it easy for both beginners and advanced users to operate the system.

If you encounter any issues or need assistance, please feel free to contact us.

9. Contact us

For inquiries about specifications or the usage of this or other products, please contact us at the following.

contact@harmonix-it.co.jp