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Tuya PLC Gateway Development Framework Software



Specifications

- Product: PLC Sub-Device Connectivity
- Version: 20250317
- Online Version

Product Information

Power Line Communication (PLC) sub-device connectivity is designed to help you easily develop PLC gateways. Tuya's hardware and software-integrated solution provides a PLC module and software implementation, allowing you to build a PLC gateway with no code and connect to PLC sub-devices in the Tuya ecosystem. This topic describes how to use the PLC features with the TuyaOS Gateway Development Framework.

Background Information

Developing a PLC gateway has a high barrier to entry and a long development cycle. Tuya's hardware and software-integrated solution makes complicated gateway development simple. Even if you do not have any PLC knowledge, you can build a PLC gateway cost-effectively. Connect your hardware to Tuya's PLC module through the serial port and enable PLC features in the software. Then, your product becomes PLC-capable and can connect to Tuya-enabled sub-devices.

Development Guide

This section describes how to enable PLC features with the TuyaOS Gateway Development Framework by making API calls. Two interfaces are used to enable PLC features: PLC initialisation `tuya_plc_svc_init` and PLC startup `tuya_plc_svc_start`. They have the same parameters in JSON used for configurations.

Configuration Description

Fields in the JSON data:

Field	dev name	Cts	baud rate	Description
Specifies the serial port number.	—	—	—	Specifies the serial port number used for communication.
Specifies whether to enable hardware flow control.	—	1 : Enable 0 : Disable	—	Whether to enable hardware flow control depends on the PLC module you use.
Baud rate for serial communication	—	—	Set according to PLC requirements	The baud rate for serial communication between the PLC module and the gateway's microcontroller chip.

Example

```

1 // ...
2 #include "user_plc_svc.h"
3 int main(int argc, char **argv)
4 {
5     ty_cJSON *app_cfg = ty_cJSON_CreateObject();
6     if (app_cfg == NULL) {
7         return OPRT_CJSON_GET_ERR;
8     }
9     ty_cJSON_AddStringToObject(app_cfg, "storage_path", ".");
10    ty_cJSON_AddStringToObject(app_cfg, "cache_path", "/tmp/");
11
12    // Set a storage path
13    TUYA_CALL_ERR_RETURN(tuya_set_config(app_cfg));
14
15    ty_cJSON *plc_cfg = ty_cJSON_CreateObject();
16    if (plc_cfg == NULL) {
17        return OPRT_CJSON_GET_ERR;
18    }
19    ty_cJSON_AddStringToObject(plc_cfg, "dev_name", "/dev/ttyS2");
20    ty_cJSON_AddNumberToObject(plc_cfg, "cts", 1);
21    ty_cJSON_AddNumberToObject(plc_cfg, "baud_rate", 921600);
22
23    // Initialize the PLC service
24    TUYA_CALL_ERR_RETURN(tuya_plc_svc_init(plc_cfg));
25
26    // Start the PLC service
27    TUYA_CALL_ERR_RETURN(tuya_plc_svc_start(plc_cfg));
28
29    // ...
30
31    return 0;
32 }

```

FAQs

Q: What is the purpose of the PLC Sub-Device Connectivity?

A: The purpose is to help users easily develop PLC gateways and connect to PLC sub-devices in the Tuya ecosystem.

Documents / Resources

 PLC Sub-Device Connectivity	tuya PLC Gateway Development Framework Software [pdf] User Guide PLC Gateway Development Framework Software, Gateway Development Framework Software, Development Framework Software, Framework Software
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References

- [User Manual](#)

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Development Framework Software, Framework Software, Gateway Development Framework Software, PLC Gateway Development Framework Software, tuya

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