What is PHPoC Debugger?

PHPoC Debugger

PHPoC Debugger is a software used for development and management of PHPoC Products. It is required to install this program before using PHPoC.

• Go to Download PHPoC Debugger

Features of PHPoC Debugger

- Upload files from local PC to PHPoC
- Save files which are in PHPoC to local PC
- Edit files stored in PHPoC
- Debug PHPoC scripts
- Monitor PHPoC's resources
- Configure PHPoC's parameters
- Upgrade Firmware of PHPoC
- Support Platform: MS Windows

User Interface

User Interface



1. Menu bar

Menu	Menu Sub menu Description		
	New	Create a new php file	
Filo	Upload a poc file	Upload a poc format file	
FILE	Save selected file(s)	Save selected files in file list to local PC	
	Save a poc file	Save all files in file list to local PC (.poc)	
	Undo	Undo the latest job	
	Redo	Redo the latest job undone	
	Cut	Cut the selected text and copy it to the	
	Cut	clipboard	
	Сору	Copy the selected text to the clipboard	
Edit	Paste	Paste text from the clipboard	
Luit	Select all	Select all texts	
	Find	Find the specified text	
	Find Next	Find the next text by down direction	
	Find Previous	Find the next text by up direction	
	Change	Replace the specified text with given text	
	Preferences	Program preference	
	System information	Product/Firmware, Flash files, IP Address,	
	System mornation	Wireless LAN, ARP/NDC Table, PDB Net	
	Smart expansion board	Smart expansion board information and	
	information	Check for updates menu	
	View error log	PHP, Firmware, SYS/Stdout tx	
Function	Reboot a product	Reboot a product	
runction	Firmware Debug mode	Enable/disable Firmware debugging mode	
	PHP Debug mode	Enable/disable PHP debugging mode	
	Font	Change font	
	Language	Change language	
	Software information	Information about PHPoC Debugger and	
	Software information	Check for update button	
	Debugger manual(online)	Go to PHPoC debugger manual page	
help	PHPoC manual(online)	Go to manual page of phpoc.com	
	Forum	Go to PHPoC forum	

• Preferences

Menu	Sub menu	Description
	View margin	Show/hide margin
	View line number	Show/hide line number on margin
View	View current line	Enable/disable current line emphasis
	Line ratio	Set line space:
	Line fatto	100, 120, 150, 200, 300
	Tab size	Set tab size: 1, 2, 4, 8, 16
	Internal editor	Use the internal editor
Action of file add	External editor	Use an external editor
	Ask	Show select option every time
Backup path		Path of backup files and log files
Initialization	Enter initialization mode	Set product to initialization mode
Undating the Debugger	Automatically check	Check for the updates every time
opualing the Debugger		debugger runs
mDNS service subtype		mDNS service subtype

2. COM PORT

Part for choosing a virtual USB COM port

3. Buttons

Button	Description
	Connect to PHPoC product
▲ ⊽	Disconnect from PHPoC product
\$	Configure environmental values of PHPoC product
2	Upload files on [File list] to PHPoC product
	Stop running PHPoC codes
	Run/pause PHPoC codes
	Run line by line
	Run procedure by procedure

4. File list

List of files saved PHPoC product or to be uploaded.

Icon	Description	
	Synchronized files	
	Files on PHPoC product before synchronization	
	Files on local PC before synchronization	
	Synchronized files on local PC for external editors	

The following menus will be popped up when right clicking on file list area.

Menu	Description	
Run	Run the script selected immediately	
Change the filename	Modify a file name	
Delete	Delete files on the list	
File information	Show the information of a selected file	
New	Create a new php file	
Add	Add files from local PC	
Change firmware	Upload the firmware selected to PHPoC	

5. Editor

Showing and editing contents of selected file on the file list. The following menus will be popped up when right clicking on editor area.

Menu	Description	Shortcut
Toggle Breakpoint	Set / Unset break point on current line	F9
Remove All Breakpoints	Unset all break points on current file	Shift+F9
Step Into	Run line by line	F11
Step Over	Run procedure by procedure	F10
Run to the current line	Run and pause before executing the current line	-
Cut	Cut the selected codes and copy it to the clipboard	Ctrl+X
Сору	Copy the selected codes to the clipboard	Ctrl+C
Paste	Paste codes from the clipboard	Ctrl+V
Select all	Select all codes	Ctrl+A

6. Flash memory size

This shows currently available or in-use space on flash memory of PHPoC product.

7. Output / FW Log

This window is for displaying standard output and F/W log messages. The following menus will be popped up when right clicking on the windows.

Menu	Description
Delete all logs	Clear screen buffer
Сору	Copy the selected log to the clipboard
Auto scroll	Set / Unset auto scroll
Delete logs at run time	Clear screen buffer every time the script runs
Save logs	Save the log in the Output window and FW Log window as a file in the Backup path.

8. Watch / Resource

This window is for checking run time variable information and system resources. The following menus will be popped up when right clicking on the watch window.

Menu	Description
Add	Add a variable
Modify	Modify a name of the selected variable
Delete	Delete the selected variables
Delete all	Delete all variables
Detail	Create a new window for detailed information

Installation

1. Downloading PHPoC Debugger

Download PHPoC Debugger on the link below.

- Go to the Download Page
- 2. Running the Installation File

Unzip and run the installation file.

3. Press the "Next" button.



4. Select the "I accept the terms in the license agreement" option.



5. Press the "Next" button.

1	PHPoC - InstallShield Wizard	\times
	License Agreement	
	Please read the following license agreement carefully.	
	Exemption from Liability	~
	In no event shall Sollae Systems Co., Ltd. and its distributors be liable for any damages whatsoever (including, without limitation, damages for loss of profit, operating cost for commercial interruption, loss of information, or any other financial loss) from the use or inability to use products with PHPoCD even if Sollae Systems Co., Ltd. or its distributors have been informed of such damages. The products is not designed and not authorized for use in military applications, in nuclear applications, in airport applications or for use in applications involving explosives, or in medical applications, or for use in security alarm, or for use in a	~
	I <u>a</u> ccept the terms in the license agreement I <u>d</u> o not accept the terms in the license agreement	
Ir	nstallShield	
	< <u>B</u> ack <u>N</u> ext > Cancel	

6. Press the "Install" button.

DUDaC JastallChield Warred	~
PHPOC - Instalishield Wizard	×
Ready to Install the Program The wizard is ready to begin installation.	L
Click Install to begin the installation.	
If you want to review or change any of your installation settings, dick Back. Click exit the wizard.	Cancel to
InstallShield	
< <u>B</u> ack <u>I</u> nstall	Cancel

7. Press the "Next" button.

Device Driver Installation Wizard			
	Welcome to the Device Driver Installation Wizard! This wizard helps you install the software drivers that some computers devices need in order to work.		
	< <u>B</u> ack <u>N</u> ext > Cancel		

8. Press the "Finish" button.

Device Driver Installation Wizard			
	Completing the Device Driver Installation Wizard		
	The drivers were successfully installed on this computer.		
	You can now connect your devi came with instructions, please re	ice to this computer. If your device ead them first.	
	Driver Name	Status	
	STMicroelectronics (usb	Ready to use	
	< <u>B</u> ack	Finish Cancel	

9. Press the "Finish" button.

₿ PHPoC - InstallShield Wizard ×				
	InstallShield Wizard Completed The InstallShield Wizard has successfully installed PHPoC. Click Finish to exit the wizard.			
	< <u>B</u> ack <u>Finish</u> Cancel			

Preparation

1. Install the PHPoC Debugger

Download and install PHPoC Debugger referring to the Installation chapter.

2. Connect the PHPoC to PC

Connect the device port of PHPoC to your PC via a USB cable.



3. Run the PHPoC Debugger



% If the USB connection can be disconnected due to unexpected external noise such as static electricity. In this case, you will show the message "It is disconnected from the product. Do you want to connect to it again?" and it will try to connect it again when pressing the "YES" button.

Uploading Files to PHPoC

Php files in local PC can be uploaded to PHPoC.

How to Add Files to File list

• Drag & Drop

Select and drag files on Window explorer to file list box and drop them.



Add menu

If you click [Add] after right-clicking in the file list box, a window for selecting files will be created. Selected files on the windows will be added to the file list



Upload files

Files in the file list will be uploaded to P4S-341 by clicking upload (is completed, both files on the file list and in P4S-341 are synchronized and the icons are changed to (💭).

File list	
🚞 lib	
🚞 mmap	
init.php	
test.php	
	- mmr

Tile liet

Upload an Integrated File(.poc)

You can upload an integrated file (.poc) with procedures below.

1. Click [File] > [Upload a poc file] menu.



2. Click [Open] after selecting a poc file.



3. Click [Upload flash files] button.

Upload a POC file	x
Path C:\Users\Roy\Downloads	[†] 20160909₩p4s_flash.poc Open
View content	Filter Flash files 🔹
lib/sd_340.php lib/sn_tcp_ws.php	
	Upload flash files Cancel

4. Choose yes or no about deleting existing flash files.

X Caution: If you choose [Yes], all flash files stored in PHPoC are deleted.



5. Click [OK] to finish upload a poc file



Downloading Files to PC

Downloading Files to PC

1. Select files in file list



2. Click [File] > [Save selected file(s)]menu on menu bar



3. Choose a path and click [OK] button.



Save as a Integrated file (.poc)

When you want to save all files on the file list as a single file, use [Save a poc file] menu.



".poc" is filename extension. Input filename and click [Save] button.



Practice

Create init.php

Notice : Operation of PHPoC

PHPoC searches init.php file after booting. If PHPoC fails to find a file named init.php, it does not run any code. Therefore, you need to make or upload init.php to the file system of PHPoC. You can write main scrip to init.php but PHPoC runs the file only once. If you wants to run their code more than once, write the main script in another file.

wants to run their code more than once, write the main script in another file and load the file by using "php" command of system function. A file loaded by system function is repeatedly run even execution is ended.

• Click file list with the right button of your mouse and select [New] menu.



• Input "init" into the file name box.

New			×
Filename	init		
		Create	Cancel

• Select init.php file in the file list.

COM Port COM5	1 php<br 2 3 ?>
È lib ∰ mmap ∰ init.php 💭	

• Input the following command lines into the editor.



- Click upload button(
- After PHPoC finishes uploading files, icon will be changed. ($\bigotimes \rightarrow \bigotimes$)

Excecute Scripts

PHPoC automatically runs a script when it boots up or uploads file system. You can find the result in the Output window of PHPoC Debugger.

Output FW Loo
Hello PHPoC

% If [PHP debug mode] option of PHPoC Debugger is enabled, PHPoC does not execute a script

automatically. You can manually run the script by clicking the Run button.

Using PSP Examples

PHPoC Support Package (PSP) contains libraries and example codes. This package is provided to help you use PHPoC conveniently. Before starting test run, download it in your local PC.

• Go to the Download Page

Choosing an Example

PSP contains many examples using various sensors. Choose an example you are interested in and upload the files to PHPoC. There are three categories.

• basic task examples

These examples require uploading both "init.php" and "task0.php".

• web task examples

These examples require uploading "index.php" and a set of image files if there are any.

• both basic and web task examples

These examples require uploading "init.php", "task0.php" and "index.php" including a set of image files if there are any.

Using Examples

- Find and upload 00.hello example in the p4s/01.php_task folder.
- You can find a result message right after uploading the files.



Using an External Editor

In case that you do not want to use PHPoC Debugger's internal editor but external editor, just set [External editor] option of [action of file add] item on preferences window.

	Undo .				
01	Undo	Ctrl+Z			
	Redo	Ctrl+Y	2php		
2	Cut	Ctrl+X	i prip	references	
e	Сору	Ctrl+C	cho "hello, wo	View	
3 K	Paste	Ctrl+V		View margin	
	Select all	Ctrl+A	>	View line number	
1	Find	Ctrl+F		Line ratio 120 V	
t	Find next	F3		Tab size 4	
	Find previous	Shift+F3			
	Change	Ctrl+H		Action of file add	
Ē	Preferences]>	External editor Ask	
				Backup path	
				C:\Users\roy\Documents\PHPoCD	Change
				Initialization	
				Enter initialization mode	
				Updating the Debugger Automatically check	
				mDNS service subtype	

When you upload php files with this option, the lock icons below will be shown on the synchronized files. Files with this icon cannot be modified by internal editor of PHPoC Debugger but external editors.



Debugging PHP

PHPoC provides run-time debugging function. Buttons for debugging are enabled when you check the PHP debug mode option in PHPoC Debugger. In this mode, you can set break points or check values of variables at every code line.

PHPoC Debugger - admin				
File Edit	Function	Help		
COM Port	Syste Sma View	em information rt expansion board information v error logs		
File list	Statu Cons Rebo	us sole pot a product		
init.php	 Firm 	ware debug mode		
task0.p	PHP	debug mode		
<u>(</u> 30КВ F	Font Lang Softw	guage >		

Once the PHP Debug Mode is activated, debugging buttons are available. You can debug your script with this buttons through the [Watch] window.



Simple Tutorial

- 1. Activate the PHP Debug Mode.
- 2. Write the following code on init.php and upload it.

```
<?php
$var_int = 1;
$var_str = "abc";
$var_arr = array(1, 2);
?>
```

- 3. Clicking the right button on your mouse and select [Add] menu.
- 4. Enter "var_int" in the textbox as a name of variable and click [Add] button.
- 5. Add the following variables in the same way.
 - var_str
 var_arr
 var_arr[0]
 var_arr[1]
- 6. Check values of variables in the [Watch] window while running the script line-by-line using Step-In(F11) button.

Watch Resource			
Name	Туре	Value	
\$var_int	INT	1	
\$var_str	STR[3]	abc	
\$var_arr	?	?	
\$var_arr[0]	INT	1	
<pre>\$var_arr[1]</pre>	INT	2	

 \times Caution: In the case of a variable which is an array, key has to be specified with name of array to watch the value

Online Upgrade

You can check the updates for PHPoC debugger if the PC is connected to the Internet. This function checks whether the currently running PHPoC debugger is the latest version. If it is not the latest version, you can upgrade the debugger online.

Check for updates manually

Select the [Function] > [Software information] on the menu bar. You can check updates by pressing the [Check for update] button.



If you are not using the latest version, you can upgrade to the latest version.



Check for updates automatically

Select the [Edit] > [Preferences] on the menu bar then [Preferences] window will pop up. Check the [Automatically check] in the [Updating the Debugger] section and press the [Apply] button.

Edit	Function Help	D	Preferences	×
	Undo Redo	Ctrl+Z Ctrl+Y	View View margin	
	Cut Copy Paste Select all Find Find next Find previous	Ctrl+X Ctrl+C Ctrl+V Ctrl+A Ctrl+F Shift-	 View line number View current line Line ratio 120 ~ Tab size 4 ~ Action of file add Internal editor External editor Ask 	
C	Change Preferences	Ctrl+H	Backup path C:\Users\roy\Documents\PHPoCD Initialization Enter initialization mode Updating the Debugger Automatically check mDNS service name phpoctcp.local Apply	Change

After that, PHPoC debugger checks updates online every time you run it. The following notification window will pop up if there is a new update.

PHPoC Debug	lger	×
?	You are not using the latest version. Do you want to download and install the latest versi	ion?
	YES NO	

Connection via Network

The connection via network function is to connect the PHPoC debugger and the product via the network instead of the USB cable. Even you connect your product via network, you can use almost all of the functions such as product settings, script editing and debugging. For using the connection via network function, the product is required to be setting related to the function.

% How to set up the connection via network for PHPoC products

Select COM Port as [Network] and click Connect(button then you can see the Network Connection window.

PHPoC Debugger			
File Edit Function	Help		
COM Port Network			
File list	etwork connection		
	Search connection	Manual connection	
	Host	IP	P

Search Connection

If the PHPoC product is on a local network, you can use the Search connection function. This function searches for products on the local network and connects to the products found. If you click the [Search] button in the Network connection window, all the PHPoC products on the local network will be searched.

Network connection				×
Search connection	Manual connection			
Host	IP	Path	Port	Protocol
Response type	Unicast O Multicas	t O Broadcast		
Response time	1 ~ sec			
		Search	Connect	Cancel

• Response Type

You can select the response type when the response packet is sent by the PHPoC product that received the search packet. If Unicast is selected, the response packet is sent only to the PC that sent the search packet. Selecting Multicast sends a response packet to all hosts in the Multicast group.

• Response Time

Depending on network environment, you can increase response latency by adjusting this value if the response packet is delayed and the discovery fails. You can choose from 1, 2, 4, or 8 seconds.

Select the product and click [Connect] button to try remote connection immediately.

Manual Connection

This function connects directly to your product after filling the items which are required to connection via network. Press the [Connect] button after inputting the IP address, URI path, port and selecting protocol on the Manual connection tab.

% It is recommended to enable the Remote debugger option in the product settings for using this function.

Network c	onnection	\times
Search o	nonnection Manual connection	
IP	10.1.0.1	
Path	pdb	
Port	57457	
Protocol	HTTP ~	
_		
	Connect Cancel	

• Address

This is the IP address of the product.

• URI Path

This is the URI Path of the product. This value is fixed to "pdb" if the Remote debugger option is activated to the product.

• Port

This is the port for connection via network. This value is fixed to "57457" if the Remote debugger option is activated to the product.

Protocol

This is the protocol for remote connection. Select HTTP if the product's remote connection protocol is pdb-ws, or HTTPS if pdb-wss.

Restrictions

In contrast with USB connection, there are some restrictions with the connection via network.

Division	Network (HTTP)	Network (HTTPS)	USB
Configuring Password	Not available	Available (except for the admin password)	Available
Uploading F/W	Not available	Not available	Available
Managing Certificates	Not available	Available	Available

Settings

All parameters including an IP address can be configured through PHPoC Debugger.

Setting Steps

- 1. Connect PHPoC product to PC via USB.
- 2. Run PHPoC Debugger.
- 3. Click the connect button() after choosing the right COM port.
- 4. After then, click configuration (
- 5. Configure parameters.
- 6. Click the [Save] button to save the configuration.

X Note: You can also set PHPoC products via Connection via network.

Setting Parameters

Tab	Category	Parameter
		IP address type - Obtain an IP automatically
		IP address type - Use static IP address
		IP Address
	IPv4	Subnet mask
		Gateway IP address
		IP address type - Obtain DNS server address automatically
		DNS server IP address
IP Address		IPv6 - Enable / Disable IPv6
		IP address type - Obtain an IP automatically
		IP address type - Use static IP address
	IPv6	EUI - MAC Address / Random
		IPv6 address and Prefix
		Gateway IPv6 address
		Obtain DNS server address automatically
		DNS server address
		WLAN - Enable / Disable WLAN
	Basic Settings	WLAN Topology - Infrastructure / Soft AP
Wireless LAN		Search AP / Search channel
		Channel
		SSID
		Internal Antenna / External Antenna
		Advanced Settings
	Security	Shared Key
		802.1X: EAP-TTLS / PEAP

	Time	Set RTC time
	Password	Password (ID: admin, pdbuser, setup)
	Certification	Type - Host / Client / Root CA
		Write certificate
		Write signed certificate from certification authorities
Advanced		Read the certificate form a product
Auvanceu		Delete the certificate form a product
	Network	Local LAN name server
		Service discovery
		Network debugger
		Secure network debugger
		Remote debugger

Setting Passwords

If you set a password for the product, you must enter the password when connecting the product via USB or network. There are three default accounts for the PHPoC product, and you can set a password for each account.

ID Name		Authority	Password
10	Norric	Addionay	management
admin	administrator	developer authority + setting the connection via network	all accounts
pdbuser	developer	end-user authority + accessing the file system, debugging, managing the certification	pdbuser, end-user
setup	end-user	setting and monitoring products	-

% Caution: PHPoC does not support restoration when you forget your password. In that case, you can delete the password by using Device Initialization but all settings and files are also deleted.

How to set up

Creating a password

Connect your PHPoC product and click the Setup() button. Click the [Advanced] button on the Product settings window and select the [Password] tab. Then you can set a password to each account.

PHPoC Debugger - admin		
File Edit Function Help	Product settings - P4S-341	×
COM Port USB - COM3 File list IIIb IIIb IIIL php IIIL ph	IP Address Wireless LAN Basic Settings WLAN Disable WLAN To Advanced settings WLAN To Advanced settings X Channel SSID Antenna Retype password Change Warning : The PHPoC product does not provide recovery from the lost admin password. You can delete existing password through initialization, but all information stored in the product will be deleted. B02. 1X	
	1 LOJPassword	
	Advanced Write	Close
<	>	

Passwords can be from 8 to 32 letters, numbers, special characters or a combination of these.

Changing a password

To change the set password, select the account, check the [Change] option, and enter the password to be changed in [Password] and [Retype Password].

lvance	d settings			>
Time	Password	Certification	Network	
ID		admin		~
Passv	vord			
Retyp	e password			
Warn from passy the p	ing : The PH the lost admi vord through roduct will be	Change PoC product do n password. Yo initialization, b deleted.	es not provi ou can delete ut all informa	de recovery e existing ation stored in
			Apply	Delete

Deleting a password

To delete the set password, select the account and click the [Delete] button.



X Caution: If you connect to the product via USB, you need to set the password for the administrator account (admin) first in order to set the password for the developer (pdbuser) or end-user (setup) account.

Managing Certificates

The certificate is required to use the secure communication function of PHPoC. There are three types of certificates: Host, Client, and Root CA.

Connect a PHPoC to the PHPoC debugger and select [Certification] tab on [Settings] > [Advanced] menu. Choose a type of certificate and click a menu to run.

PHPoC Debugger - admin	×	
File Edit Function Help	Product settings - P4S-341 ×	L
COM Port USB - COM3	IP Address Wireless LAN	
-> -> ► ‡ Ć	IPv4	
File list	O Use Advanced settings X	
init.php	Subne Time Password Certification Network	
task0.php 🗰	DNS IF Write certificate.	
	IPv6 IPv6 Dt	
30KB Flash Memory 482KB	Obta Read the certificate from a product.	
Output FW Log Connection Timeout Connection Timeout	Courses Local I Gatew	
Connection Timeout	DNSt s	
,	Advanced Write Close	

Write certificate

This menu creates a certificate and stores it to PHPoC.

Create certificate	×	
Кеу Туре	ECC P256 V	
Country Name (2letter code) []:	Korea, Republic of	
State of Province Name (full name) [] :		
Locality Name (eg, city) [] :	Incheon	
Organization Name (eg, company) []:	Sollae Systems	
Organisztional Unit Name (eg, section) []:		
Common Name (eg, your name) []:	phpoc-020441.local	
Email Address [] :		
Intermediate CA	Open	
Intermediate CA Key	Open	
	OK Cancel	

Write signed certificate from certification authorites

This menu stores a certificate issued by the other certification authority to PHPoC. Click the [Open] button to select the certificate and save it.

Select a certificate.		×
Select a certificate.		
		Open
	ОК	Cancel

If there is a password in the certificate, a window for entering the password will pop up.

ID/Password		×
Password		
	ОК	Cancel

If there is a separate key file with the certificate, the window to load the key file will pop up.

Select a certificate.		×
There is no key in the selected certificate. Select a key.		
		Open
	OK	Cancel

Read the certificate from a product

This menu shows the certificate currently stored in PHPoC.

Delete the certificate from a product

This menu is for delete the certificate stored in PHPoC.

Setting Remote Connection

Connect your PHPoC product and click the Setup) button. Click the [Advanced] button on the Product settings window and select the [Network] tab; then you can set the four options for remote connection.

Local	LAN	name server	

This enables mDNS function. You need to set this option to use searching function in local network of PHPoC debugger.

• Service discovery

This enables searching function. You need to set this option to use searching function in local network of PHPoC debugger.

• Network debugger

This enables remote connection. You need to set this option both to use searching function and network connection by PHPoC debugger. The protocol for connection via network is set to pdb-ws if you set this option without setting the [Secure remote debugger] option.

Secure remote debugger

This enables encrypted remote connection. You need to set this option both to use searching function and encrypted network connection by PHPoC debugger. The protocol for connection via network is set to pdb-wss if you set this option.





X Note: You must set a password for at least one account in order to make a network connection using the secure network debugger(pdb-wss).

• Remote debugger

Check this option if you want to use a manual connection. When this option is activated, Path and Port are fixed as follows.

Division	Port	Path
Remote debugger is activated	57457	pdb
Remote debugger is inactivated	product's default	product's default

X You can find the product's default values of Port and Path from the [PDB Net] tab of [function] > [System information] in PHPoC debugger's menu bar.

System information	System information	×
Smart expansion board information View error logs Status Console Reboot a product V Firmware debug mode PHP debug mode	Product/Firmware Flash files IP Address Wireless LAN ARP/NDC Table PD8 Net Listen port : 52314 Protocol : pdb-ws WebSocket path : pdb-e7748c5a webSocket protocor : pdb.pnpoc WebSocket origin :	^
Font Language Software information		×

Upgrading Firmware

New firmware can be released when adding functions or fixing bugs. If you are using old firmware, you can upgrade it to new one. PHPoC Debugger provides both online and manual upgrade.

- Online Upgrade
- Manual Upgrade

Online Upgrade

You can upgrade firmware online if your PC is connected to the Internet.

Procedure

- 1. Connect PHPoC product to your PC via a USB cable.
- 2. Run PHPoC Debugger and click connect () button after choosing the right COM port.
- 3. Click the [Function] > [System information] menu.

Fun	ction Help
	System information
	Smart expansion board information
	View error logs
	Status
	Console
	Reboot a product
~	Firmware debug mode
~	PHP debug mode
	Font
	Language >
	Software information

4. Select the [Product/Firmware] tab and click the [Check for update] button on the System information window.



5. Click [OK] after uploading F/W is finished.

System information	×
Product/Firmware Flash files IP Address Wireless LAN ARP/NDC Table PDB Net	
Product name : P4S-341 System uptime : Odf MAC : 00:30:f9:02:04 Firmware name : p4 Firmware version : 2 Firmware size : 445 Firmware has been transmitted.	^
	~
Check for update Close	

Upgrading F/W of Smart Expansion Boards

You can upgrade firmware of smart expansion boards if they are connected to your PHPoC board.

- 1. Connect PHPoC board with smart expansion boards to your PC via a USB cable.
- 2. Run PHPoC Debugger and click connect () button after choosing the right COM port.
- 3. Click the [Function] > [Smart expansion board information] menu.



4. On the [Smart Expansion Board Information] window, right-click the product and select the [Check for Updates].

Smart expansion board information				×	
SID	Device ID	F/W ver	Name	Description	
2 F	4001 2401 Right Click	1.2 Deta Che	PES-2401 iils ck for updates	4 Port DIO Out	put
				Close	

5. Click [OK] after uploading F/W is finished.



Manual Upgrade

Checking the Version of F/W

Check the current version of F/W before upgrading it.

• Checking the current version of F/W

You can check it on the [Product/Firmware] tab from the [Function] > [System information] menu in the PHPoC Debugger.



For a smart expansion board, you can check it in [Function] > [Smart expansion board information] menu.



• Checking the latest version of F/W

You can check the latest version of F/W on download page on phpoc.com.

Procedure

- 1. Download the latest F/W file.
- 2. Connect PHPoC product to your PC via a USB cable.
- 3. Run PHPoC Debugger and click connect () button after choosing the right COM port.
- 4. Click the [File] > [Upload a poc file] menu.



5. Select the F/W file and click the [Open] button.

Dpen				×
COO V 🔉 Koy 🕨 Do	wnloads > 20160909	✓ 4 Search 2010	50909	٩
Organize 🔻 New folder				
🔶 Favorites	Name	Date modified	Туре	Size
Desktop	p4s_341_1.2.0.poc	7/5/2016 5:06 PM	POC File	373
Recent Places Recent Places Libraries Documents Music Pictures Videos Computer	4	TH.		
File <u>n</u> ar	me: p4s_341_1.2.0.poc	▼ POC File(*.Pl Open		▼ Cancel

6. Click the [Upload firmware]/[Upload Slave] button.

Upload a POC file	x
Path C:\Users\Roy\Downloads\.	2₩p4s_341_1.2.0.poc Open
View content	Filter Firmware 💌
p4s_341_1.2.0.poc	
	Upload firmware Cancel

For a smart extension board, click the product to upload and press the [Select] button.

SID	Device ID	F/W ver	Name	Description
1	4001 2401	1.1	PES-2401	4 Port DIO Outpu

7. Click [OK] after uploading F/W is finished.

System information	×
Product/Firmware Flash files IP Address Wireless LAN ARP/NDC Table PDB Net	
Product name : P4S-341 System uptime : 0df MAC : 00:30:f9:02:04 Firmware name : p4 Firmware version : 2 Firmware size : 445 Firmware has been transmitted. OK	~
Check for update	Close

Device Initialization

Device Initialization makes all settings of your PHPoC product including a password initialize to default. Futhermore, all files stored in flash memory are deleted as well as certificate. Because of this, you have to backup your files before doing the device initialization.

Step	Action	Product State	STS LED
1	Run PHPoC Debugger	-	-
2	Set PHPoC to initialization mode(Use [Edit]>[Preferences] menu on PHPoC Debugger)	Enter Initialization mode after reboot	Blink rapidly
3	Keep pressing the function button over 10 seconds	Preparing initialization	Blink very rapidly
4	Check STS LED after 10 seconds	Initialization ready	Off
5	Release the function button right after the STS is OFF.(% If you don't release the button within 2 seconds, the state go back to the step 3)	Progressing initialization	On
6	Rebooting automatically	Initial state	Off

• Device Initialization Procedure