PG5 Starter Training File system application Daniel Ernst | EN02 | 2012-02-26



File system application Introduction





Material required

- Notebook or computer
- PCD1 E-Controller
- USB cable
- Training board
- Ethernet cable
- (Energy Meter starter box)

Software required

- PG5 Core at least Version 2.1.027
- Saia® WebEditor 5 (included in PG5 Core)
- Java at least Version XXX

Lessons required

- Lesson 1
- Lesson 2
- Lesson 3 PG5 Core
- Lesson 4 WebEditor
- (Energy Meter application)

Aims of the file system application

- Create a CSV file with Energy Meter data or other data
- Basic understanding of the file system function







File system application Introduction



Explanation / Introduction

 The Energy Meter variable must be written to a file, so that the course of energy generated can be displayed visually. (If the Energy Meter application has not been completed, any variable can be written to the file instead.)

Control Systems and Component

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What is necessary to achieve this?

- Program produced in Lessons 3 and 4
- Ethernet connection to Saia® PCD1 E-Controller
- Monitor with web browser
- (Energy Meter starter box)
- (Program from Energy Meter application)

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File system application Introduction



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AutomationServer

- The PCD's integral AutomationServer includes, among other things, a file system with which the user can store files.
- With this feature the PCD can, for example, log stored data in a CSV file (Excel-compatible) and then access these CSV files from a PC using TCP/IP.
- As a result values can, for example, be saved cyclically in the PCD and displayed using MS tools, such as Excel



Project Manager



Graftec File (*.sfc)

Create a new Fupla file

- Applications.fup»
- Double click to open the file

If this step has already been done in another application tutorial, it may be skipped.



Project Manager

Create a new Fupla page

- Select tab «Page»
- Right click and select «Insert Page»
- Rename the page as File_System
- Enter comment «Log in CSV»

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Program the file system





File system

- To save data to the file system, the file system must be initialized
- It may also be necessary to create the directory structure in the file system. Subsequently, PCD data can be stored in a file on the file system

Set up file system FBoxes

- Position the FBoxes: Memory Management and LogToFile
- Point search function in Navigator FBox
- Connect FBox inputs and outputs
- Connect a value that has been read by the Energy Meter



Program the file system

Set up initialization

- In the FBox Memory options, select «Internal» (for internal memory)
- Rename FBox as «Internal»
- Select file extension «CSV»
- Connect FBox inputs (FBox Enable = 1)

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		Static Symbols				LITUI .

FBox inputs must always have a signal applied



Program the file system



Configure the LogToFile FBox

- The LogToFile FBox writes data to the file
- Set Reference «Internal» This FBox must reference the Memory FBox name! (In this example: Internal)
- Set timestamp to EU time
- Enter symbol «Application.FileSystem.Path» in DIR field
- Enter symbol «Application.FileSystem.FileName» in File field
- Enter filename «LogFile» in symbol «FileName»



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Program the file system

Configure the LogToFile FBox

- Enter path «/Webpages» in symbol created: «Application.FileSystem.Path»
- The path «/Webpages» is now created. It contains all web pages. It cannot therefore be created first.

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Energy Meter application not found

Activation of FBoxes

- Define symbol «Application.FileSystem.Log» as a flag (F) to trigger the «Write» command
- The «Application.FileSystem.Log» symbol must be public, as it will be accessed later by the web project

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If the «Energy Meter application» lesson has already been completed:

 Apply symbol «SEnergy.ALD1_0.Ph_U» to input «Val» → The content of this symbol (i.e. Voltage in this case) will be written to the file

If the «Energy Meter application» lesson has <u>not</u> yet been completed:

Define symbol «Application.Filesystem.Dummy» as a register
 (R) → The content of this symbol will be written to the file

Compile and download project



Compile and download project

Generate first log entries

- Go online
- Use zoom to view value at «Value» input
- Double click on «Application.FileSystem.Log»
 - With the pulse symbol, a value can be written into the file. By repeatedly pressing, multiple values can be written.

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File system application Download CSV file

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Download csv file with browser

- Enter path in browser <IP Controller>/<Filename.csv>
- In this example: 192.168.12.82/logfile.csv
- Save and open file

Ansicht Zei Ausrichtung

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 For each pulse, the value at the «Val» input has been written to the file



File system application Create web project



Writing a value to the file should be possible via the web interface

In addition, it must be possible to download the file in the browser



File system application Create web project



Open the old web project from lesson 4

Create a new page «Options»

- Create new file: Options.wev
- Click on workspace to open Options
- Select background at «Background»

Create web project





Set up jump to the new page

- Open the page Start.wev
- Place a button
- Click on the button to open options
- Select the General tab
 - At Content, select File and choose the file house_VGA.gif
 - Change the colour of the button
- Select the Actions tab
 - Change the condition «On press» → Open view
 - Select View (website) Options
- Now the new Options page will be called when the button is pressed



Create web project





Write data at click of button

- Open the page Options.wev
- Insert a button and change its colour
- Rename button as «Write Data»
- Select function «On Press» → Write
 - Value = 1
 - To destination PCD Application.Filesystem.Log
- Select Log symbol (triggers writing of log data)
- Select function «On Release» → Write
 - Value = 1
 - To destination PCD Application.Filesystem.Log

ref:Internal LogToFile

∙Exec -Index

-Val

Dir

File

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Click OK to close

Application.Filesystem.Log

SEnergy.ALD1_0.Ph_U=

 Clicking the mouse on the button will trigger a pulse at the «Log» flag and cause the current value to be written to the *.csv file

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Create web project



General A	ctions	Access Other
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If the file is not stored in a subfolder of Webpages, its absolute path must be specified.

In this case, the absolute path is:

General Actions Access Other

Default

http://192.168.12.82/INTFLASH:/WEBPAGES/LogFile.csv

Load CSV file

- Open the page Options.wev
- Insert a second button and change its colour
- Rename the button as «Get Data»
- Set up a URL jump to the file http://<IP Controller>/<Pfad innerhalb Webpages Ordner>/<Dateiname.csv> http://192.168.12.82/LogFile.csv
- Clicking the mouse on the button will download the data file LogFile.csv in the browser

Set up the jump back to the start page

- Place a button and save the image house_VGA.gif onto it
- Set up an Open View to the page Start.wev

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File system application Download project

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Compile WebEditor project

- Save and compile web project
- Download web project
- Close WebEditor



File system application Test the web visualisation



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