

WEINTEK LABS., INC.

SysFile & SysDir Library **Folder & File Management**

Demo Project

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1. Overview

SysFile and SysDir are libraries that can be used to manage File System.

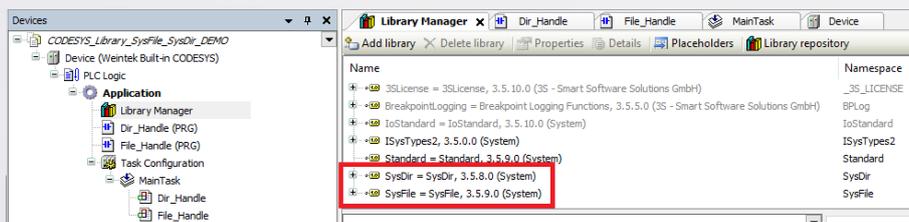
Users can use these libraries to read/write files in File System, and move the files between PC and CODESYS.

SysDir Library can manage the directories in File System.

SysFile Library can open the files in File System.

2. Adding Library

Step 1. Add SysDir & SysFile Libraries in CODESYS software.



Step 2. Use the Function in the Library to manage File System in CODESYS.

3. Funciton

SysDir Library

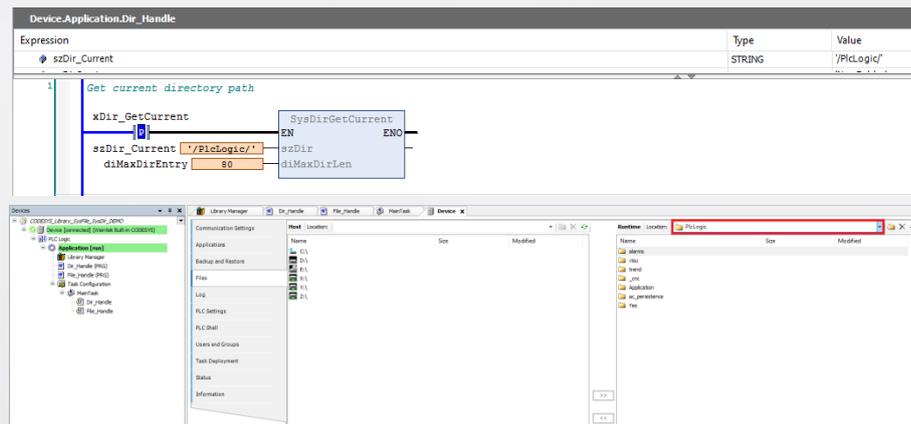
Function Name	Description
SysDirGetCurrent	Get the current directory. The default directory is /PlcLogic/.
SysDirCreate	Create a folder.
SysDirRename	Rename a folder.
SysDirOpen	Directory and the first directory entry.
SysDirRead	Read the next directory entry.
SysDirSetCurrent	Set a directory.
SysDirClose	Close a directory.

SysFile Library

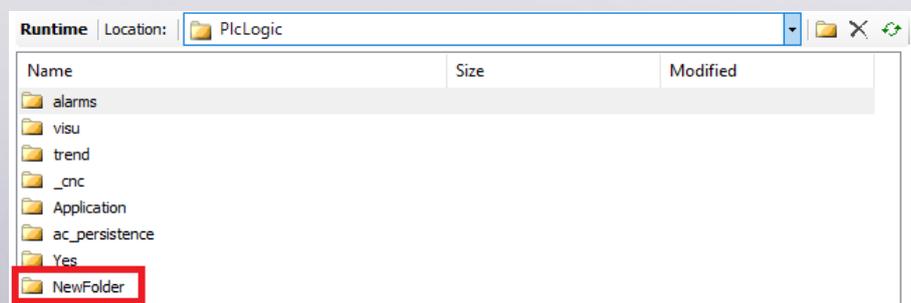
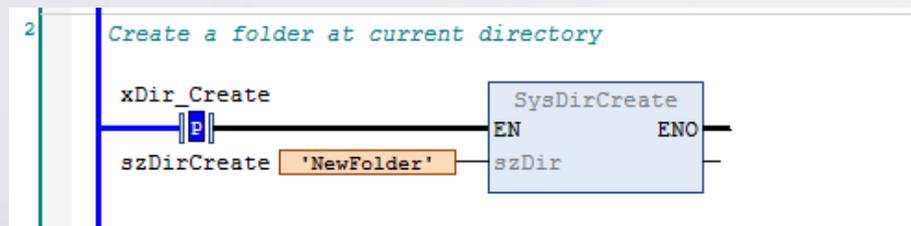
Function Name	Description
SysFileOpen	Open a file under the current directory.
SysFileWrite	Write the data to a file.
SysFileRead	Read a file.
SysFileClose	Close and save a file.

4. Demonstration

Step 1. Get the current directory and by default the directory is '/PlcLogic/'.
Go to [Device] -> [File] to browse for a folder or file name in File System.



Step 2. Create a new folder and name it "NewFolder". This folder is added under PlcLogic directory.



Step 3. Change the folder name from "NewFolder" to "User".

3 Rename an entry

The ladder logic for step 3 shows a normally open contact labeled 'xDir_Rename' connected to the EN input of the SysDirRename function block. The function block has two outputs: ENO and an unlabeled output. Two data boxes are connected to the function block: 'szDirCreate' with the value 'NewFolder' is connected to the szOldDirName input, and 'szDirRename' with the value 'User' is connected to the szNewDirName input.

Runtime Location: PlcLogic

Name	Size	Modified
alarms		
visu		
trend		
_cnc		
Application		
ac_persistence		
Yes		
User		

Step 4. Open the directory and get the first directory entry of the default path.

Expression

Expression	Type	Value
szDir_Current	STRING	'/PlcLogic'

4 Open the directory and response the first entry

The ladder logic for step 4 shows a normally open contact labeled 'xDir_Open' connected to the EN input of the SysDirOpen function block. The function block has two outputs: ENO and hDir. The hDir output is connected to a data box containing the hexadecimal value '16#4C529F54'. The function block has several inputs: szDirectory is connected to the string '"/PlcLogic/'; szEntry is connected to the string '*alarms*'; diMaxDirEntry is connected to the value 80; adr (DirInfo) is connected to the variable pDirInfo; and adr (Dir_Result) is connected to the variable pResult.

Runtime Location: PlcLogic

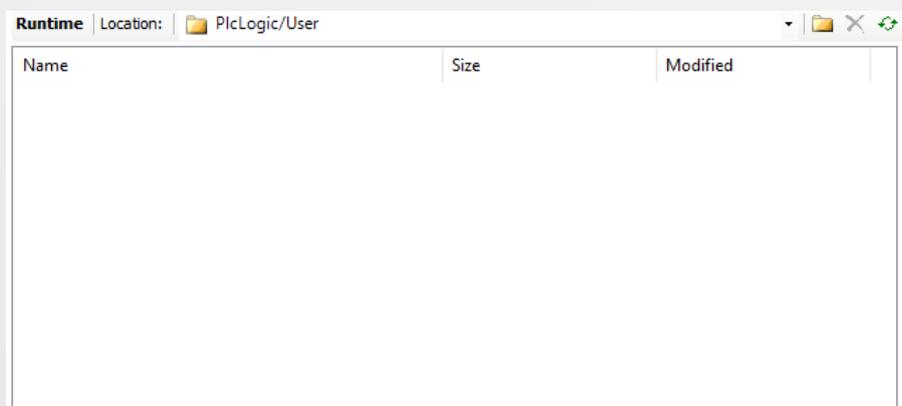
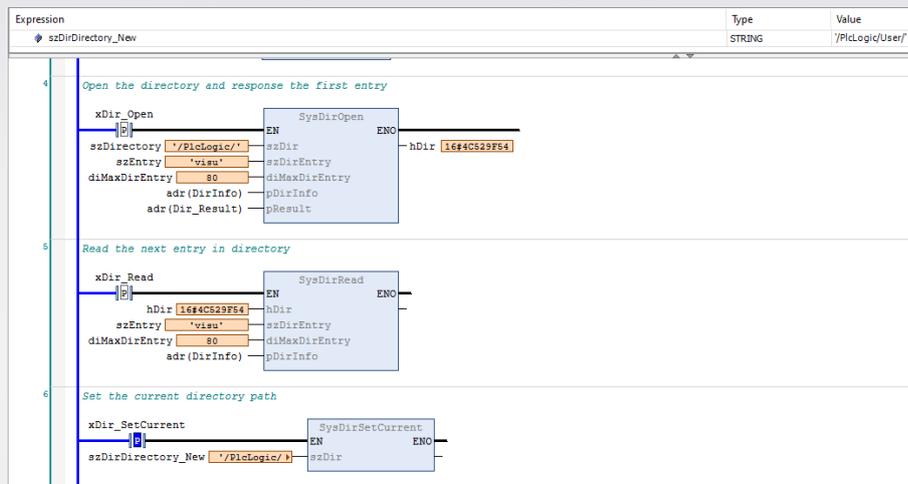
Name	Size	Modified
alarms		
visu		
trend		
_cnc		
Application		
ac_persistence		
Yes		
User		

Step 5. Read the next directory entry.

5 Read the next entry in directory

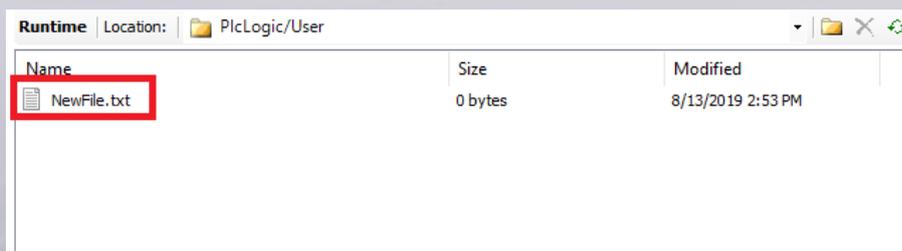
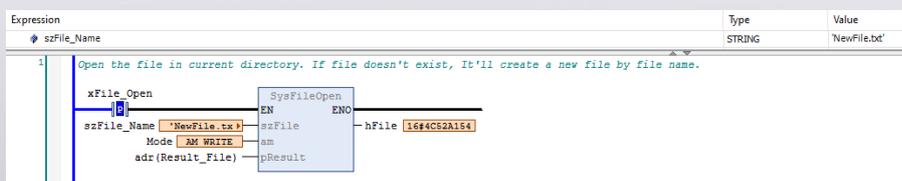
The ladder logic for step 5 shows a normally open contact labeled 'xDir_Read' connected to the EN input of the SysDirRead function block. The function block has one output: ENO. The function block has four inputs: hDir is connected to the hexadecimal value '16#4C529F54'; szEntry is connected to the string 'User'; diMaxDirEntry is connected to the value 80; and adr (DirInfo) is connected to the variable pDirInfo.

Step 6. Set a folder under “/PlcLogic/User/”. The folder is currently empty.

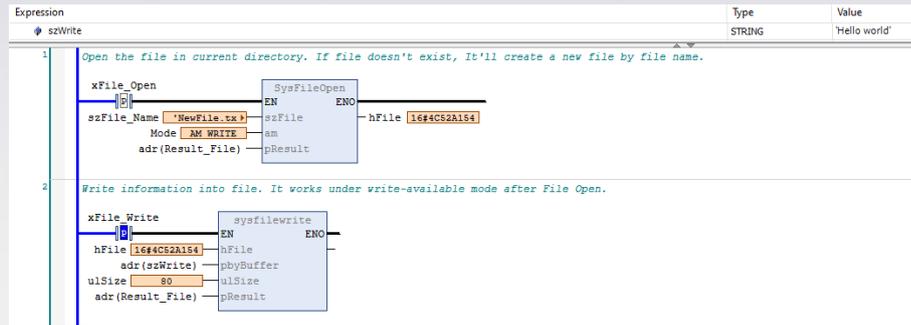


Step 7. Open a file in User folder. If the file with the same name cannot be found, a new file named “NewFile.txt” will be generated.

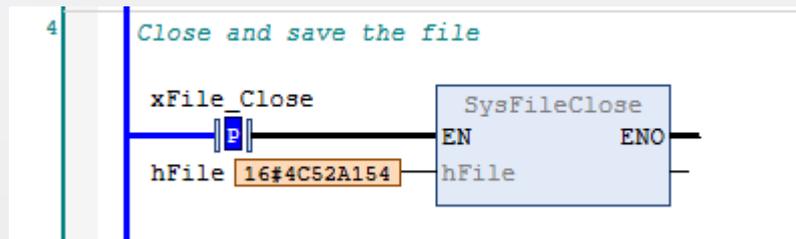
⊗ Select read or write as Access_Mode.



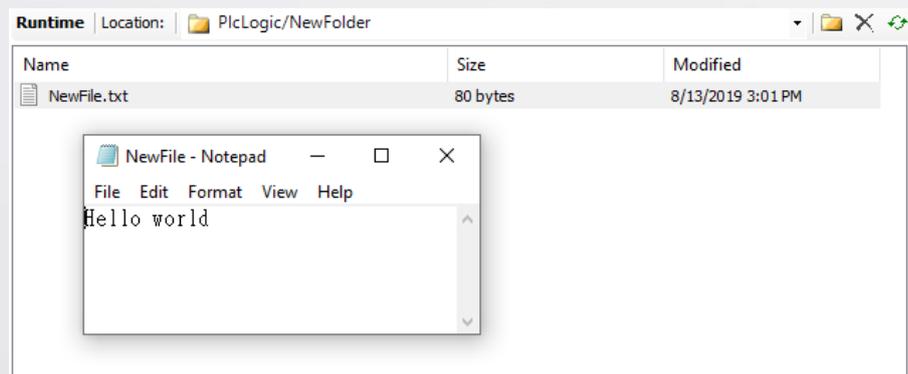
Step 8. Write “Hello world” string.



Step 9. Close and save the file.



Step 10. Move “NewFile” to PC and open the file.



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