Loading a PC - Station via configuration file Import

STEP 7, S7-1500 Software Controller, Open Controller

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1 Introduction

1.1 Overview

1.1.1 Use

This document is intended to help you use the "Load a PC support station with the Import configuration file" function for the SIMATIC software CPUs (as of V2.5). This functionality gives you the option of doing a system configuration of a PC Load system to the target device via file and without a connected TIA Portal.

One possible use case is the following scenario:

In this example, the same types of equipment are used by a customer worldwide. (Figure 1-1) By "loading a PC station via configuration file Import ", the OEM (Original Equipment Manufacturer) has the possibility to effectively support the machine operator in software updates.

Figure 1-1: Fictitious machine operator with worldwide locations

In general, the import can be done using two different methods:

- Import via the PC station menu (The PC station menu)
- Import via script (Import via script)

The import process can be started and executed manually through the PC station menu. The download on the target system can also be automated using a script.

1.1.2 Possible application scenarios

The function "Loading a PC station using configuration file Import" can be used under different application scenarios. Possible cases are listed below.

New device

You can download an uncharged device by "loading a PC station via configuration file import". During the first import process, all hardware and software settings of the TIA Portal project are transferred to the new device.

At the end of the import, a reboot is performed, after which the device is ready for use.

Update of software and hardware configuration

When updating the system configuration, e.g. extensions of blocks or additional adjustments in the hardware configuration, "loading a PC station via configuration file import" can also be used.

1.2 Mode of operation

In Figure 1-2 the necessary steps of the solution are shown schematically.

Figure 1-2: General procedure

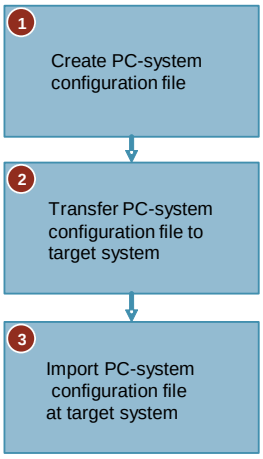
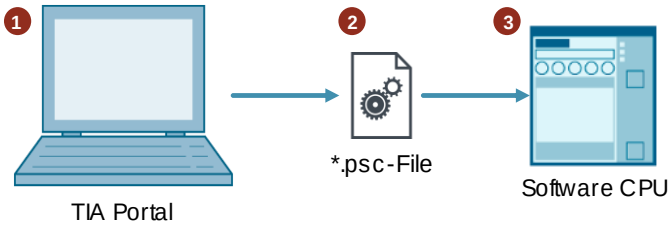


Figure 1-3 shows you the procedure with the necessary software and hardware.

Figure 1-3: Procedure with software and hardware



1.3 Validity of this application

You can find out the validity of the application in Table 1-1.

Table 1-1: Overview of validity for the function configuration file import

Standard CPU	Failsafe CPU
STEP 7 as of V15	STEP 7 as of V15 + SIMATIC Safety V15
SIMATIC CPU 1505SP as of V2.5	SIMATIC CPU 1505SP F as of V2.5

Standard CPU	Failsafe CPU
SIMATIC CPU 1507S as of V2.5	SIMATIC CPU 1507S F as of V2.5

Note

For the standard SW PLC the function "Loading a PC station via configuration file Import" is available as of STEP 7 V14 and SW PLC V2.1. However, the use of STEP 7 V15 and the standard SW PLC V2.5 is recommended.

For the failsafe SW PLC, STEP 7 V15 with the option package SIMATIC Safety V15 and SW PLC V2.5 is recommended.

1.4 Components used

This application example was created with these hardware and software components:

Table 1-2: Hardware and software components

Components	Number	Article number	Note
STEP 7 as of V15	1	6ES7822-0A.05-..	
SIMATIC CPU 1057S (F) V2.5 HSP for STEP 7 V15	1		Link: https://support.industry.siemens.com/cs/ww/en/view/72341852
SIMATIC CPU 1507S (F) as of V2.5	1	6ES7672-7FC01-0YA0	
SIMATIC IPC427E or equivalent Alternatively, a SIMATIC ET 200SP open controller with SIMATIC CPU 1505SP F V2.5 or higher can be used.	1	6AG4141-…..-…. or equivalent	For the implementation of the application example, the hardware is initially insignificant as long as a corresponding SIMATIC CPU 1507S F V2.5 can be installed. Make sure that your device has "NVRAM" if you work with SIMATIC CPU 1507S F

This Application Example consists of the following components:

Table 1-3: Components of the application example

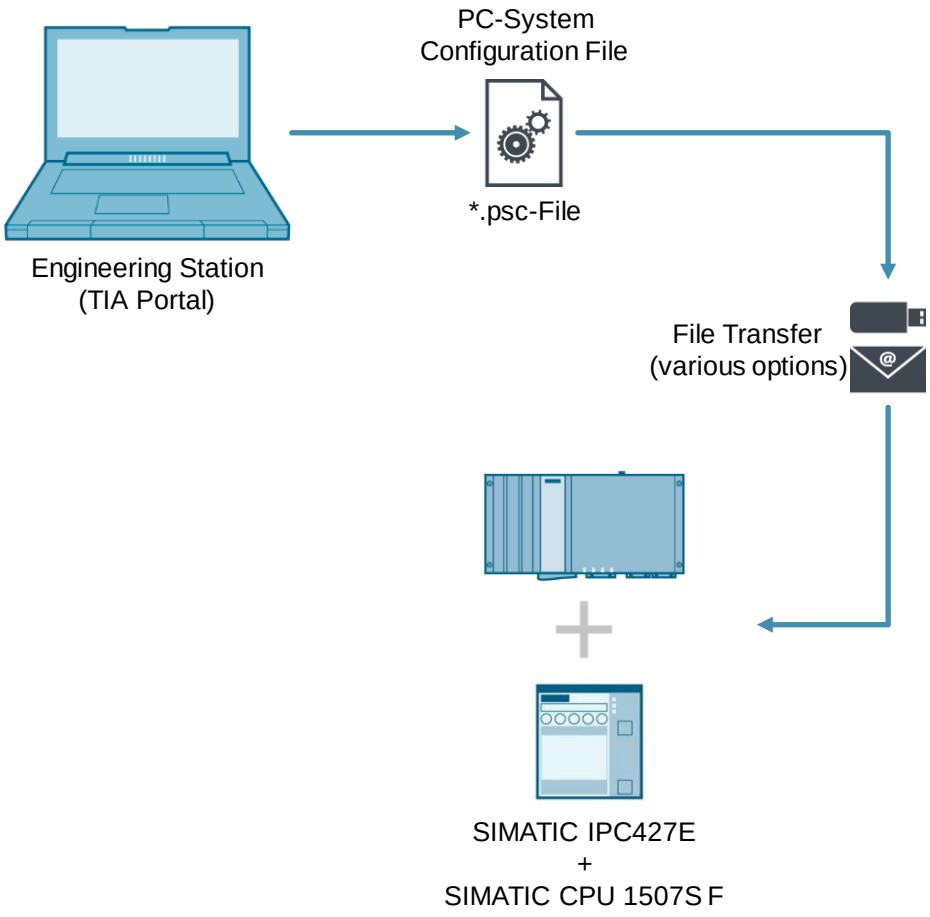
Components	File name	Note
This document	118647840_FileLoadApplicationFCPU_DOC_V1.0_en	
Project folder and temp folder	118647840_FileLoadApplicationFCPU_CODE_V1.0_en	

2 Engineering

In Figure 2-1 you see an overview of the complete solution in advance.

The individual areas are described in more detail in the following sections.

Figure 2-1: Overview of the complete solution



Note

The function "Loading a PC station via configuration file import" is only possible with a software controller.

It does not matter whether it is the software controller CPU 1507S (F) on a SIMATIC IPCs or the software controller CPU 1505SP (F) on an open controller.

The procedure is identical for both types of software controller.

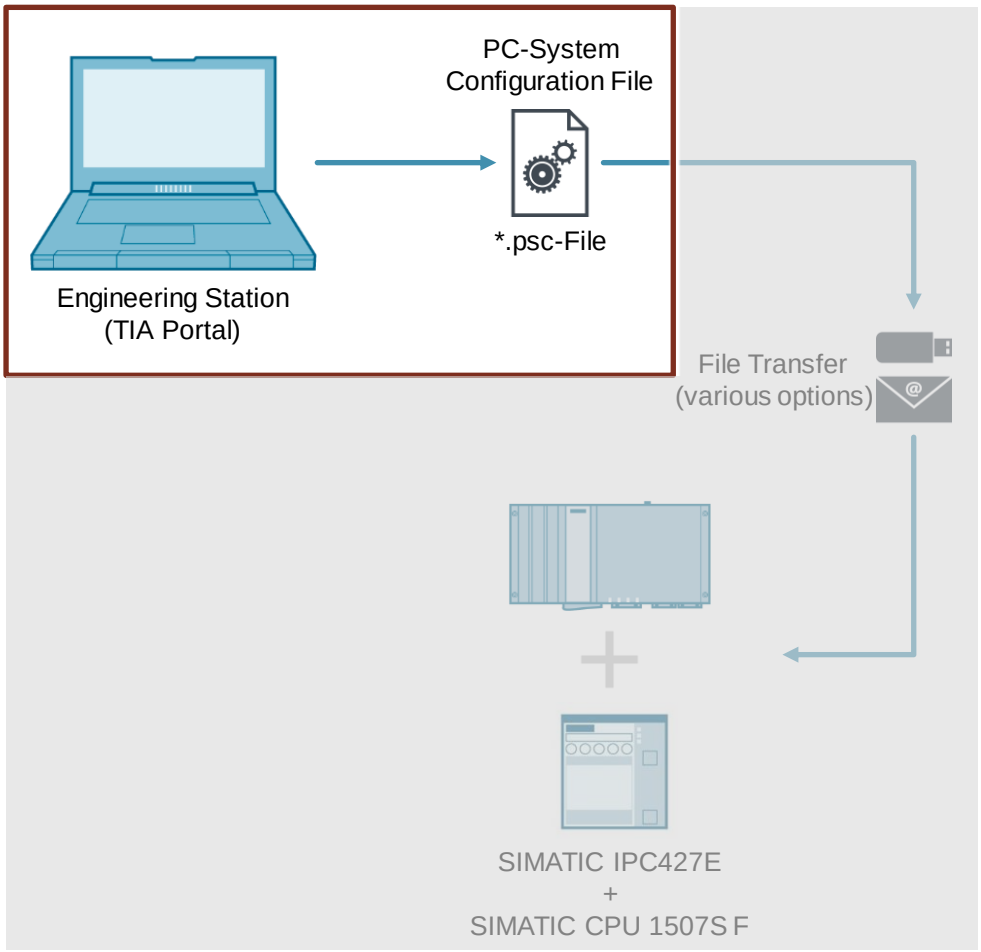
2.1 Creating a PC system configuration file

Before you carry out the "Loading a PC station via configuration file Import" in the target system, you have to create a PC system configuration file (*.psc file) using the TIA Portal.

During the creation process, the entire system configuration and all software components of your PC station will be translated and loaded from your TIA Portal project into the *.psc file. Subsequently, the PC system configuration file is transferred to the target system (Open Controller or SIMATIC IPC with installed software controller).

Figure 2-2 In red, you can see which area of the complete solution this chapter refers to.

Figure 2-2: Creating a PC system configuration file



2.1.1 Advance instructions for creating a * .psc file

In order to properly create a PC system configuration file, Table 2-1 should help to prevent possible sources of error in advance through targeted measures.

Table 2-1: Overview of possible error sources and their measures when creating a PC system configuration file (*.psc file)

Possible error source	Possible measure
Generating a faulty *.psc file. • e.g. wrong content (wrong hardware or software configuration) • not properly tested, but can be imported	By defining formal parameters, the user can determine the validity of the *.psc files. For example, these are: • *.psc file name • Meta-information in *.psc file - ProjectName - ProjectVersion - (IPC) type - StationName - Plant designation
	Approval process for the release of certain project states of the *.psc file. • Checking of the content • Checking of the correct formal parameters
	Process for expelling the *.psc file. • Only controlled projects or their *.psc files may be circulated • Archiving and organizing projects with the associated *.psc files
	If you manage multiple *.psc files on your engineering system, use unique filenames and maintain unique versioning. The file names should contain unique information about machine type, version, controller type, and program code. The *.psc file may not contain any spaces in the name.

Definition of the formal parameters for this example

Table 2-2: Definition of the formal parameters for this example

Formal Parameters	Designation
ProjectName	FileImport_Application_Example
ProjectVersion	1.1
Plant designation	FileImport2000
*.psc file name	FileImport_V1.1_9A0773BD.psc

Information on the created *.psc file

The *.psc file created in this application example has a fixed structure in the name. This is explained here:

Table 2-3: Names of the *.psc file in the application example

Naming	Meaning
FileImport_V1.1_9A0773BD.psc	Complete name
FileImport	Machine type
V1.1	Version number
9A0773BD	Collective F-signature

Note The machine type and the version number are freely selected for this application example.

The collective F-signature depends on the TIA Portal project.

Displaying the collective F-signature

Each safety project has a unique collective F-signature. This signature is automatically generated by the TIA Portal and cannot be changed by the user. You can also append this collective F-signature to the file name of the *.psc file as a unique file name identifier.

In Figure 2-3 and Figure 2-4 you can see how to view the collective F-signature of the TIA Portal project.

Figure 2-3: Opening the Safety Administration in the TIA Portal

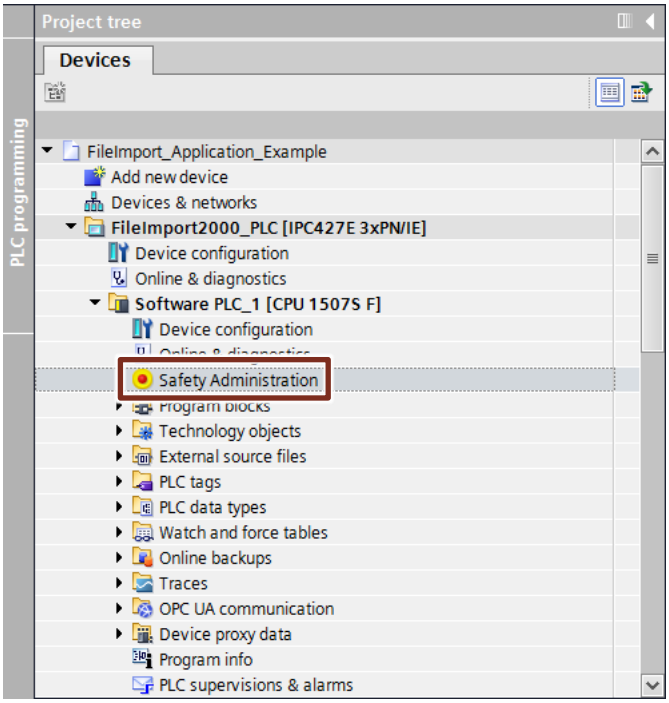
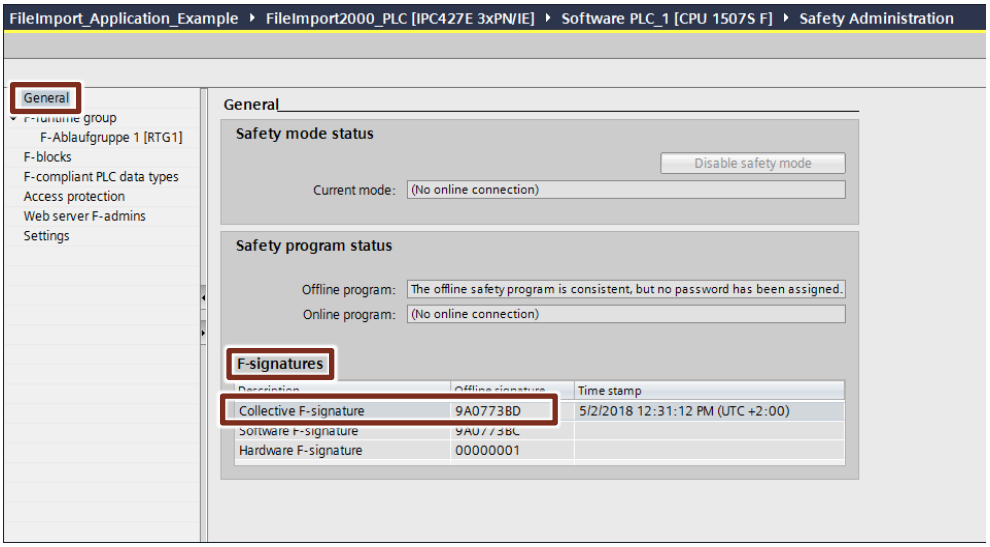
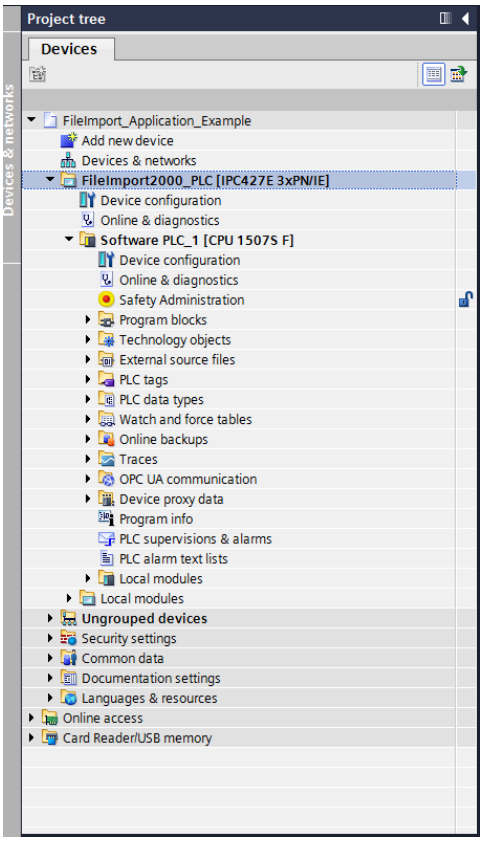
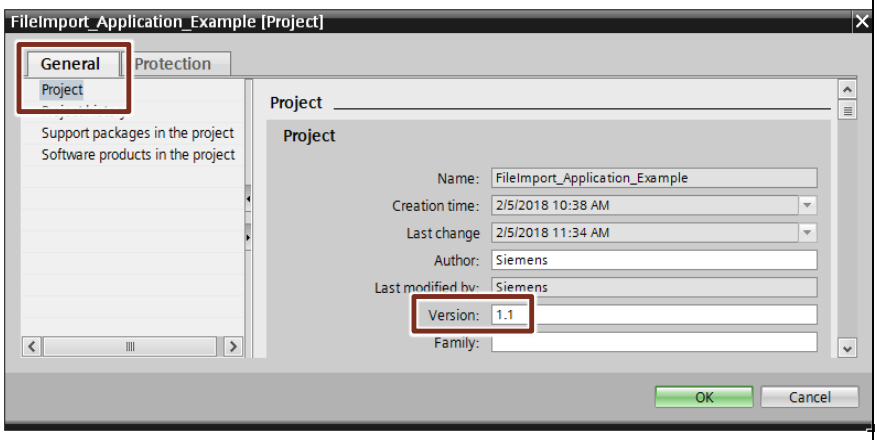


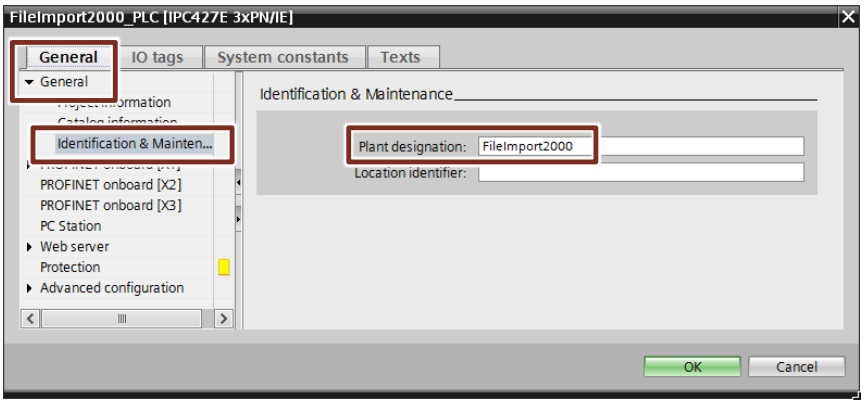
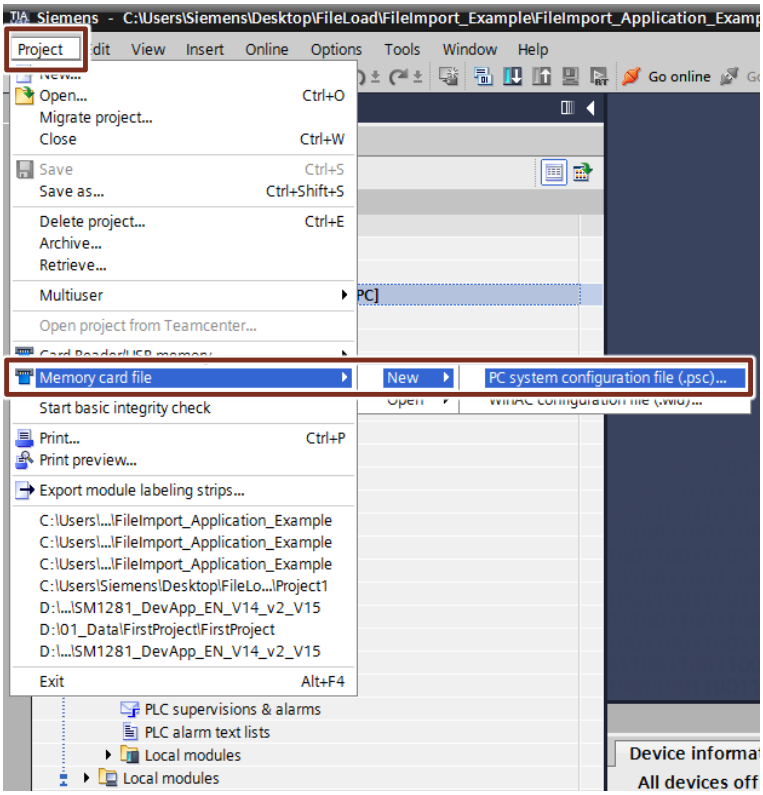
Figure 2-4: Viewing the collective F-signature in the TIA Portal

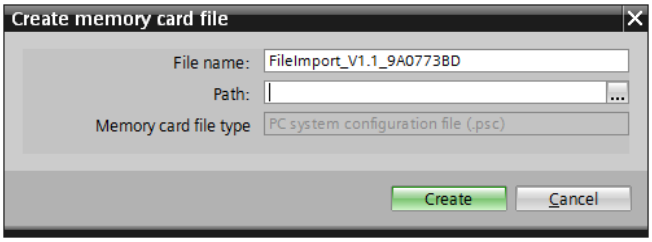
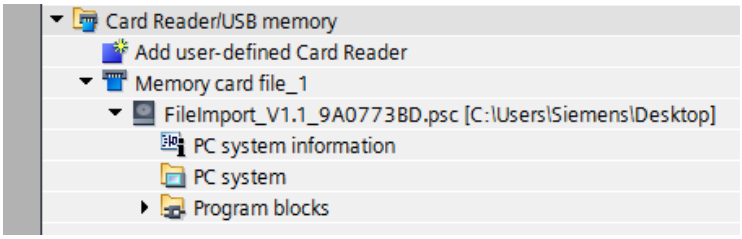
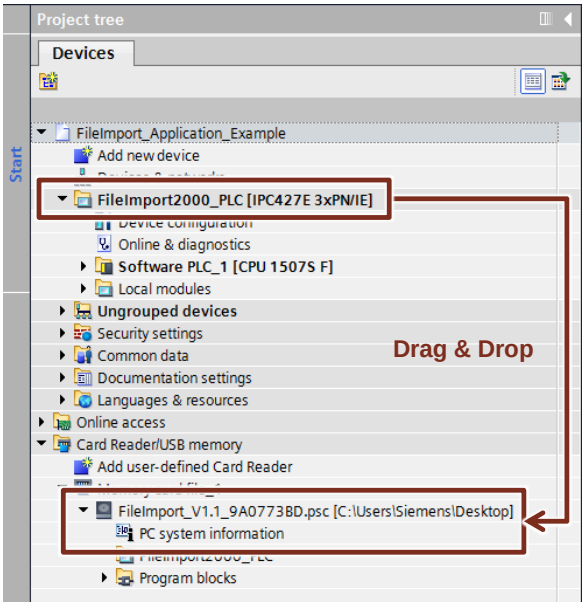


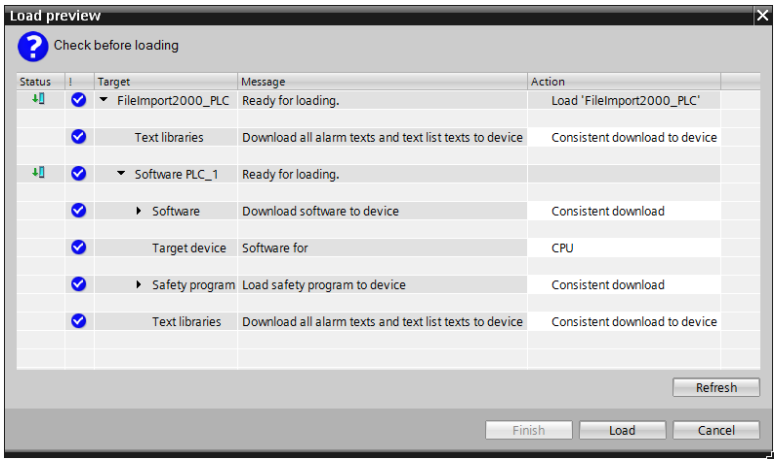
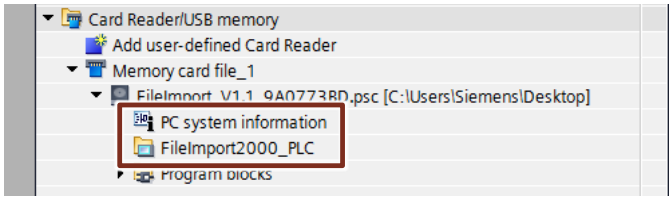
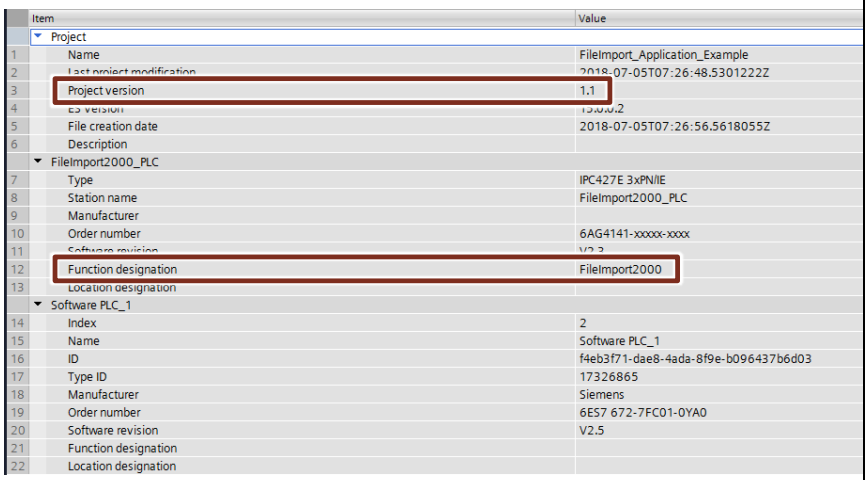
2.1.2 Creating a PC system configuration file

Table 2-4: Steps for creating a PC system configuration file

Step	Screenshot / Note
1.	In the TIA Portal, create a project with hardware and software configuration.  Change the version number of your project. 1. Right-click on the TIA Portal project name ("FileImport_Application_Example"). 2. Navigate to "Properties". 3. Indicate the version number of the project under "General > Project > Version". 

Step	Screenshot / Note
2.	Change the plant ID of your project. 1. Right-click on the name of the configured PC station (FileImport2000_PLC). 2. Navigate to "Properties". 3. Enter the desired system identifier under "General > Identification & Maintenance > Plant designation" 
3.	Create a PC system configuration file as follows: "Project > Memory card file > New > PC system configuration file (*.psc)…" 

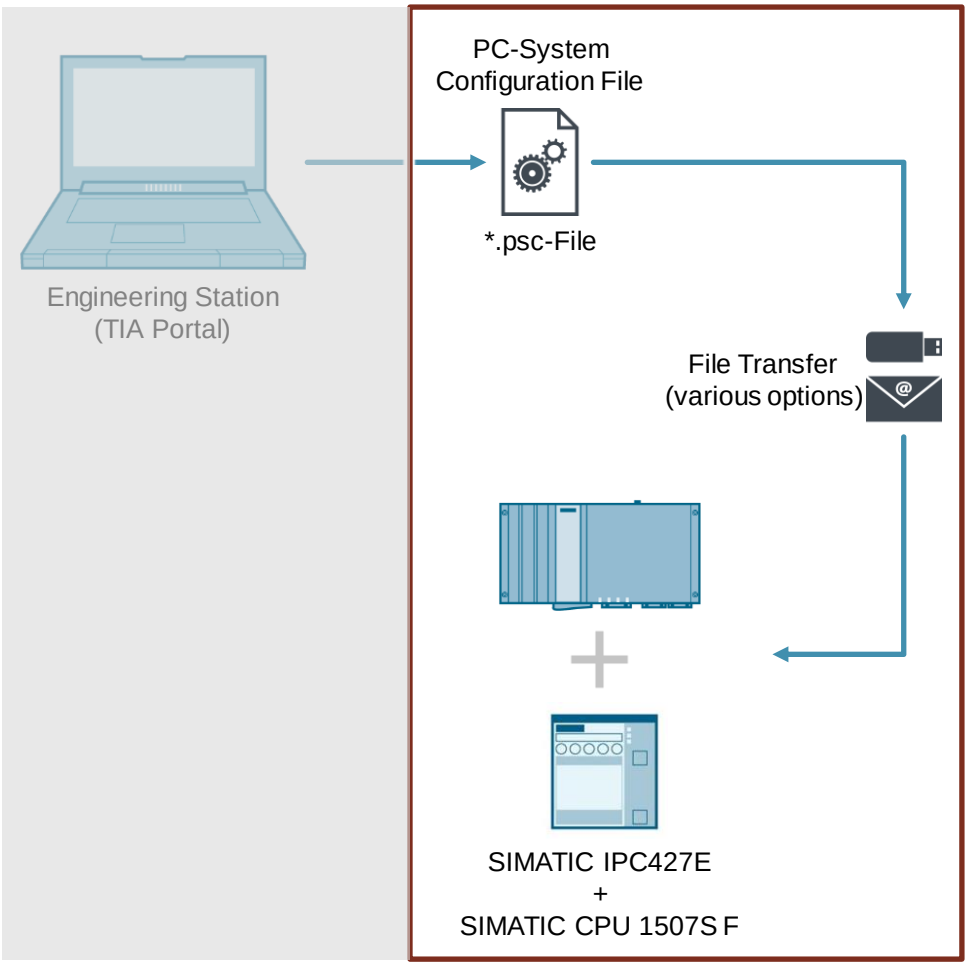
Step	Screenshot / Note
4.	1. Give the PC system configuration file a unique name and select the storage path. The *.psc file in this application example is named as described above. 2. Click "Create" to create the PC system configuration file. 
5.	Check that TIA Portal displays the created the PC system configuration file in the project navigation in the "Card Reader/USB memory" folder. 
6.	Initiate a download process of the complete system configuration (FileImport2000_PLC) into the PC system configuration file via drag & drop. 

Step	Screenshot / Note
7.	The entire hardware and software configuration of the project is then automatically loaded into the PC system configuration file. Wait until the download has completed successfully. 
8.	Check that the PC system configuration file (PC system information) contains the configured hardware and software configuration after the download. 
9.	Display the information of the *.psc file in the TIA Portal by double-clicking on "PC system information". 

2.2 Transmitting a PC system configuration file

Figure 2-5 In red, you can see which area of the complete solution this chapter refers to.

Figure 2-5: Transmission of the PC system configuration file to the target device



You have several options for transmitting the PC system configuration file.

For example, you can transfer the *.psc file, etc. via:

- Email
- USB storage medium
- Cloud storage
- *.zip file

CAUTION	**Access protection**
	The PC system configuration file is not encrypted and the deposited information about creation date, version and the PC system used can be read out with the TIA Portal. Changes to the hardware configuration or to the software program are not possible. In principle, the *.psc file can be imported onto any compatible system. You should therefore only grant access to the *.psc file to persons who are authorized to import or change.

Note

Structured order of configuration files

If you manage multiple versions of *.psc files on your target system, make sure that each *.psc file has a unique name.

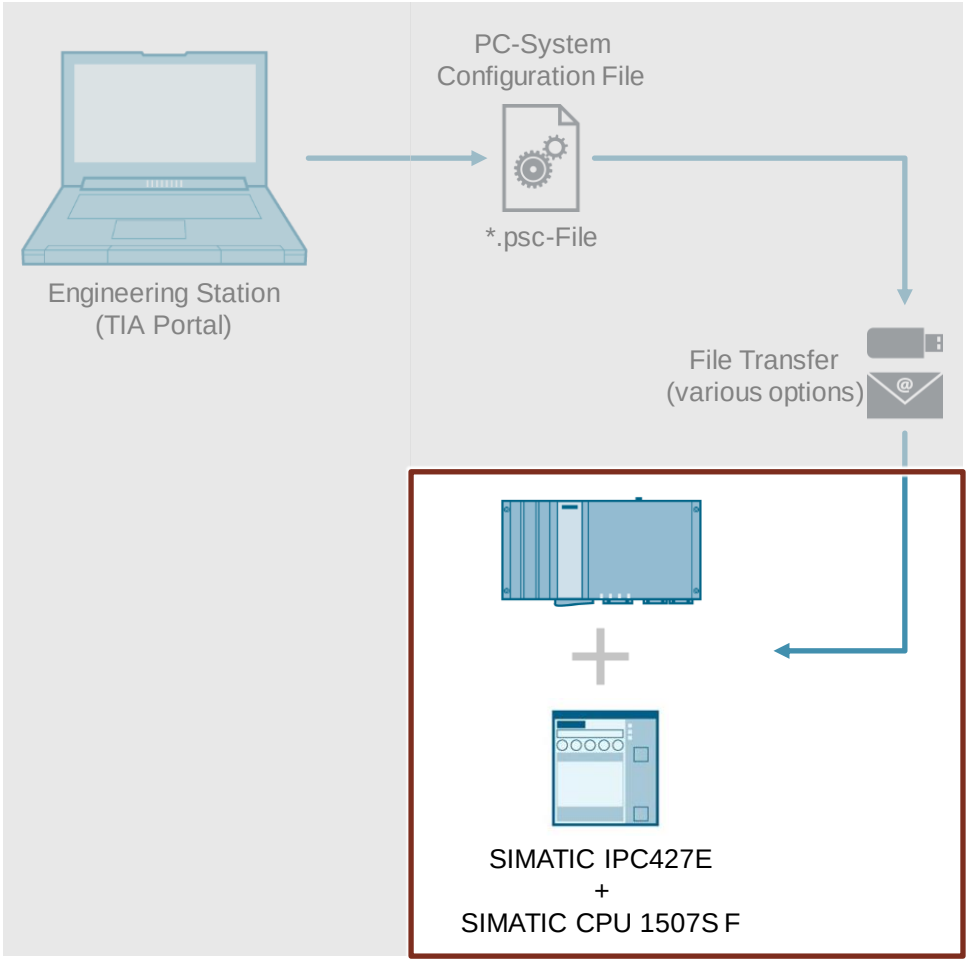
A separate folder allows you to carry out a structured version management of all PC system configuration files on your system.

Also, remove old and obsolete configuration files from the storage directory.

2.3 Import PC system configuration file

Figure 2-6 In red, you can see which area of the complete solution this chapter refers to.

Figure 2-6: Importing the configuration file.



After the PC system configuration file has been transferred from the engineering system to the target system, the next step is to import it.

The following two options are available for the import process:

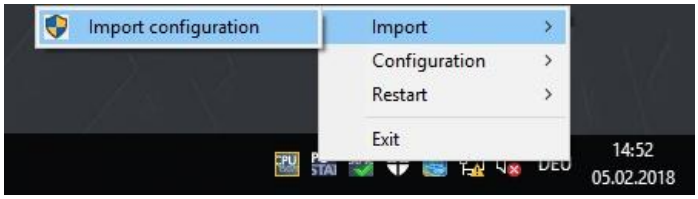
- 2.5 Manual import via the PC station menu
- 2.7 Automated import via script

2.4 The PC station menu

During the installation of the SIMATIC Software Controller, the PC station menu is also installed. With this menu, which opens with a right-click on the icon in the task bar, you can manage, control or reset the software controller.

In the PC station menu you will see the menu item "Import". (see Figure 2-7)

Figure 2-7: PC station menu with menu entry Import



With this command you can search and select PC system configuration files for import on the target system.

Selecting the *.psc file starts the import process and loads the configuration of the PC system configuration file in the PC system.

In the first window, where you see the configuration metadata, you can perform a manual, visual comparison.
The display window allows you to view the current progress of the import and to read or detect any error messages.

To start the import process, note the following:

- The PC system configuration file must be located in a directory on the target system.
- The logged-in Windows user must be assigned to a specific group:
  - Standard SW PLC: Group "Software Controller Operators"
  - Fail-safe SW PLC: Group "(fail-safe) operators"

Note

Using the configuration file import function

To "load a PC station via configuration file import" with the PC station or script, you must assign the Windows user to a specific group.

For a standard SW PLC, the Windows user must be assigned to the "software controllers operators" group.

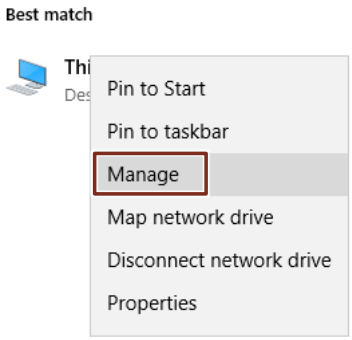
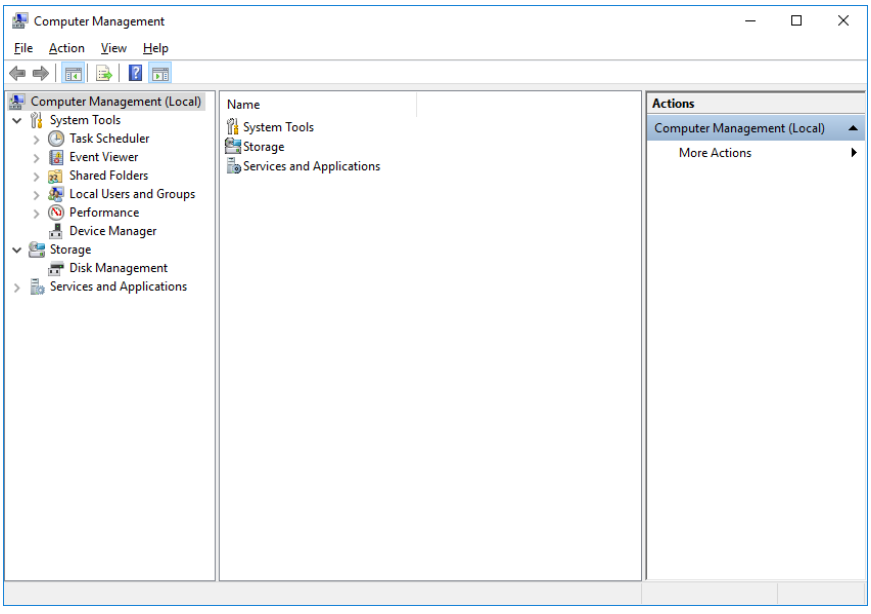
For a fail-safe SW PLC, the Windows user must be assigned to the "fail-safe operators" group.

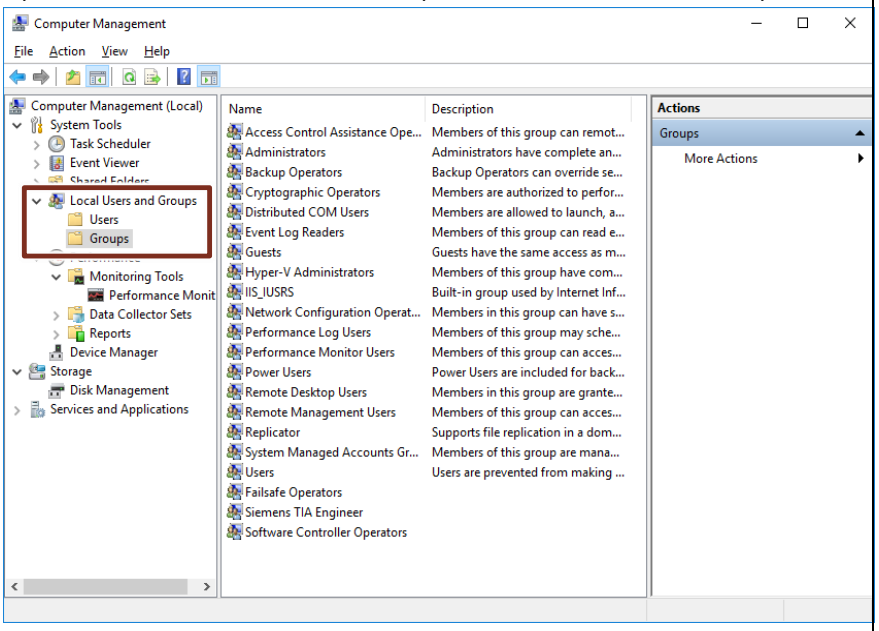
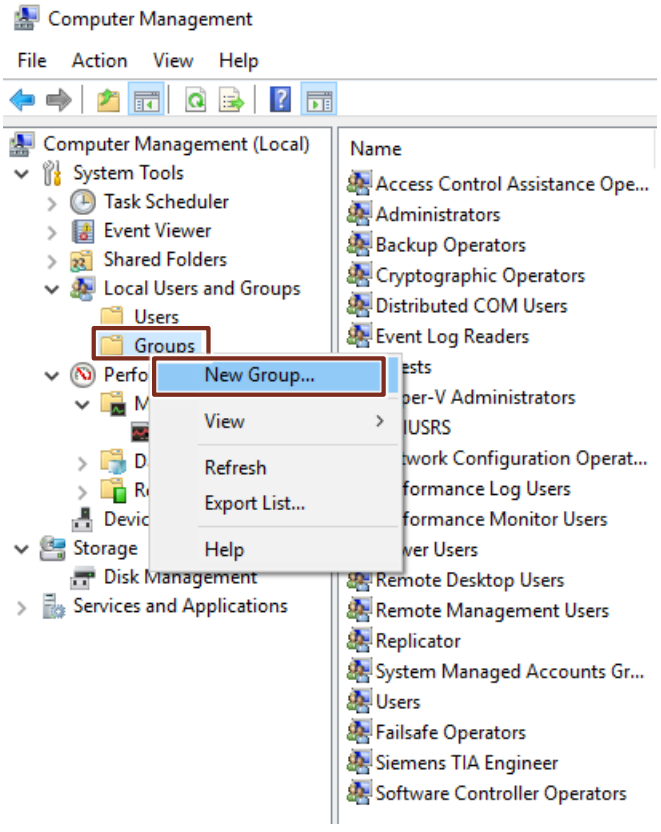
These groups are not available by default and must therefore be created when commissioning the open controller or the IPC.

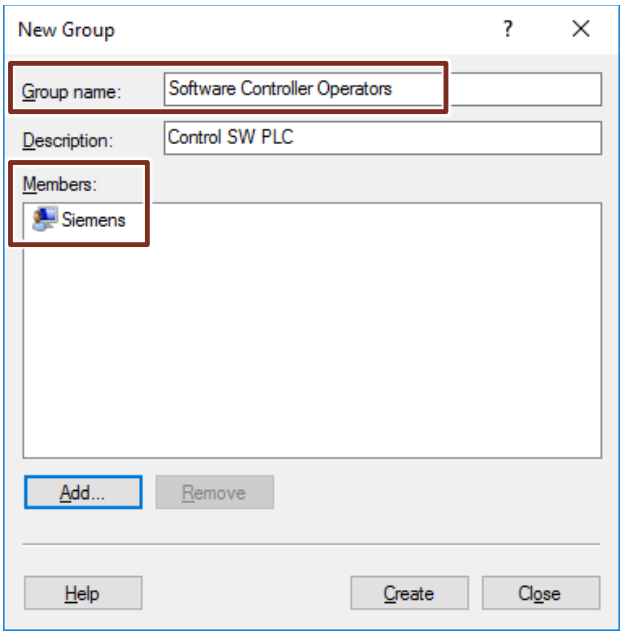
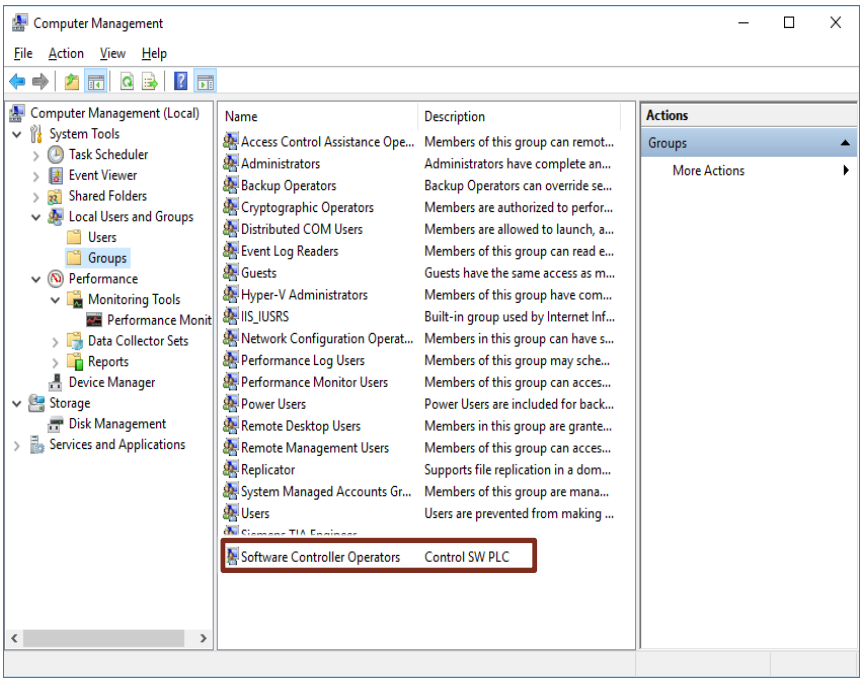
2.4.1 Add Windows user to a group

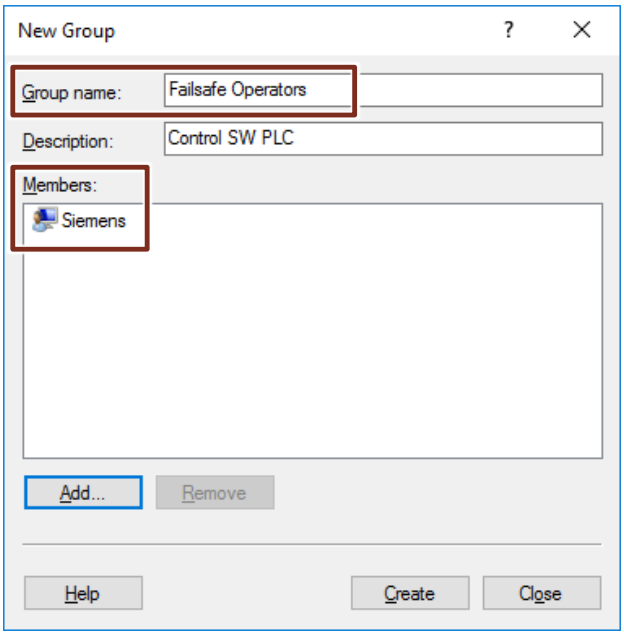
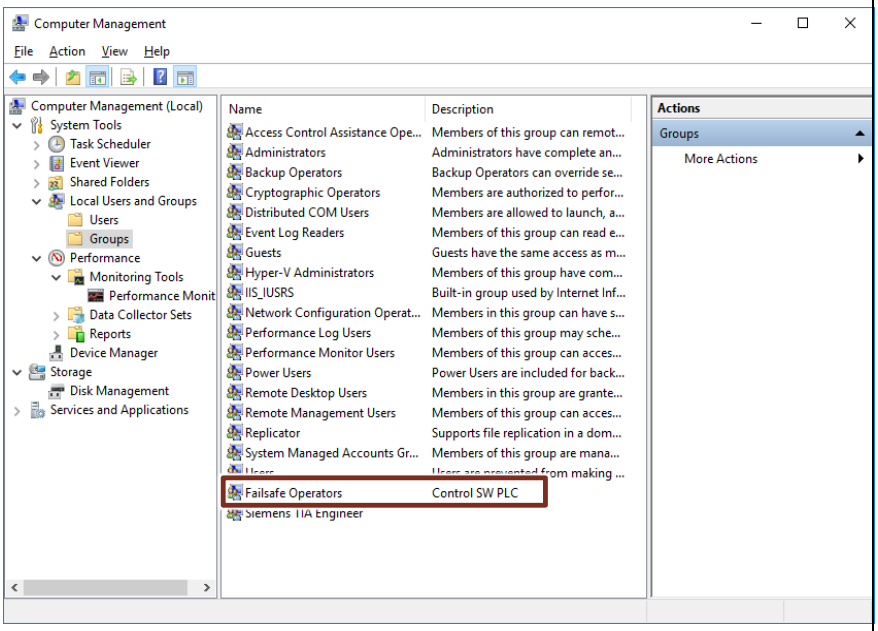
You are shown how to assign the Windows user to the above-mentioned groups step by step in Table 2-6.

Table 2-5: Steps for creating user groups

Step	Screenshot / Note
1.	Open "Start Menu" and right click on "Computer". **Note** If you use Windows 10 Enterprise LTSB as the operating system, the icon in this case is called "This PC".
2.	Click on the "Manage" function in the drop-down menu.  The following window appears: 

Step	Screenshot / Note
3.	Open the section "Local User and Groups" and in it the subfolder "Groups". 
4.	Right-click in the window and select "New Group ..." 

Step	Screenshot / Note
5.1.	**Procedure for standard PLC** Create the group "**Software controller operators**" and add the Windows user on which the PC Station is located and with which the PC system configuration file should be imported.  The newly created group will be displayed in the overview. 

Step	Screenshot / Note
5.2.	**Procedure for fail-safe PLC** Create the group "Fail-safe operators" and add the Windows user on which the PC Station is located and with which the PC system configuration file should be imported.  The newly created group will be displayed in the overview. 

2.4.2 Notes on the manual import of a *.psc file

When manually "loading a PC station via configuration file import", the service technician must ensure that the correct *.psc file is imported. Table 3-6 lists possible sources of error and measures that must be observed by the service technician during manual import via the PC station menu.

Table 2-6: Overview of possible sources of error and their measures during manual import of the PC system configuration file via the PC station menu

Possible error source	Possible measure
Corrupt PC system configuration file	Before the import, the service technician must ensure that the correct *.psc file is imported. After the file to be imported is selected, the machine parameters are displayed in a dialog. Before the import is performed, this information must be checked for accuracy. • Check if the filename matches the machine • Check if the (IPC) type matches the machine • General check of the machine parameters
Manipulated PC system configuration file	
Wrong PC system configuration file (Service technician has received wrong *.psc file from the OEM)	
Service technician has selected wrong *.psc file	

Note

Write filter

If you are using a Windows operating system with a write filter, make sure that it is disabled before importing.

2.5 Manual import via the PC station menu

The flow diagram in Figure 2-8 should show you the manual import process with the PC station menu in more detail.

Figure 2-8: Flow diagram for import via PC station menu

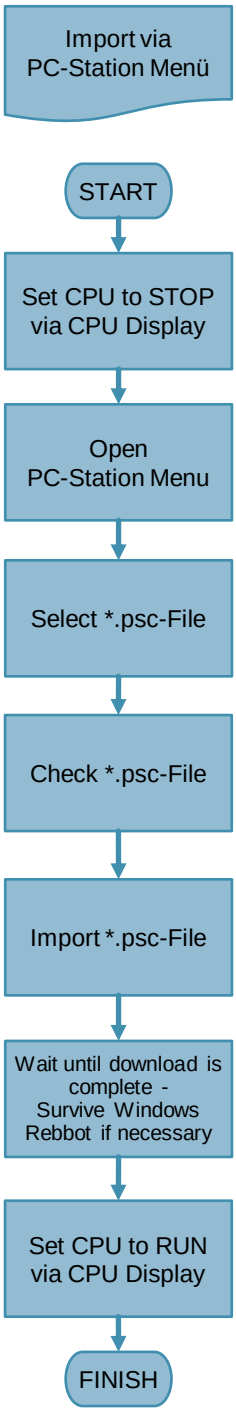
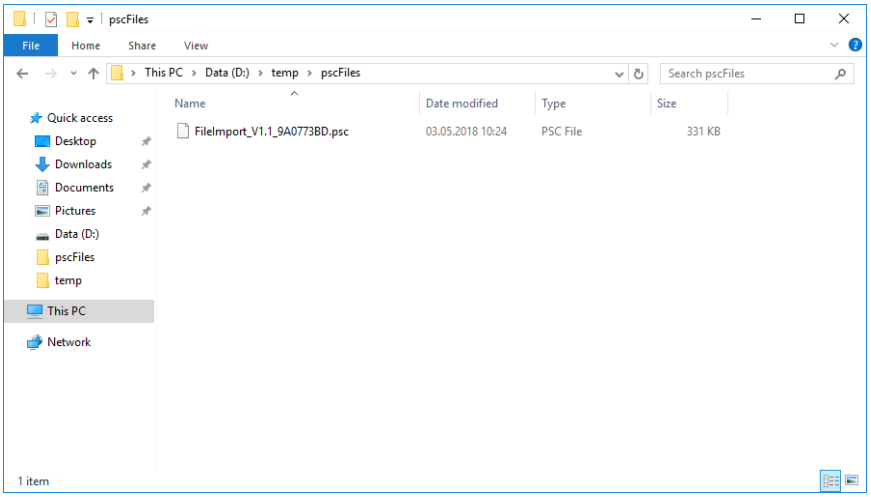
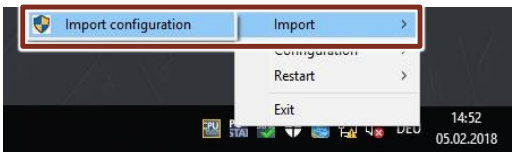
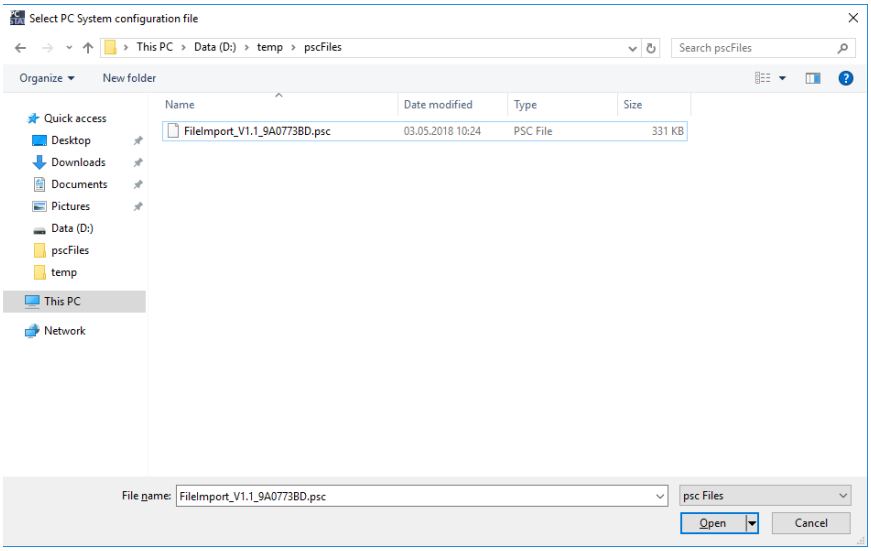
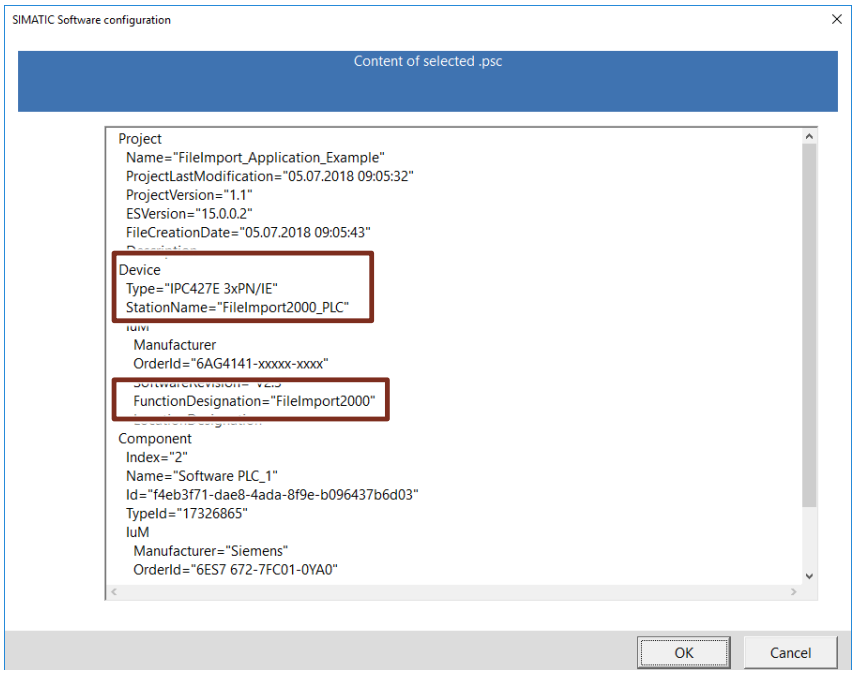
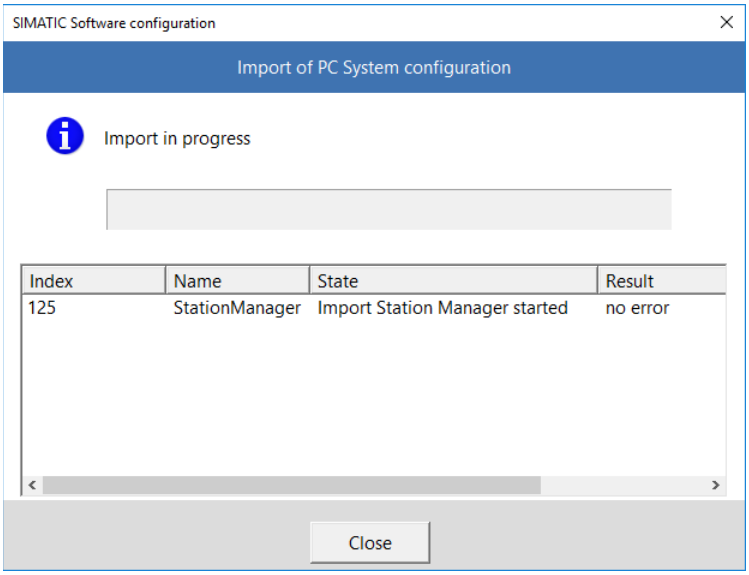


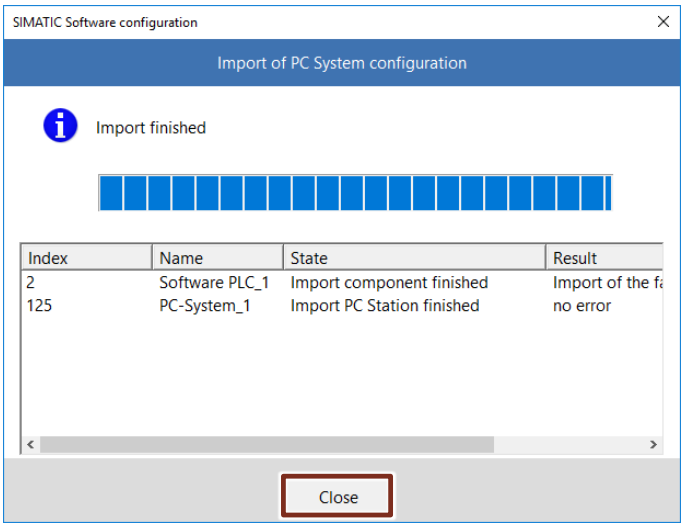
Table 2-7 shows the necessary steps for the manual loading of a PC station via configuration file import of a PC system configuration file.

Table 2-7: Steps to import the PC system configuration file via the PC station menu

Step	Screenshot / Note
1.	Put the PC system configuration file on the target system. 
2.	Put the software CPU in the "STOP" mode before importing. 
3.	Open the PC station menu by right-clicking on the icon in the task bar. Select the "Import > Import configuration" menu item. 

Step	Screenshot / Note
4.	Select the PC system configuration file that you want to load. 

Step	Screenshot / Note
5.	After you select the *.psc file, the components configured in the PC system configuration file are displayed. Check this for correctness and confirm the window with "OK".  The import process of the PC system configuration file is executed. **Note** If there has been a relevant change to the PC station when importing the *.psc file, an automatic reboot takes place at this point. The import will then continue automatically. 

Step	Screenshot / Note
6.	The import process of the PC system configuration file is complete as soon as this is indicated by the loading bar. Error messages are displayed in the window. Close the window with the button "Close".  **Note** If you are performing the "Loading a PC station via configuration file import" on a system for the first time, it will be necessary to restart the OS. The restart depends on which HW components you have replaced or changed.
7.	After the import process, put the software CPU in the "RUN mode". 

Result

After the finished import process and the operating state change to the RUN mode, the loading of a PC station via configuration file import is completed.
The hardware and software configuration secured in the PC system configuration file is fully loaded and the user program can be executed with the software controller or open controller.

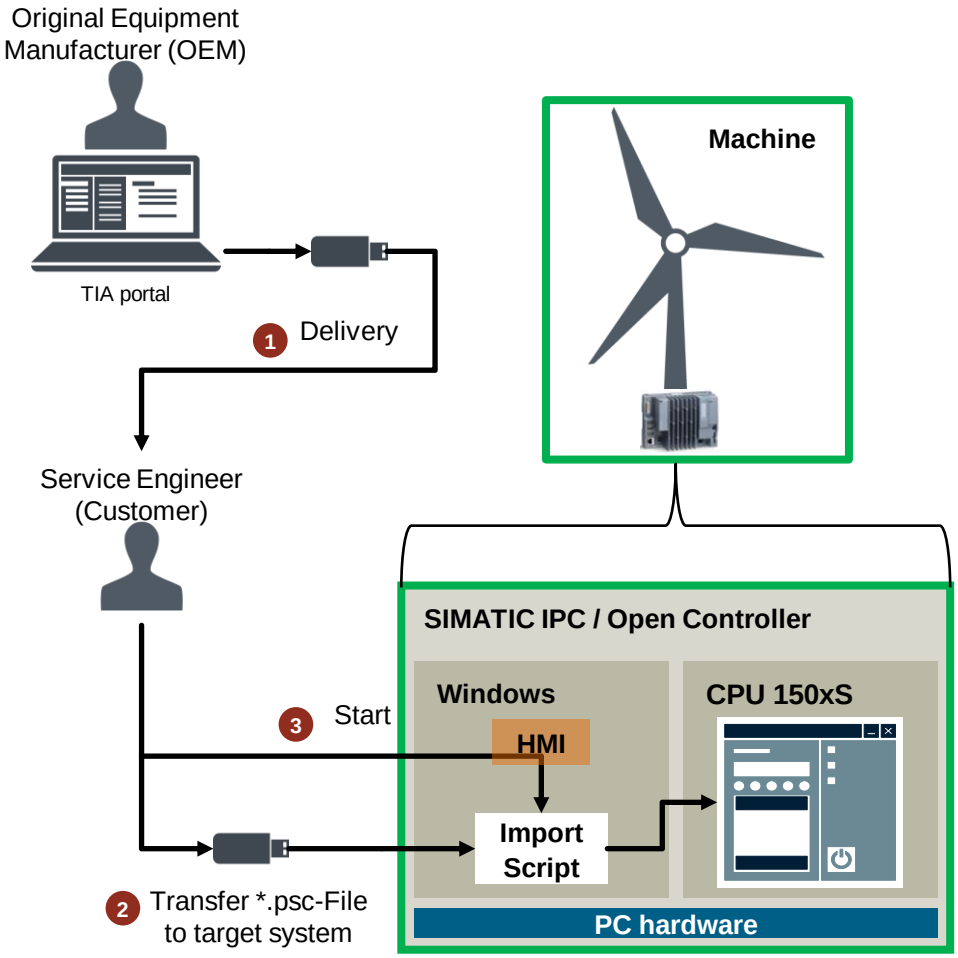
2.6 Import via script

The manual "loading of a PC station via configuration file import" is presented in chapter 2.4. In addition to this process, an automatic, scripted import operation, which is introduced in this chapter, is also possible.

2.6.1 Typical use case

Before the import via a script is discussed in more detail, the script-based import at the beginning of the chapter is explained in a typical use case (see Figure 2-9)

Figure 2-9: Typical use case for the script-based import of a PC system configuration file



1. Transfer

   In this example, the machine manufacturer (OEM) creates a *.psc file for a software update of a machine. This file is provided by the OEM to the customer service technician who has the necessary permissions for "loading a PC station by means of configuration file import".

2. Transfer

   The service technician of the customer places the *.psc file in a folder on the target device.

3. Import

   So that the update of the hardware and software configuration can be carried out for the customer with as little effort as possible, the OEM has developed a script for the automated import process when the machine is put into operation.

2.6.2 Notes on the script-based import of a *.psc file

It must also be ensured with the script-based import of a *.psc file that the right PC system configuration file is imported.

Table 2-8 lists possible sources of error and measures that must be observed by the service technician during manual import via the PC station menu.

Table 2-8: Overview of possible sources of error and their measures during manual import of the PC system configuration file via the PC station menu

Possible error source	Possible measure
Corrupt PC system configuration file	Before the script-based import care should already be taken to ensure that the right PC system configuration file is stored on the target system. Manual control on • Filename of the *.psc file
Manipulated PC system configuration file	
Wrong PC system configuration file (Service technician has received the wrong *.psc file from the OEM)	An additional check for accuracy should be performed in the script. It makes sense to check certain machine parameters. • Filename of the *.psc file • Project version • Machine parameters
Service technician has selected wrong *.psc file	Keep the operation of the script simple. For example, do not let the operator select a *.psc file but load it in the script from a defined storage path (folder). This minimizes the chance that a wrong *.psc file is loaded.
Service technician attempts operating steps for which he is not authorized or receives access to machine or Windows functions to which he must not have access	Create different Windows users. A service technician should not have administrator privileges. • The script should only be run as a whole, not the individual commands from the command line. • The service technician should not have access to Windows functions. • Return the machine to a ready state after a successful import. (Trigger CPU mode RUN in the script)

CAUTION	**Manipulation protection** As the creator of the script, you must ensure that the script is protected against unauthorized manipulation (change of content or name). If you make the PC system configuration files available, you must ensure through technical measures (advanced checks in the script) and training of the service technicians that no wrong PC system configuration file is imported during an import.

2.6.3 Command line commands

Command line commands for controlling the software CPU

There are several options for controlling the software CPU. Aside from the display application, the operation can also be done via the command line. The command line commands for controlling the software CPU are listed in Table 2-9. Table 2-10 gives you an overview of the return values of the CPU command line commands.

Table 2-9: Command line commands to control the CPU

Command line command	Explanation
CPU_Control /PowerOnCPU	Starts the CPU up in STOP mode (Change from mains OFF to mains ON)
CPU_Control /PowerOnCPU /Auto	Starts the CPU up with the configured startup mode (Change from mains OFF to mains ON)
CPU_Control /PowerOffCPU	Shuts down the CPU (Change from mains ON to mains OFF)
CPU_Control /PowerOffCPU /Terminate	Forces the CPU to exit in any situation. During this process, the retentive data is not saved.
CPU_Control /AllowReboot	Allows a complete restart of the IPC. By default, the CPU ignores a reboot of the Windows operating system to further control the automation process. At the next restart, the software CPU will be restarted with Windows. To prevent the loss of retentive data, you must **first** manually exit the CPU.
CPU_Control /DisallowReboot	Disables the CPU_Control/AllowReboot function if this was previously executed.
CPU_Control /Dumpservicedata –path <path>	Allows saving service data after a "FAULT" state in a file. This file can be made available to SIEMENS AG upon request by SIEMENS Customer Support for diagnostic purposes.
CPU_Control /RUN	Sets the CPU to the RUN mode.
CPU_Control /STOP	Sets the CPU to the STOP mode.
CPU_Control /Help	Displays the help text in the command line editor.

Table 2-10: Return values of the command line commands for controlling the CPU

Feedback	Code	Explanation
CPU_Control tool operation result: SUCCESS	0	The command was executed successfully.
CPU_Control tool operation result: Fail	1	An error occurred while executing the command.
Invalid parameters. See help for more information.	64	The parameters of the command were wrong. The help will open automatically.
Too many parameters. See help for more information.		

Command line commands for the import process

There are also several command line commands at your disposal for importing a PC system configuration file with the function Import configuration file (see Table 2-11).

The return values of the import function can be found in Table 2-12.

Table 2-11: Command line commands for importing a PC system configuration file

Command line command	Explanation
PCSystem_Control /Help	Displays the help text in the command line editor.
PCSystem_Control /?	Displays the help text in the command line editor.
PCSystem_Control /HelpExitCode	Displays the help text for errors in the command line editor.
PCSystem_Control /PrintConfig <path>	Displays information about the components used in the *.psc file. Without extension: Output format: Standard format in console With **/xml** extension: Output format: XML format in console
PCSystem_Control /PC <path>	See above
PCSystem_Control /PrintConfig <path> /xml	See above
PCSystem_Control /PC <path> /xml	See above
PCSystem_Control /ImportConfig <path>	Command starts the import process of the PC system configuration file.
PCSystem_Control /IC <path>	
PCSystem_Control /GetStatus /ImportConfig	Displays information about the components used. With **/ImportConfig** extension: Information of the recently imported configuration. With **/SIMATICComponents** extension: Information about installed SIMATIC components and versions.
PCSystem_Control /GS /IC	See above
PCSystem_Control /GetStatus /SIMATICComponents	See above
PCSystem_Control /GS /SC	See above

Table 2-12: Return values of the command line commands for importing a *.psc file via the command "echo% errorlevel%"

Feedback	Code	Explanation
Standard PLC: Import result – SUCCESS	0	The command was executed successfully.
Failsafe PLC: Import result – SUCCESS	20899 (Hex: 51A3)	The command was executed successfully.
Failsafe PLC: Reset Import Return Value – SUCCESS	1023 (Hex: 3FF)	The return value for the import has been successfully reset.
Standard PLC and Failsafe PLC: Import result – FAILED	Other	The parameters of the command were wrong. The help will open automatically.

Note

Further important information on the functionality "Loading a PC station via the configuration file import" with a failsafe PLC can also be found in the manual "SIMATIC Industrial Software SIMATIC Safety - Configuring and Programming".

The document can be downloaded from the Siemens Industry Online Support: https://support.industry.siemens.com/cs/ww/en/view/54110126

2.7 Automated import via script

The scripted import process is described below. In addition, an example of the scripted import is provided.

2.7.1 Flow diagram for scripted import

You can create the import script with various programming languages, including Power Shell or C #.

Figure 2-10: Flow diagram for scripted import (1)

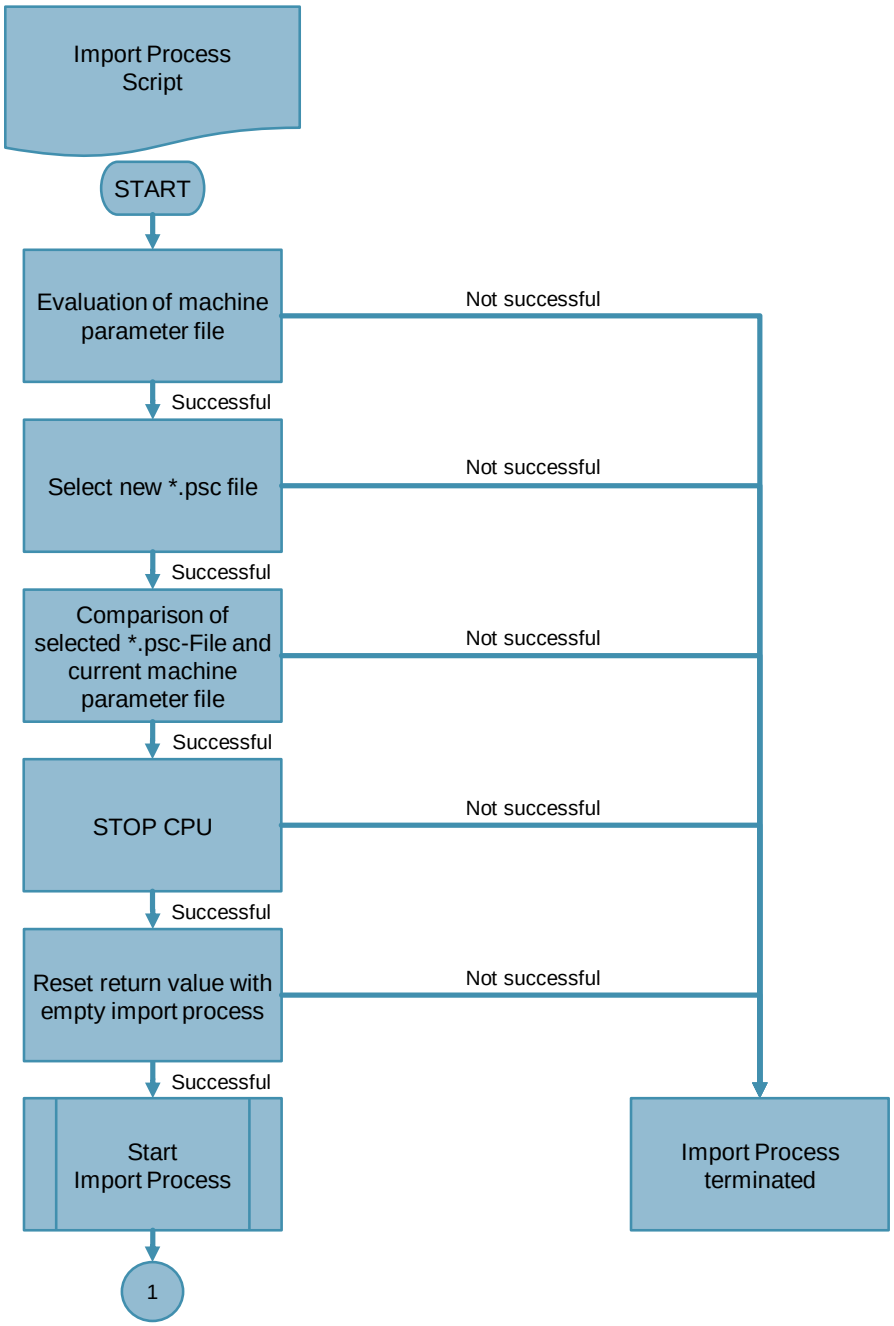
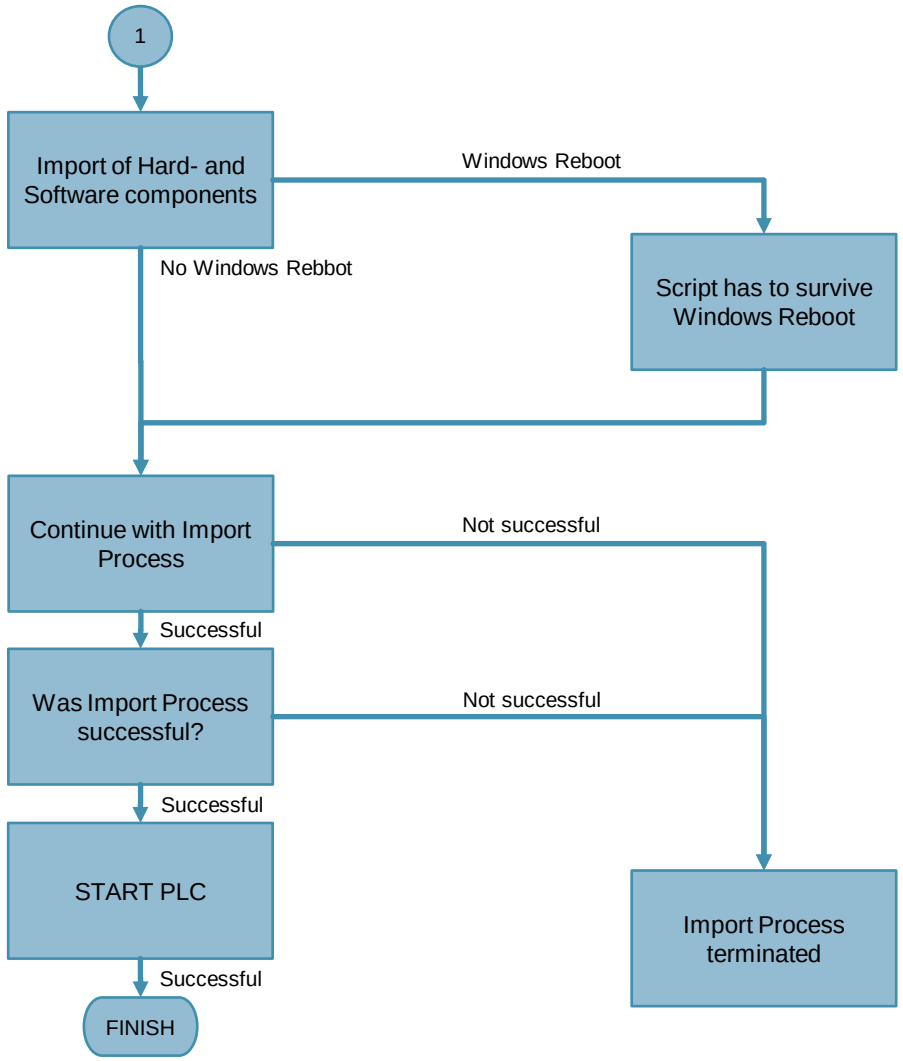


Figure 2-11: Flow diagram for scripted import (2)



The flow diagram illustrates the import process. First, a text file is read out and evaluated on the target device with the application. This text file contains information about the currently loaded configuration, e.g. the version number or collective F-signature. After evaluation, the user is prompted to select a new *.psc file. After selection, a further evaluation of the selected PC system configuration file takes place. Only permitted *.psc files may be imported. It is recommended that the PLC be put into STOP mode before the import.

To ensure that the return value does not come from the last import, you must reset the return value to 0x3FF (enter **PCSystem_Control /ImportConfig** without a file name) before importing and then check whether the return value has been reset to 0x3FF (enter **PCSystem_Control /GetStatus /ImportConfig** and then enter **echo% errorlevel%** This statement must return the return value 0x3FF).

Since a restart of the SIMATIC IPC or SIMATIC ET 200SP open controller may be necessary during the import process, the script must continue after the reboot. The Windows function RunOnce can be used for this. Before the CPU is returned to the RUN mode, the status of the import process must be checked. This can be done with the command **echo% errorlevel%**, for instance. Only if the import has been completed successfully can the CPU start and resume operation.

More information can be found in the warning "FCPU FDOC 34, S083" or in the manual "SIMATIC Safety - Configuring and Programming". \3\

WARNING

WARNING FCPU FDOC 34, S083

The successful import of a safety program via the script must be determined by evaluating the corresponding return value (0x51A3). If the corresponding return value is not returned by the PCSystem_Control script command, the import has failed and the old safety program may still be present.

To ensure that the return value does not come from the last import, you must reset the return value to 0x3FF (enter **PCSystem_Control /ImportConfig** without a file name) before importing and then check whether the return value has been reset to 0x3FF (enter the command **PCSystem_Control /GetStatus /ImportConfig** and then enter **echo% errorlevel%** This statement must return the return value 0x3FF).

If the import process is triggered by a server, the positive return value must also be confirmed. For traceability, we recommend that you document the import process in a log file.
If the import of the configuration file is performed manually via the Windows command line (via script command), you must either:

- Reset the return value to 0x3FF before importing and check it (see above)
  - Carry out the import
  - Evaluate the return value (Enter **PCSystem_Control /GetStatus /ImportConfig** and then **echo %errorlevel%**. This statement must return the return value 0x51A3).
- Carry out the import
  - Carry out manual program identification, e.g. via the panel of the F-CPU

2.7.2 C# - Example of scripted import

In the application folder, a text file "C# example of script-controlled import" with an example for script-controlled import was stored in C#.

Using a script, you can import a *.psc file automatically. In this example, the RunOnce function of Windows is used. This Windows function can be used to ensure that the script is continued even after a necessary reboot of the SIMATIC IPC or open controller. The script also includes administrator privileges and can only be started with administrator credentials.

The source code refers exclusively to the application example in this document and shows only one of the possible solutions.

2.8 Operation

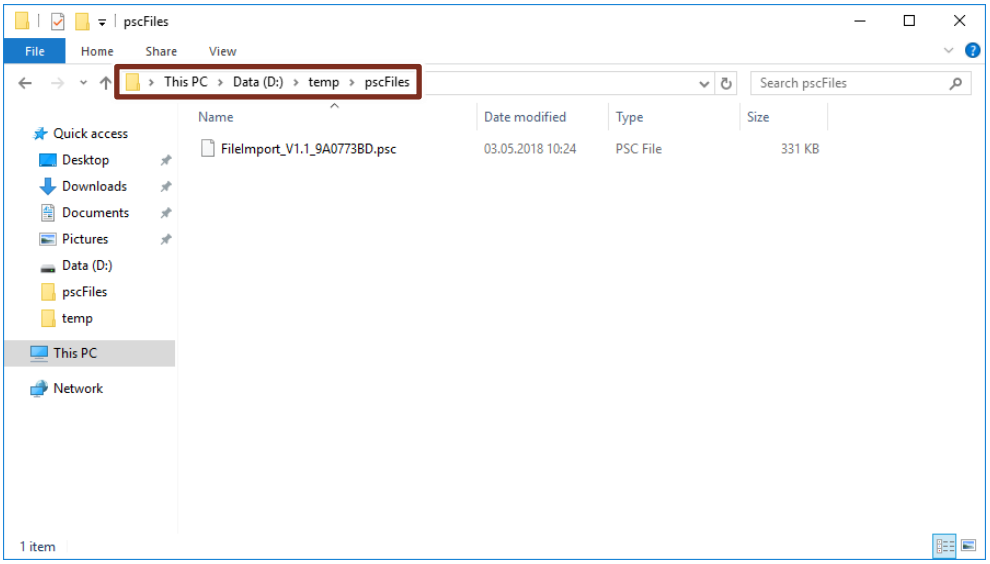
2.8.1 File storage on the target device

The application creates a "temp" folder on the D drive of the target device. This is included in the application example and should only be copied there.

In the "temp" folder there is a "pscFiles" subfolder in which the generated *.psc file is stored (see also chapter 2.1). (Figure 2-12)

Note In the "temp" folder, create your own generated pscFile in the latest version.

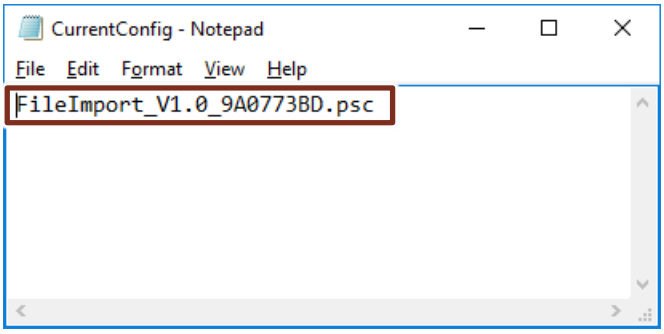
Figure 2-12: Directory of the created *.psc file in the "pscFiles" subfolder.



Place the "FileLoad2000_Application.exe" locally on the target device. Double click on the "FileLoad2000_Application.exe" setup to start the automated import.

In addition, there is a text file "CurrentConfig" in the "temp" folder. It contains the name of the currently loaded *psc file.

Figure 2-13: Text file "CurrentConfig" with the currently loaded *psc file name



When executing the script, the application checks, among other things, whether the version of the selected *.psc file is more up-to-date than the version stored in "CurrentConfig". Only if it is a more recent version, does the import continue - otherwise the application aborts.

2.8.2 Starting the application

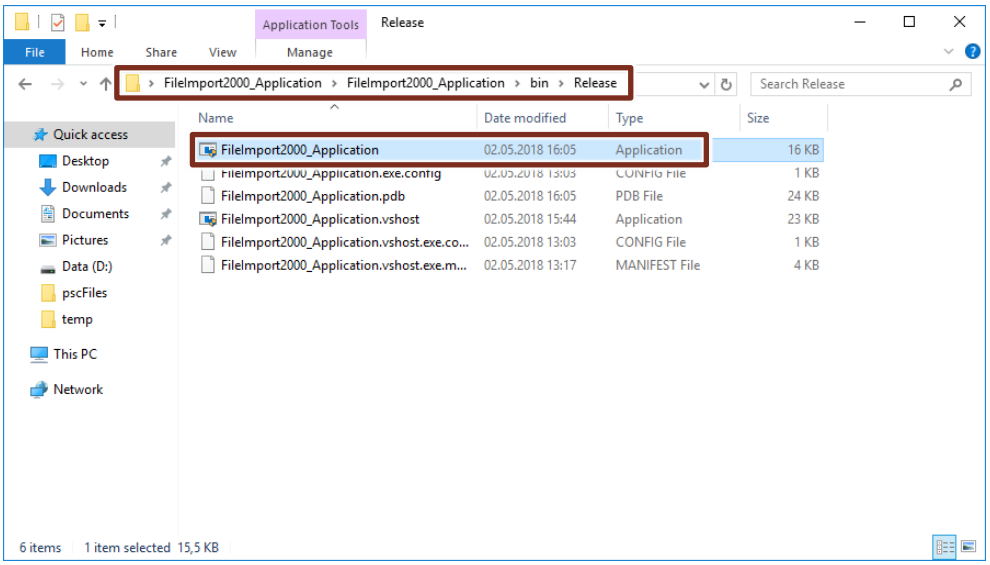
Requirements for operating this application:

- Since the application requires administrator rights, you must either be logged in as administrator or have the appropriate password
- The Windows user must be assigned to the authorized group:
  - Standard PLC: "Software Controller Operators"
  - Failsafe PLC: "Failsafe Operators" and "Software Controller Operators"
- The files must be stored on the target device, as described in chapter 2.8.1.
- The developed "FileImport2000_Application" must be stored locally on the target device after compilation.

To start the application, navigate to the following directory in the "FileImport2000_Application" folder (Figure 2-14):

"FileImport2000_Application > FileImport2000_Application > bin > Release"

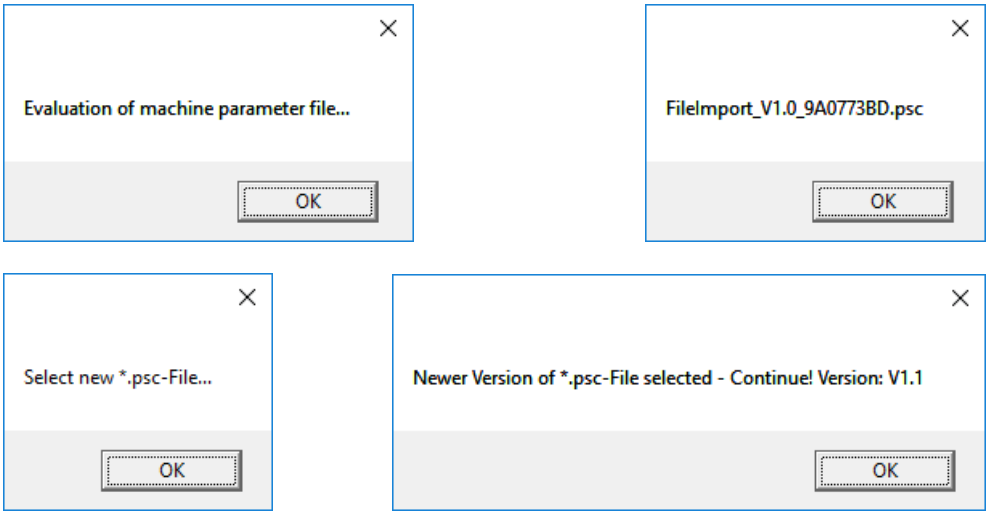
Figure 2-14: Directory for starting FileImport2000_Application.exe



Double click on the *.exe file "FileImport2000_Application.exe" to start the automated import.

Afterwards you will be guided through the process with pop-up images by means of the application. In Figure 2-15 you can see, by way of example, four pop-ups that are displayed by script during the automated import.

Figure 2-15: By way of example, four pop-ups during the automated import



Result:

The import of the generated *psc-file has been performed.

3 Appendix

3.1 Service and support

Industry Online Support

Do you have any questions or need assistance?

Siemens Industry Online Support offers round the clock access to our entire service and support know-how and portfolio.

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https://support.industry.siemens.com/cs/ww/en/sc/2067

3.2 Links and Literature

Table 3-1: References

No.	Topic
\1\	Siemens Industry Online Support https://support.industry.siemens.com
\2\	Link to this entry page of this application example https://support.industry.siemens.com/cs/ww/en/view/109759142
\3\	Link to the manual SIMATIC Safety - Configuring and Programming https://support.industry.siemens.com/cs/ww/en/view/54110126

3.3 Change documentation

Table 3-2: Document History

Version	Date	Modifications
V1.0	06/2018	First version